



har-flexicon male connector, vertical



General information

| Design | | | | | |
|---|---|-----------------------|----------------------------------|-----------------------|----------------------------------|
| Type | male connector | | | | |
| Type | har-flexicon 3.50/3.81 MTV | har-flexicon 5.00 MTV | har-flexicon 5.08 MTV | har-flexicon 3.50 MWV | har-flexicon 5.00/5.08 MWV |
| Part numbers | 1412xx14001xxx & 1412xx14005xxx 1412xx15001xxx & 1412xx15005xxx | 1412xx16001xxx | 1412xx17001xxx 1412xx17005xxx | 1413xx14001xxx | 1413xx16001xxx 1413xx17001xxx |
| Contact pitch | 3.50/3.81 mm | 5 mm | 5.08 mm | 3.50 mm | 5.00/5.08 mm |
| No. of contacts | 2-25 poles | 2-20 poles | 2-22 poles | 2 - 12 poles | 2 - 12 poles |
| Rated surge voltage (II/2) ¹⁾ | 2.5 kV | 4 kV | 4 kV | 2.5 kV | 4 kV |
| Rated surge voltage (III/2) ²⁾ | 2.5 kV | 4 kV | 4 kV | 2.5 kV | 4 kV |
| Rated surge voltage (III/3) ³⁾ | 2.5 kV | 4 kV | 4 kV | 2.5 kV | 4 kV |
| Rated Voltage | 300 V | 300 V | 300 V | 300 V | 300 V |
| Rated voltage (II/2) ⁴⁾ | 300 V | 600 V | 600 V | 300 V | 600 V |
| Rated voltage (III/2) ⁵⁾ | 150 V | 300 V | 300 V | 150 V | 300 V |
| Rated voltage (III/3) ⁶⁾ | 150 V | 250 V | 250 V | 150 V | 250 V |
| Working current | 11 A | 15 A | 15 A | 11 A | 15 A |
| Usegroup B, rated voltage / current | 300 V / 11 A | 300 V / 15 A | 300 V / 15 A | 300 V / 11 A | 300 V / 15 A |
| Usegroup C, rated voltage / current | - / - | - / - | - / - | - / - | - / - |
| Usegroup D, rated voltage / current | 300 V / 11 A | 300 V / 15 A | 300 V / 15 A | 300 V / 11 A | 300 V / 15 A |
| Contact resistance | max. 15 mOhm | | | | |
| Insulation resistance | min. 10 ⁹ Ohm (500 V DC) | | | | |
| Temperature range | -40°C ... +110°C | | | | |
| Termination technology | THR/SMC Reflow | THR/SMC Reflow | THR/SMC Reflow | wave soldering | wave soldering |
| Insertion force | max. 3 N | | | | |
| Withdrawal force | min. 1.5 N | | | | |
| Hot plugging | No | | | | |
| Mechanical Shock IEC 61373 (05/10) | 5 g, 30 ms, 5 shocks/axis and each direction no contact disturbance >= 1 µs | | for p/n ...5xxx | | |
| Random Vibration IEC 61373 (05/10) | Cat 1 class B 5.72 m/s ² no contact disturbance >=1 µs | | for p/n ...5xxx | | |
| Vibration | 10-150 Hz, 0.35mm, 5 g, 2 h each axes -> No contact disturbance >= 1 µs | | for p/n ...1xxx | | |
| RoHS - compliant | Yes | | | | |
| UL file | E314677 | | | | |

Insulator material

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

Contact material

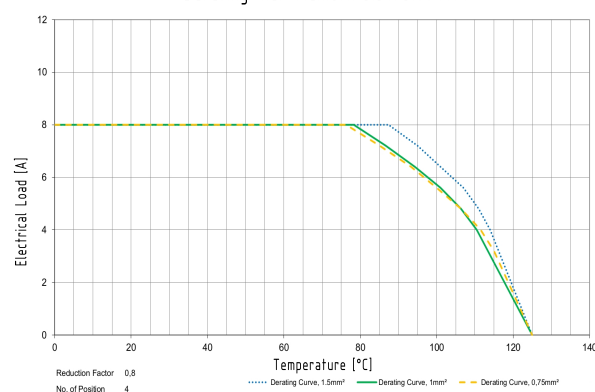
| | |
|--------------------------|--------------|
| Contact material | Copper alloy |
| Plating termination zone | Sn |
| Plating contact zone | Sn |

Derating

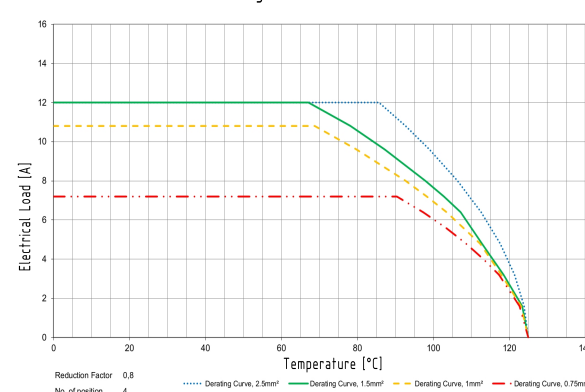
The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals. The current capacity curve is valid for continuous, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the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

Control and test procedures according to DIN IEC 60512-5

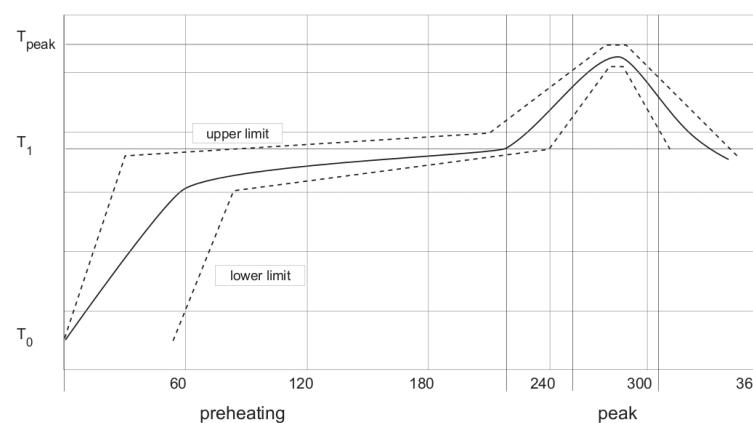
Derating: har-flexicon 3.50/3.81 MTV:



Derating: har-flexicon 5.00/5.08 MTV:



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
 T_{peak} 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.

Packaging units

types 3.50/3.81 MTV

| Type of packaging | No. of poles (xx) | Quantity | MOQ | Index (xxx) | Remark |
|-------------------|-------------------|----------|-----|-------------|--------|
| box | 2 - 3 | 100 | 100 | 000 | |
| box | 4 - 5 | 75 | 75 | 000 | |
| box | 6 - 20 | 50 | 50 | 000 | |
| box | 21 - 25 | 25 | 25 | 000 | |

types 5.00/5.08 MTV

| Type of packaging | No. of poles (xx) | Quantity | MOQ | Index (xxx) | Remark |
|-------------------|-------------------|----------|-----|-------------|--------|
| box | 2 - 3 | 100 | 100 | - | |
| box | 4 - 5 | 75 | 75 | - | |
| box | 6 - 20 | 50 | 50 | - | |
| box | 21 - 25 | 25 | 25 | - | |

types 3.50/5.00/5.08 MWV

| Type of packaging | No. of poles (xx) | Quantity | MOQ | Index (xxx) | Remark |
|-------------------|-------------------|----------|-----|-------------|--------|
| box | 2 | 300 | 1 | - | |
| box | 3 | 200 | 1 | - | |
| box | 4 - 5 | 150 | 1 | - | |
| box | 6 - 12 | 100 | 1 | - | |

1412xx14001xxx

- ¹⁾ (overvoltage cat. II / pollution degree 2)
- ²⁾ (overvoltage cat. III / pollution degree 2)
- ³⁾ (overvoltage cat. III / pollution degree 3)
- ⁴⁾ (overvoltage cat. II / pollution degree 2)
- ⁵⁾ (overvoltage cat. III / pollution degree 2)
- ⁶⁾ (overvoltage cat. III / pollution degree 3)

| | | | | |
|---|--|-----------------------|------------------------|--|
| | All Dimensions in mm Original Size DIN A3 | Scale 1:1 | Free size tol. | Ref. |
| | All rights reserved Department EL PD | Created by ZHUANGJ | Inspected by LUOK | Standardisation HOFFMANN |
| HARTING Electronics GmbH D-32339 Espelkamp | Title har-flexicon male connector, vertical | | | Date 2020-04-01 |
| | Type DS | Number 14121400201 | State Final Release | Doc-Key / ECM-Nr. 100579746/UGD/000/E 500000169391 |
| | | | Rev. E | Page 1/1 |

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HARTING:

| | | | | | |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| <u>14120217001000</u> | <u>14120314001000</u> | <u>14120316001000</u> | <u>14120414001000</u> | <u>14120517001000</u> | <u>14120617001000</u> |
| <u>14121014001000</u> | <u>14121015001000</u> | <u>14121017001000</u> | <u>14121216001000</u> | <u>14120216001000</u> | <u>14120415001000</u> |
| <u>14120614001000</u> | <u>14120814001000</u> | <u>14120816001000</u> | <u>14121016001000</u> | <u>14120416001000</u> | <u>14120616001000</u> |
| <u>14121214001000</u> | <u>14120215001000</u> | <u>14120315001000</u> | <u>14120615001000</u> | <u>14120815001000</u> | <u>14120214001000</u> |
| <u>14120317001000</u> | <u>14120417001000</u> | <u>14120516001000</u> | <u>14120817001000</u> | <u>14121215001000</u> | <u>14120315005000</u> |
| <u>14120915005000</u> | <u>14121215005000</u> | <u>14120515005000</u> | <u>14121117001000</u> | <u>14120717001000</u> | <u>14121217001000</u> |
| <u>14120917001000</u> | <u>14121017005000</u> | <u>14121217005000</u> | <u>14121617005000</u> | <u>14120417005000</u> | <u>14120217005000</u> |
| <u>14120817005000</u> | <u>14121517005000</u> | <u>14120317005000</u> | <u>14120517005000</u> | <u>14120515001000</u> | <u>14121115001000</u> |
| <u>14121615001000</u> | <u>14122015001000</u> | <u>14120715001000</u> | <u>14121415001000</u> | <u>14120915001000</u> | <u>14121315001000</u> |
| <u>14121815001000</u> | <u>14120914005000</u> | <u>14120414005000</u> | <u>14120514005000</u> | <u>14120314005000</u> | <u>14120214005000</u> |
| <u>14130214001000</u> | <u>14130314001000</u> | <u>14130814001000</u> | <u>14131214001000</u> | <u>14131114001000</u> | <u>14130914001000</u> |
| <u>14121414001000</u> | <u>14121814001000</u> | <u>14120514001000</u> | <u>14120914001000</u> | <u>14122014001000</u> | <u>14121914001000</u> |
| <u>14121114001000</u> | <u>14120714001000</u> | <u>14121116001000</u> | <u>14120916001000</u> | <u>14131017001000</u> | <u>14131016001000</u> |
| <u>14130517001000</u> | <u>14131117001000</u> | <u>14130316001000</u> | <u>14130717001000</u> | <u>14130217001000</u> | <u>14131216001000</u> |
| <u>14130416001000</u> | <u>14130917001000</u> | <u>14130617001000</u> | <u>14130216001000</u> | <u>14130417001000</u> | <u>14130916001000</u> |
| <u>14131116001000</u> | <u>14130817001000</u> | <u>14130816001000</u> | <u>14130317001000</u> | <u>14121616001000</u> | <u>14120617005000</u> |