# har-flexicon terminal block horizontal, screwing, SMC

RoHS compliant

## General information

| Design | PCB Terminal Block | | | | |
|---|---|---|---|---|---|
| Type | 3,50/3,81 TTSH | 5,00 TTSH 1,5mm² | 5,00 TTSH 2,5mm² | 10,16 TTSH | 15,00 TTSH |
| Part numbers | 1402xx14402xxx<br>1402xx15402xxx | 1402xx16402xxx | 1402xx16404xxx | 1402xx25402xxx | 1402xx27402xxx |
| Contact pitch | 3,5 mm/3,81mm | 5mm | 5,08mm | 10,16mm | 15mm |
| No. of contacts | 2 - 12 poles | 2 - 12 poles | 2 - 8 poles | 2 - 4 poles | 2 - 4 poles |
| Rated surge voltage (II/2)[1)] | 2,5 kV | 4 kV | 4 kV | 8 kV | 8 kV |
| Rated surge voltage (III/2)[1)] | 2,5 kV | 4 kV | 4 kV | 8 kV | 8 kV |
| Rated surge voltage (III/3)[1)] | 2,5 kV | 4 kV | 4 kV | 8 kV | 8 kV |
| Rated Voltage | 300 V | 300 V | 300 V | 600 V | 600 V |
| Rated voltage (II/2)[1)] | 300 V | 600 V | 600 V | 1000 V | 1000 V |
| Rated voltage (III/2)[1)] | 150 V | 300 V | 300 V | 1000 V | 1000 V |
| Rated voltage (III/3)[1)] | 150 V | 220 V | 300 V | 1000 V | 1000 V |
| Working current | 12 A | 13,5 A | 17,5 A | 60 A | 135 A |
| Usegroup B, rated voltage / current | 300 V / 12 A | 300 V / 13,5 A | 300 V / 17,5 A | 300 V / 60 A | 600 V / 135 A |
| Usegroup C, rated voltage / current | - / - | - / - | - / - | 300 V / 60 A | 600 V / 135 A |
| Usegroup D, rated voltage / current | 300 V / 12 A | 300 V / 13,5 A | 300 V / 17,5 A | 600 V / 5 A | - / - |
| Contact resistance | max. 15 mOhm | | | | |
| Insulation resistance | min. $10^3$ Ohm (500 V DC) | | | | |
| Temperature range | -40°C ... +110°C | | | | |
| Termination technology | THR/SMC Reflow | | | | |
| PCB thickness | - | - | - | max. 2,4mm | max. 2,4mm |
| Insertion force | n.a | | | | |
| Withdrawal force | n.a | | | | |
| Hot plugging | No | | | | |
| Mechanical Shock IEC 61373 (05/10) | 5 g, 30 ms, 5 shocks/axis and each direction no contact disturbance >= 1µs | | | | |
| Random Vibration IEC 61373 (05/10) | Cat 1 class B 5,72m/s² no contact disturbance >=1µs | | | | |
| RoHS - compliant | Yes | | | | |
| UL file | E314677 | | | | |

## Isulator material

| | |
|---|---|
| Material | PA/PPA |
| Color | black |
| UL classification | UL 94-V0 |
| Material group acc. to. IEC 60664-1 | I (CTI > 600) |

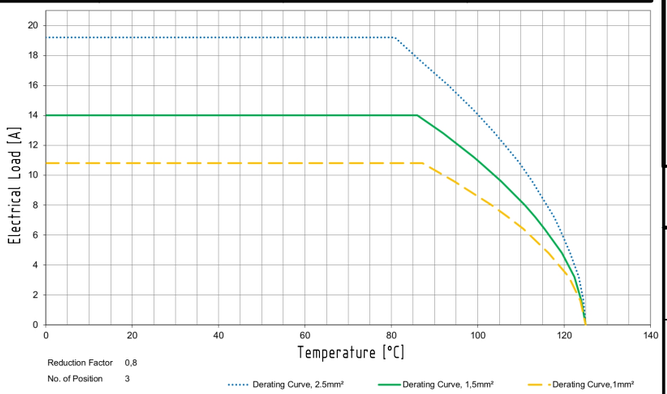
## Contact material

| | |
|---|---|
| Contact material | Copper alloy |
| Plating termination zone | Sn |
| Plating contact zone | Ni |

## Derating

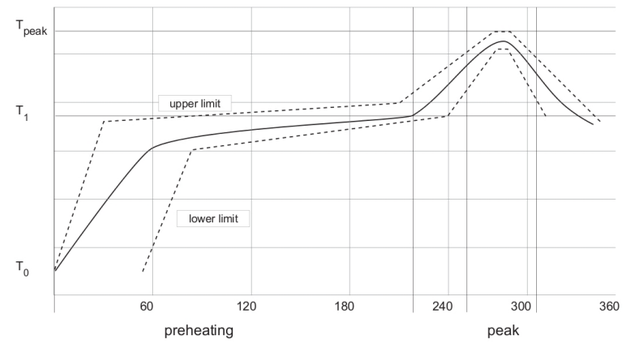
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals.
The current capacity curve is valid for continuous, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature.

Control and test procedures according to DIN IEC 60512-5




[1)](overvoltage cat. / pollution degree )

## Soldering instructions for lead-free tin soldering




**preheating**

| | |
|---|---|
| T0 | 25°C (77°F) |
| T1 | from 150°C (302°F) to 190°C (374°F) |
| time | from 150s to 180s |
| gradient | 1,5°C/s (34°F/s) |

**peak**

| | |
|---|---|
| Tpeak | from 260°C (500°F) to 275°C (527°F) |
| time | from 10s to 30s |

har-flexicon SMC products with pure tin plated pins without lead, can be soldered by a lead-free reflow process, with a peak temperature till 275°C/527°F according to the related profile.

## Cable connection

| Type | 3,50/3,81 TTSH | 5,00 TTSH 1,5mm² | 5,08 TTSH 2,5mm² | 10,16 TTSH | 15,00 TTSH |
|---|---|---|---|---|---|
| Part numbers | 1402xx14402xxx<br>1402xx15402xxx | 1402xx16402xxx | 1402xx16404xxx | 1402xx25402xxx | 1402xx27402xxx |
| Conductor size AWG max | 16 AWG | 16 AWG | 12 AWG | 6 AWG | 1 AWG |
| Conductor size AWG min | 28 AWG | 30 AWG | 30 AWG | 20 AWG | 20 AWG |
| Conductor size solid max | 1,5 mm² | 1,5 mm² | 2,5 mm² | 16 mm² | 35 mm² |
| Conductor size solid min | 0,05 mm² | 0,05 mm² | 0,05 mm² | 0,5 mm² | 0,5 mm² |
| Conductor size stranded max | 1 mm² | 1,0 mm² | 2,5 mm² | 10 mm² | 25 mm² |
| Conductor size stranded min | 0,05 mm² | 0,05 mm² | 0,05 mm² | 0,5 mm² | 0,5 mm² |
| Conductor size stranded for end sleeve | | | | | |
| Stripping length max | 6 mm | 6 mm | 6,5 mm | 11,5 mm | 18 mm |
| Stripping length min | 5 mm | 5 mm | 5,5 mm | 10,5 mm | 18 mm |
| Screw thread | M2 | M3 | M3 | M4 | M5 |
| Tightening Torque max | 0,25 Nm | 0,6 Nm | 0,6 Nm | 1,5 Nm | 2,5 Nm |
| Tightening Torque min | 0,20 Nm | 0,5 Nm | 0,5 Nm | 1,2 Nm | 2,1 Nm |

## Packging unit

**types 3.50/3.81/5.00/5.08 TTSH**

| Type of packaging | No. of poles (xx) | Quantity | MOQ | Index (xxx) | Remark |
|---|---|---|---|---|---|
| tropical bag | 2 - 3 | 100 | 100 | 000 | |
| tropical bag | 4 - 5 | 75 | 75 | 000 | |
| tropical bag | 6 - 12 | 50 | 50 | 000 | |
| box | 2 - 12 | 1 | 1 | 333 | samples |

**type 10.16 TTSH**

| Type of packaging | No. of poles (xx) | Quantity | MOQ | Index (xxx) | Remark |
|---|---|---|---|---|---|
| tropical bag | 2 - 3 | 50 | 50 | 000 | |
| tropical bag | 4 | 40 | 40 | 000 | |
| box | 2 - 4 | 1 | 1 | 333 | sample |

**type 15.00 TTSH**

| Type of packaging | No. of poles (xx) | Quantity | MOQ | Index (xxx) | Remark |
|---|---|---|---|---|---|
| tropical bag | 2 | 50 | 50 | 000 | |
| tropical bag | 3 | 40 | 40 | 000 | |
| tropical bag | 4 | 30 | 30 | 000 | |
| box | 2 - 4 | 1 | 1 | 333 | sample |

1402xx14402xxx

All Dimensions in mm
Original Size DIN A3

| Scale | Free size tol. | Ref. |
|---|---|---|
| 1:1 | | Sub. |



| Created by | Inspected by | Standardisation | Date | State |
|---|---|---|---|---|
| ZHUANGJ | LUOK | HOFFMANN | 2017-12-15 | Final Release |

Department EC PD - CN

HARTING Electronics GmbH
D-32339 Espelkamp

Title: har-flexicon terminal block horizontal, screwing, SMC

Doc-Key / ECM-Nr.: 100542555/UGD/001/E
500000129104

Type: DS | Number: 14027301801 | Rev.: E | Page: 1/1

A3

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