

INDUSTRIAL@AMPHENOL  
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Amphenol Sine Systems

# Motion | Grade™

Connectors & Cables



M23 and M40 CONNECTORS  
featuring FlexGrip™ and RockSolid™ Technology

INTERCONNECTING YOUR WORLD

## MotionGrade™ M23 and M40 Connectors

Amphenol Sine Systems MotionGrade™ M23 and M40 Connector Systems are designed to excel in performance and reliability in our customers' most demanding environments. Our innovations and experience as an industry leader in connector technology and total interconnect solutions allow us to offer such features as our FlexGrip™ Backshell System and RockSolid™ Contacts. These and other features combined with a simplistic design approach reduce initial procurement and assembly cost, while ensuring compatibility to all other existing standard layouts. 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.

| TECHNICAL DATA                  | M23 A Series                         | M23 B SERIES                                       | M40 C SERIES                    |
|---------------------------------|--------------------------------------|----------------------------------------------------|---------------------------------|
| TEMPERATURE RANGE               | -20°C to +130°C                      | -20°C to +130°C                                    | -20°C to +130°C                 |
| PROTECTION                      | IP 67<br>(Plugged condition)         | IP 67<br>(Plugged condition)                       | IP 67<br>(Plugged condition)    |
| DATA ACCORDING TO UL 840        | M23 A Series                         | M23 B SERIES                                       | M40 C SERIES                    |
| DEGREE OF PROTECTION            | 3                                    | 3                                                  | 3                               |
| OVER VOLTAGE CATEGORY           | III                                  | III                                                | III                             |
| MATERIALS                       | M23 A Series                         | M23 B SERIES                                       | M40 C SERIES                    |
| HOUSING BODY                    | Zinc Die-cast                        | Zinc Die-cast                                      | Zinc Die-cast                   |
| COUPLING NUT                    | Brass, Nickel-plated                 | Brass, Nickel-plated                               | Brass, Nickel-plated            |
| INSULATION INSERTS              | PA66, UL 94 / V0                     | PA66, UL 94 / V0                                   | PA66 / PBT, UL 94 / V0          |
| CONTACTS                        | Brass, Gold-plated                   | Brass, Gold-plated                                 | Brass, Gold-plated              |
| SEALS                           | DuPont Viton®                        | DuPont Viton®                                      | DuPont Viton®                   |
| ELECTRICAL DATA                 | M23 A Series<br>12 CONTACT CONNECTOR | M23 B SERIES<br>POWER CONTACTS                     | M40 C SERIES<br>POWER CONTACTS  |
| MAX. CURRENT (MAX. WIRE GAUGE)  | Max. 10A                             | Max. 28A (6 contacts)<br>Max. 30A (8 & 9 contacts) | Max. 75A                        |
| MAXIMUM VOLTAGE                 | 160V AC/DC                           | 630V AC/DC                                         | 630V AC/DC                      |
| CONTACT RESISTENCE              | < 5 mΩ                               | < 3 mΩ                                             | < 1 mΩ                          |
| TEST VOLTAGE (BETWEEN CONTACTS) | 2500V                                | 6000V                                              | 6000V                           |
| MINIMUM MATING CYCLES           | > 50                                 | > 50                                               | > 50                            |
|                                 | M23 A Series<br>17 CONTACT CONNECTOR | M23 B SERIES<br>SIGNAL CONTACTS (8-, 9 CONTACTS)   | M40 C SERIES<br>SIGNAL CONTACTS |
| MAX. CURRENT (MAX. WIRE GAUGE)  | Max. 9A                              | Max. 10A                                           | Max. 30A                        |
| TEST VOLTAGE (BETWEEN CONTACTS) | 2500V                                | 2500V                                              | 4000V                           |
| MAXIMUM VOLTAGE                 | 125V AC/DC                           | 250V AC/DC                                         | 250V AC/DC                      |
| CONTACT RESISTENCE              | < 5 mΩ                               | < 5 mΩ                                             | < 3 mΩ                          |
| MINIMUM MATING CYCLES           | > 50                                 | > 50                                               | > 50                            |

## Features and Benefits

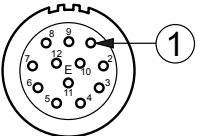
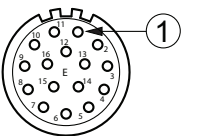
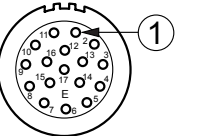
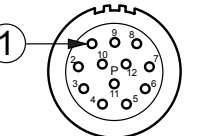
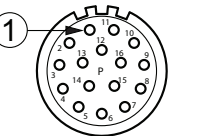
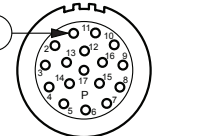
| FEATURES                     | BENEFITS                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOWEST INSTALLED COST        | By providing enhanced performance and advancements to existing standard systems with improvements such as our FlexGrip™ design, these cost conscious innovations will increase the reliability & performance of one of the most dependable interconnect offerings available today.                                                                                              |
| SUPERIOR SHIELDING           | First quality components coupled with a simplistic design provide maximum EMI/RFI shielding capabilities while reducing assembly preparation times.                                                                                                                                                                                                                             |
| ASSEMBLY/DISASSEMBLY         | Overall design construction allows for one step process of contact extraction versus complete connector disassembly found within other brands. An integrated contact locking system ensures ease of use and definitive contact integrity upon insertion.                                                                                                                        |
| CABLE STRAIN RELIEF          | Your choice of either the innovative design features of FlexGrip™ or traditional cable strain relieving similar to existing standard systems.                                                                                                                                                                                                                                   |
| 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.                                                                                                                                                                                           |
| CONTACTS                     | By creating a 360 degree mating surface around the pin, Amphenol's RockSolid™ contact offering ensures longer contact life, lower contact resistance, immunizes against shock and vibration all while maintaining low insertion and extraction forces. Additionally, industry standard contacts are also available made with gold plated surfaces and high quality CuZn alloys. |
| RoHS COMPLIANT               |  All materials meet the requirements of the European Directive 2002/95/EC, Issue 13.2.2003.                                                                                                                                                                                                    |
| ADD'L APPROVALS              |   ISO 9001/2000                                                                                                                                                                                               |



## Insert Arrangements

| Contact Size Legend                                                                 |       |                                                                                     |
|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|
|  | 3.6mm |  |
|  | 1.0mm |                                                                                     |

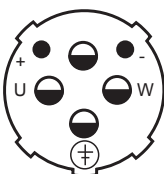
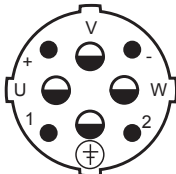
M23 A Series (Face view: CW - clockwise, CCW - counter clockwise)

| 12pos E Type (CW)                                                                 | 16pos E Type (CW)                                                                 | 17pos E Type (CW)                                                                 | 12pos P Type (CCW)                                                                 | 16pos P Type (CCW)                                                                  | 17pos P Type (CCW)                                                                  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |

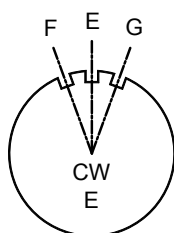
M23 B Series (Face view of socket insert)

| 6pos                                                                              | 8pos                                                                              | 9pos                                                                              |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |  |

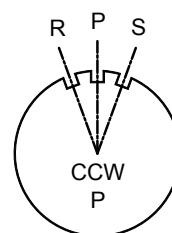
M40 C Series (Face view of socket insert)

| 6pos                                                                               | 8pos                                                                                |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |

## Coding Keys



(viewed from mating face of insert)



### ALL M23 A SERIES INSERTS COME WITH 3 CODING KEYS.

To order the connector with the correct insert coding, change the 6th digit in the catalog part number per the coding letter desired (see figure above).

Examples:

MA1CAE1200 for "E" coding, MA1CAF1200 for "F" coding, MA1CAG1200 for "G" coding

MA1CAP1200 for "P" coding, MA1CAR1200 for "R" coding, MA1CAS1200 for "S" coding

If you are ordering an "E" type connector, coding options are only: E, F & G. Normal coding is identified as "E".

If you are ordering a "P" type connector, coding options are only: P, R & S. Normal coding is identified as "P".

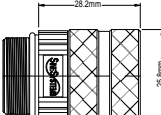
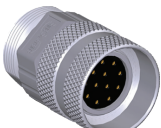
## M23 Signal Solutions - A Series

| Contact Size Legend |         |
|---------------------|---------|
| ● 2.0mm             | ○ 1.0mm |

M23 A Series (Face view: CW - clockwise, CCW - counter clockwise)

| 12pos E Type (CW) | 16pos E Type (CW) | 17pos E Type (CW) | 12pos P Type (CCW) | 16pos P Type (CCW) | 17pos P Type (CCW) |
|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|
|                   |                   |                   |                    |                    |                    |

### Plugs (Less contacts)

|                                                                                                                                                                                                                                                                |            |            |            |            |            |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|------------|------------|
| <div></div> |            |            |            |            |            |            |
| TYPE                                                                                                                                                                                                                                                           | 12E        | 12P        | 16E        | 16P        | 17E        | 17P        |
| P/N                                                                                                                                                                                                                                                            | MA1CAE1200 | MA1CAP1200 | MA1CAE1600 | MA1CAP1600 | MA1CAE1700 | MA1CAP1700 |

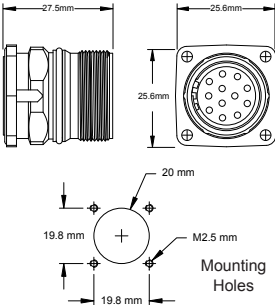
### Rotatable 90° Plugs (Less contacts)

Technical drawings of the connector showing dimensions:

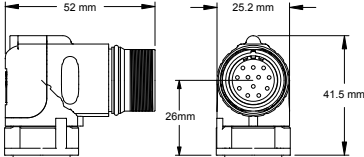
- Front view: Diameter 25.8mm, Port diameter 15mm.
- Side view: Total length 53.9mm, Port depth 30.5mm.

| TYPE | 12E        | 12P        | 16E        | 16P        | 17E        | 17P        |
|------|------------|------------|------------|------------|------------|------------|
| P/N  | MA1EAE1200 | MA1EAP1200 | MA1EAE1600 | MA1EAP1600 | MA1EAE1700 | MA1EAP1700 |

### Straight Receptacles (Less contacts)

|                                                                                                                                                                                                        |            |            |            |            |            |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|------------|------------|
| <div><div></div><div></div></div> |            |            |            |            |            |            |
| TYPE                                                                                                                                                                                                   | 12E        | 12P        | 16E        | 16P        | 17E        | 17P        |
| P/N                                                                                                                                                                                                    | MA1LAE1200 | MA1LAP1200 | MA1LAE1600 | MA1LAP1600 | MA1LAE1700 | MA1LAP1700 |

### Rotatable 90° Receptacles (Less contacts)

|                                                                                     |  |                                                                                      |  |
|-------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------|--|
|  |  |  |  |
|                                                                                     |  |                                                                                      |  |

### Pins

### Sockets

|                    |                                  |
|--------------------|----------------------------------|
|                    |                                  |
| PART NUMBER        | PART NUMBER                      |
| SC000035           | SC000013    SC000044             |
| CONTACT SIZE       | CONTACT SIZE                     |
| 1.0mm              | 1.0mm    1.0mm                   |
| TYPE               | TYPE                             |
| Machined           | RockSolid™    Slit Machined      |
| CRIMP BARREL (MAX) | CRIMP BARREL (MAX)               |
| 1.0mm² (18 GA)     | 1.0mm² (18 GA)    1.0mm² (18 GA) |
| EXTRACTION TOOL    | EXTRACTION TOOL                  |
| 50-54931-1         | 50-54931-1    50-54931-1         |

### Extensions (Less contacts)

Technical drawings of the MA1JAE series connector. The left image is a 3D perspective view of the 12E model. The middle image is a side cross-section view showing a length of 27.9mm. The right image is a top-down view showing a circular face with 12 pins and an outer diameter of Ø25.2mm.

| TYPE | 12E        | 12P        | 16E        | 16P        | 17E        | 17P        |
|------|------------|------------|------------|------------|------------|------------|
| P/N  | MA1JAE1200 | MA1JAP1200 | MA1JAE1600 | MA1JAP1600 | MA1JAE1700 | MA1JAP1700 |

- Plugs, Receptacles & Extensions accept Pins or Sockets
- For information on RockSolid™, please refer to page 2

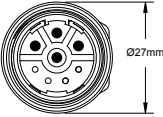
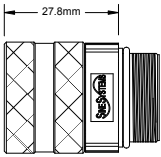
## M23 Power Solutions - B Series

| Contact Size Legend |         |
|---------------------|---------|
| ● 2.0mm             | ○ 1.0mm |

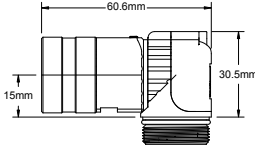
### M23 B Series (Face view of socket insert)

| 6pos | 8pos | 9pos |
|------|------|------|
|      |      |      |

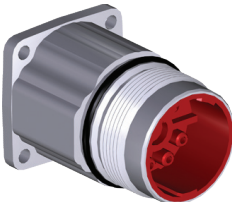
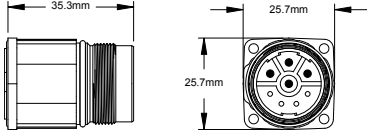
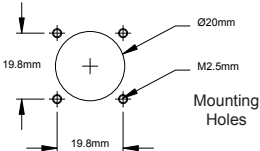
### Plugs (Less contacts)

|                                                                                   |  |            |  |                                                                                   |  |            |  |                                                                                   |  |  |  |
|-----------------------------------------------------------------------------------|--|------------|--|-----------------------------------------------------------------------------------|--|------------|--|-----------------------------------------------------------------------------------|--|--|--|
|  |  |            |  |  |  |            |  |  |  |  |  |
| TYPE                                                                              |  | 6pos       |  | 8pos                                                                              |  | 9pos       |  |                                                                                   |  |  |  |
| P/N                                                                               |  | MB1CKN0600 |  | MB1CKN0800                                                                        |  | MB1CKN0900 |  |                                                                                   |  |  |  |

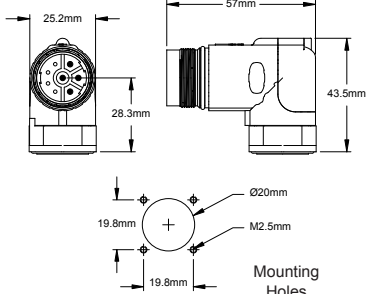
### Rotatable 90° Plugs (Less contacts)

|                                                                                    |                                                                                     |                                                                                     |            |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|
|  |  |  |            |
| TYPE                                                                               | 6pos                                                                                | 8pos                                                                                | 9pos       |
| P/N                                                                                | MB1EJN0600                                                                          | MB1EJN0800                                                                          | MB1EJN0900 |

### Straight Receptacles (Less contacts)

|                                                                                    |                                                                                     |            |            |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|------------|
|  |   |            |            |
|                                                                                    |  |            |            |
| TYPE                                                                               | 6pos                                                                                | 8pos       | 9pos       |
| P/N                                                                                | MB1LLN0600                                                                          | MB1LLN0800 | MB1LLN0900 |

### Rotatable 90° Receptacles (Less contacts)

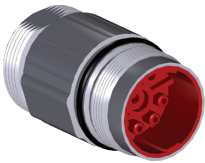
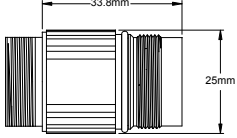
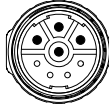
|                                                                                                                                                                                                |            |            |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|
| <div></div> <div></div> |            |            |            |
| TYPE                                                                                                                                                                                           | 6pos       | 8pos       | 9pos       |
| P/N                                                                                                                                                                                            | MB1RJN0601 | MB1RJN0801 | MB1RJN0901 |

### Pins

### Sockets

|                                                                                     |                               |                                                                                     |                               |                               |                               |
|-------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|
|  |                               |  |                               |                               |                               |
| PART NUMBER                                                                         |                               | PART NUMBER                                                                         |                               |                               |                               |
| SC000035                                                                            | SC000036                      | SC000013                                                                            | SC000044                      | SC000014                      | SC000045                      |
| CONTACT SIZE                                                                        |                               | CONTACT SIZE                                                                        |                               |                               |                               |
| 1.0mm                                                                               | 2.0mm                         | 1.0mm                                                                               | 1.0mm                         | 2.0mm                         | 2.0mm                         |
| TYPE                                                                                |                               | TYPE                                                                                |                               |                               |                               |
| Machined                                                                            | Machined                      | RockSolid™                                                                          | Slit Machined                 | RockSolid™                    | Slit Machined                 |
| CRIMP BARREL (MAX)                                                                  |                               | CRIMP BARREL (MAX)                                                                  |                               |                               |                               |
| 1.0mm <sup>2</sup><br>(18 GA)                                                       | 2.5mm <sup>2</sup><br>(14 GA) | 1.0mm <sup>2</sup><br>(18 GA)                                                       | 1.0mm <sup>2</sup><br>(18 GA) | 2.5mm <sup>2</sup><br>(14 GA) | 2.5mm <sup>2</sup><br>(14 GA) |
| EXTRACTION TOOL                                                                     |                               | EXTRACTION TOOL                                                                     |                               |                               |                               |
| 50-54931-1                                                                          | 50-54931-2                    | 50-54931-1                                                                          | 50-54931-1                    | 50-54931-2                    | 50-54931-2                    |

### Extensions (Less contacts)

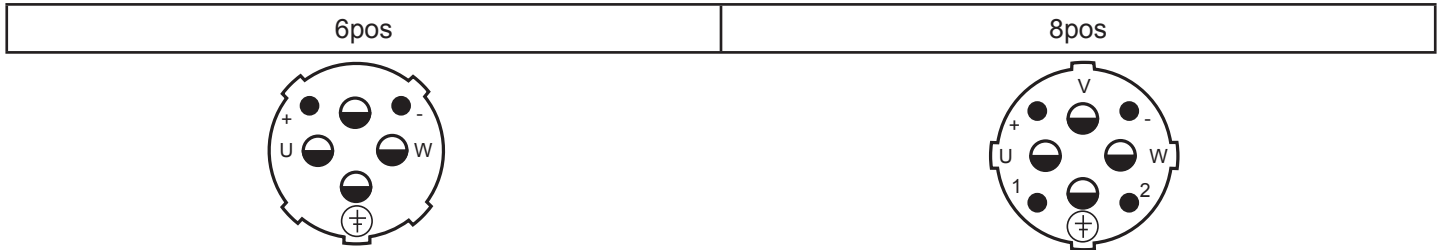
|                                                                                      |  |            |  |                                                                                       |  |            |  |                                                                                       |  |  |  |
|--------------------------------------------------------------------------------------|--|------------|--|---------------------------------------------------------------------------------------|--|------------|--|---------------------------------------------------------------------------------------|--|--|--|
|  |  |            |  |  |  |            |  |  |  |  |  |
| TYPE                                                                                 |  | 6pos       |  | 8pos                                                                                  |  | 9pos       |  |                                                                                       |  |  |  |
| P/N                                                                                  |  | MB1JJN0600 |  | MB1JJN0800                                                                            |  | MB1JJN0900 |  |                                                                                       |  |  |  |

- Plugs accept Sockets only
- Receptacles & Extensions accept Pins only
- For information on RockSolid™, please refer to page 2

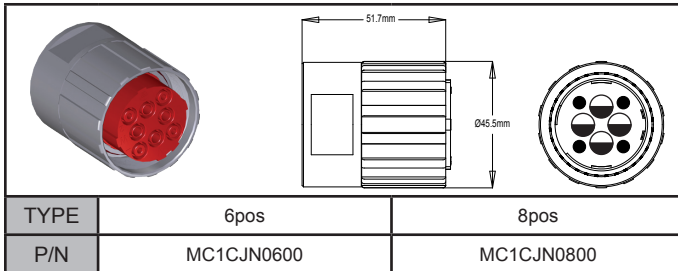
## M40 Power Solutions - C Series

Contact Size Legend  
 ● 2.0mm    ● 3.6mm

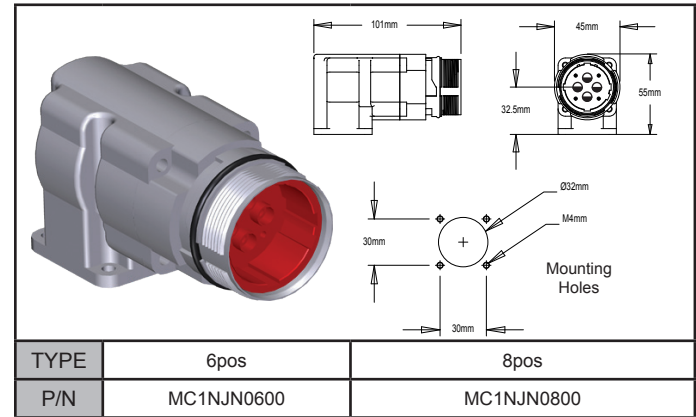
M40 C Series (Face view of socket insert)



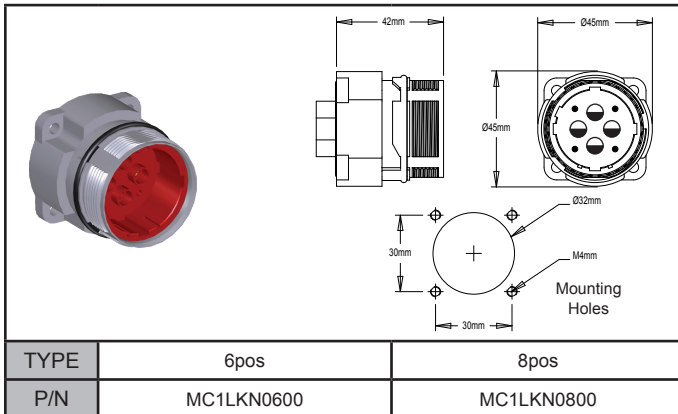
Plugs (Less contacts)



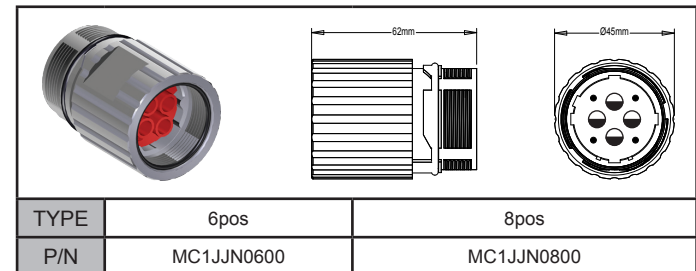
Fixed 90° Receptacles (Less contacts)



Straight Receptacles (Less contacts)



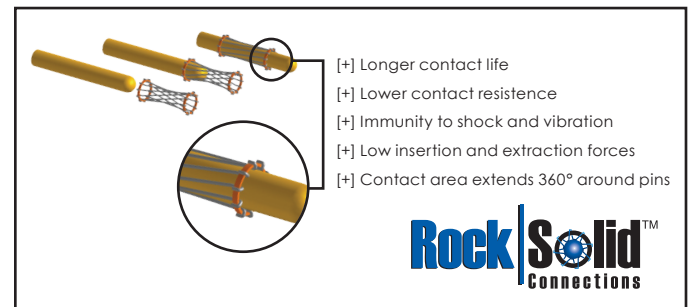
Extensions (Less contacts)



Pins

Sockets

|  |                               |  |                               |                               |                               |
|-------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|
| PART NUMBER                                                                         |                               | PART NUMBER                                                                         |                               |                               |                               |
| SC000040                                                                            | SC000041                      | SC000014                                                                            | SC000045                      | SC000039                      | SC000046                      |
| CONTACT SIZE                                                                        |                               | CONTACT SIZE                                                                        |                               |                               |                               |
| 2.0mm                                                                               | 3.6mm                         | 2.0mm                                                                               | 2.0mm                         | 3.6mm                         | 3.6mm                         |
| TYPE                                                                                |                               | TYPE                                                                                |                               |                               |                               |
| Machined                                                                            | Machined                      | RockSolid™                                                                          | Slit Machined                 | RockSolid™                    | Slit Machined                 |
| CRIMP BARREL (MAX)                                                                  |                               | CRIMP BARREL (MAX)                                                                  |                               |                               |                               |
| 2.5mm <sup>2</sup><br>(14 GA)                                                       | 10.0mm <sup>2</sup><br>(8 GA) | 2.5mm <sup>2</sup><br>(14 GA)                                                       | 2.5mm <sup>2</sup><br>(14 GA) | 10.0mm <sup>2</sup><br>(8 GA) | 10.0mm <sup>2</sup><br>(8 GA) |
| EXTRACTION TOOL                                                                     |                               | EXTRACTION TOOL                                                                     |                               |                               |                               |
| 50-54931-2                                                                          | 50-54931-3                    | 50-54931-2                                                                          | 50-54931-2                    | 50-54931-3                    | 50-54931-3                    |



- Plugs accept Sockets only
- Receptacles & Extensions accept Pins only

## Contact Tooling

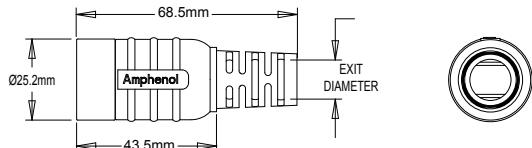
|  | Universal Hand Crimp Tool |                    |                   |
|-----------------------------------------------------------------------------------|---------------------------|--------------------|-------------------|
|                                                                                   | SIZE (mm)                 | OPTION 1           | OPTION 2          |
|                                                                                   | 1.0mm                     | UNIVERSAL LOCATOR  | SOLID LOCATOR     |
|                                                                                   | PART NUMBER: AFM8         | PART NUMBER: SK2/2 | PART NUMBER: K613 |
|                                                                                   | 2.0mm                     | UNIVERSAL LOCATOR  | SOLID LOCATOR     |
|                                                                                   | PART NUMBER: AF8          | PART NUMBER: UH2-5 | N/A               |

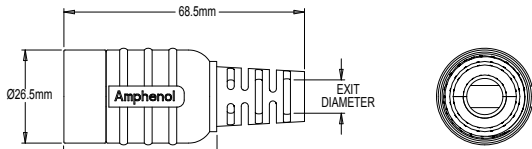
|  | Pneumatic Crimp Tool |                          |
|-----------------------------------------------------------------------------------|----------------------|--------------------------|
|                                                                                   | SIZE (mm)            | OPTION                   |
|                                                                                   | 1.0mm                | UNIVERSAL LOCATOR        |
|                                                                                   | PART NUMBER: WA22    | PART NUMBER: SK2/2       |
|                                                                                   | 2.0mm                | UNIVERSAL LOCATOR        |
|                                                                                   | PART NUMBER: WA27F   | PART NUMBER: UH2-5       |
|                                                                                   | 3.6mm                | UNIVERSAL LOCATOR        |
|                                                                                   | PART NUMBER: WA23    | PART NUMBER: WA23-1010DA |

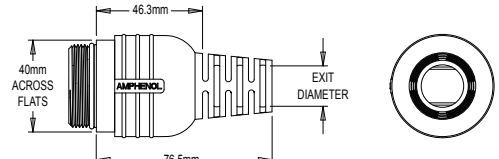
## FlexGrip™ Backshells

For more information on FlexGrip™ technology, refer to page 2.

**Note:** FlexGrip™ Backshells must be potted to achieve IP 67 ratings.

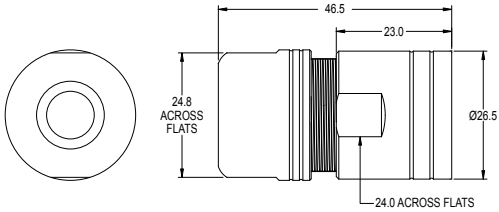
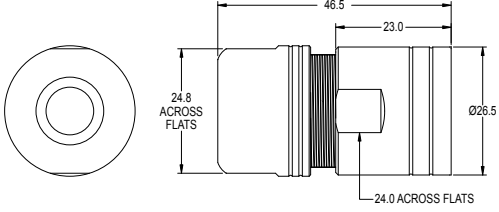
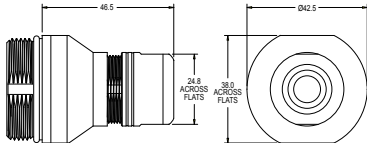
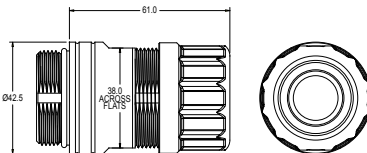
|  | M23 A SERIES |               |  |
|-------------------------------------------------------------------------------------|--------------|---------------|--------------------------------------------------------------------------------------|
|                                                                                     | PART NUMBER  | EXIT DIAMETER |                                                                                      |
|                                                                                     | MA4FSR-A8.5  | 7.5-8.5mm     |                                                                                      |
|                                                                                     | MA4FSR-A10.5 | 9.5-10.5mm    |                                                                                      |
|                                                                                     | MA4FSR-A12.8 | 11.5-12.8mm   |                                                                                      |

|  | M23 B SERIES |               |  |
|-------------------------------------------------------------------------------------|--------------|---------------|--------------------------------------------------------------------------------------|
|                                                                                     | PART NUMBER  | EXIT DIAMETER |                                                                                      |
|                                                                                     | MB4FSR-B10.3 | 9.5-10.3mm    |                                                                                      |
|                                                                                     | MB4FSR-B12.5 | 11.5-12.5mm   |                                                                                      |
|                                                                                     | MB4FSR-B14.5 | 13.5-14.5mm   |                                                                                      |
|                                                                                     | MB4FSR-B17   | 15.5-17mm     |                                                                                      |

|  | M40 C SERIES |               |  |
|-------------------------------------------------------------------------------------|--------------|---------------|--------------------------------------------------------------------------------------|
|                                                                                     | PART NUMBER  | EXIT DIAMETER |                                                                                      |
|                                                                                     | MC4FSR-C18.5 | 17.5-18.5mm   |                                                                                      |

## Cord Grips - Traditional

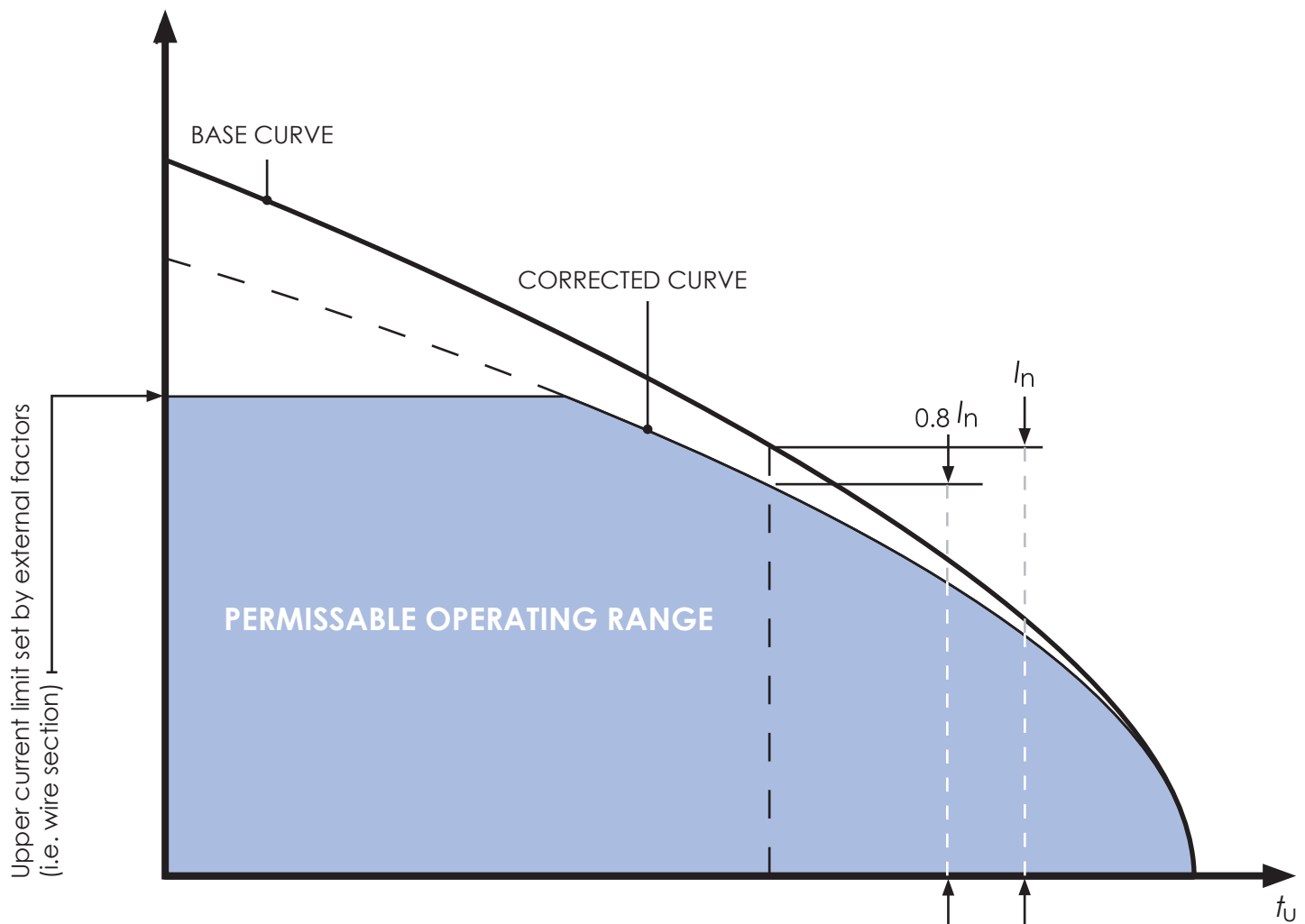
**Note:** Meets IP 67 ratings

|                                                                                    |                     |                    |                                                                                       |
|------------------------------------------------------------------------------------|---------------------|--------------------|---------------------------------------------------------------------------------------|
|   | <b>M23 A SERIES</b> |                    |     |
|                                                                                    | <b>PART NUMBER</b>  | <b>CABLE RANGE</b> |                                                                                       |
|                                                                                    | MA3CG-S1            | 4.5-7.5mm          |                                                                                       |
|                                                                                    | MA3CG-S2            | 7.5-11.0mm         |                                                                                       |
|                                                                                    | MA3CG-S3            | 11-15.0mm          |                                                                                       |
|   | <b>M23 B SERIES</b> |                    |     |
|                                                                                    | <b>PART NUMBER</b>  | <b>CABLE RANGE</b> |                                                                                       |
|                                                                                    | MB3CG-S1            | 7.5-11.0mm         |                                                                                       |
|                                                                                    | MB3CG-S2            | 11.0-14.5mm        |                                                                                       |
|                                                                                    | MB3CG-S3            | 14.5-17.0mm        |                                                                                       |
|  | <b>M40 C SERIES</b> |                    |   |
|                                                                                    | <b>PART NUMBER</b>  | <b>CABLE RANGE</b> |                                                                                       |
|                                                                                    | MC3CG-S1            | 7.5-11.0mm         |                                                                                       |
|                                                                                    | MC3CG-S2            | 11.0-14.5mm        |  |
|                                                                                    | MC3CG-S3            | 14.5-17.0mm        |                                                                                       |
|                                                                                    | MC3CG-S4            | 14.5-20.5mm        |                                                                                       |
|                                                                                    | MC3CG-S5            | 20.5-26.0mm        |                                                                                       |

## Derating Curves

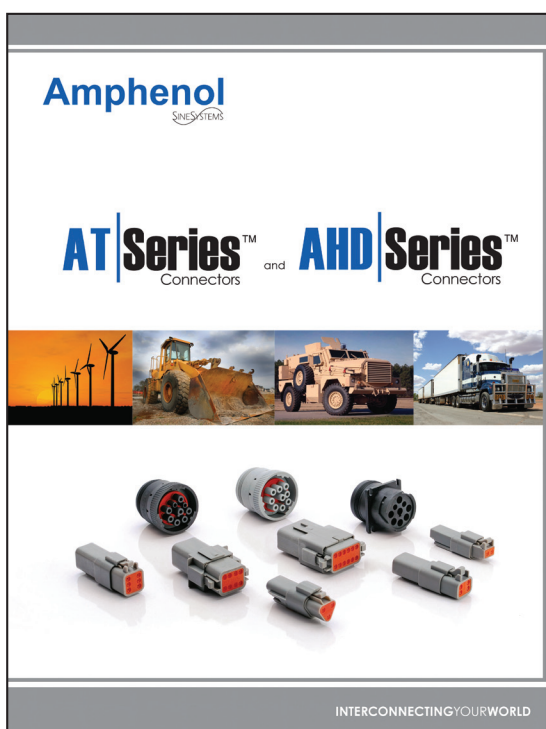
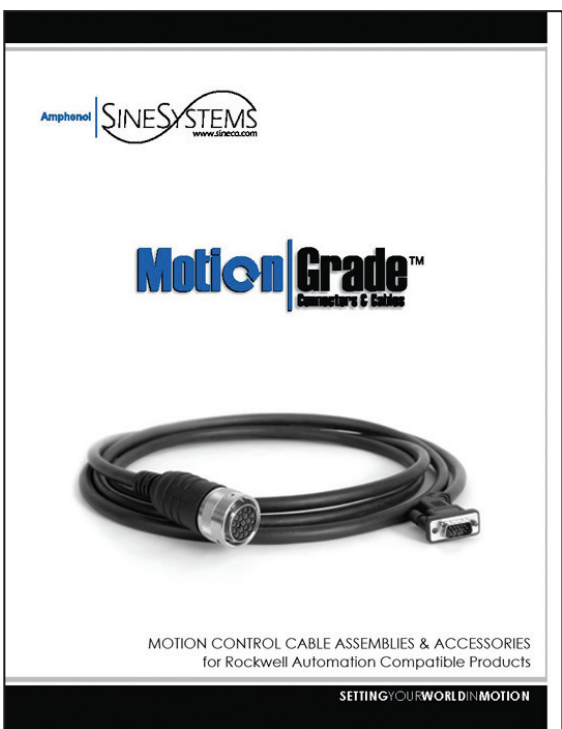
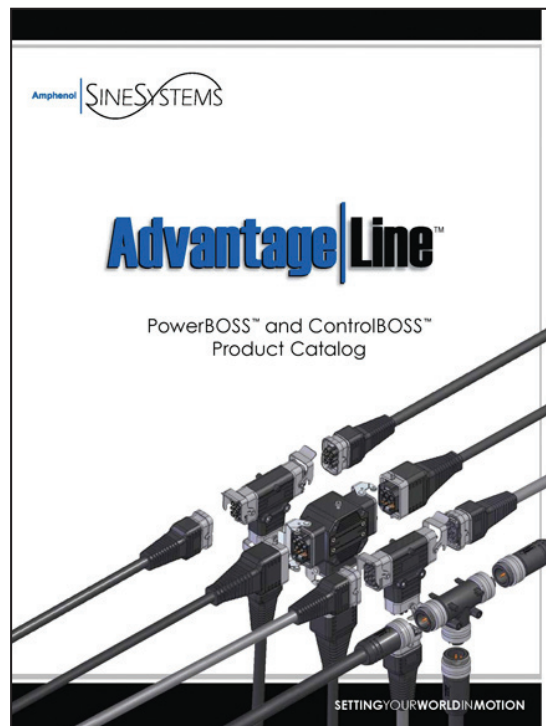
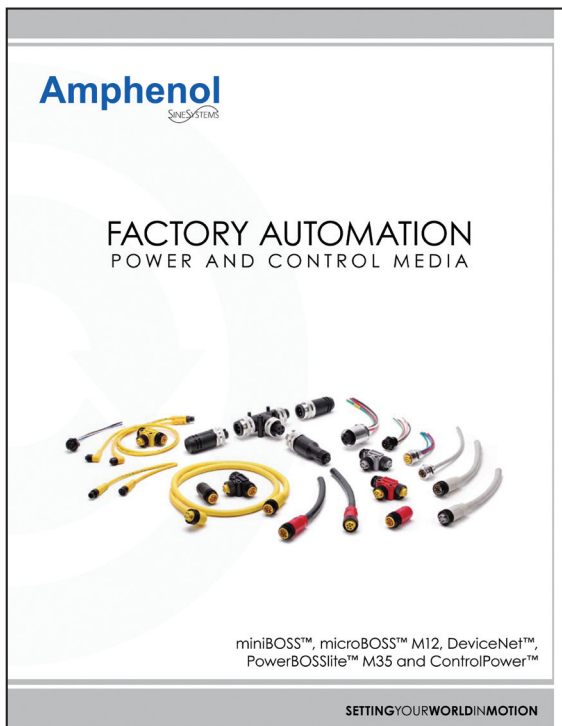
The Derating Curve depicts a safe operating zone in which amperage and ambient temperature are the factors. This curve on the chart is an 80% reduction of the current-carrying capacity curve.

The current-carrying capacity curve is determined from tests in which the mated connectors are subjected to different levels of current. At these levels of current, the temperature of the hottest spot of the mated connector and the temperature inside the test enclosure are recorded. Using this data, plugged into a formula, points are plotted on a chart. When the points are connected, the completed curve is the current-carrying capacity curve.



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