

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26 D-32758 Detmold Germany

www.weidmueller.com

Product image





OMNIMATE[®] 4.0 - the next evolution step

OMNIMATE[®] 4.0 follows the trend of One Cable Technology (OCT). The modular concept enables the fast configuration of hybrid interfaces, which transmit data, signals and energy in a single connector. As a result, you can reduce the cabling effort in a wide variety of applications, simplify maintenance and accelerate automation processes. The unique SNAP IN connection is the backbone and speeds up the wiring process.

The fastest connection yet

- Fast, safe, and tool-free wiring due to unique SNAP IN connection
- Ready for Robot through "wire ready" delivery with open clamping point
- Optical and acoustic feedback indicates proper wiring
- **Create your own configuration**
- Flexible configuration and ordering via the Weidmüller Configurator (WMC)
- Dispatch within three days even for individually configured products
- Automatic offer preparation for the configurated product

Simply configuration of modular hybrid connectors

- Flexible combination options for power, signal and data transmission
- Future-proof Single-Pair Ethernet technology

General ordering data

| Version | PCB plug-in connector, male header, THT/THR solder connection, Pitch in mm (P): 5.00 mm, Number of poles: 11, 180°, Tube |
|--------------|--|
| Order No. | <u>8000072461</u> |
| Туре | MHS 5/11 V T3 B T |
| GTIN (EAN) | 4064675422945 |
| Qty. | 9 pc(s). |
| Product data | IEC: 400 V / 25.3 A UL: 300 V / 14 A |
| Packaging | Tube |

Creation date October 11, 2022 8:18:47 PM CEST

Technical data



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| Dimensions | and | weights |
|------------|-----|---------|
|------------|-----|---------|

| Depth | 11.9 mm | Depth (inches) | 0.469 inch |
|--------------------------|-----------|-----------------|------------|
| Height | 17.2 mm | Height (inches) | 0.677 inch |
| Height of lowest version | 14 mm | Width | 56.38 mm |
| Width (inches) | 2.22 inch | Net weight | 4.852 g |

System specifications

| Type of connection | | Mounting onto the PCB | THT/THR solder |
|--------------------------------------|------------------|--|---|
| | Board connection | | connection |
| Pitch in mm (P) | 5 mm | Pitch in inches (P) | 0.197 inch |
| Outgoing elbow | 180° | Number of poles | 11 |
| Number of solder pins per pole | 1 | Solder pin length (I) | 3.2 mm |
| Solder pin dimensions | 1.0 x 1.0 mm | Solder eyelet hole diameter (D) | 1.4 mm |
| Solder eyelet hole diameter tolerand | e (D)+ 0,1 mm | Outside diameter of solder pad | 2.3 mm |
| Template aperture diameter | 2.1 mm | L1 in mm | 50 mm |
| L1 in inches | 1.969 inch | Number of rows | 1 |
| Pin series quantity | 1 | Touch-safe protection acc. to DIN VDE 57 106 | Touch-safe above the printed circuit board |
| Touch-safe protection acc. to DIN VI | DE | Protection degree | |
| 0470 | IP 20 | 5 | IP20 |
| Volume resistance | ≤5 mΩ | Plugging cycles | ≥ 25 |
| Plugging force/pole, max. | 8.5 N | Pulling force/pole, max. | 8.5 N |

Material data

| Insulating material | PA 9T | Colour | black |
|----------------------------------|----------|-----------------------------|--------|
| Colour chart (similar) | RAL 9011 | Insulating material group | I |
| Comparative Tracking Index (CTI) | ≥ 600 | Moisture Level (MSL) | 1 |
| UL 94 flammability rating | V-0 | Contact base material | CuMg |
| Contact material | CuMg | Contact surface | tinned |
| Tinning type | matt | Storage temperature, min. | -25 °C |
| Storage temperature, max. | 55 °C | Operating temperature, min. | -50 °C |
| Operating temperature, max. | 100 °C | | |

Rated data acc. to IEC

| tested | acc | to | star | hda | ard |
|--------|-----|----|------|-----|-----|

| tested acc. to standard | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C) | 25.3 A |
|---|------------------------|---|--------|
| Rated current, max. number of poles (Tu=20°C) | 20.8 A | Rated current, min. number of poles (Tu=40°C) | 21.8 A |
| Rated current, max. number of poles (Tu=40°C) | 18 A | Rated voltage for surge voltage class / pollution degree II/2 | 400 V |
| Rated voltage for surge voltage class / pollution degree III/2 | 320 V | Rated voltage for surge voltage class / pollution degree III/3 | 250 V |
| Rated impulse voltage for surge voltage class/ pollution degree II/2 | 4 kV | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 4 kV |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 4 kV | Clearance, min. | 4 mm |
| Creepage distance, min. | 5.4 mm | | |

Rated data acc. to UL 1059

| Rated voltage (Use group B / UL 1059) 300 V | Rated voltage (Use group D / UL 1059) 300 V |
|---|---|
| Rated current (Use group B / UL 1059) 14 A | Rated current (Use group D / UL 1059) 10 A |

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| Classifications | | | | |
|--------------------------------|---|---|---|--|
| | | | | |
| ETIM 6.0 | EC002637 | ETIM 7.0 | EC002637 | |
| ETIM 8.0 | EC002637 | ECLASS 9.0 | 27-44-04-02 | |
| ECLASS 9.1 | 27-44-04-02 | ECLASS 10.0 | 27-44-04-02 | |
| ECLASS 11.0 | 27-46-02-01 | ECLASS 12.0 | 27-46-02-01 | |
| Important note | | | | |
| IPC conformity | <i>,</i> , | s are developed, manufactured and deliv | 5 5 | |
| | | d comply with the assured properties in t A-610 "Class 2". Further claims on the pro | the data sheet resp. fulfill decorative properties oducts can be evaluated on request. | |
| Notes | Rated current related to rated cross-section & min. No. of poles. | | | |
| | • P on drawing = pitch | | | |
| | Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards. | | | |
| | • Diameter of solder eyelet D = 1.4+0.1mm | | | |
| | Long term storage of | the product with average temperature of | 50 °C and average humidity 70%, 36 months | |
| Downloads | | | | |
| Engineering Date | CAD data – STEP | | | |
| Engineering Data Catalogues | Catalogues in PDF-for | mat | | |
| | Catalogues III PDF-Ior | | | |

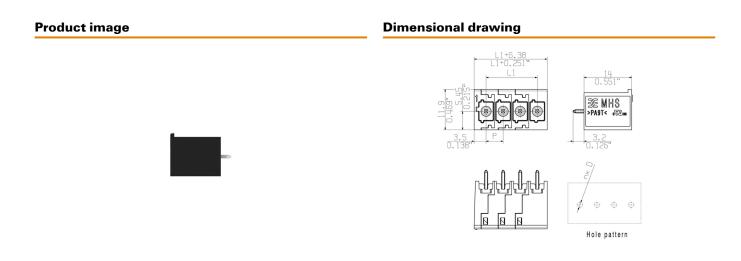
Drawings



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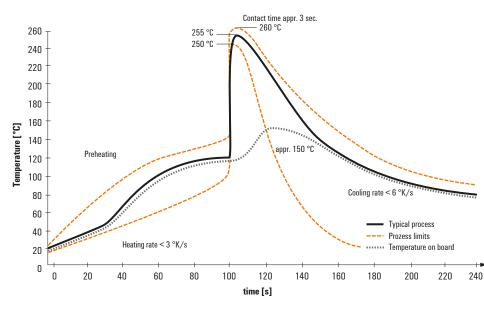
Wave Solder Profile

Recommended wave solderding profiles

Weidmüller 🟵

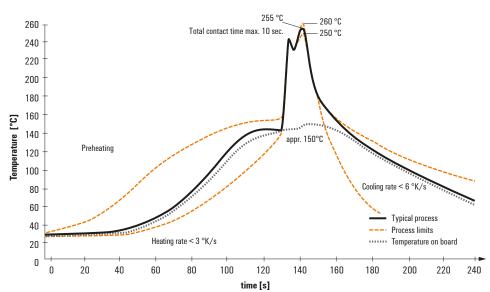
Weidmüller Interface GmbH & Co. KG

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Double Wave:

Single Wave:



Wave soldering profiles

Wired connection elements should be processed in accordance with the DIN EN 61760-1 standard. We have included two recommendations for practical wave soldering profiles, with which Weidmüller PCB terminals and connectors are qualified.

When choosing a suitable profile for your application, the following factors also need to be considered:

- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.

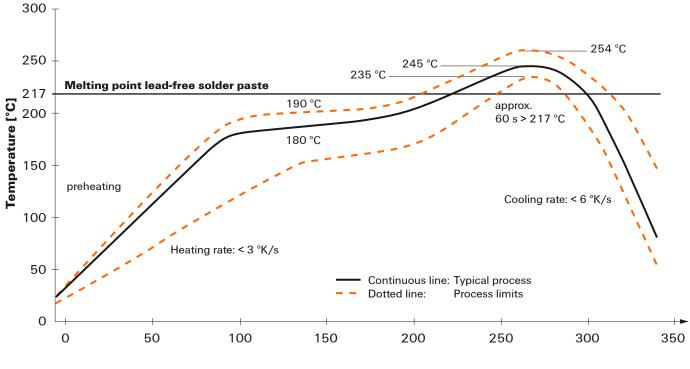
Reflow Solder Profile

Recommended reflow soldering profile



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Time [sec]

Reflow soldering profile

The perfect soldering profile for SMT Surface Mount Technology is one the most exiting question in SMT production. But there are more than one correct answer: The diagram of temperature-on-time is related to processing features of solder paste and to maximum load of components.

We have to consider the following parameters:

- Time for pre heating
- Maximum temperature
- Time above melting point
- Time for cooling
- Maximum heating rate
- Maximum cooling rate

We recommend a typical solder profile with associated process limits. With preheating components and board are prepared smoothly for the solder phase. Heating rate is typically $\leq +3$ K/s. In parallel the solder paste is ,activated'. The time above melting point of 217°C the paste gets liquid and components and boards begin to connect. The maximum temperature of 245°C to 254°C should stay between 10 and 40 seconds. In the cooling phase at \geq -6K/s solder is cured. Board and components cool down while avoiding cold cracks.

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 93.731.4953.0
 PVP03-3,50
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 25.320.4053.1
 25.320.4553.9

 25.320.4753.1
 25.320.5453.1
 25.340.0353.1
 25.340.1053.1
 25.345.3553.0M001
 25.640.3553.1
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 SH08

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 SH12-5,08
 SHS04-5,00
 30.305
 30.306
 PHP09-5,08
 25.193.0453.0
 25.320.4653.1
 25.332.2453.1