INDUSTRIAL@AMPHENOL TRUSTED GLOBALLY

Amphenol Sine Systems, **USA**
Amphenol Tuchel Industrial, **GmbH**
Amphenol Audio, **USA**

# MotionGrade™ DIN M23/M40

## Connectors and Servo Cable

MG MOTIONGRADE™ Family

**www.amphenol-sine.com | +1 800 394 7732**

# We Are Amphenol

## Global Interconnect Solution Supplier

For over 80 years Amphenol has enjoyed success as the interconnection technology provider of choice for industry leading companies around the world. Our organization works with leading manufacturers across a wide range of applications - including Energy Generation & Distribution, Transportation, Heavy Equipment, Factory Automation, Wireless Outdoor, Information Technology and Data Communications Equipment, Mobile Devices, Mobile Networks, Broadband Communication, Military and Commercial Aerospace, Industrial, Automotive and Chip Card Readers - enabling smarter, faster and better technologies to connect products to customer solutions.

Our engineers design innovative combinations of industry standard connectors and application specific shielding components to create assembly systems that set the standards for performance, reliability, and cost effectiveness. Our engineering, materials, and manufacturing organizations meet the high standards imposed by ISO 9001:2008 as well as many customer specific quality systems. Our performance has earned us ship to stock and world class performance awards from many major OEMs.

We are one of the largest interconnect solution suppliers in the world and supply a wide range of product solutions globally. The industrial market footprint of Amphenol covers more than 30 countries.

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# MotionGrade™ DIN M23/M40

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### Power


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# Standard Products. Custom Solutions.

Our MotionGrade™ DIN Style Automation product lines, which include M23, Checkmate™, Hybrid DMC and the M40 Series, have key placement in all areas of automation. Based on our superior build quality, high-performance capabilities and compatibility with existing standard products industry-wide, our MotionGrade™ DIN Style products are the right choice for your interconnect needs.

We can custom design, engineer and manufacture cable assemblies to your exact customer specifications and produce them in large or small quantities, manufactured at the industry's highest standards. Delivered on-time and in-specification, all with a significant cost-savings over the competition.

The cost savings derived by combining Michigan based program management & engineering and our low-cost production centers in North America and Asia allows our team to work with you to design the most cost-efficient and reliable interconnect system available on the market today.

MOTIONGRADE™ Family

# Features and Benefits

## Superior Shielding

First quality components coupled with a simplistic design provide maximum EMI/RFI shielding capabilities while reducing assembly preparation times.

## Cable Strain Relief

Your choice of the innovative design features of FlexGrip™, Metrifit™, or traditional cable strain relieving similar to existing standard systems.

For an ovemolded option, the Metrifit™ Strain Relief System provides maximum 360° EMI/RFI shielding, with advanced sealing capability

## Fluid Resistance and Sealing

In combination with our strain relief systems, Amphenol utilizes advanced sealing technologies & materials to ensure highest reliability when subjected to the harshest environments.

## RoHS Compliant

RoHS  All materials meet the requirements of the European Directive 2002/95/EC, Issue 13.2.2003.

## Approvals

ISO 9001/2000, UL Listed, E224856, CYJV2/CYJV8

Our Standard Series M23 products have ECBT2 UL list E336860

All Elite Products are UL E491265

# MotionGrade™ DIN M23/M40
## Connectors and Servo Cable

## Typical Applications

INDUSTRIAL

ON-MACHINE

PACKAGING MACHINERY

DISTRIBUTED POWER

MOTION CONTROL

ENTERTAINMENT

MEDICAL

COMMUNICATIONS

RENEWABLE ENERGY

# MotionGrade™ DIN M23/M40
## Connectors and Servo Cable

## Product Overview

Amphenol Sine Systems' MotionGrade™ M23 and M40 Connector Systems are designed to excel in performance and reliability in our customers' most demanding environments. Amphenol's MotionGrade™ M23 and M40 products are ideally suited for advanced servo drive encoder feedback applications, packaging, robotic, printing, machine tool, medical and automation environments where control signal transmission or power are required in a robust and compact delivery system.

## INTRODUCING the ELITE™ SERIES

Starting at page 33

### M23 Elite Threaded and Checkmate™ Series
### State-of-the-art Design Features

6, 8, 9, 12, 16 and 17 positions available

- Next Generation Single Pc Design
- Reduced Cost
- Faster Assembly
- Checkmate™ Coupling.
  (See page 22 for more details)
- Compatible with other industry standard products
- Loose Pc Insert Assembly
- Ground Protection
- Industry Standard Insert Design
- 360° Shielding

### M23 Standard Threaded and Checkmate™ Series
### Offering Expanded Connector Options

6, 8, 9, 12, 16, 17 and 19 positions available

Starting at page 149

- 10A Max Current; 160V (12 pos), 125V (16-19 pos); 18-28AWG
- 28A Max Current; 630V Power; 14-18 AWG (6 Postions)
- 30A Max Current , 630V Power; 10A Max Current / 250V Signal ; 14-28 AWG (8,9 Postions)
- High-performance, cost-effective
- Superior environmental seal retention
- Compatible with existing standard products industry-wide
- Available with Checkmate™ quick locking technology. (See page 22 for more details)

Starting at page 141

## M23 Hybrid Series

2 Power + PE + 1 Signal + 4 Quadrax Ethernet Element

- 18A (2.0mm), 1A (1.0mm), 0.5A (Quad Element) Max Current
- 850V (2.0/1.0mm Contacts), 30VDC (Quad Element) Max. Volt.
- High-performance, cost-effective
- Superior environmental seal retention
- Ideally suited for advanced servo-drive encoder feedback applications where POWER, SIGNAL and COMMUNICATION are required in a robust and compact delivery system.

Starting at page 255

## M40 Series Threaded and Checkmate™

6 and 8 positions available

Amphenol's MotionGrade™ M40 products are ideally suited for advanced servo drive encoder feedback applications, packaging, robotic, printing, machine tool, medical and automation environments where control signal transmission or power are required in a robust and compact delivery system.

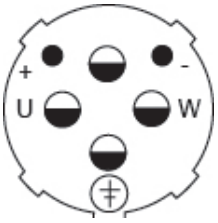
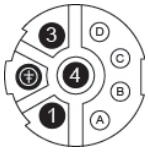
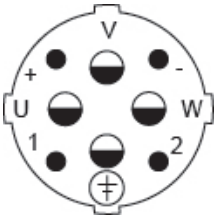
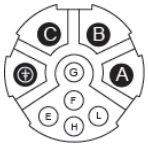
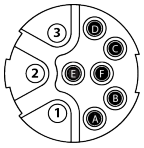
- Power: 75A Max Current; 630V Max Voltage; 8-12AWG
- Signal: 30A Max Current; 250V Max Voltage; 14-18AWG
- High-performance, cost-effective
- Superior environmental seal retention
- Compatible with existing standard products industry-wide
- Available with Checkmate™ quick locking technology.

MG MOTIONGRADE™ Family

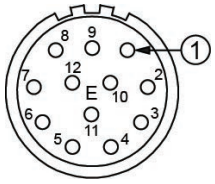
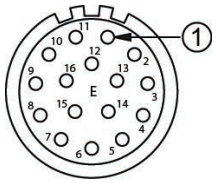
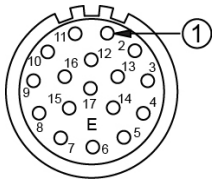
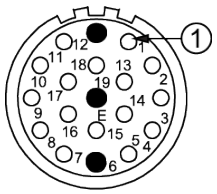
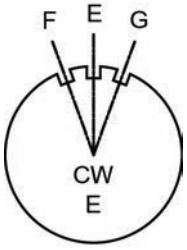
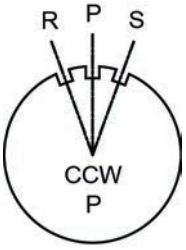
# MotionGrade™ DIN M23/M40

## Insert Arrangements

| | M23 Hybrid | | | |
|---|---|---|---|---|
| contact size | 2 Power + PE (2.0mm) + 1 Signal (1.0mm), 4 Quadrax Ethernet Element (.7mm) | | | |
| No. of Positions | Plugs | | Receptacles | |
| 8 | female 18A PE/1A Signal/0.5A Quad /850V PE & Signal/ 30V Quadrax **Checkmate™** see page 107 | female 18A PE/1A Signal/0.5A Quad /850V PE & Signal/ 30V Quadrax **Threaded** see page 141 | male 18A PE/1A Signal/0.5A Quad /850V PE & Signal/ 30V Quadrax **Checkmate™** see page 107 | male 18A PE/1A Signal/0.5A Quad /850V PE & Signal/ 30V Quadrax **Threaded** see page 141 |

| | M23 Series | | M40 Series |
|---|---|---|---|
| contact size | 2.0mm Power / 1.0mm Signal | | 3.6mm Power /2.0mm Signal |
| No. of Positions | | | |
| 6 | 28A /630V see pages 105,111,213 | |  75A /630V Power 30A/250V Signal see pages 251,255 |
| 8 |  30A Power/ 10A Signal 630V Power/250V Signal see 117,123,223 | |  75A /630V Power 30A/250V Signal see pages 259,263 |
| 9 |  30A-Power/ 10A Signal 630V Power/250V Signal see pages 129,135,233,243 |  30A-Power/ 10A Signal 630V Power/250V Signal see page 243 | Note: Faceviews shown on this chart are of female inserts |

# Connector Guide

| | M23 Series | |
|---|---|---|
| contact size | 1.0mm | |
| No. of Positions | E Type | P Type |
| 12 |  10A /160V<br>see pages 33,39,149 | 10A /160V<br>see pages 45,39,157 |
| 16 |  9A /125V<br>see pages 63,69,165 | 9A /125V<br>see pages 75,81,173 |
| 17 |  9A /125V<br>see pages 81,87,181 | 9A /125V<br>see pages 93,99,189 |
| contact size | 1.0mm and 1.5 mm | |
| 19 |  7A /63V<br>see page 197 | 7A /63V<br>see page 205 |
| Coding Keys |  |  |
| | **interconnection key** "**F**" mates with "**S**", "**E**" mates with "**P**" and "**G**" mates with "**R**" | |

# MotionGrade™ DIN M23/M40

## M23 Elite Series Connector Configurations - Positions 12,16,17

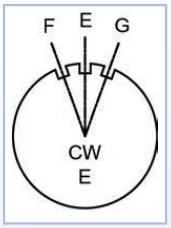
STEP 1

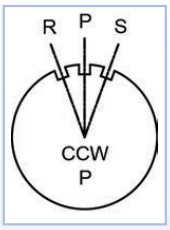
Choose a Plug “P” Style

Choose a Plug “E” Style

MATING PARTS

Straight Plug




Standard connector parts mate “E” Plugs with “P” Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S.

**interconnection key**
“**E**” mates with “**P**”
“**F**” mates with “**S**”
“**G**” mates with “**R**”

STEP 2

Choose Contacts

# Connector Guide

Need a complete Cable Assembly?
See page 23 or
contact the factory for assistance
Toll Free: 1-800-394-7732

Connector Solutions:
see page 31 for parts grouped by insert arrangement

STEP 3

→ Choose a Receptacle "E" Style

→ Choose a Receptacle "P" Style

Rotatable 90 °

Straight,
Flange Mount
Receptacle

Receptacle
Extension

Use A
Receptacle Kit
and skip steps 4 & 5

STEP 4

Choose Contacts

STEP 5

Choose a Cord Grip

*Step 5 is only required when utilizing the receptacle extension*

# MotionGrade™ DIN M23/M40

## M23 Elite Series Connector Configurations - Positions 6,8,9

STEP 1

Female Plug

MATING PARTS

STEP 3

Male Receptacle

Straight

Rotatable 90° Receptacle
*rotates 330°*

STEP 2

Choose Contacts

Straight Flange Mount

Straight Receptacle

Receptacle Extension

Choose A Receptacle Kit and skip steps 4 & 5

# Connector Guide

Connector Solutions:
see page 31 for parts grouped by insert arrangement

STEP 4

## Choose Contacts

## Need a complete Cable Assembly?

See page 23 or

contact the factory for assistance

Toll Free: 1-800-394-7732

STEP 5

*Step 5 is only required when utilizing the receptacle extension*

## Cord Grip

# MotionGrade™ DIN M23/M40

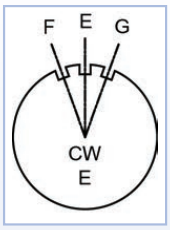
## M23 Standard Series Connector Configurations - Positions 12,16,17,19

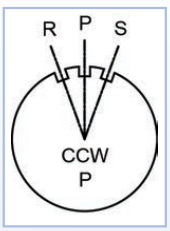
STEP 1

Choose a Plug “P” Style

Choose a Plug “E” Style

MATING PARTS

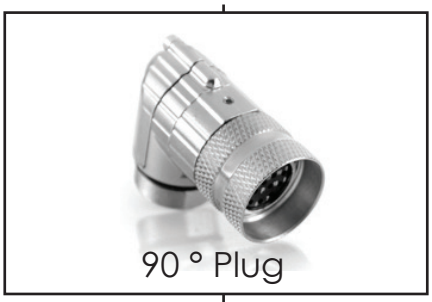



Standard connector parts mate “E” Plugs with “P” Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S.

**interconnection key**
“**E**” mates with “**P**”
“**F**” mates with “**S**”
“**G**” mates with “**R**”

Straight Plug


90 ° Plug

STEP 2

Choose Contacts

OR

Plug Kit

STEP 3

Choose a Cord Grip

or FlexGrip™ Backshell System
*details page 282*

overmolded option

# Connector Guide

Connector Solutions:
see page 31 for parts grouped by insert arrangement

Need a complete Cable Assembly?
See page 23 or
contact the factory for assistance
Toll Free: 1-800-394-7732

STEP 4

→ Choose a Receptacle "E" Style
→ Choose a Receptacle "P" Style

Straight, Flange Mount Receptacle

Rotatable 90 ° Receptacle
*rotates 330°*

Bulkhead Receptacle

Receptacle Extension

overmolded option

STEP 5

Choose Contacts

OR
A Receptacle Kit

STEP 6

Choose a Cord Grip
*Step 6 is only required when utilizing the receptacle extension*

or Flex Grip™ Backshell
*details page 282*

# MotionGrade™ DIN M23/M40

## M23 Standard Series Connector Configurations - Positions 6,8,9

STEP 1

Female Plug

MATING PARTS

Straight Plug

Rotatable 90 ° Plug

Chooose a Plug Kit
and skip steps 2 & 3

Need a complete Cable Assembly?

See page 23 or

contact the factory for assistance

Toll Free: 1-800-394-7732

STEP 2

Choose Contacts

STEP 3

Cord Grip

or FlexGrip™
Backshell System
*details page 282*

overmolded option

# Connector Guide

Connector Solutions:
see page 31 for parts grouped by insert arrangement

Need a complete Cable Assembly?
See page 23 or
contact the factory for assistance
Toll Free: 1-800-394-7732

STEP 4

Male Receptacle

Rotatable 90 ° Receptacle
*rotates 330°*

Straight

Bulkhead Receptacles

Receptacle Extension

Choose A Receptacle Kit and skip Steps 5 & 6

STEP 5

Choose Contacts

STEP 6

*Step 6 is only required when utilizing the receptacle extension*

Cord Grip

or FlexGrip™ Backshell System
*details page 282*

overmolded option

# MotionGrade™ DIN M23/M40

## M40 Connector Configurations - Positions 6, 8

STEP 1

Choose a Plug

MATING PARTS

STEP 2

Choose Contacts

STEP 3

Choose a Cord Grip

or

FlexGrip™ Backshell System

*details page 282*

overmolded option

### Need a complete Cable Assembly?

See page 23 or

contact the factory for assistance

Toll Free: 1-800-394-7732

# Connector Guide

Connector Solutions:
see page 31 for parts grouped by insert arrangement

STEP 4

Choose a Receptacle

Straight
Flange Mount

90 °
Receptacle

Receptacle
Extension

STEP 5

Choose Contacts

STEP 6

*Step 6 is only required when utilizing the receptacle extension*

Choose a
Cord Grip

or FlexGrip™
Backshell
*details page 282*

overmolded option

## M23 Checkmate™ Quick Locking Connectors
## Featuring Metrifit™ Strain Relief System

**Amphenol presents the M23 Checkmate™ Quick Locking connector series featuring the Metrifit™ strain relief system.**

Ideally suited for the Motion marketplace, the Checkmate™ connector system's robust metal housing features add enhanced performance to today's standard systems by increasing the reliability and performance of one of the most dependable interconnect systems today.

Amphenol began with first quality components in a highly functional and intuitive design incorporating a self-aligning cam locking pathway utilizing shell coding which eliminates mis-mating, component damage, or an unintended connection even in adverse conditions. Once proper insert alignment is assured, proper contact engagement is maintained with a precision anti-vibration ratcheting coupling eliminating unintentional disconnects. This secure Quick Locking capability is accomplished in 1/8 of a turn. The resulting connection integrity ensures the highest reliability achieving vibration and shock capability up to 20g (vibration) and 50g (shock) in 3 axis.

Metrifit's integral strain relief system provides maximum 360° EMI/RFI shielding, with advanced sealing capability (IP67) suitable for harsh environments. Tamper proof design ensures a safe and secure system.

**Options available for your next move.**

All materials meet the requirements of ISO 9001/2008

- Enhanced next generation anti-vibration dual-ratcheting coupling system. Checkmate™ is intermateable and compatible with rival M23 quickcoupling products.
- Distinctive alignment arrows with lock/unlock identifiers (ensures a solid connection every time)
- Quick locking reliability. 1/8th turn locks the connector vs traditional threaded style coupling
- Functional design allows for rapid orientation with tactile, visual and audible confirmation.
- Vibration and shock tested up to 20g (vibration) and 50g (shock) in 3 axis
- Secure connection ensures signal integrity and longer contact life
- Superior 360° shielding available
- Compact strain relief design allows for tighter clearances
- Greater fluid resistance with IP67 sealing
- Custom colors and labeling available

# Connector Guide

## Bulk Cable Offerings

### Bulk Cable Offering

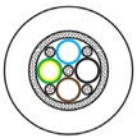
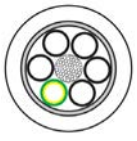
Cable solutions for power supply, feedback, resolver, static and continuous flex

- PUR, TPE, DESINA styles available
- Custom cable assembly solutions available
- More cable options available. Contact the factory for more information

## Power Cables, Non-Flex

| Part # | Description / Connector Options | Jacket Color<br>Jacket Material | Flex Life<br>Nominal Cable OD<br>Shielding |
|---|---|---|---|
| **KA-50960-ORG** | 4/C, 16AWG, Shielded, 90°C 600V, TYPE TC-ER, RoHS Compliant<br>***Connector Options:***<br>*6 positions pages 105,111,213*<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange<br>DESINA RAL 2003<br>TPE | • Non-flex<br>• 0.36" (9.2mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-50961-ORG** | 4/C, 14AWG, Shielded, 90°C 600V, TYPE TC-ER, RoHS Compliant<br>***Connector Options:***<br>*6 positions pages 105,111,213*<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange<br>DESINA RAL 2003<br>TPE | • Non-flex<br>• 0.40" (10.2mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56338** | 4/C, 16AWG 2PR, Shielded 18AWG, Overall Shielded 90°C, 600V, TYPE TC-ER, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Black<br>TPE | • Non-flex<br>• 0.60" (15.2mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56578** | 4/C, 16AWG, 1PR, Shielded, 18AWG+ Overall Shield, 90°C, 600V, TYPE TC-ER, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange<br>DESINA RAL 2003<br>TPE | • Non-flex<br>• 0.50" (12.7mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56579** | 4/C, 14AWG, 1PR, Shielded, 18AWG+ Overalll Shield, 90°C, 600V, TYPE TC-ER, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange<br>DESINA RAL 2003<br>TPE | • Non-flex<br>• 0.52" (13.3mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56580** | 4/C, 10AWG, 1PR, Shielded, 18AWG+ Braided Shield, 90°C, 600V, TYPE TC-ER, RoHS Compliant<br>***Connector Options:***<br>*6 positions (M40) pages 251,255*<br>*8 positions (M40) pages 259,263* | Orange<br>DESINA RAL 2003<br>TPE | • Non-flex<br>• 0.66" (16.8mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |

## Power Cables, Non-Flex (con't)

| Part # | Description / Connector Options | Jacket Color<br>Jacket Material | Flex Life<br>Nominal Cable OD<br>Shielding |
|---|---|---|---|
| **KA-50960** | 4/C 16AWG Shielded 90°C 600V TC-ER<br>***Connector Options:***<br>*6 positions pages 105,111,213*<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Black<br>TPE | • Non-Flex<br>• 0.36" (9.2mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-50961** | 4/C 14AWG Shielded 90°C 600V TC-ER<br>***Connector Options:***<br>*6 positions pages 105,111,213*<br>*8 positions pagespage 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Black<br>TPE | • Non-flex<br>• 0.40" (10.2mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56340** | 4/C, 10AWG, 2PR, Shielded, 18AWG Pairs Overall Shielded, 90°C, 600V, TYPE TC-ER, RoHS Compliant<br>***Connector Options:***<br>*8 positions (M40) pages 259,263* | Black<br>TPE | • Non-flex<br>• 0.72" (18.2mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56029**  | 4/C, 14AWG, 105°C, 600V, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Black<br>TPE | • Non-flex<br>• 0.40" (10.2mm)<br>Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56030** | 4/C, 10AWG hielded, 105°C, 600V , RoHS Compliant<br>***Connector Options:***<br>*6 positions (M40) pages 251,255*<br>*8 positions (M40) pages 259,263* | Black TPE | • Non-flex<br>• 0.615" (15.6mm)<br>• Aluminum Foil-Coverage 100% |
| **KA-56339** | 4/C, 14AWG, 2PR, Shielded, 18AWG Pairs Overall Shielded, 90°C, 600V, TYPE TC-ER, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Black<br>TPE | • Non-flex<br>• 0.62" (15.7mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56028** | 4/C, 16AWG Shielded, 105°C, 600V AWM Style, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Black<br>TPE | • Non-flex<br>• 0.37" (9.4mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-50967**  | 6/C, 16AWG Shielded, 105°C, 600V, RoHS Compliant<br>***Connector Options:***<br>*6 positions pages 105,111,213* | Black<br>ELEXAR | • Non-flex<br>• 0.45" (10.8mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |

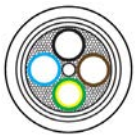
## Power Cables, Cont-Flex

| Part # | Description / Connector Options | Jacket Color<br>Jacket Material | Flex Life<br>Nominal Cable OD<br>Shielding |
|---|---|---|---|
| **KA-56313-ORG** | 4/C, 16AWG Shielded 105°C, 600V, AWM Style, RoHS Compliant<br>***Connector Options:***<br>*6 positions pages 105,111,213*<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange<br>ELEXAR 8730 | • 10M Cycles @ 10X O.D.<br>• 0.46" (11.8mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56314-ORG** | 4/C, 14AWG Shielded, 105°C 600V, RoHS Compliant<br>***Connector Options:***<br>*6 positions pages 105,111,213*<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange<br>ELEXAR 8730 | • 10M Cycles @ 10X O.D.<br>• 0.49" (12.7mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56349** | 4/C, 16AWG, 2PR 18AWG Shielded 105°C, 600V, AWM Style, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange DESINA RAL 2003<br>TPE | • 5M Cycles @ 15 X O.D.<br>• 0.55" (13.9mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56351** | 4/C, 14AWG, 2PR 18AWG Shielded 105°C, 600V, AWM Style, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange DESINA RAL 2003<br>TPE | • 10M Cycles @ 12 X O.D.<br>• 0.61" (15.5mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56593** | 4/C, 16AWG, 1PR, Shielded, 18AWG+ Overall Shield, 105°C, 600V, AWM Style, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,129,135,233*<br>*9 positions (3+6) page 243* | Orange DESINA RAL 2003<br>TPE | • 10M Cycles @ 12 X O.D.<br>• 0.46" (11.7mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56594** | 4/C, 14AWG, 1PR, Shielded, 18AWG+ Overall Shield, 90°C, 600V, UL TYPE TC-ER, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange DESINA RAL 2003<br>TPE | • 10M Cycles @ 12 X O.D.<br>• 0.50" (12.7mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56595** | 4/C, 10AWG, 1PR, Shielded, 18AWG+ Overall Shield, 90°C, 600V, UL TYPE TC-ER, RoHS Compliant<br>***Connector Options:***<br>*6 positions (M40) pages 251,255*<br>*8 positions (M40) pages 259,263* | Orange<br>ELEXAR 8730 | • 10M Cycles @ 12 X O.D.<br>• 0.66" (16.8mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56623** | 4/C, 16AWG (1.5mm²) Shielded<br>***Connector Options:***<br>*6 positions pages 105,111,213* | Orange PUR | • 10M Cycles @ 10X O.D.<br>• 0.43" (10.9mm)<br>• Shielded Tinned Copper Braid-Coverage 85% |

## Power Cables, Cont-Flex (con't)

| Part # | Description / Connector Options | Jacket Color<br>Jacket Material | Flex Life<br>Nominal Cable OD<br>Shielding |
|---|---|---|---|
| **KA-56624** | 4/C, 14AWG (2.5mm²) Shielded<br>***Connector Options:***<br>*6 positions pages 105,111,213* | Orange PUR | • 10M Cycles @ 10X O.D.<br>• 0.42' (10.6mm)<br>• Shielded Tinned Copper Braid-Coverage 85% |
| **KA-56625** | 4/C, 16AWG (1.5MM²), 16AWG (1.5MM²)-1PR Shielded<br>***Connector Options:***<br>*6 positions pages 105,111,213* | Orange PUR | • 10M Cycles @ 10X O.D.<br>• 0.456" (11.6mm)<br>• Shielded Tinned Copper Braid-Coverage 85% |
| **KA-56626** | 4/C, 14AWG (2.5MM²), 16AWG (1.5MM²)-1PR Shielded<br>***Connector Options:***<br>*6 positions pages 105,111,213* | Orange PUR | • 10M Cycles @ 10X O.D.<br>• 0.53" (13.4mm)<br>• Shielded Tinned Copper Braid-Coverage 85% |
| **KA-56627** | 4/C, 12AWG (4.0mm²), 16AWG (1.5mm²)-1PR Shielded<br>***Connector Options:***<br>*6 positions (M40) pages 251,255* | Orange PUR | • 10M Cycles @ 10X O.D.<br>• 0.58" (14.8mm)<br>• Shielded Tinned Copper Braid-Coverage 85% |
| **KA-56645** | CBL, 1.0-4C, 22G-1PR, .75-1PR, 80°C, 1000V, AWM Style, RoHS Compliant<br>***Connector Options:***<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange DESINA RAL 2003<br>TPE | • 5M Cycles @ 5 X O.D. (Static); 5M Cycles @ 7 X O.D. (Dynamic)<br>• 0.47" (11.9mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56646** | CBL, 4X2, 5+(2 X 22AWG)C, 80°C, 1000V, AWM Style, RoHS Compliant<br>***Connector Options:***<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange DESINA RAL 2003<br>TPE | • 5M Cycles @ 5 X O.D. (Single); 5M Cycles @ 7.5 X O.D. (Multiple)<br>• 0.51" (12.9mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56647** | CBL, 2.5-4C, 22G-1PR, 1.0-1PR, 80°C, 1000V, AWM Style, RoHS Compliant<br>***Connector Options:***<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Orange DESINA RAL 2003<br>TPE | • 5M Cycles @ 5 X O.D. (Static); 5M Cycles @ 7 X O.D. (Dynamic)<br>• 0.55" (13.9mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56313** | 4/C, 16AWG Shielded 105°C, 600V, AWM Style, RoHS Compliant<br>***Connector Options:***<br>*6 positions pages 105,111,213*<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Black<br>TPE | • 10M Cycles @ 10 X O.D.<br>• 0.46" (11.8mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |

## Power Cables, Cont-Flex (con't)

| Part # | Description / Connector Options | Jacket Color<br>Jacket Material | Flex Life<br>Nominal Cable OD<br>Shielding |
|---|---|---|---|
| **KA-56314**<br>  | 4/C, 14AWG Shielded, 105°C, 600V, AWM Style, RoHS Compliant.<br>***Connector Options:***<br>*6 positions pages 105,111,213*<br>*8 positions pages 117,123,223*<br>*9 positions (4+5) pages 129,135,233*<br>*9 positions (3+6) page 243* | Black<br>TPE | • 10M @10XOD<br>• 0.47" (11.8mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |

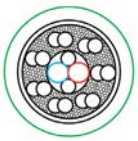
## Signal Cables, Non-Flex

| Part # | Description / Connector Options | Jacket Color<br>Jacket Material | Flex Life<br>Nominal Cable OD<br>Shielding |
|---|---|---|---|
| **KA-56615**<br> | 5PR, 22AWG, shielded, 90°C, 300V , PLTC-ER , RoHS Compliant<br>***Connector Options:***<br>*12 positions pages 33,39,45,51,149,157*<br>*16 positions pages 57,63,69,75,165,173*<br>*17 positions pages 81,87,93,99,181,189* | Green RAL 6018<br>TPE | • Non-flex<br>• 0.38" (9.7mm)<br>• Aluminum Foil - Coverage 100% + Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-50203**<br> | 8PR, 28AWG, 1PR 16AWG, Shielded, 105°C, 300V, VW-1 AWM Style, RoHS Compliant<br>***Connector Options:***<br>*17 positions pages 81,87,93,99,181,189*<br>*19 positions pages 197,205* | Black<br>TPE | • Non-flex<br>• 0.39 (9.9mm)<br>• Aluminum Foil - Coverage 100% + Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-50959**<br> | 4PR, 24AWG, 90°C, 30V, UL Recognized, AWM Style<br>***Connector Options:***<br>*12 positions pages 33,39,45,51,149,157*<br>*16 positions pages 57,63,69,75,165,173*<br>*17 positions pages 81,87,93,99,181,189* | Black<br>TPE | • Non-flex<br>• 0.255"<br>• Aluminum Ployester tape, Aluminum Side facing In, 25% Overlap |
| **KA-56133**<br> | 1PR, 16AWG, 7PR 28AWG, 1PR 22AWG, Shielded, 105°C, 300V, VW-1 AWM Style, RoHS Compliant<br>***Connector Options:***<br>*17 positions pages 81,87,93,99,181,189*<br>*19 positions pages 197,205* | Black<br>TPE | • Non-flex<br>• 0.38" (9.7mm)<br>• Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56441**<br> | 8GA-4COND/14GA-1PR,TC-ER/STOOW<br>***Connector Options:***<br>*6 positions (M40) pages 251,255* | Black PVC | • Non-flex<br>• 1.058" (26.8mm)<br>• Shielded Tinned Copper Braid- Coverage 85% |

## Signal Cables, Non-Flex (con't)

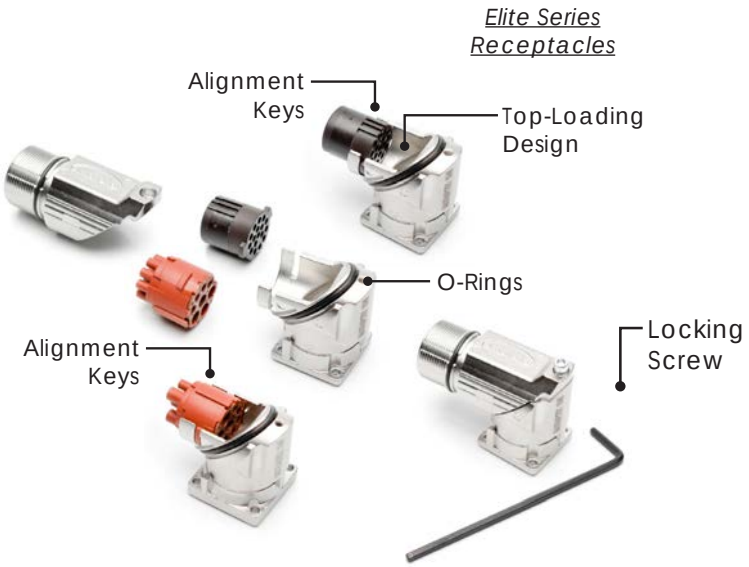
| Part # | Description / Connector Options | Jacket Color<br>Jacket Material | Flex Life<br>Nominal Cable OD<br>Shielding |
|---|---|---|---|
| **KA-56631**<br> | CBL,12G-5C,Shielded<br>***Connector Options:***<br>*6 positions pages 105,111,213* | Black PVC | • Non-flex0.472" (12mm)<br>• Aluminum Foil-Coverage 100% |

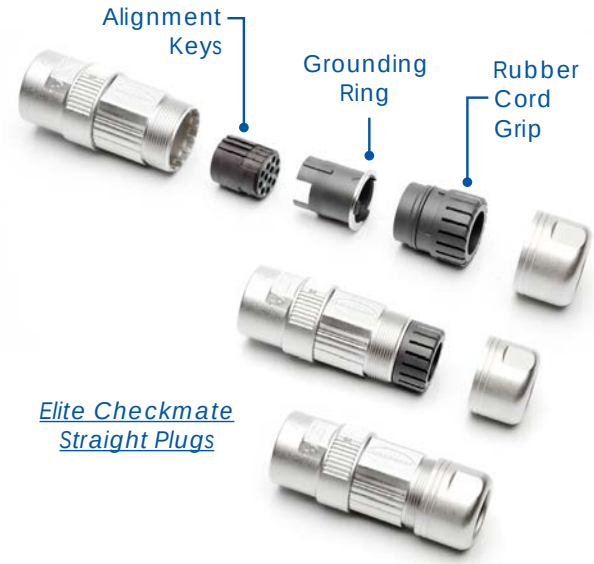
## Signal Cables, Cont-Flex

| Part # | Description / Connector Options | Jacket Color<br>Jacket Material | Flex Life<br>Nominal Cable OD<br>Shielding |
|---|---|---|---|
| **KA-56312-GRN**<br> | 1PR, 16AWG, 7PR 26AWG, 1PR 22AWG, Shielded, 105°C, 300V, VW-1 AWM Style, RoHS Compliant<br>***Connector Options:***<br>*17 positions pages 81,87,93,99,181,189*<br>*19 positions pages 197,205* | Green RAL 6018<br>TPE | • 10M Cycles @ 10X O.D.<br>• 0.43" (10.9mm)<br>• "Shield Tinned Copper Braid, Double Spiral Coverage = 95% |
| **KA-56592**<br> | 5PR, 22AWG, 90°C 300V, TYPE PLTC-ER, UL AWM Style 90°C, 600V, CSA AWM I/II A/B/ FT1, RoHS Compliant<br>***Connector Options:***<br>*12 positions pages ,39,45,51,149,157*<br>*16 positions pages 57,63,69,75,165,173*<br>*17 positions pages 81,87,93,99,181,189* | Green RAL 6018<br>TPE | • 10M Cycles @ 10 X O.D.<br>• 0.47" (11.8mm)<br>• Aluminum Foil - Coverage 100% + Shield Tinned Copper Braid - Coverage ≥ 85% |
| **KA-56622**<br>  | 18AWG (1.0mm²)-1PR, 22AWG (0.34mm²)-7PR Shielded<br>***Connector Options:***<br>*12 positions pages 33,39,45,51,149,157* | Green PUR | • 10M Cycles @ 10X O.D.<br>• 0.43" (10.9mm)<br>• Shielded Tinned Copper Braid-Coverage 85% |
| **KA-56621**<br> | 20AWG (0.50mm²) 4/C 22AWG (0.34mm²)-4PR Shielded<br>***Connector Options:***<br>*12 positions pages 33,39,45,51,149,157* | Green RAL 6018 PUR | • Special-flex<br>• 0.35" (8.9mm)<br>• Shielded Tinned Copper Braid-Coverage 80% |

# Elite Series Features & Benefits

- Faster Assembly, Less Components
- Compact Design
- Loose-Piece Insert for Hand-Held Assembly
- Top-Loading Design (for Receptacles)
- Clamshell Insert for Contact Insertion
  (Opens for easy contact placement)
- Alignment Keys for Guided Assembly
- Rubber Cord Grips
- Grounding Rings (for Plugs)
- No Extractions Tools Required
  (for Power inserts)



# Connector Solutions

## Connector Solutions M23 Elite Series

### Signal


12 POSITIONS 10A / 160V E type **Checkmate™** Qiuck Locking ____ 33
12 POSITIONS 10A / 160V E type Threaded ____ 37
12 POSITIONS 10A / 160V P type **Checkmate™** Qiuck Locking ____ 41
12 POSITIONS 10A / 160V P type Threaded ____ 45
16 POSITIONS 9A / 125V E type **Checkmate™** Qiuck Locking ____ 49
16 POSITIONS 9A / 125V E type Threaded ____ 53
16 POSITIONS 9A / 125V P type **Checkmate™** Qiuck Locking ____ 57
16 POSITIONS 9A / 125V P type Threaded ____ 61
17 POSITIONS 9A / 125V E type **Checkmate™** Qiuck Locking ____ 65
17 POSITIONS 9A / 125V E type Threaded ____ 69
17 POSITIONS 9A / 125V P type **Checkmate™** Qiuck Locking ____ 73
17 POSITIONS 9A / 125V P type Threaded ____ 77


### Power


6 POSITIONS 28A / 630V **Checkmate™** Qiuck Locking ____ 81
6 POSITIONS 28A / 630V Threaded ____ 87
8 (4+4) POSITIONS Power 30A/ 630V Signal 10A/ 250V **Checkmate™** Qiuck Locking ____ 93
8 (4+4) POSITIONS Power 30A/ 630V Signal 10A/ 250V Threaded ____ 99
9 (4+5) POSITIONS Power 30A/ 630V Signal 10A/ 250V **Checkmate™** Qiuck Locking ____ 105
9 (4+5) POSITIONS Power 30A/ 630V Signal 10A/ 250V Threaded ____ 111


## M23 Hybrid Series


8 POSITIONS 18A PE/1A Signal/0.5A Quadrax / 850V PE & Signal/ 30V Quadrax ____ 117


## Connector Solutions M23 Standard Series

### Signal


12 POSITIONS 10A / 160V E type **Checkmate™** Qiuck Locking & Threaded ____ 121
12 POSITIONS 10A / 160V P type **Checkmate™** Qiuck Locking & Threaded ____ 129
16 POSITIONS 9A / 125V E type **Checkmate™** Qiuck Locking & Threaded ____ 139
16 POSITIONS 9A / 125V P type **Checkmate™** Qiuck Locking & Threaded ____ 147
17 POSITIONS 9A / 125V E type **Checkmate™** Qiuck Locking & Threaded ____ 155
17 POSITIONS 9A / 125V P type **Checkmate™** Qiuck Locking & Threaded ____ 165
19 POSITIONS 7A / 63V E type **Checkmate™** Qiuck Locking & Threaded ____ 175
19 POSITIONS 7A / 63V P type **Checkmate™** Qiuck Locking & Threaded ____ 181


### Power


6 POSITIONS 28A / 630V **Checkmate™** Qiuck Locking & Threaded ____ 187
8 (4+4) POSITIONS Power 30A/ 630V Signal 10A/ 250V **Checkmate™** Qiuck Locking & Threaded ____ 197
9 (4+5) POSITIONS Power 30A/ 630V Signal 10A/ 250V **Checkmate™** Qiuck Locking & Threaded ____ 207
9 (3+6) POSITIONS Power 30A/ 250V Signal 10A/ 630V **Checkmate™** Qiuck Locking & Threaded ____ 217

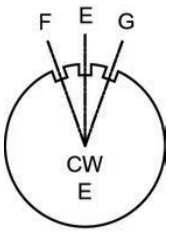

## Connector Solutions M40 Series

### Power

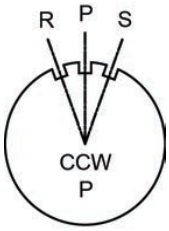

6 (4+2) POSITIONS Power 75A/ 630V Signal 30A/ 250V **Checkmate™** Qiuck Locking ____ 225
6 (4+2) POSITIONS Power 75A/ 630V Signal 30A/ 250V Threaded ____ 229
8 (4+4) POSITIONS Power 75A/ 630V Signal 30A/ 250V **Checkmate™** Qiuck Locking ____ 233
8 (4+4) POSITIONS Power 75A/ 630V Signal 30A/ 250V Threaded ____ 237

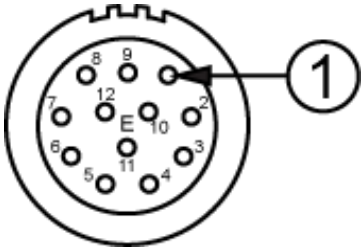
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 12 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA5CAE1200-S1
MA5CAE1200-S2
MA5CAE1200-S3

**Plug Kits**

MA5CAE1200-S1-KIT
MA25CAE1200S-S1-KIT
MA5CAE1200-S2-KIT
MA5CAE1200S-S2-KIT
MA5CAE1200-S3-KIT
MA5CAE1200S-S3-KIT

**Receptacles**

MA5RAP1201
MA5RAP1202

MA2JAP1200

MA2LAP1200

**Receptacle Kits**

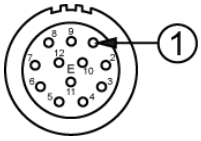
MA2LAP1200-KIT
MA2LAP1200S-KIT

MA5RAP1201-KIT
MA5RAP1201S-KIT
MA5RAP1202-KIT
MA5RAP1202S-KIT

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |



**12 POSITIONS**
**10A / 160V**
**E type**
**Checkmate™**

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

Check Mate™
Quick Locking Connectors

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA5CAE1200-S1 | *Plug, straight, Checkmate™ 4.5-7.5mm cord grip* | E | Pin | Socket | 1 |
| MA5CAE1200-S1-KIT | Plug kit, straight, **Checkmate™** 4.5-7.5mm cord grip | E | Pin | | 1 |
| MA5CAE1200S-S1-KIT | Plug kit, straight, **Checkmate™** 4.5-7.5mm cord grip | E | | Socket | 1 |
| MA5CAE1200-S2 | Plug, straight, **Checkmate™** 7.5-11mm cord grip | E | Pin | Socket | 1 |
| MA5CAE1200-S2-KIT | Plug, straight, **Checkmate™** 7.5-11mm cord grip | E | Pin | | 1 |
| MA5CAE1200S-S2-KIT | Plug, straight, **Checkmate™** 7.5-11mm cord grip | E | | Socket | 1 |
| MA5CAE1200-S3 | Plug, straight, **Checkmate™** 11-15mm cord grip | E | Pin | Socket | 1 |
| MA5CAE1200-S3-KIT | Plug, straight, **Checkmate™** 11-15mm cord grip | E | Pin | | 1 |
| MA5CAE1200S-S3-KIT | Plug, straight, **Checkmate™** 11-15mm cord grip | E | | Socket | 1 |
| RECEPTACLES | | | ↕ Mating Parts ↕ | | |
| MA5RAP1201 | Receptacle, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | P | Socket | Pin | 2 |
| MA5RAP1201-KIT | Receptacle Kit, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | P | | Pin | 2 |
| MA5RAP1201-KIT | Receptacle Kit, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | P | Socket | | 2 |
| MA5RAP1202 | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | P | Socket | Pin | 3 |
| MA5RAP1202-KIT | Receptacle Kit, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | P | | Pin | 3 |
| MA5RAP1202S-Kit | Receptacle Kit, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | P | Socket | | 3 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.

See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

Connector Part Numbers continued

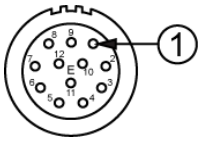
| | | | | | |
|---|---|---|---|---|---|
| MA2LAP1200* | Receptacle, straight, flange mount, **Checkmate™** | P | Socket | Pin | 4 |
| MA2LAP1200-KIT* | Receptacle Kit, straight, flange mount, **Checkmate™ .** Kit includes contacts. | P | | Pin | 4 |
| MA2LAP1200S-KIT* | Receptacle Kit, straight, flange mount, **Checkmate™ .** Kit includes contacts. | P | Socket | | 4 |
| MA2JAP1200* | Receptacle extension, **Checkmate™** | P | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 | | | | | |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.
See Assembly Instructions starting on page 282

## Contacts

CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |





**Style: E type Plug  Number of Contacts: 12  Contact Size: 1.0mm**

Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug

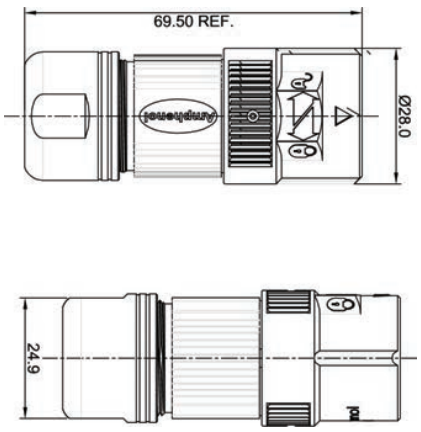



Figure 1

MA5CAE1200-S1
MA5CAE1200-S2
MA5CAE1200-S3

## Receptacle, 90°, Standard Flange (25.7x25.7)

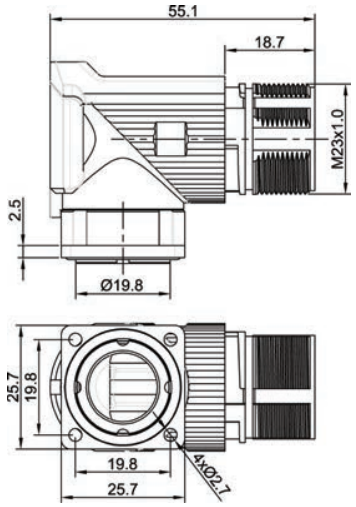



Figure 2

MA5RAP1201

## Receptacle, 90°, Large Flange (28.0x28.0)

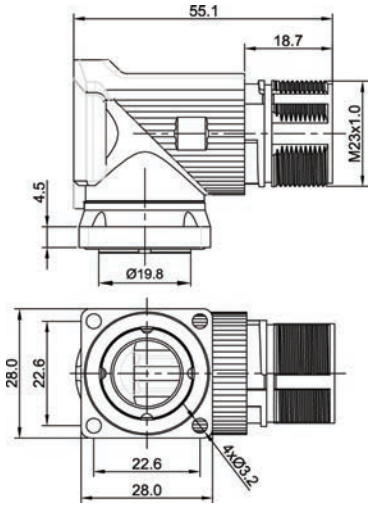



Figure 3

MA5RAP1202

## Receptacle, straight, flange mount, Checkmate™

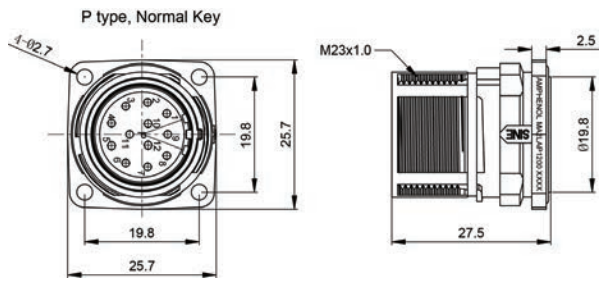



Figure 4

MA2LAP1200
MA2LAP1200S-KIT

## Receptacle, extension, Checkmate™

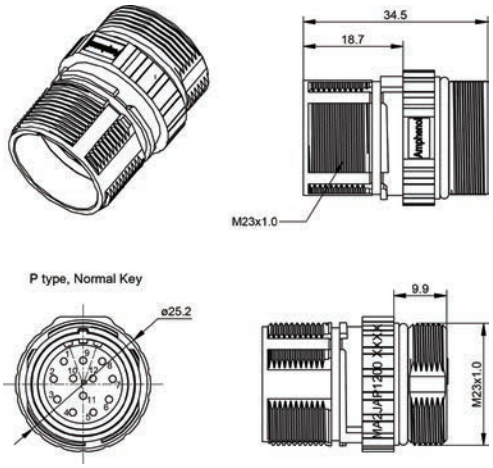



Figure 5

MA2JAP1200

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

Connector Drawings continued

## Cord Grips

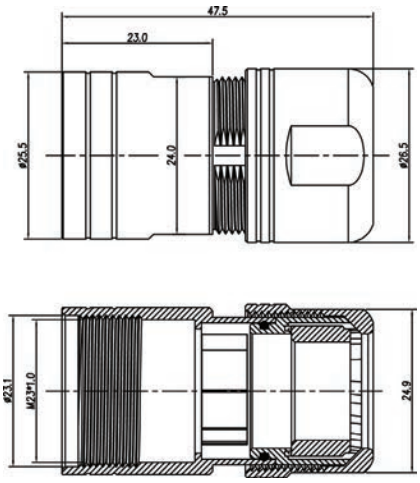
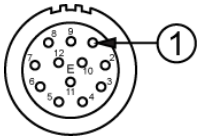



Figure 6

MA6CG-S1
MA6CG-S2
MA6CG-S3





**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

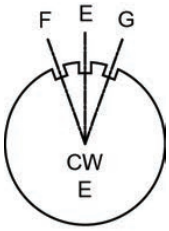
Dust Cap for Plug

P31662

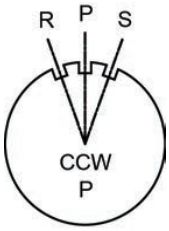
* The universal positioner is not included with the crimp tools and must be ordered separately.

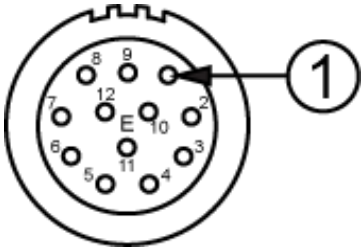
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate “E” Plugs with “P” Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 12 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA7CAE1200-S1
MA7CAE1200-S2
MA7CAE1200-S3

**Plug Kits**

MA7CAE1200-S1-KIT
MA7CAE1200S-S1-KIT
MA7CAE1200-S2-KIT
MA7CAE1200S-S2-KIT
MA7CAE1200-S3-KIT
MA7CAE1200S-S3-KIT

**Receptacles**

MA7RAP1201
MA7RAP1202

MA1LAP1200

MA1JAP1200

**Receptacle Kits**

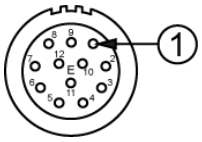
MA1LAP1200-KIT
MA1LAP1200S-KIT

MA7RAP1201-KIT
MA7RAP1201S-KIT
MA7RAP1202-KIT
MA7RAP1202S-KI

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |





**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA7CAE1200-S1 | Plug, straight, threaded<br>4.5-7.5mm cord grip | E | Pin | Socket | 1 |
| MA7CAE1200-S1-KIT | Plug kit, straight, threaded<br>4.5-7.5mm cord grip | E | Pin | | 1 |
| MA7CAE1200S-S1-KIT | Plug kit, straight, threaded<br>4.5-7.5mm cord grip | E | | Socket | 1 |
| MA7CAE1200-S2 | Plug, straight, threaded<br>7.5-11mm cord grip | E | Pin | Socket | 1 |
| MA7CAE1200-S2-KIT | Plug kit, straight, threaded<br>7.5-11mm cord grip | E | Pin | | 1 |
| MA7CAE1200S-S2-KIT | Plug kit, straight, threaded<br>7.5-11mm cord grip | E | | Socket | 1 |
| MA7CAE1200-S3 | Plug, straight, threaded<br>11-15mm cord grip | E | Pin | Socket | 1 |
| MA7CAE1200-S3-KIT | Plug kit, straight, threaded<br>11-15mm cord grip | E | Pin | | 1 |
| MA7CAE1200S-S3-KIT | Plug kit, straight, threaded<br>11-15mm cord grip | E | | Socket | 1 |
| RECEPTACLES | | | ↕ Mating Parts ↕ | | |
| MA7RAP1201 | Receptacle, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | P | Socket | Pin | 2 |
| MA7RAP1201-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | P | | Pin | 2 |
| MA7RAP1201S-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | P | | Pin | 2 |
| MA7RAP1202 | Receptacle, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | P | Socket | Pin | 3 |
| MA7RAP1202-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | P | | Pin | 3 |
| MA7RAP1202S-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | P | Socket | | 3 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.

See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug  Number of Contacts: 12  Contact Size: 1.0mm**

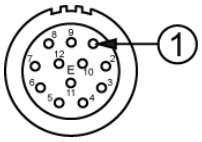
Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA1LAP1200* | Receptacle, straight, flange mount, threaded | P | Socket | Pin | 4 |
| MA1LAP1200-KIT* | Receptacle kit, straight, threaded, flange mount. Kit includes contacts. | P | | Pin | 4 |
| MA1LAP1200S-KIT* | Receptacle kit, straight, threaded, flange mount. Kit includes contacts. | P | Socket | | 4 |
| MA1JAP1200* | Receptacle extension, threaded | P | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 | | | | | |

## CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | mm² | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |



**12 POSITIONS**
**10A / 160V**
**E type**
**Threaded**

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug

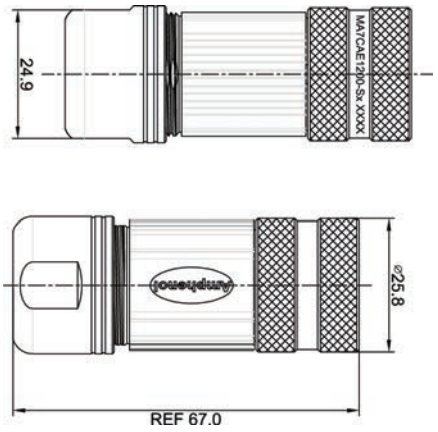



Figure 1

MA7CAE1200-S1
MA7CAE1200-S2
MA7CAE1200-S3

## Receptacle, 90°, Standard Flange (25.7x25.7)

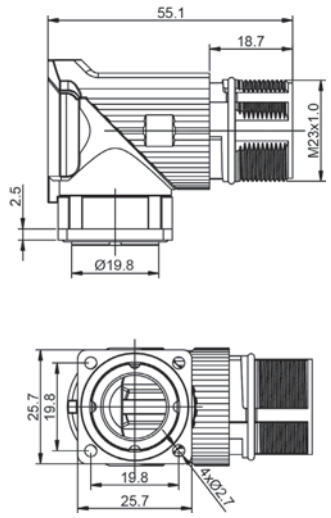



Figure 2

MA7RAP1201

## Receptacle, 90°, Large Flange (28.0x28.0)

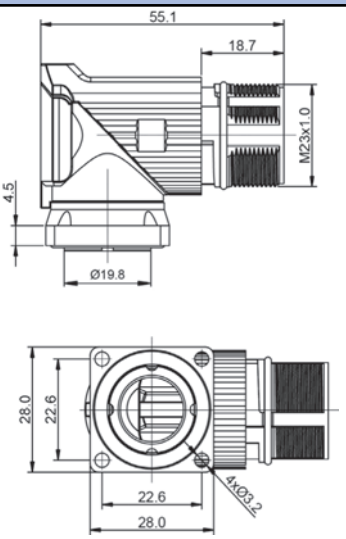



Figure 3

MA7RAP1202

## Receptacle, straight, flange mount, threaded

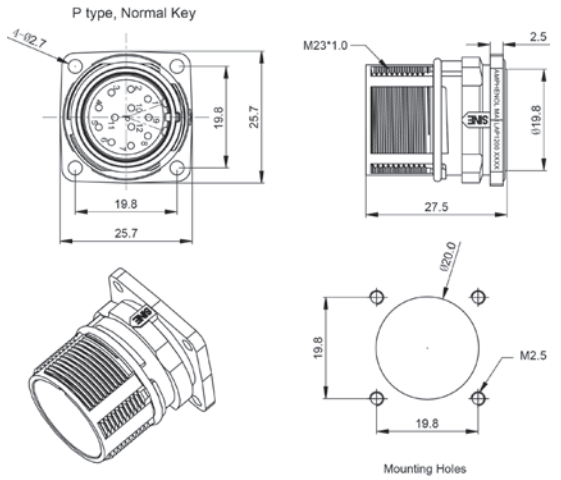



Figure 4

MA1LAP1200
MA1LAP1200-KIT
MA1LAP1200S-KIT

## Receptacle, extension, threaded

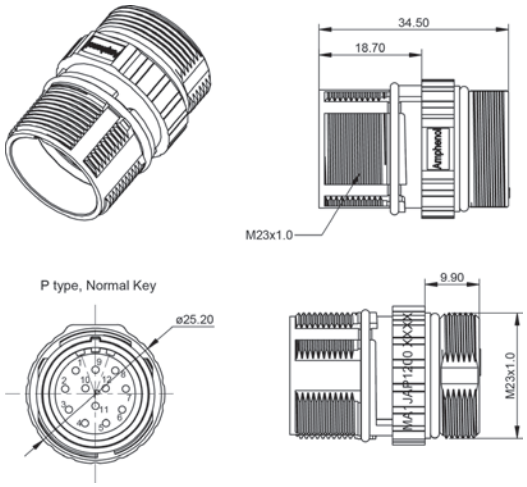



Figure 5

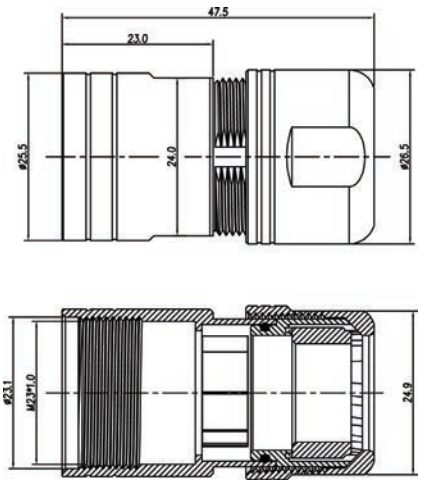
MA1JAP1200

**Style: E type Plug  Number of Contacts: 12  Contact Size: 1.0mm**

Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

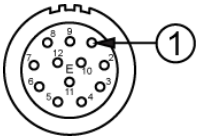
Connector Drawings continued

Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 6






**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

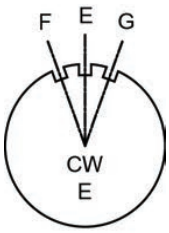
Dust Cap for Plug, Threaded

P31660

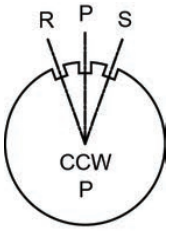
* The universal positioner is not included with the crimp tools and must be ordered separately.

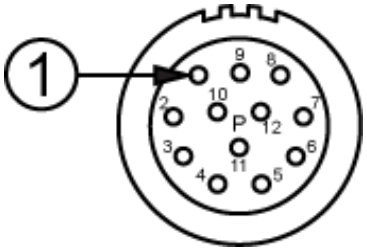
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 12 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA5CAP1200-S1
MA5CAP1200-S2
MA5CAP1200-S3

**Plug Kits**

MA5CAP1200-S1-KIT
MA5CAP1200S-S1KIT
MA5CAP1200-S2-KIT
MA5CAP1200S-S2KIT
MA5CAP1200-S3-KIT
MA5CAP1200S-S3KIT

**Receptacles**

MA5RAE1201
MA5RAE1202

MA2LAE1200

MA2JAE1200

**Receptacle Kits**

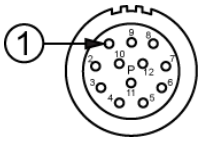
MA2LAE1200-KIT
MA2LAE1200S-KIT

MA5RAE1201-KIT
MA5RAE1201S-KIT
MA5RAE1201-KIT
MA5RAE1201S-KIT

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |



**12 POSITIONS**
**10A / 160V**
**P type**
**Checkmate™**

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

CheckMate™ Quick Locking Connectors

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA5CAP1200-S1 | Plug, straight, **Checkmate™**<br>4.5-7.5mm cord grip | P | Pin | Socket | 1 |
| MA5CAP1200-S1-KIT | Plug kit, straight, **Checkmate™**<br>4.5-7.5mm cord grip | P | Pin | | 1 |
| MA5CAP1200S-S1-KIT | Plug kit, straight, **Checkmate™**<br>4.5-7.5mm cord grip | P | | Socket | 1 |
| MA5CAP1200-S2 | Plug, straight, **Checkmate™**<br>7.5-11mm cord grip | P | Pin | Socket | 1 |
| MA5CAP1200-S2-KIT | Plug, straight, **Checkmate™**<br>7.5-11mm cord grip | P | Pin | | 1 |
| MA5CAP1200S-S2-KIT | Plug, straight, **Checkmate™**<br>7.5-11mm cord grip | P | | Socket | 1 |
| MA5CAP1200-S3 | Plug, straight, **Checkmate™**<br>11-15mm cord grip | P | Pin | Socket | 1 |
| MA5CAP1200-S3-KIT | Plug kit, straight, **Checkmate™**<br>11-15mm cord grip | P | Pin | | 1 |
| MA5CAP1200S-S3-KIT | Plug kit, straight, **Checkmate™**<br>11-15mm cord grip | P | | Socket | 1 |
| | RECEPTACLES | | ↕ Mating Parts ↕ | | |
| MA5RAE1201 | Receptacle, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | E | Socket | Pin | 2 |
| MA5RAE1201-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | E | | Pin | 2 |
| MA5RAE1201S-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | E | Socket | | 2 |
| MA5RAE1202 | Receptacle, 90° rotatable,<br>**Checkmate™**<br>Large Flange (28.0x28.0) | E | Socket | Pin | 2 |
| MA5RAE1202-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Large Flange (28.0x28.0) | E | | Pin | 2 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.
See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

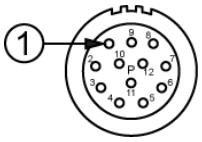
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA5RAE1202S-KIT | Receptacle Kit, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | E | Socket | | 2 |
| MA2LAE1200* | Receptacle, straight, flange mount, **Checkmate™** | E | Socket | Pin | 3 |
| MA2LAE1200-KIT* | Receptacle kit, straight, flange mount, **Checkmate™** | E | | Pin | 3 |
| MA2LAE1200S-KIT* | Receptacle kit, straight, flange mount, **Checkmate™** | E | Socket | | 3 |
| MA2JAE1200* | Receptacle extension, **Checkmate™** | E | Socket | Pin | 4 |
| ↑ Contacts supplied separately see Chart 1 page 46 | | | | | |

## CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |

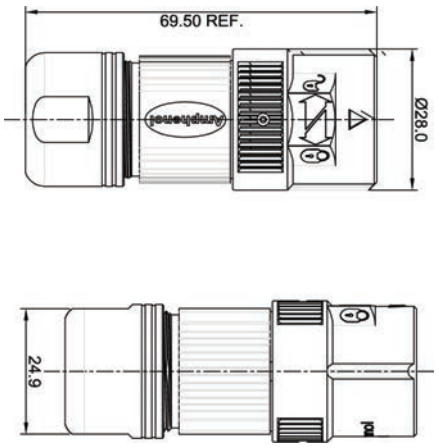


**12 POSITIONS**
**10A / 160V**
**P type**
**Checkmate™**

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug




MA5CAP1200-S1
MA5CAP1200-S2
MA5CAP1200-S3

Figure 1

## Receptacle, 90°, Standard Flange (25.7x25.7)

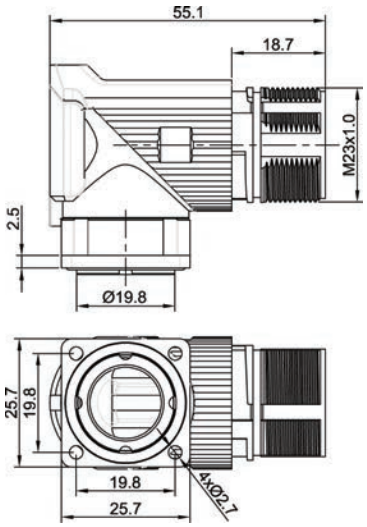



Figure 2 MA5RAE1201

## Receptacle, 90°, Large Flange (28.0x28.0)

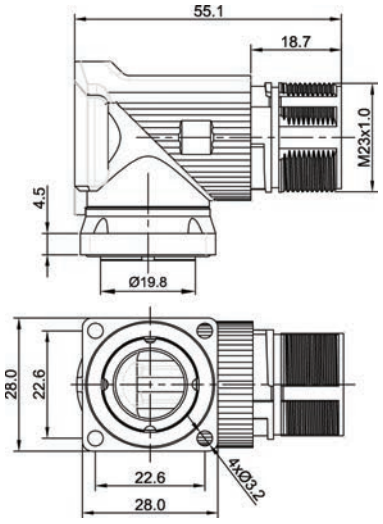



Figure 3 MA5RAE1202

## Receptacle, straight, flange mount, Checkmate™

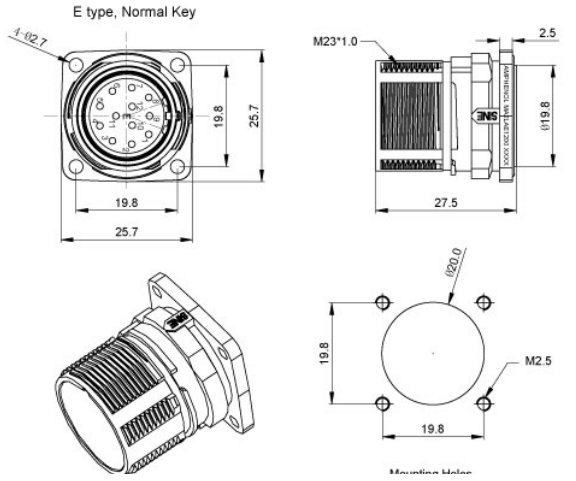



Figure 3 MA2LAE1200

## Receptacle extension, Checkmate™

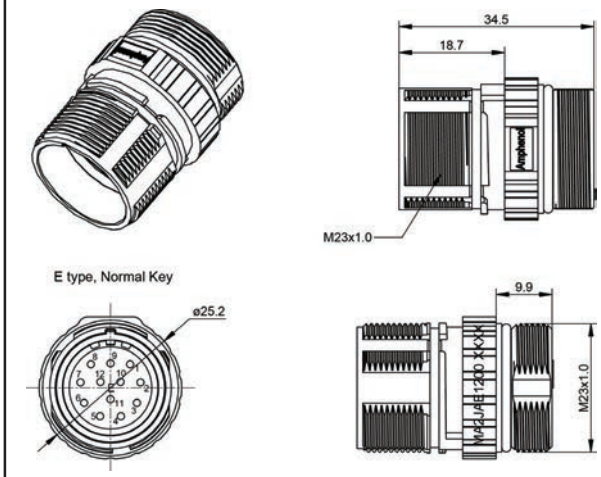



Figure 4 MA2JAE1200

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

Cord Grips

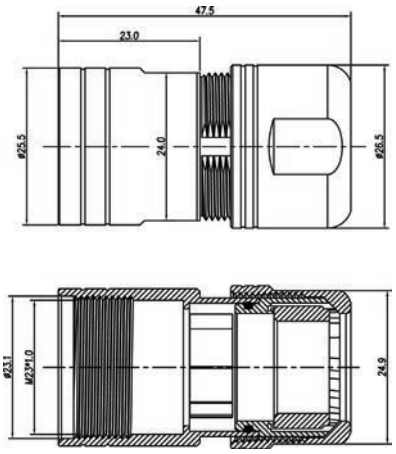
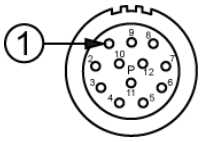



Figure 6

MA6CG-S1
MA6CG-S2
MA6CG-S3





**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm$^2$) / 28-24 (0.25 -0.10 mm$^2$)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

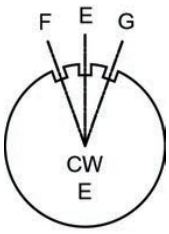
Dust Cap for Plug, Checkmate™

P31662

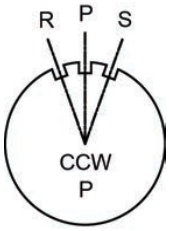
* The universal positioner is not included with the crimp tools and must be ordered separately.

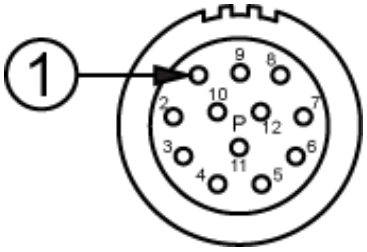
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 12 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA7CAP1200-S1
MA7CAP1200-S2
MA7CAP1200-S3

**Plug Kits**

MA7CAP1200-S1-KIT
MA7CAP1200S-S1-KIT
MA7CAP1200-S2-KIT
MA7CAP1200S-S2-KIT
MA7CAP1200-S3-KIT
MA7CAP1200S-S3-KIT

**Receptacles**

MA7RAE1201
MA7RAE1202

MA1LAE1200

MA1JAE1200

**Receptacle Kit**

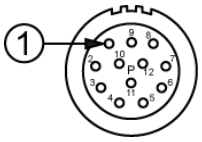
MA1LAE1200-KIT
MA1LAE1200S-KIT

MA7RAE1201-KIT
MA7RAE1201S-KIT
MA7RAE1202-KIT
MA7RAE1201S-KIT

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |



**12 POSITIONS**
**10A / 160V**
**P type**
**Threaded**

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 18-22 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA7CAP1200-S1 | Plug, straight, threaded<br>4.5-7.5mm cord grip | P | Pin | Socket | 1 |
| MA7CAP1200-S1-KIT | Plug kit, straight, threaded<br>4.5-7.5mm cord grip | P | Pin | | 1 |
| MA7CAP1200S-S1-KIT | Plug kit, straight, threaded<br>4.5-7.5mm cord grip | P | | Socket | 1 |
| MA7CAP1200-S2 | Plug, straight, threaded<br>7.5-11mm cord grip | P | Pin | Socket | 1 |
| MA7CAP1200-S2-KIT | Plug kit, straight, threaded<br>7.5-11mm cord grip | P | Pin | | 1 |
| MA7CAP1200S-S2-KIT | Plug kit, straight, threaded<br>7.5-11mm cord grip | P | | Socket | 1 |
| MA7CAP1200-S3 | Plug, straight, threaded<br>11-15mm cord grip | P | Pin | Socket | 1 |
| MA7CAP1200-S3-KIT | Plug kit, straight, threaded<br>11-15mm cord grip | P | Pin | | 1 |
| MA7CAP1200S-S3-KIT | Plug kit, straight, threaded<br>11-15mm cord grip | P | | Socket | 1 |
| RECEPTACLES | | | ↕ Mating Parts ↕ | | |
| MA7RAE1201 | Receptacle, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | E | Socket | Pin | 2 |
| MA7RAE1201-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | E | | Pin | 2 |
| MA7RAE1201S-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | E | Socket | | 2 |
| MA7RAE1202 | Receptacle, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | E | Socket | Pin | 3 |
| MA7RAE1202-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | E | Socket | Pin | 3 |
| MA7RAE1202S-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | E | Socket | Pin | 3 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.

See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

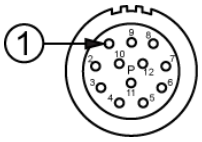
Sealing: IP66/67 AWG: 18-22 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA1LAE1200* | Receptacle, straight, flange mount, threaded | E | Socket | Pin | 4 |
| MA1LAE1200-KIT* | Receptacle kit, straight, threaded. Kit includes contacts. | E | | Pin | 4 |
| MA1LAE1200S-KIT* | Receptacle kit, straight, threaded. Kit includes contacts. | E | Socket | | 4 |
| MA1JAE1200* | Receptacle extension, threaded | E | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 52 | | | | | |

## CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |

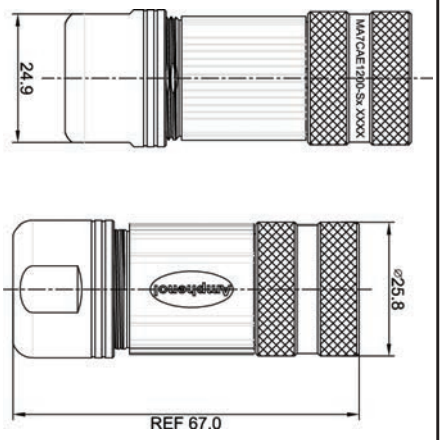




**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 18-22 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug




MA7CAP1200-S1
MA7CAP1200-S2
MA7CAP1200-S3

Figure 1

## Receptacle, 90°, Standard Flange (25.7x25.7)

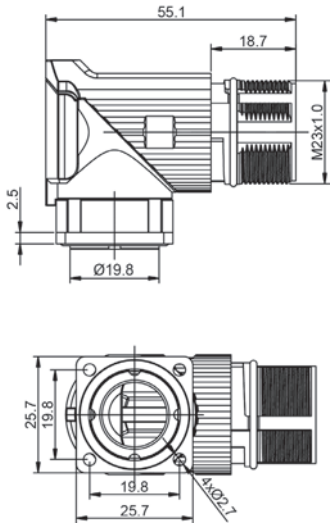



Figure 2 MA7RAE1201

## Receptacle, 90°, Large Flange (28.0x28.0)

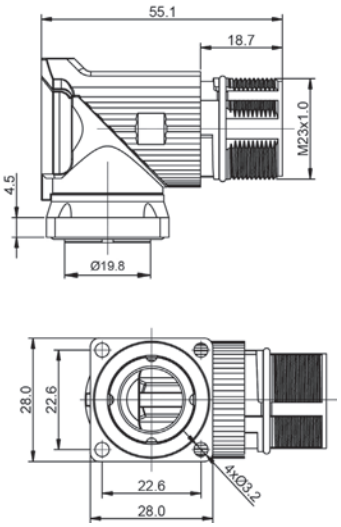



Figure 3 MA7RAE1202

## Receptacle, straight, flange mount, threaded

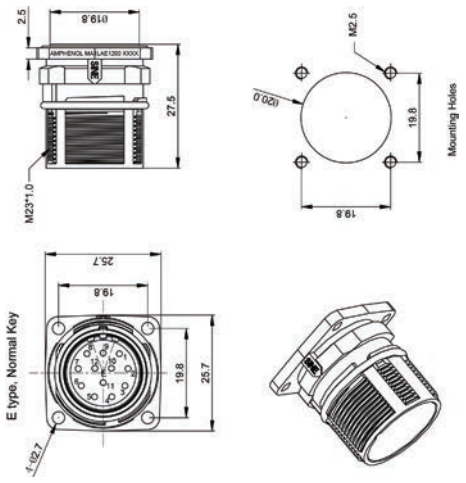



Figure 4

MA1LAE1200
MA1LAE1200-KIT
MA1LAE1200S-KIT

## Receptacle extension, threaded

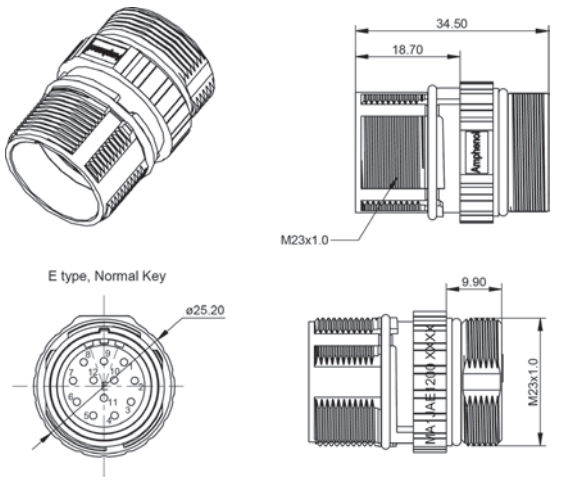



Figure 5

MA1JAE1200

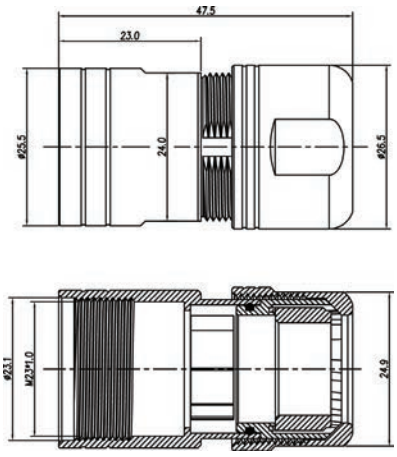
Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 18-22 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

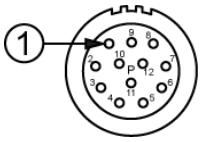
Connector Drawings continued

Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 6



**12 POSITIONS**
**10A / 160V**
**P type**
**Threaded**



**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 18-22 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

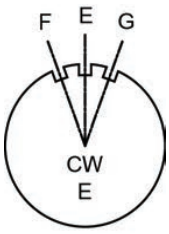
Dust Cap for Plug, Threaded

P31660

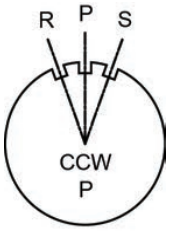
* The universal positioner is not included with the crimp tools and must be ordered separately.

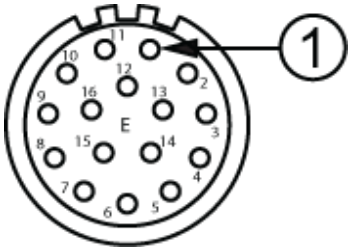
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 12 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA5CAE1600-S1
MA5CAE1600-S2
MA5CAE1600-S3

**Plug Kits**

MA5CAE1600-S1-KIT
MA5CAE1600S-S1-KIT
MA5CAE1600-S2-KIT
MA5CAE1600S-S2-KIT
MA5CAE1600-S3-KIT
MA5CAE1600S-S3-KIT

**Receptacles**

MA5RAP1601
MA5RAE1602

MA2LAP1600

MA2JAP1600

**Receptacle Kit**

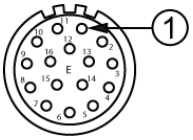
MA2LAP1600-KIT
MA2LAP1600S-KIT

MA5RAP1601-KIT
MA5RAP1601S-KIT
MA5RAP1602-KIT
MA5RAP1601S-KIT

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |



**16 POSITIONS**
**9A / 125V**
**E type**
**Checkmate™**

**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

CheckMate™ Quick Locking Connectors

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA5CAE1600-S1 | Plug, straight, **Checkmate™**<br>4.5-7.5mm cord grip | E | Pin | Socket | 1 |
| MA5CAE1600-S1-KIT | Plug Kit, straight, **Checkmate™**<br>4.5-7.5mm cord grip | E | Pin | | 1 |
| MA5CAE1600S-S1-KIT | Plug Kit, straight, **Checkmate™**<br>4.5-7.5mm cord grip | E | | Socket | 1 |
| MA5CAE1600-S2 | Plug, straight, **Checkmate™**<br>7.5-11mm cord grip | E | Pin | Socket | 1 |
| MA5CAE1600-S2-KIT | Plug Kit, straight, **Checkmate™**<br>7.5-11mm cord grip | E | Pin | | 1 |
| MA5CAE1600S-S2-KIT | Plug Kit, straight, **Checkmate™**<br>7.5-11mm cord grip | E | | Socket | 1 |
| MA5CAE1600-S3 | Plug, straight, **Checkmate™**<br>11-15mm cord grip | E | Pin | Socket | 1 |
| MA5CAE1600-S3-KIT | Plug Kit, straight, **Checkmate™**<br>11-15mm cord grip | E | Pin | | 1 |
| MA5CAE1600S-S3-KIT | Plug Kit, straight, **Checkmate™**<br>11-15mm cord grip | E | | Socket | 1 |
| | RECEPTACLES | | ↕ Mating Parts ↕ | | |
| MA5RAP1601 | Receptacle, 90° rotatable, **Checkmate™**<br>Standard Flange (25.7x25.7) | P | Socket | Pin | 2 |
| MA5RAP1601-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | P | | Pin | 2 |
| MA5RAP1601S-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | P | Socket | | 2 |
| MA5RAP1602 | Receptacle, 90° rotatable, **Checkmate™**<br>Large Flange (28.0x28.0) | P | Socket | Pin | 3 |
| MA5RAP1602-KIT | Receptacle, 90° rotatable, **Checkmate™**<br>Large Flange (28.0x28.0) | P | | Pin | 3 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.

See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

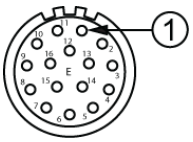
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA5RAP1602S-KIT | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | P | Socket | | 3 |
| MA2LAP1600* | Receptacle, straight, flange mount, **Checkmate™** | P | Socket | Pin | 4 |
| MA2LAP1600-KIT* | Receptacle Kit, straight, flange mount, **Checkmate™** | P | | Pin | 4 |
| MA2LAP1600S-KIT* | Receptacle Kit, straight, flange mount, **Checkmate™** | P | Socket | | 4 |
| MA2JAP1600* | Receptacle extension, **Checkmate™** | P | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 | | | | | |

## CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | mm² | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |





**Style: E type Plug  Number of Contacts: 16  Contact Size: 1.0mm**

Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug

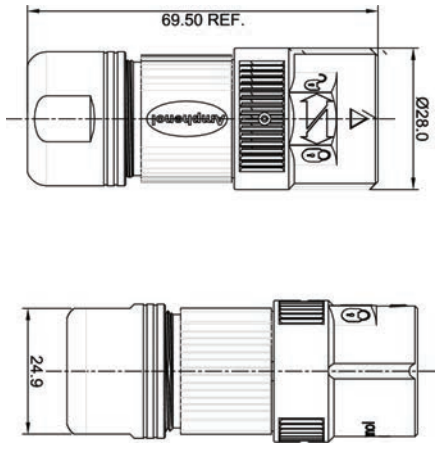



Figure 1

MA5CAE1600-S1
MA5CAE1600-S2
MA5CAE1600-S3

## Receptacle, 90°, Standard Flange (25.7x25.7)

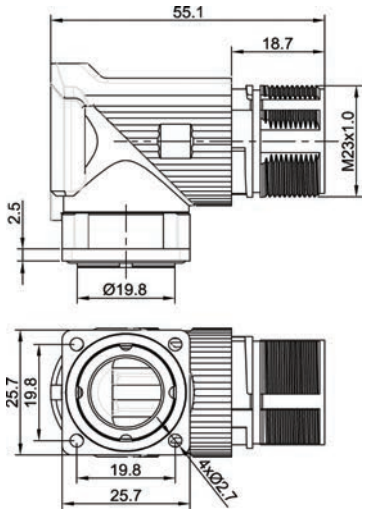



Figure 2  MA5RAP1601

## Receptacle, 90°, Large Flange (28.0x28.0)

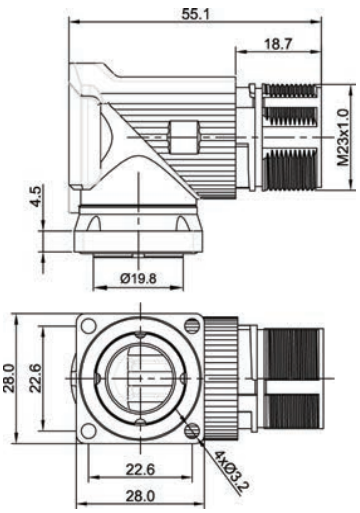



Figure 3  MA5RAP1602

## Receptacle, straight, flange mount, Checkmate™

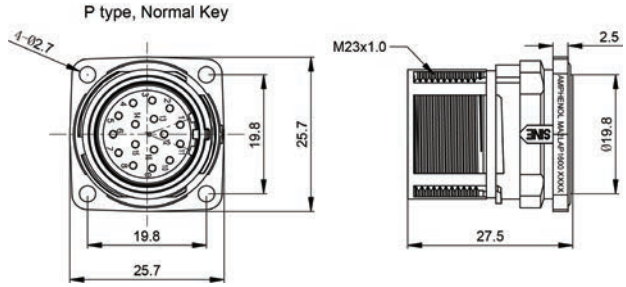



Figure 4  MA2LAP1600

## Receptacle extension, Checkmate™

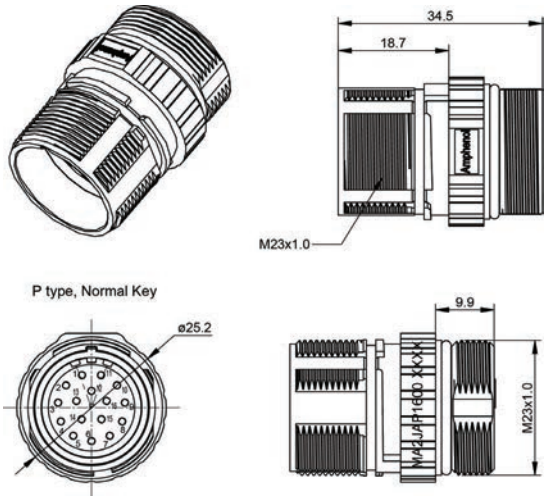


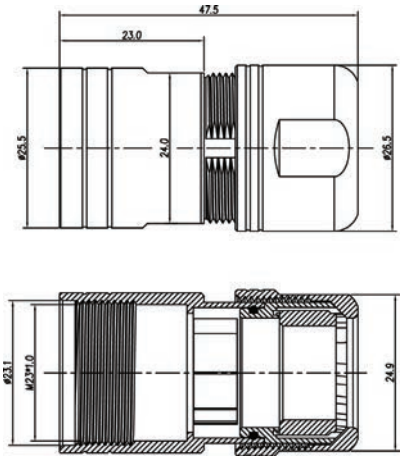

Figure 5  MA2JAP1600

**Style: E type Plug  Number of Contacts: 16  Contact Size: 1.0mm**

Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

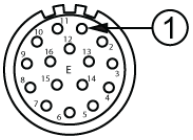
Connector Drawings continued

Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 6






**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

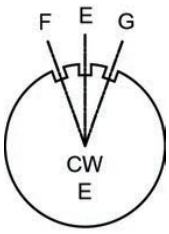
Dust Cap for Plug, Checkmate™

P31662

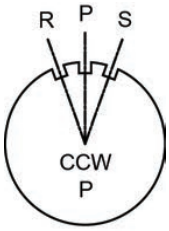
* The universal positioner is not included with the crimp tools and must be ordered separately.

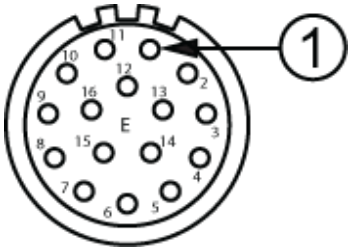
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 23 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA7CAE1600-S1
MA7CAE1600-S2
MA7CAE1600-S3

**Plug Kits**

MA7CAE1600-S1-KIT
MA7CAE1600S-S1-KIT
MA7CAE1600-S2-KIT
MA7CAE1600S-S2-KIT
MA7CAE1600-S3-KIT
MA7CAE1600S-S3-KIT

**Receptacles**

MA7RAP1601
MA7RAE1602

MA1LAP1600

MA1JAP1600

**Receptacle Kit**

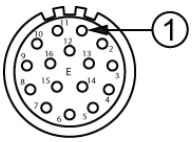
MA1LAP1600-KIT
MA1LAP1600S-KIT

MA7RAP1601-KIT
MA7RAP1601S-KIT
MA7RAP1602-KIT
MA7RAP1601S-KIT

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |






**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA7CAE1600-S1 | Plug, straight, threaded<br>4.5-7.5mm cord grip | E | Pin | Socket | 1 |
| MA7CAE1600-S1-KIT | Plug Kit, straight, threaded<br>4.5-7.5mm cord grip | E | Pin | | 1 |
| MA7CAE1600S-S1-KIT | Plug Kit, straight, threaded<br>4.5-7.5mm cord grip | E | | Socket | 1 |
| MA7CAE1600-S2 | Plug, straight, threaded<br>7.5-11mm cord grip | E | Pin | Socket | 1 |
| MA7CAE1600-S2-KIT | Plug Kit, straight, threaded<br>7.5-11mm cord grip | E | Pin | | 1 |
| MA7CAE1600S-S2-KIT | Plug Kit, straight, threaded<br>7.5-11mm cord grip | E | | Socket | 1 |
| MA7CAE1600-S3 | Plug, straight, threaded<br>11-15mm cord grip | E | Pin | Socket | 1 |
| MA7CAE1600-S3-KIT | Plug Kit, straight, threaded<br>11-15mm cord grip | E | Pin | | 1 |
| MA7CAE1600S-S3-KIT | Plug Kit, straight, threaded<br>11-15mm cord grip | E | | Socket | 1 |
| | RECEPTACLES | | ↕ Mating Parts ↕ | | |
| MA7RAP1601 | Receptacle, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | P | Socket | Pin | 2 |
| MA7RAP1601-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | P | | Pin | 2 |
| MA7RAP1601S-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | P | Socket | | 2 |
| MA7RAP1602 | Receptacle, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | P | Socket | Pin | 3 |
| MA7RAP1602-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | P | | Pin | 3 |
| MA7RAP1602S-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | P | Socket | | 3 |
| MA1LAP1600* | Receptacle, straight, flange mount,<br>threaded | P | Socket | Pin | 4 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.

See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

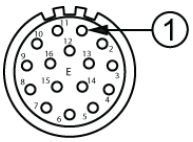
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA1LAP1600-KIT* | Receptacle Kit, threaded. Kit includes contacts. | P | | Pin | 4 |
| MA1LAP1600S-KIT* | Receptacle Kit, threaded. Kit includes contacts. | P | Socket | | 4 |
| MA1JAP1600* | Receptacle extension, threaded | P | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 64 | | | | | |

## CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | mm² | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |



**16 POSITIONS**
**9A / 125V**
**E type**
**Threaded**

**Style: E type Plug  Number of Contacts: 16  Contact Size: 1.0mm**

Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug

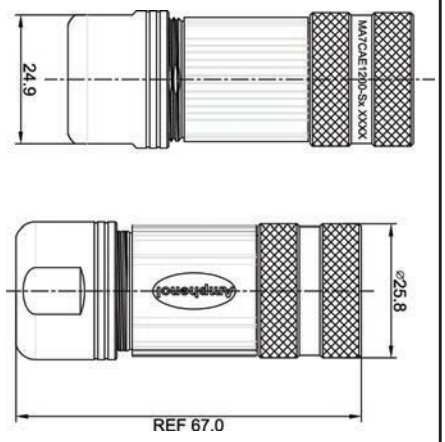



Figure 1

MA7CAE1600-S1
MA7CAE1600-S2
MA7CAE1600-S3

## Receptacle, 90°, Standard Flange (25.7x25.7)

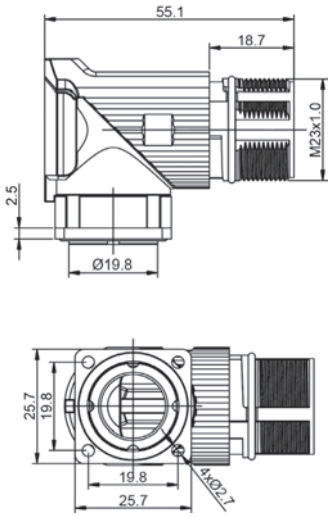



Figure 2  MA7RAP1601

## Receptacle, 90°, Large Flange (28.0x28.0)

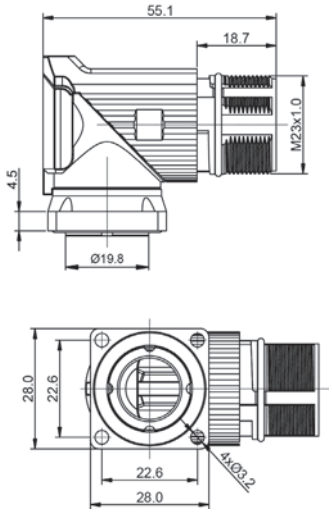



Figure 3  MA7RAP1602

## Receptacle, straight, flange mount, threaded

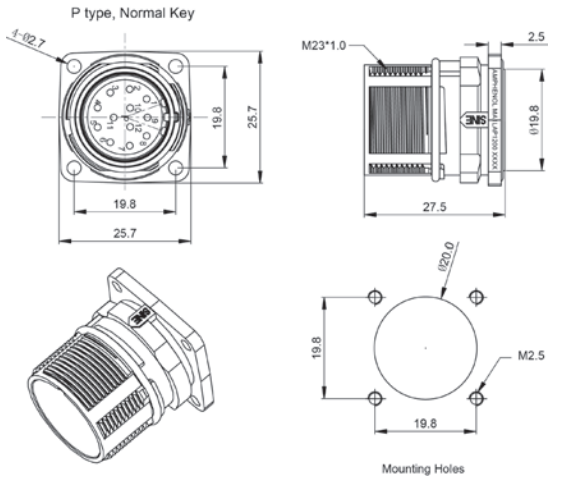



Figure 4

MA1LAP1600
MA1LAP1600-KIT
MA1LAP1600S-KIT

## Receptacle, extension, threaded

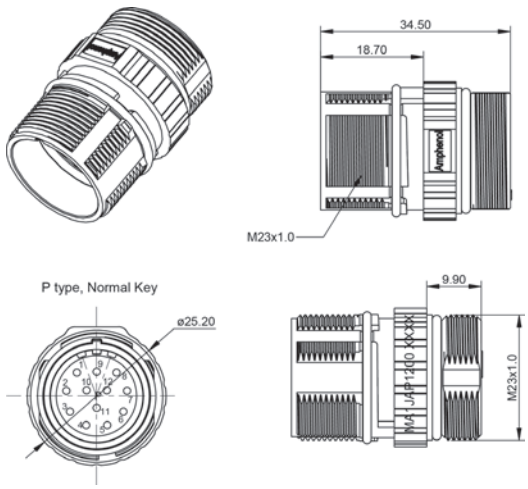


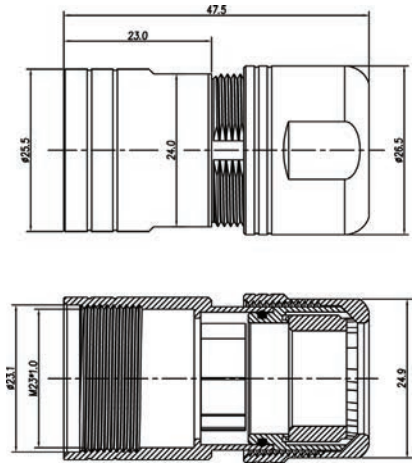

Figure 5  MA1JAP1200

**Style: E type Plug  Number of Contacts: 16  Contact Size: 1.0mm**

Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

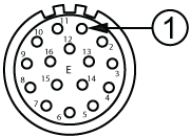
Connector Drawings continued

Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 6





**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

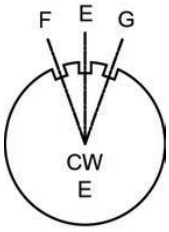
Dust Cap for Plug,Threaded

P31660

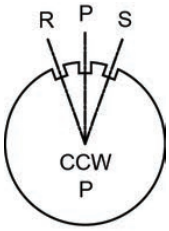
* The universal positioner is not included with the crimp tools and must be ordered separately.

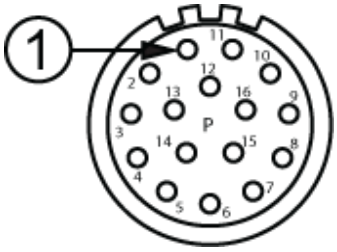
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 23 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA5CAP1600-S1
MA5CAP1600-S2
MA5CAP1600-S3

**Plug Kits**

MA5CAP1600-S1-KIT
MA5CAP1600S-S1-KIT
MA5CAP1600-S2-KIT
MA5CAP1600S-S2-KIT
MA5CAP1600-S3-KIT
MA5CAP1600S-S3-KIT

**Receptacles**

MA5RAE1601
MA5RAP1602

MA2LAE1600

MA2JAE1600

**Receptacle Kit**

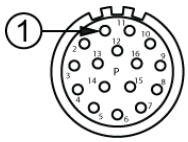
MA2LAE1600-KIT
MA2LAE1600S-KIT

MA5RAE1601-KIT
MA5RAE1601S-KIT
MA5RAE1602-KIT
MA5RAE1601S-KIT

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |



**16 POSITIONS**
**9A / 125V**
**P type**
**Checkmate™**

**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

Check Mate™
Quick Locking Connectors

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA5CAP1600-S1 | Plug, straight, **Checkmate™**<br>4.5-7.5mm cord grip | P | Socket | Pin | 1 |
| MA5CAP1600-S1-KIT | Plug Kit, straight, **Checkmate™**<br>4.5-7.5mm cord grip | P | | Pin | 1 |
| MA5CAP1600S-S1-KIT | Plug Kit, straight, **Checkmate™**<br>4.5-7.5mm cord grip | P | Socket | | 1 |
| MA5CAP1600-S2 | Plug, straight, **Checkmate™**<br>7.5-11mm cord grip | P | Socket | Pin | 1 |
| MA5CAP1600-S2-KIT | Plug Kit, straight, **Checkmate™**<br>7.5-11mm cord grip | P | | Pin | 1 |
| MA5CAP1600S-S2-KIT | Plug Kit, straight, **Checkmate™**<br>7.5-11mm cord grip | P | Socket | | 1 |
| MA5CAP1600-S3 | Plug, straight, **Checkmate™**<br>11-15mm cord grip | P | Socket | Pin | 1 |
| MA5CAP1600-S3-KIT | Plug Kit, straight, **Checkmate™**<br>11-15mm cord grip | P | | Pin | 1 |
| MA5CAP1600S-S3-KIT | Plug Kit, straight, **Checkmate™**<br>11-15mm cord grip | P | Socket | | 1 |
| | RECEPTACLES | | ↕ Mating Parts ↕ | | |
| MA5RAE1601 | Receptacle, 90° rotatable, **Checkmate™**<br>Standard Flange (25.7x25.7) | E | Socket | Pin | 2 |
| MA5RAE1601-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | E | | Pin | 2 |
| MA5RAE1601S-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | E | Socket | | 2 |
| MA5RAE1602 | Receptacle, 90° rotatable, **Checkmate™**<br>Large Flange (28.0x28.0) | E | Socket | Pin | 3 |
| MA5RAE1602-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Large Flange (28.0x28.0) | E | | Pin | 3 |
| MA5RAE1602S-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Large Flange (28.0x28.0) | E | Socket | | 3 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.

See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

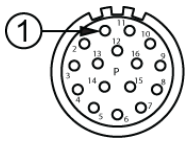
**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA2LAE1600* | Receptacle, straight, flange mount, **Checkmate™** | E | Socket | Pin | 4 |
| MA2LAE1600-KIT* | Receptacle Kit, straight, flange mount, **Checkmate™** | E | Socket | Pin | 4 |
| MA2LAE1600S-KIT* | Receptacle Kit, straight, flange mount, **Checkmate™** | E | Socket | Pin | 4 |
| MA2JAE1600* | Receptacle extension, **Checkmate™** | E | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 | | | | | |

## CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | mm² | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |





**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug

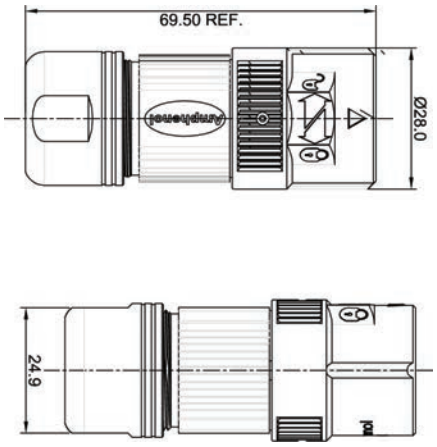



Figure 1

MA5CAP1600-S1
MA5CAP1600-S2
MA5CAP1600-S3

## Receptacle, 90°, Standard Flange (25.7x25.7)

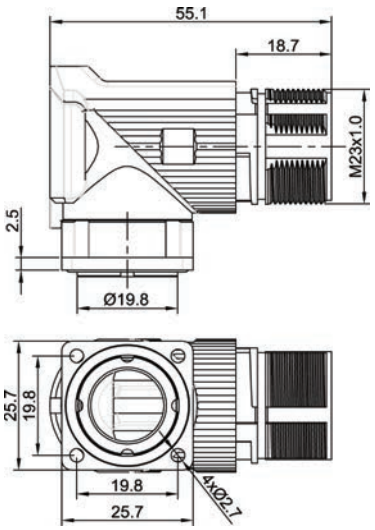



Figure 2 MA5RAE1601

## Receptacle, 90°, Large Flange (28.0x28.0)

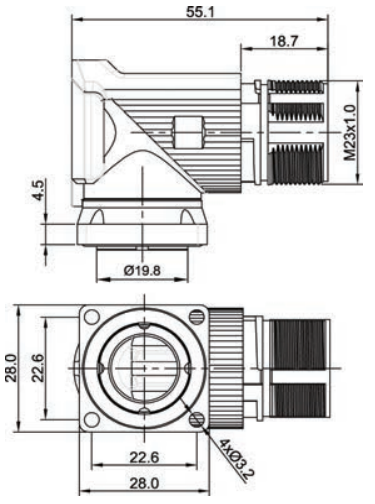



Figure 3 MA5RAE1602

## Receptacle, straight, flange mount, Checkmate™

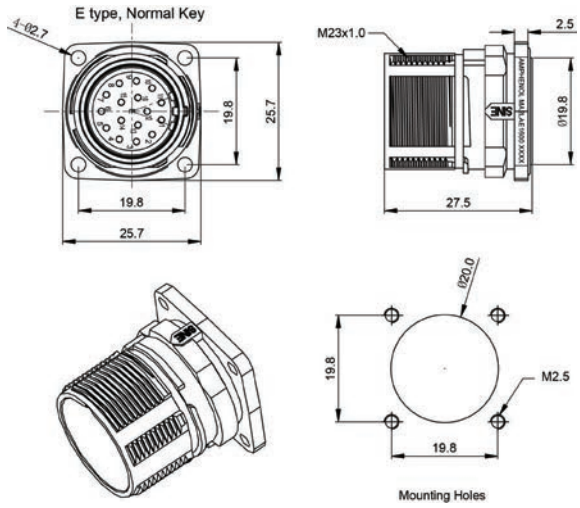



Figure 4 MA2LAE1600

## Receptacle extension, Checkmate™

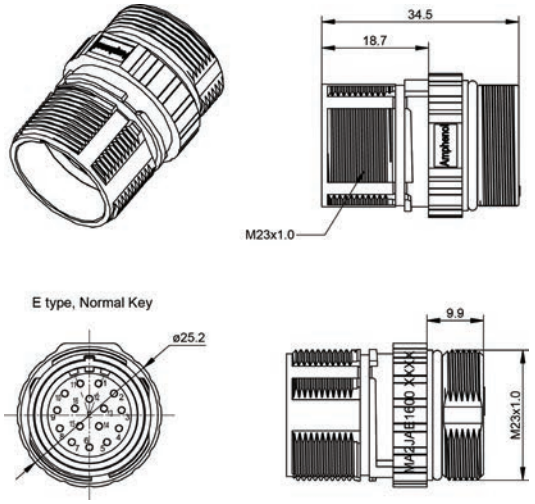


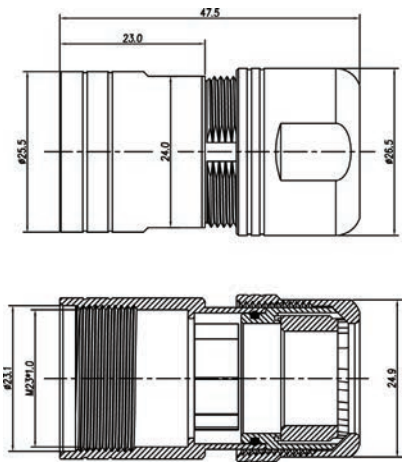

Figure 5 MA2JAE1600

**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

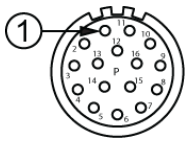
Connector Drawings continued

Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 6





**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

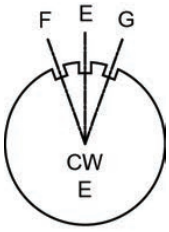
Dust Cap forPlug, Checkmate™

P31662

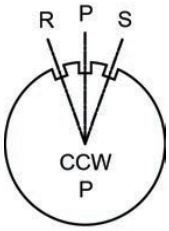
* The universal positioner is not included with the crimp tools and must be ordered separately.

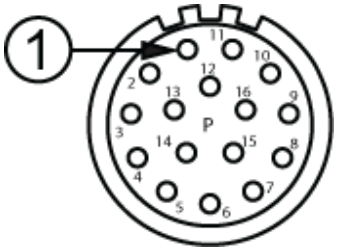
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 12 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA7CAP1600-S1
MA7CAP1600-S2
MA7CAP1600-S3

**Plug Kits**

MA7CAP1600-S1-KIT
MA7CAP1600S-S1-KIT
MA7CAP1600-S2-KIT
MA7CAP1600S-S2-KIT
MA7CAP1600-S3-KIT
MA7CAP1600S-S3-KIT

**Receptacles**

MA7RAE1601
MA7RAE1602

MA1LAE1600

MA1JAE1600

**Receptacle Kit**

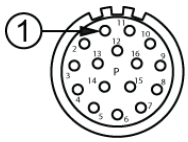
MA1LAE1600-KIT
MA1LAE1600S-KIT

MA7RAE1601-KIT
MA7RAE1601S-KIT
MA7RAE1602-KIT
MA7RAE1601S-KIT

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |



**16 POSITIONS**
**9A / 125V**
**P type**
**Threaded**



**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.39 mm²) / 28-24 (0.25 -0.10 mm²)

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA7CAP1600-S1 | Plug, straight, threaded<br>4.5-7.5mm cord grip | P | Pin | Socket | 1 |
| MA7CAP1600-S1-KIT | Plug Kit, straight, threaded<br>4.5-7.5mm cord grip | P | Pin | | 1 |
| MA7CAP1600S-S1-KIT | Plug Kit, straight, threaded<br>4.5-7.5mm cord grip | P | | Socket | 1 |
| MA7CAP1600-S2 | Plug, straight, threaded<br>7.5-11mm cord grip | P | Pin | Socket | 1 |
| MA7CAP1600-S2-KIT | Plug Kit, straight, threaded<br>7.5-11mm cord grip | P | Pin | | 1 |
| MA7CAP1600S-S2-KIT | Plug Kit, straight, threaded<br>7.5-11mm cord grip | P | | Socket | 1 |
| MA7CAP1600-S3 | Plug, straight, threaded<br>11-15mm cord grip | P | Pin | Socket | 1 |
| MA7CAP1600-S3-KIT | Plug Kit, straight, threaded<br>11-15mm cord grip | P | Pin | | 1 |
| MA7CAP1600S-S3-KIT | Plug Kit, straight, threaded<br>11-15mm cord grip | P | | Socket | 1 |
| | RECEPTACLES | | ↕ Mating Parts ↕ | | |
| MA7RAE1601 | Receptacle, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | E | Socket | Pin | 2 |
| MA7RAE1601-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | E | | Pin | 2 |
| MA7RAE1601S-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | E | Socket | | 2 |
| MA7RAE1602 | Receptacle, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | E | Socket | Pin | 3 |
| MA7RAE1602-KIT | Receptacle KIT, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | E | | Pin | 3 |
| MA7RAE1602S-KIT | Receptacle KIT, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | E | Socket | | 3 |
| MA1LAE1600* | Receptacle, straight, flange mount,<br>threaded | E | Socket | Pin | 4 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.

See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

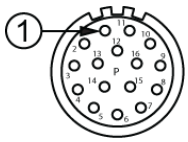
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA1LAE1600-KIT* | Receptacle kit, straight, threaded. Kit includes contacts. | E | | Pin | 4 |
| MA1LAE1600S-KIT* | Receptacle kit, straight, threaded. Kit includes contacts. | E | Socket | | 4 |
| MA1JAE1600* | Receptacle extension, threaded | E | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 76 | | | | | |

## CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |





**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug

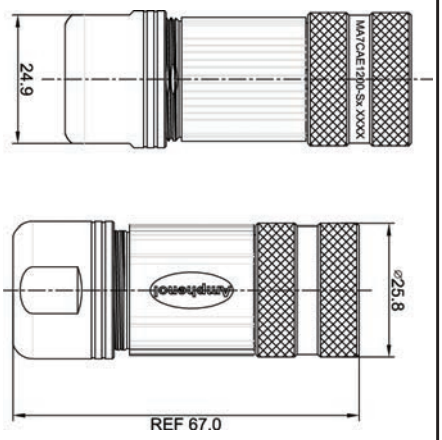



Figure 1

MA7CAP1600-S1
MA7CAP1600-S2
MA7CAP1600-S3

## Receptacle, 90°, Standard Flange (25.7x25.7)

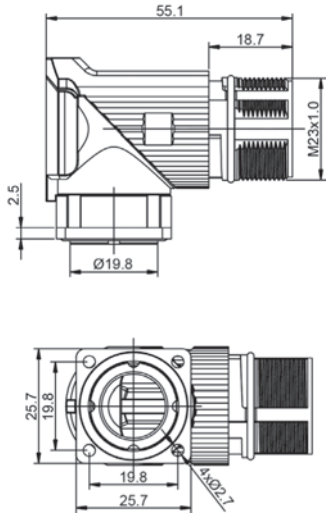



Figure 2

MA7RAE1601

## Receptacle, 90°, Large Flange (28.0x28.0)

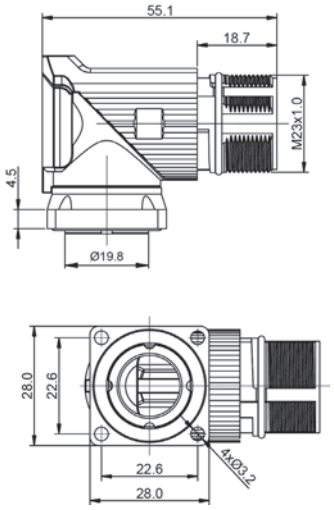



Figure 3

MA7RAE1602

## Receptacle, straight, flange mount, threaded

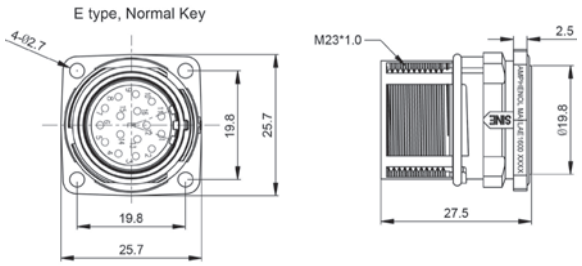



Figure 4

MA1LAE1600
MA1LAE1600-KIT
MA1LAE1600S-KIT

## Receptacle extension, threaded

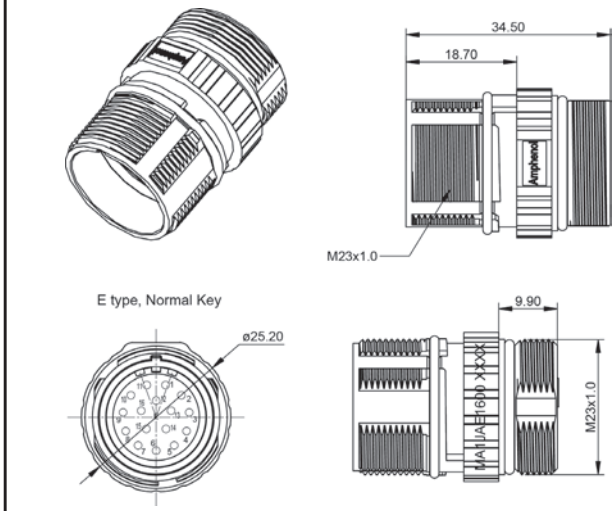



Figure 5

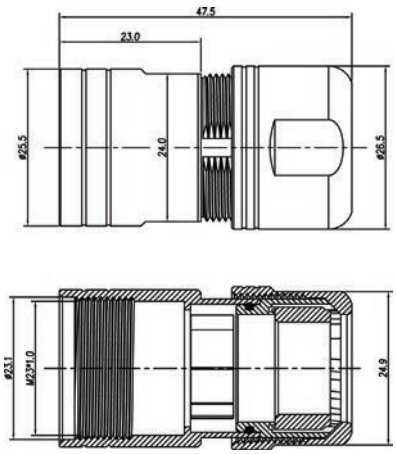
MA1JAE1600

**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

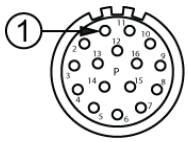
Connector Drawings continued

Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 6





**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm$^2$) / 28-24 (0.25 -0.10 mm$^2$)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

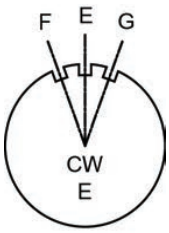
Dust Cap for Plug, Threaded

P31660

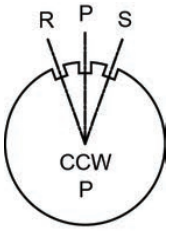
* The universal positioner is not included with the crimp tools and must be ordered separately.

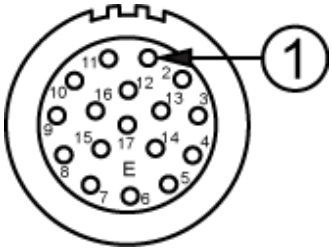
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 12 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA5CAE1700-S1
MA5CAE1700-S2
MA5CAE1700-S3

**Plug Kits**

MA5CAE1700-S1-KIT
MA5CAE1700S-S1-KIT
MA5CAE1700-S2-KIT
MA5CAE1700S-S2-KIT
MA5CAE1700-S3-KIT
MA5CAE1700S-S3-KIT

**Receptacles**

MA5RAP1701
MA5RAP1702

MA2LAP1700

MA2JAP1700

**Receptacles Kits**

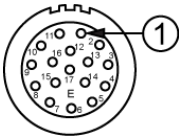
MA2LAP1700-KIT
MA2LAP1700S-KIT

MA5RAP1701-KIT
MA5RAP1701S-KIT
MA5RAP1702-KIT
MA5RAP1702S-KIT

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |



**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

CheckMate™ Quick Locking Connectors

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA5CAE1700-S1 | Plug, straight, **Checkmate™**<br>4.5-7.5mm cord grip | E | Pin | Socket | 1 |
| MA5CAE1700-S1-KIT | Plug kit, straight, **Checkmate™**<br>4.5-7.5mm cord grip | E | Pin | | 1 |
| MA5CAE1700S-S1-KIT | Plug kit, straight, **Checkmate™**<br>4.5-7.5mm cord grip | E | | Socket | 1 |
| MA5CAE1700-S2 | Plug, straight, **Checkmate™**<br>7.5-11mm cord grip | E | Pin | Socket | 1 |
| MA5CAE1700-S2-KIT | Plug kit, straight, **Checkmate™**<br>7.5-11mm cord grip | E | Pin | | 1 |
| MA5CAE1700S-S2-KIT | Plug kit, straight, **Checkmate™**<br>7.5-11mm cord grip | E | | Socket | 1 |
| MA5CAE1700-S3 | Plug, straight, **Checkmate™**<br>11-15mm cord grip | E | Pin | Socket | 1 |
| MA5CAE1700-S3-KIT | Plug kit, straight, **Checkmate™**<br>11-15mm cord grip | E | Pin | | 1 |
| MA5CAE1700S-S3-KIT | Plug kit, straight, **Checkmate™**<br>11-15mm cord grip | E | | Socket | 1 |
| RECEPTACLES | | | ↕ Mating Parts ↕ | | |
| MA5RAP1701 | Receptacle, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | P | Socket | Pin | 2 |
| MA5RAP1701-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | P | | Pin | 2 |
| MA5RAP1701S-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | P | Socket | | 2 |
| MA5RAP1702 | Receptacle, 90° rotatable,<br>**Checkmate™**<br>Large Flange (28.0x28.0) | P | Socket | Pin | 3 |
| MA5RAP1702-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Large Flange (28.0x28.0) | P | | Pin | 3 |
| MA5RAP1702S-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Large Flange (28.0x28.0) | P | Socket | | 3 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.

See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug  Number of Contacts: 17  Contact Size: 1.0mm**

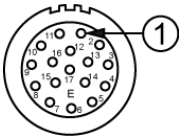
Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA2LAP1700* | Receptacle, straight, flange mount **Checkmate™** | P | Socket | Pin | 4 |
| MA2LAP1700-KIT* | Receptacle kit, straight, flange mount **Checkmate™** | P | | Pin | 4 |
| MA2LAP1700S-KIT* | Receptacle kit, straight, flange mount **Checkmate™** | P | Socket | | 4 |
| MA2JAP1700* | Receptacle extension, **Checkmate™** | P | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 | | | | | |

## CHART 1 Crimp Contacts, Machined

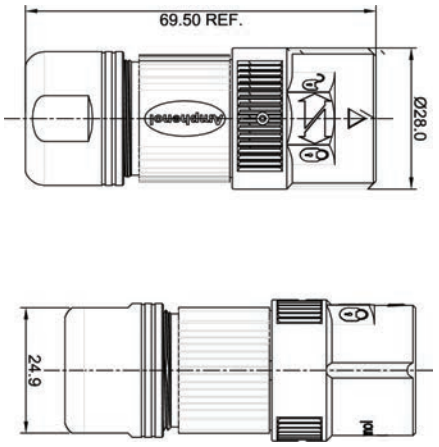
| Part Number | PIn/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |




**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug




MA5CAE1700-S1
MA5CAE1700-S2
MA5CAE1700-S3

Figure 1

## Receptacle, 90°, Standard Flange (25.7x25.7)

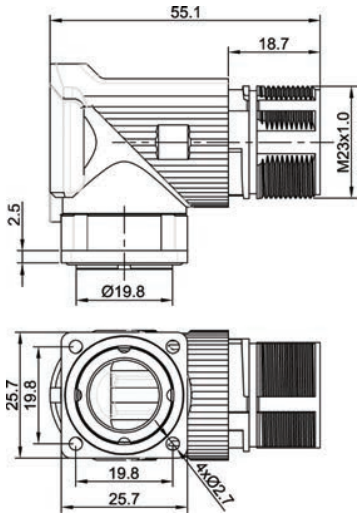



Figure 2 MA5RAP1701

## Receptacle, 90°, Large Flange (28.0x28.0)

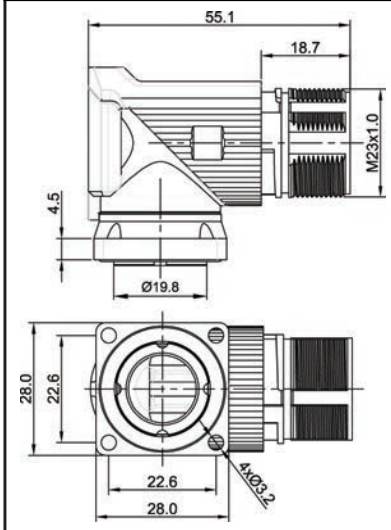



Figure 3 MA5RAP1702

## Receptacle, straight, flange mount, Checkmate™

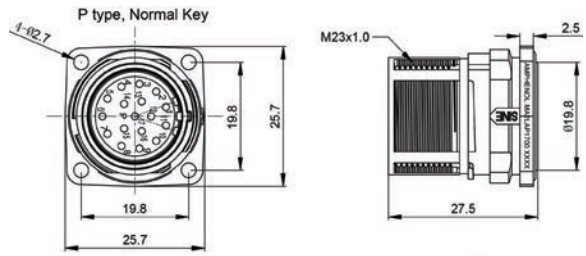



Figure 4 MA2LAP1700

## Receptacle extension, Checkmate™

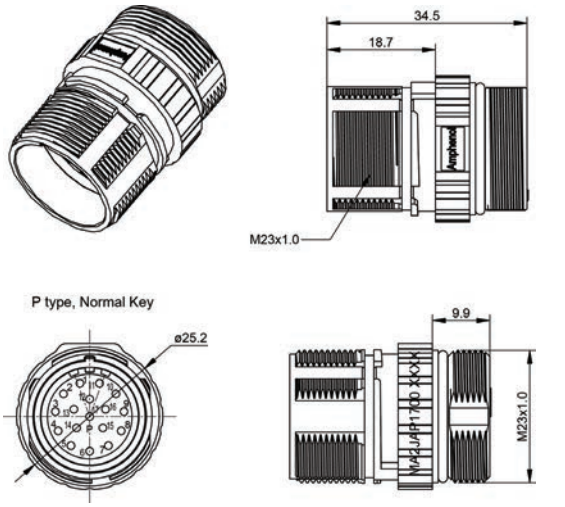


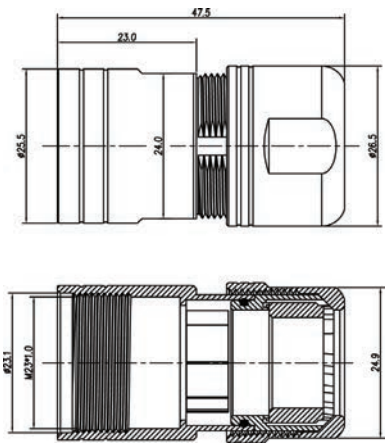

Figure 5 MA2JAP1700

**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

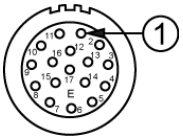
Connector Drawings continued

Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 6





**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for receptacle

P29687

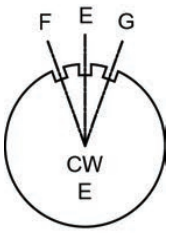
Dust Cap forPlug, Checkmate™

P31662

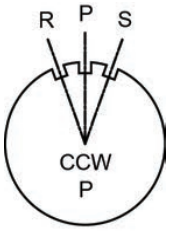
* The universal positioner is not included with the crimp tools and must be ordered separately.

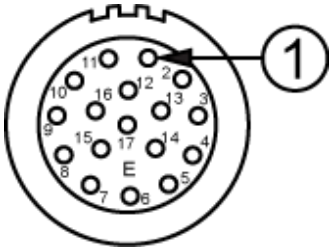
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 12 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA7CAE1700-S1
MA7CAE1700-S2
MA7CAE1700-S3

**Plug Kits**

MA7CAE1700-S1-KIT
MA7CAE1700S-S1-KIT
MA7CAE1700-S2-KIT
MA7CAE1700S-S2-KIT
MA7CAE1700-S3-KIT
MA7CAE1700S-S3-KIT

**Receptacles**

MA7RAP1701
MA7RAP1702

MA1LAP1700

MA1JAP1700

**Receptacle Kits**

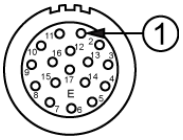
MA1LAP1700-KIT
MA1LAP1700S-KIT

MA7RAP1701-KIT
MA7RAP1701S-KIT
MA7RAP1702-KIT
MA7RAP1702S-KIT

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |



**17 POSITIONS**
**9A / 125V**
**E type**
**Threaded**

**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Connector Part Numbers

| Part Number | Connector Type | Style | Contact Type (male = pin mates with female = socket) ↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| | PLUGS | | | | |
| MA7CAE1700-S1 | Plug, straight, threaded 4.5-7.5mm cord grip | E | Pin | Socket | 1 |
| MA7CAE1700-S1-KIT | Plug kit, straight, threaded 4.5-7.5mm cord grip | E | Pin | | 1 |
| MA7CAE1700S-S1-KIT | Plug kit, straight, threaded 4.5-7.5mm cord grip | E | | Socket | 1 |
| MA7CAE1700-S2 | Plug, straight, threaded 7.5-11mm cord grip | E | Pin | Socket | 1 |
| MA7CAE1700-S2-KIT | Plug kit, straight, threaded 7.5-11mm cord grip | E | Pin | | 1 |
| MA7CAE1700S-S2-KIT | Plug kit, straight, threaded 7.5-11mm cord grip | E | | Socket | 1 |
| MA7CAE1700-S3 | Plug, straight, threaded 11-15mm cord grip | E | Pin | Socket | 1 |
| MA7CAE1700-S3-KIT | Plug kit, straight, threaded 11-15mm cord grip | E | Pin | Socket | 1 |
| MA7CAE1700S-S3-KIT | Plug kit, straight, threaded 11-15mm cord grip | E | | Socket | 1 |
| | RECEPTACLES | | ↕ Mating Parts ↕ | | |
| MA7RAP1701 | Receptacle, 90° rotatable, threaded Standard Flange (25.7x25.7) | P | Socket | Pin | 2 |
| MA7RAP1701-KIT | Receptacle Kit, 90° rotatable, threaded Standard Flange (25.7x25.7) | P | | Pin | 2 |
| MA7RAP1701S-KIT | Receptacle Kit, 90° rotatable, threaded Standard Flange (25.7x25.7) | P | Socket | | 2 |
| MA7RAP1702 | Receptacle, 90° rotatable, threaded Large Flange (28.0x28.0) | P | Socket | Pin | 3 |
| MA7RAP1702-KIT | Receptacle Kit, 90° rotatable, threaded Large Flange (28.0x28.0) | P | | Pin | 3 |
| MA7RAP1702S-KIT | Receptacle Kit, 90° rotatable, threaded Large Flange (28.0x28.0) | P | Socket | | 3 |
| MA1LAP1700* | Receptacle, straight, flange mount, threaded | P | Socket | Pin | 4 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.

See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug  Number of Contacts: 17  Contact Size: 1.0mm**

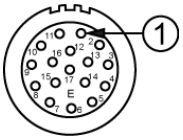
Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA1LAP1700-KIT* | Receptacle kit, straight, threaded. Kit includes contacts. | P | | Pin | 4 |
| MA1LAP1700S-KIT* | Receptacle kit, straight, threaded. Kit includes contacts. | P | Socket | | 4 |
| MA1JAP1700* | Receptacle extension, threaded | P | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart | | | | | |

CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |



**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug

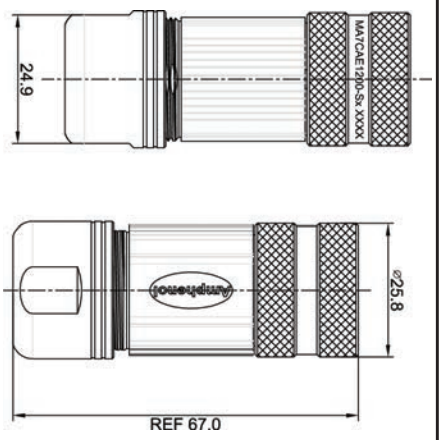



Figure 1

MA7CAE1700-S1
MA7CAE1700-S2
MA7CAE1700-S3

## Receptacle, 90°, Standard Flange (25.7x25.7)

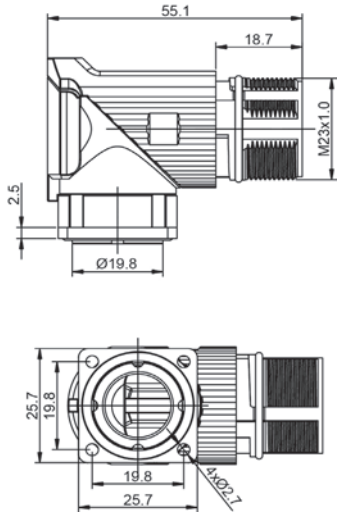



Figure 2 MA7RAP1701

## Receptacle, 90°, Large Flange (28.0x28.0)

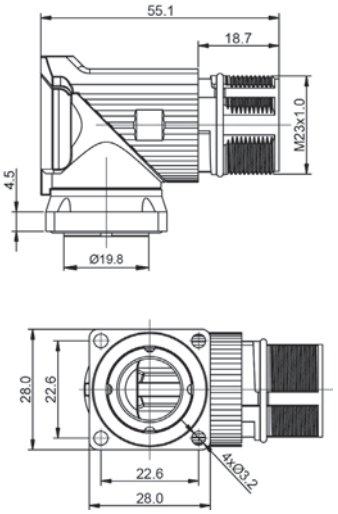



Figure 3 MA7RAP1702

## Receptacle, straight, flange mount, threaded

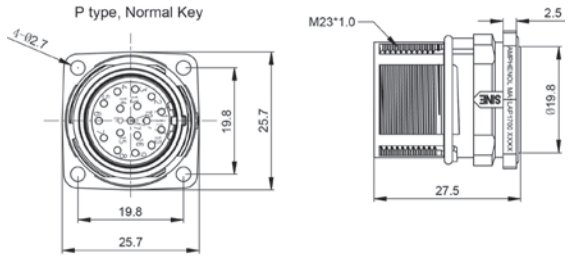



Figure 4

MA1LAP1700
MA1LAP1700-KIT
MA1LAP1700S-KIT

## Receptacle extension, threaded

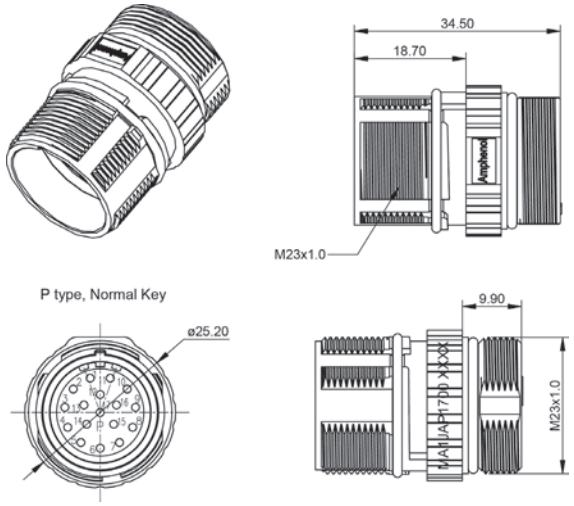



Figure 5 MA1JAP1700

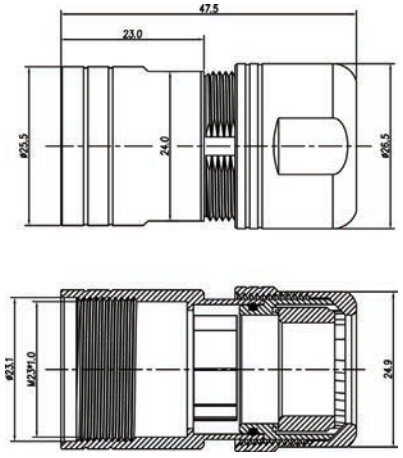
Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

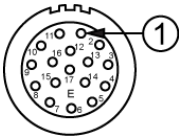
Connector Drawings continued

Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 6





**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

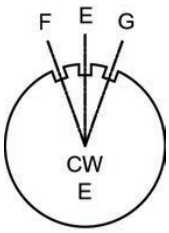
Dust Cap for Plug, Threaded

P31660

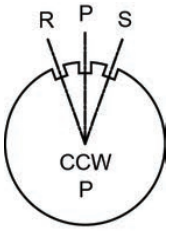
* The universal positioner is not included with the crimp tools and must be ordered separately.

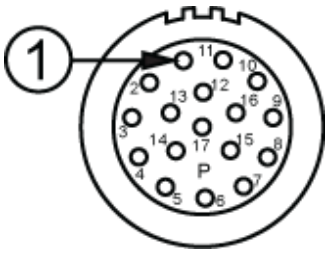
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 12 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MA5CAP1700-S1
MA5CAP1700-S2
MA5CAP1700-S3

**Plugs Kit**

MA5CAP1700-S1-KIT
MA5CAP1700S-S1-KIT
MA5CAP1700-S2-KIT
MA5CAP1700S-S2-KIT
MA5CAP1700-S3-KIT
MA5CAP1700S-S3-KIT

**Receptacles**

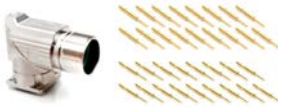
MA5RAE1701
MA5RAE1702

MA2LAE1700

MA2JAE1700

**Receptacle Kit**

MA2LAE1700-KIT
MA2LAE1700S-KIT

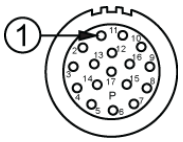


MA5RAE1701-KIT
MA5RAE1701S-KIT
MA5RAE1702-KIT
MA5RAE1702S-KIT

**BULK CABLE starts on page 23**

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |



**17 POSITIONS**
**9A / 125V**
**P type**
**Checkmate™**

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

Check Mate™ Quick Locking Connectors

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA5CAP1700-S1 | Plug, straight, **Checkmate™**<br>4.5-7.5mm cord grip | P | Pin | Socket | 1 |
| MA5CAP1700-S1-KIT | Plug, kit straight, **Checkmate™**<br>4.5-7.5mm cord grip | P | Pin | | 1 |
| MA5CAP1700S-S1-KIT | Plug kit, straight, **Checkmate™**<br>4.5-7.5mm cord grip | P | | Socket | 1 |
| MA5CAP1700-S2 | Plug, straight, **Checkmate™**<br>7.5-11mm cord grip | P | Pin | Socket | 1 |
| MA5CAP1700-S2-KIT | Plug kit, straight, **Checkmate™**<br>7.5-11mm cord grip | P | Pin | | 1 |
| MA5CAP1700S-S2-KIT | Plug kit, straight, **Checkmate™**<br>7.5-11mm cord grip | P | | Socket | 1 |
| MA5CAP1700-S3 | Plug, straight, **Checkmate™**<br>11-15mm cord grip | P | Pin | Socket | 1 |
| MA5CAP1700-S3-KIT | Plug kit, straight, **Checkmate™**<br>11-15mm cord grip | P | Pin | | 1 |
| MA5CAP1700S-S3-KIT | Plug kit, straight, **Checkmate™**<br>11-15mm cord grip | P | | Socket | 1 |
| RECEPTACLES | | | ↕ Mating Parts ↕ | | |
| MA5RAE1701 | Receptacle, 90° rotatable, **Checkmate™**<br>Standard Flange (25.7x25.7) | E | Socket | Pin | 2 |
| MA5RAE1701-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | E | | Pin | 2 |
| MA5RAE1701S-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Standard Flange (25.7x25.7) | E | Socket | | 2 |
| MA5RAE1702 | Receptacle, 90° rotatable, **Checkmate™**<br>Large Flange (28.0x28.0) | E | Socket | Pin | 3 |
| MA5RAE1702-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Large Flange (28.0x28.0) | E | | Pin | 3 |
| MA5RAE1702S-KIT | Receptacle Kit, 90° rotatable,<br>**Checkmate™**<br>Large Flange (28.0x28.0) | E | Socket | | 3 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.
See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

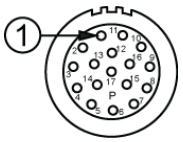
**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA2LAE1700* | Receptacle, straight, flange mount, **Checkmate™** | E | Socket | Pin | 4 |
| MA2LAE1700-KIT* | Receptacle kit, straight, flange mount, **Checkmate™** | E | | Pin | 4 |
| MA2LAE1700S-KIT* | Receptacle kit, straight, flange mount, **Checkmate™** | E | Socket | | 4 |
| MA2JAE1700* | Receptacle extension, **Checkmate™** | E | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 | | | | | |

## CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | mm² | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |





**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug

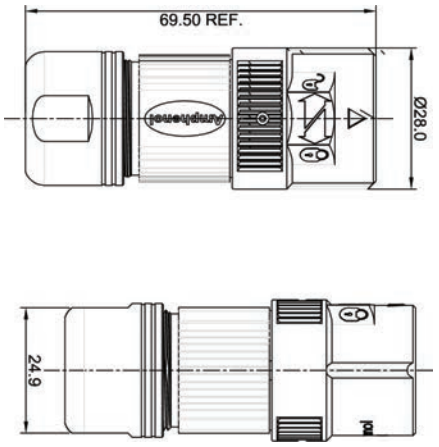



Figure 1

MA5CAP1700-S1
MA5CAP1700-S2
MA5CAP1700-S3

## Receptacle, 90°, Standard Flange (25.7x25.7)

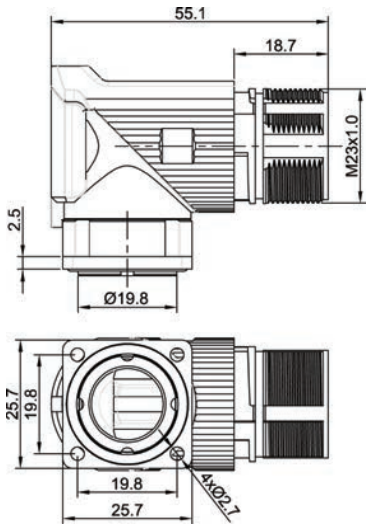



Figure 2 MA5RAE1701

## Receptacle, 90°, Large Flange (28.0x28.0)

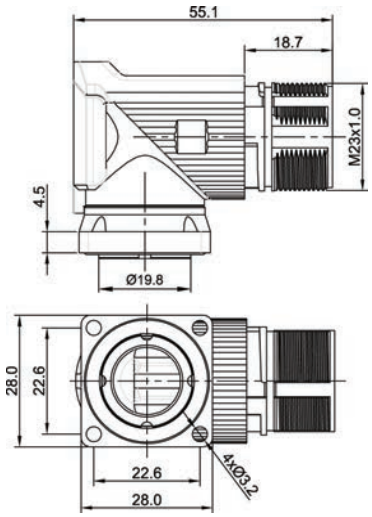



Figure 3 MA5RAE1702

## Receptacle, straight, flange mount, Checkmate™

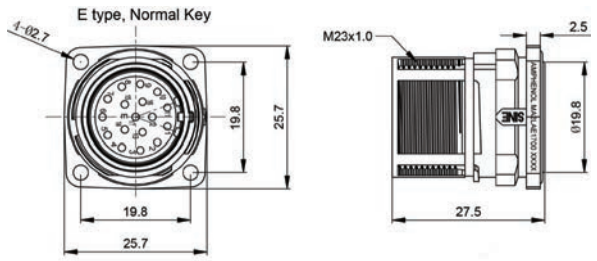



Figure 4 MA2LAE1700

## Receptacle extension, Checkmate™

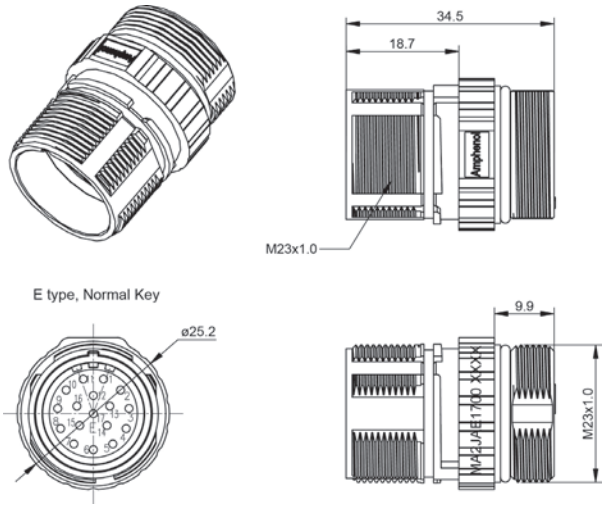



Figure 5 MA2JAE1700

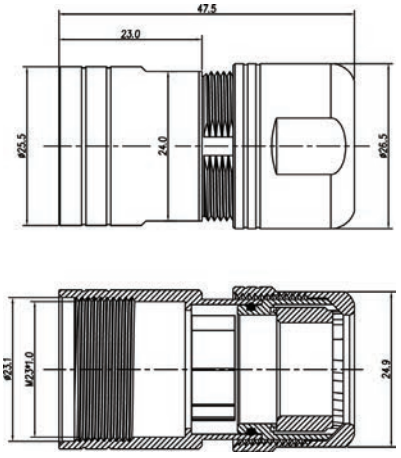
Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

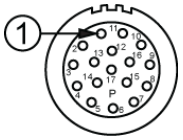
Connector Drawings continued

Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 6





**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

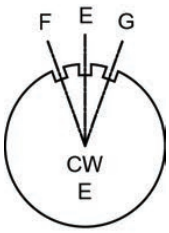
Dust Cap forPlug, Checkmate™

P31662

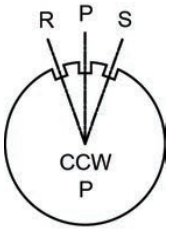
* The universal positioner is not included with the crimp tools and must be ordered separately.

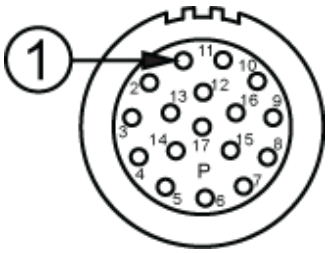
# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 12 for connector configurations




**Plugs**

MA7CAP1700-S1
MA7CAP1700-S2
MA7CAP1700-S3

**Plug Kits**

MA7CAP1700-S1-KIT
MA7CAP1700S-S1-KIT
MA7CAP1700-S2-KIT
MA7CAP1700S-S2-KIT
MA7CAP1700-S3-KIT
MA7CAP1700S-S3-KIT

**Receptacles**

MA7RAE1701
MA7RAE1702

MA1LAE1700

MA1JAE1700

**Receptacle Kits**

MA1LAE1700-KIT
MA1LAE1700S-KIT

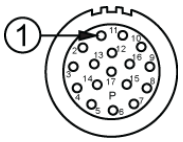
MA7RAE1701-KIT
MA7RAE1702S-KIT
MA7RAE1701-KIT
MA7RAE1702S-KIT

**BULK CABLE starts on page 23**

SEE TABLE ON NEXT PAGE FOR PART DETAILS

## Cord Grips (Required only for Receptacle Extension)

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 6 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 6 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 6 |



**17 POSITIONS**
**9A / 125V**
**P type**
**Threaded**

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.39 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA7CAP1700-S1 | Plug, straight, threaded<br>4.5-7.5mm cord grip | P | Pin | Socket | 1 |
| MA7CAP1700-S1-KIT | Plug kit, straight, threaded<br>4.5-7.5mm cord grip | P | Pin | | 1 |
| MA7CAP1700S-S1-KIT | Plug kit, straight, threaded<br>4.5-7.5mm cord grip | P | | Socket | 1 |
| MA7CAP1700-S2 | Plug, straight, threaded<br>7.5-11mm cord grip | P | Pin | Socket | 1 |
| MA7CAP1700-S2-KIT | Plug kit, straight, threaded<br>7.5-11mm cord grip | P | Pin | | 1 |
| MA7CAP1700S-S2-KIT | Plug kit, straight, threaded<br>7.5-11mm cord grip | P | | Socket | 1 |
| MA7CAP1700-S3 | Plug, straight, threaded<br>11-15mm cord grip | P | Pin | Socket | 1 |
| MA7CAP1700-S3-KIT | Plug kit, straight, threaded<br>11-15mm cord grip | P | Pin | | 1 |
| MA7CAP1700S-S3-KIT | Plug kit, straight, threaded<br>11-15mm cord grip | P | | Socket | 1 |
| RECEPTACLES | | | ↕ Mating Parts ↕ | | |
| MA7RAE1701 | Receptacle, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | E | Socket | Pin | 2 |
| MA7RAE1701-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | E | | Pin | 2 |
| MA7RAE1701S-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | E | Socket | | 2 |
| MA7RAE1702 | Receptacle, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | E | Socket | Pin | 3 |
| MA7RAE1702-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | E | | Pin | 3 |
| MA7RAE1702S-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | E | Socket | | 3 |
| MA1LAE1700* | Receptacle, straight, threaded,<br>flange mount | E | Socket | Pin | 4 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.
See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 28-24 (0.25 -0.10 $mm^2$)

Connector Part Numbers continued

| | | | | | |
|---|---|---|---|---|---|
| MA1LAE1700-KIT* | Receptacle kit, straight, threaded. Kit includes contacts. | E | | Pin | 4 |
| MA1LAE1700S-KIT* | Receptacle kit, straight, threaded. Kit includes contacts. | E | Socket | | 4 |
| MA1JAE1700* | Receptacle extension, threaded | E | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 100 | | | | | |

## CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Plug

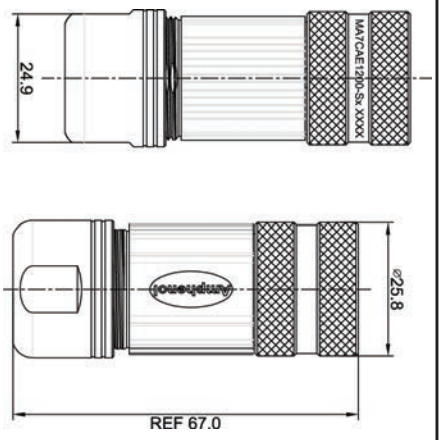



Figure 1

MA7CAP1700-S1
MA7CAP1700-S2
MA7CAP1700-S3

## Receptacle, 90°, Standard Flange (25.7x25.7)

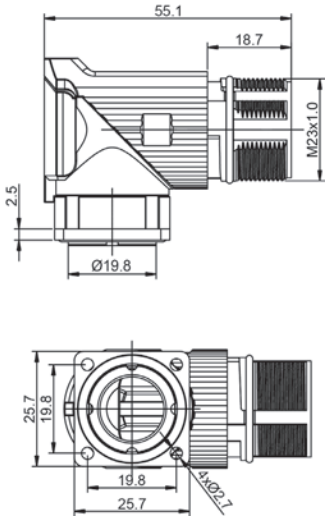



Figure 2 MA7RAE1701

## Receptacle, 90°, Large Flange (28.0x28.0)

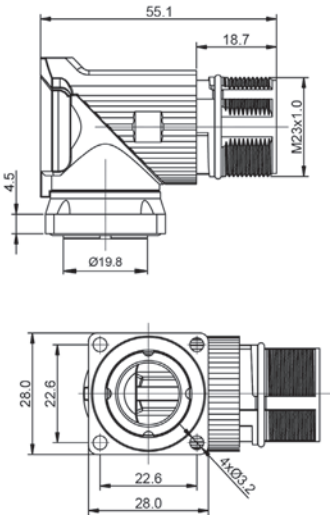



Figure 3 MA7RAE1702

## Receptacle, straight, flange mount,threaded

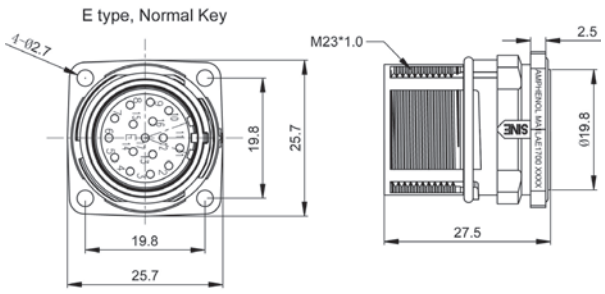



Figure 4

MA1LAE1700
MA1LAE1700-KIT
MA1LAE1700S-KIT

## Receptacle extension, threaded

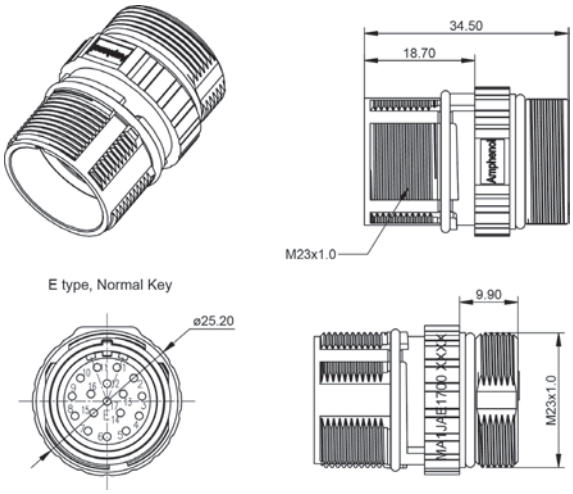


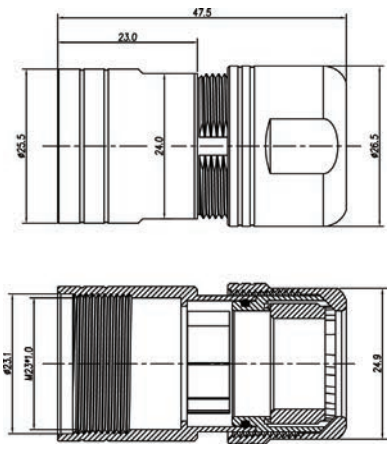

Figure 6 MA1JAE1700

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

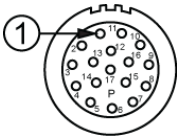
Connector Drawings continued

Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 7





**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 28-24 (0.25 -0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap

P29687

Dust Cap for Plug, Threaded

P31660

* The universal positioner is not included with the crimp tools and must be ordered separately.

# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS

### Plugs

MB5CKN0600-S1
MB5CKN0600-S2
MB5CKN0600-S3

### Plug Kits

**Checkmate™**
MB5CKN0600-S1-KIT
MB5CKN0600-S2-KIT
MB5CKN0600-S3-KIT

### Receptacles

MB5RJN0601
MB5RJN0602

MB2LLN0600

MB2LKN0600

### Receptacle Kits

**Checkmate™**
MB2LLN0600-KIT

**Checkmate™**
MB5RJN0601-KIT
MB5RJN0602-KIT

See page 14 for connector configurations

### Receptacle Extension

MB5JJN0600-S1
MB5JJN0600-S2
MB5JJN0600-S3

**BULK CABLE starts on page 23**

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

CheckMate™ Quick Locking Connectors

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB5CKN0600-S1 | Plug, straight, **Checkmate™**<br>7.0-11.0mm cord grip | Socket | 1 |
| MB5CKN0600-S1-KIT | Plug kit, straight, **Checkmate™**<br>7.0-11.0mm cord grip | Socket | 1 |
| MB5CKN0600-S2 | Plug, straight, **Checkmate™**<br>11.0-14.5mm cord grip | Socket | 1 |
| MB5CKN0600-S2-KIT | Plug kit, straight, **Checkmate™**<br>11.0-14.5mm cord grip | Socket | 1 |
| MB5CKN0600-S3 | Plug, straight, **Checkmate™**<br>14.5-17.0mm cord grip | Socket | 1 |
| MB5CKN0600-S3-KIT | Plug kit, straight, **Checkmate™**<br>14.5-17.0mm cord grip | Socket | 1 |
| ↑ Contacts supplied separately see Chart 1 page 108 | | | |

| Part Number | Connector Type<br>RECEPTACLES | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB5RJN0601 | Receptacle, 90° rotatable, **Checkmate™**<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB5RJN0601-KIT | Receptacle Kit, 90° rotatable, **Checkmate™**<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB5RJN0602 | Receptacle, 90° rotatable, **Checkmate™**<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB5RJN0602-KIT | Receptacle Kit, 90° rotatable, **Checkmate™**<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB5JJN0600-S1 | Receptacle Extension, **Checkmate™,**<br>7.5-11.0mm Cable OD Range | Pin | 4 |
| MB5JJN0600-S2 | Receptacle Extension, **Checkmate™**,<br>11.0-14.5mm Cable OD Range | Pin | 4 |
| MB5JJN0600-S3 | Receptacle Extension, **Checkmate™**,<br>14.5.5-17.0mm Cable OD Range | Pin | 4 |
| ↑ Contacts supplied separately see Chart 2 page 108 | | | |
| MB2LLN0600* | Receptacle, straight flange mount, **Checkmate™** | Pin | 5 |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.
See Assembly Instructions starting on page 266

**Style:** **Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 $mm^2$)

Connector Part Numbers continued

| Part Number | Connector Type<br>RECEPTACLES | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB2LLN0600-KIT* | Receptacle kit, straight, **Checkmate™**<br>Kit includes contacts | Pin | 5 |
| MB2LKN0600* | Receptacle, straight, **Checkmate™** | Pin | 6 |
| ↑ Contacts supplied separately see Chart 3 page 108 | | | |

## Dimensions

*See Chart 1 for contacts options*

*See Chart 2 for contacts options for 90° Rotatable Receptacles*

### Plug

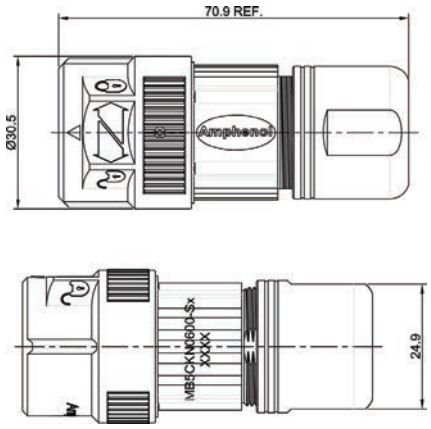



Figure 1

MB5CKN0600-S1
MB5CKN0600-S2
MB5CKN0600-S3

### Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

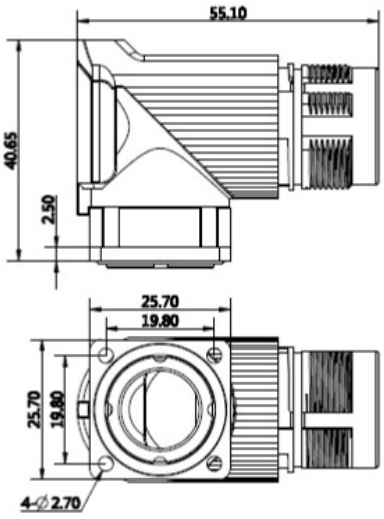



Figure 2 MB5RJN0601

### Receptacle, 90° rotatable, Large Flange (28.0x28.0)

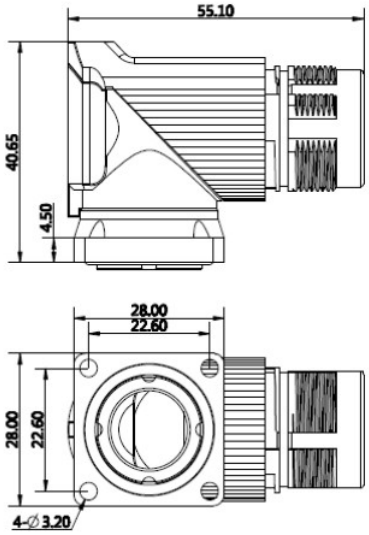



Figure 3 MB5RJN0602

**Style:** **Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

## Dimensions

*See Chart 2 for contacts options*

### Receptacle, Extension, Checkmate™

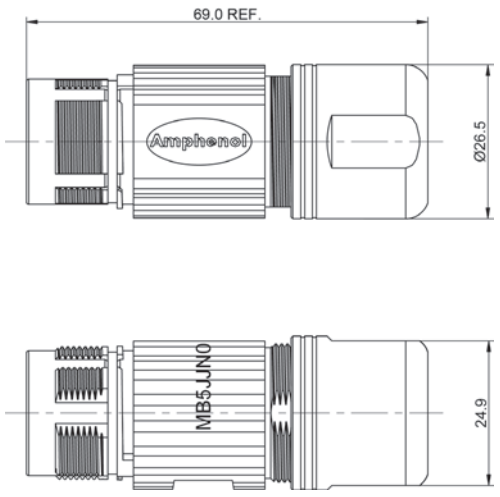



Figure 4

MB5JJN0600-S1
MB5JJN0600-S2
MB2JJN0600-S3

*See Chart 3 for contacts options*

### Receptacle, straight, flange mount, Checkmate™

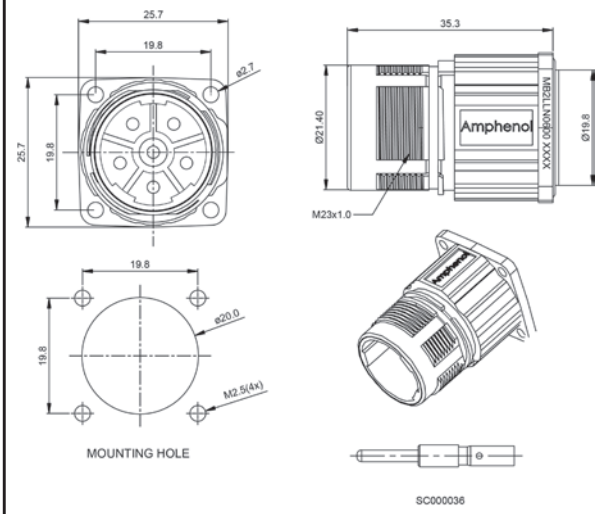



Figure 6

MB2LLN0600
MB2LLN0600-KIT

### Receptacle, straight, Checkmate™

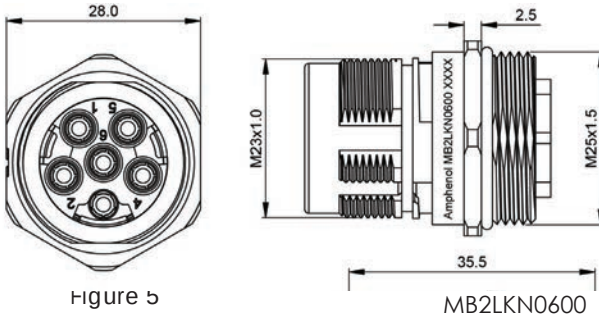



Figure 5

MB2LKN0600

**Style:** **Number of Contacts: 6** **Contact Size: 2.0mm**
Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 $mm^2$)

## Contacts

### CHART 1 Crimp Contacts, Machined

For parts: MB5CKN0600-S1, MB5CKN0600-S2, MB5CKN0800-S3

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000260 | 2.0mm | Socket | 18-20 | 2.5 - 0.5 | Gold |

### CHART 2 Crimp Contacts, Machined

For parts: MB5RJN0601, MB5RJN0602,MB5JJN0600-S1,S2,S3

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000262 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |

### CHART 3 Crimp Contacts, Machined

For Parts: MB2LLN0600, MB2LKN0600, MB2LLN0600-KIT

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000036 | 2.0mm | Pin | 18-14 | 1.5 - 0.75 | Gold |

**Style:** **Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*Wire Range 12-26AWG

WA27F

Extraction tool. Used for removal of 2.0mm contacts from inserts.

50-54931-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Dust Cap

P29687

Dust Cap for Plug, Checkmate™

P31661-06

* The universal positioner is not included with the crimp tools and must be ordered separately.

* The extraction tool is only required to remove contacts from part numbers beginning with MB2

# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS

### Plugs

MB7CKN0600-S1
MB7CKN0600-S2
MB7CKN0600-S3

### Plug Kits

MB7CKN0600-S1-KIT
MB7CKN0600-S2-KIT
MB7CKN0600-S3-KIT

### Receptacles

MB7RJN0601
MB7RJN0602

MB1LLN0600

MB1LKN0600

### Receptacle Kits

MB1LLN0600-KIT

MB7RJN0601-KIT
MB7RJN0602-KIT

See page 14 for connector configurations

### Receptacle Extension

MB7JJN0600-S1
MB7JJN0600-S2
MB7JJN0600-S3

**BULK CABLE starts on page 23**

Complete datasheets can be found at www.amphenol-sine.com

**6 POSITIONS**
**28A / 630V**
**Threaded**

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB7CKN0600-S1 | Plug, straight, threaded<br>7.0-11.0mm cord grip | Socket | 1 |
| MB7CKN0600-S1-KIT | Plug kit, straight, threaded<br>7.0-11.0mm cord grip | Socket | 1 |
| MB7CKN0600-S2 | Plug, straight, threaded<br>11.0-14.5mm cord grip | Socket | 1 |
| MB7CKN0600-S2-KIT | Plug kit, straight, threaded<br>11.0-14.5mm cord grip | Socket | 1 |
| MB7CKN0600-S3 | Plug, straight, threaded<br>14.5-17.0mm cord grip | Socket | 1 |
| MB7CKN0600-S3-KIT | Plug kit, straight, threaded<br>14.5-17.0mm cord grip | Socket | 1 |
| ↑ Contacts supplied separately see Chart 1 page 114 | | | |

| Part Number | Connector Type<br>RECEPTACLES | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB7RJN0601 | Receptacle, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB7RJN0601-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB7RJN0602 | Receptacle, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB7RJN0602-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB7JJN0600-S1 | Receptacle extension, threaded,<br>7.5-11.0mm Cable OD Range | Pin | 4 |
| MB7JJN0600-S2 | Receptacle extension, threaded,<br>11.0-14.5mm Cable OD Range | Pin | 4 |
| MB7JJN0600-S3 | Receptacle extension, threaded,<br>14.5.5-17.0mm Cable OD Range | Pin | 4 |
| ↑ Contacts supplied separately see Chart 2 page 114 | | | |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.
See Assembly Instructions starting on page 266

**Style:** **Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 $mm^2$)

Connector Part Numbers continued

| Part Number | Connector Type<br>RECEPTACLES | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB1LLN0600* | Receptacle, straight, flange mount, threaded | Pin | 5 |
| MB1LLN0600-KIT* | Receptacle kit, straight, threaded.<br>Kit includes contacts. | Pin | 5 |
| MB1LKN0600* | Receptacle, straight, threaded | Pin | 6 |
| ↑ Contacts supplied separately see Chart 3 page 114 | | | |

## Dimensions

*See Chart 1 for contacts options*

*See Chart 2 for contacts options for 90° Rotatable Receptacles*

### Plug

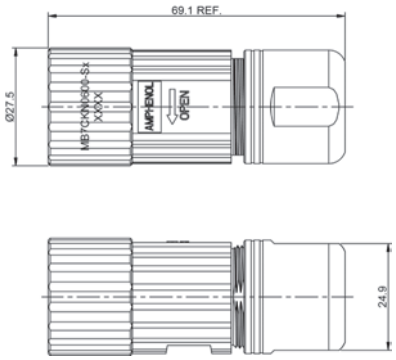



Figure 1

MB7CKN0600-S1
MB7CKN0600-S2
MB7CKN0600-S3

### Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

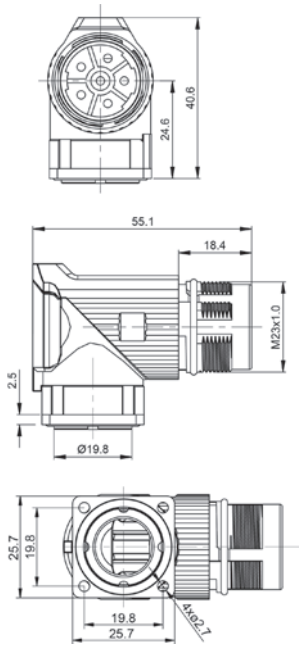



Figure 2 MB7RJN0601

### Receptacle, 90° rotatable, Large Flange (28.0x28.0)

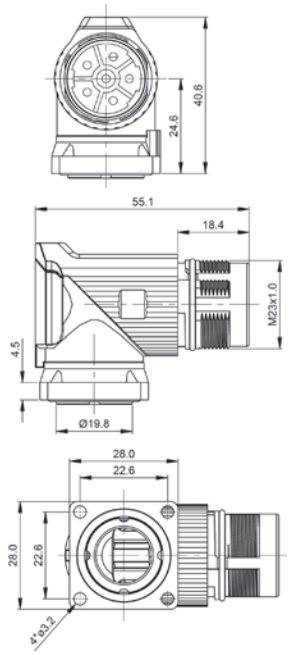



Figure 3 MB7RJN0602

**Style:** **Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

## Dimensions

*See Chart 2 for contacts options*

### Receptacle extension, threaded

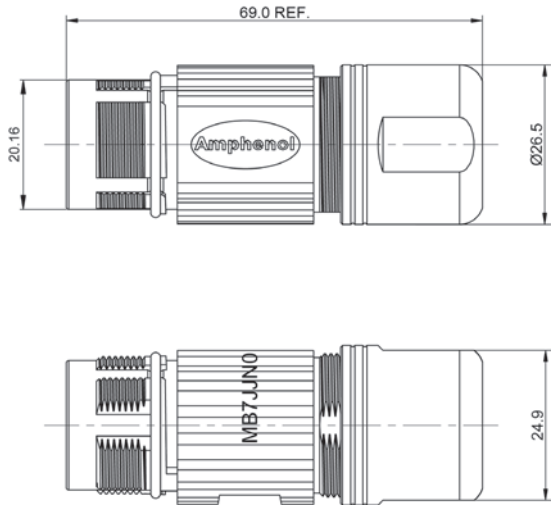



Figure 4

MB7JJN0600-S1
MB7JJN0600-S2
MB7JJN0600-S3

*See Chart 3 for contacts options for all straight receptacles*

### Receptacle, straight, flange mount, threaded

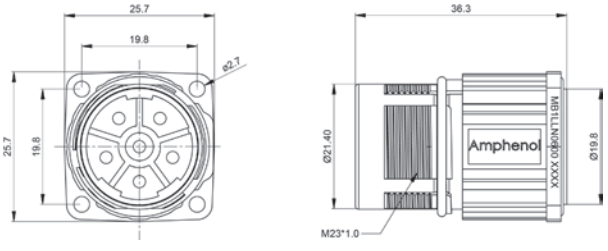



Figure 5

MB1LLN0600
MB1LLN0600-KIT

### Receptacle, straight, threaded

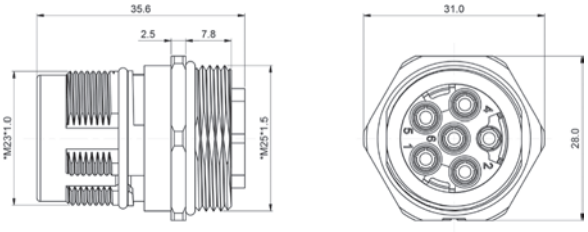



Figure 6

MB1LKN0600

**Style:** **Number of Contacts: 6** **Contact Size: 2.0mm**
Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 $mm^2$)

## Contacts

### CHART 1 Crimp Contacts, Machined

For parts: MB7CKN0600-S1, MB7CKN0600-S2, MB7CKN0800-S3

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000260 | 2.0mm | Socket | 18-20 | 2.5 - 5.0 | Gold |

### CHART 2 Crimp Contacts, Machined

For parts: MB7RJN0601, MB7RJN0602, MB7JJN0600-S1,S2,S3

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000262 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |

### CHART 3 Crimp Contacts, Machined

For Parts: MB1LLN0600, MB1LKN0600, MB1LLN0600-KIT

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000036 | 2.0mm | Pin | 18-14 | 1.5 - 0.75 | Gold |

**Style:** **Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 $mm^2$)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*Wire Range 12-26AWG

WA27F

Extraction tool. Used for removal of 2.0mm contacts from inserts.

50-54931-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Threaded

P30663-06

* The universal positioner is not included with the crimp tools and must be ordered separately.

* The extraction tool is only required to remove contacts from part numbers beginning with MB1

# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MB5CKN0800-S1
MB5CKN0800-S2
MB5CKN0800-S3

**Plug Kits**

**Checkmate™**

MB5CKN0800-S1-KIT
MB5CKN0800-S2-KIT
MB5CKN0800-S3-KIT

**Receptacles**

MB5RJN0801
MB5RJN0802

MB2LKN0800

MB2LLN0800

**Receptacle Kits**

**Checkmate™**

MB2LL0800-KIT

**Checkmate™**

MB5RJN0801-KIT
MB5RJN0802-KIT

See page 14 for connector configurations

**Receptacle Extension**

MB5JJN0800-S1
MB5JJN0800-S2
MB5JJN0800-S3

**BULK CABLE starts on page 23**

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**
**Checkmate™**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75-0.37) / 24-28 (0.25 - 0.10mm²)

Check Mate™
Quick Locking Connectors

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB5CKN0800-S1 | Plug, straight, **Checkmate™**<br>7.0-11.0mm cord grip | Socket | 1 |
| MB5CKN0800-S1-KIT | Plug kit, straight, **Checkmate™**<br>7.0-11.0mm cord grip | Socket | 1 |
| MB5CKN0800-S2 | Plug, straight, **Checkmate™**<br>11.0-14.5mm cord grip | Socket | 1 |
| MB5CKN0800-S2-KIT | Plug kit, straight, **Checkmate™**<br>11.0-14.5mm cord grip | Socket | 1 |
| MB5CKN0800-S3 | Plug, straight, **Checkmate™**<br>14.5-17.0mm cord grip | Socket | 1 |
| MB5CKN0800-S3-KIT | Plug kit, straight, **Checkmate™**<br>14.5-17.0mm cord grip | Socket | 1 |
| ↑ Contacts supplied separately see Chart 1 page 120 | | | |

| Part Number | Connector Type<br>RECEPTACLES | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB5RJN0801 | Receptacle, 90° rotatable, **Checkmate™**<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB5RJN0801-KIT | Receptacle Kit, 90° rotatable, **Checkmate™**<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB5RJN0802 | Receptacle, 90° rotatable, **Checkmate™**<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB5RJN0802-KIT | Receptacle Kit, 90° rotatable, **Checkmate™**<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB5JJN0800-S1 | Receptacle extension, **Checkmate™**<br>7.5-11.0mm Cable OD Range | Pin | 4 |
| MB5JJN0800-S2 | Receptacle extension, **Checkmate™**<br>11.0-14.5mm Cable OD Range | Pin | 4 |
| MB5JJN0800-S3 | Receptacle extension, **Checkmate™**<br>14.5.5-17.0mm Cable OD Range | Pin | 4 |
| ↑ Contacts supplied separately see Chart 2 page 120 | | | |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.
See Assembly Instructions starting on page 266

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75-0.37) / 24-28 (0.25 - 0.10mm²)

Connector Part Numbers continued

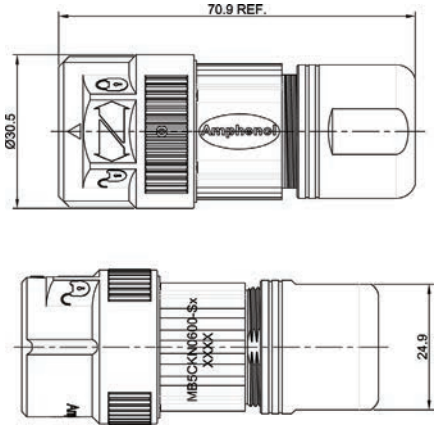
| Part Number | Connector Type<br>RECEPTACLES | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB2LLN0800* | Receptacle, straight, flange mount, **Checkmate™** | Pin | 5 |
| MB2LLN0800-KIT* | Receptacle Kit, straight, **Checkmate™**<br>Kit includes contacts | Pin | 7 |
| MB2LKN0800* | Receptacle, straight, M25, **Checkmate™** | Pin | 6 |
| ↑ Contacts supplied separately see Chart 3 page 120 | | | |

## Dimensions

*See Chart 1 for contacts options*

*See Chart 2 for contacts options for 90° Rotatable Receptacles*

Plug




MB5CKN0800-S1
MB5CKN0800-S2
MB5CKN0800-S3

Figure 1

Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

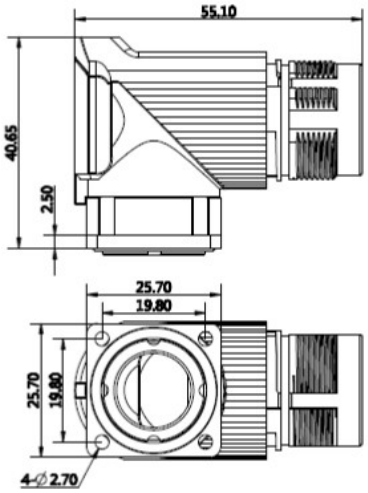



Figure 2 MB5RJN0801

Receptacle, 90° rotatable, Large Flange (28.0x28.0)

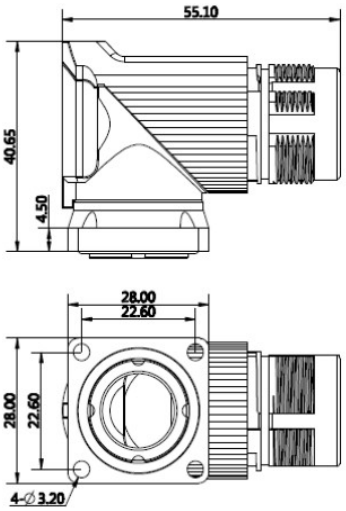



Figure 3 MB5RJN0802

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/250V**
**Checkmate™**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75-0.37) / 24-28 (0.25 - 0.10mm²)

## Dimensions

*See Chart 2 for contacts options*

### Receptacle extension, straight, Checkmate™

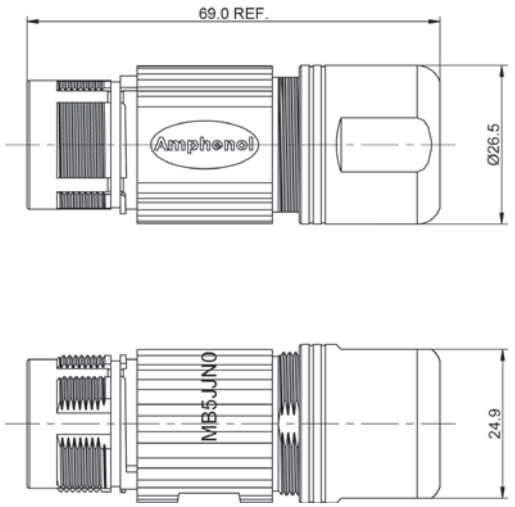



Figure 4

MB5JJN0800-S1
MB5JJN0800-S2
MB5JJN0800-S3

*See Chart 3 for contacts options*

### Receptacle Kit, straight, Checkmate™

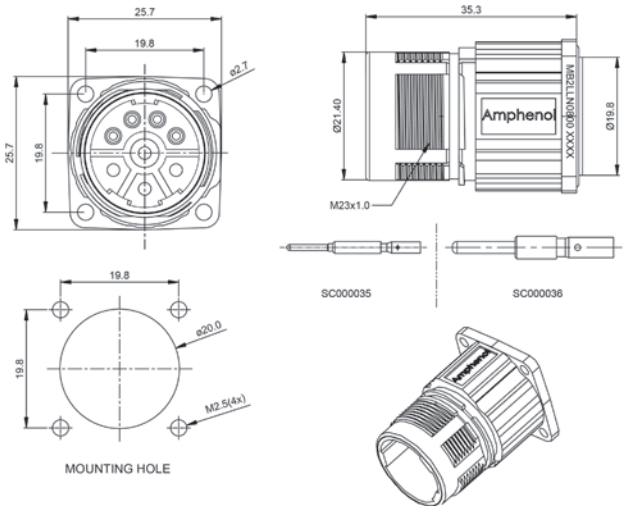



Figure 7

MB2LLN0800-KIT

*See Chart 3 for contacts options for all straight receptacles*

### Receptacle, straight, flange mount, Checkmate™

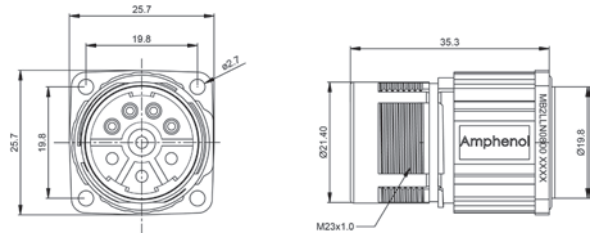



Figure 5

MB2LLN0800

### Receptacle, straight, Checkmate™

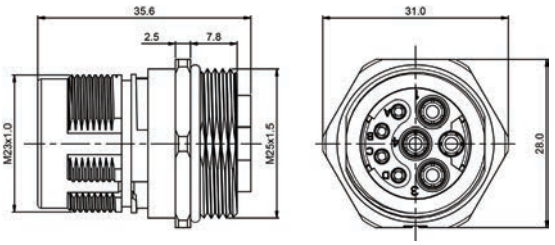



Figure 6

MB2LKN0800

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 $mm^2$) / 18-22 (0.75-0.37) / 24-28 (0.25 - 0.10$mm^2$)

## Contacts

### CHART 1 Crimp Contacts, Machined

For parts: MB5CKN0800-S1, MB5CKN0800-S2, MB5CKN0800-S3

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000259 | 1.0mm | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000385 | 1.0mm | Socket | 28-24 | 0.10 - 0.25 | Gold |
| SC000260 | 2.0mm | Socket | 18-14 | 0.75 -2.5 | Gold |

### CHART 2 Crimp Contacts, Machined

For parts: MB5RJN0801, MB5RJN0802, MB5JJN0800-S1,S2,S3

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000261 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000386 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000262 | 2.0mm | Pin | 18-14 | 0.75 -2.5 | Gold |

### CHART 3 Crimp Contacts, Machined

For Parts: MB2LLN0800, MB2LKN0800, MB2LLN0800-KIT

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000035 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000036 | 2.0mm | Pin | 18-14 | 1.5 - 0.75 | Gold |

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/250V**
**Checkmate™**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75-0.37) / 24-28 (0.25 - 0.10mm²)

## Tools & Accessories

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

WA22

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*Wire Range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

AF8

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Extraction tool. Used for removal of 2.0mm contacts from inserts.

50-54931-2

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

AFM8

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Checkmate™

P31661-08

* The Extraction tools are required only for part numbers beginning with MB2

* The universal positioner is not included with the crimp tools and must be ordered separately.

# Connector Solutions M23 Elite Series

STEP 1
Choose Plug

STEP 2
Choose Receptacle

SEE TABLE ON NEXT PAGE FOR PART DETAILS

### Plugs

MB7CKN0800-S1
MB7CKN0800-S2
MB7CKN0800-S3

### Plug Kits

MB7CKN0800-S1-KIT
MB7CKN0800-S2-KIT
MB7CKN0800-S3-KIT

### Receptacles

MB7RJN0801
MB7RJN0802

MB1LKN0800

MB1LLN0800

### Receptacle Kits

MB1LL0800-KIT

MB7RJN0801-KIT
MB7RJN0802-KIT

See page 14 for connector configurations

### Receptacle Extension

MB7JJN0800-S1
MB7JJN0800-S2
MB7JJN0800-S3

**BULK CABLE starts on page 23**

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**
**Threaded**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB7CKN0800-S1 | Plug, straight, threaded<br>7.0-11.0mm cord grip | Socket | 1 |
| MB7CKN0800-S1-KIT | Plug kit, straight, threaded<br>7.0-11.0mm cord grip | Socket | 1 |
| MB7CKN0800-S2 | Plug, straight, threaded<br>11.0-14.5mm cord grip | Socket | 1 |
| MB7CKN0800-S2-KIT | Plug kit, straight, threaded<br>11.0-14.5mm cord grip | Socket | 1 |
| MB7CKN0800-S3 | Plug, straight, threaded<br>14.5-17.0mm cord grip | Socket | 1 |
| MB7CKN0800-S3-KIT | Plug kit, straight, threaded<br>14.5-17.0mm cord grip | Socket | 1 |
| ↑ Contacts supplied separately. See Chart 1 on page 126 | | | |

| Part Number | Connector Type<br>RECEPTALCES | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB7RJN0801 | Receptacle, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB7RJN0801-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB7RJN0802 | Receptacle, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB7RJN0802-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB7JJN0800-S1 | Receptacle extension, threaded<br>7.5-11.0mm Cable OD Range | Pin | 4 |
| MB7JJN0800-S2 | Receptacle extension, threaded<br>11.0-14.5mm Cable OD Range | Pin | 4 |
| MB7JJN0800-S3 | Receptacle extension, threaded<br>14.5.5-17.0mm Cable OD Range | Pin | 4 |
| ↑ Contacts supplied separately. See Chart 2 on page 126 | | | |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.
See Assembly Instructions starting on page 266

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

Connector Part Numbers continued

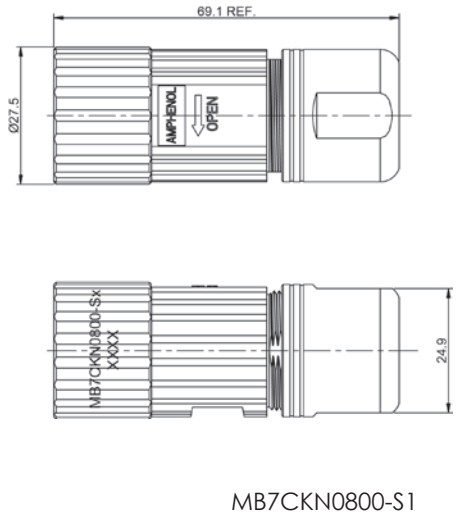
| Part Number | Connector Type<br>RECEPTALCES | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB1LLN0800* | Receptacle, straight, flange mount, threaded | Pin | 5 |
| MB1LLN0800-KIT* | Receptacle Kit, straight, threaded<br>Kit includes contacts | Pin | 5 |
| MB1LKN0800* | Receptacle, straight, M25, threaded | Pin | 6 |
| ↑ Contacts supplied separately. See Chart 3 on page 126 | | | |

## Dimensions

*See Chart 1 for contacts options*

*See Chart 2 for contacts options for 90° Rotatable Receptacles*

Plug




MB7CKN0800-S1
MB7CKN0800-S2
MB7CKN0800-S3

Figure 1

Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

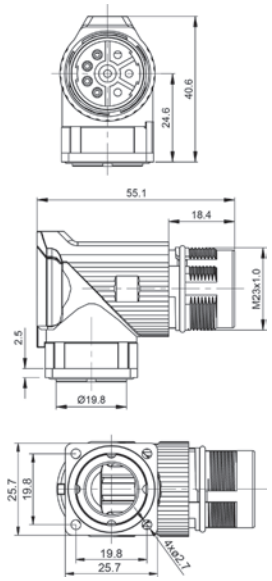



Figure 2 MB7RJN0801

Receptacle, 90° rotatable, Large Flange (28.0x28.0)

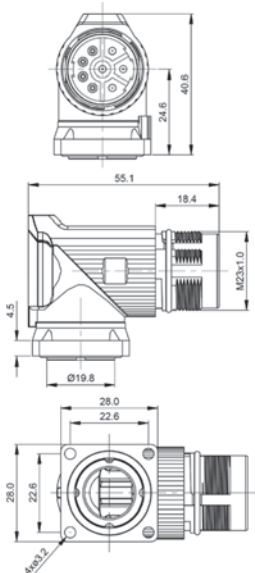



Figure 3 MB7RJN0802

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**
**Threaded**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Dimensions

*See Chart 2 for contacts options*

### Receptacle extension, straight, threaded

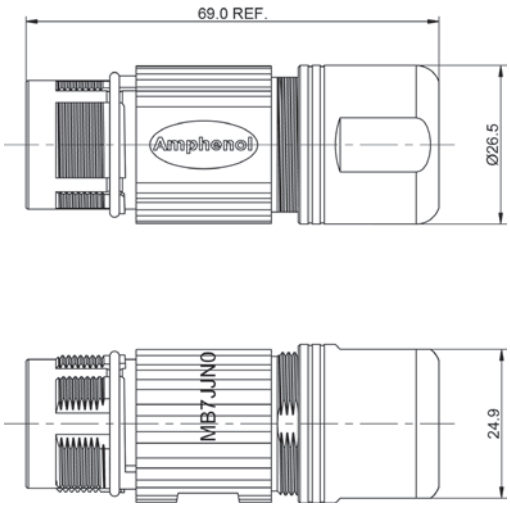



Figure 4

MB7JJN0800-S1
MB7JJN0800-S2
MB7JJN0800-S3

*See Chart 3 for contacts options for all straight receptacles*

### Receptacle,straight, flange mount, threaded

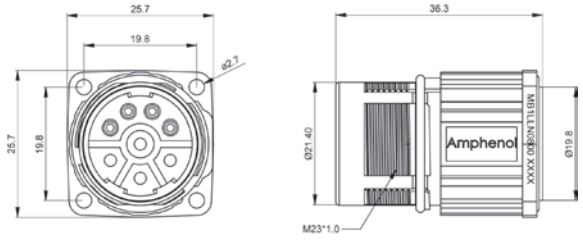



Figure 5

MB1LLN0800
MB1LLN0800-KIT

*See Chart 2 for contacts options*

### Receptacle, straight, threaded

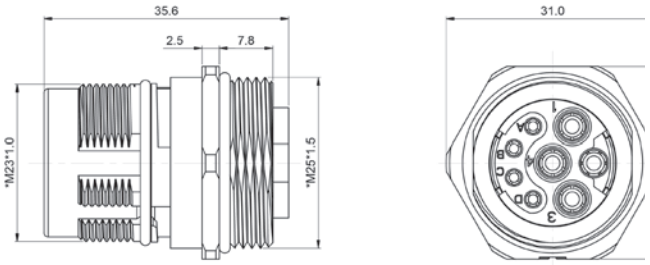



Figure 6

MB1LKN0800

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Contacts

### CHART 1 Crimp Contacts, Machined

For parts: MB7CKN0800-S1, MB7CKN0800-S2, MB7CKN0800-S3

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000259 | 1.0mm | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000385 | 1.0mm | Socket | 28-24 | 0.10 - 0.25 | Gold |
| SC000260 | 2.0mm | Socket | 18-20 | 2.5 - 0.5 | Gold |

### CHART 2 Crimp Contacts, Machined

For parts: MB7RJN0801, MB7RJN0802, MB7JJN0800-S1,S2,S3

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000261 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000386 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000262 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |

### CHART 3 Crimp Contacts, Machined

For Parts: MB1LLN0800, MB1LKN0800, MB1LLN0800-KIT

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000035 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000036 | 2.0mm | Pin | 18-14 | 1.5 - 0.75 | Gold |

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**
**Threaded**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Tools & Accessories

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

WA22

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*Wire Range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

AF8

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Extraction tool. Used for removal of 2.0mm contacts from inserts.

50-54931-2

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

AFM8

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Threaded

P30663-08

* The Extraction tools are required only for part numbers beginning with MB1

* The universal positioner is not included with the crimp tools and must be ordered separately.

# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS

### Plugs

**Checkmate™**
MB5CKN0900-S1
MB5CKN0900-S2
MB5CKN0900-S3

### Plug Kits

**Checkmate™**
MB5CKN0900-S1-KIT
MB5CKN0900-S2-KIT
MB5CKN0900-S3-KIT

### Receptacles

MB5RJN0901
MB5RJN0902

MB2LKN0900

MB2LLN0900

### Receptacle Kits

**Checkmate™**
MB2LL0900-KIT

**Checkmate™**
MB5RJN0901-KIT
MB5RJN0902-KIT

See page 14 for connector configurations

### Receptacle Extension

MB5JJN0900-S1
MB5JJN0900-S2
MB5JJN0900-S3

**BULK CABLE starts on page 23**

**9 (4+5) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**
**Checkmate™**

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

Check Mate™
Quick Locking Connectors

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB5CKN0900-S1 | Plug, straight, **Checkmate™**<br>7.0-11.0mm cord grip | Socket | 1 |
| MB5CKN0900-S1-KIT | Plug kit, straight, **Checkmate™**<br>7.0-11.0mm cord grip | Socket | 1 |
| MB5CKN0900-S2 | Plug, straight, **Checkmate™**<br>11.0-14.5mm cord grip | Socket | 1 |
| MB5CKN0900-S2-KIT | Plug kit, straight, **Checkmate™**<br>11.0-14.5mm cord grip | Socket | 1 |
| MB5CKN0900-S3 | Plug, straight, **Checkmate™**<br>14.5-17.0mm cord grip | Socket | 1 |
| MB5CKN0900-S3-KIT | Plug kit, straight, **Checkmate™**<br>14.5-17.0mm cord grip | Socket | 1 |
| ↑ Contacts supplied separately see Chart 1 page 132 | | | |

| Part Number | Connector Type<br>RECEPTACLS | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB5RJN0901 | Receptacle, 90° rotatable, **Checkmate™**<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB5RJN0901-KIT | Receptacle Kit, 90° rotatable, **Checkmate™**<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB5RJN0902 | Receptacle, 90° rotatable, **Checkmate™**<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB5RJN0902-KIT | Receptacle Kit, 90° rotatable, **Checkmate™**<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB5JJN0900-S1 | Receptacle extension, **Checkmate™**<br>7.5-11.0mm Cable OD Range | Pin | 4 |
| MB5JJN0900-S2 | Receptacle extension, **Checkmate™**<br>11.0-14.5mm Cable OD Range | Pin | 4 |
| MB5JJN0900-S3 | Receptacle extension, **Checkmate™**<br>14.5.5-17.0mm Cable OD Range | Pin | 4 |
| ↑ Contacts supplied separately see Chart 2 page 132 | | | |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.
See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm$^2$) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

Connector Part Numbers continued

| Part Number | Connector Type<br>RECEPTACLS | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB2LLN0900* | Receptacle, straight, flange mount, Checkmate™ | Pin | 5 |
| MB2LLN0900-KIT* | Receptacle kit, straight, Checkmate™<br>Kit includes contacts | Pin | 7 |
| MB2LKN0900* | Receptacle, straight, M25, Checkmate™ | Pin | 6 |
| ↑ Contacts supplied separately see Chart 3 page 132 | | | |

## Dimensions

*See Chart 1 for contacts options*

*See Chart 2 for contacts options for 90° Rotatable Receptacles*

Plug

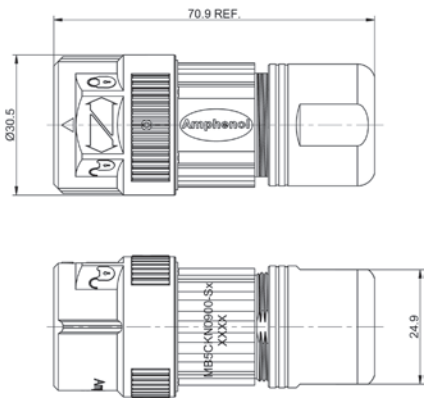



Figure 1

MB5CKN0900-S1
MB5CKN0900-S2
MB5CKN0900-S3

Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

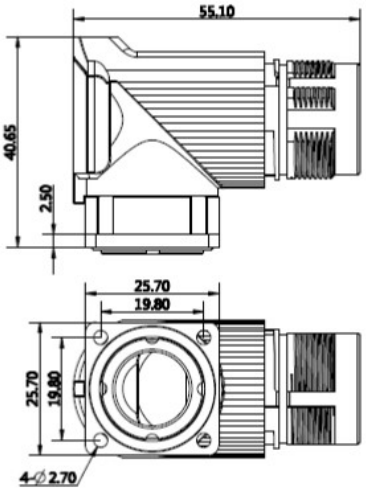



Figure 2 MB5RJN0901

Receptacle, 90° rotatable, Large Flange (28.0x28.0)

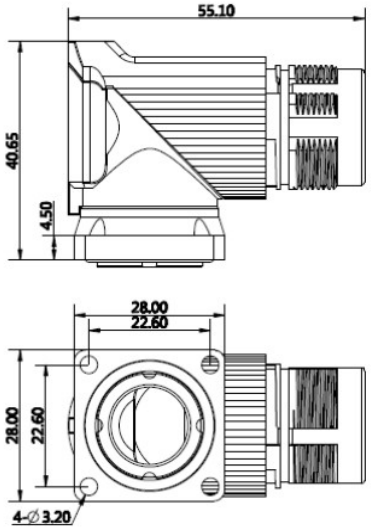



Figure 3 MB5RJN0902

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Dimensions

*See Chart 2 for contacts options*

### Receptacle extension, straight Checkmate™

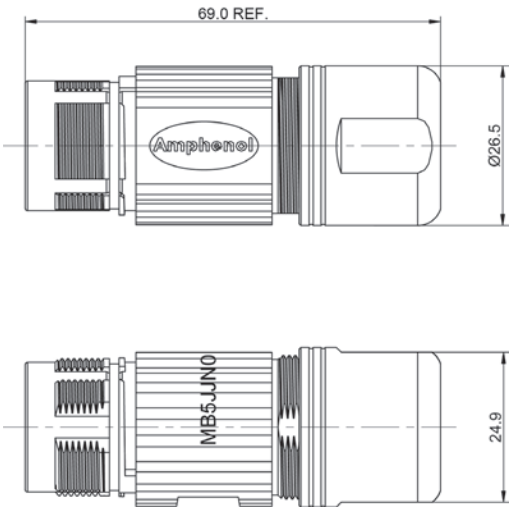



Figure 4

MB5JJN0900-S1
MB5JJN0900-S2
MB5JJN0900-S3

### Receptacle, straight, M25, Checkmate™

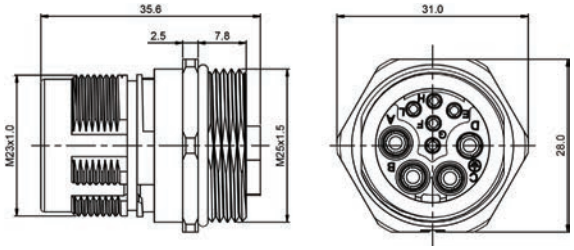



Figure 6

MB2LKN0900

*See Chart 3 for contacts options*

### Receptacle,straight, flange mount, Checkmate™

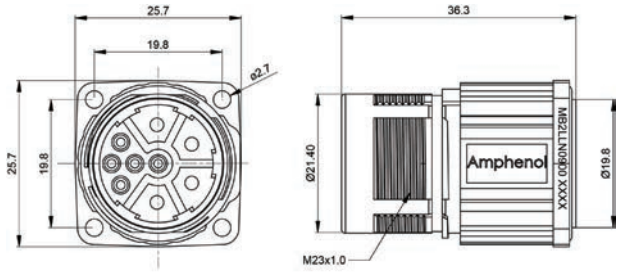



Figure 5

MB2LLN0900

### Receptacle kit, straight, Checkmate™

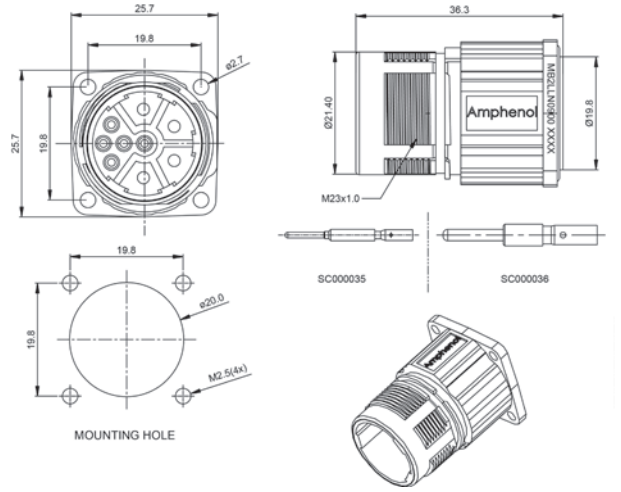



Figure 7

MB2LLN0900-KIT

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Contacts

### CHART 1 Crimp Contacts, Machined

For parts: MB5CKN0900-S1, MB5CKN0900-S2, MB5CKN0900-S3

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000259 | 1.0mm | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000385 | 1.0mm | Socket | 28-24 | 0.10 - 0.25 | Gold |
| SC000260 | 2.0mm | Socket | 20-14 | 2.5 - 0.5 | Gold |

### CHART 2 Crimp Contacts, Machined

For parts: MB5RJN0901, MB5RJN0902,MB5JJN0900-S1,S2,S3

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000261 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000386 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000262 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |

### CHART 3 Crimp Contacts, Machined

For Parts: MB2LLN0900, MB2LKN0900, MB2LLN0900-KIT

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000035 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000036 | 2.0mm | Pin | 18-14 | 1.5 - 0.75 | Gold |

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 $mm^2$) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Tools & Accessories

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

WA22

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*Wire Range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

AF8

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Extraction tool. Used for removal of 2.0mm contacts from inserts.

50-54931-2

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

AFM8

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Checkmate™

P31661-09

* The Extraction tools are required only for part numbers beginning with MB2

* The universal positioner is not included with the crimp tools and must be ordered separately.

# Connector Solutions M23 Elite Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS

### Plugs

MB7CKN0900-S1
MB7CKN0900-S2
MB7CKN0900-S3

### Plugs Kits

MB7CKN0900-S1-KIT
MB7CKN0900-S2-KIT
MB7CKN0900-S3-KIT

### Receptacles

MB7RJN0901
MB7RJN0902

MB1LKN0900

MB1LLN0900

### Receptacle Kits

MB1LL0900-KIT

MB7RJN0901-KIT
MB7RJN0902-KIT

See page 14 for connector configurations

### Receptacle Extension

MB7JJN0900-S1
MB7JJN0900-S2
MB7JJN0900-S3

**BULK CABLE starts on page 23**

**9 (4+5) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**
**Threaded**

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Connector Part Numbers

| Part Number | Connector Type<br>PLUGS | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB7CKN0900-S1 | Plug, straight, threaded<br>7.0-11.0mm cord grip | Socket | 1 |
| MB7CKN0900-S1-KIT | Plug kit, straight, threaded<br>7.0-11.0mm cord grip | Socket | 1 |
| MB7CKN0900-S2 | Plug, straight, threaded<br>11.0-14.5mm cord grip | Socket | 1 |
| MB7CKN0900-S2-KIT | Plug kit, straight, threaded<br>11.0-14.5mm cord grip | Socket | 1 |
| MB7CKN0900-S3 | Plug, straight, threaded<br>14.5-17.0mm cord grip | Socket | 1 |
| MB7CKN0900-S3-KIT | Plug, straight, threaded<br>14.5-17.0mm cord grip | Socket | 1 |
| ↑ Contacts supplied separately see Chart 1 page 138 | | | |

| Part Number | Connector Type<br>RECEPTACLES | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB7RJN0901 | Receptacle, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | Pin | 2 |
| MB7RJN0901-KIT | Receptacle Kit, 90° rotatable, threaded<br>Standard Flange (25.7x25.7) | Pin | |
| MB7RJN0902 | Receptacle, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | Pin | 3 |
| MB7RJN0902-KIT | Receptacle Kit, 90° rotatable, threaded<br>Large Flange (28.0x28.0) | Pin | |
| MB7JJN0900-S1 | Receptacle extension, threaded<br>7.5-11.0mm Cable OD Range | Pin | 4 |
| MB7JJN0900-S2 | Receptacle extension, threaded<br>11.0-14.5mm Cable OD Range | Pin | 4 |
| MB7JJN0900-S3 | Receptacle extension, threaded<br>14.5.5-17.0mm Cable OD Range | Pin | 4 |
| ↑ Contacts supplied separately see Chart 2 page 138 | | | |

*Standard Series receptacles are offered here as additional options for mating with Elite Series plugs.
See Assembly Instructions starting on page 266

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

Connector Part Numbers continued

| Part Number | Connector Type<br>RECEPTACLES | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB1LLN0900* | Receptacle, straight, flange mount, threaded | Pin | 4 |
| MB1LLN0900-KIT* | Receptacle kit, straight, threaded<br>Kit includes contacts | Pin | 4 |
| MB1LKN0900* | Receptacle, straight, M25, threaded | Pin | 5 |
| ↑ Contacts supplied separately see Chart 3 page 138 | | | |

## Dimensions

*See Chart 1 for contacts options*

*See Chart 2 for contacts options for 90° Rotatable Receptacles*

Plug

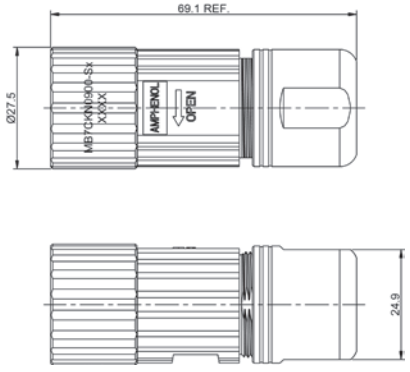



Figure 1

MB7CKN0900-S1
MB7CKN0900-S2
MB7CKN0900-S3

Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

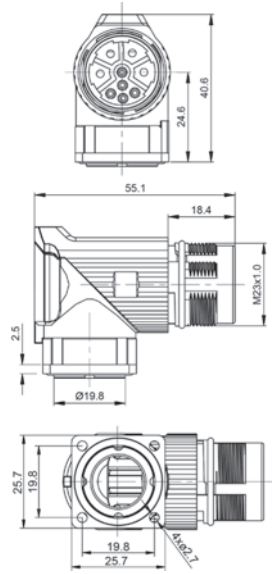



Figure 2 MB7RJN0901

Receptacle, 90° rotatable, Large Flange (28.0x28.0)

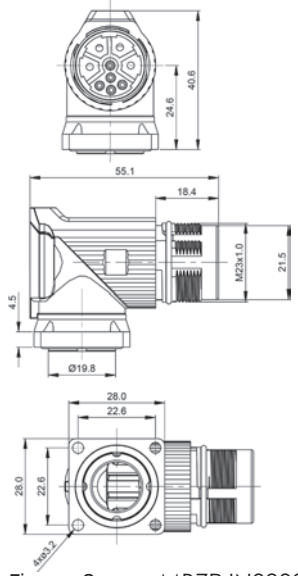



Figure 3 MB7RJN0902

**9 (4+5) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**
**Threaded**

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Dimensions

*See Chart 2 for contacts options*

*See Chart 3 for contacts options for all straight receptacles*

### Receptacle extension, straight, threaded

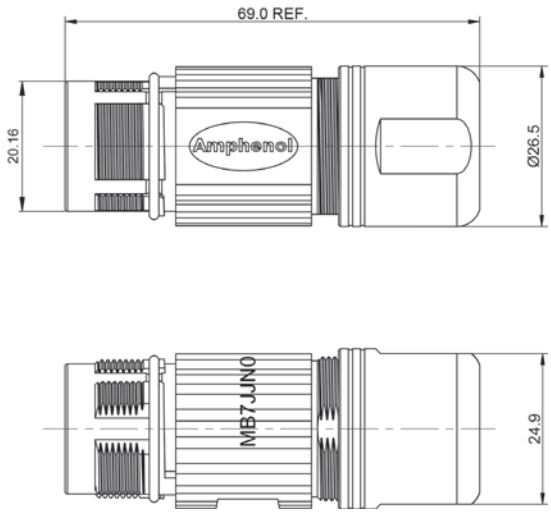



Figure 7

MB7JJN0900-S1
MB7JJN0900-S2
MB7JJN0900-S3

### Receptacle,straight, flange mount, threaded

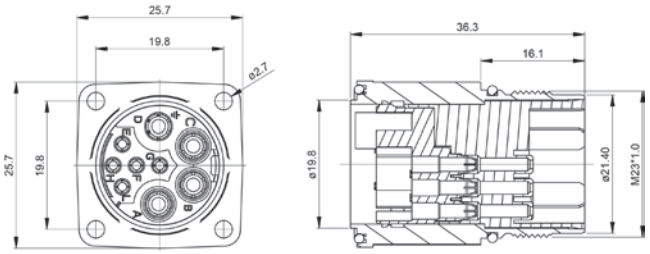



Figure 4

MB1LLN0900
MB1LLN0900-KIT

### Receptacle, straight, M25, threaded

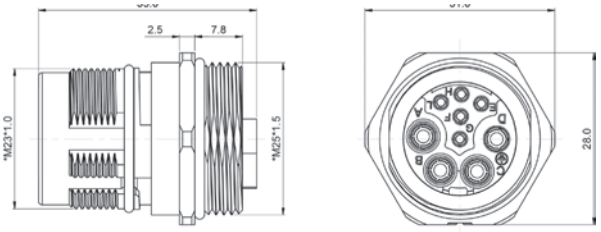



Figure 5

MB1LKN0900

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Contacts

### CHART 1 Crimp Contacts, Machined

For parts: MB7CKN0900-S1, MB7CKN0900-S2, MB7CKN0900-S3

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000259 | 1.0mm | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000385 | 1.0mm | Socket | 28-24 | 0.10 - 0.25 | Gold |
| SC000260 | 2.0mm | Socket | 20-14 | 2.5 - 0.5 | Gold |

### CHART 2 Crimp Contacts, Machined

For parts: MB7RJN0901, MB7RJN0902, MB7JJN0900-S1,S2,S3

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000261 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000386 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000262 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |

### CHART 3 Crimp Contacts, Machined

For Parts: MB1LLN0900, MB1LKN0900, MB1LLN0900-KIt

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000035 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000036 | 2.0mm | Pin | 18-14 | 1.5 - 0.75 | Gold |

**9 (4+5) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**
**Threaded**

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37) / 24-28 (0.25-0.10)

## Tools & Accessories

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

WA22

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*Wire Range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

AF8

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Extraction tool. Used for removal of 2.0mm contacts from inserts.

50-54931-2

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

AFM8

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Threaded

P30663-09

* The Extraction tools are required only for part numbers beginning with MB1

* The universal positioner is not included with the crimp tools and must be ordered separately.

# M23 Hybrid Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MB1WSN8H00

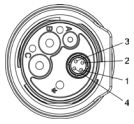
MB3XSN8HS1
MB3XSN8HS2
MB3XSN8HS3

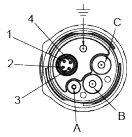
**Receptacles**

MB1YSN8H00

MB3ZSN8HS1
MB3ZSN8HS2
MB3ZSN8HS3

CONTACTS SOLD SEPARATELY SEE PAGE 107





# 8 POSITIONS 18A PE/1A Signal/0.5A Quadrax / 850V PE & Signal/ 30V Quadrax



**Number of Contacts: 8 Sealing: IP66/67**

**Contact Size: 2 Power + PE (2.0mm) + 1 Signal (1.0mm), 4 Quadrax Ethernet Element (.7mm)**

**AWG:** 18-14 (0.75 - 2.5 mm²) /18-22 (0.75-- 0.37 mm²) / 22-28 (0.37 - 0.10 mm²)

## Connector Part Numbers

| Part Number | Connector Type | Contact Type<br>male = pin<br>female = socket | Cable Diameter | Amps /Volts | Figure Drawings |
|---|---|---|---|---|---|
| MB1WSN8H00 | Plug, hybrid, straight, panel mount, threaded | Socket | | 1A signal,<br>18A power,<br>0.5A Quadrax<br>850V PE & Signal<br>30V Quadrax | 1 |
| MB3XSN8HS1 | Plug, hybrid, straight, threaded | Socket | 7.5-11.0mm | | 2 |
| MB3XSN8HS2 | Plug, hybrid, straight, threaded | Socket | 11.0-14.0mm | | 2 |
| MB3XSN8HS3 | Plug, hybrid, straight, threaded | Socket | 14.5-17.0mm | | 2 |
| MB1YSN8H00 | Receptacle, hybrid, straight,panel mount, threaded | Pin | | 1A signal,<br>18A power,<br>0.5A Quadrax<br>850V PE & Signal<br>30V Quadrax | 3 |
| MB3ZSN8HS1 | Receptacle extension, hybrid, threaded | Pin | 7.5-11.0mm | | 4 |
| MB3ZSN8HS2 | Receptacle extension, hybrid, threaded | Pin | 11.0-14.0mm | | 4 |
| MB3ZSN8HS3 | Receptacle extension, hybrid, threaded | Pin | 14.5-17.0mm | | 4 |

Contacts supplied separately see page 143

**BULK CABLE starts on page 23**

**Style: Pin Number of Contacts: 8 Sealing: IP66/67**

**Contact Size: 2 Power + PE (2.0mm) + 1 Signal (1.0mm), 4 Quadrax Ethernet Element (.7mm)**

**AWG:** 18-14 (0.75 - 2.5 $mm^2$) /18-22 (0.75-- 0.37 $mm^2$) / 22--28 (0.37 - 0.10 $mm^2$)

## Dimensional Drawings Plugs & Receptacles

### Plug, hybrid, straight, panel mount, threaded

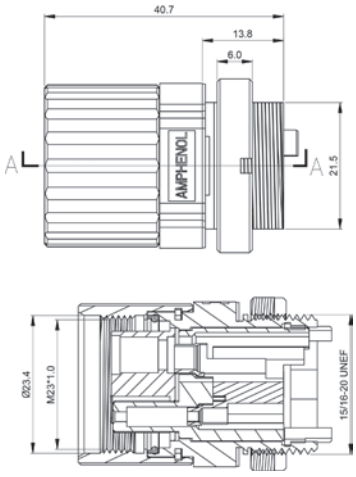



Figure 1 MB1WSN8H00

### Plug, hybrid, straight, threaded

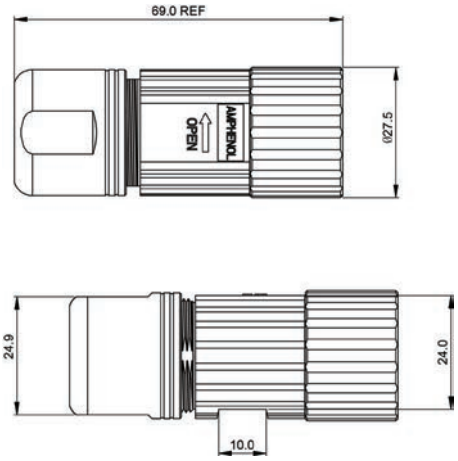



Figure 2 MB3XSN8HS1
MB3XSN8HS2
MB3XSN8HS3

### Receptacle, hybrid, straight,panel mount, threaded

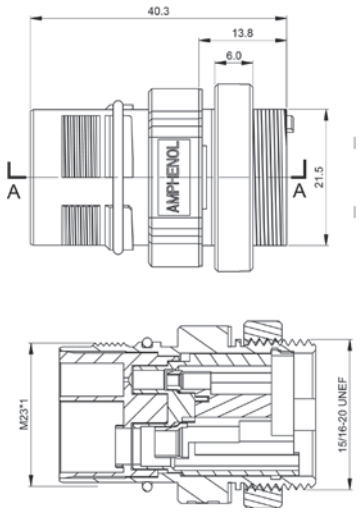



Figure 3 MB1YSN8H00

### Receptacle extension, hybrid, threaded

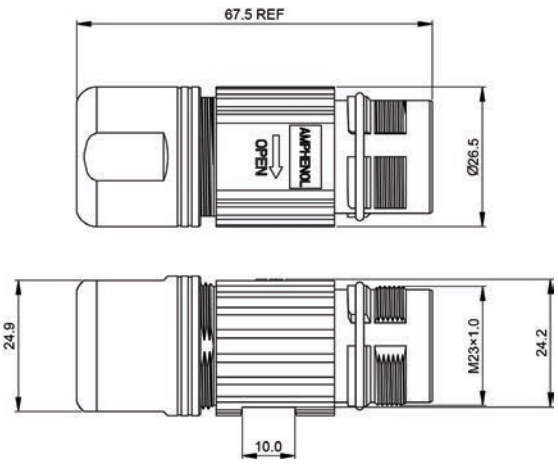
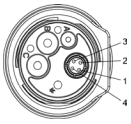
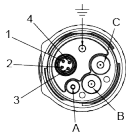



Figure 1 MB3ZSN8HS1
MB3ZSN8HS2
MB3ZSN8HS3





# 8 POSITIONS 18A PE/1A Signal/0.5A Quadrax / 850V PE & Signal/ 30V Quadrax



**Style: Pin Number of Contacts: 8 Sealing: IP66/67**

**Contact Size: 2 Power + PE (2.0mm) + 1 Signal (1.0mm), 4 Quadrax Ethernet Element (.7mm)**

**AWG:** 18-14 (0.75 - 2.5 $mm^2$) /18-22 (0.75-- 0.37 $mm^2$) / 22-28 (0.37 - 0.10 $mm^2$)

## Contacts

### Hybrid Contacts

| Part Number | Pln/Socket | AWG | $mm^2$ | Size | Plating |
|---|---|---|---|---|---|
| SC000259 | Socket | 18-22 | 0.75 - 0.37 | 1.0mm | Gold |
| SC000260 | Socket | 14-20 | 2.5 - 0.5 | 2.0mm | Gold |
| SC000264 | Socket | 22-28 | 0.37 - 0.10 | 0.7mm | Gold |
| SC000261 | Pin | 18-22 | 0.75 - 0.37 | 1.0mm | Gold |
| SC000262 | Pin | 14-18 | 2.5 - 0.75 | 2.0mm | Gold |
| SC000263 | Pin | 22-28 | 0.37 - 0.10 | 0.7mm | Gold |

## Tools

Universal hand crimp tool. Uses universal positioner part no. UH2-5. Wire crimp range 12-26AWG

AF8

Universal hand crimp tool. Uses universal positioner part no. SK2-2. Wire range 20-32AWG

AFM8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2. Wire range 20-32AWG

WA22

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Pneumatic crimp tool. Uses universal positioner part no. WA23-101DA and MFX-3966.

WA23

Die Assembly, Size 10, is used with the Pneumatic crimp tool. WA23

WA23-101DA

# M23 Hybrid Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle |
|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 107

**Plugs**

MB5CKN15H00-S1
MB5CKN15H00-S2
MB5CKN15H00-S3

**Receptacles**

MB5RJN15H01

**Number of Contacts: 8 Sealing: IP66/67**

**Contact Size: 0.6mm, 1.0mm, 2.0mm**

**AWG: 14-26**

CheckMate™
Quick Locking Connectors

## Connector Part Numbers

| Part Number | Connector Type | Contact Type<br>male = pin<br>female = socket | Cable Diameter | Amps /Volts | Figure Drawings |
|---|---|---|---|---|---|
| MB5CKN15H00-S1 | Female plug, 15 positions, (5+6+4), straight, CheckMate™ | Socke | 7.5-11.0mm | 30V Earthnet, 30V Signal, 630V Power | 1 |
| MB5CKN15H00-S2 | Female plug, 15 positions, (5+6+4), straight, CheckMate™ | Socke | 11.0-14.0mm | 30V Earthnet, 30V Signal, 630V Power | 1 |
| MB5CKN15H00-S3 | Female plug, 15 positions, (5+6+4), straight, 14.5-17.0mm cord grip, CheckMate™ | Socke | 14.5-17.0mm | 30V Earthnet, 30V Signal, 630V Power | 1 |
| MB5RJN15H01 | Male receptacle, 90 deg, 15 pos (5+6+4), flange mount, CheckMate™ | Male | | 30V Earthnet, 30V Signal, 630V Power | 2 |

Contacts supplied separately see page 147

**BULK CABLE starts on page 23**

**Number of Contacts: 8 Sealing: IP66/67**

**Contact Size: 0.6mm, 1.0mm, 2.0mm**

**AWG: 14-26**

## Dimensional Drawings Plugs & Receptacles

Plug, hybrid, straight, panel mount, threaded

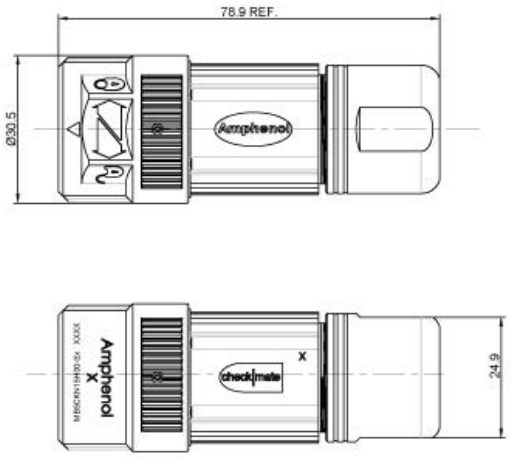



Figure 1

MB5CKN15H00-S1
MB5CKN15H00-S2
MB5CKN15H00-S3

Plug, hybrid, straight, threaded

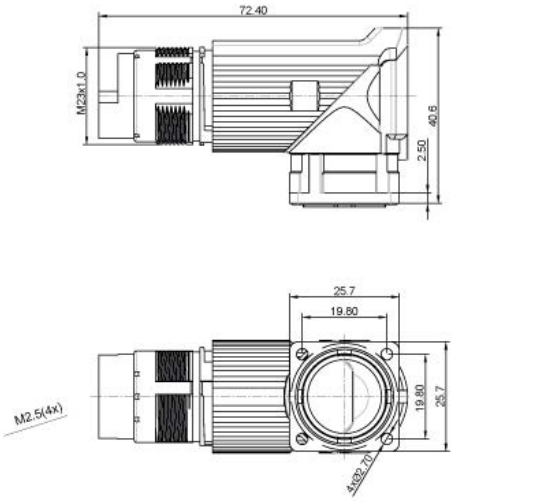



Figure 2

MB5RJN15H01

**Number of Contacts: 8 Sealing: IP66/67**

**Contact Size: 0.6mm, 1.0mm, 2.0mm**

**AWG: 14-26**

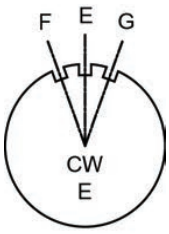
## Contacts

### Hybrid Contacts

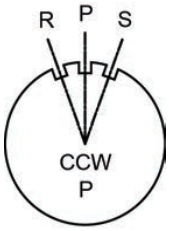
| Part Number | Pin/Socket | AWG | Size | Plating |
|---|---|---|---|---|
| SC000459 | Pin | 22-26 | 0.6mm | Gold |
| SC000460 | Socket | 22-26 | 0.6mm | Gold |
| SC000462 | Socket | 22-26 | 2.0mm | Gold |
| SC000463 | Pin | 14-18 | 2.0mm | Gold |
| SC000465 | Pin | 18-22 | 1.0mm | Gold |
| SC000466 | Socket | 18-22 | 1.0mm | Gold |

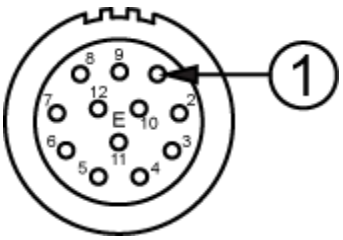
# Connector Solutions M23 Standard Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 16 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 150

**Plugs**

MA1CAE1200

MA2CAE1200

MA1EAE1200

**Receptacles**

MA1LAP1200

MA7RAP1201
MA7RAP1202

MA1JAP1200

MA3TNP1200-S1
MA3TNP1200-S2
MA3TNP1200-S3

MA2LAP1200

MA5RAP1201
MA5RAP1202

MA2JAP1200

**Cord Grips**

MA6CG-S1
MA6CG-S2
MA6CG-S3

**FlexGrip™ Backshell System**

MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

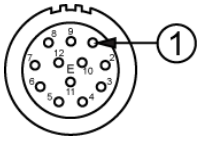
more about FlexGrip™ on page 282

**BULK CABLE starts on page 23**

**Receptacle Kits**

MA1LAP1200-KIT
MA1LAP1200S-KIT

**Checkmate™**
MA2LAP1200-KIT
MA2LAP1200S-KIT



**12 POSITIONS**
**10A / 160V**
**E type**

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Checkmate™ Connector Part Numbers

Check Mate™
Quick Locking Connectors

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA2CAE1200 | Plug, straight, **Checkmate™** | E | Pin | Socket | 1 |
| MA2LAP1200 | Receptacle, straight, flange mount, **Checkmate™** | P | Socket | Pin | 2 |
| MA2LAP1200-KIT | Receptacle Kit, straight, flange mount, **Checkmate™.** Kit includes contacts. | P | | Pin | 2 |
| MA2LAP1200S-KIT | Receptacle Kit, straight, flange mount, **Checkmate™.** Kit includes contacts. | P | Socket | | 2 |
| MA2JAP1200 | Receptacle extension, **Checkmate™** | P | Socket | Pin | 3 |
| MA5RAP1201* | Receptacle, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | P | Socket | Pin | 4 |
| MA5RAP1202* | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | P | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 150 | | | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA1CAE1200 | Plug, straight, threaded | E | Pin | Socket | 6 |
| MA1EAE1200 | Plug, 90° rotatable, threaded | E | Pin | Socket | 7 |
| MA1LAP1200 | Receptacle, straight, flange mount, threaded | P | | Pin | 8 |
| MA1LAP1200-KIT | Receptacle kit, straight, threaded, flange mount Kit includes contacts | P | | Pin | 8 |
| MA1LAP1200S-KIT | Receptacle kit, straight, threaded, flange mount. Kit includes contacts | P | Socket | | 8 |
| MA3TNP1200-S1 | Receptacle, bulkhead, threaded | P | Socket | Pin | 9 |
| MA3TNP1200-S2 | Receptacle, bulkhead, threaded | P | Socket | Pin | 10 |
| MA3TNP1200-S3 | Receptacle, bulkhead, threaded | P | Socket | Pin | 11 |
| MA1JAP1200 | Receptacle extension, threaded | P | Socket | Pin | 12 |
| MA7RAP1201* | Receptacle, 90° rotatable, threaded Standard Flange (25.7x25.7) | P | Socket | Pin | 13 |
| MA7RAP1202* | Receptacle, 90° rotatable, threaded Large Flange (28.0x28.0) | P | Socket | Pin | 14 |
| ↑ Contacts supplied separately see Chart 1 page 150 | | | | | |

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 24-28 (0.25 - 0.10 $mm^2$)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 15 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 15 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 15 |
| MA4FSR-A8.5* | Flex Grip™ backshell | 7.5-8.5mm | 16 |
| MA4FSR-A10.5* | Flex Grip™ backshell | 9.5-10.5mm | 16 |
| MA4FSR-A12.8* | Flex Grip™ backshell | 11.5-12.8mm | 16 |

*Must be potted to achieve IP67 ratings.

## Contacts

CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |

## Checkmate™ Dimensions Straight Plugs

*See Chart 1 for contacts options*

Plug, straight, Checkmate™

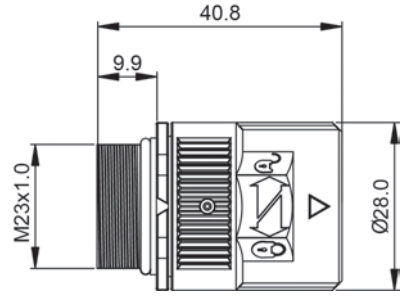



Figure 1 MA2CAE1200

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Checkmate™ Dimensions Receptacles

*See Chart 1 for contacts options*

### Receptacle, straight, flange mount, Checkmate™

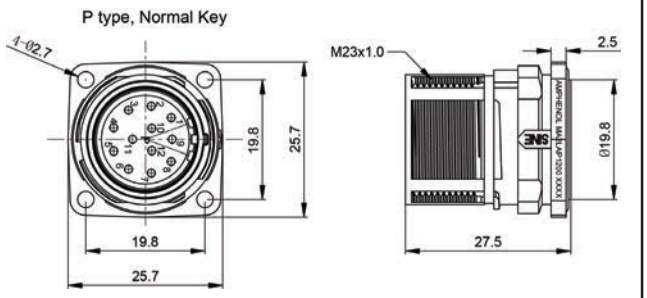



Figure 2

MA2LAP1200
MA2LAP1200-KIT
MA2LAP1200S-KIT

### Receptacle, extension, Checkmate™

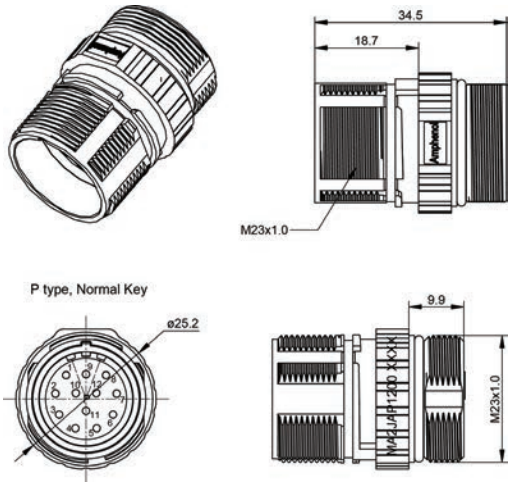



Figure 3

MA2JAP1200

*See Chart 1 for contacts options*

### Receptacle, 90°, Standard Flange (25.7x25.7)

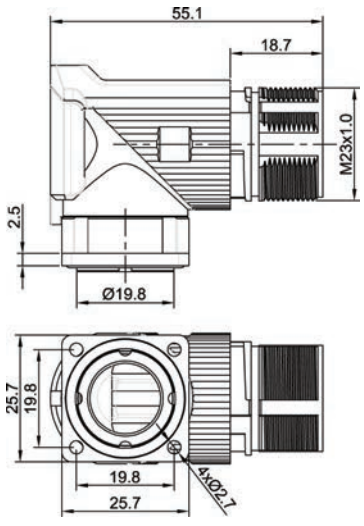



Figure 4

MA5RAP1201

### Receptacle, 90°, Large Flange (28.0x28.0)

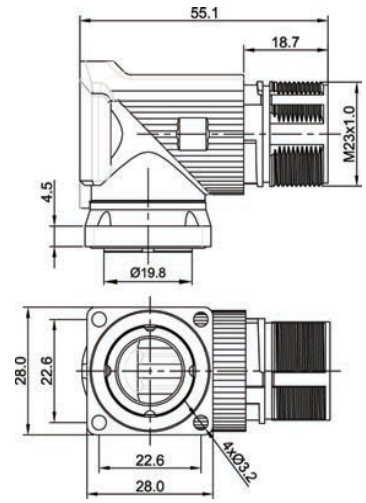



Figure 5

MA5RAP1202

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions Straight Plug/ Plug Kits

*See Chart 1 for contacts options*

Plug, straight, threaded

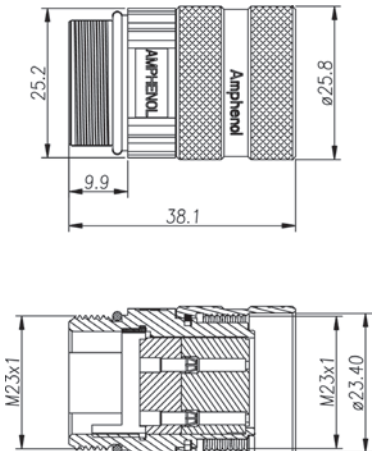



Figure 6 MA1CAE1200

Plug, 90°, threaded

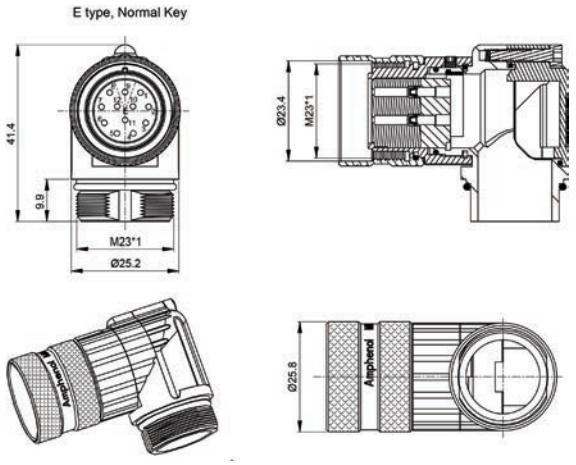



Figure 7 MA1EAE1200

## Threaded Dimensions Straight Receptacles /Receptacle Kits

*See Chart 1 for contacts options*

Receptacle, straight, flange mount, threaded

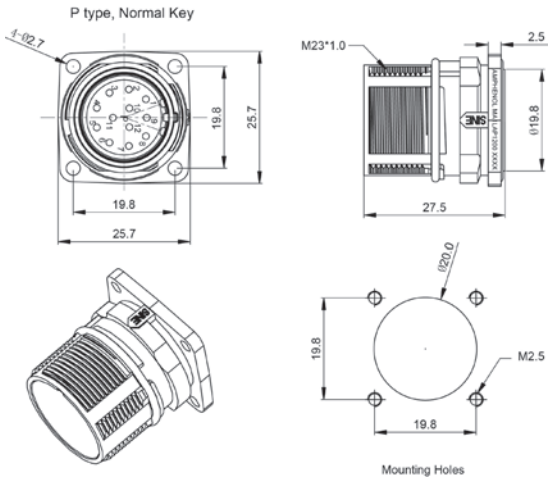



Figure 8

MA1LAP1200
MA1LAP1200-KIT
MA1LAP1200S-KIT

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions Bulkhead Receptacles / Receptacle Extension

*See Chart 1 for contacts options*

### Receptacle, bulkhead, threaded, 4.5-7.5mm Cord Grip

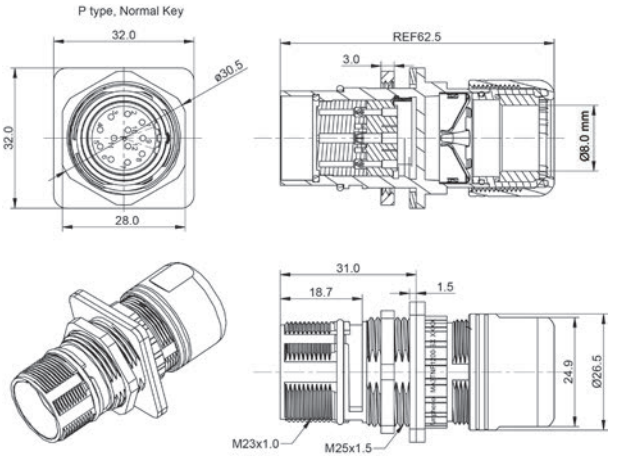



Figure 9 MA3TNP1200-S1

### Receptacle, bulkhead, threaded, 7.5-11mm Cord Gripf

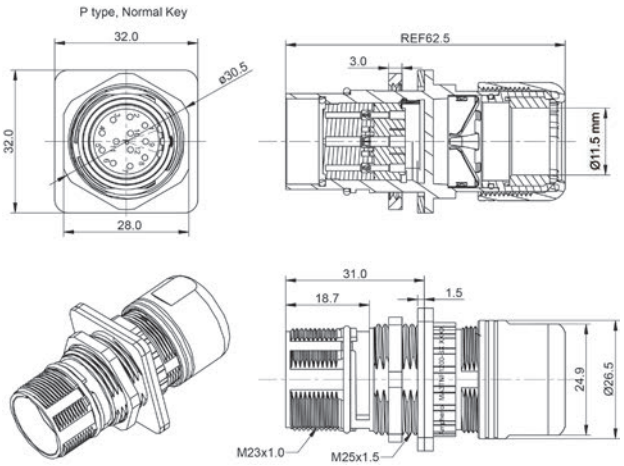



Figure 10 MA3TNP1200-S2

### Receptacle, bulkhead, threaded, 11-15mm Cord Grip

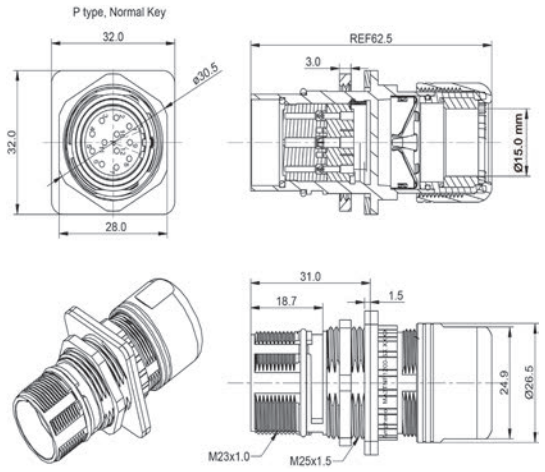



Figure 11 MA3TNP1200-S3

### Receptacle, extension, threaded

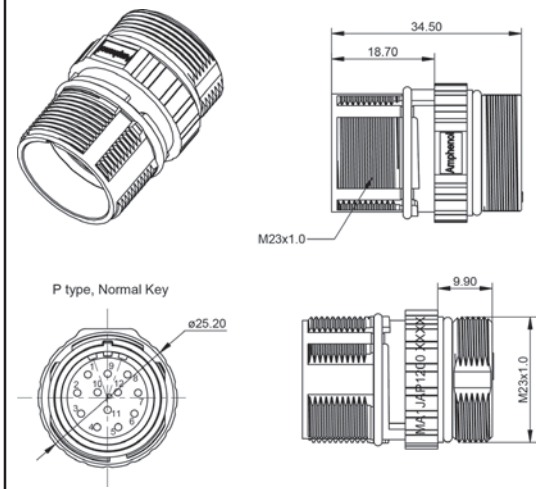



Figure 12 MA1JAP1200

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 22-18 (0.37 - 0.75 $mm^2$)/ 24-28 (0.25 - 0.10 $mm^2$)

## Threaded Dimensions 90° Rotatable Receptacles

*See Chart 1 for contacts options*

Receptacle, 90°, Standard Flange (25.7x25.7)

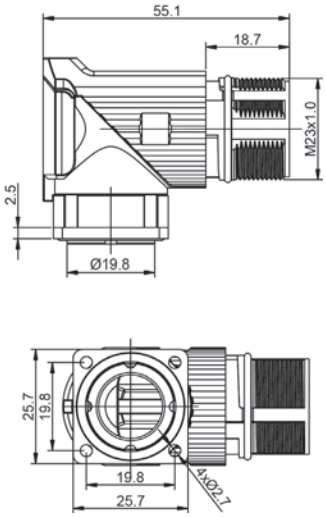



Figure 13 MA7RAP1201

Receptacle, 90°, Large Flange (28.0x28.0)

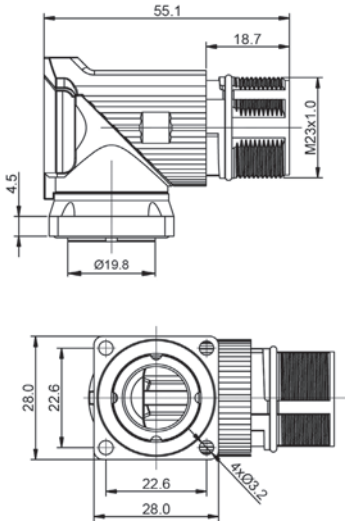
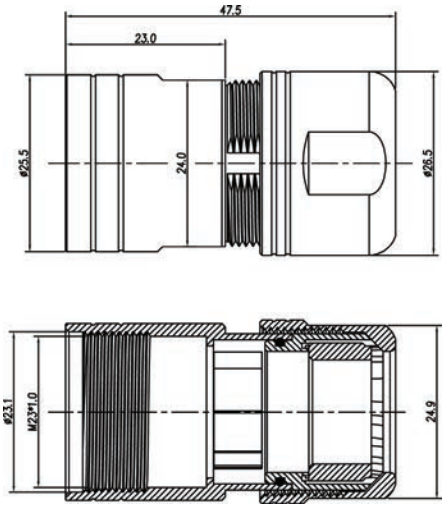



Figure 14 MA7RAP1202

## Dimensions Cord Grips / Backshells

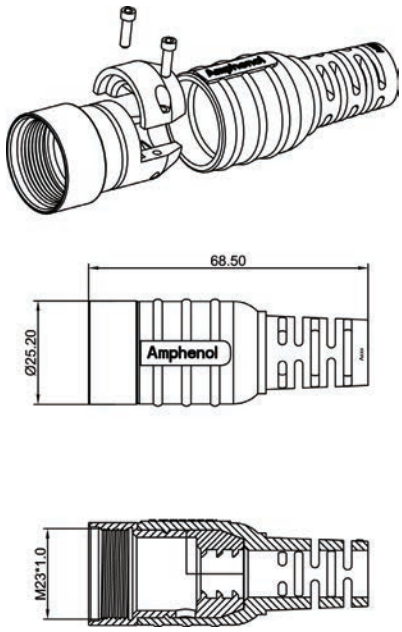
Cord Grips




MA6CG-S1
MA6CG-S2
MA6CG-S3

Figure 15

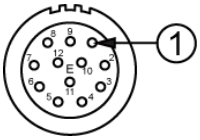
Flex Grip™ backshell




MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

Figure 16

Complete datasheets can be found at www.amphenol-sine.com



**12 POSITIONS**
**10A / 160V**
**E type**

**Style: E type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

Dust Cap for Plug, threaded

P31660

Dust Cap for Plug, Checkmate™

P31660

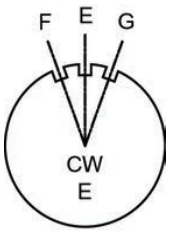
* The universal positioner is not included with the crimp tools and must be ordered separately.

Complete datasheets can be found at www.amphenol-sine.com

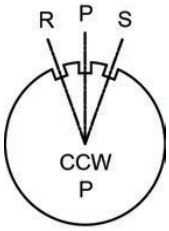
# Connector Solutions M23 Standard Series

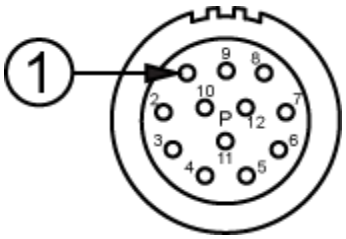
| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 16 for connector configurations




### Plugs

MA1CAP1200

MA1EAP1200

MA2CAP1200

### Receptacles

MA1LAE1200

MA7RAE1201
MA7RAE1202

MA1JAE1200

MA3TNE1200-S1
MA3TNE1200-S2
MA3TNE1200-S3

MA2LAE1200

MA5RAE1201
MA5RAE1202

MA2JAE1200

### Cord Grips

MA6CG-S1
MA6CG-S2
MA6CG-S3

### FlexGrip™ Backshell System

MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

more about FlexGrip™ on page 282

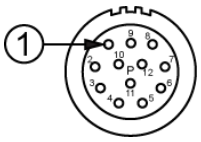
**BULK CABLE starts on page 23**

### Receptacle Kits

MA1LAE1200-KIT
MA1LAE1200S-KIT

MA2LAE1200-KIT
MA2LAE1200S-KIT

CONTACTS SOLD SEPARATELY SEE PAGE 158



**12 POSITIONS**
**10A / 160V**
**P type**

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Checkmate™ Connector Part Numbers

Check Mate™ Quick Locking Connectors

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA2CAP1200 | Plug, straight, **Checkmate™** | P | Pin | Socket | 1 |
| MA2LAE1200 | Receptacle, straight, flange mount, **Checkmate™** | E | Socket | Pin | 2 |
| MA2LAE1200-KIT | Receptacle kit, straight, flange mount, **Checkmate™** Kit includes contacts | E | | Pin | 2 |
| MA2LAE1200S-KIT | Receptacle kit, straight, flange mount, **Checkmate™** Kit includes contacts | E | Socket | | 2 |
| MA2JAE1200 | Receptacle extension, **Checkmate™** | E | Socket | Pin | 3 |
| MA5RAE1201* | Receptacle, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | E | Socket | Pin | 4 |
| MA5RAE1202* | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | E | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 158 | | | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA1CAP1200 | Plug, straight, threaded | P | Pin | Socket | 6 |
| MA1EAP1200 | Plug, 90° rotatable, threaded | P | Pin | Socket | 7 |
| MA1LAE1200 | Receptacle, straight, flange mount, threaded | E | Socket | Pin | 8 |
| MA1LAE1200-KIT | Receptacle kit, straight, threaded. Contacts included | E | | Pin | 8 |
| MA1LAE1200S-KIT | Receptacle kit, straight, threaded. Contacts included | E | Socket | | 8 |
| MA3TNE1200-S1 | Receptacle, bulkhead, threaded, 4.5-7.5mm | E | Socket | Pin | 9 |
| MA3TNE1200-S2 | Receptacle, bulkhead, threaded, 7.5-11mm | E | Socket | Pin | 10 |
| MA3TNE1200-S3 | Receptacle, bulkhead, threaded, 11.0-15mm | E | Socket | Pin | 11 |
| MA1JAE1200 | Receptacle extension, threaded | E | Socket | Pin | 12 |
| MA7RAE1201* | Receptacle, 90° rotatable, threaded Standard Flange (25.7x25.7) | E | Socket | Pin | 13 |
| MA7RAE1202* | Receptacle, 90° rotatable, threaded Large Flange (28.0x28.0) | E | Socket | Pin | 14 |
| ↑ Contacts supplied separately see Chart 1 page 158 | | | | | |

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266

*part numbers continued on next page*

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 24-28 (0.25 - 0.10 $mm^2$)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 15 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 15 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 15 |
| MA4FSR-A8.5* | Flex Grip™ backshell | 7.5-8.5mm | 16 |
| MA4FSR-A10.5* | Flex Grip™ backshell | 9.5-10.5mm | 16 |
| MA4FSR-A12.8* | Flex Grip™ backshell | 11.5-12.8mm | 16 |

*Must be potted to achieve IP67 ratings.

## Contacts

Machined Contacts

CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |

## Checkmate™ Dimensions Straight Plugs

*See Chart 1 for contacts options*

Plug, straight, Checkmate™

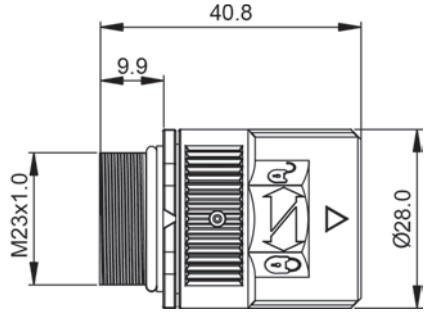



Figure 1 MA2CAP1200

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Checkmate™ Dimensions Receptacles

*See Chart 1 for contacts options*

### Receptacle, straight, flange mount, Checkmate™

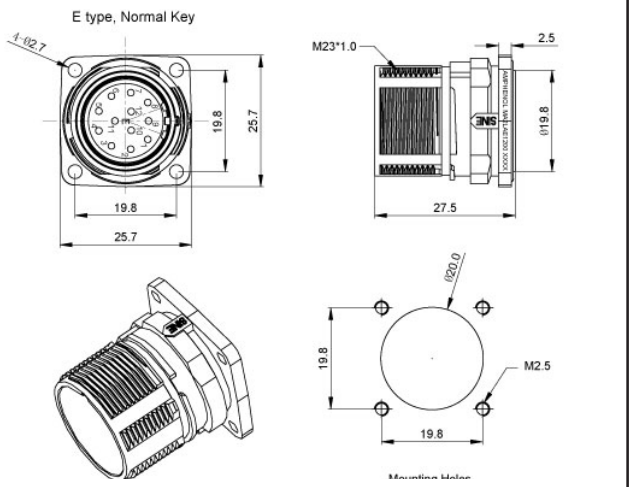



Figure 2 MA2LAE1200

### Receptacle extension, Checkmate™

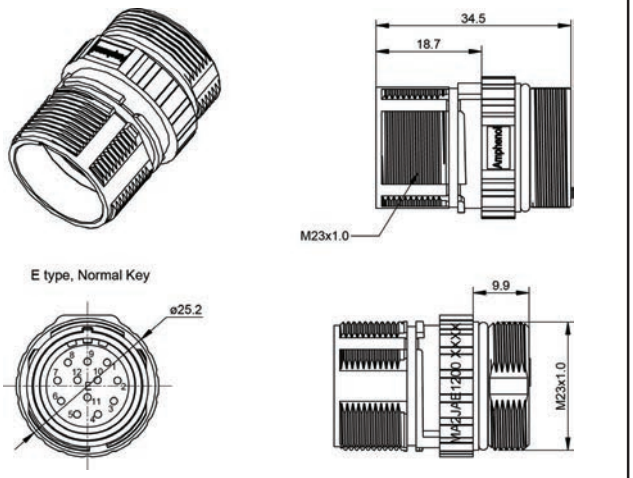



Figure 3 MA2JAE1200

*See Chart 1for contacts options*

### Receptacle, 90°, Standard Flange (25.7x25.7)

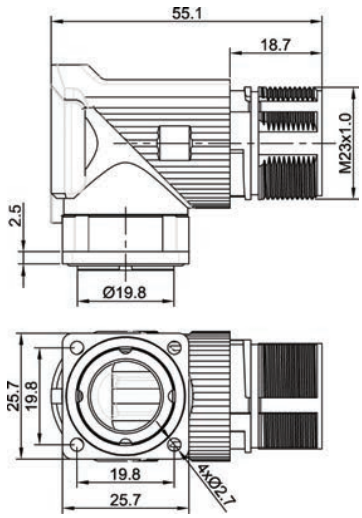



Figure 4 MA5RAE1201

### Receptacle, 90°, Large Flange (28.0x28.0)

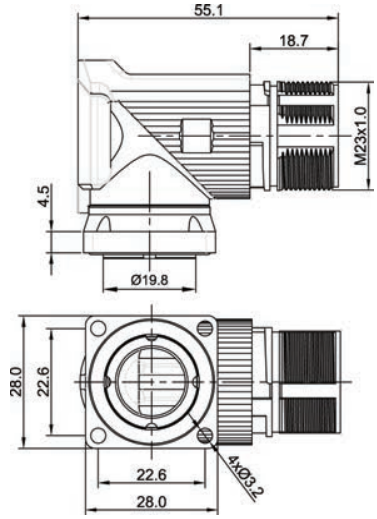



Figure 5 MA5RAE1202

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions Plugs

*See Chart 1 for contacts options*

### Plug, straight, threaded

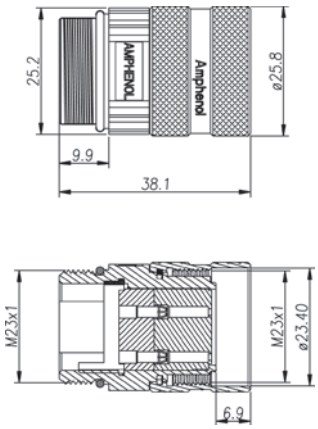



Figure 6 MA1CAP1200

### Plug, 90° rotatable, threaded

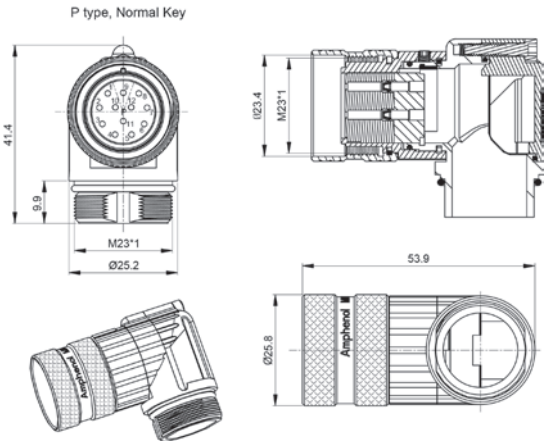



Figure 7 MA1EAP1200

## Threaded Dimensions Straight Receptacles

*See Chart 1 for contacts options*

### Receptacle, straight, flange mount, threaded

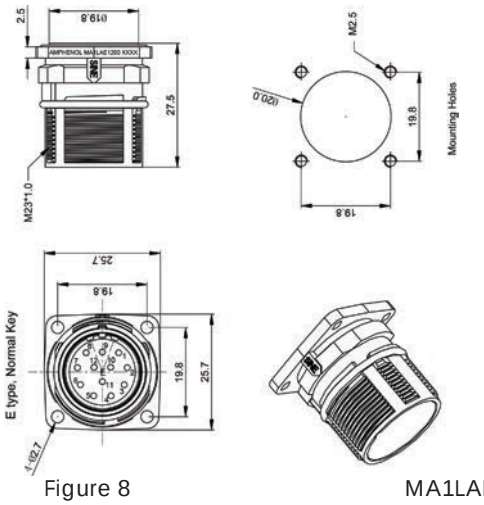



Figure 8 MA1LAE1200

### Receptacle Kit, straight, threaded

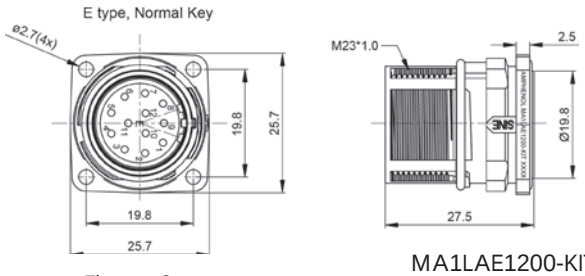
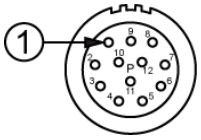



Figure 9 MA1LAE1200-KIT
MA1LAE1200S-KIT

Complete datasheets can be found at www.amphenol-sine.com





**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Bulkhead Receptacles

*See Chart 1 for contacts options*

### Receptacle, bulkhead, threaded, 4.5-7.5mm Cord Grip

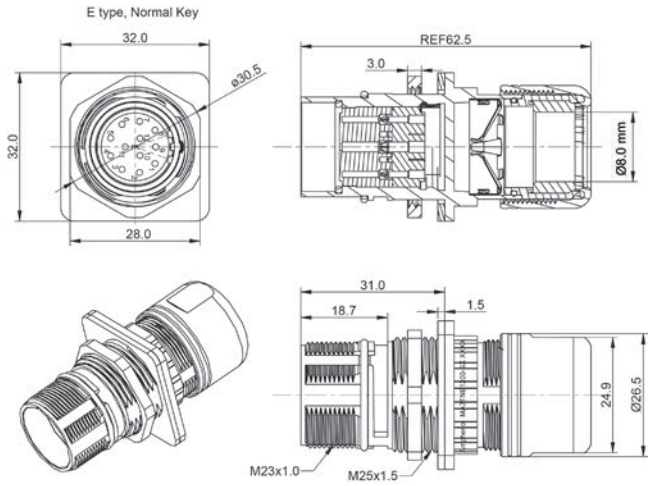



Figure 10 MA3TNE1200-S1

### Receptacle, bulkhead, threaded, 7.5-11mm Cord Grip

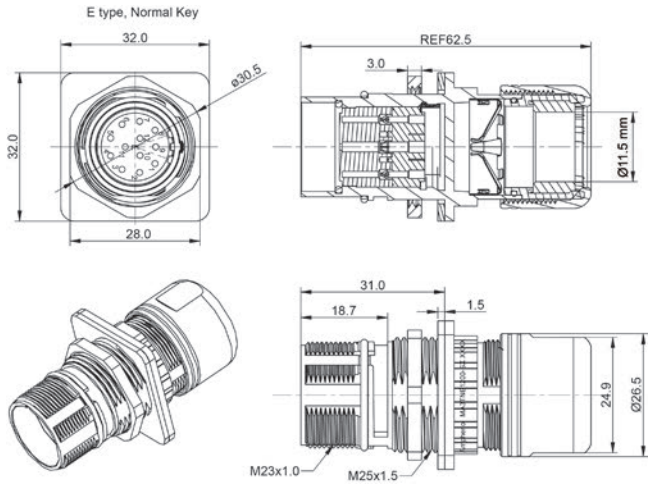



Figure 11 MA3TNE1200-S2

### Receptacle, bulkhead, threaded, 11-15mm Cord Grip

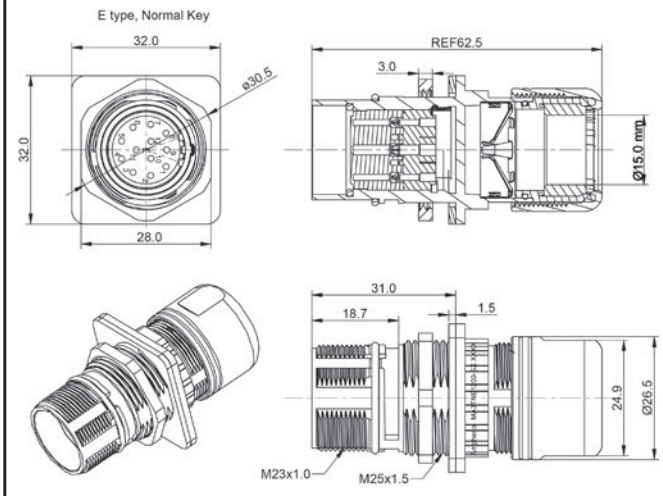



Figure 12 MA3TNE1200-S3

### Receptacle extension, threaded

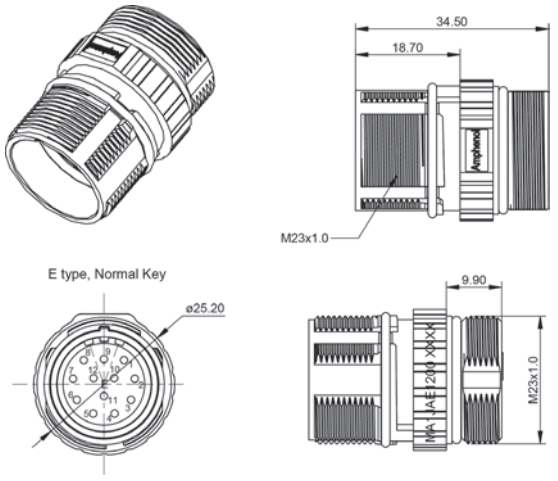



Figure 13 MA1JAE1200


Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions 90° Rotatable Receptacles

*See Chart 1 for contacts options*

Receptacle, 90°, Standard Flange (25.7x25.7)

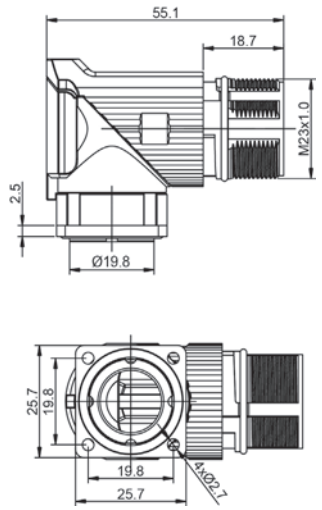



Figure 14 MA7RAE1201

Receptacle, 90°, Large Flange (28.0x28.0)

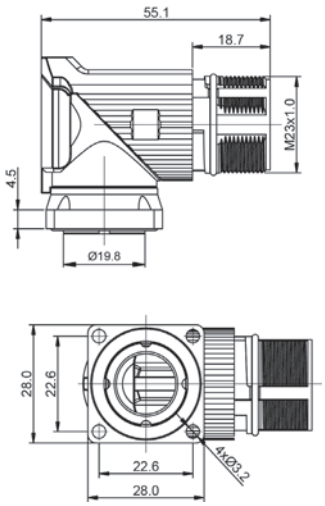



Figure15 MA7RAE1202

## Cord Grips / Backshells

Cord Grips

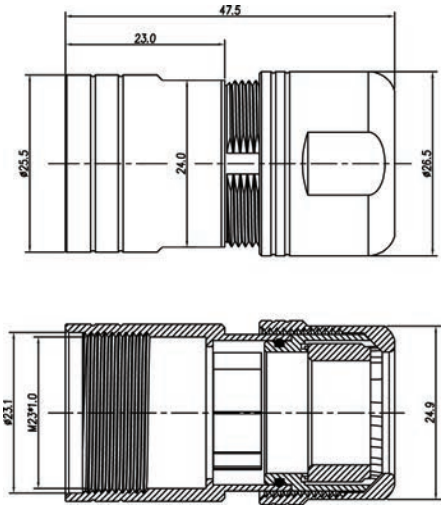



Figure 16 MA6CG-S1
MA6CG-S2
MA6CG-S3

Flex Grip™ backshell

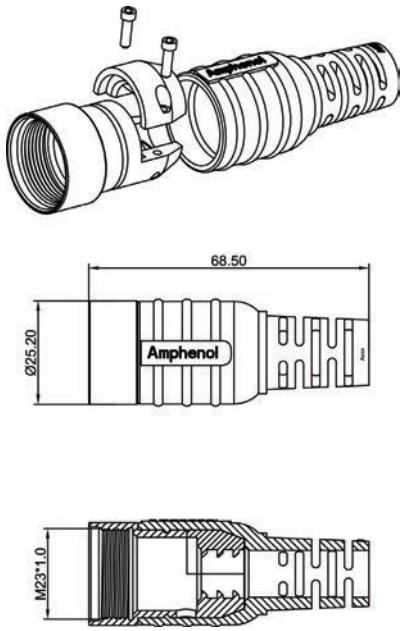
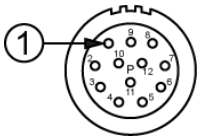



Figure 17 MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

Complete datasheets can be found at www.amphenol-sine.com





**Style: P type Plug** **Number of Contacts: 12** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with the crimp tools WA22 and AFM8. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Threaded

P31660

Dust Cap for Plug, Checkmate™

P31662

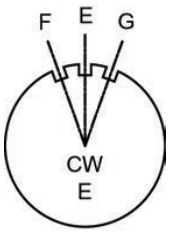
* The universal positioner is not included with the crimp tools and must be ordered separately.

Complete datasheets can be found at www.amphenol-sine.com

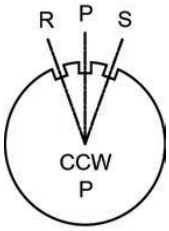
# Connector Solutions M23 Standard Series

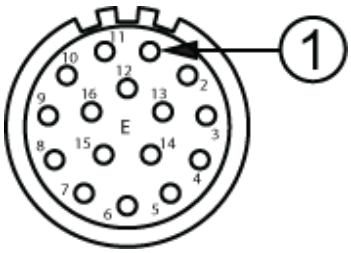
| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 16 for connector configurations




### Plugs

MA1CAE1600

MA1EAE1600

MA2CAE1600

### Receptacles

MA1LAP1600

MA7RAP1602

MA1JAP1600

MA3TNP1600-S1
MA3TNP1600-S2
MA3TNP1600-S3

MA2LAP1600

MA5RAP1601
MA5RAP1602

MA2JAP1600

### Cord Grips

MA6CG-S1
MA6CG-S2
MA6CG-S3

### FlexGrip™ Backshell System

MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

more about FlexGrip™ on page 281

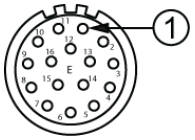
**BULK CABLE starts on page 23**

### Receptacle Kits

MA1LAP1600-KIT
MA1LAP1600S-KIT

MA2LAP1600-KIT
MA2LAP1600S-KIT

CONTACTS SOLD SEPARATELY SEE PAGE 166



**16 POSITIONS**
**9A / 125V**
**E type**

**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Checkmate™ Connector Part Numbers

Check Mate™ Quick Locking Connectors

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA2CAE1600 | Plug, straight, **Checkmate™** | E | Pin | Socket | 1 |
| MA2LAP1600 | Receptacle, straight, flange mount, **Checkmate™** | P | Socket | Pin | 2 |
| MA2LAP1600-KIT | Receptacle Kit, straight, flange mount, **Checkmate™** | P | Pin | | 2 |
| MA2LAP1600S-KT | Receptacle Kit, straight, flange mount, **Checkmate™** | P | Socket | | 2 |
| MA2JAP1600 | Receptacle extension, **Checkmate™** | P | Socket | Pin | 3 |
| MA5RAP1601* | Receptacle, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | P | Socket | Pin | 4 |
| MA5RAP1602* | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | P | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 166 | | | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA1CAE1600 | Plug, straight, threaded | E | Pin | Socket | 6 |
| MA1EAE1600 | Plug, 90° rotatable, threaded | E | Socket | Pin | 7 |
| MA1LAP1600 | Receptacle, straight, flange mount, threaded | P | Socket | Pin | 8 |
| MA1LAP1600-KIT | Receptacle kit, threaded. Kit includes contacts | P | | Pin | 8 |
| MA1LAP1600S-KIT | Receptacle kit, threaded. Kit includes contacts | P | Socket | | 8 |
| MA3TNP1600-S1 | Receptacle, bulkhead, threaded, 4.5-7.5mm | P | Socket | Pin | 9 |
| MA3TNP1600-S2 | Receptacle, bulkhead, threaded, 7.5-11mm | P | Socket | Pin | 10 |
| MA3TNP1600-S3 | Receptacle, bulkhead, threaded, 11-15mm | P | Socket | Pin | 11 |
| MA1JAP1600 | Receptacle extension, threaded | P | Socket | Pin | 12 |
| MA7RAP1601* | Receptacle, 90° rotatable, threaded Standard Flange (25.7x25.7) | P | Socket | Pin | 13 |
| MA7RAP1602* | Receptacle, 90° rotatable, threaded Large Flange (28.0x28.0) | P | Socket | Pin | 14 |
| ↑ Contacts supplied separately see Chart 1 page 166 | | | | | |

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266

**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 24-28 (0.25 - 0.10 $mm^2$)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 15 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 15 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 15 |
| MA4FSR-A8.5* | Flex Grip™ backshell | 7.5-8.5mm | 16 |
| MA4FSR-A10.5* | Flex Grip™ backshell | 9.5-10.5mm | 16 |
| MA4FSR-A12.8* | Flex Grip™ backshell | 11.5-12.8mm | 16 |

*Must be potted to achieve IP67 ratings.

## Contacts

CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |

## Checkmate™ Dimensions Straight Plug

*See Chart 1 for contacts options*

Plug, straight, Checkmate™

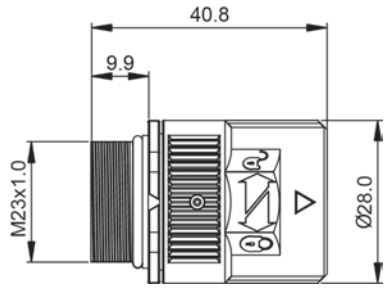



Figure 1 MA2CAE1600

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Checkmate™ Dimensions Receptacles

*See Chart 1 for contacts options*

### Receptacle, straight, flange mount, Checkmate™

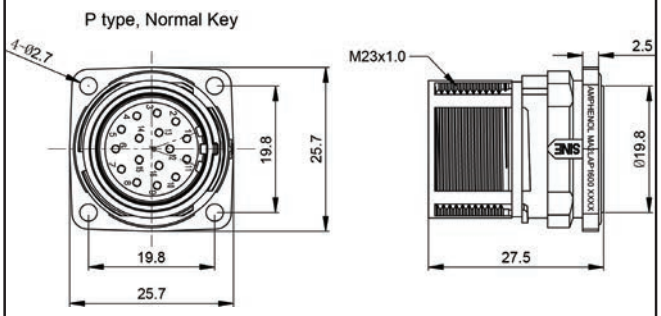



Figure 2 MA2LAP1600

### Receptacle extension, Checkmate™

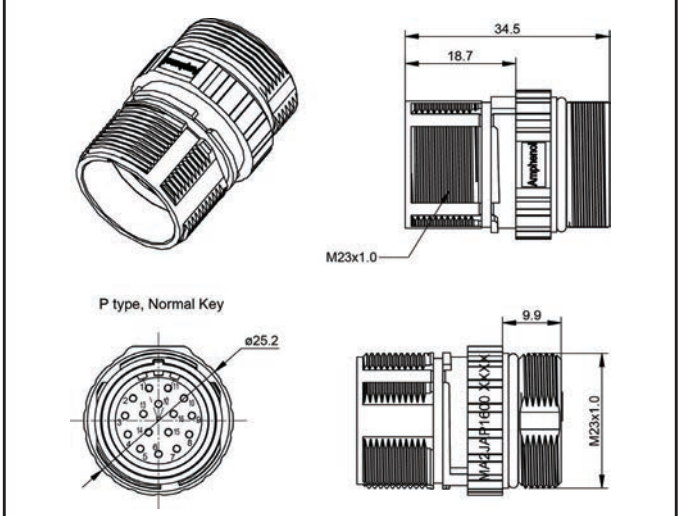



Figure 3 MA2JAP1600

*See Chart 1 for contacts options*

### Receptacle, 90°, Standard Flange (25.7x25.7)

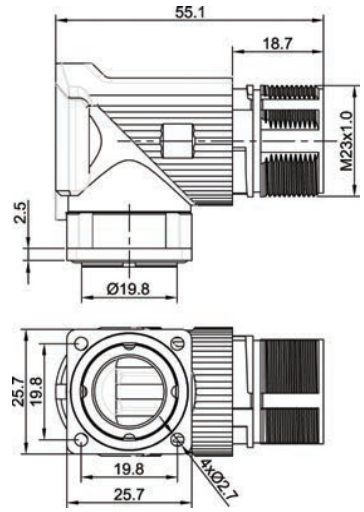



Figure 4 MA5RAP1601

### Receptacle, 90°, Large Flange (28.0x28.0)

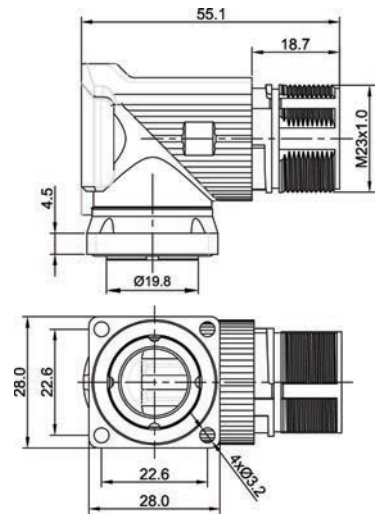



Figure 5 MA5RAP1602

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions Straight Plug/ Plug Kits

*See Chart 1 for contacts options*

Plug, straight, Threaded

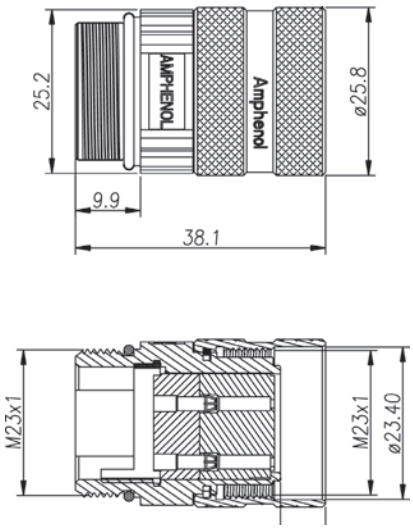



Figure 6 MA1CAE1600

Plug, 90° rotatable, threaded

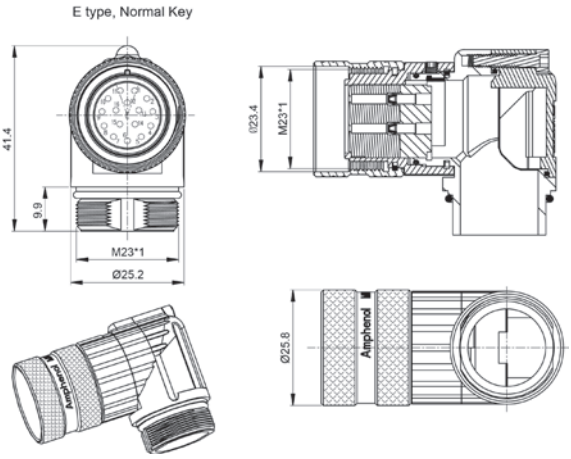
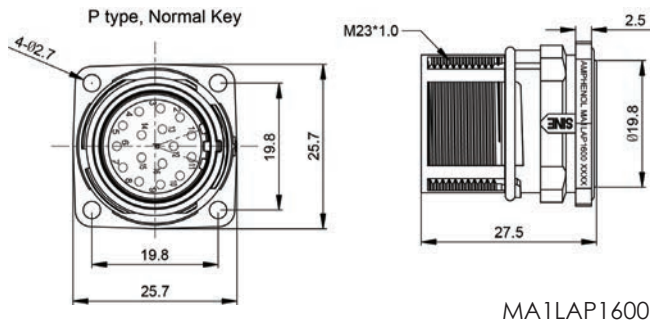



Figure 7 MA1EAE1600

## Threaded Dimensions Straight Receptacle / Receptacle Kit

*See Chart 1 for contacts options*

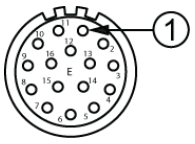
Receptacle Kit, threaded




MA1LAP1600
MA1LAP1600-KIT
MA1LAP1600S-KIT

Figure 8

Complete datasheets can be found at www.amphenol-sine.com



**16 POSITIONS**
**9A / 125V**
**E type**

**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions / Bulkhead Receptacles / Receptacle Extension

*See Chart 1 for contacts options*

### Receptacle, bulkhead, threaded, 4.5-7.5 mm Cord Grip

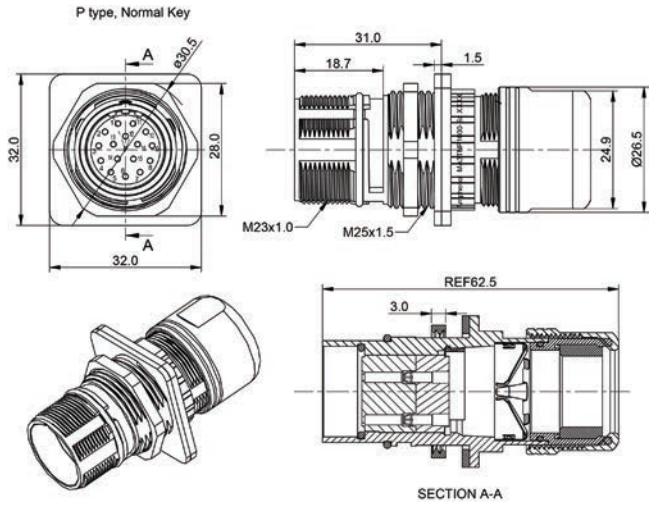



Figure 9 MA3TNP1600-S1

### Receptacle, bulkhead, threaded, 7.5-11 mm Cord Grip

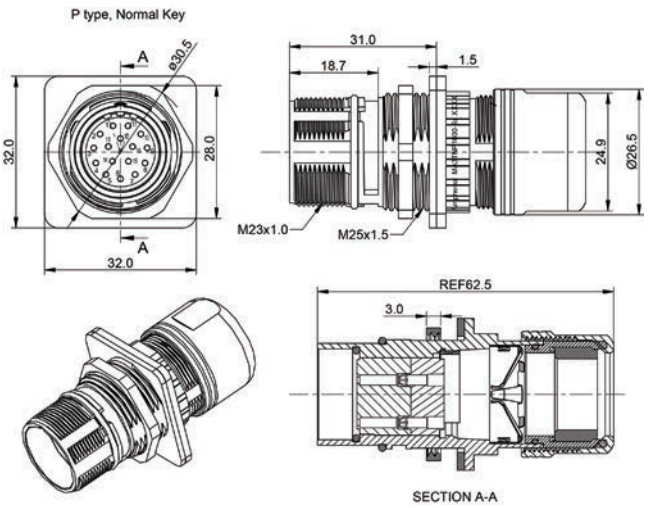



Figure 10 MA3TNP1600-S2

### Receptacle, bulkhead, threaded, 11-15 mm Cord Grip

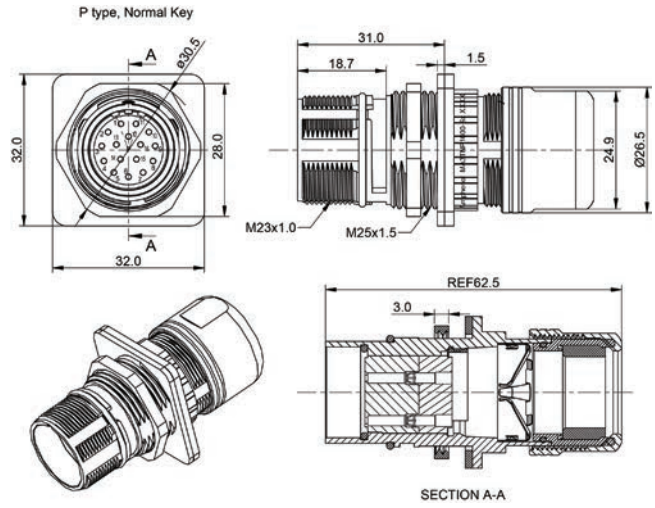



Figure 11 MA3TNP1600-S3

### Receptacle extension, threaded

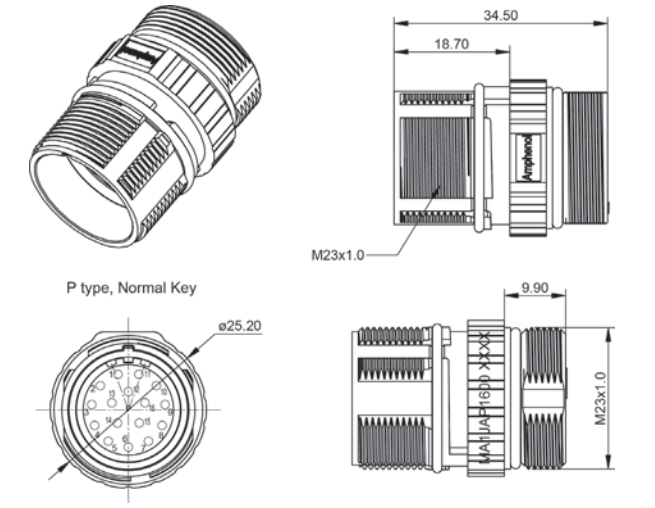



Figure 12 MA1JAP1600

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions 90° Rotatable Receptacles

*See Chart 1 for contacts options*

Receptacle, 90°, Standard Flange (25.7x25.7)

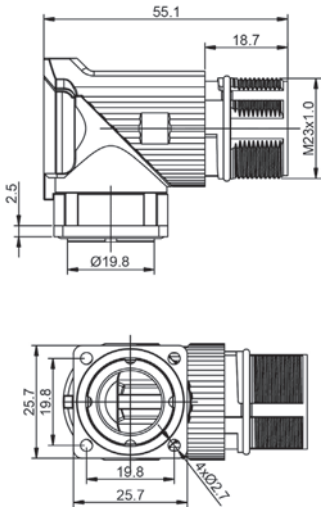



Figure 13 MA7RAP1601

Receptacle, 90°, Large Flange (28.0x28.0)

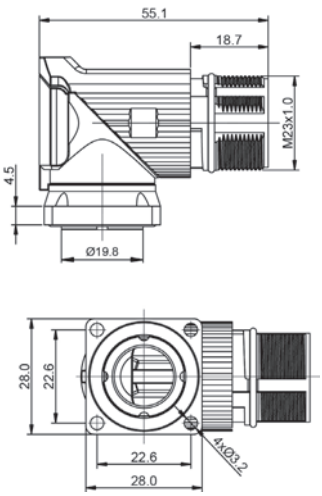



Figure 14 MA7RAP1602

## Dimensions Cord Grips / Backshells

Cord Grips

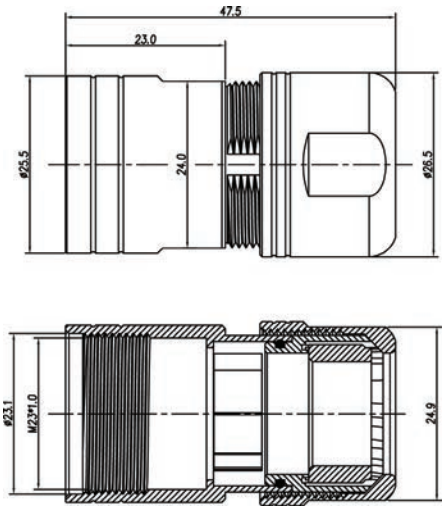



Figure 15 MA6CG-S1 MA6CG-S2 MA6CG-S3

Flex Grip™ backshell

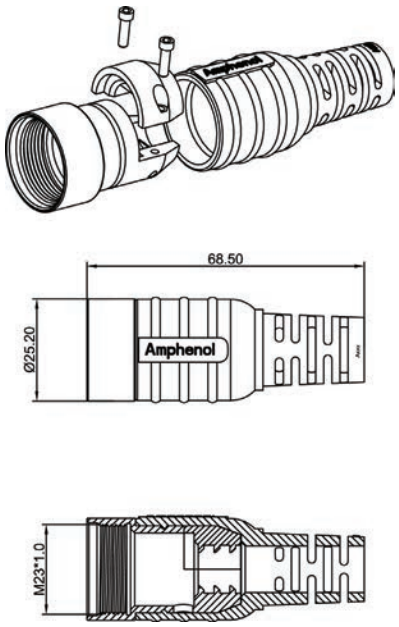
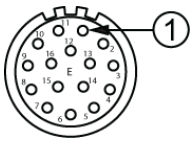



Figure 16 MA4FSR-A8.5 MA4FSR-A10.5 MA4FSR-A12.8



**16 POSITIONS**
**9A / 125V**
**E type**

**Style: E type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

Dust Cap for Plug, threaded

P31660

Dust Cap for Plug, Checkmate™

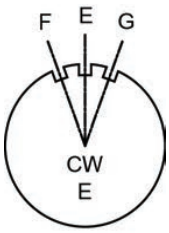
P31662

* The universal positioner is not included with the crimp tools and must be ordered separately.

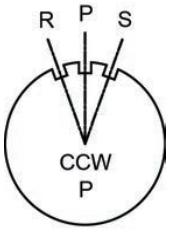
# Connector Solutions M23 Standard Series

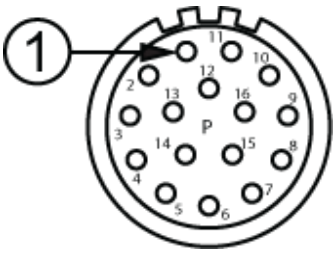
| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 16 for connector configurations




### Plugs

MA1CAP1600

MA1EAP1600

MA2CAP1600

### Receptacles

MA1LAE1600

MA7RAE1601
MA7RAE1602

MA1JAE1600

MA3TNE1600-S1
MA3TNE1600-S2
MA3TNE1600-S3

MA2LAE1600

MA5RAE1601
MA5RAE1602

MA2JAE1600

### Cord Grips

MA6CG-S1
MA6CG-S2
MA6CG-S3

### FlexGrip™ Backshell System

MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

more about FlexGrip™ on page 282

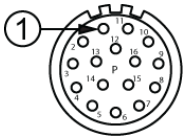
**BULK CABLE starts on page 23**

CONTACTS SOLD SEPARATELY SEE PAGE 174

### Receptacle Kits

MA1LAE1600-KIT
MA1LAE1600S-KIT

MA2LAE1600-KIT
MA2LAE1600S-KIT



**16 POSITIONS**
**9A / 125V**
**P type**



**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Checkmate™ Connector Part Numbers

Check Mate™ Quick Locking Connectors

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA2CAP1600 | Plug, straight **Checkmate™** | P | Pin | Socket | 1 |
| MA2LAE1600 | Receptacle, straight, flange mount, **Checkmate™** | E | Socket | Pin | 2 |
| MA2LAE1600-KIT | Receptacle Kit, straight, flange mount, **Checkmate™** | E | Pin | | 2 |
| MA2LAE1600S-KIT | Receptacle Kit, straight, flange mount, **Checkmate™** | E | | Socket | 2 |
| MA2JAE1600 | Receptacle extension, **Checkmate™** | E | Socket | Pin | 3 |
| MA5RAE1601* | Receptacle, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | E | Socket | Pin | 4 |
| MA5RAE1602* | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | E | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 174 | | | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA1CAP1600 | Plug, straight, threaded | P | Pin | Socket | 6 |
| MA1EAP1600 | Plug, 90° rotatable, threaded | P | Pin | Socket | 7 |
| MA1LAE1600 | Receptacle, straight, flange mount, threaded | E | Socket | Pin | 8 |
| MA1LAE1600-KIT | Receptacle kit, straight, threaded. Contacts Included | E | | Pin | 8 |
| MA1LAE1600S-KIT | Receptacle kit, straight, threaded. Contacts included | E | Socket | | 8 |
| MA3TNE1600-S1 | Receptacle, bulkhead, threaded, 4.5-7.5mm | E | Socket | Pin | 9 |
| MA3TNE1600-S2 | Receptacle, bulkhead, threaded, 7.5-11.0mm | E | Socket | Pin | 10 |
| MA3TNE1600-S3 | Receptacle, bulkhead, threaded, 11.0-15.0mm | E | Socket | Pin | 11 |
| MA7RAE1601* | Receptacle, 90° rotatable, threaded Standard Flange (25.7x25.7) | E | Socket | Pin | 12 |
| MA7RAE1602* | Receptacle, 90° rotatable, threaded Large Flange (28.0x28.0) | E | Socket | Pin | 13 |
| MA1JAE1600 | Receptacle extension, threaded | E | Socket | Pin | 14 |
| ↑ Contacts supplied separately see Chart 1 page 174 | | | | | |

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266

**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 24-28 (0.25 - 0.10 $mm^2$)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 15 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 15 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 15 |
| MA4FSR-A8.5* | Flex Grip™ backshell | 7.5-8.5mm | 16 |
| MA4FSR-A10.5* | Flex Grip™ backshell | 9.5-10.5mm | 16 |
| MA4FSR-A12.8* | Flex Grip™ backshell | 11.5-12.8mm | 16 |

*Must be potted to achieve IP67 ratings.

## Contacts

CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |

## Checkmate™ Dimensions Straight Plug

*See Chart 1 for contacts options*

Plug, Checkmate™

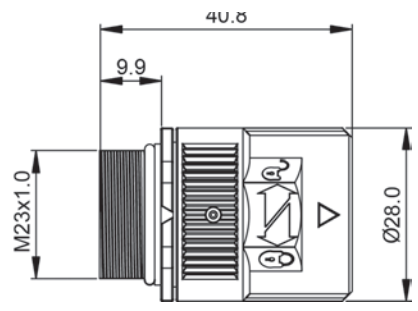



Figure 1 MA2CAP1600

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

# Checkmate™ Dimensions Receptacles

*See Chart 1 for contacts options*

## Receptacle, straight, flange mount, Checkmate™

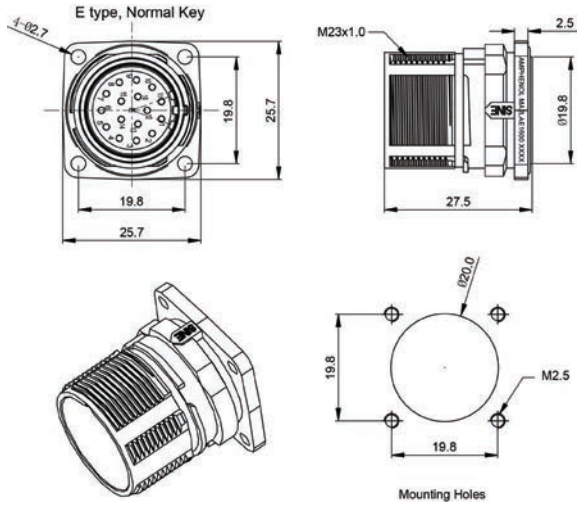



Figure 2

MA2LAE1600
MA2LAE1600-KIT
MA2LAE1600S-Kit

## Receptacle extension, Checkmate™

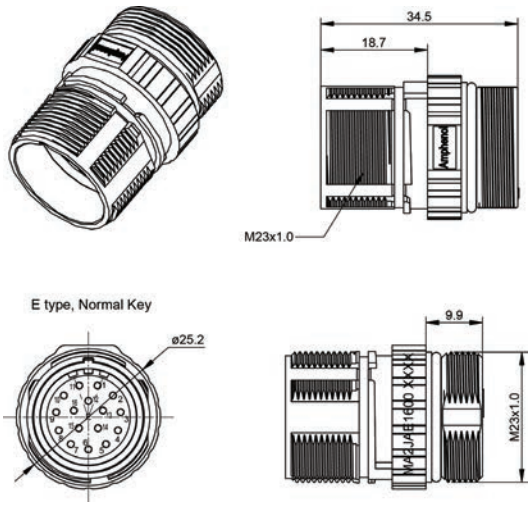



Figure 3

MA2JAE1600

*See Chart 1 for contacts options*

## Receptacle, 90°, Standard Flange (25.7x25.7)

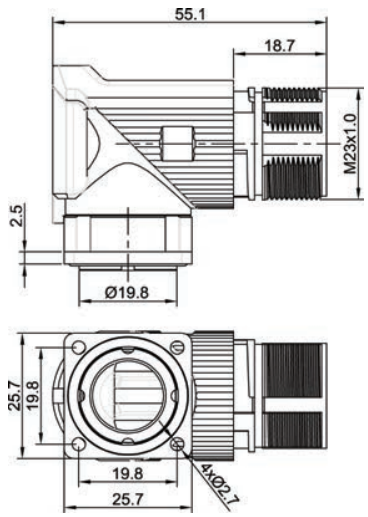



Figure 4

MA5RAE1601

## Receptacle, 90°, Large Flange (28.0x28.0)

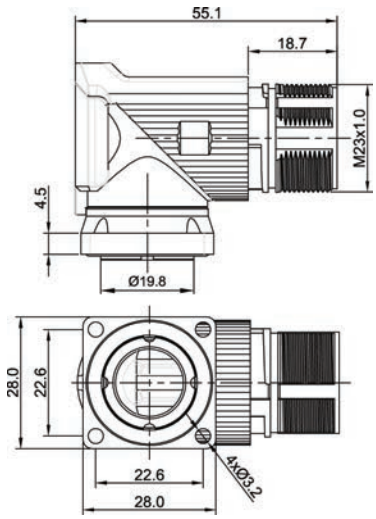



Figure 5

MA5RAE1602

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions Straight Plug/ 90° Plug / Plug Kits

*See Chart 1 for contacts options*

Plug, straight, threaded

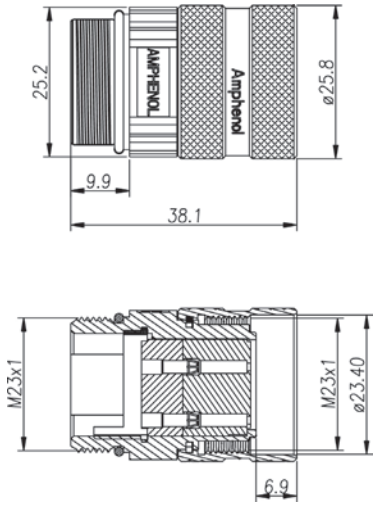



Figure 6 MA1CAP1600

Plug, 90° rotatable, threaded

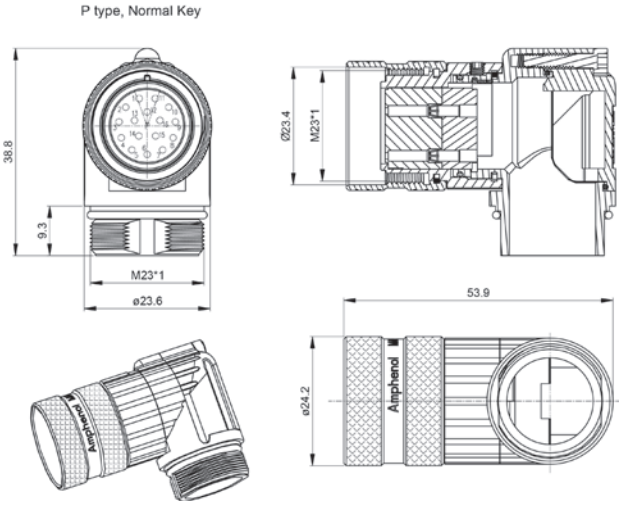



Figure 7 MA1EAP1600

## Threaded Dimensions Straight Receptacles /Receptacle Kits

*See Chart 1 for contacts options*

Receptacle, straight, flange mount, threaded

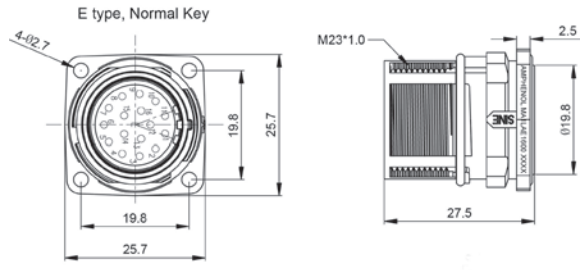



Figure 8

MA1LAE1600
MA1LAE1600-KIT
MA1LAE1600S-KIT

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions Receptacles

*See Chart 1 for contacts options*

### Receptacle, bulkhead, straight threaded; 4.5-7.5mm Cord Grip

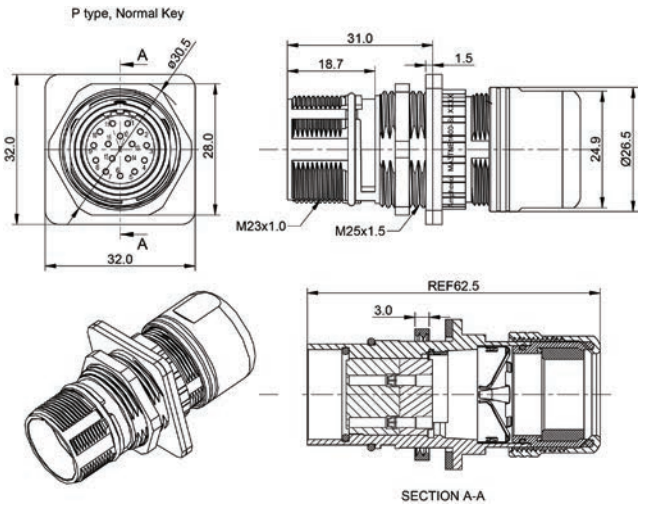



Figure 9 MA3TNE1600-S1

### Receptacle, bulkhead, straight threaded; 7.5-11mm Cord Grip

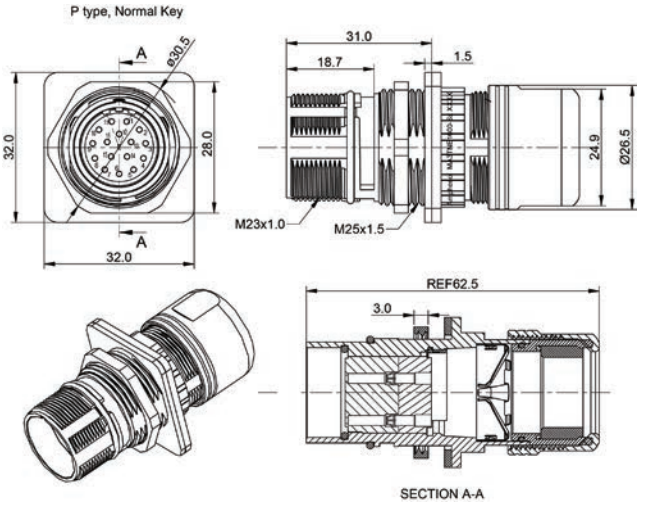



Figure 10 MA3TNE1600-S2

### Receptacle, bulkhead, straight threaded; 11-15mm Cord Grip

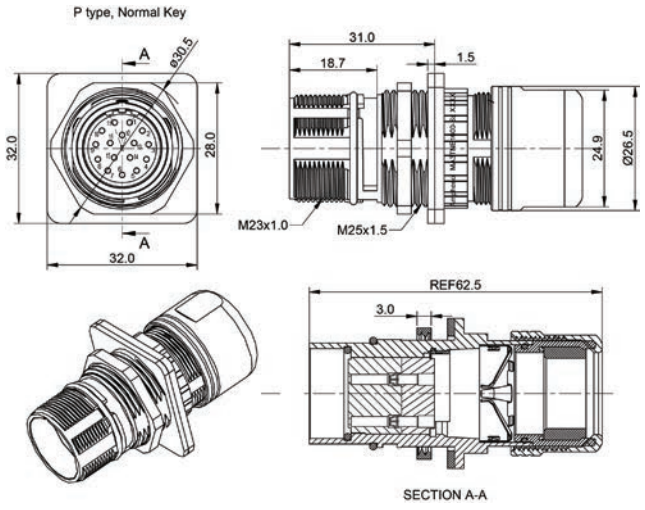



Figure 11 MA3TNE1600-S3

### Receptacle extension, threaded

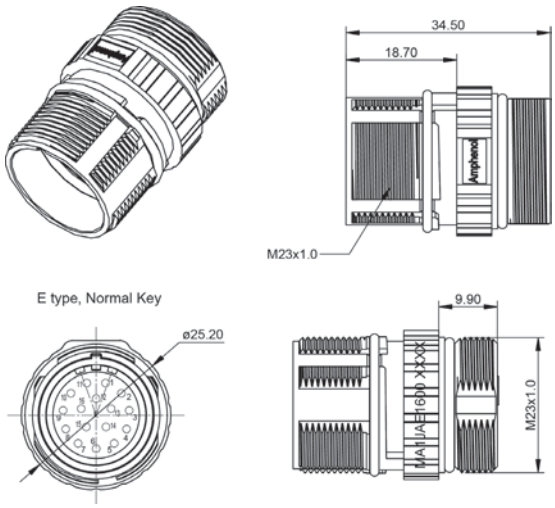



Figure 12 MA1JAE1600

**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions 90° Rotatable Receptacles

*See Chart 1 for contacts options*

Receptacle, 90°, Standard Flange (25.7x25.7)

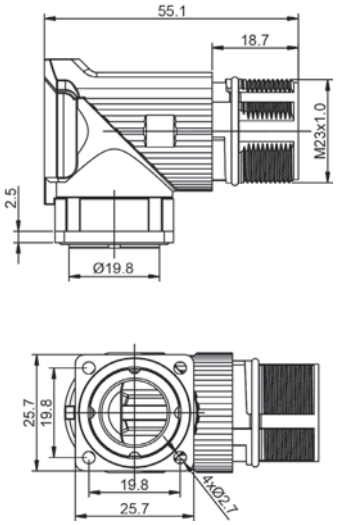



Figure 13 MA7RAE1601

Receptacle, 90°, Large Flange (28.0x28.0)

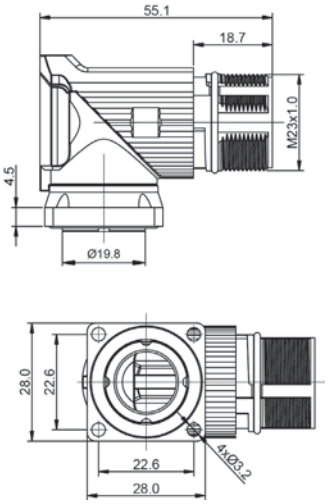



Figure 14 MA7RAE1602

## Dimensions Cord Grips / Backshells

Cord Grips

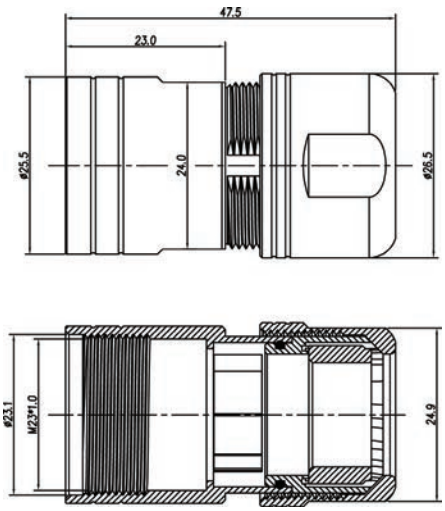



Figure 15

MA6CG-S1
MA6CG-S2
MA6CG-S3

Cord Grips

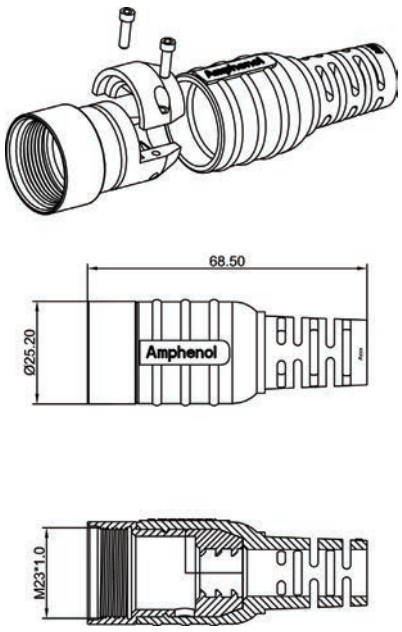
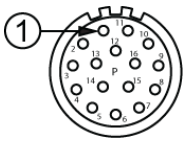



Figure 16

MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

Complete datasheets can be found at www.amphenol-sine.com



**16 POSITIONS**
**9A / 125V**
**P type Plug**

**Style: P type Plug** **Number of Contacts: 16** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

Dust Cap for Plug, threaded

P31660

Dust Cap for Plug, Checkmate™

P31662

* The universal positioner is not included with the crimp tools and must be ordered separately.

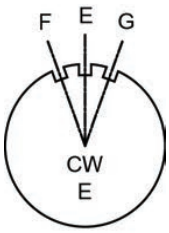
Complete datasheets can be found at www.amphenol-sine.com

# Connector Solutions M23 Standard Series

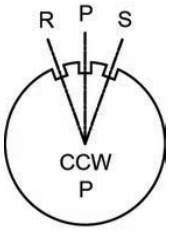
| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

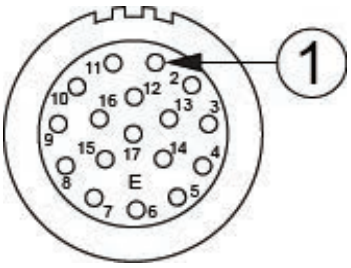
SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 182




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 16 for connector configurations




### Plugs

MA1CAE1700

MA1EAE1700

MA2CAE1700

### Receptacles

MA1LAP1700

MA7RAP1701
MA7RAP1702

MA1JAP1700

MA3TNP1700-S1
MA3TNP1700-S2
MA3TNP1700-S3

MA2LAP1700

MA5RAP1701
MA5RAP1702

MA2JAP1700

### Cord Grips

MA6CG-S1
MA6CG-S2
MA6CG-S3

### FlexGrip™ Backshell System

MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

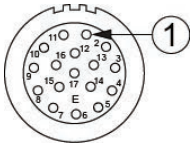
more about FlexGrip™ on page 282

**BULK CABLE starts on page 23**

### Receptacle Kits

MA1LAP1700-KIT
MA1LAP1700S-KIT

MA2LAP1700-KIT
MA2LAP1700S-KIT



**17 POSITIONS**
**9A / 125V**
**E type**



**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

CheckMate™ Quick Locking Connectors

## Checkmate™ Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA2CAE1700 | Plug, straight, **Checkmate™** | E | Pin | Socket | 1 |
| MA2LAP1700 | Receptacle, straight, flange mount **Checkmate™** | P | Socket | Pin | 2 |
| MA2LAP1700-KIT | Receptacle kit, straight, flange mount **Checkmate™** | P | | Pin | 2 |
| MA2LAP1700S-KIT | Receptacle kit, straight, flange mount **Checkmate™** | P | Socket | | 2 |
| MA2JAP1700 | Receptacle extension, **Checkmate™** | P | Socket | Pin | 3 |
| MA5RAP1701* | Receptacle, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | P | Socket | Pin | 4 |
| MA5RAP1702* | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | P | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 182 | | | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA1CAE1700 | Plug, straight, threaded | E | Pin | Socket | 6 |
| MA1EAE1700 | Plug, 90° rotatable, threaded | E | Pin | Socket | 7 |
| MA1LAP1700 | Receptacle, straight, flange mount, threaded | P | Socket | Pin | 8 |
| MA1LAP1700-KIT | Receptacle kit, straight, threaded. Contacts included | P | | Pin | 8 |
| MA1LAP1700S-KIT | Receptacle kit, straight, threaded. Contacts included | P | Socket | | 8 |
| MA3TNP1700-S1 | Receptacle, bulkead, threaded, 4.5-7.5mm | P | Socket | Pin | 9 |
| MA3TNP1700-S2 | Receptacle, bulkead, threaded, 7.5-11.0mm | P | Socket | Pin | 10 |
| MA3TNP1700-S3 | Receptacle, bulkead, threaded, 11.0-15.0mm | P | Socket | Pin | 11 |
| MA1JAP1700 | Receptacle extension, threaded | P | Socket | Pin | 12 |
| MA7RAP1701* | Receptacle, 90° rotatable, threaded Standard Flange (25.7x25.7) | P | Socket | Pin | 13 |
| MA7RAP1702* | Receptacle, 90° rotatable, threaded Large Flange (28.0x28.0) | P | Socket | Pin | 14 |
| ↑ Contacts supplied separately see Chart 1 page 182 | | | | | |

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266

**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 24-28 (0.25 - 0.10 $mm^2$)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 15 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 15 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 15 |
| MA4FSR-A8.5* | Flex Grip™ backshell | 7.5-8.5mm | 16 |
| MA4FSR-A10.5* | Flex Grip™ backshell | 9.5-10.5mm | 16 |
| MA4FSR-A12.8* | Flex Grip™ backshell | 11.5-12.8mm | 16 |

*Must be potted to achieve IP67 ratings.

Machined Contacts

## CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |

## Checkmate™ Dimensions Straight Plug/ Plug Kits

*See Chart 1 for contacts options*

Plug, straight, Checkmate™

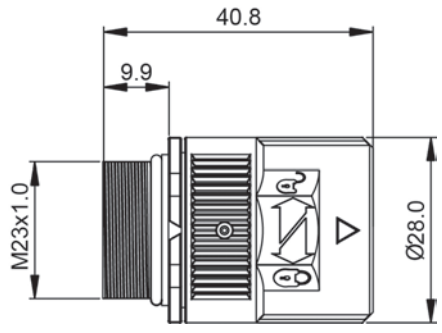



Figure 1 MA2CAE1700

**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Checkmate™ Dimensions Receptacles

*See Chart 1 for contacts options*

Receptacle, straight, flange mount, Checkmate™

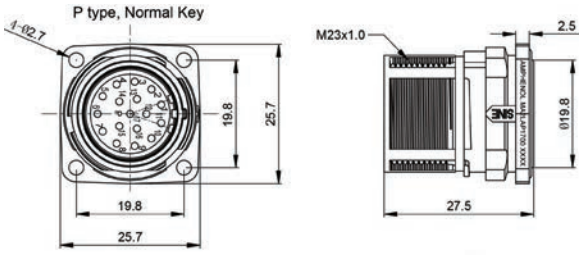



Figure 2 MA2LAP1700

Receptacle extension, Checkmate™

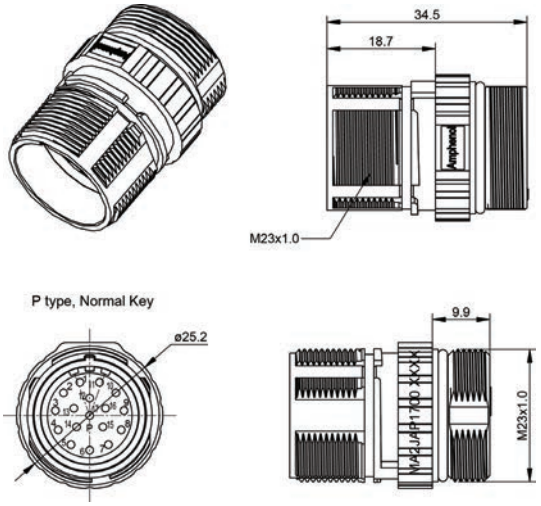



Figure 3 MA2JAP1700

## Checkmate™ Dimensions 90° Receptacles

*See Chart 1 for contacts options*

Receptacle, 90°, Standard Flange (25.7x25.7)

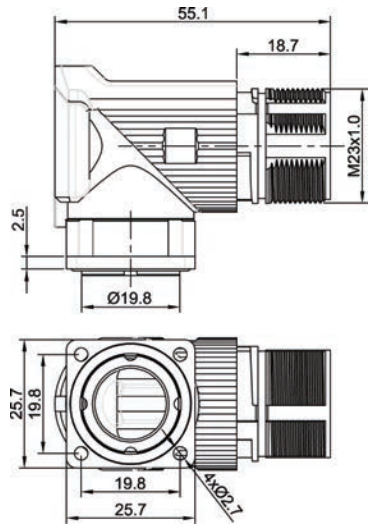



Figure 4 MA5RAP1701

Receptacle, 90°, Large Flange (28.0x28.0)

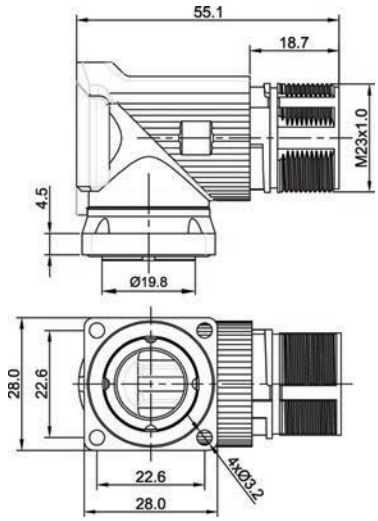



Figure 5 MA5RAP1702

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions Straight Plug/ Plug Kits

*See Chart 1 for contacts options*

Plug, straight, threaded

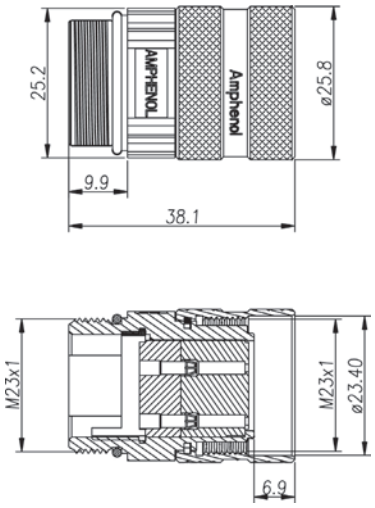



Figure 6 MA1CAE1700

Plug, 90° rotatable, threaded

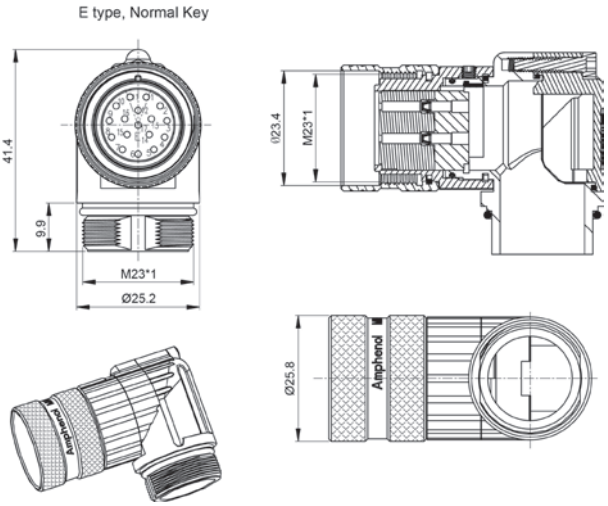



Figure 7 MA1EAE1700

## Threaded Dimensions Straight Receptacles /Receptacle Kits

*See Chart 1 for contacts options*

Receptacle, straight, flange mount, threaded

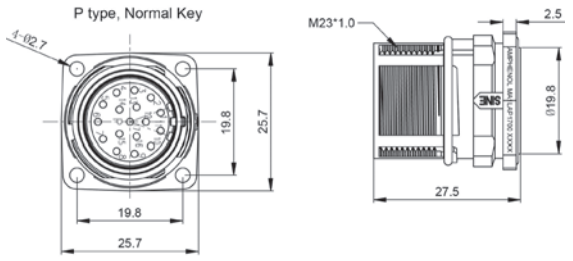
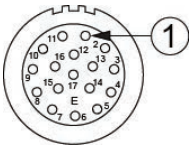



Figure 8 MA1LAP1700
MA1LAP1700-KIT
MA1LAP1700S-KIT

Complete datasheets can be found at www.amphenol-sine.com



**17 POSITIONS**
**9A / 125V**
**E type**

**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions Bulkhead Receptacles / Receptacle Extension

*See Chart 1 for contacts options*

### Receptacle, bulkhead, threaded, 4.5-7.5mm Cord Grip

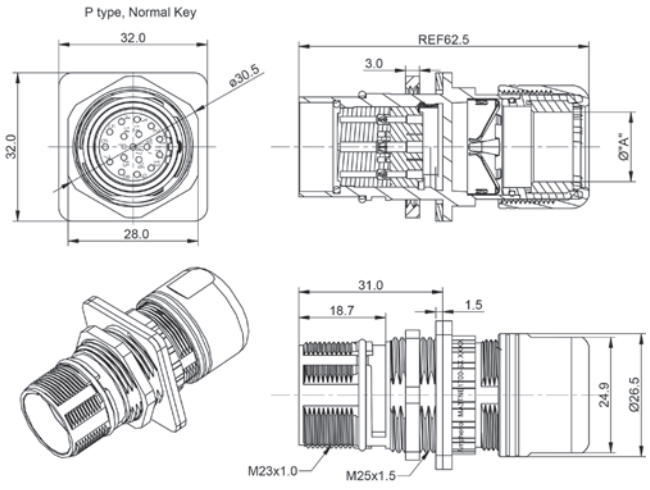



Figure 9 MA3TNP1700-S1

### Receptacle, bulkhead, threaded, 7.5-11mm Cord Grip

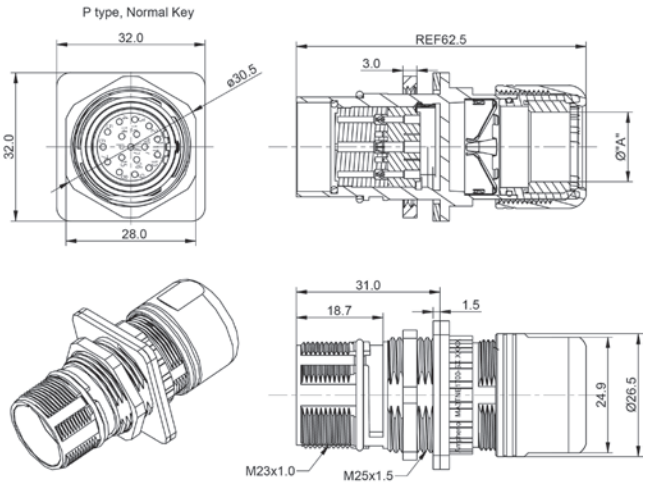



Figure 10 MA3TNP1700-S2

### Receptacle, bulkhead, threaded, 11-15mm Cord Grip

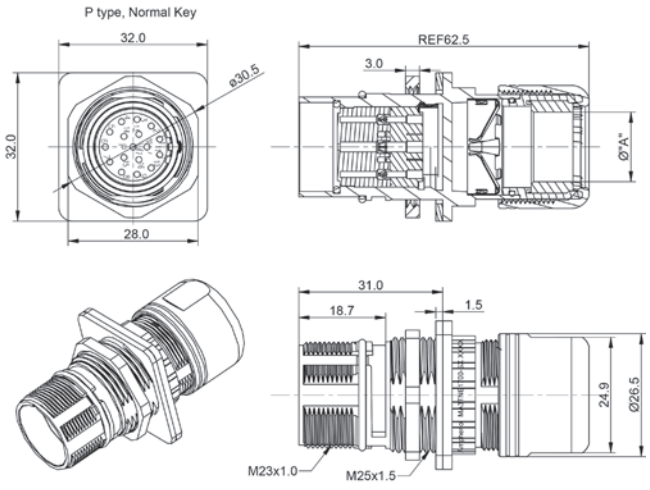



Figure 11 MA3TNP1700-S3

### Receptacle extension, threaded

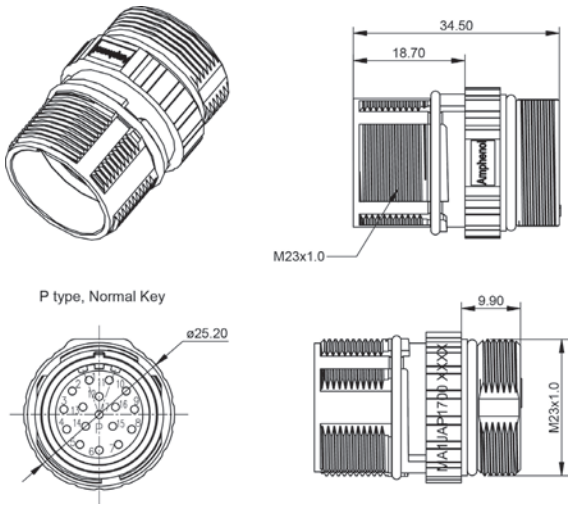



Figure 12 MA1JAP1700

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions 90° Rotatable Receptacles

*See Chart 1 for contacts options*

Receptacle, 90°, Standard Flange (25.7x25.7)

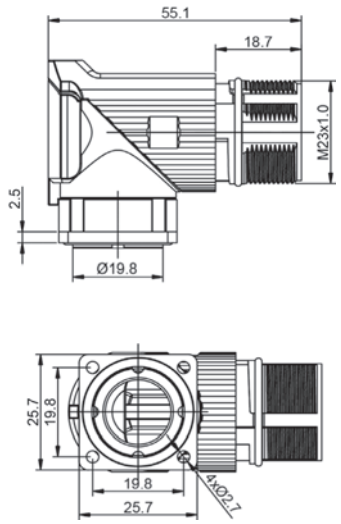



Figure 13 MA7RAP1701

Receptacle, 90°, Large Flange (28.0x28.0)

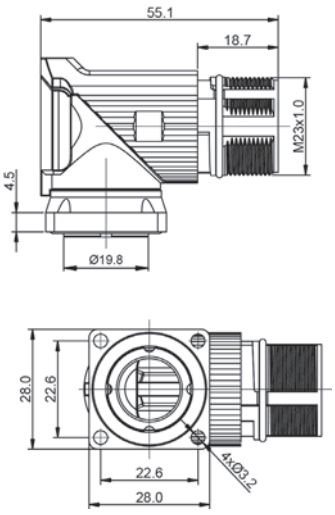



Figure 14 MA7RAP1702

## Dimensions Cord Grips / Backshells

Cord Grips

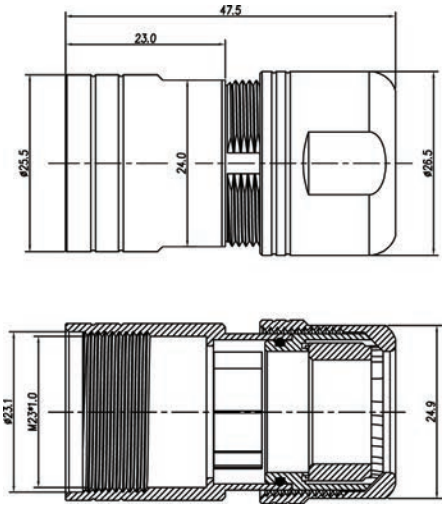



Figure 15 MA6CG-S1
MA6CG-S2
MA6CG-S3

Flex Grip™ backshell

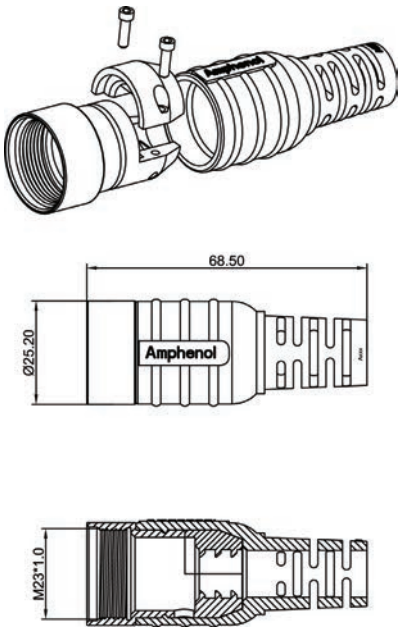
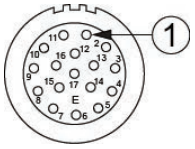



Figure 16 MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

Complete datasheets can be found at www.amphenol-sine.com



**17 POSITIONS**
**9A / 125V**
**E type**

**Style: E type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Tools & Acccessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap

P29687

Dust Cap for Plug, Checkmate™

P31662

Dust Cap for Plug, Threaded

P31660

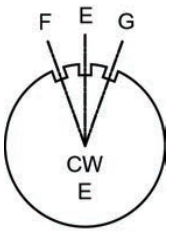
* The universal positioner is not included with the crimp tools and must be ordered separately.

Complete datasheets can be found at www.amphenol-sine.com

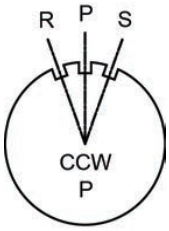
# Connector Solutions M23 Standard Series

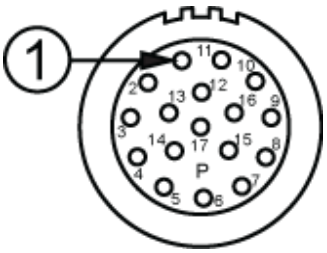
| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

SEE TABLE ON NEXT PAGE FOR PART DETAILS




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 16 for connector configurations




### Plugs

MA1CAP1700

MA1EAP1700

MA2CAP1700

### Receptacles

MA1LAE1700

MA7RAE1701
MA7RAE1702

MA1JAE1700

MA3TNE1700-S1
MA3TNE1700-S2
MA3TNE1700-S3

MA2LAE1700

MA5RAE1701
MA5RAE1702

MA2JAE1700

### Cord Grips

MA6CG-S1
MA6CG-S2
MA6CG-S3

### FlexGrip™ Backshell System

MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

more about FlexGrip™ on page 282

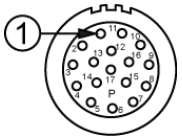
**BULK CABLE starts on page 23**

### Receptacle Kits

MA1LAE1700-KIT
MA1LAE1700S-KIT

MA2LAE1700-KIT
MA2LAE1700S-KIT

CONTACTS SOLD SEPARATELY SEE PAGE 190



**17 POSITIONS**
**9A / 125V**
**P type**

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Checkmate™ Connector Part Numbers

Check Mate™ Quick Locking Connectors

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA2CAP1700 | Plug, straight, **Checkmate™** | P | Pin | Socket | 1 |
| MA2LAE1700 | Receptacle, straight, flange mount, **Checkmate™** | E | Socket | Pin | 2 |
| MA2LAE1700-KIT | Receptacle kit, straight, flange mount, **Checkmate™** | E | | Pin | 2 |
| MA2LAE1700S-KIT | Receptacle kit, straight, flange mount, **Checkmate™** | E | Socket | | 2 |
| MA2JAE1700 | Receptacle extension, **Checkmate™** | E | Socket | Pin | 3 |
| MA5RAE1701* | Receptacle, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | E | Socket | Pin | 4 |
| MA5RAE1702* | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | E | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 190 | | | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA1CAP1700 | Plug, straight, threaded | P | Pin | Socket | 6 |
| MA1EAP1700 | Plug, 90° rotatable threaded | P | Pin | Socket | 7 |
| MA1LAE1700 | Receptacle, straight, threaded, flange mount | E | Socket | Pin | 8 |
| MA1LAE1700-KIT | Receptacle kit, straight, threaded. Contacts included | E | | Pin | 8 |
| MA1LAE1700S-KIT | Receptacle kit, straight, threaded. Contacts included | E | Socket | | 8 |
| MA3TNE1700-S1 | Receptacle, bulkhead, threaded, 4.5-7.5mm | E | Socket | Pin | 9 |
| MA3TNE1700-S2 | Receptacle, bulkhead, threaded, 7.5-11mm | E | Socket | Pin | 10 |
| MA3TNE1700-S3 | Receptacle, bulkhead, threaded, 11.0-15mm | E | Socket | Pin | 11 |
| MA1JAE1700 | Receptacle extension, threaded | E | Socket | Pin | 12 |
| MA7RAE1701* | Receptacle, 90° rotatable, threaded Standard Flange (25.7x25.7) | E | Socket | Pin | 13 |
| MA7RAE1702* | Receptacle, 90° rotatable, threaded Large Flange (28.0x28.0) | E | Socket | Pin | 14 |
| ↑ Contacts supplied separately see Chart 1 page 190 | | | | | |

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 $mm^2$) / 24-28 (0.25 - 0.10 $mm^2$)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord grip | 4.5-7.5mm | 15 |
| MA6CG-S2 | Cord grip | 7.5-11.0mm | 15 |
| MA6CG-S3 | Cord grip | 11.0-15.0mm | 15 |
| MA4FSR-A8.5* | Flex Grip™ backshell | 7.5-8.5mm | 16 |
| MA4FSR-A10.5* | Flex Grip™ backshell | 9.5-10.5mm | 16 |
| MA4FSR-A12.8* | Flex Grip™ backshell | 11.5-12.8mm | 16 |

*Must be potted to achieve IP67 ratings.

## Contacts

Machined Contacts

CHART 1 Crimp Contacts, Machined

| Part Number | Pin/Socket | AWG | $mm^2$ | Plating |
|---|---|---|---|---|
| SC000035 | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000044 | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | Socket | 28-24 | 0.10 - 0.25 | Gold |

## Checkmate™ Dimensions Straight Plug/ Plug Kits

*See Chart 1 for contacts options*

Plug, straight, Checkmate™

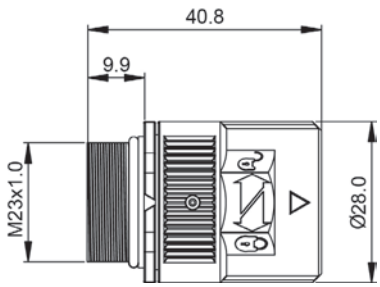
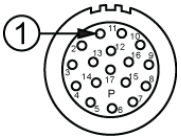



Figure 1 MA2CAP1700



**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Checkmate™ Dimensions Receptacles

*See Chart 1 for contacts options*

Receptacle, straight, flange mount, Checkmate™

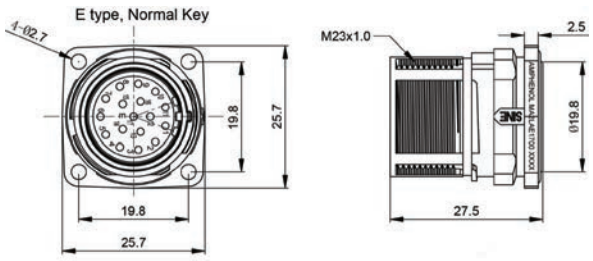



Figure 2 MA2LAE1700

Receptacle extension, Checkmate™

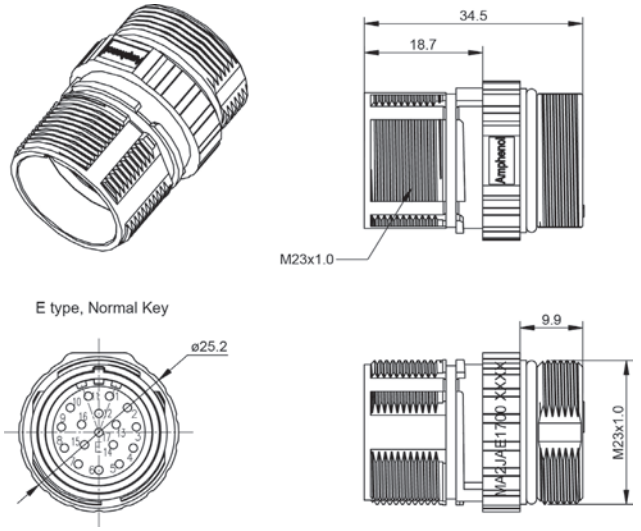



Figure 3 MA2JAE1700

## Checkmate™ Dimensions 90° Receptacles

*See Chart 1 for contacts options*

Receptacle, 90°, Standard Flange (25.7x25.7)

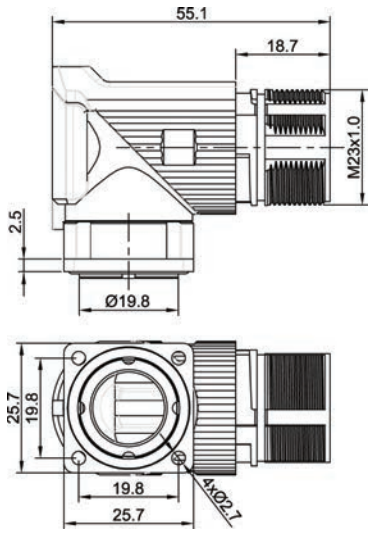



Figure 4 MA5RAE1701

Receptacle, 90°, Large Flange (28.0x28.0)

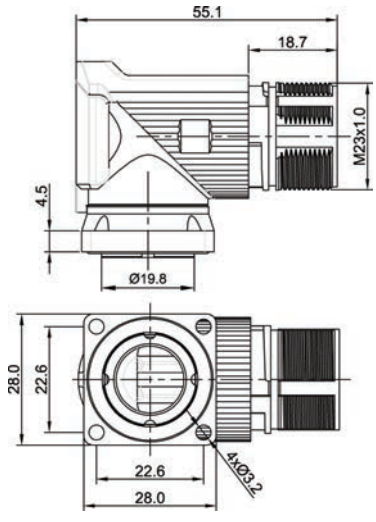



Figure 5 MA5RAE1702

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**
Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions Straight Plug/ Plug Kits

*See Chart 1 for contacts options*

Plug, straight, threaded

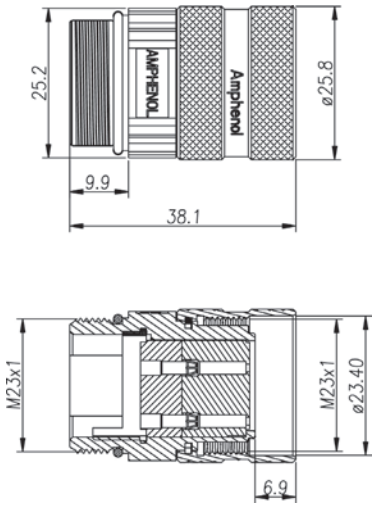



Figure 6 MA1CAP1700

Plug, 90° rotatable, threaded

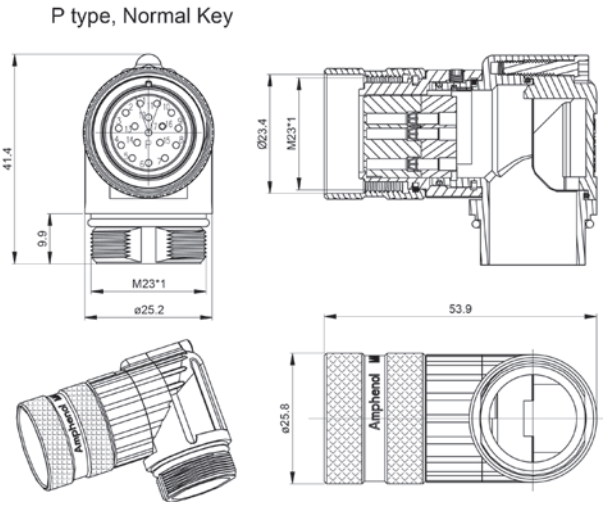



Figure 7 MA1EAP1700

## Threaded Dimensions Straight Receptacles /Receptacle Kits

*See Chart 1 for contacts options*

Receptacle kit, straight, threaded

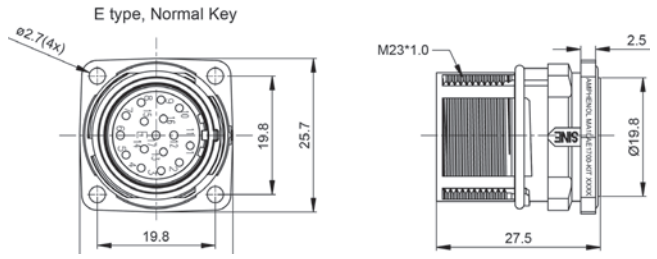
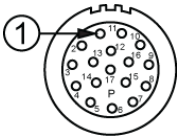



Figure 8

MA1LAE1700
MA1LAE1700-KIT
MA1LAE1700S-KIT

Complete datasheets can be found at www.amphenol-sine.com





**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions Bulkhead Receptacles / Receptacle Extension

*See Chart 1 for contacts options*

### Receptacle, bulkhead, threaded, 4.5-7.5mm Cord Grip

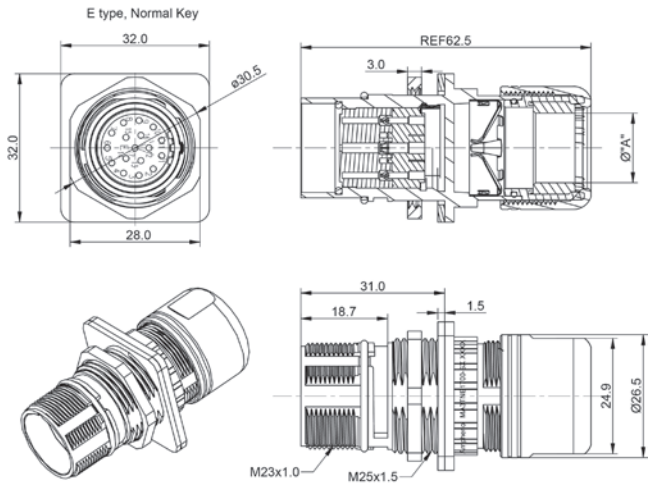



Figure 9 MA3TNE1700-S1

### Receptacle, bulkhead, threaded, 7.5-11Cord Grip

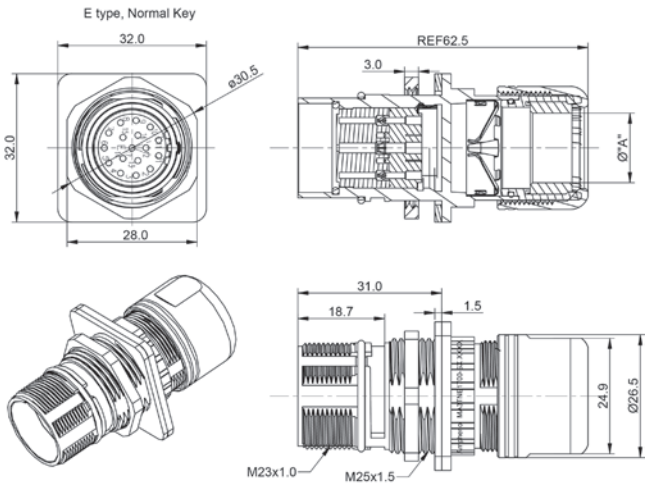



Figure 10 MA3TNE1700-S2

### Receptacle, Bulkhead, Threaded, 11-15mm Cord Grip

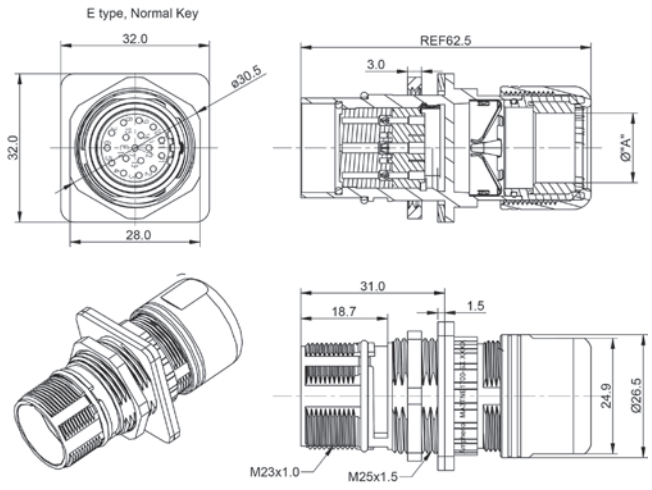



Figure 11 MA3TNE1700-S3

### Receptacle extension, threaded

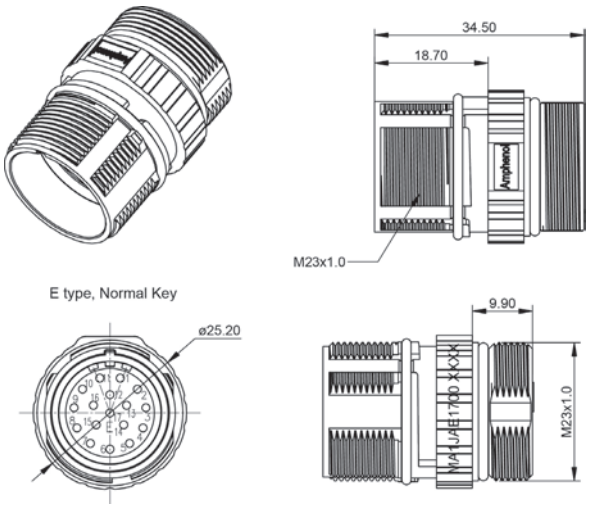



Figure 12 MA1JAE1700

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Threaded Dimensions 90° Rotatable Receptacles

*See Chart 1 for contacts options*

Receptacle, 90°, Standard Flange (25.7x25.7)

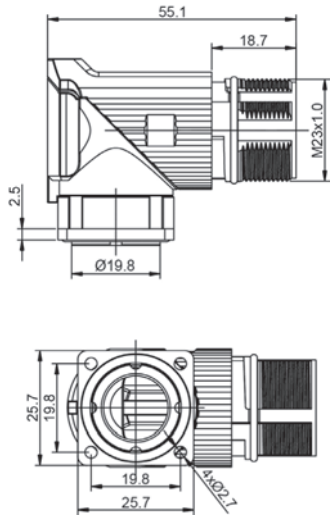



Figure 13 MA7RAE1701

Receptacle, 90°, Large Flange (28.0x28.0)

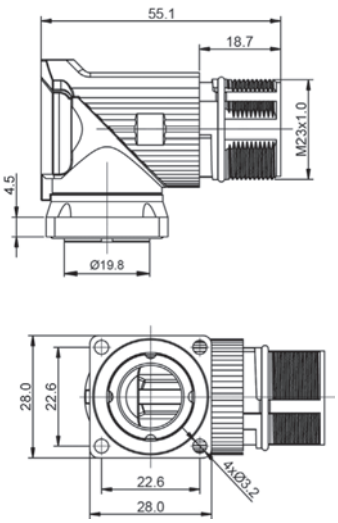



Figure 14 MA7RAE1702

## Dimensions Cord Grips / Backshells

Cord Grips

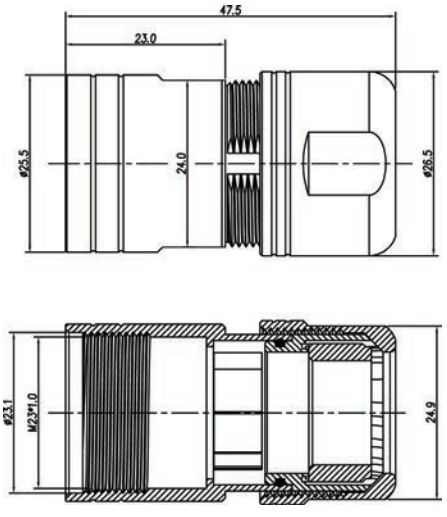



Figure 15 MA6CG-S1
MA6CG-S2
MA6CG-S3

Flex Grip™ backshell

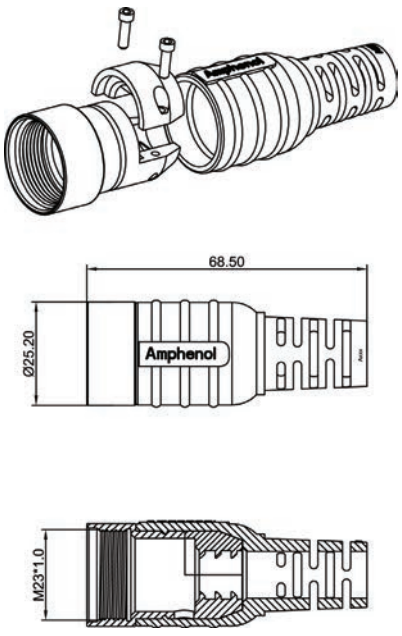
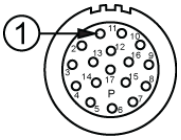



Figure 16 MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

Complete datasheets can be found at www.amphenol-sine.com



**17 POSITIONS**
**9A / 125V**
**P type**

**Style: P type Plug** **Number of Contacts: 17** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Checkmate™

P31662

Dust Cap for Plug, Threaded

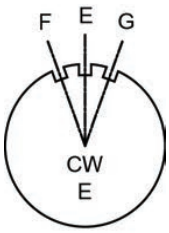
P31660

* The universal positioner is not included with the crimp tools and must be ordered separately.

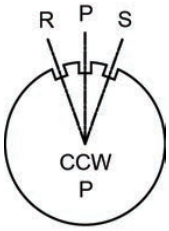
Complete datasheets can be found at www.amphenol-sine.com

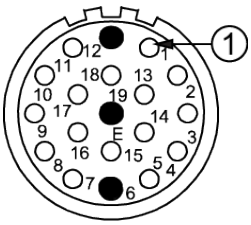
# Connector Solutions M23 Standard Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 199 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 198

### Plugs

MA1CAE1900

MA1EAE1900

MA2CAE1900

### Receptacles

MA1LAP1900

MA7RAP1901
MA7RAP1902

MA1JAP1900

MA3TNE1900-S1
MA3TNE1900-S2
MA3TNE1900-S3

MA2LAP1900

MA5RAP1901
MA5RAP1901

MA2JAP1900

### Cord Grips

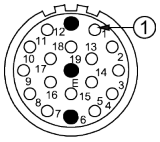
MA6CG-S1
MA6CG-S2
MA6CG-S3

### FlexGrip™ Backshell System

MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

more about FlexGrip™ on page 282

**BULK CABLE starts on page 23**



**Style: E type Plug  Number of Contacts: 19  Contact Size: 1.0mm**

Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 to 1.0 mm²)

## Checkmate™ Connector Part Numbers

Check Mate™ Quick Locking Connectors

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA2CAE1900 | Plug, straight, **Checkmate™** | E | Pin | Socket | 1 |
| MA2LAP1900 | Receptacle, straight, flange mount, **Checkmate™** | P | Socket | Pin | 2 |
| MA2JAP1900 | Receptacle extension, straight **Checkmate™** | P | Socket | Pin | 3 |
| MA5RAP1901* | Receptacle, 90° rotatable, Checkmate™ Standard Flange (25.7x25.7) | E | Socket | Pin | 4 |
| MA5RAP1902* | Receptacle, 90° rotatable, Checkmate™ Large Flange (28.0x28.0) | E | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 198 | | | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA1CAE1900 | Plug, straight, threaded | E | Pin | Socket | 6 |
| MA1EAE1900 | Plug, 90° rotatable, threaded | E | Pin | Socket | 7 |
| MA1LAP1900 | Receptacle, flange mount, threaded | P | Socket | Pin | 8 |
| MA3TNP1900-S1 | Receptacle, bulkhead, threaded, 4.5-7.5mm | E | Socket | Pin | 9 |
| MA3TNP1900-S2 | Receptacle, bulkhead, threaded, 7.5-11.0mm | E | Socket | Pin | 10 |
| MA3TNP1900-S3 | Receptacle, bulkhead, threaded, 11.0-15.0mm | E | Socket | Pin | 11 |
| MA1JAP1900 | Receptacle extension, straight, threaded | P | Socket | Pin | 12 |
| MA7RAP1901* | Receptacle, 90° rotatable,Threaded Standard Flange (25.7x25.7) | E | Socket | Pin | 13 |
| MA7RAP1902* | Receptacle, 90° rotatable, Threaded Large Flange (28.0x28.0) | E | Socket | Pin | 14 |
| ↑ Contacts supplied separately see Chart 1 page 198 | | | | | |

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266

**Style: E type Plug  Number of Contacts: 19  Contact Size: 1.0mm**

Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 to 1.0 $mm^2$)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord Grip | 4.5-7.5mm | 15 |
| MA6CG-S2 | Cord Grip | 7.5-11.0mm | 15 |
| MA6CG-S3 | Cord Grip | 11.0-15.0mm | 15 |
| MA4FSR-A8.5* | Flex Grip™ backshell | 7.5-8.5mm | 16 |
| MA4FSR-A10.5* | Flex Grip™ backshell | 9.5-10.5mm | 16 |
| MA4FSR-A12.8* | Flex Grip™ backshell | 11.5-12.8mm | 16 |

*Must be potted to achieve IP67 ratings

## Contacts

CHART 1

### Crimp Contacts, Machined

| Part Number | Pln/Socket | Size | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000337 | Pin | 1.5 | 22-18 | 0.37 - 0.75 to 1.0 | Gold |
| SC000338 | Pin | 1.0 | 22-18 | 0.37 - 0.75 to 1.0 | Gold |
| SC000325 | Socket | 1.5 | 22-18 | 0.37 - 0.75 to 1.0 | Gold |
| SC000326 | Socket | 1.0 | 22-18 | 0.37 - 0.75 to 1.0 | Gold |

## Dimensions Checkmate™ Plugs

Plug, straight, Checkmate™

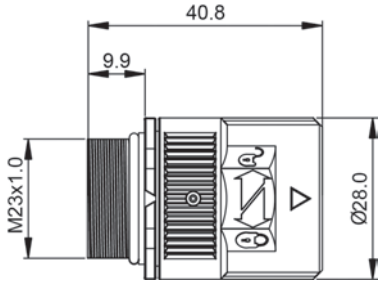



Figure 1  MA2CAE1900

**Style: E type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 mm²)

## Dimensions Checkmate™ Receptacles

Receptacle, flange mount, Checkmate™

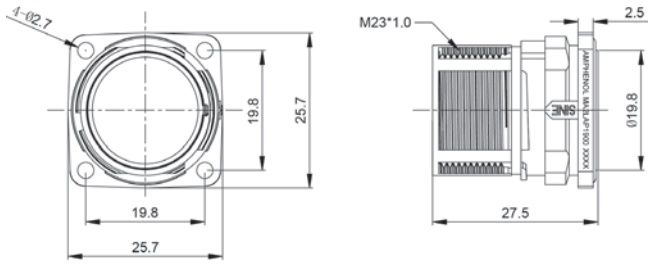



Figure 2 MA2LAP1900

Receptacle extension, straight, Checkmate™

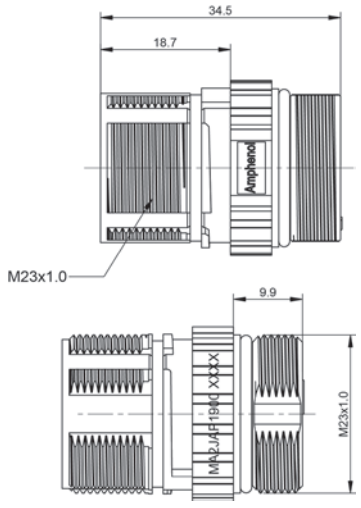



Figure 3 MA2JAP1900

Receptacle, 90°, Checkmate™ Standard Flange (25.7x25.7)

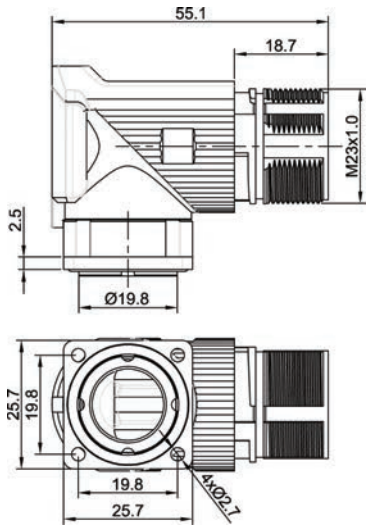



Figure 4 MA5RAP1901

Receptacle, 90°, Checkmate™ Large Flange (28.0x28.0)

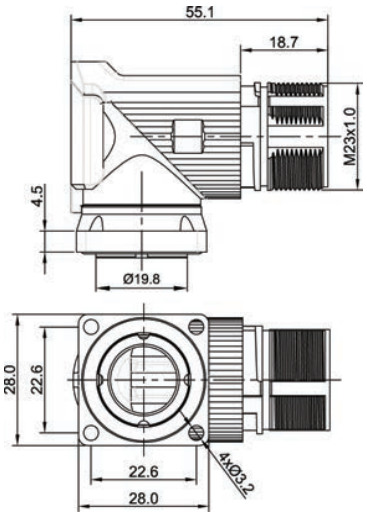



Figure 5 MA5RAP1902

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug  Number of Contacts: 19  Contact Size: 1.0mm**

Sealing: IP66/67  AWG: 22-18 (0.37 - 0.75 to 1.0 mm²)

## Dimensions Threaded Plugs /Receptacles

### Plug, straight, threaded

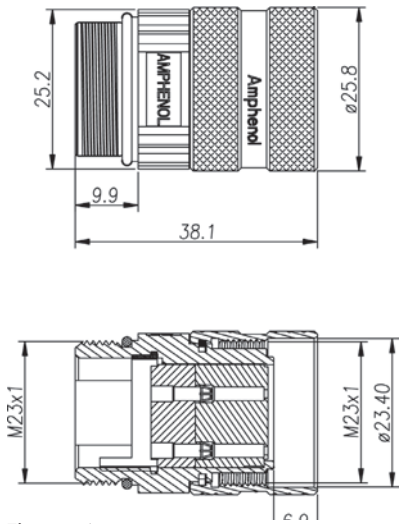



Figure 6 MA1CAE1900

### Plug, 90° rotatable, threaded

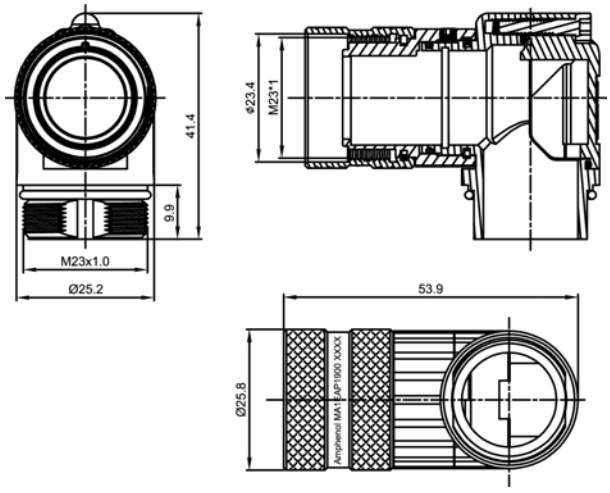



Figure 7 MA1EAE1900

### Receptacle, flange mount, straight threaded

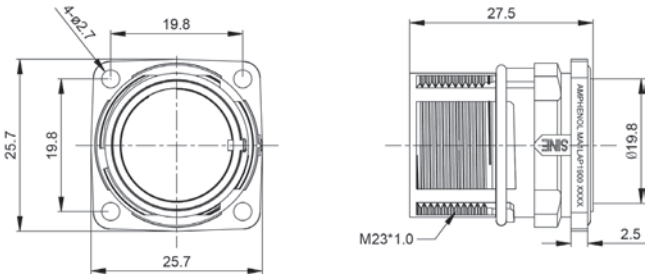
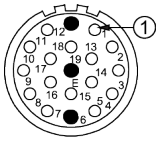



Figure 8 MA1LAP1900





**Style: E type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 mm²)

## Threaded Dimensions Bulkhead Receptacles / Receptacle Extension

### Receptacle, bulkhead, straight threaded; 4.5-7.5mm Cord Grip

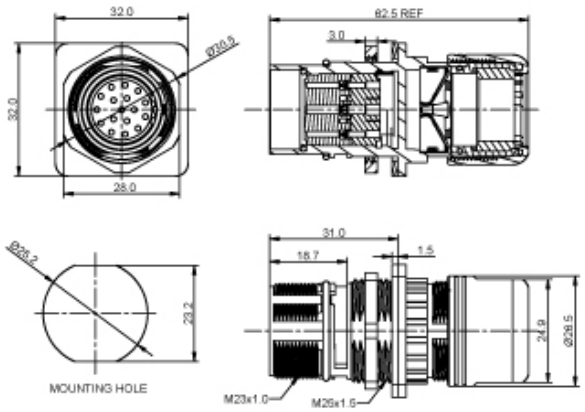



Figure 9 MA3TNP1900-S1

### Receptacle, bulkhead, straight threaded; 7.5-11mm Cord Grip

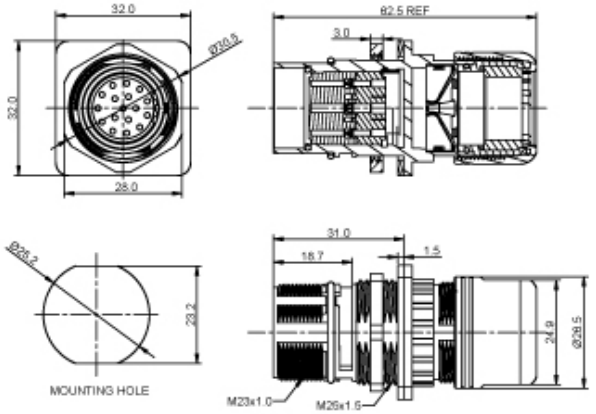



Figure 10 MA3TNP1900-S2

### Receptacle, bulkhead, straight threaded; 11-15mm Cord Grip

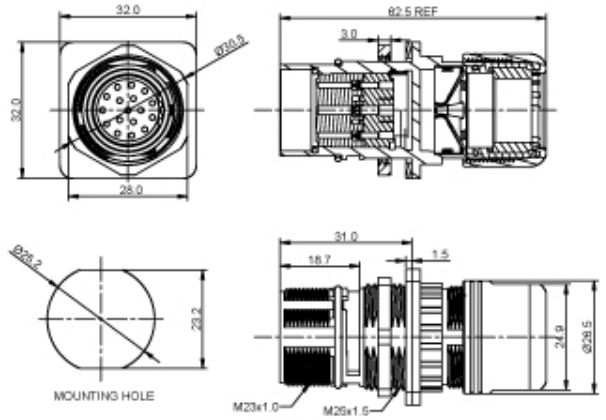



Figure 11 MA3TNP1900-S3

### Receptacle extension, threaded

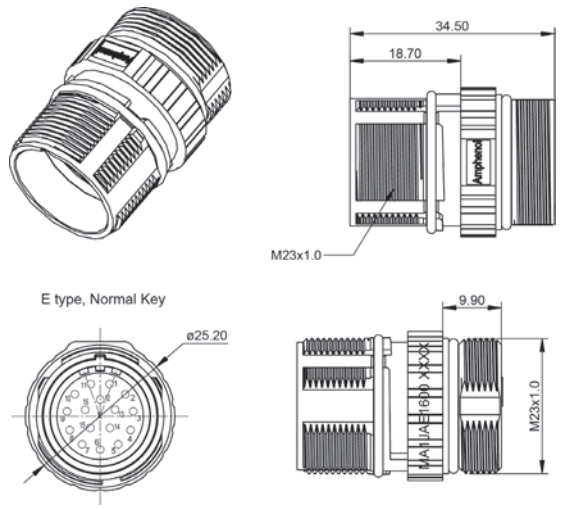



Figure 12 MA1JAE1900

Complete datasheets can be found at www.amphenol-sine.com

**Style: E type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 mm²)

## Dimensions Threaded 90° Rotatable Receptacle

Receptacle, 90°, Threaded Standard Flange (25.7x25.7)

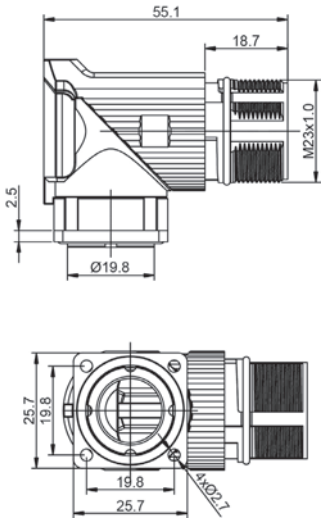



Figure 13 MA7RAP1901

Receptacle, 90°, Threaded Large Flange (28.0x28.0)

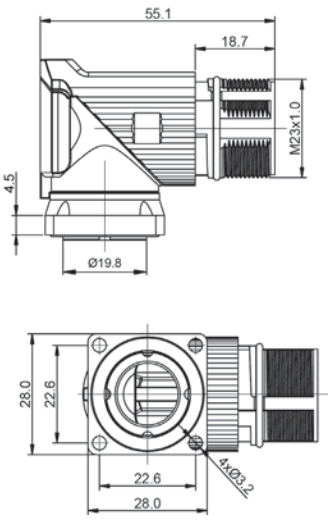



Figure 14 MA7RAP1902

## Dimensions Cord Grips / Backshells

Cord Grips

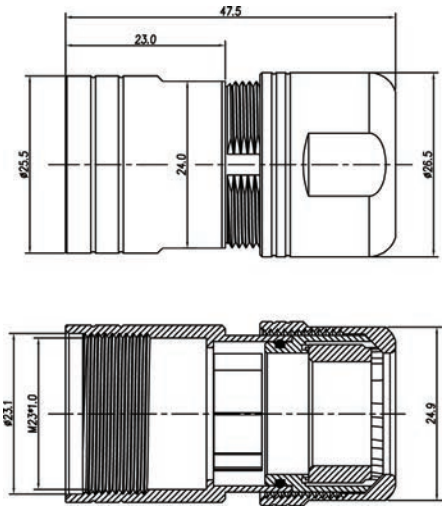



Figure 12 MA6CG-S1
MA6CG-S2
MA6CG-S3

Flex Grip™ backshell

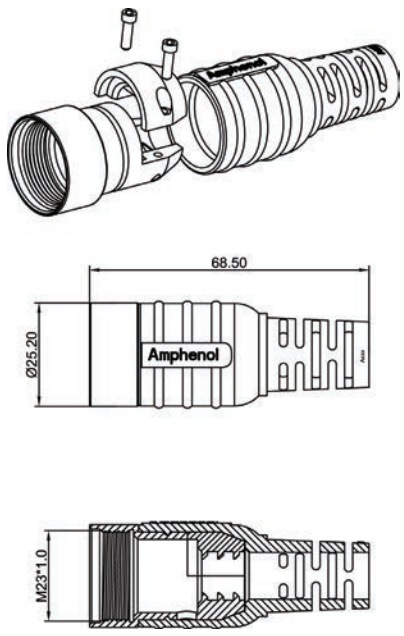
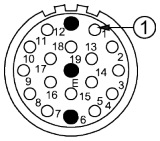



Figure 13 MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

Complete datasheets can be found at www.amphenol-sine.com





**Style: E type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 $mm^2$)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Dust Cap

P29687

Dust Cap for Plug, Checkmate™

P31662

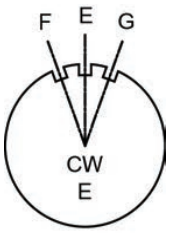
Dust Cap for Plug, Threaded

P31660

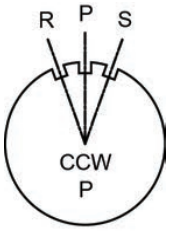
* The universal positioner is not included with the crimp tools and must be ordered separately.

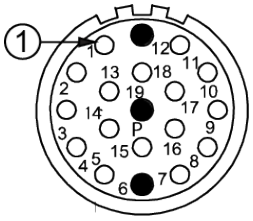
# Connector Solutions M23 Standard Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|




Standard connector parts mate "E" Plugs with "P" Receptacles, Mating parts use opposite contact types. *example: plug with pin contacts mates with a receptacle using socket contacts.*
Other key code options available not listed here. Please call customer service for assistance when ordering F,G,R,S. See page 16 for connector configurations




SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 206

**Plugs**

MA1EAP1900

MA1CAP1900

MA2CAP1900

**Receptacles**

MA1LAE1900

MA7RAE1901
MA7RAE1902

MA1JAE1900

MA3TNE1900-S1
MA3TNE1900-S2
MA3TNE1900-S3

MA2LAE1900

MA5RAE1901
MA5RAE1902

MA2JAE1900

**Cord Grips**

MA6CG-S1
MA6CG-S2
MA6CG-S3

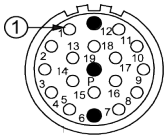
**FlexGrip™ Backshell System**

MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

more about FlexGrip™ on page 282

**BULK CABLE starts on page 23**

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266



**19 POSITIONS**
**7A / 63V**
**P type**

**Style: P type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 mm²)

## Checkmate™ Connector Part Numbers

Check Mate™ Quick Locking Connectors

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA2CAP1900 | Plug, straight, **Checkmate™** | P | Pin | Socket | 1 |
| MA2LAE1900 | Receptacle, straight, flange mount, **Checkmate™** | E | Socket | Pin | 2 |
| MA2JAE1900 | Receptacle extension, straight **Checkmate™** | P | Socket | Pin | 3 |
| MA5RAE1901* | Receptacle, 90° rotatable, Checkmate™ Standard Flange (25.7x25.7) | E | Socket | Pin | 4 |
| MA5RAE1902* | Receptacle, 90° rotatable, Checkmate™ Large Flange (28.0x28.0) | E | Socket | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 206 | | | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Style | Contact Type<br>male = pin<br>mates with<br>female = socket<br>↓Mating Parts↓ | | Figure Drawings |
|---|---|---|---|---|---|
| MA1CAP1900 | Plug, straight, threaded | P | Pin | Socket | 6 |
| MA1EAP1900 | Plug, 90° rotatable, threaded | P | Pin | Socket | 7 |
| MA1LAE1900 | Receptacle, straight, flange mount, threaded | E | Socket | Pin | 8 |
| MA3TNE1900-S1 | Receptacle, bulkhead, threaded, 4.5-7.5mm | E | Socket | Pin | 9 |
| MA3TNE1900-S2 | Receptacle, bulkhead, threaded, 7.5-11.0mm | E | Socket | Pin | 10 |
| MA3TNE1900-S3 | Receptacle, bulkhead, threaded, 11.0-15.0mm | E | Socket | Pin | 11 |
| MA1JAE1900 | Receptacle extension, straight, threaded | P | Socket | Pin | 9 |
| MA7RAE1901* | Receptacle, 90° rotatable,Threaded Standard Flange (25.7x25.7) | E | Socket | Pin | 10 |
| MA7RAE1902* | Receptacle, 90° rotatable, Threaded Large Flange (28.0x28.0) | E | Socket | Pin | 11 |
| ↑ Contacts supplied separately see Chart 1 page 206 | | | | | |

**Style: P type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 $mm^2$)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MA6CG-S1 | Cord Grip | 4.5-7.5mm | 15 |
| MA6CG-S2 | Cord Grip | 7.5-11.0mm | 15 |
| MA6CG-S3 | Cord Grip | 11.0-15.0mm | 15 |
| MA4FSR-A8.5* | Flex Grip™ backshell | 7.5-8.5mm | 16 |
| MA4FSR-A10.5* | Flex Grip™ backshell | 9.5-10.5mm | 16 |
| MA4FSR-A12.8* | Flex Grip™ backshell | 11.5-12.8mm | 16 |

*Must be potted to achieve IP67 ratings.

## Contacts

CHART 1

### Crimp Contacts, Machined

| Part Number | Pln/Socket | Size | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000337 | Pin | 1.5 | 22-18 | 0.37 - 0.75 to 1.0 | Gold |
| SC000338 | Pin | 1.0 | 22-18 | 0.37 - 0.75 to 1.0 | Gold |
| SC000325 | Socket | 1.5 | 22-18 | 0.37 - 0.75 to 1.0 | Gold |
| SC000326 | Socket | 1.0 | 22-18 | 0.37 - 0.75 to 1.0 | Gold |

## Dimensions Checkmate™ Plugs

Plug, straight, Checkmate™

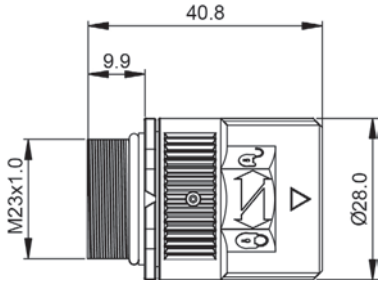



Figure 1 MA2CAP1900

**Style: P type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 mm²)

## Dimensions Checkmate™ Receptacles

Receptacle, flange mount, Checkmate™

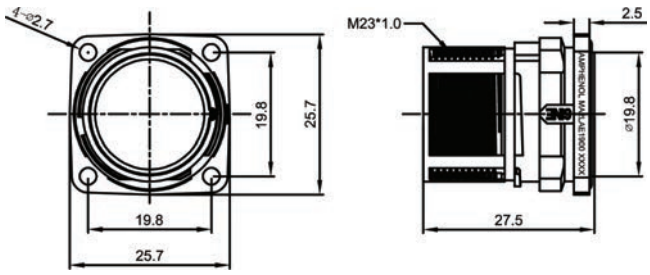



Figure 2 MA2LAE1900

Receptacle extension, straight, Checkmate™

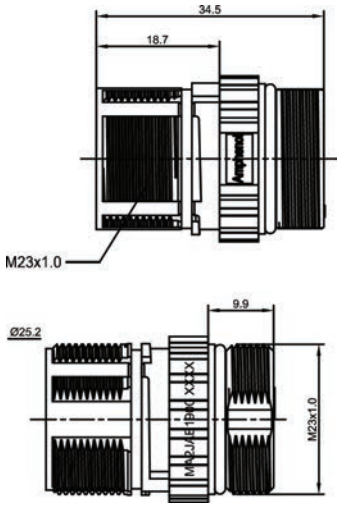



Figure 3 MA2JAE1900

Receptacle, 90°, Checkmate™ Standard Flange (25.7x25.7)

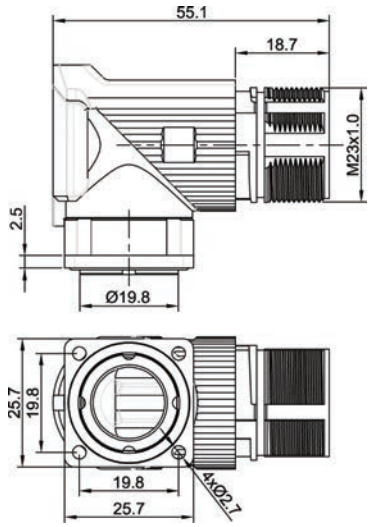



Figure 4 MA5RAP1901

Receptacle, 90°, Checkmate™ Large Flange (28.0x28.0)

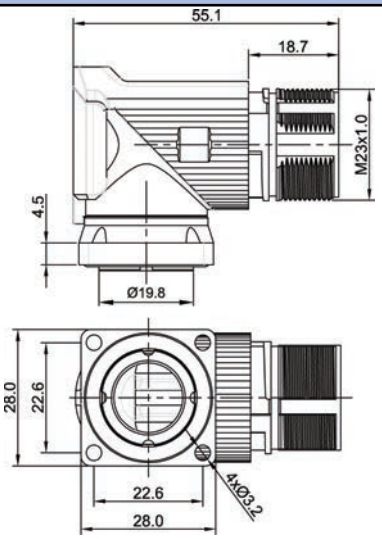



Figure 5 MA5RAP1902

Complete datasheets can be found at www.amphenol-sine.com

**Style: P type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 mm²)

## Dimensions Threaded Plugs / Receptacles

Plug, straight, threaded

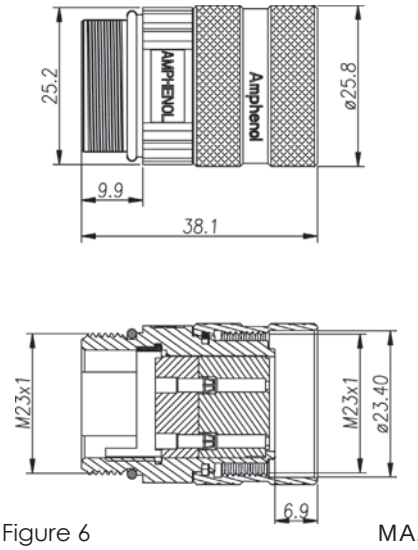



Figure 6 MA1CAP1900

Plug, 90° rotatable, threaded

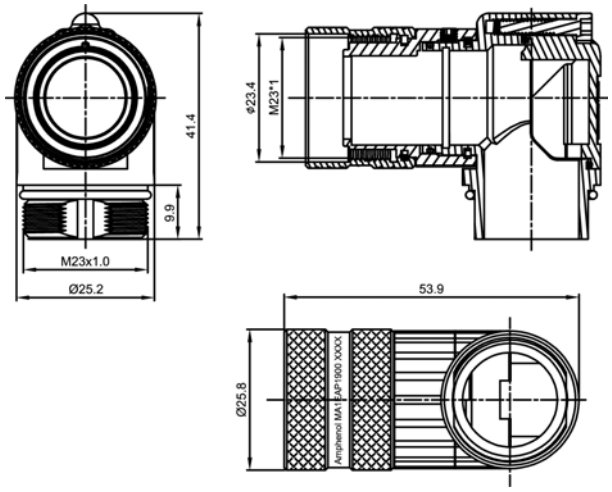



Figure 7 MA1EAP1900

Receptacle, straight, flange mount, threaded

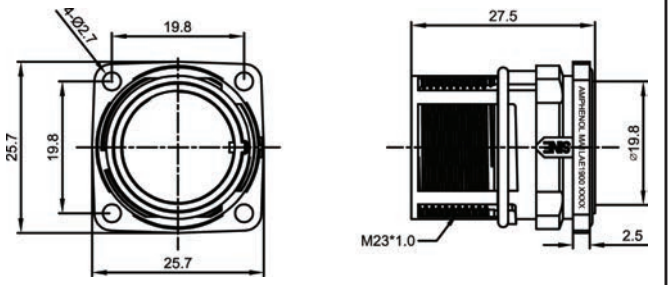
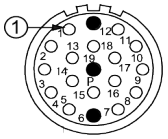



Figure 8 MA1LAE1900

Complete datasheets can be found at www.amphenol-sine.com





**Style: P type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 mm²)

## Threaded Dimensions Bulkhead Receptacles / Receptacle Extension

### Receptacle, bulkhead, straight threaded; 4.5-7.5mm Cord Grip

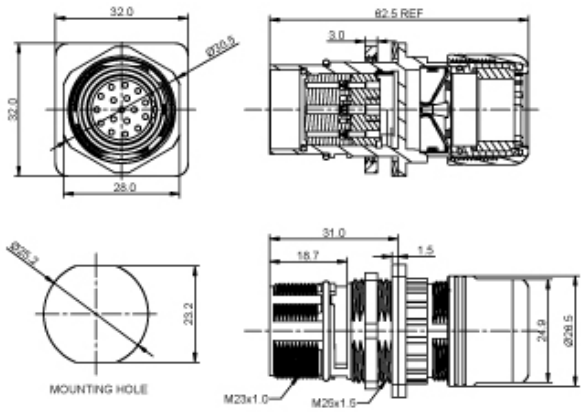



Figure 9 MA3TNP1900-S1

### Receptacle, bulkhead, straight threaded; 7.5-11mm Cord Grip

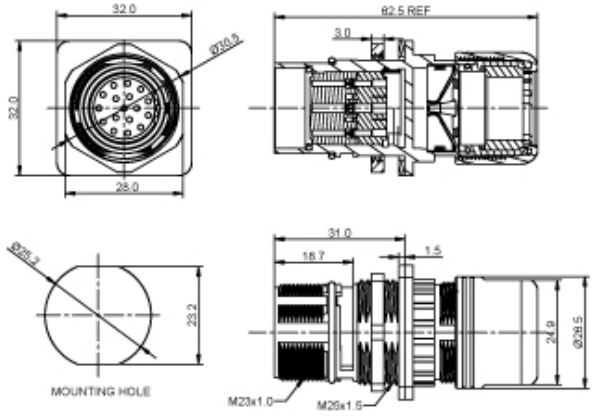



Figure 10 MA3TNP1900-S2

### Receptacle, bulkhead, straight threaded; 11-15mm Cord Grip

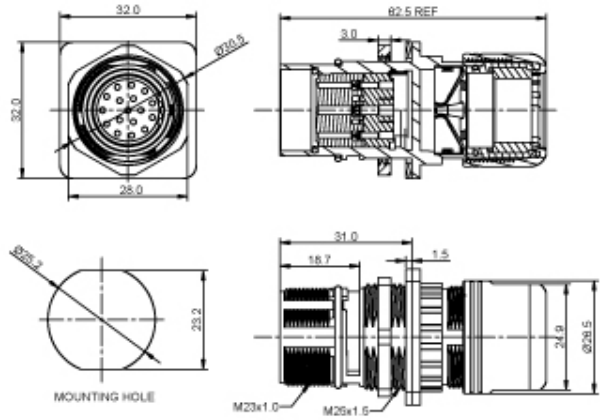



Figure 11 MA3TNP1900-S3

### Receptacle extension, threaded

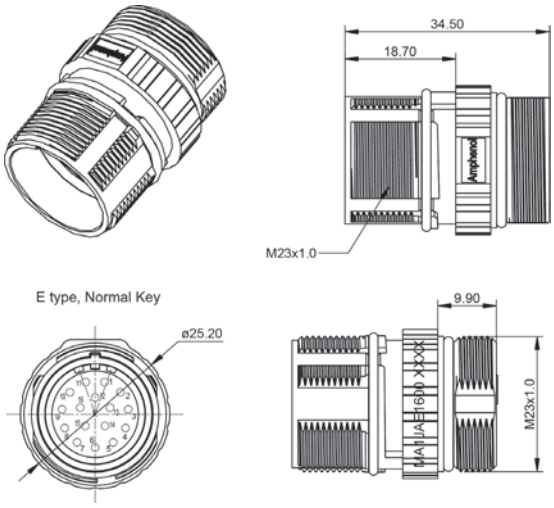



Figure 12 MA1JAP1900

**Style: P type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 $mm^2$)

## Dimensions Threaded 90° Receptacles

Receptacle, 90°, Checkmate™ Standard Flange (25.7x25.7)

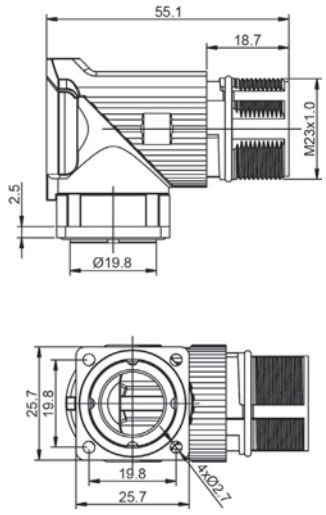



Figure 13 MA7RAP1901

Receptacle, 90°, Checkmate™ Large Flange (28.0x28.0)

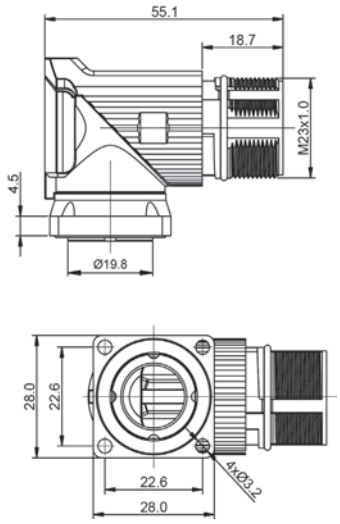



Figure 14 MA7RAP1902

## Dimensions Cord Grips / Backshells

Cord Grips

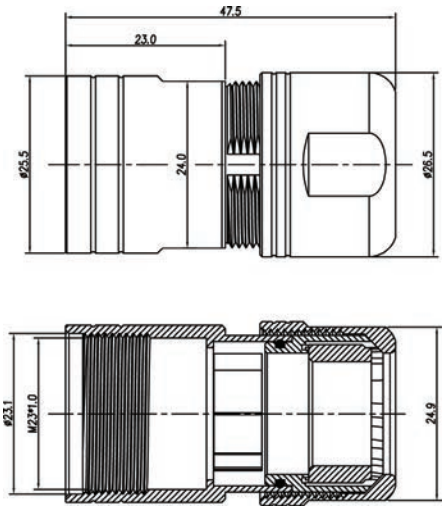



Figure 15 MA6CG-S1
MA6CG-S2
MA6CG-S3

Flex Grip™ backshell

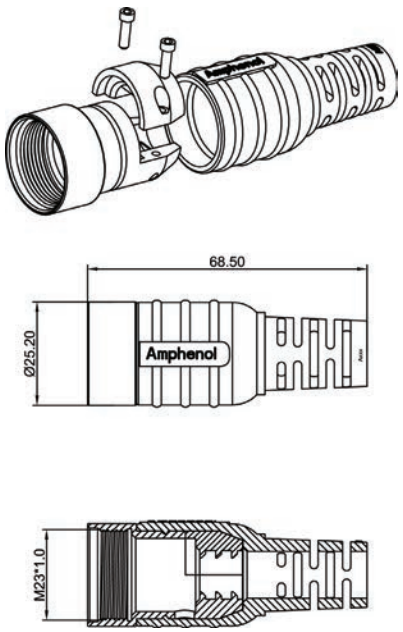
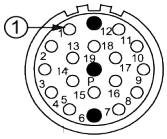



Figure 16 MA4FSR-A8.5
MA4FSR-A10.5
MA4FSR-A12.8

Complete datasheets can be found at www.amphenol-sine.com





**Style: P type Plug** **Number of Contacts: 19** **Contact Size: 1.0mm**

Sealing: IP66/67 AWG: 22-18 (0.37 - 0.75 to 1.0 mm²)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

AFM8

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire range 20-32AWG

WA22

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire range 12-26AWG

WA27F

Dust Cap for Receptacles

P29687

Dust Cap for Plug, Threaded

P31660

Dust Cap for Plug, Checkmate™

P31662

* The universal positioner is not included with the crimp tools and must be ordered separately.

# Connector Solutions M23 Standard Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

*See page 18 for connector configurations*

SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 220

## Plugs

MB1CKN0600

MB1EJN0600

MB1GJN0600

MB2CKN0600

MB2GJN0600

### Plug Connector Kits

MB1CKN0600-KIT

## Receptacles

MB1LLN0600

MB7RJN0601
MB7RJN0602

MB1LKN0600

MB1JJN0600

MB3TNN0600-S1
MB3TNN0600-S2
MB3TNN0600-S3

MB2LLN0600

MB5RJN0601
MB5RJN0602

MB2LKN0600

MB2JJN0600

### Receptacle Kits

MB1LLN0600-KIT

**Checkmate™**
MB2LLN0600-KIT

## Cord Grips

MB6CG-S1
MB6CG-S2
MB6CG-S3

## FlexGrip™ Backshell System

MB4FSR-B10.3
MB4FSR-B12.5
MB4FSR-B14.5
MB4FSR-B17

more about FlexGrip™ on page 282

**BULK CABLE starts on page 23**

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

## Checkmate™ Connector Part Numbers

Check Mate™ Quick Locking Connectors

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB2CKN0600 | Plug, straight, **Checkmate™** | Socket | 1 |
| MB2GJN0600 | Plug, panel mount, **Checkmate™** | Socket | 2 |
| MB2LLN0600 | Receptacle, straight flange mount, **Checkmate™** | Pin | 3 |
| MB2LLN0600-KIT | Receptacle kit, straight, **Checkmate™.** Contacts icluded | Pin | 3 |
| MB2LKN0600 | Receptacle, straight, **Checkmate™** | Pin | 4 |
| MB2JJN0600 | Receptacle extension, **Checkmate™** | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 220 | | | |
| MB5RJN0601* | Receptacle, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | Pin | 6 |
| MB5RJN0602* | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | Pin | 7 |
| ↑ Contacts supplied separately see Chart 2 page 220 | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB1CKN0600 | Plug, straight, threaded coupling | Socket | 8 |
| MB1CKN0600-KIT | Plug kit, straight, threaded coupling. Contacts included. | Socket | 8 |
| MB1EJN0600 | 90° rotatable plug | Socket | 9 |
| MB1GJN0600 | Plug, panel mount, threaded coupling | Socket | 10 |
| MB1LLN0600 | Receptacle, straight, flange mount, threaded coupling | Pin | 11 |
| MB1LLN0600-KIT | Receptacle kit, straight, flange mount, threaded coupling Kit includes contacts | Pin | 11 |
| MB1LKN0600 | Receptacle, straight, threaded coupling | Pin | 12 |
| MB3TNN0600-S1 | Receptacle, bulkhead, threaded, 7.0-11.0mm cord grip | Pin | 13 |
| MB3TNN0600-S2 | Receptacle, bulkhead, threaded, 11.0-14.5mm cord grip | Pin | 14 |
| MB3TNN0600-S3 | Receptacle, bulkhead, threaded, 14.5-17.0mm cord grip | Pin | 15 |
| MB1JJN0600 | Receptacle extension, threaded coupling | Pin | 16 |
| ↑ Contacts supplied separately see Chart 1 page 220 | | | |
| MB7RJN0601* | Receptacle, 90° rotatable, threaded Standard Flange (25.7x25.7) | Pin | 17 |
| MB7RJN0602* | Receptacle, 90° rotatable, threaded Large Flange (28.0x28.0) | Pin | 18 |
| ↑ Contacts supplied separately see Chart 2 page 220 | | | |

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 $mm^2$)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MB6CG-S1 | Cord grip | 7.5-11mm | 19 |
| MB6CG-S2 | Cord grip | 11.0-14.5mm | 19 |
| MB6CG-S3 | Cord grip | 14.5-17mm | 19 |
| MB4FSR-B10.3* | Flex Grip™ backshell | 9.5-10.3mm | 20 |
| MB4FSR-B12.5* | Flex Grip™ backshell | 11.5-12.5mm | 20 |
| MB4FSR-B14.5* | Flex Grip™ backshell | 13.5-14.5mm | 20 |
| MB4FSR-B17* | Flex Grip™ backshell | 15.5-17mm | 20 |

*Must be potted to achieve IP67 ratings.

## Checkmate™ Dimensions Straight Plug/ Plug Kits/ Panel Mount

*See Chart 1 for contacts options*

Plug, straight Checkmate™

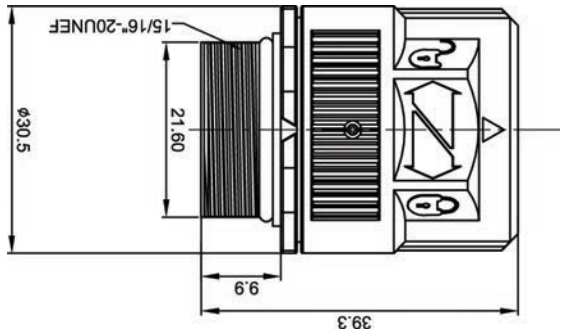



Figure 1 MB2CKN0600

Plug, straight, panel mount, Checkmate™

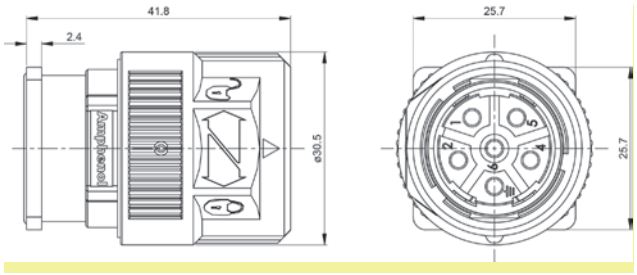



Figure 2 MB2GJN0600

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

## Checkmate™ Dimensions Straight Receptacles / Receptacles Extension

*See Chart 1 for contacts options*

### Receptacle kit, straight, Checkmate™

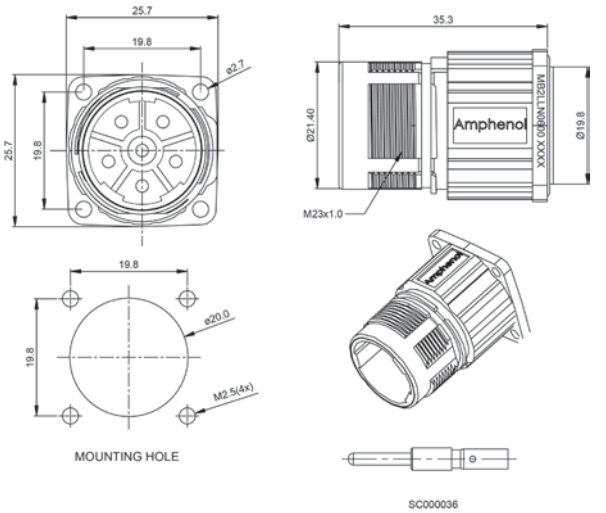



Figure 3

MB2LLN0600
MB2LLN0600-KIT

### Receptacle, straight, Checkmate™

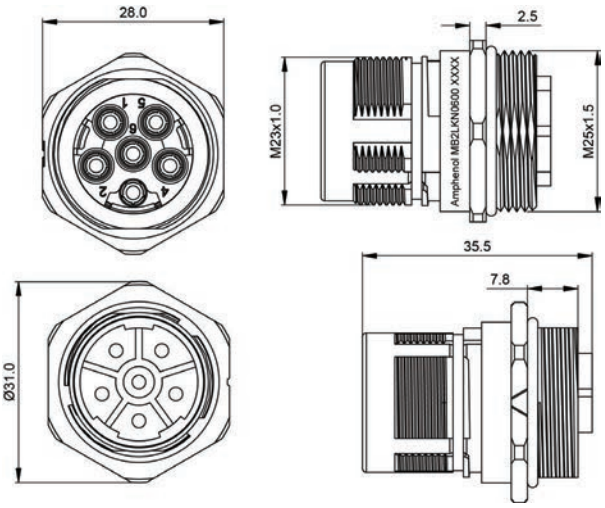



Figure 4

MB2LKN0600

### Receptacle extension, Checkmate

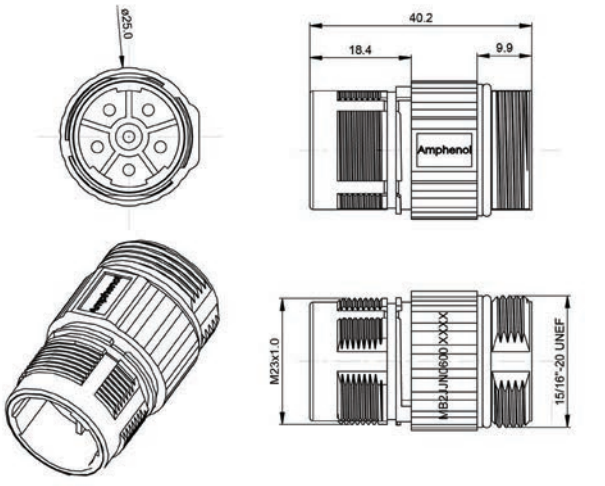



Figure 5

MB2JJN0600

Complete daasheets can be found at www.amphenol-sine.com

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

## Checkmate™ Dimensions 90° Receptacles

*See Chart 2 for contacts options*

Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

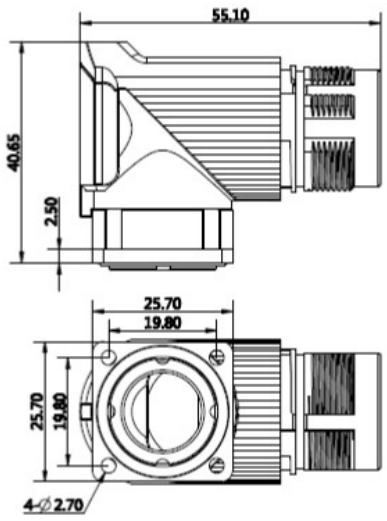



Figure 6 MB5RJN0601

Receptacle, 90° rotatable, Large Flange (28.0x28.0)

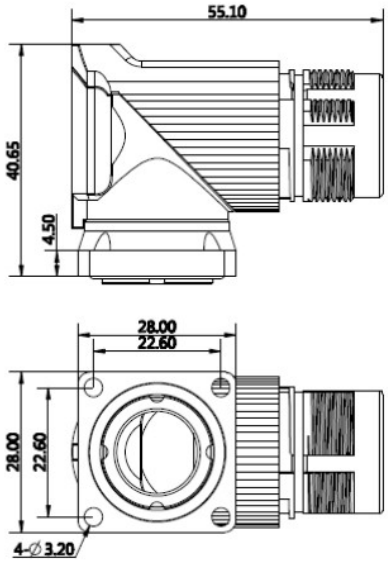



Figure 7 MB5RJN0602

## Threaded Dimensions Plugs/Plug Kit

*See Chart 1 for contacts options*

Plug, straight, threaded coupling

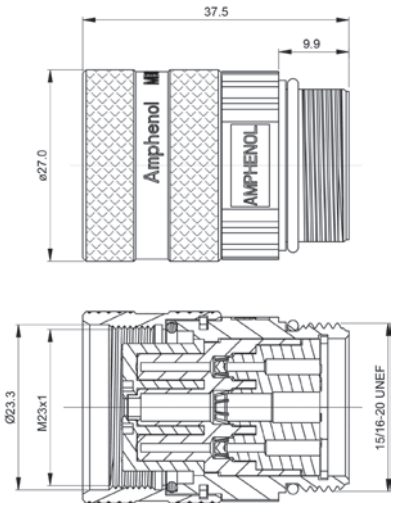



Figure 8 MB1CKN0600
MB1CKN0600-KIT

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

## Threaded Dimensions 90° Plug, Panel Mount Plug

*See Chart 1 for contacts options*

### 90° Rotatable Plug

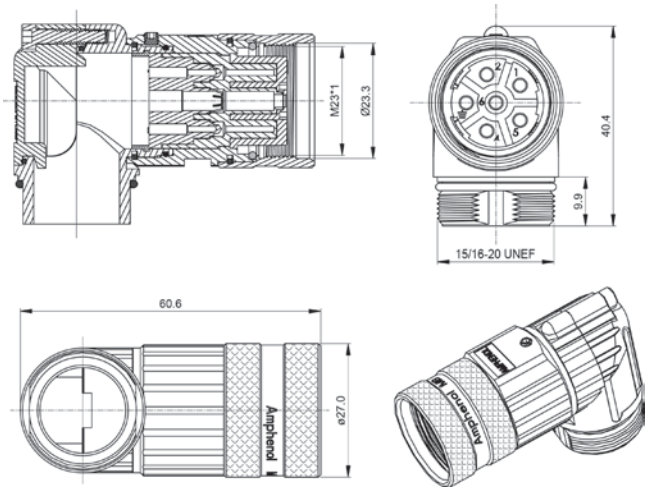



Figure 9 MB1EJN0600

### Plug, straight, panel mount, threaded

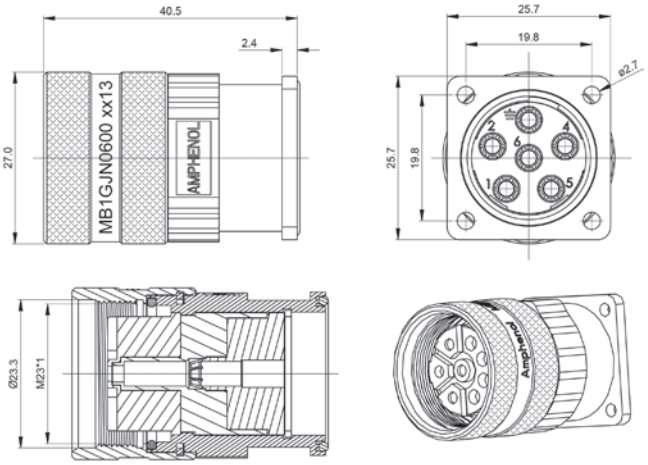



Figure 10 MB1GJN0600

## Threaded Dimensions Straight Receptacles / Receptacle Kit

*See Chart 1 for contacts options*

### Receptacle, straight, flange mount, threaded coupling

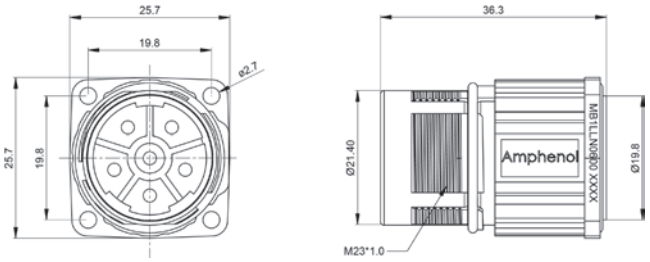



Figure 11 MB1LLN0600
MB1LLN0600-KIT

### Receptacle, straight, threaded coupling

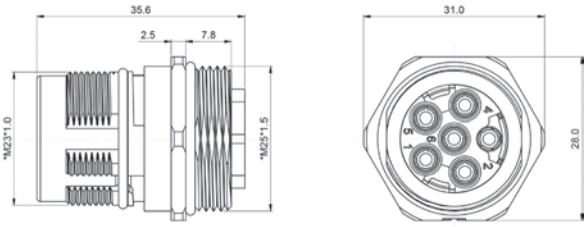



Figure 12 MB1LKN0600

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

## Threaded Dimensions Bulkhead Receptacles / Receptacle Kits / Receptacle Extension

*See Chart 1 for contacts options*

### Receptacle, bulkhead, threaded; 7.0-11.0. Cord Grip

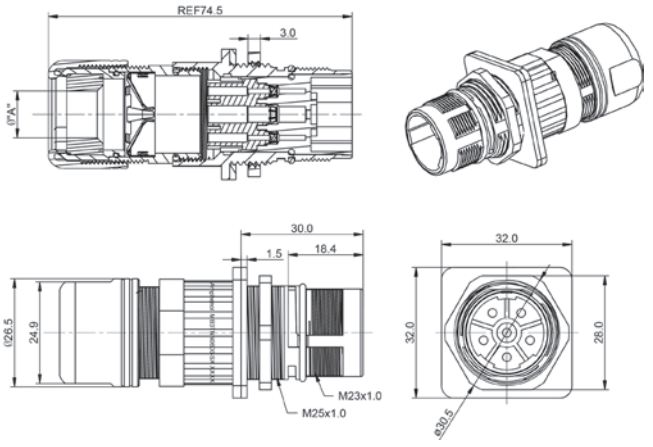



Figure 13 MB3TNN0600-S1

### Receptacle, bulkhead, threaded; 11-14.5 Cord Grip

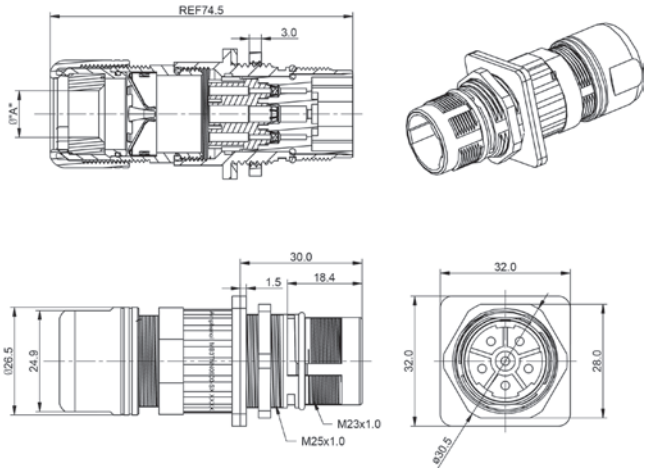



Figure 14 MB3TNN0600-S2

### Receptacle, bulkhead, threeaded; 14.5-17mm Cord Grip

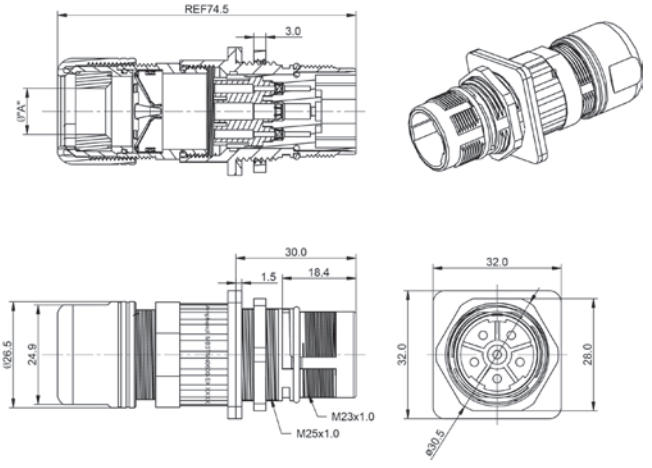



Figure 15 MB3TNN0600-S3

### Receptacle extension, threaded

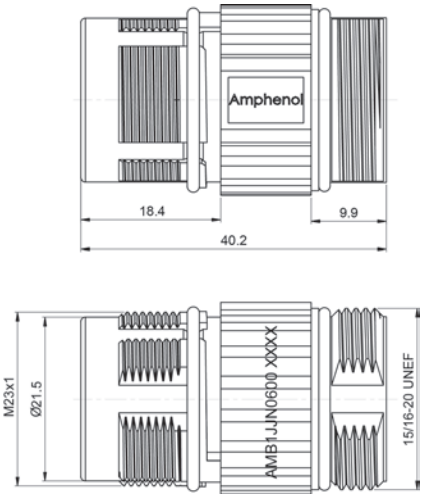



Figure 16 MB1JJN0600

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 mm²)

## Threaded Dimensions 90° Rotatable Receptacles / Dimensions Cord Grips / Backshells

*See Chart 2 for contacts options for 90° Rotatable Receptacles*

### Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

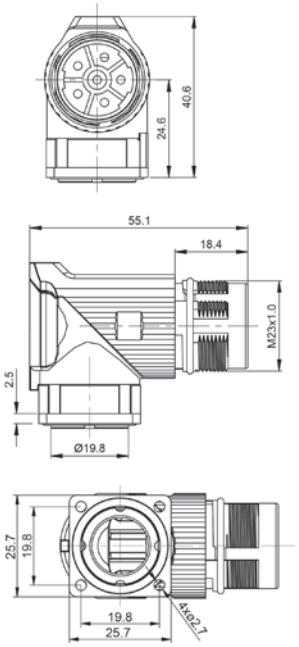



Figure 17 MB7RJN0601

### Receptacle, 90° rotatable, Large Flange (28.0x28.0)

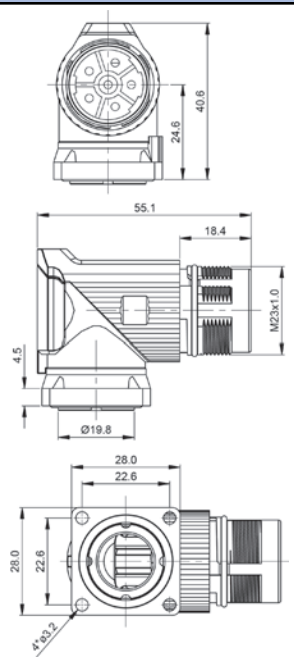



Figure 18 MB7RJN0602

### Cord Grips

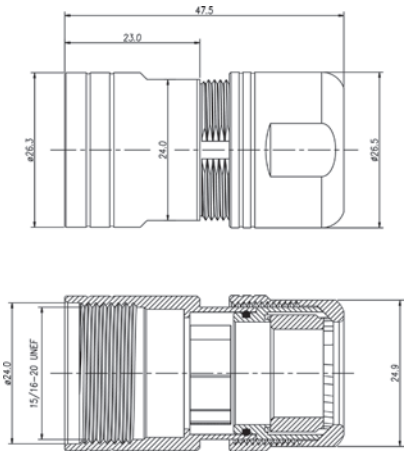



Figure 19 MB6CG-S1
MB6CG-S2
MB6CG-S3

### Flex Grip™ backshell

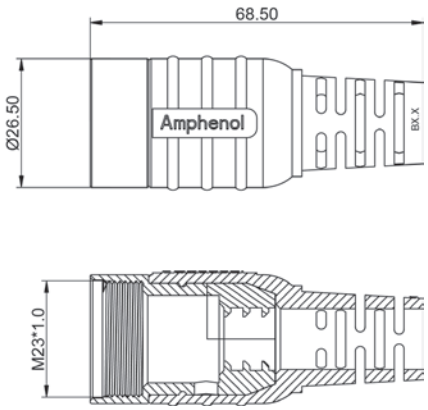



Figure 20 MB4FSR-B10.3
MB4FSR-B12.5
MB4FSR-B14.5
MB4FSR-B17.0

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 $mm^2$)

## Contacts

Machined Contacts

### CHART 1 Crimp Contacts, Machined

For ALL Parts except those listed below in Chart 2

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000036 | 2.0mm | Pin | 18-14 | 1.5 - 0.75 | Gold |
| SC000045 | 2.0mm | Socket | 18-14 | 1.5 - 0.75 | Gold |

### CHART 2 Crimp Contacts, Machined

For parts: MB7RJN0601, MB7RJN0602, MB5RJN0601, MB5RJN0602

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000262 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |
| SC000260 | 2.0mm | Socket | 20-14 | 2.5 - 0.5 | Gold |

Note: When 18 AWG wire is required use Elite Series plugs and 90° rotatable receptacles starting on page 105

**Number of Contacts: 6** **Contact Size: 2.0mm**

Sealing: IP66/67 AWG: 18-14 (0.75 - 2.5 $mm^2$)

## Tools & Accessories

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

AF8

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire Range 12-26AWG

WA27F

Extraction tool. Used for removal of 2.0mm contacts from inserts.

50-54931-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Threaded

P30663-06

Dust Cap for Plug, Checkmate™

P31661-06

* The universal positioner is not included with the crimp tools and must be ordered separately.

* The extraction tool is not required to remove contacts from the 90° Rotatable Receptacles

# Connector Solutions M23 Standard Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

*See page 18 for connector configurations*

SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 230

## Plugs

MB1CKN0800

MB1EJN0800

MB1GJN0800

MB2CKN0800

MB2GJN0800

## Receptacles

MB1LKN0800

MB7RJN0801
MB7RJN0802

MB1LLN0800

MB1JJN0800

MB3TNN0800-S1
MB3TNN0800-S2
MB3TNN0800-S3

MB2JJN0800

MB5RJN0801
MB5RJN0802

MB2LLN0800

MB2LKN0800

## Cord Grips

MB6CG-S1
MB6CG-S2
MB6CG-S3

## FlexGrip™ Backshell System

MB4FSR-B10.3
MB4FSR-B12.5
MB4FSR-B14.5
MB4FSR-B17

more about FlexGrip™ on page 282

**BULK CABLE starts on page 23**

## Plug Connector Kits

MB1CKN0800-KIT

## Receptacle Kits

MB1LLN0800-KIT

**Checkmate™**

MB2LLN0800-KIT

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

Check Mate™
Quick Locking Connectors

## Checkmate™ Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB2CKN0800 | Plug, straight, **Checkmate™** | Socket | 1 |
| MB2GJN0800 | Plug, straight, panel mount, **Checkmate™** | Socket | 2 |
| MB2LLN0800 | Receptacle, straight, flange mount, **Checkmate™** | Pin | 3 |
| MB2LLN0800-KIT | Receptacle Kit, straight, **Checkmate™.** Contacts included. | Pin | 3 |
| MB2LKN0800 | Receptacle, straight, M25, **Checkmate™** | Pin | 4 |
| MB2JJN0800 | Receptacle extension, **Checkmate™** | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 230 | | | |
| MB5RJN0801* | Receptacle, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | Pin | 6 |
| MB5RJN0802* | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | Pin | 7 |
| ↑ Contacts supplied separately see Chart 2 page 230 | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB1CKN0800 | Plug, straight, threaded coupling | Socket | 8 |
| MB1CKN0800-KIT | Plug kit, straight, threaded. Kit includes contacts | Socket | 8 |
| MB1EJN0800 | Plug, 90° rotatable, threaded coupling | Socket | 9 |
| MB1GJN0800 | Plug, straight, panel mount, threaded | Socket | 10 |
| MB1LLN0800 | Receptacle, straight, flange mount, threaded coupling | Pin | 11 |
| MB1LLN0800-KIT | Receptacle Kit, straight, threaded. Kit includes contacts | Pin | 11 |
| MB1LKN0800 | Receptacle, straight, M25, threaded coupling | Pin | 12 |
| MB3TNN0800-S1 | Receptacle, bulkhead, threaded, 7-11mm cord grip | Pin | 13 |
| MB3TNN0800-S2 | Receptacle, bulkhead, threaded, 11-14.5mm cord grip | Pin | 14 |
| MB3TNN0800-S3 | Receptacle, bulkhead, threaded, 14.5-17mm cord grip | Pin | 15 |
| MB1JJN0800 | Receptacle extension, threaded coupling | Pin | 16 |
| ↑ Contacts supplied separately see Chart 1 page 230 | | | |
| MB7RJN0801* | Receptacle, 90° rotatable, threaded Standard Flange (25.7x25.7) | Pin | 17 |
| MB7RJN0802* | Receptacle, 90° rotatable, threaded Large Flange (28.0x28.0) | Pin | 18 |
| ↑ Contacts supplied separately see Chart 2 page 230 | | | |

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 $mm^2$) / 18-22 (0.75 - 0.37 $mm^2$) / 24-28 (0.25 - 0.10$mm^2$)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MB6CG-S1 | Cord grip | 7.5-11mm | 19 |
| MB6CG-S2 | Cord grip | 11.0-14.5mm | 19 |
| MB6CG-S3 | Cord grip | 14.5-17mm | 19 |
| MB4FSR-B10.3* | Flex Grip™ backshell | 9.5-10.3mm | 20 |
| MB4FSR-B12.5* | Flex Grip™ backshell | 11.5-12.5mm | 20 |
| MB4FSR-B14.5* | Flex Grip™ backshell | 13.5-14.5mm | 20 |
| MB4FSR-B17* | Flex Grip™ backshell | 15.5-17mm | 20 |

*Must be potted to achieve IP67 ratings.

## Checkmate™ Dimensions Straight Plug/ Plug Kits/ Panel Mount

*See Chart 1 for contacts options*

Plug, straight, Checkmate™

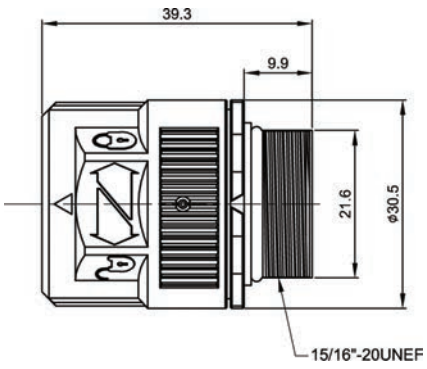



Figure 1 MB2CKN0800

Plug, straight, panel mount, Checkmate™

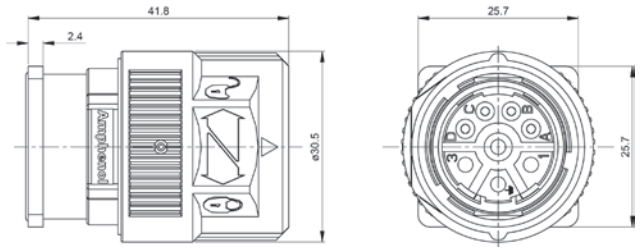



Figure 2 MB2GJN0800

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

# Checkmate™ Dimensions Straight Receptacles / Receptacles Extension

*See Chart 1 for contacts options*

## Receptacle Kit, straight, Checkmate™

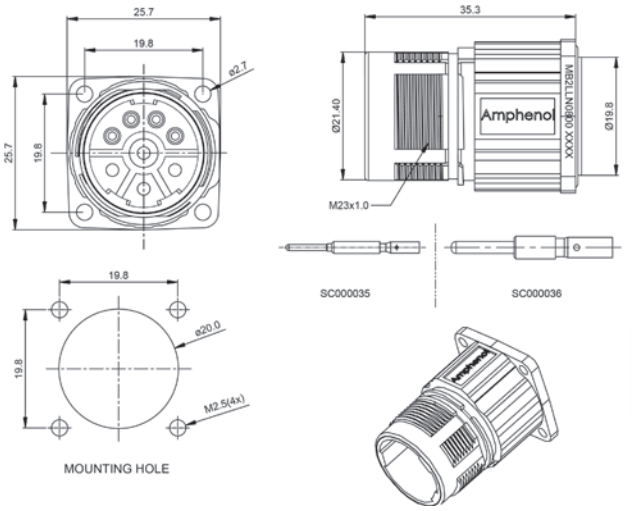



Figure 3

MB2LLN0800
MB2LLN0800-KIT

## Receptacle, straight, M25, Checkmate™

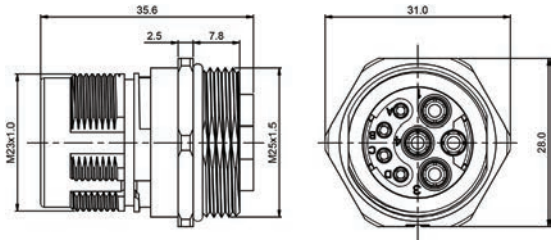



Figure 4

MB2LKN0800

## Receptacle extension, straight, Checkmate™

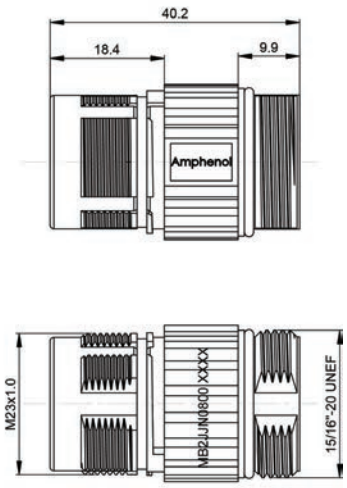



Figure 5

MB2JJN0800

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Checkmate™ Dimensions 90° Receptacles

*See Chart 2 for contacts options*

Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

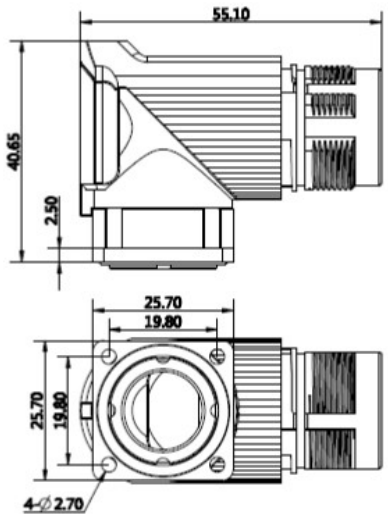



Figure 6 MB5RJN0801

Receptacle, 90° rotatable, Large Flange (28.0x28.0)

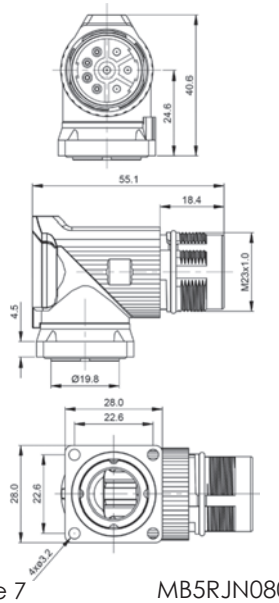



Figure 7 MB5RJN0802

## Threaded Dimensions Plugs/Plug Kit

*See Chart 1 for contacts options*

Plug Kit, straight, threaded

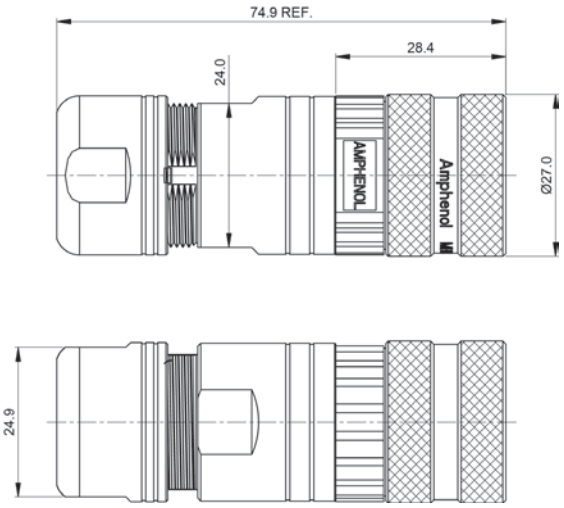



Figure 8 MB1CKN0800
MB1CKN0800-KIT

Complete datasheets can be found at www.amphenol-sine.com

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Threaded Dimensions 90° Plug / Panel Mount Plug

*See Chart 1 for contacts options*

Plug, 90° rotatable, threaded coupling

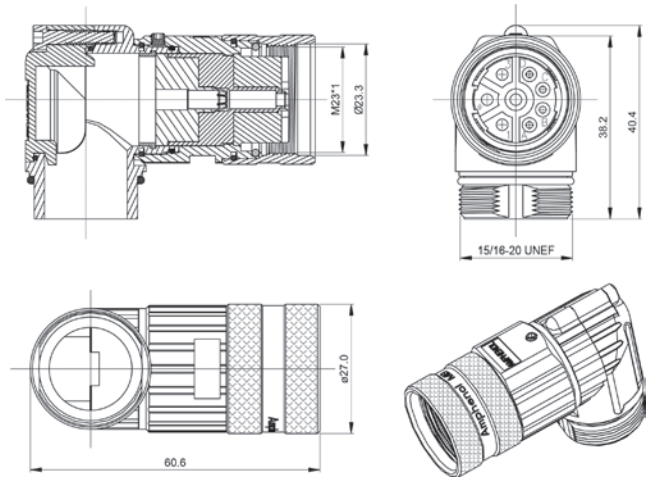



Figure 9 MB1EJN0800

Plug, straight, panel mount, threaded coupling

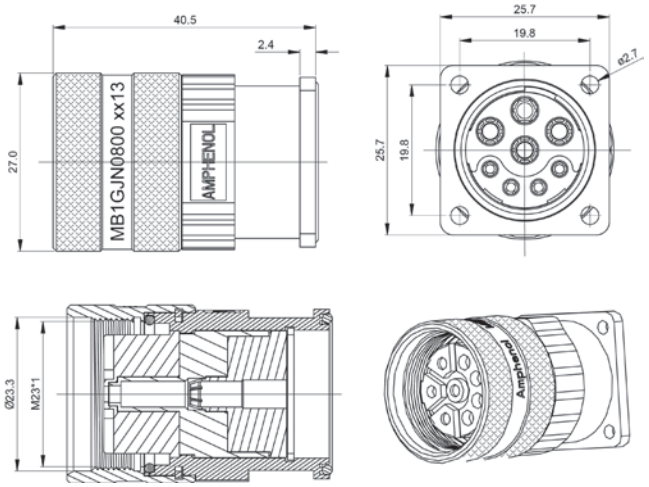



Figure 10 MB1GJN0800

## Threaded Dimensions Straight Receptacles

*See Chart 1 for contacts options*

Receptacle, straight, flange mount, threaded coupling

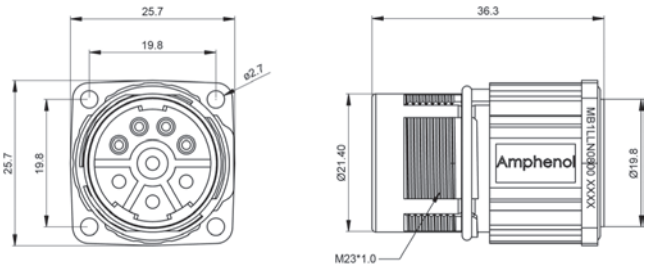



Figure 11 MB1LLN0800
MB1LLN0800-KIT

Receptacle, straight, M25, threaded coupling

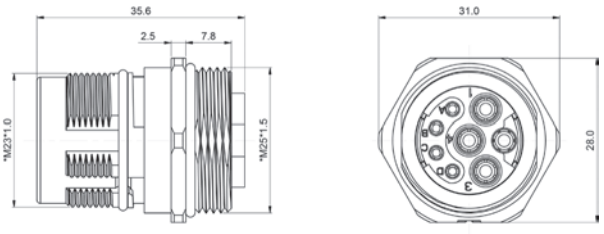



Figure 12 MB1LKN0800

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Threaded Dimensions Bulkhead Receptacles / Receptacle Kits

*See Chart 1 for contacts options*

Receptacle, bulkhead, threaded; 7-11mm Cord Grip

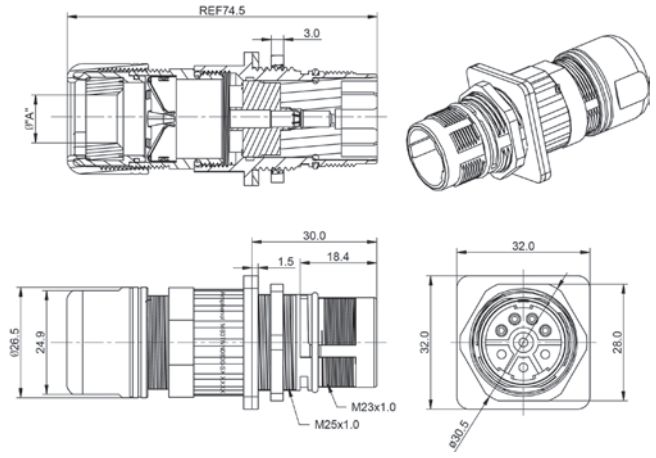



Figure 13 MB3TNN0800-S1

Receptacle, bulkhead, threaded; 11-14.5mm Cord Grip

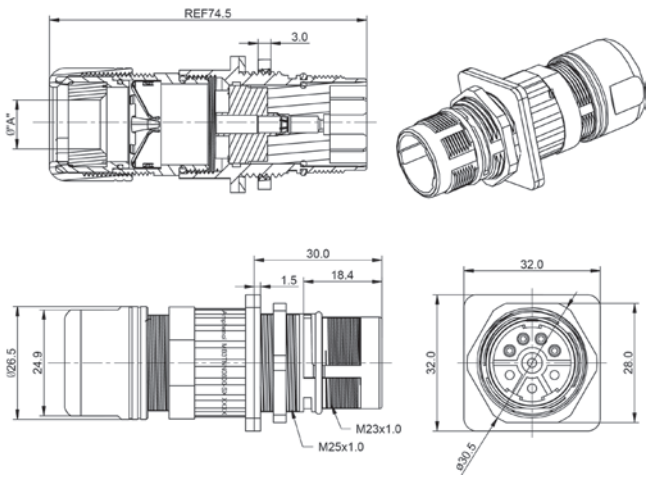



Figure 14 MB3TNN0800-S2

Receptacle, bulkhead, threaded; 14.5-17mm Cord Grip

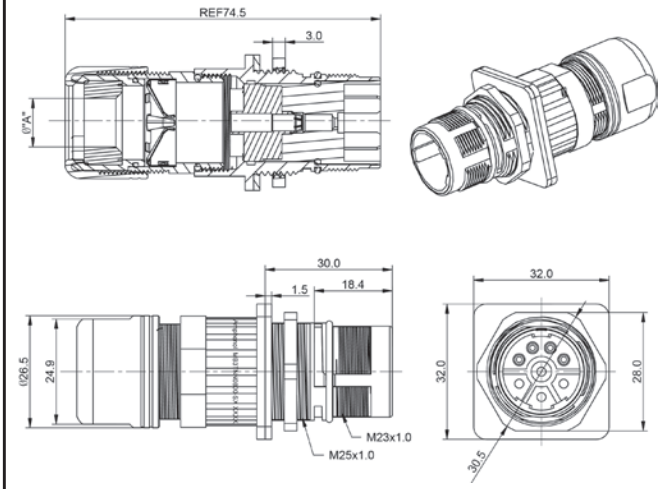



Figure 15 MB3TNN0800-S3

Complete datasheets can be found at www.amphenol-sine.com

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Threaded Dimensions Receptacle Extension / 90° Rotatable Receptacles

*See Chart 1 for contacts options*

*See Chart 2 for contacts options for 90° Rotatable Receptacles*

### Receptacle extension, straight, threaded

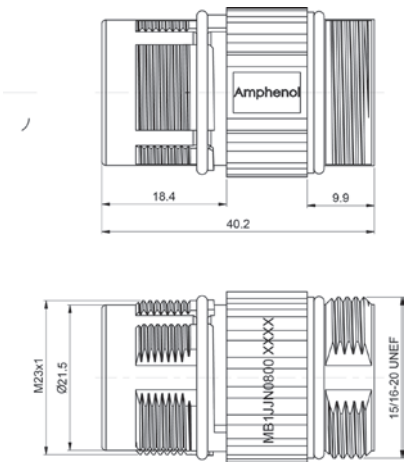



Figure 16 MB1JJN0800

### Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

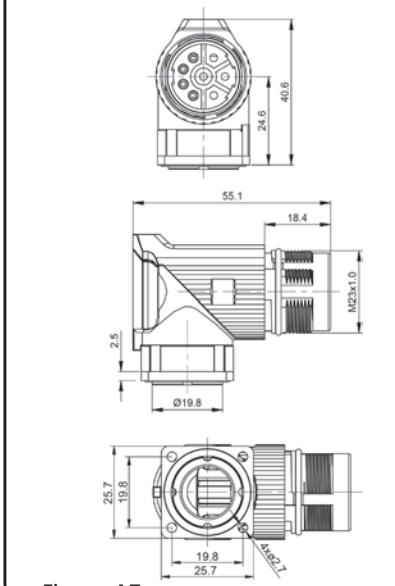



Figure 17 MB7RJN0801

### Receptacle, 90° rotatable, Large Flange (28.0x28.0)

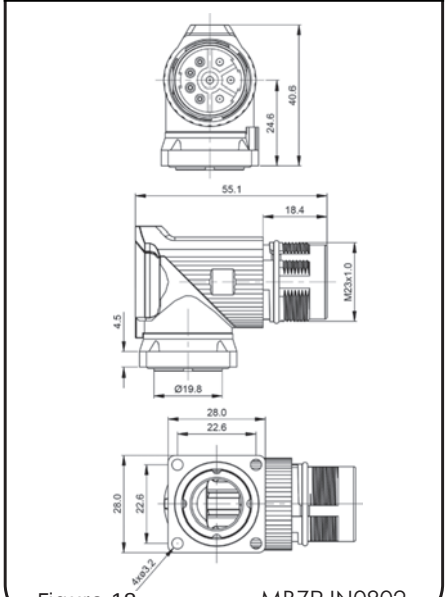



Figure 18 MB7RJN0802

## Dimensions Cord Grips / Backshells

### Cord Grips

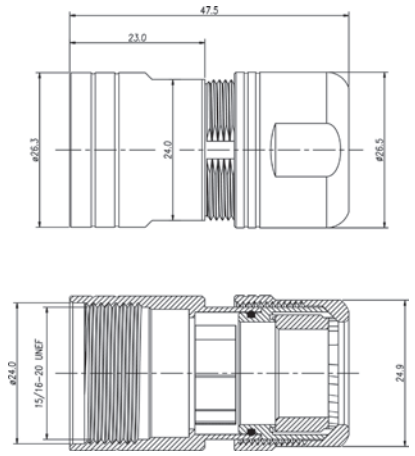



Figure 19 MB6CG-S1
MB6CG-S2
MB6CG-S3

### Flex Grip™ backshell

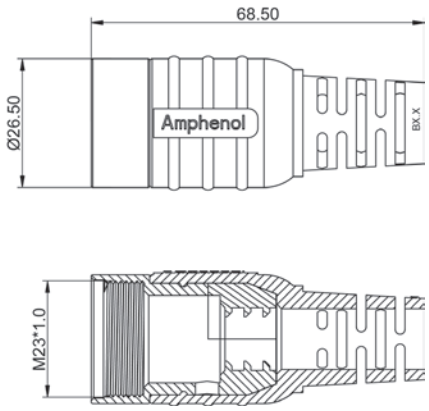



Figure 20 MB4FSR-B10.3
MB4FSR-B12.5
MB4FSR-B14.5
MB4FSR-B17.0

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 $mm^2$) / 18-22 (0.75 - 0.37 $mm^2$) / 24-28 (0.25 - 0.10$mm^2$)

## Contacts

Machined Contacts

### CHART 1 Crimp Contacts, Machined

For ALL Parts except those listed below in Chart 2

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000035 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000036 | 2.0mm | Pin | 18-14 | 1.5 - 0.75 | Gold |
| SC000044 | 1.0mm | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | 1.0mm | Socket | 28-24 | 0.10 - 0.25 | Gold |
| SC000045 | 2.0mm | Socket | 18-14 | 1.5 - 0.75 | Gold |

### CHART 2 Crimp Contacts, Machined

For parts: MB7RJN0801, MB7RJN0802, MB5RJN0801, MB5RJN0802

| Part # | Size | Type | AWG | $mm^2$ | Plating |
|---|---|---|---|---|---|
| SC000261 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000386 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000262 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |
| SC000260 | 2.0mm | Socket | 20-14 | 2.5 - 0.5 | Gold |
| SC000259 | 2.0mm | Socket | 18-14 | 0.75 - 2.5 | Gold |
| SC000385 | 1.0mm | Socket | 28-24 | 0.10 - 0.25 | Gold |

Note: When 18-22 AWG wire is required use Elite Series plugs and 90° rotatable receptacles starting on page 117

**8 (4+4) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**

**Number of Contacts: 8 (4+4)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Tools

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

WA22

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire Range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

AF8

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

AFM8

Extraction tool. Used for removal of 2.0mm contacts from inserts.

50-54931-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Threaded

P30663-08

Dust Cap for Plug, Checkmate™

P31661-08

* The universal positioner is not included with the crimp tools and must be ordered separately.

* The extraction tool is not required to remove contacts from the 90° Rotatable Receptacles

# Connector Solutions M23 Standard Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

*See page 18 for connector configurations*

SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 240

## Plugs

MB1CKN0900

MB1EJN0900

MB1GJN0900

MB2CKN0900

MB2GJN0900

## Receptacles

MB1LKN0900

MB5RJN0901
MB5RJN0902

MB1LLN0900

MB1JJN0900

MB3TNN0900-S1
MB3TNN0900-S2
MB3TNN0900-S3

MB2LKN0900

MB7RJN0901
MB7RJN0902

MB2LLN0900

MB2JJN0900

## Plug Connector Kits

MB1CKN0900-KIT

## Receptacle Kits

MB1LLN0900-KIT

**Checkmate™**
MB2LLN0900-KIT

## Cord Grips

MB6CG-S1
MB6CG-S2
MB6CG-S3

## FlexGrip™ Backshell System

MB4FSR-B10.3
MB4FSR-B12.5
MB4FSR-B14.5
MB4FSR-B17

more about FlexGrip™ on page 282

**BULK CABLE starts on page 23**

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266

**9 (4+5) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing: IP66/67**
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Checkmate™ Connector Part Numbers

Check Mate™ Quick Locking Connectors

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB2CKN0900 | Plug, straight, **Checkmate™** | Socket | 1 |
| MB2GJN0900 | Plug, straight, panel mount, **Checkmate™** | Socket | 2 |
| MB2LLN0900 | Receptacle, straight, flange mount, **Checkmate™** | Pin | 3 |
| MB2LLN0900-KIT | Receptacle kit, straight, **Checkmate™.** Contacts included. | Pin | 3 |
| MB2LKN0900 | Receptacle, straight, M25, **Checkmate™** | Pin | 4 |
| MB2JJN0900 | Receptacle extension, straight, **Checkmate™** | Pin | 5 |
| ↑ Contacts supplied separately see Chart 1 page 240 | | | |
| MB5RJN0901* | Receptacle, 90° rotatable, **Checkmate™** Standard Flange (25.7x25.7) | Pin | 6 |
| MB5RJN0902* | Receptacle, 90° rotatable, **Checkmate™** Large Flange (28.0x28.0) | Pin | 7 |
| ↑ Contacts supplied separately see Chart 2 page 240 | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MB1CKN0900 | Plug, straight, threaded coupling | Socket | 8 |
| MB1CKN0900-KIT | Plug kit, straight, threaded coupling. Contact included. | Socket | 8 |
| MB1EJN0900 | Plug , 90° rotatable, threaded coupling | Socket | 9 |
| MB1GJN0900 | Plug, straight, panel mount, threaded | Socket | 10 |
| MB1LLN0900 | Receptacle, straight, flange mount, threaded coupling | Pin | 11 |
| MB1LLN0900-KIT | Receptacle kit, straight, threaded. Contacts included. | Pin | 11 |
| MB1LKN0900 | Receptacle, straight, M25, threaded coupling | Pin | 12 |
| MB3TNN0900-S1 | Receptacle, bulkhead, threaded; 7-11mm cord grip | Pin | 13 |
| MB3TNN0900-S2 | Receptacle, bulkhead, threaded; 11-14.5mm cord grip | Pin | 14 |
| MB3TNN0900-S3 | Receptacle, bulkhead, threaded; 14.5-17mm cord grip | Pin | 15 |
| MB1JJN0900 | Receptacle extension, straight, threaded | Pin | 16 |
| ↑ Contacts supplied separately see Chart 1 page 240 | | | |
| MB7RJN0901* | Receptacle, 90° rotatable, Threaded Standard Flange (25.7x25.7) | Pin | 17 |
| MB7RJN0902* | Receptacle, 90° rotatable, Threaded Large Flange (28.0x28.0) | Pin | 18 |
| ↑ Contacts supplied separately see Chart 2 page 240 | | | |

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MB6CG-S1 | Cord grip | 7.5-11mm | 19 |
| MB6CG-S2 | Cord grip | 11.0-14.5mm | 19 |
| MB6CG-S3 | Cord grip | 14.5-17mm | 19 |
| MB4FSR-B10.3* | Flex Grip™ backshell | 9.5-10.3mm | 20 |
| MB4FSR-B12.5* | Flex Grip™ backshell | 11.5-12.5mm | 20 |
| MB4FSR-B14.5* | Flex Grip™ backshell | 13.5-14.5mm | 20 |
| MB4FSR-B17* | Flex Grip™ backshell | 15.5-17mm | 20 |

*Must be potted to achieve IP67 ratings.

## Checkmate™ Dimensions Straight Plug/ Plug Kits/ Panel Mount

*See Chart 1 for contacts options*

Plug, straight, Checkmate™

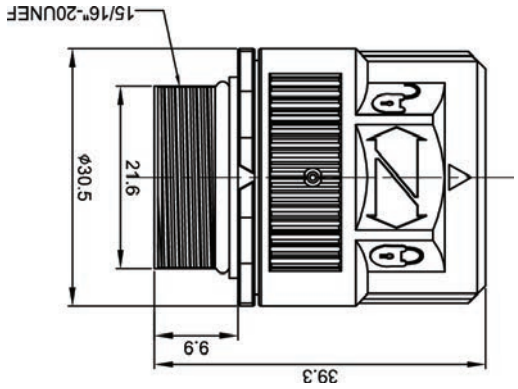



Figure 1 MB2CKN0900

Plug, straight, panel mount, Checkmate™

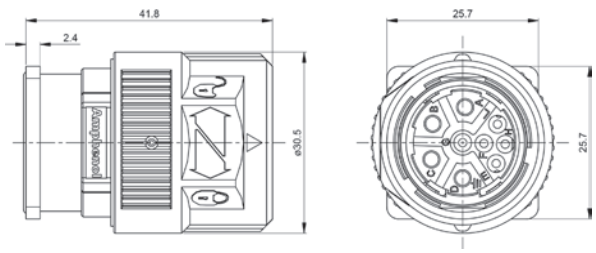



Figure 2 MB2GJN0900

**9 (4+5) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Checkmate™ Dimensions Straight Receptacles / Receptacles Extension

*See Chart 1 for contacts options*

### Receptacle kit, straight, Checkmate™

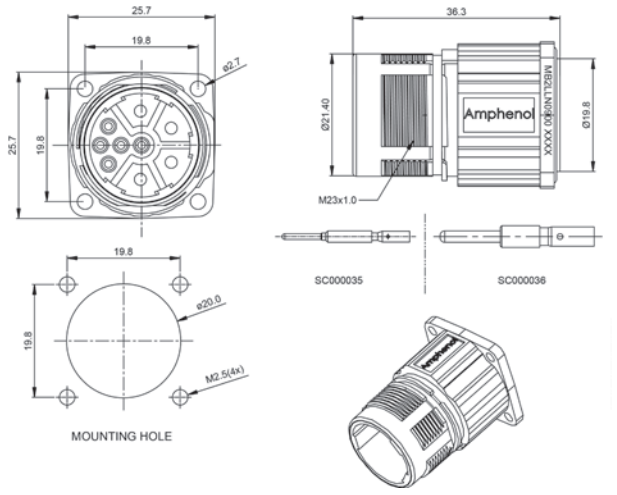



Figure 3

MB2LLN0900
MB2LLN0900-KIT

### Receptacle, straight, M25, Checkmate™

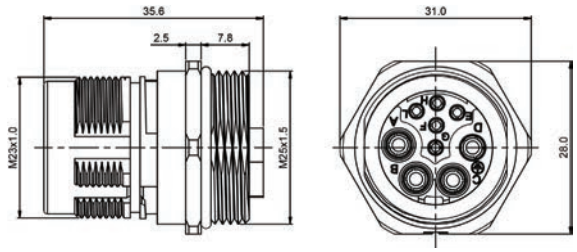



Figure 4

MB2LKN0900

### Receptacle extension, straight Checkmate™

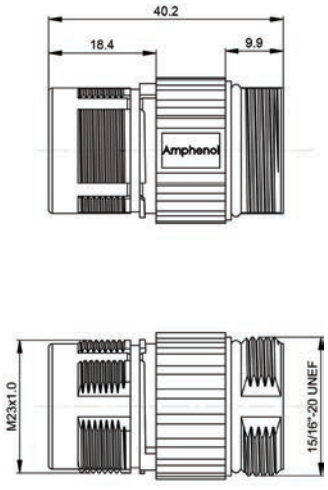



Figure 5

MB2JJN0900

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Checkmate™ Dimensions 90° Receptacles

*See Chart 2 for contacts options*

Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

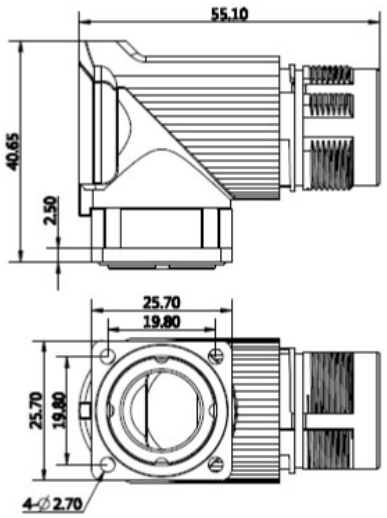



Figure 6 MB5RJN0901

Receptacle, 90° rotatable, Large Flange (28.0x28.0)

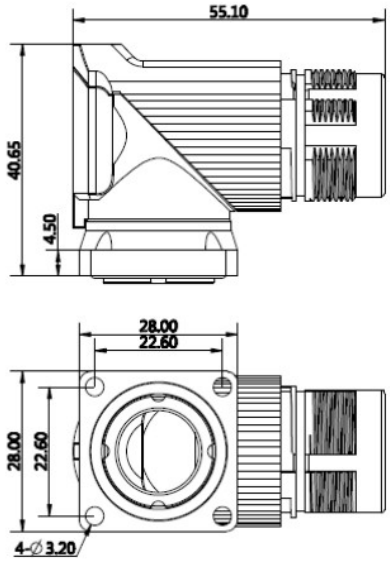



Figure 7 MB5RJN0902

## Threaded Dimensions Plugs/Plug Kit

*See Chart 1 for contacts options*

Plug kit, straight, female, threaded

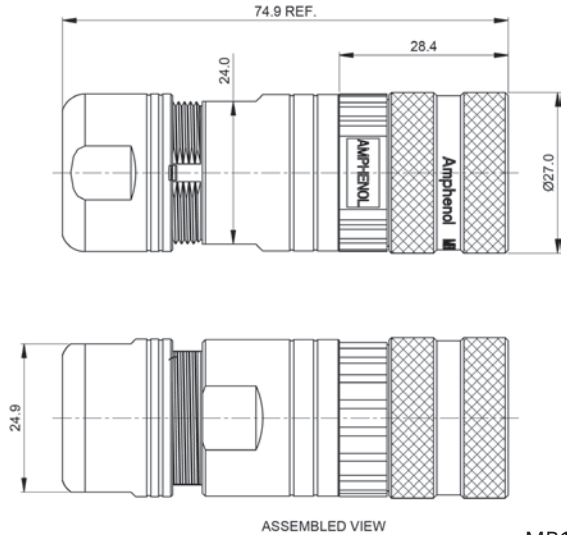



Figure 8 MB1CKN0900
MB1CKN0900-KIT

Complete datasheets can be found at www.amphenol-sine.com

**9 (4+5) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Threaded Dimensions 90° Plug / Panel Mount Plug

*See Chart 1 for contacts options*

Plug, 90° rotatable, threaded coupling

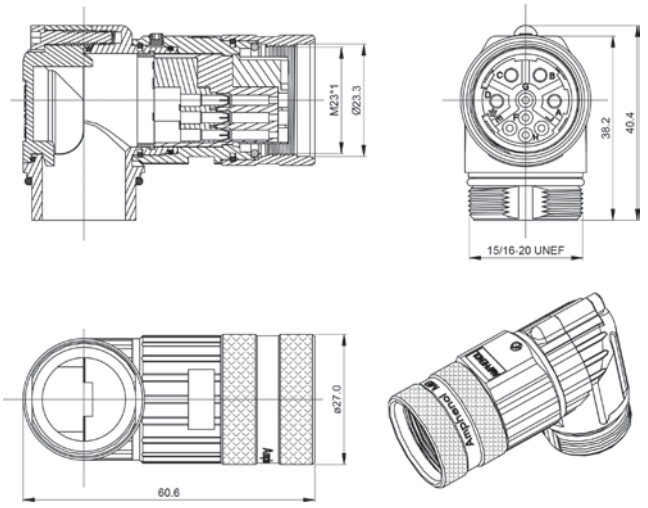



Figure 9 MB1EJN0900

Plug, straight, panel mount, threaded

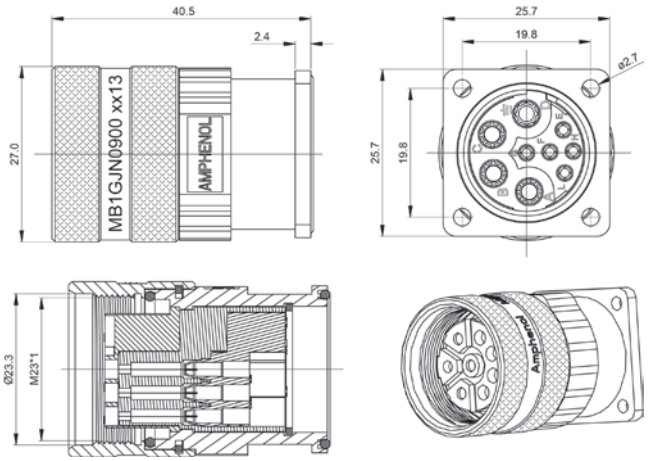



Figure 10 MB1GJN0900

## Threaded Dimensions Straight Receptacles

*See Chart 1 for contacts options*

Receptacle, kit, straight, threaded

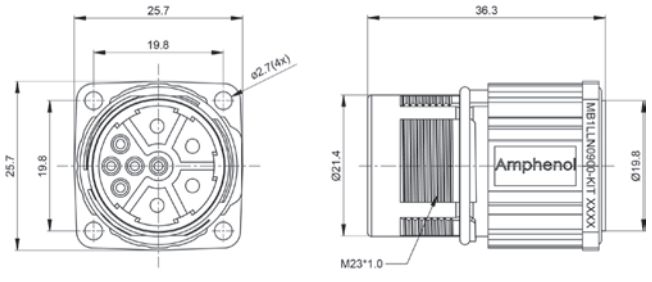



Figure 11 MB1LLN0900
MB1LLN0900-KIT

Receptacle, straight, M25, threaded coupling

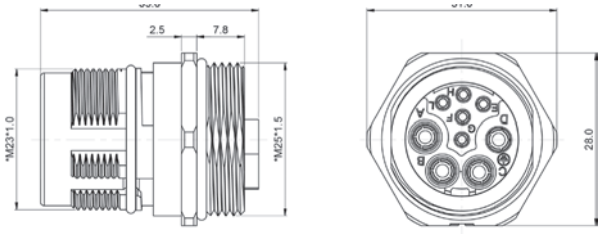



Figure 12 MB1LKN0900

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing: IP66/67**
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Threaded Dimensions Bulkhead Receptacles / Receptacle Kits

*See Chart 1 for contacts options*

Receptacle, bulkhead, threaded; 7-11mm Cord Grip

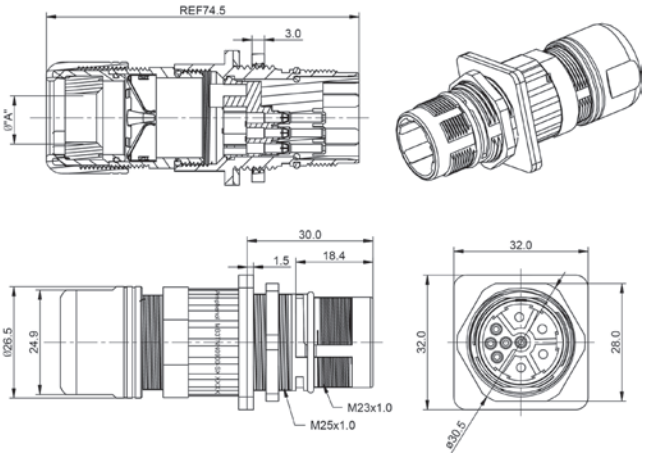



Figure 13 MB3TNN0900-S1

Receptacle, bulkhead, threaded; 11-14.5mm Cord Grip

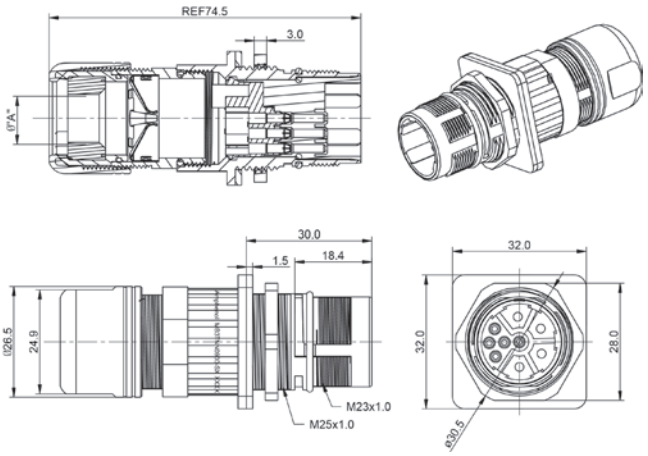



Figure 14 MB3TNN0900-S2

Receptacle, bulkhead, threaded; 14.5-17mm Cord Grip

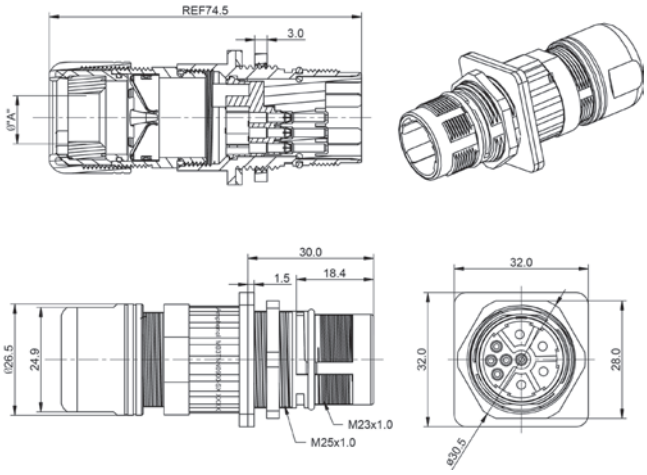



Figure 15 MB3TNN0900-S3

Complete datasheets can be found at www.amphenol-sine.com

**9 (4+5) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing: IP66/67**
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Threaded Dimensions Receptacle Extension / 90° Rotatable Receptacles

*See Chart 1 for contacts options*

*See Chart 2 for contacts options for 90° Rotatable Receptacles*

### Receptacle extension, straight, threaded coupling

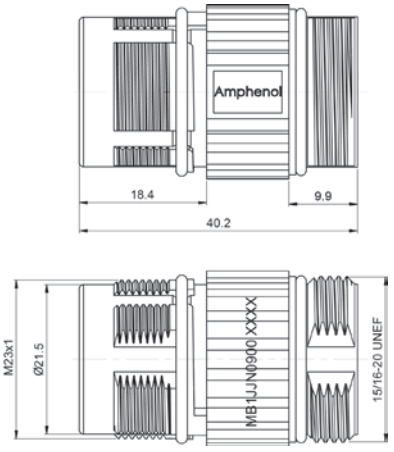



Figure 16 MB1JJN0900

### Receptacle, 90° rotatable, Standard Flange (25.7x25.7)

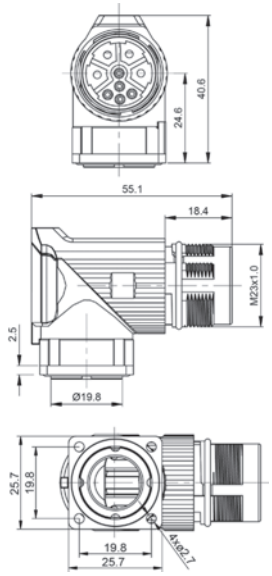



Figure 17 MB7RJN0901

### Receptacle, 90° rotatable, Large Flange (28.0x28.0)

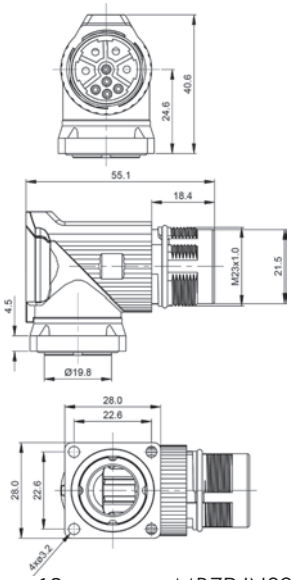



Figure 18 MB7RJN0902

## Dimensions Cord Grips / Backshells

### Cord Grips

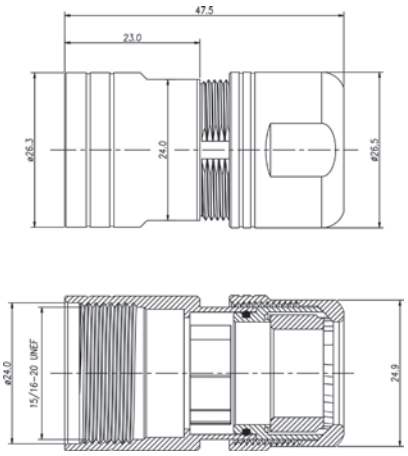



Figure 19 MB6CG-S1
MB6CG-S2
MB6CG-S3

### Flex Grip™ backshell

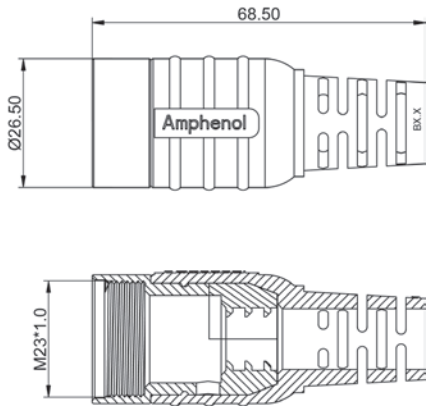



Figure 20 MB4FSR-B10.3
MB4FSR-B12.5
MB4FSR-B14.5
MB4FSR-B17.0

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing: IP66/67**
**AWG:** 18-14 (0.75 - 2.5 mm²) / 18-22 (0.75 - 0.37 mm²) / 24-28 (0.25 - 0.10mm²)

## Contacts

Machined Contacts

### CHART 1 Crimp Contacts, Machined

For ALL Parts except those listed below in Chart 2

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000035 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000036 | 2.0mm | Pin | 18-14 | 1.5 - 0.75 | Gold |
| SC000044 | 1.0mm | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | 1.0mm | Socket | 28-24 | 0.10 - 0.25 | Gold |
| SC000045 | 2.0mm | Socket | 18-14 | 1.5 - 0.75 | Gold |

### CHART 2 Crimp Contacts, Machined

For parts: MB7RJN0801, MB7RJN0802, MB5RJN0801, MB5RJN0802

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000261 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000386 | 1.0mm | Pin | 28-24 | 0.10 - 0.25 | Gold |
| SC000262 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |
| SC000260 | 2.0mm | Socket | 20-14 | 2.5 - 0.5 | Gold |
| SC000259 | 2.0mm | Socket | 18-14 | 0.75 - 2.5 | Gold |
| SC000385 | 1.0mm | Socket | 28-24 | 0.10 - 0.25 | Gold |

Note: When 18-22 AWG wire is required use Elite Series plugs and 90° rotatable receptacles starting on page 129

**9 (4+5) POSITIONS**
**Power 30A/ 630V**
**Signal 10A/ 250V**

**Number of Contacts: 9 (4+5)** **Contact Size: 1.0mm, 2.0mm** **Sealing: IP66/67**
**AWG:** 18-14 (0.75 - 2.5 $mm^2$) / 18-22 (0.75 - 0.37 $mm^2$) / 24-28 (0.25 - 0.10$mm^2$)

## Tools

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

WA22

Pneumatic crimp tool. Uses universal positioner part no. UH2-5*. Wire Range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

AF8

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

AFM8

Extraction tool. Used for removal of 2.0mm contacts from inserts.

50-54931-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Threaded

P30663-09

Dust Cap for Plug, Checkmate™

P31661-09

* The universal positioner is not included with the crimp tools and must be ordered separately.

* The extraction tool is not required to remove contacts from the 90° Rotatable Receptacles

# Connector Solutions M23 Standard Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

*See page 18 for connector configurations*

SEE TABLE ON NEXT PAGE FOR PART DETAILS

**Plugs**

MB1CKNNG36

MB1EJNNG36

MB1GJNNG36

MB2CKNNG36

MB2GJNNG36

**Receptacles**

MB1LLNNG36

MB1RJNNG36

MB1LKNNG36

MB1JJNNG36

MB2LLNNG36

MB2RJNNG36

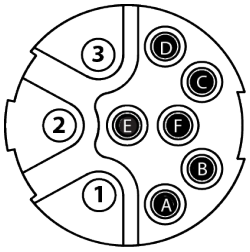
MB2LKNNG36

MB2JJNNG36

**Receptacle Kit**

MB1LLNNG36-KIT

**Cord Grips**



MB6CG-S1
MB6CG-S2
MB6CG-S3

**FlexGrip™ Backshell System**

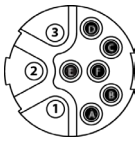
MB4FSR-B10.3
MB4FSR-B12.5
MB4FSR-B14.5
MB4FSR-B17

more about FlexGrip™ on page 282

**BULK CABLE starts on page 23**

CONTACTS SOLD SEPARATELY SEE PAGE 248

*Elite Series receptacles are offered here as additional options for mating with Standard Series plugs. See Assembly Instructions starting on page 266



**9 (3+6) POSITIONS**
**Power 30A/ 250V**
**Signal 10A/ 630V**

**Number of Contacts: 9 (3+6)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67

**AWG:** 12 (4.0mm²) / 18-14 (0.75 - 2.5 mm²) / 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10mm²)

## Checkmate™ Connector Part Numbers

Check Mate™ Quick Locking Connectors

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | Figure Drawings |
|---|---|---|---|
| MB2CKNNG36 | Plug, straight, **Checkmate™** | Socket | 1 |
| MB2GJNNG36 | Plug, straight, panel mount, **Checkmate™** | Socket | 2 |
| MB2LLNNG36 | Receptacle, straight flange mount, **Checkmate™** | Pin | 3 |
| MB2LKNNG36 | Receptacle, straight, M25, **Checkmate™** | Pin | 4 |
| MB2RJNNG36 | 90° rotatable receptacle, **Checkmate™** | Pin | 5 |
| MB2JJNNG36 | Receptacle extension, straight, **Checkmate™** | Pin | 6 |
| ↑ Contacts supplied separately see Chart 1 page 248 | | | |

## Threaded Connector Part Numbers

| Part Number | Connector Type<br>*Checkmate™ parts will mate with threaded parts. Just remove the O-ring from the threaded part.* | Contact Type<br>male = pin mates with female = socket<br>↓Mating Parts↓ | Figure Drawings |
|---|---|---|---|
| MB1CKNNG36 | Plug, straight, threaded coupling | Socket | 7 |
| MB1EJNNG36 | Plug, 90° rotatable, threaded coupling | Socket | 8 |
| MB1GJNNG36 | Plug, straight, panel mount, threaded coupling | Socket | 9 |
| MB1LLNNG36 | Receptacle, straight, flange mount, threaded coupling | Pin | 10 |
| MB1LLNNG36-KIT | Receptacle kit, straight, threaded coupling. Kit includes contacts | Pin | 13 |
| MB1LKNNG36 | Receptacle, straight, M25, threaded coupling | Pin | 11 |
| MB1RJNNG36 | Receptacle, 90° rotatable, threaded coupling | Pin | 12 |
| MB1JJNNG36 | Receptacle extension, straight, threaded coupling | Pin | 14 |
| ↑ Contacts supplied separately see Chart 1 page 248 | | | |

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MB6CG-S1 | Cord grip | 7.5-11mm | 14 |
| MB6CG-S2 | Cord grip | 11.0-14.5mm | 14 |
| MB6CG-S3 | Cord grip | 14.5-17mm | 14 |
| MB4FSR-B10.3* | Flex Grip™ backshell | 9.5-10.3mm | 15 |
| MB4FSR-B12.5* | Flex Grip™ backshell | 11.5-12.5mm | 15 |
| MB4FSR-B14.5* | Flex Grip™ backshell | 13.5-14.5mm | 15 |
| MB4FSR-B17* | Flex Grip™ backshell | 15.5-17mm | 15 |

*Must be potted to achieve IP67 ratings.

**Number of Contacts: 9 (3+6)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67

**AWG:** 12 (4.0mm²) / 18-14 (0.75 - 2.5 mm²) / 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10mm²)

## Checkmate™ Dimensions Straight Plugs / Receptacles

### Plug, straight, Checkmate™

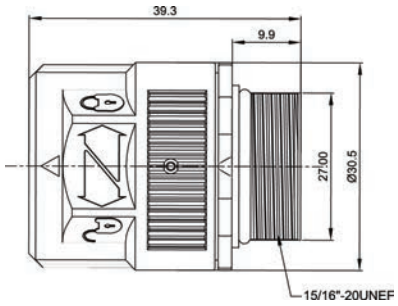



Figure 1 MB2CKNNG36

### Plug, straight, panel mount, Checkmate™

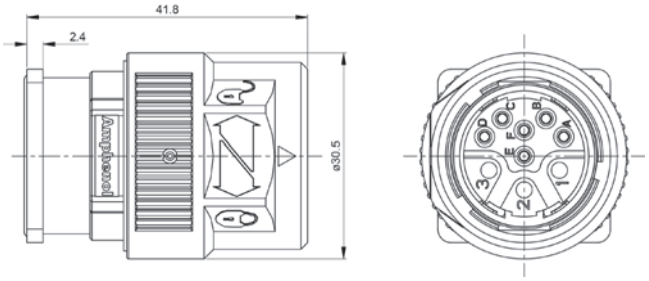



Figure 2 MB2GJNNG36

### Receptacle, straight, flange mount, Checkmate™

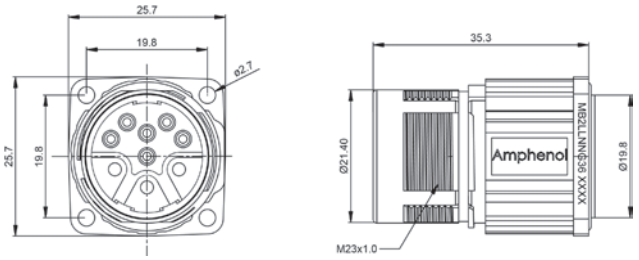



Figure 3 MB2LLNNG36

### Receptacle, straight, M25 Checkmate™

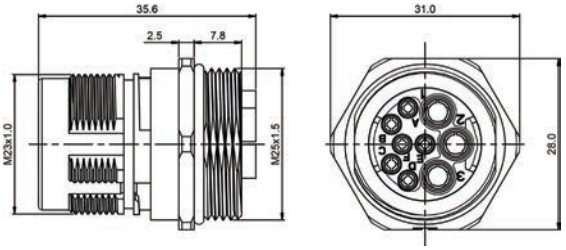



Figure 4 MB2LKNNG36

### Receptacle, 90° rotatable, Checkmate™

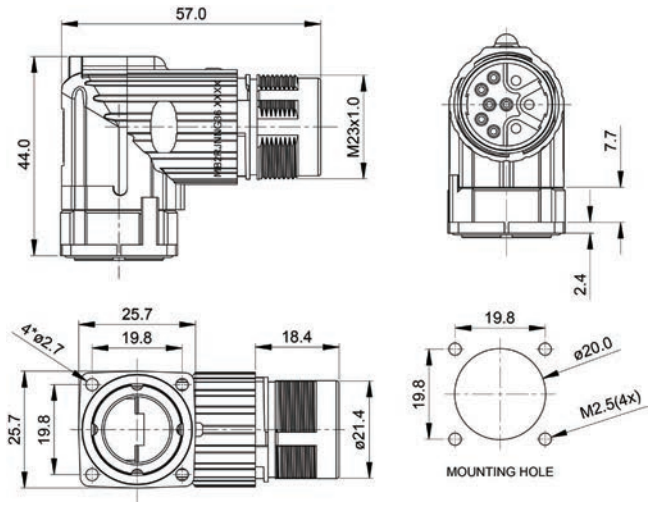



Figure 5 MB2RJNNG36

### Receptacle extension, straight, Checkmate™

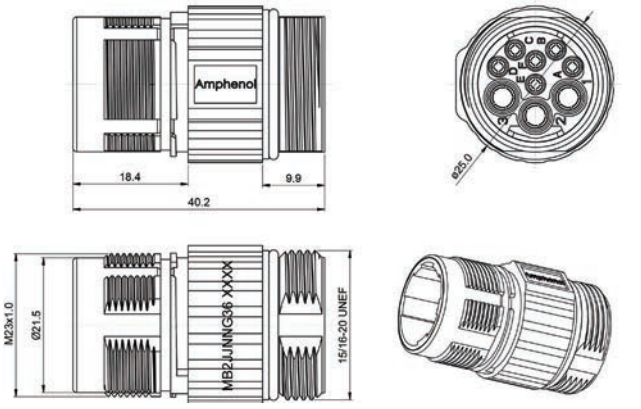
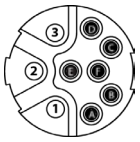



Figure 6 MB2JJNNG36

Complete datasheets can be found at www.amphenol-sine.com



**9 (3+6) POSITIONS**
**Power 30A/ 250V**
**Signal 10A/ 630V**

**Number of Contacts: 9 (3+6)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67

**AWG:** 12 (4.0mm²) / 18-14 (0.75 - 2.5 mm²) / 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10mm²)

## Threaded Dimensions Plugs/ Receptacles

### Plug, straight, threaded coupling

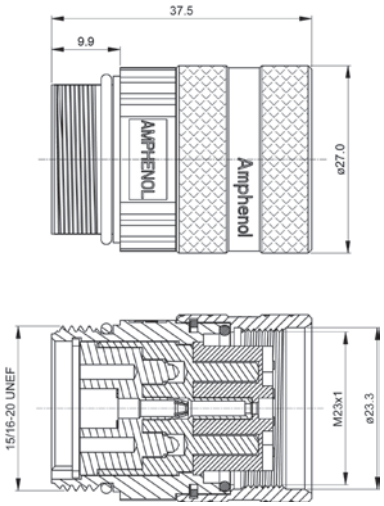



Figure 7 MB1CKNNG36

### Plug, 90° rotatable, threaded coupling

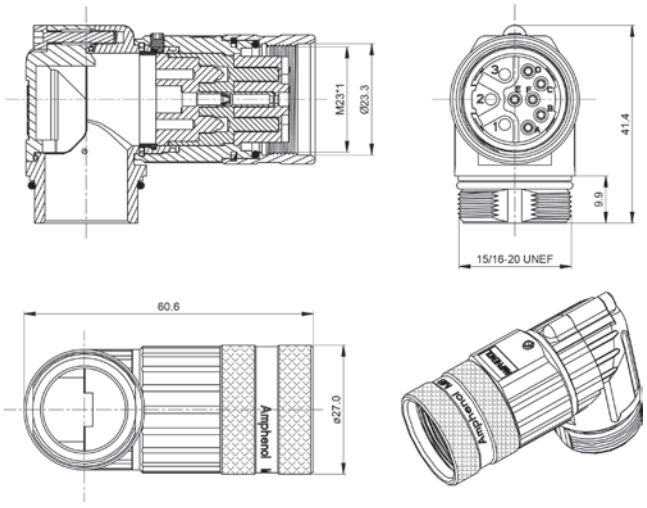



Figure 8 MB1EJNNG36

### Plug, straight, panel mount, threaded

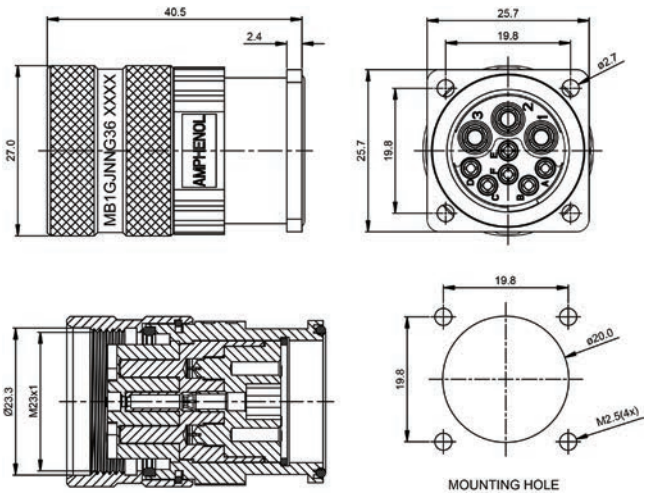



Figure 9 MB1GJNNG36

### Receptacle, straight, flange mount, threaded coupling

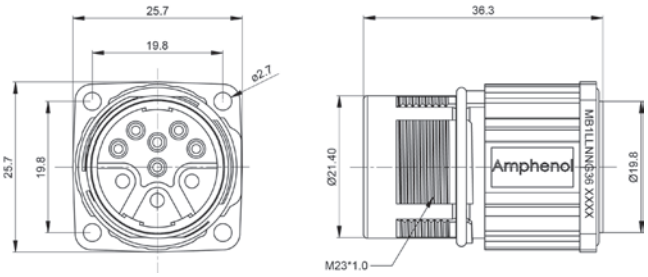



Figure 10 MB1LLNNG36

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 9 (3+6)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67

**AWG:** 12 (4.0mm²) / 18-14 (0.75 - 2.5 mm²) / 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10mm²)

## Threaded Dimensions Panel Mount Connector / Receptacle Extensions

### Receptacle, straight, M25 threaded

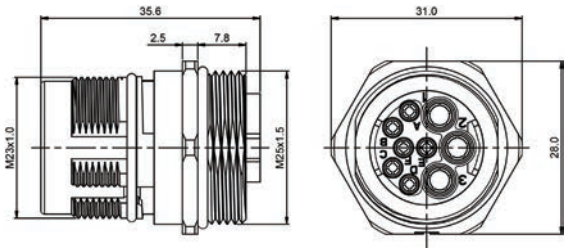



Figure 11 MB1LKNNG36

### Receptacle, 90° rotatable, threaded

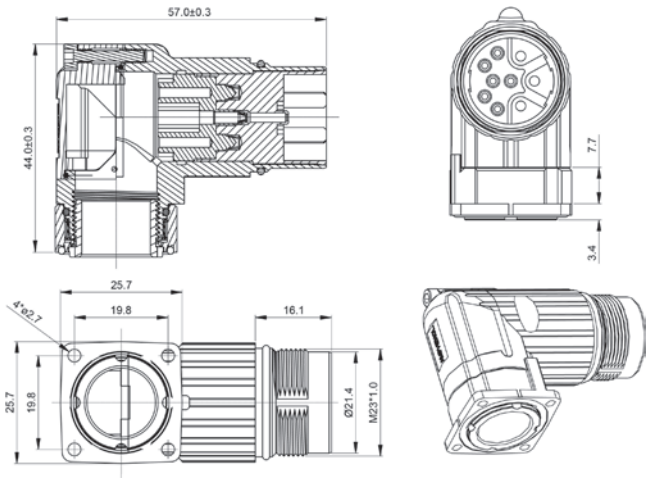



Figure 12 MB1RJNNG36

### Receptacle kit, straight, threaded coupling

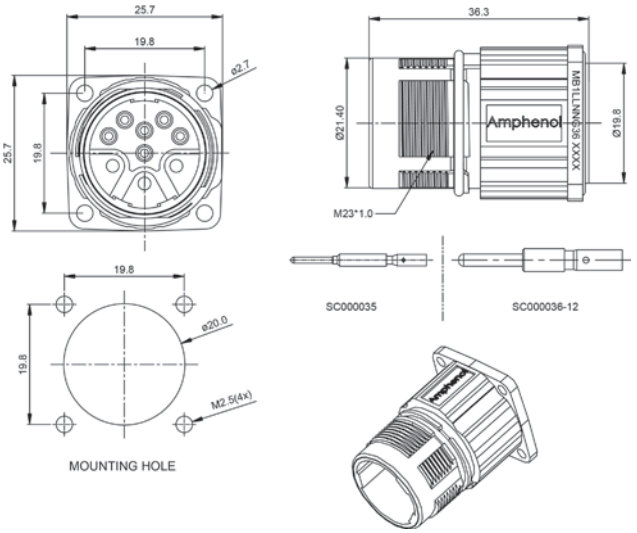



Figure 13 MB1LLNNG36-KIT

### Receptacle extension, straight threaded coupling

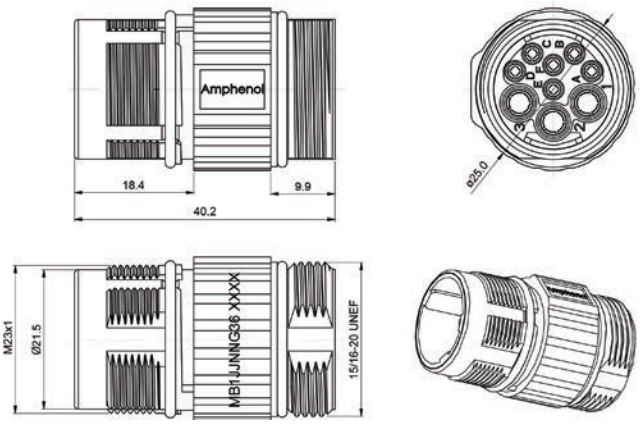
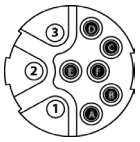



Figure 14 MB1JJNNG36



**9 (3+6) POSITIONS**
**Power 30A/ 250V**
**Signal 10A/ 630V**

**Number of Contacts: 9 (3+6)** **Contact Size: 1.0mm, 2.0mm** **Sealing:** IP66/67

**AWG:** 12 (4.0mm²) / 18-14 (0.75 - 2.5 mm²) / 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10mm²)

## Dimensions Cord Grips/ Backshells

### Cord Grips

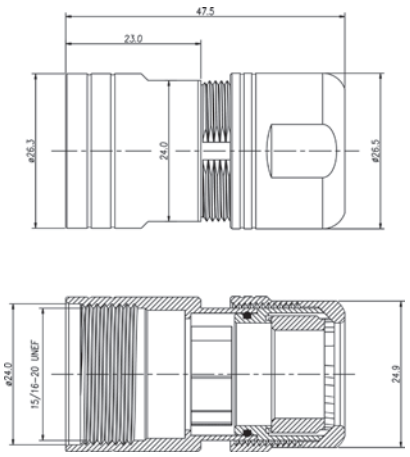



Figure 21

MB6CG-S1
MB6CG-S2
MB6CG-S3

### Flex Grip™ backshell

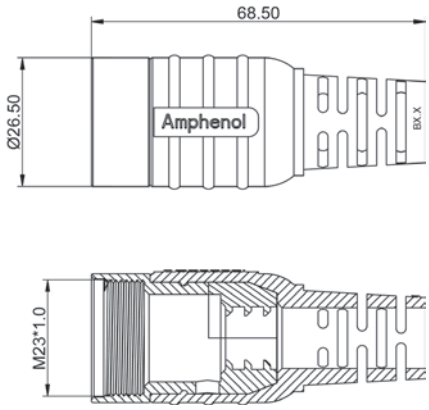



Figure 22

MB4FSR-B10.3
MB4FSR-B12.5
MB4FSR-B14.5
MB4FSR-B17.0

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 9 (3+6)** **Contact Size: 1.0mm, 2.0mm** **Sealing: IP66/67**

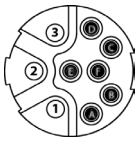
**AWG:** 12 (4.0mm²) / 18-14 (0.75 - 2.5 mm²) / 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10mm²)

## Contacts

Machined Contacts

### CHART 1 Crimp Contacts, Machined

| Part # | Size | Type | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000035 | 1.0mm | Pin | 22-18 | 0.37 - 0.75 | Gold |
| SC000146 | 1.0mm | Pin | 28-24 | 0.10 - 0.37 | Gold |
| SC000036 | 2.0mm | Pin | 18-14 | 1.5 - 0.75 | Gold |
| SC000036-12 | 2.0mm | Pin | 12 | 4.0 | Gold |
| SC000044 | 1.0mm | Socket | 22-18 | 0.37 - 0.75 | Gold |
| SC000030 | 1.0mm | Socket | 28-24 | 0.10 - 0.37 | Gold |
| SC000045 | 2.0mm | Socket | 18-14 | 1.5 - 0.75 | Gold |
| 65-80041 | 2.0mm | Socket | 12 | 4.0 | Gold |



**9 (3+6) POSITIONS**
**Power 30A/ 250V**
**Signal 10A/ 630V**

**Number of Contacts: 9 (3+6)** **Contact Size: 1.0mm, 2.0mm** **Sealing: IP66/67**

**AWG:** 12 (4.0mm²) / 18-14 (0.75 - 2.5 mm²) / 22-18 (0.37 - 0.75 mm²) / 24-28 (0.25 - 0.10mm²)

## Tools

Pneumatic crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

WA22

Pneumatic crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

WA27F

Extraction tool. Used for removal of 1.0mm contacts from inserts.

50-54931-1

Universal hand crimp tool. Uses universal positioner part no. UH2-5* Wire Range 12-26AWG

AF8

Universal hand crimp tool. Uses universal positioner part no. SK2-2* Wire Range 20-32AWG

AFM8

Extraction tool. Used for removal of 2.0mm contacts from inserts.

50-54931-2

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Universal positioner is used with crimp tools AFM8 and WA22. Wire range 20-32AWG

SK2-2

Dust Cap for Receptacle

P29687

Dust Cap for Plug, Threaded

P30663-09

Dust Cap for Plug, Checkmate™

P31661-09

* The universal positioner is not included with the crimp tools and must be ordered separately.

# Connector Solutions M40 Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

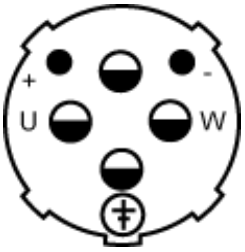
See page 20 for connector configurations

**Plugs**

MC2UPN0600

**Receptacles**

MC2LKN0600 MC2NJN0600




**Receptacle Extension**

MC2JJN0600

**FlexGrip™ Backshell System**

MC4FSR-C18.5

more about FlexGrip™ on page 282

**Cord Grips**

MC3CG-S1
MC3CG-S2
MC3CG-S3
MC3CG-S4
MC3CG-S5
MC3CG-S6
MC3CG-S7

## Connector Part Numbers

| Part Number | Connector Type | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MC2UPN0600 | Plug, straight, Checkmate™ | Socket | 1 |
| MC2JJN0600 | Receptacle extension, straight, Checkmate™ | Pin | 2 |
| MC2NJN0600 | Receptacle, 90° fixed, Checkmate™ | Pin | 3 |
| MC2LKN0600 | Receptacle, straight, Checkmate™ | Pin | 4 |

Contacts supplied separately, see page 252

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MC4FSR-C18.5* | Flex Grip™ backshell | 17.5-18.5mm | 6 |
| MC3CG-S1 | Cord grip | 10.0-12.0mm | 7 |
| MC3CG-S2 | Cord grip | 12.0-14.5mm | 7 |
| MC3CG-S3 | Cord grip | 14.0-17.0mm | 7 |
| MC3CG-S4 | Cord grip | 17.0-19.0mm | 8 |
| MC3CG-S5 | Cord grip | 19.0-21.0mm | 8 |
| MC3CG-S6 | Cord grip | 21.0-23.0mm | 8 |
| MC3CG-S7 | Cord grip | 23.5-25.5mm | 8 |

*Must be potted to achieve IP67 ratings.

SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 252

BULK CABLE starts on page 23

**6 (4+2) POSITIONS**
**Power 75A/ 630V**
**Signal 30A/ 250V**
**Checkmate™**

**Number of Contacts: 6 (4+2)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) 12-8 (4.0 - 10.0 mm²)

## Dimensions Plug / Cable Connector / Receptacles

### Plug, straight, Checkmate™

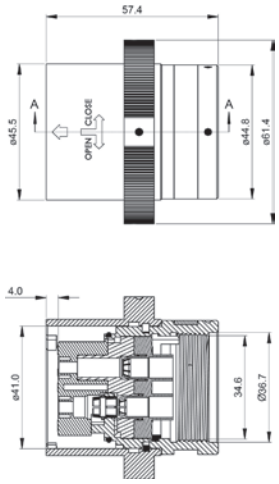



Figure 1 MC2UPN0600

### Receptacle extension, straight, Checkmate™

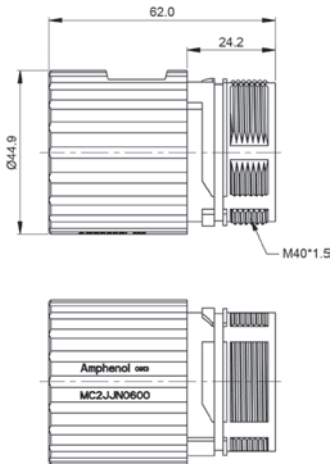



Figure 2 MC2JJN0600

### Receptacle, 90° fixed, Checkmate™

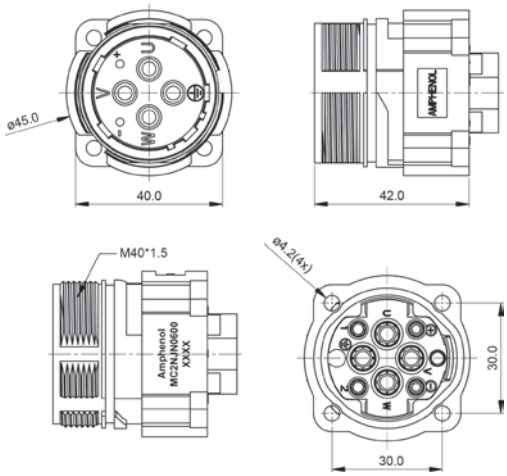



Figure 3 MC2NJN0600

### Receptacle, straight, Checkmate™

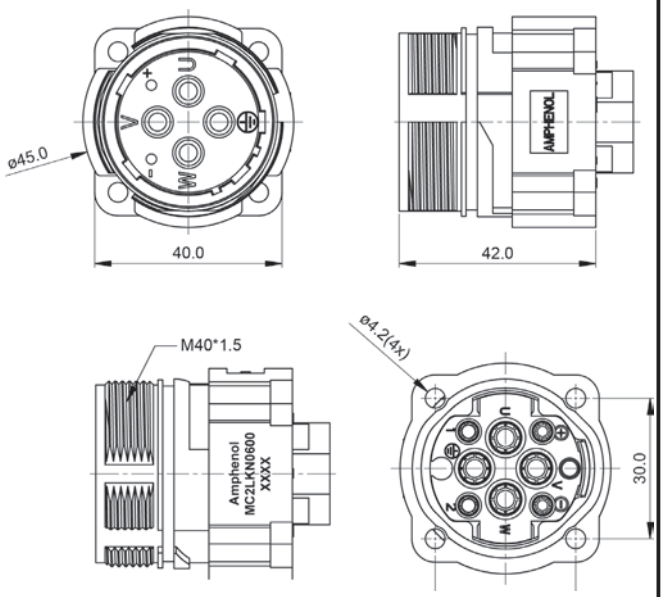



Figure 4 MC2LKN0600

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 6 (4+2)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) 12-8 (4.0 - 10.0 mm²)

## Dimensions Cord Grips

Flex Grip™ backshell

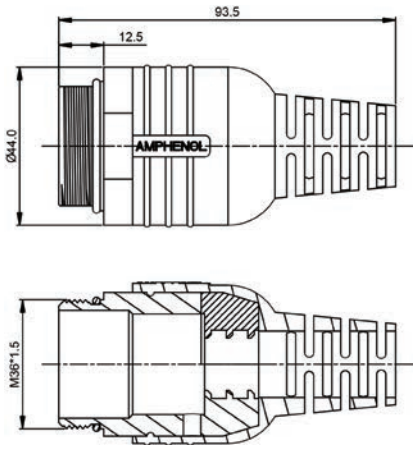



Figure 6 MC4FSR-C18.5

Cord grip

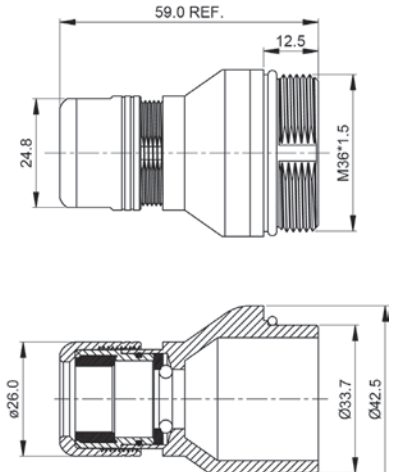



Figure 7 MC3CG-S1
MC3CG-S2
MC3CG-S3

Cord grip

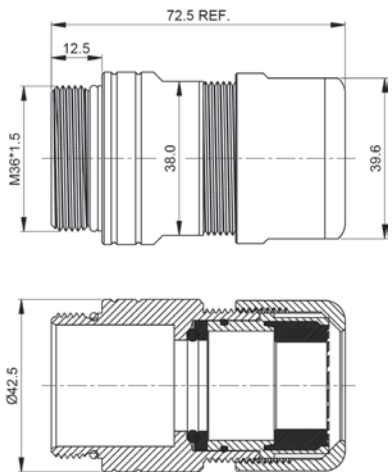



Figure 8 MC3CG-S4
MC3CG-S5
MC3CG-S6
MC3CG-S7

## Contacts

### Crimp Contacts, Machined

| Part Number | Size | Pln/Socket | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000040 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |
| SC000041 | 3.6mm | Pin | 12-8 | 4.0 - 10.0 | Gold |
| SC000045 | 2.0mm | Socket | 18-14 | 0.75 - 2.5 | Gold |
| SC000046 | 3.6mm | Socket | 12-8 | 4.0 - 10.0 | Gold |

Complete datasheets can be found at www.amphenol-sine.com

**6 (4+2) POSITIONS**
**Power 75A/ 630V**
**Signal 30A/ 250V**
**Checkmate™**

**Number of Contacts: 6 (4+2)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) 12-8 (4.0 - 10.0 mm²)

## Tools

Extraction tool. Used for removal of 2.0mm (#14) contacts from inserts.

50-54931-2

Extraction tool. Used for removal of 3.6mm (#8) contacts from inserts.

50-54931-3

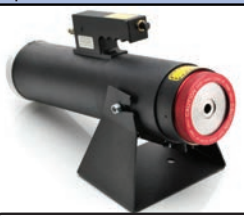
Universal hand crimp tool. Uses universal positioner part no. UH2-5. Wire crimp range 12-26AWG

AF8

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. WA23-101DA



WA23

Pneumatic crimp tool. Uses universal positioner part no. UH2-5. Wire range 12-26WG

WA27F

Die Assembly, Size 10, is used with the Pneumatic crimp tool. WA23

WA23-101DA

Hand Crimp tool. Uses MFX-3966 crimp locator

M300-25A

Crimp Locator 3.6mm Power contact adjustable. Used with WA23 Crimp tool

MFX-3961

Contact Locator Tool

MFX-3966

* The universal positioner is not included with the crimp tools and must be ordered separately.

# Connector Solutions M40 Series

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

See page 20 for connector configurations

SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 228

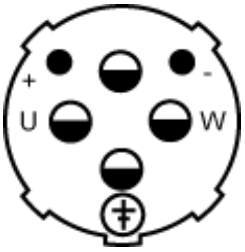
**Plugs**

MC1CJN0600

**Receptacles**

MC1LKN0600

MC1NJN0600




**Receptacle Extension**

MC1JJN0600

**FlexGrip™ Backshell System**

MC4FSR-C18.5

more about FlexGrip™ on page 282

**Cord Grips**

MC3CG-S1
MC3CG-S2
MC3CG-S3

MC3CG-S4
MC3CG-S5
MC3CG-S6
MC3CG-S7

## Connector Part Numbers

| Part Number | Connector Type | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MC1CJN0600 | Plug, straight, threaded | Socket | 1 |
| MC1JJN0600 | Receptacle extension, straight, threaded | Pin | 2 |
| MC1NJN0600 | Receptacle, 90° fixed, threaded | Pin | 3 |
| MC1LKN0600 | Receptacle, straight, threaded | Pin | 4 |

Contacts supplied separately, see page 256

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MC4FSR-C18.5* | Flex Grip™ backshell | 17.5-18.5mm | 5 |
| MC3CG-S1 | Cord grip | 10.0-12.0mm | 6 |
| MC3CG-S2 | Cord grip | 12.0-14.5mm | 6 |
| MC3CG-S3 | Cord grip | 14.0-17.0mm | 6 |
| MC3CG-S4 | Cord grip | 17.0-19.0mm | 7 |
| MC3CG-S5 | Cord grip | 19.0-21.0mm | 7 |
| MC3CG-S6 | Cord grip | 21.0-23.0mm | 7 |
| MC3CG-S7 | Cord grip | 23.5-25.5mm | 7 |

*Must be potted to achieve IP67 ratings.

**BULK CABLE starts on page 23**

**6 (4+2) POSITIONS**
**Power 75A/ 630V**
**Signal 30A/ 250V**
**Threaded**

**Number of Contacts: 6 (4+2)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) 12-8 (4.0 - 10.0 mm²)

## Dimensions Plug / Cable Connector / Receptacles

### Plug, straight, threaded

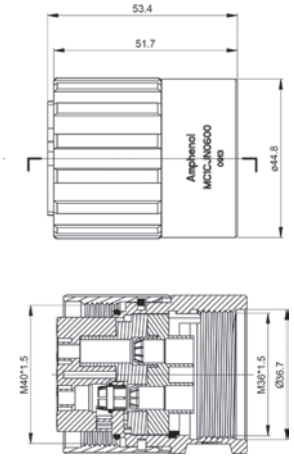



Figure 1 MC1JN0600

### Receptacle extension, straight, threaded

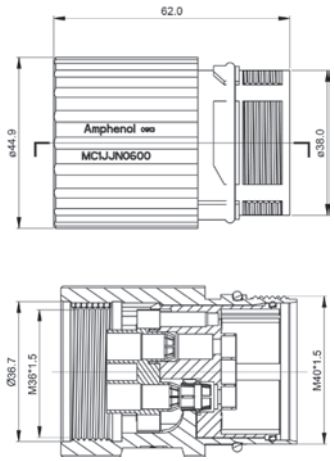



Figure 2 MC1JJN0600

### Receptacle, 90° fixed, threaded

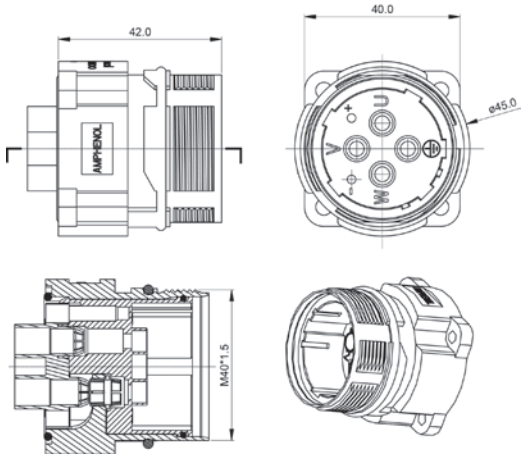



Figure 3 MC1LKN0600

### Receptacle, straight, threaded

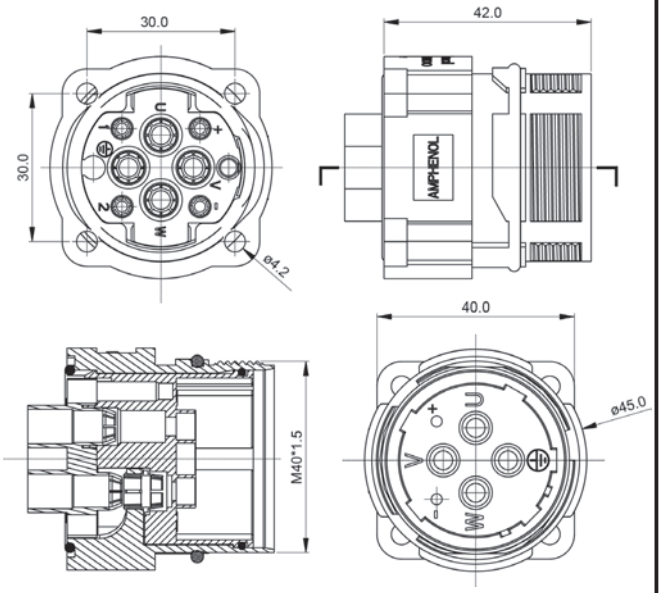



Figure 4 MC1NJN0600

### Flex Grip™ backshell

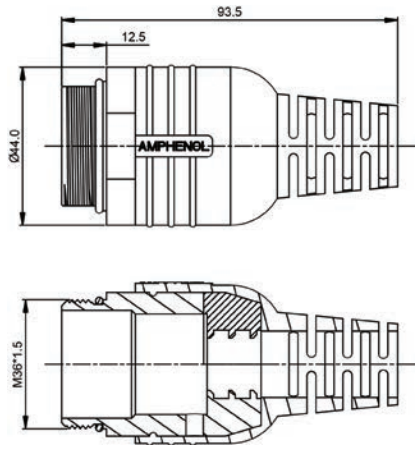



Figure 5 MC4FSR-C18.5

Complete datzasheets can be found at www.amphenol-sine.com

**Number of Contacts: 6 (4+2)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) 12-8 (4.0 - 10.0 mm²)

## Dimensions Cord Grips

Cord grip

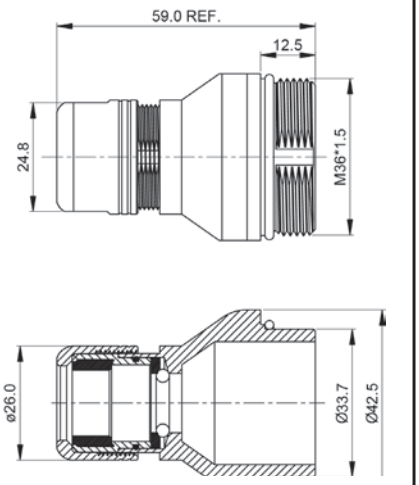



Figure 6

MC3CG-S1
MC3CG-S2
MC3CG-S3

Cord grip

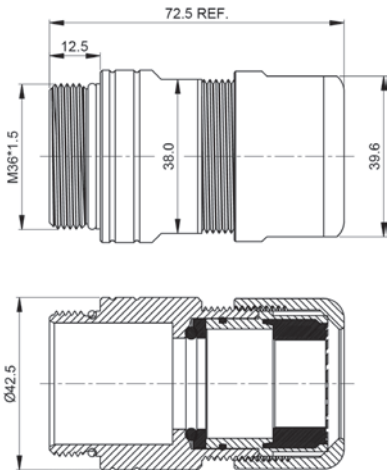



Figure 7

MC3CG-S4
MC3CG-S5
MC3CG-S6
MC3CG-S7

## Contacts

### Crimp Contacts, Machined

| Part Number | Size | Pln/Socket | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000040 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |
| SC000041 | 3.6mm | Pin | 12-8 | 4.0 - 10.0 | Gold |
| SC000045 | 2.0mm | Socket | 18-14 | 0.75 - 2.5 | Gold |
| SC000046 | 3.6mm | Socket | 12-8 | 4.0 - 10.0 | Gold |

Complete datasheets can be found at www.amphenol-sine.com

**6 (4+2) POSITIONS**
**Power 75A/ 630V**
**Signal 30A/ 250V**
**THREADED**

**Number of Contacts: 6 (4+2)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing:** IP66/67
**AWG:** 18-14 (0.75 - 2.5 mm²) 12-8 (4.0 - 10.0 mm²)

## Tools

Extraction tool. Used for removal of 2.0mm (#14) contacts from inserts.

50-54931-2

Extraction tool. Used for removal of 3.6mm (#8) contacts from inserts.

50-54931-3

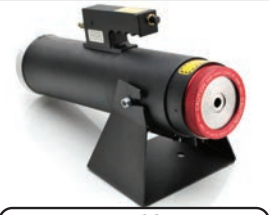
Universal hand crimp tool. Uses universal positioner part no. UH2-5. Wire crimp range 12-26AWG

AF8

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. WA23-101DA



WA23

Pneumatic crimp tool. Uses universal positioner part no. UH2-5. Wire range 12-26WG

WA27F

Die Assembly, Size 10, is used with the Pneumatic crimp tool. WA23

WA23-101DA

Hand Crimp tool. Uses MFX-3966 crimp locator

M300-25A

Crimp Locator 3.6mm Power contact adjustable. Used with WA23 Crimp tool

MFX-3961

Contact Locator Tool

MFX-3966

* The universal positioner is not included with the crimp tools and must be ordered separately.

# Connector Solutions M40

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

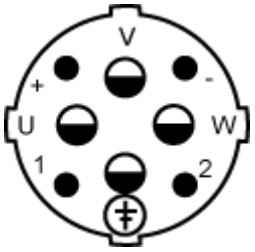
See page 20 for connector configurations

**Plugs**

MC2UPN0800

**Receptacles**

MC2LKN0800 MC2NJN0800




**Receptacle Extension**

MC2JJN0800

**FlexGrip™ Backshell System**

MC4FSR-C18.5

more about FlexGrip™ on page 282

**Cord Grips**

MC3CG-S1
MC3CG-S2
MC3CG-S3

MC3CG-S4
MC3CG-S5
MC3CG-S6
MC3CG-S7

## Connector Part Numbers

| Part Number | Connector Type | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MC2UPN0800 | Plug, straight, Checkmate™ | Socket | 1 |
| MC2JJN0800 | Receptacle extension, straight, Checkmate™ | Pin | 2 |
| MC2LKN0800 | Receptacle, straight, Checkmate™ | Pin | 3 |
| MC2NJN0800 | Receptacle, 90° fixed, Checkmate™ | Pin | 4 |

Contacts supplied separately, see page 260

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MC4FSR-C18.5* | Flex Grip™ backshell* | 17.5-18.5mm | 5 |
| MC3CG-S1 | Cord grip | 10.0-12.0mm | 6 |
| MC3CG-S2 | Cord grip | 12.0-14.5mm | 6 |
| MC3CG-S3 | Cord grip | 14.0-17.0mm | 6 |
| MC3CG-S4 | Cord grip | 17.0-19.0mm | 7 |
| MC3CG-S5 | Cord grip | 19.0-21.0mm | 7 |
| MC3CG-S6 | Cord grip | 21.0-23.0mm | 7 |
| MC3CG-S7 | Cord grip | 23.5-25.5mm | 7 |

*Must be potted to achieve IP67 ratings.

SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 260

BULK CABLE starts on page 23

**Number of Contacts: 8 (4+4)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing: IP66/67**
**AWG:** 18-14 (0.75 - 2.5 mm²) 12-8 (4.0 - 10.0 mm²)

## Plug, straight, Checkmate™

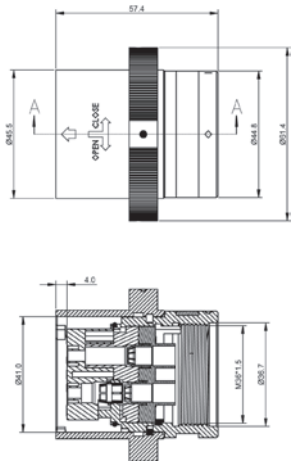


Figure 1 MC2UPN0800

## Receptacle extension, straight, Checkmate™

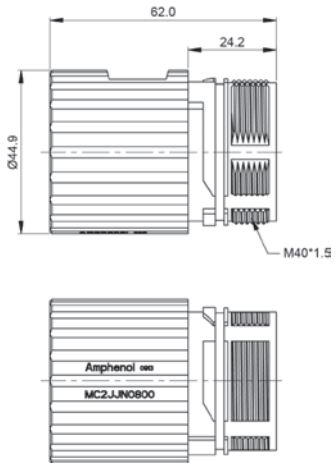



Figure 2 MC2JJN0800

## Receptacle, straight, Checkmate™

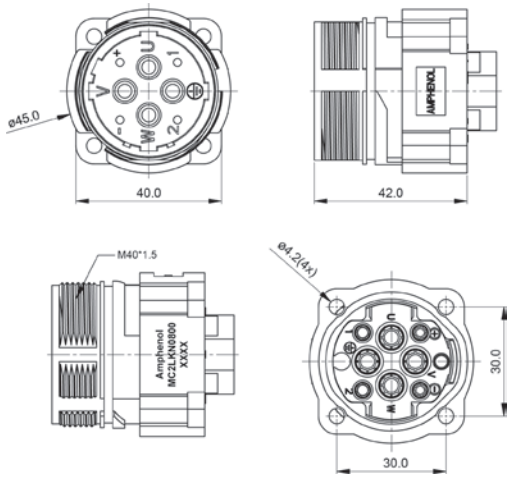



Figure 3 MC2LKN0800

## Receptacle, 90° fixed, Checkmate™

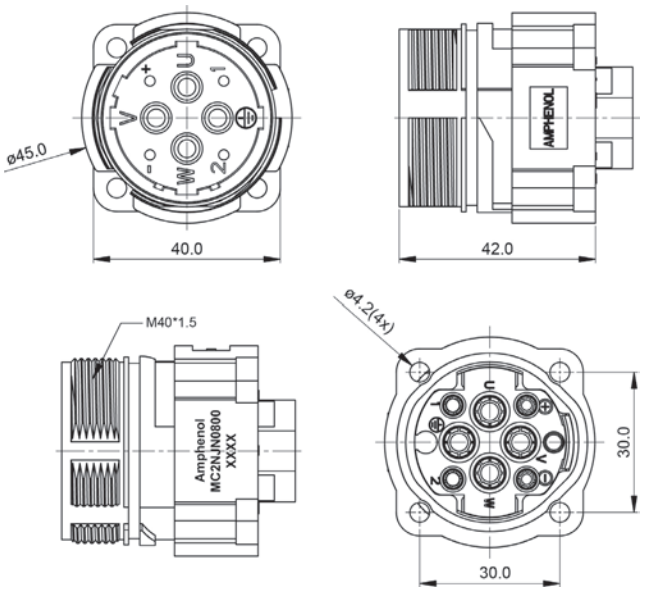



Figure 4 MC2NJN0800

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 8 (4+4)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing: IP66/67**
**AWG:** 18-14 (0.75 - 2.5 mm²) 12-8 (4.0 - 10.0 mm²)

## Dimensions Cord Grips

### Flex Grip™ backshell

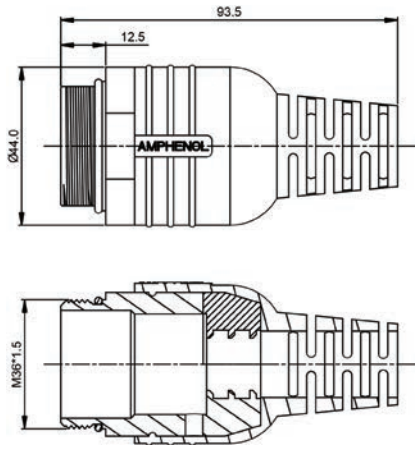



Figure 5 MC4FSR-C18.5

### Cord grip

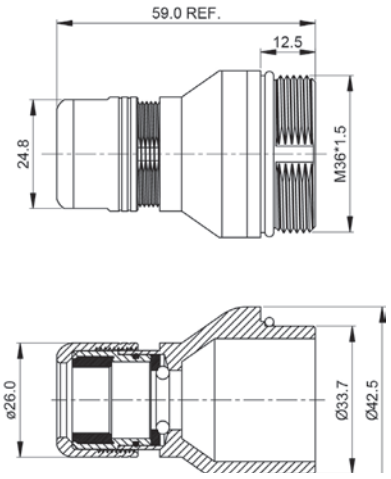



Figure 6 MC3CG-S1
MC3CG-S2
MC3CG-S3

### Cord grip

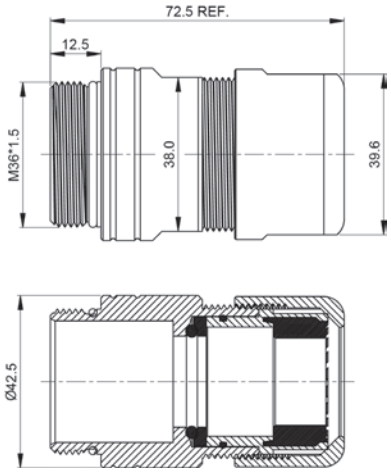


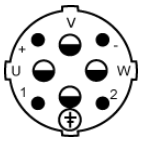

Figure 7 MC3CG-S4
MC3CG-S5
MC3CG-S6
MC3CG-S7

## Contacts

### Crimp Contacts, Machined

| Part Number | Size | Pln/Socket | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000040 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |
| SC000041 | 3.6mm | Pin | 12-8 | 4.0 - 10.0 | Gold |
| SC000045 | 2.0mm | Socket | 18-14 | 0.75 - 2.5 | Gold |
| SC000046 | 3.6mm | Socket | 12-8 | 4.0 - 10.0 | Gold |

Complete datasheets can be found at www.amphenol-sine.com




**8 (4+4) POSITIONS**
**Power 75A/ 630V**
**Signal 30A/ 250V**
**Checkmate™**

**Number of Contacts: 8 (4+4)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing: IP66/67**

**AWG:** 18-14 (0.75 - 2.5 $mm^2$) 12-8 (4.0 - 10.0 $mm^2$)

## Tools

Extraction tool. Used for removal of 2.0mm (#14) contacts from inserts.

50-54931-2

Extraction tool. Used for removal of 3.6mm (#8) contacts from inserts.

50-54931-3

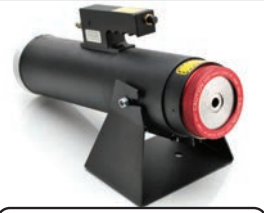
Universal hand crimp tool. Uses universal positioner part no. UH2-5. Wire crimp range 12-26AWG

AF8

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. WA23-101DA



WA23

Pneumatic crimp tool. Uses universal positioner part no. UH2-5. Wire range 12-26WG

WA27F

Die Assembly, Size 10, is used with the Pneumatic crimp tool. WA23

WA23-101DA

Hand Crimp tool. Uses MFX-3966 crimp locator

M300-25A

Crimp Locator 3.6mm Power contact adjustable. Used with WA23 Crimp tool

MFX-3961

Contact Locator Tool

MFX-3966

* The universal positioner is not included with the crimp tools and must be ordered separately.

# Connector Solutions M40

| STEP 1<br>Choose Plug | STEP 2<br>Choose Receptacle | STEP 3<br>Choose Backshell/Cord Grip |
|---|---|---|

See page 20 for connector configurations

SEE TABLE ON NEXT PAGE FOR PART DETAILS

CONTACTS SOLD SEPARATELY SEE PAGE 236

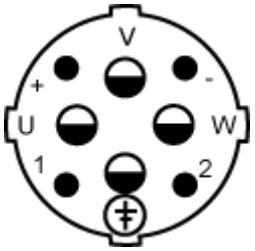
**Plugs**

MC1CJN0800

**Receptacles**

MC1LKN0800

MC1NJN0800




**Receptacle Extension**

MC1JJN0800

**FlexGrip™ Backshell System**

MC4FSR-C18.5

more about FlexGrip™ on page 282

**Cord Grips**

MC3CG-S1
MC3CG-S2
MC3CG-S3

MC3CG-S4
MC3CG-S5
MC3CG-S6
MC3CG-S7

## Connector Part Numbers

| Part Number | Connector Type | Contact Type<br>male = pin<br>female = socket | Figure Drawings |
|---|---|---|---|
| MC1CJN0800 | Plug, straight, threaded | Socket | 1 |
| MC1JJN0800 | Receptacle extension, straight, threaded | Pin | 2 |
| MC1LKN0800 | Receptacle, straight, threaded | Pin | 3 |
| MC1NJN0800 | Receptacle, 90° fixed, threaded | Pin | 4 |

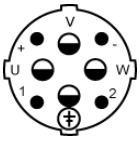
Contacts supplied separately, see page 236

## Cord Grips and Backshells

| Part Number | Type | Cable Range (mm) | Figure Drawings |
|---|---|---|---|
| MC4FSR-C18.5* | Flex Grip™ backshell* | 17.5-18.5mm | 5 |
| MC3CG-S1 | Cord grip | 10.0-12.0mm | 6 |
| MC3CG-S2 | Cord grip | 12.0-14.5mm | 6 |
| MC3CG-S3 | Cord grip | 14.0-17.0mm | 6 |
| MC3CG-S4 | Cord grip | 17.0-19.0mm | 7 |
| MC3CG-S5 | Cord grip | 19.0-21.0mm | 7 |
| MC3CG-S6 | Cord grip | 21.0-23.0mm | 7 |
| MC3CG-S7 | Cord grip | 23.5-25.5mm | 7 |

*Must be potted to achieve IP67 ratings.

**BULK CABLE starts on page 23**




**8 (4+4) POSITIONS**
**Power 75A/ 630V**
**Signal 30A/ 250V**
**Threaded**

**Number of Contacts: 8 (4+4)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing: IP66/67**
**AWG:** 18-14 (0.75 - 2.5 mm²) 12-8 (4.0 - 10.0 mm²)

## Dimensions Plug / Cable Connector / Receptacles

### Plug, straight, threaded

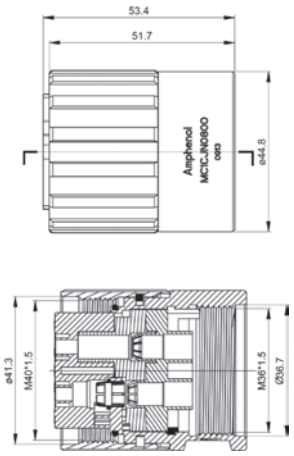



Figure 1 MC1CJN0800

### Receptacle extension, straight, threaded

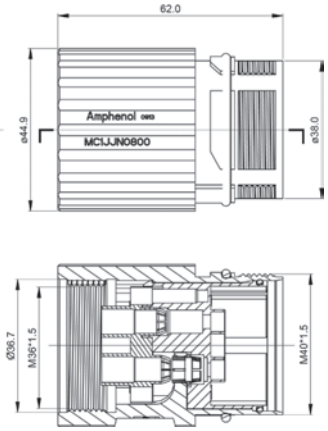



Figure 2 MC1JJN0800

### Receptacle, straight, threaded

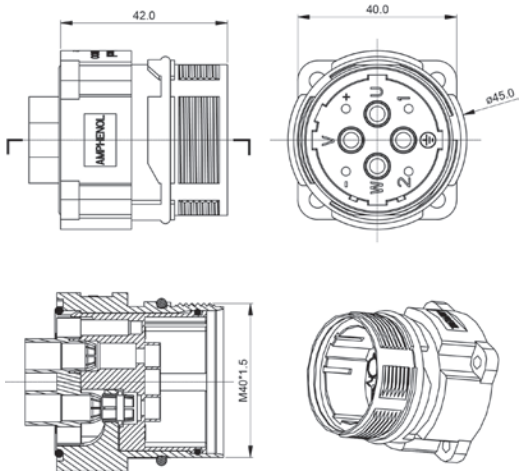



Figure 3 MC1LKN0800

### Receptacle, 90° fixed, threaded

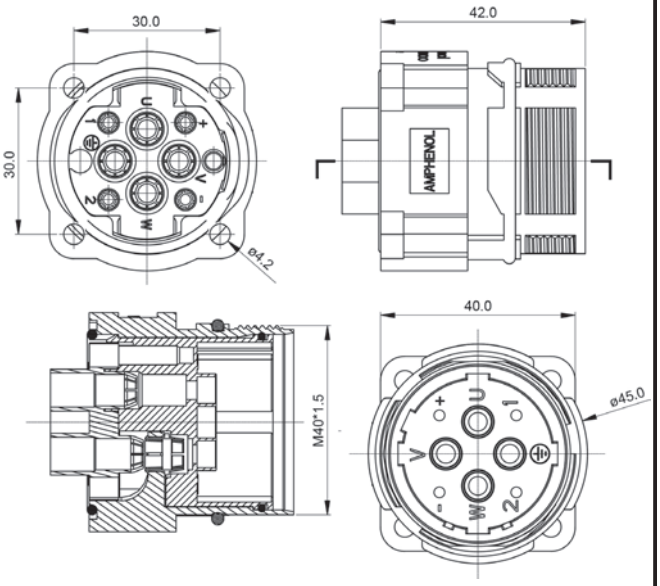



Figure 4 MC1NJN0800

### Flex Grip™ backshell

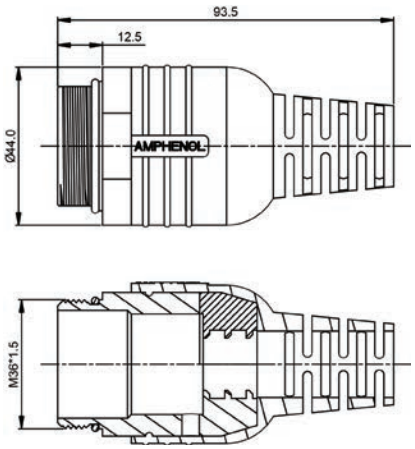



Figure 5 MC4FSR-C18.5

Complete datasheets can be found at www.amphenol-sine.com

**Number of Contacts: 8 (4+4)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing: IP66/67**
**AWG:** 18-14 (0.75 - 2.5 mm²) 12-8 (4.0 - 10.0 mm²)

## Dimensions Cord Grips

Cord grip

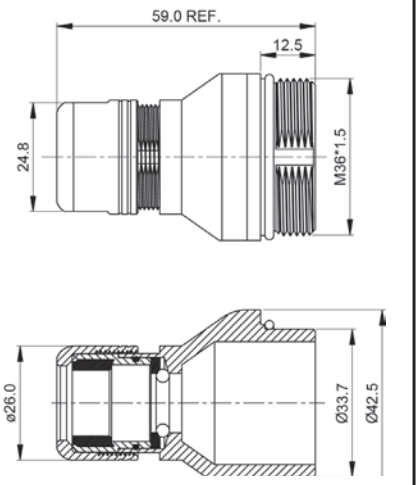



Figure 6

MC3CG-S1
MC3CG-S2
MC3CG-S3

Cord grip

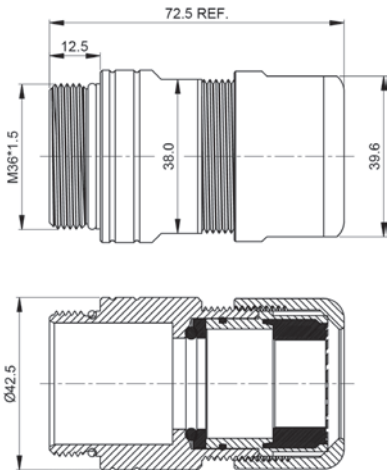



Figure 7

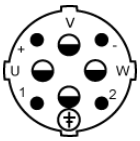
MC3CG-S4
MC3CG-S5
MC3CG-S6
MC3CG-S7

## Contacts

### Crimp Contacts, Machined

| Part Number | Size | Pln/Socket | AWG | mm² | Plating |
|---|---|---|---|---|---|
| SC000040 | 2.0mm | Pin | 18-14 | 0.75 - 2.5 | Gold |
| SC000041 | 3.6mm | Pin | 12-8 | 4.0 - 10.0 | Gold |
| SC000045 | 2.0mm | Socket | 18-14 | 0.75 - 2.5 | Gold |
| SC000046 | 3.6mm | Socket | 12-8 | 4.0 - 10.0 | Gold |

Complete datasheets can be found at www.amphenol-sine.com




**8 (4+4) POSITIONS**
**Power 75A/ 630V**
**Signal 30A/ 250V**
**Threaded**

**Number of Contacts: 8 (4+4)** **Contact Sizes: 2.0mm, 3.6mm** **Sealing: IP66/67**
**AWG:** 18-14 (0.75 - 2.5 $mm^2$) 12-8 (4.0 - 10.0 $mm^2$)

## Tools

Extraction tool. Used for removal of 2.0mm (#14) contacts from inserts.

50-54931-2

Extraction tool. Used for removal of 3.6mm (#8) contacts from inserts.

50-54931-3

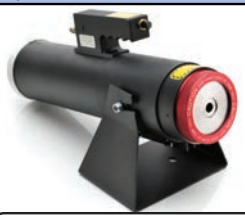
Universal hand crimp tool. Uses universal positioner part no. UH2-5. Wire crimp range 12-26AWG

AF8

Universal positioner is used with the universal hand crimp tool (AF8). Wire range 12-26AWG

UH2-5

Pneumatic crimp tool. Uses universal positioner part no. WA23-101DA



WA23

Pneumatic crimp tool. Uses universal positioner part no. UH2-5. Wire range 12-26WG

WA27F

Die Assembly, Size 10, is used with the Pneumatic crimp tool. WA23

WA23-101DA

Hand Crimp tool. Uses MFX-3966 crimp locator

M300-25A

Crimp Locator 3.6mm Power contact adjustable. Used with WA23 Crimp tool

MFX-3961

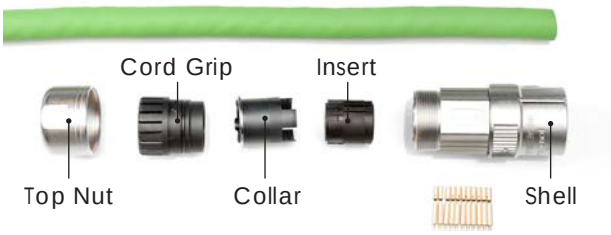
Contact Locator Tool

MFX-3966

* The universal positioner is not included with the crimp tools and must be ordered separately.

# Assembly Instructions

M23 Elite Series  12,16,17 Position Plug Assembly Instructions



Step 1 -  Slide the components over the cable

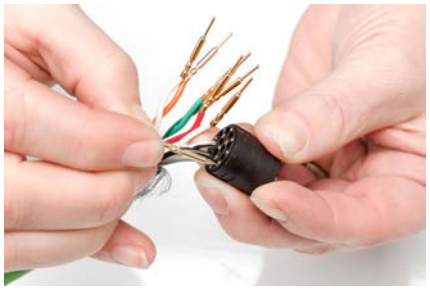
Step 2 - Remove the cable jacket 28mm

Step 3 - Cut the shield back 13mm

Step 4 - Fold the shield back over the cable jacket

Step 5 - Strip the wires 4.5mm

Step 6 - Crimp a contact onto each wire



Step 7 - Push the contacts into the insert as required

# Assembly Instructions

## M23 Elite Series 12,16,17 Position Plug Assembly Instructions (cont)

Step 8 - Pushed contacts

Step 9 - Push the Collar onto the insert

Step 10 - Position the shield as shown

# Assembly Instructions

## M23 Elite Series 12,16,17 Position Plug Assembly Instructions (cont)

Step 11 - Slide the cord grip up to the collar

Step 12 - Trim the shield

Step 13 - Grip the sub-assembly as shown

Step 14 - Push the sub- assembly into the shell

# Assembly Instructions

## M23 Elite Series 12,16,17 Position Plug Assembly Instructions (cont)

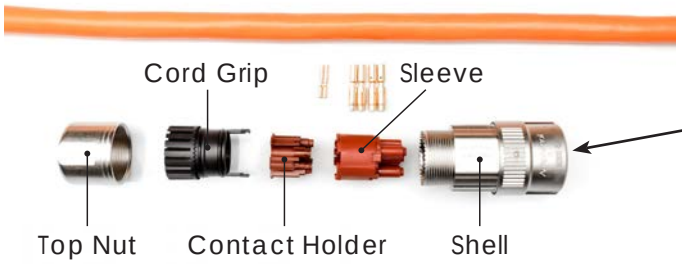
Step 15 - Thread the top nut onto the shell

Step 16 - Tighten to 5-7 N/M using 25mm wrench

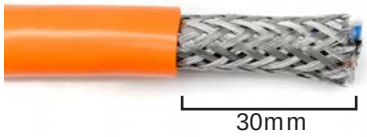
Step 17 - Finished Assembly

# Assembly Instructions

## M23 Elite Series 6,8,9 Position Plug Assembly Instructions



PLEASE NOTE THAT THE INSERT IS FIXED IN PLACE AND MUST NOT BE REMOVED. DOING SO WILL PERMANENTLY DAMAGE THE CONNECTOR.




Step 1 - Remove the cable jacket 30mm

Step 2 - Cut the shield back 19mm

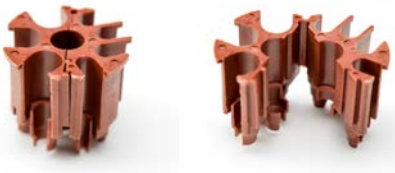
Step 3 - Fold shield back over cable

Step 4 - Cut power & PE wires to 28mm

Step 5a - Strip power & PE wires 7mm

Step 5b - Strip signal wire 4.5mm

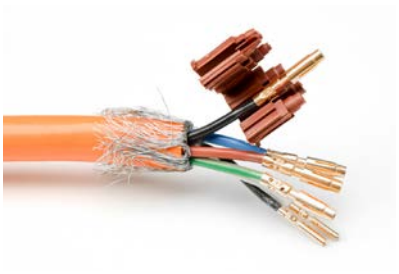
Step 6 - Crimp contacts



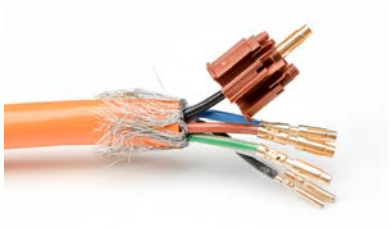
Step 7 - Open contact holder

# Assembly Instructions

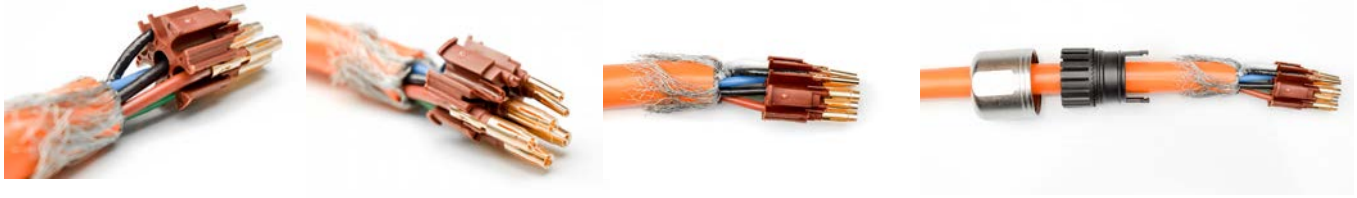
## M23 Elite Series 6,8,9 Position Plug Assembly Instructions (con't)



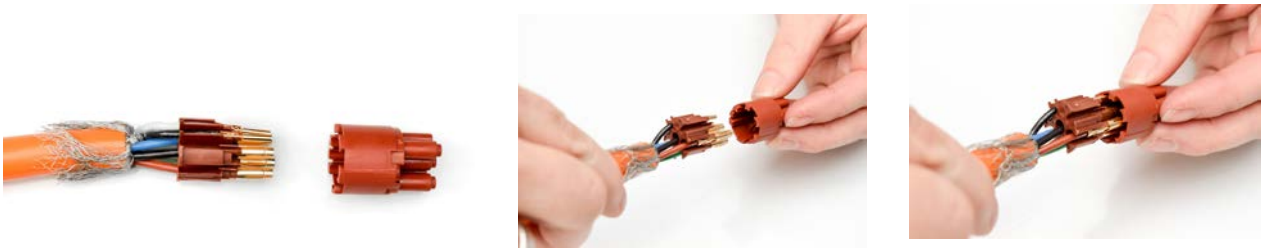
Step 8 - Insert contacts while the contact holder is open



Step 9 - Close the contact holder



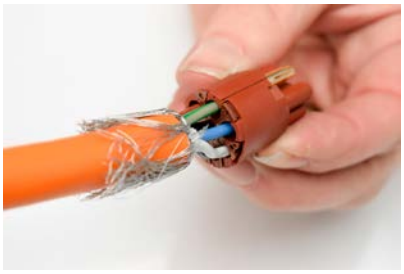
Step 10 - Insert the rest of the contacts



Step 11 - Push the contact holder into the sleeve

# Assembly Instructions

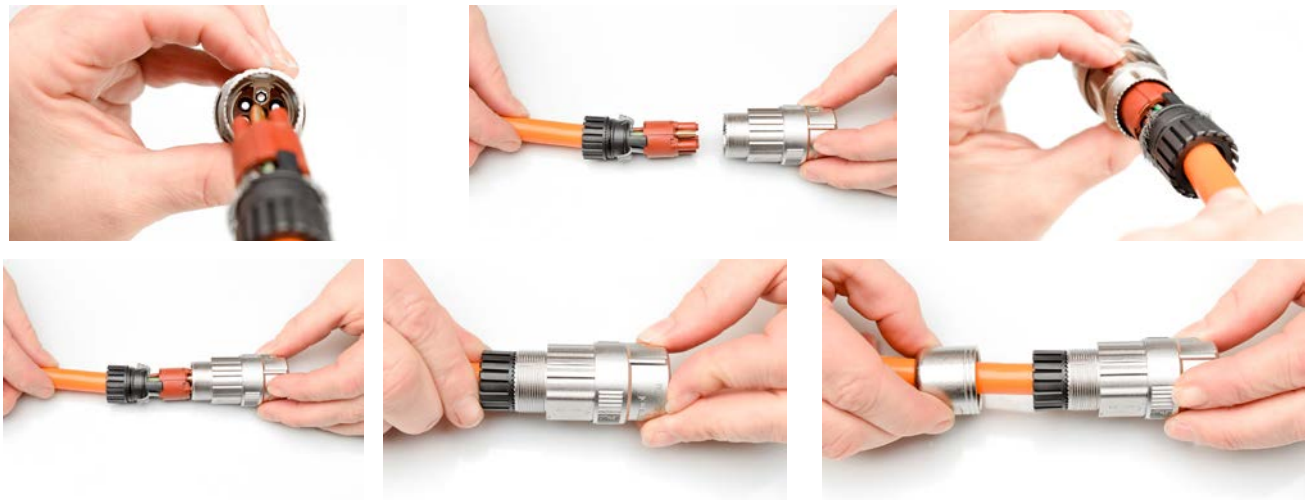
## M23 Elite Series 6,8,9 Position Plug Assembly Instructions (con't)



Step 12 - Position shield as shown back over the cable

Step 13 - Clip the cord grip as shown with the shield sticking out around it

Step 14 - Trim shield as shown



Step 15 - Push sub-assembly into shell

# Assembly Instructions

M23 Elite Series 6,8,9 Position Plug Assembly Instructions (con't)

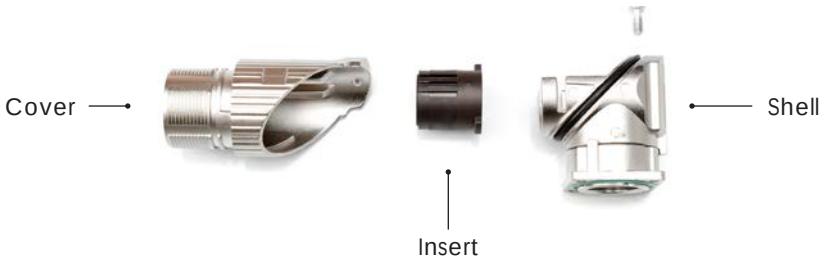
Step 16 - Thread the top nut on

Step 17 - Tighten to 5-7 N/M using 25mm wrench

Step 18 - Finished Assembly

# Assembly Instructions

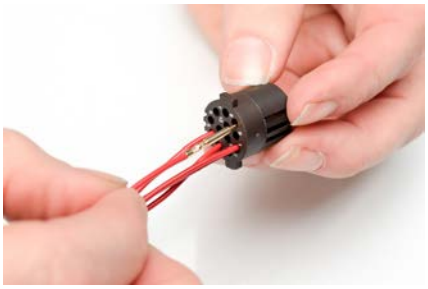
## M23 Elite Series 12,16,17 Position 90° Receptacle Assembly Instructions

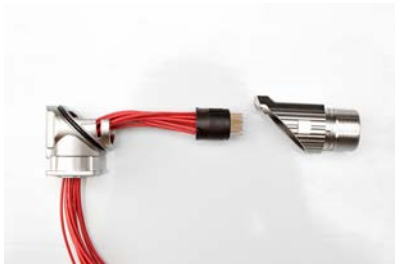


Step 1 - Strip wire 4.5mm

Step 4 - Crimp contacts onto wire

Step 3 - Slide wires through shell



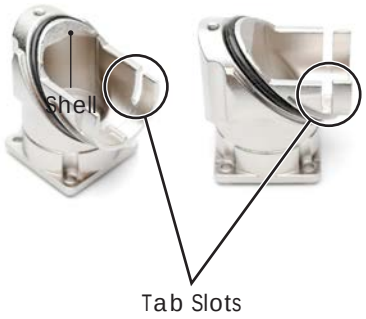


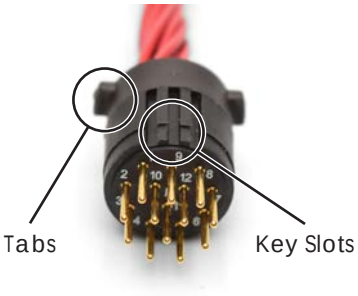
Step 4 - Push wire into insert

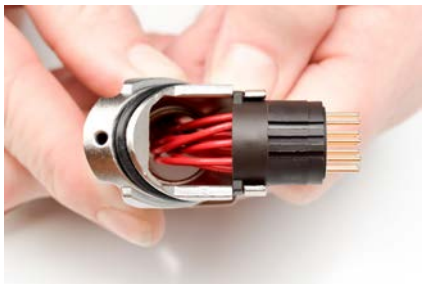
Step 5 - Locate keys on sides of insert

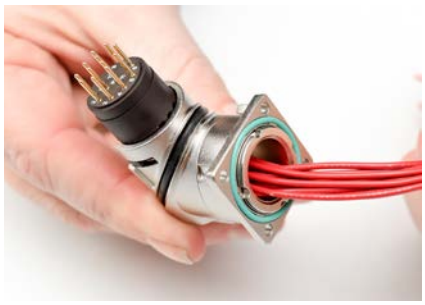
# Assembly Instructions

## M23 Elite Series 12,16,17 Position 90° Receptacle Assembly Instructions (con't)

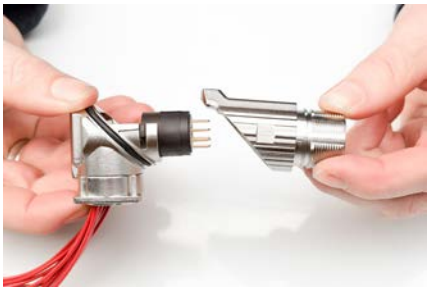


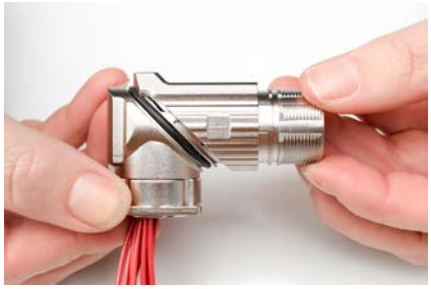






Step 6 - Insert tabs into slots and align the key slots accordingly to their respective key position.

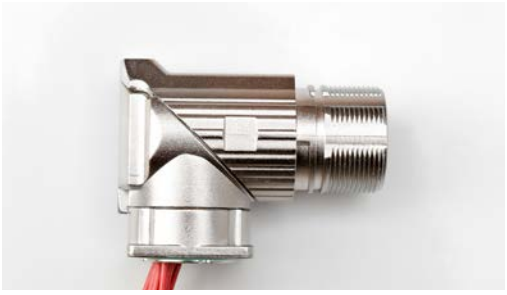




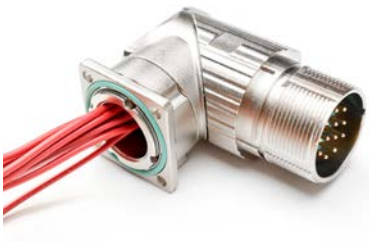
Step 7 - Assemble cover

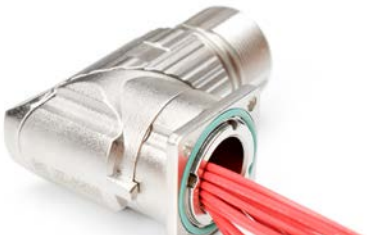
# Assembly Instructions

M23 Elite Series 12,16,17 Position 90° Receptacle Assembly Instructions (con't)



Step 8 - Screw the cover down using 2.5mm Allen Wrench

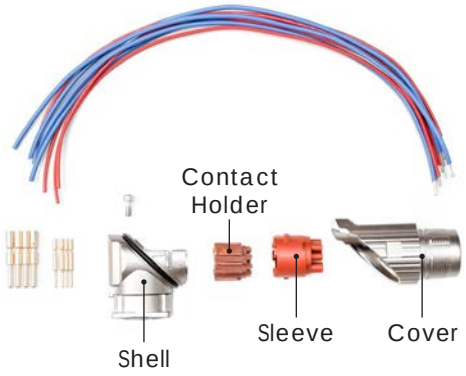




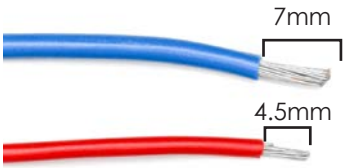
Step 9 - Finished product

# Assembly Instructions

## M23 Elite Series 6,8,9 Position 90° Receptacle Assembly Instructions




Step 1A - Strip wire 7mm
(this uses 2.0mm contacts)




Step 1B - Strip wire 4.5mm
(this uses 1.0mm contacts)

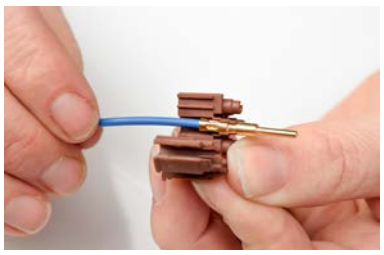
Step 2 - Crimp wire to contact

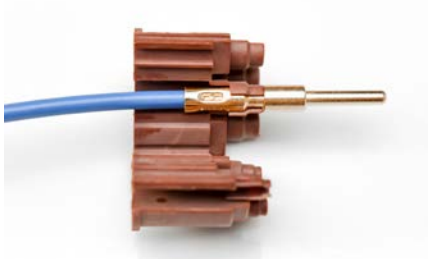
Step 3 - Insert wires through shell

Step 4 - Open Contact holder

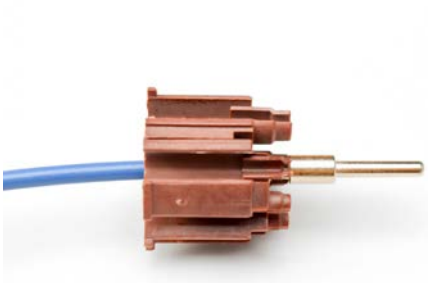
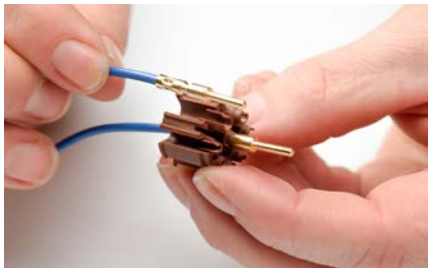
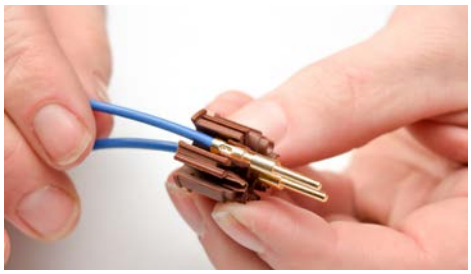
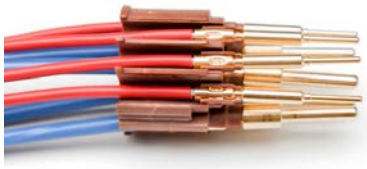
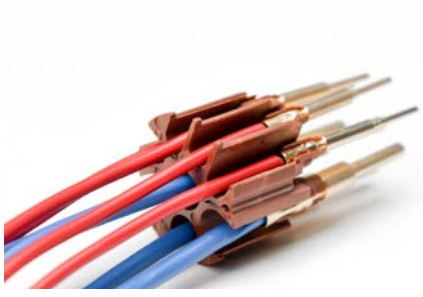
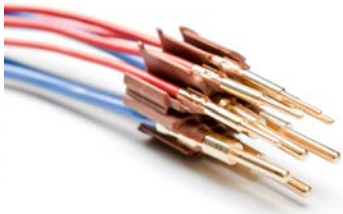
# Assembly Instructions

M23 Elite Series 6,8,9 Position 90° Receptacle Assembly Instructions (con't)





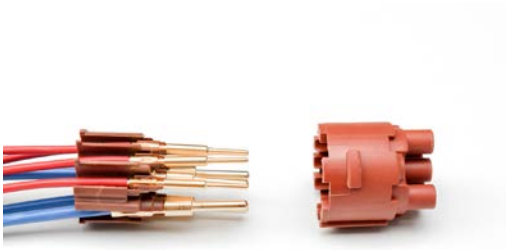
Step 5 - Insert wire into the contact holder while its open

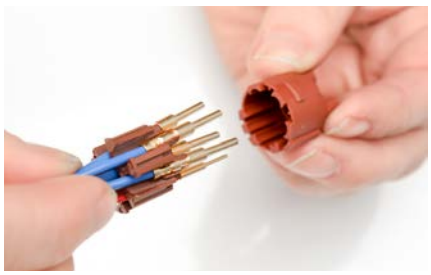







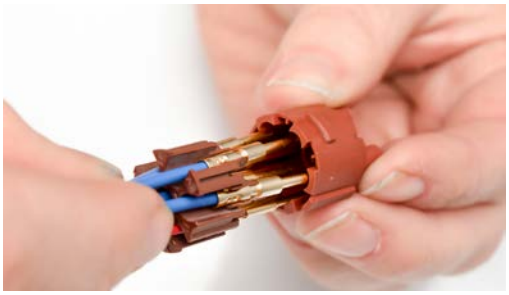
Step 6 - Close and insert the rest of the wires into the contact holder

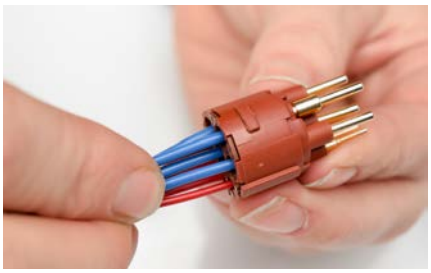
# Assembly Instructions

M23 Elite Series 6,8,9 Position 90° Receptacle Assembly Instructions (con't)

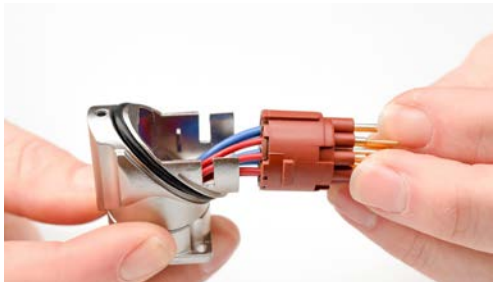








Step 7 - Push the contact holder into the sleeve

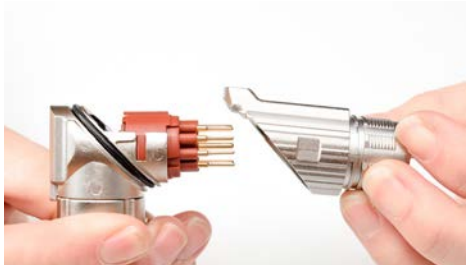


Step 8 - Align the key on the sleeve with the key on the shell

Step 9 - Place sub-assembly into shell

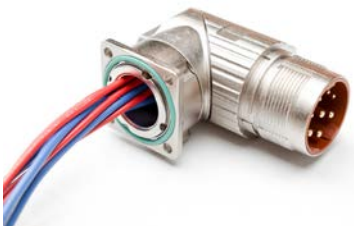
# Assembly Instructions

M23 Elite Series 6,8,9 Position 90° Receptacle Assembly Instructions (con't)



Step 10 - Assemble cover

Step 11 - Tighten screw down using 2.5mm Allen Wrench



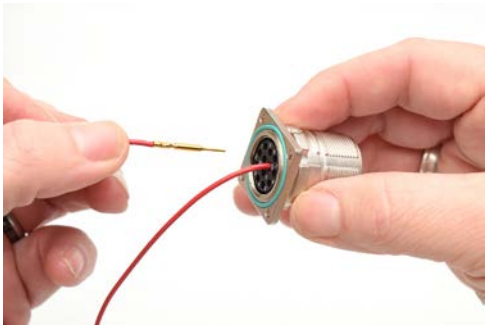
Step 12 - Finsihed Product

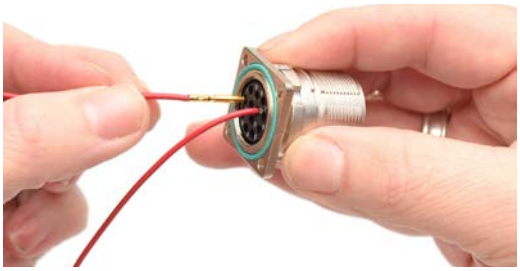
# Assembly Instructions

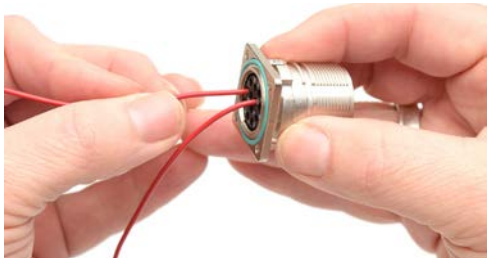
## M23 Standard Series Straight Receptacle Assembly Instructions

Step 1 - Strip wire 4.5mm

Step 2 - Crimp contact to wire



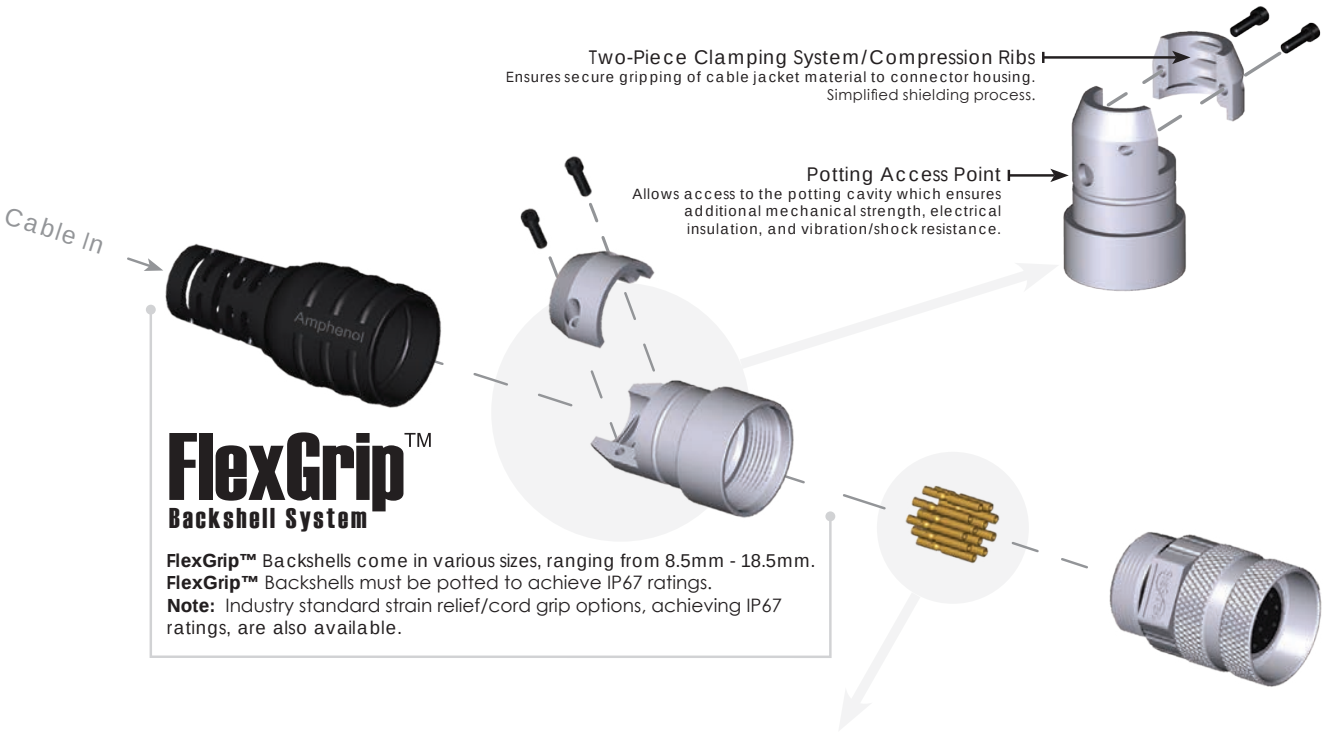




Step 3 - Push contact into place

# Assembly Instructions

## FlexGrip™ Backshell System



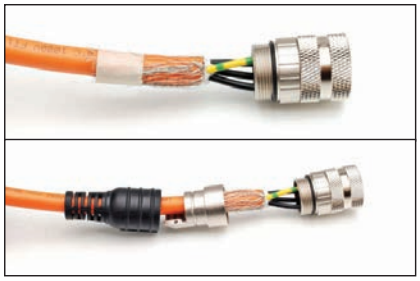

**FlexGrip™** Backshells come in various sizes, ranging from 8.5mm - 18.5mm.
**FlexGrip™** Backshells must be potted to achieve IP67 ratings.
**Note:** Industry standard strain relief/cord grip options, achieving IP67 ratings, are also available.

# Assembly Instructions

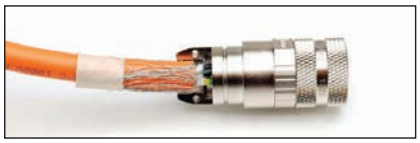
## Standard Series Plug and Cable Prep and Assembly featuring the FlexGrip™ Backshell

**FlexGrip™ Prep Details:** During cable prep specific to using the FlexGrip backshell, be sure excess shielding material is pulled back over the cable jacket and taped down. This allows for ease of sliding FlexGrip™ parts into place.

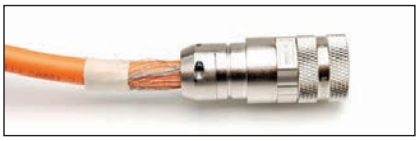
**Note: **** Cable prep is same for P1 (Male) connectors using FlexGrip™ backshells as P2 (Female).



**Step 7B: (FlexGrip™ Only)** Thread into position the bottom part of the Two-Piece Clamp onto the backend of the connector body tightly, ensuring excess shielding material is still exposed underneath the Two-Piece Clamp.

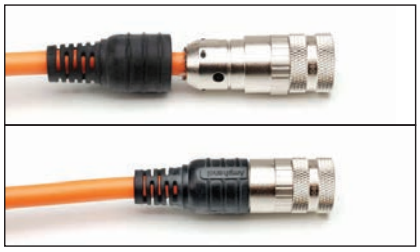


**Step 8B: (FlexGrip™ Only)** Place the top portion of the Two-Piece Clamp into position and use the enclosed screws to tighten into place.



**Step 9B: (FlexGrip™ Only)** Cut off excess shielding material behind Two-Piece Clamp.

**Step 10: (FlexGrip™ Only)** Slide FlexGrip™ Shell over-top the backend portion of the Two-Piece Clamp hardware.



# Assembly Instructions

## M23 Shielded Backshell Assembly Instructions

1. Slide seal-nut (A), cable grommet (B), and backshell (C) onto cable as shown in Figure 1.
2. Remove outer cable jacket per dimension (42mm) shown in Figure 1. Make sure exposed shielding is not nicked or cut.
3. Accurately locate and tighten tie wrap (D) 8mm from cable jacket (Figure 1).
4. Trim excess tie wrap as close as possible to ratchet body. Refer to Reference View A, shown below.
5. Trim the braided shield flush to the edge of the tie wrap (D), exposing the individual wires as shown in Figure 2.
6. Strip individual wire leads to expose 5mm of bare conductor as shown in Figure 2.
7. Crimp contacts (E) onto stripped wire leads (Figure 3).
8. Insert crimped contacts (E) into connector cavities (F), as shown in Figure 3. Verify contacts are properly sealed once installed.

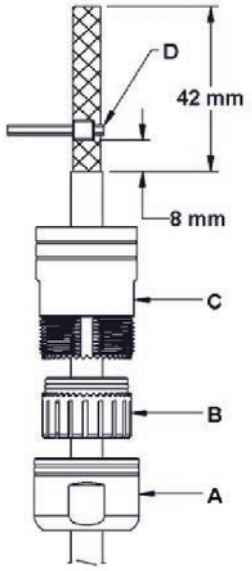



Figure 1

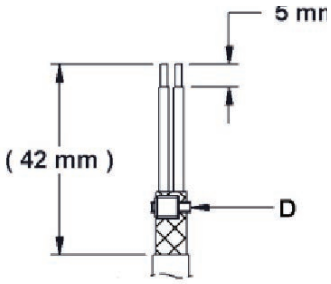



Figure 2

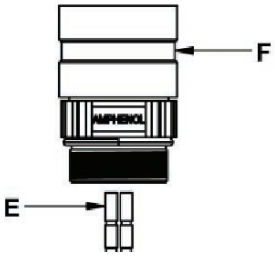
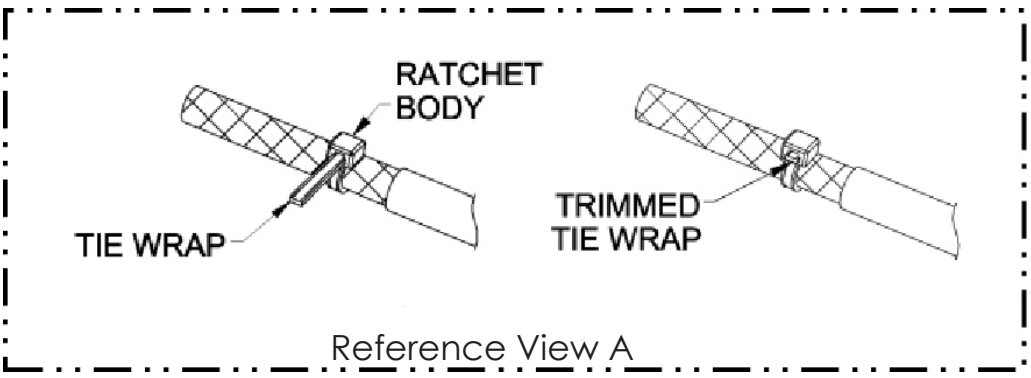



Figure 3




Reference View A

# Assembly Instructions

## M23 Shielded Backshell Assembly Instructions (con't)

9. Tighten "backshell" (C) to connector (F) as shown in Figure 4. Use a 24mm open ended wrench for the backshell, and a 25mm open ended wrench for the connector. Tighten to a recommended torque of 10Nm.

10. Slide shielding clip (G) over cable jacket as shown in Figure 4.

11. Push shielding clip (G) into backshell (C) until it stops against inside wall as shown in Reference View-B. Clip must be seated over exposed shielding and not over cable jacket.

    Note: Clip must be slightly compressed to allow it to enter into the backshell.

12. Push cable grommet (B) into backshell (C) as shown Figure 5.

13. Thread and tighten seal-nut (A) onto backshell (C) as shown in Figure 6. Use a 24mm open ended wrench for the backshell, and a 25mm open ended wrench for the seal-nut.

Figure 3

Note: Seal nut torque required to properly retain and seal cable may vary depending on cable construction.

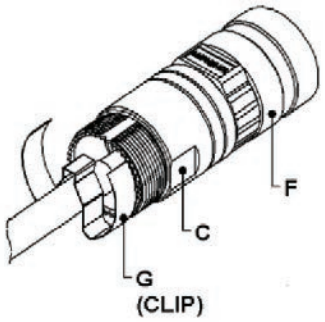



Figure 4

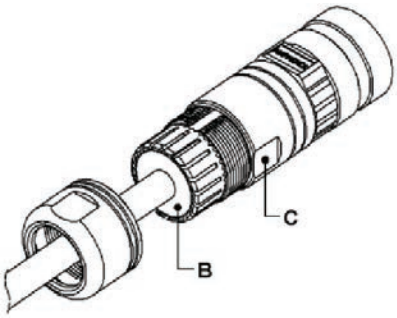



Figure 5

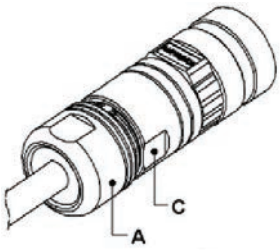
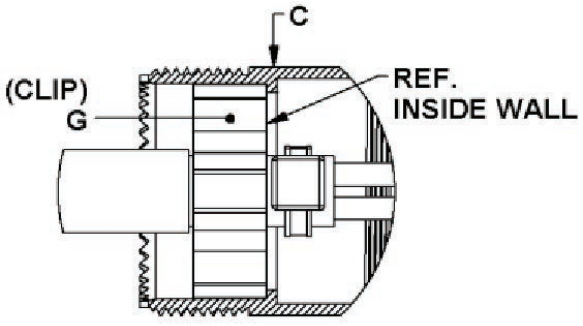



Figure 6




Reference View B

# Appendix

## Glossary of Terms

### American Wire Gauge (AWG)

System of numerical designations for wire sizes, based on specified ranges of cross-sectional areas.
Starts with 4/0 (000) at the largest size, going to 3/0, 2/0, 1/0, 1, 2, and up to 40 and beyond for the smallest size. A step of one AWG number corresponds to a reduction of cross-sectional area of appr. 20 %.

### Attenuation

A reduction of power. Occurs naturally when waves travel through lines, wave guides, or media such as air or water. Is produced additionally by imperfections in electrical or optical connections (attenuation in fibre optics), e. g. contact resistance, mismatch, etc.

### Bulkhead connector

Connector designed to be inserted into a panel cutout from the rear of the panel, thus forming part of the barrier between two spaces. Back-mounted.

### Clearance

The shortest distance in air between two conductive parts, see IEC 60664.

### Climatic stability

General term describing the behavior of components under various climatic conditions, e. g. high and low temperatures, tropical climate, high humidity, moist heat, fungus, atmospheric conditions (industial atmosphere), reduced air pressure, etc. Climatic conditions for test purposes are explained in IEC 60068, DIN 46 040.

### Connector

A component which terminates conductors for the purpose of providing connection and disconnection to a suitable mating component which shall not be engaged or disengaged when live. Depending on the fastening to a cabinet, panel, rack etc. or a cable, they are classified as fixed or free connectors. A connector comprises one or more contacts and a housing which may have a separate connector insert and a separate outer housing or shell.

### Connector housing

The part of a connector into which the insert and the contacts are assembled. It may function as part of the locking mechanism.

### Connector insert

An insulating element designed to support and position contacts in a connector housing.
In connectors electromagnetic interference is prevented by shielding. Shielded connectors normally provide means to connect the screens of attached cables.

### Connector life

The number of mating cycles prior to abrasion of the conductive contact surface and which does not result in a significant rise of the contact resistance. Tests according to test 9a of ICE 60512-5 / DIN EN 60512 Part 5.

### Contact

The conductive element in a connector which mates with a corresponding element to provide an electrical path.

### Contact resistance

The electrical resistance of a mated set of contacts under specified conditions. Tested according to tests 2a, 2b, 2c, of IEC 60 512 -2/ DIN EN 60 512-2.

### Contact size

The designation used to differentiate one contact from another. It may be denoted by one of the following numbering systems:

### Creepage distance

The shortest distance along the surface of the insulating material between two conductive parts. The longer the distance, the less the risk of arc damage or tracking. Minimum creepage distances are specified according to the rated voltage and the applicable pollution degree and Comperative Tracking Index.

### Crimped connection

A solderless connection made by crimping. IEC 60352-2 / DIN IEC 60352 Part 2.

### Derating curve

The method for determining derating is specified in IEC 60 512-3. Here the combination of ambient temperature (Tu) and the current (J) leading to the same maximum allowable temperature (Tb) at the hottest point of the connector are plotted.

### DIN

Deutsches Institut für Normung. A German standards organization.

### Electromagnetic interference (EMI)

General term describing the undesirable effects of the immission or emission of radio frequency fields.

### Funnel entry (restricted entry C146 D series)

Flared or widened entrance to a conductor barrel permitting easier insertion of the conductor.

### Insertion or withdrawal force

The force required to fully insert or withdraw a set of mated connectors without the effect of coupling, locking or similar devices. The insertion force is usually greater than the withdrawal force.

# Appendix

## Connector Glossary

| Insulation grip |
| --- |
| The area of a crimp contact that has been reshaped around the insulation of the conductor by compression during the crimping operation. |
| **Insulation resistance** |
| The resistance of the insulation between two conductive elements, in particular, the resistance between two contacts or between a contact and a metallic housing or shield. Tested according to test 3a of IEC 60512-2 / DIN IEC 60512 Part 2. |
| **Intermateable** |
| Two connectors are intermateable when they are capable of being connected electrically and mechanically but without regard to their performance and intermountability. |
| **Locator** |
| In a crimping tool the device used for positioning a crimp contact or terminal end. |
| **Mating cycle** |
| One mating cycle comprises one insertion and one withdrawal operation. Term used in the definition of connector life. |
| **Material group** |
| Classification of insulation materials according to their CTI values (CTI = Comperative Tracking Index) |
| **Overvoltage category** |
| A numeral defining a transient overvoltage condition. Overvoltage categories I, II, III and IV are used. |
| **Connector with braking capacity (CBC)** |
| A component which may be engaged or disengaged in normal use, when live or under load. Note: In the sense of this document the term - live- is used if contacts are under voltage not necessarily with a current flowing across the contacts. The term - load - is used if a current is flowing across the contacts. |
| **Rated current** |
| A current value assigned by the manufacturer which the connector or PSD can carry continuously (without interruption) and simultaneously through all its contacts wired with the largest conductor preferrably at an ambient temperature of 40 °C without the upper temperature being exceeded. |
| **Shield, shielding** |
| Shielding of internal or external electric fields by means of a plane with a uniform electric potential, formed by metal shells or metallic layers on the inside or outside of plastic shells. The shield is normally connected to the shielding braid of the cable and/or chassis ground. |

| Wire range |
| --- |
| The range of wire cross sections which is compatible with the dimensions the terminals of the contact (wire barrel). The wire range is expressed in $mm^2$ or in AWG numbers. |

# Appendix

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