

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: 7, 180°, Tube
Order No.	<u>8000072450</u>
Туре	MHS 5/07 V T3 B T
GTIN (EAN)	4064675423164
Qty.	15 pc(s).
Product data	IEC: 400 V / 25.3 A UL: 300 V / 14 A
Packaging	Tube

Creation date October 11, 2022 8:18:29 PM CEST



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Technical data

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	36.38 mm
Width (inches)	1.432 inch	Net weight	2.91 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	7
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	ce (D)+ 0,1 mm	Outside diameter of solder pad	2.3 mm
Template aperture diameter	2.1 mm	L1 in mm	30 mm
L1 in inches	1.181 inch	Number of rows	1
Pin series quantity		Touch-safe protection acc. to DIN VDE	Touch-safe above the
	1	57 106	printed circuit board
Touch-safe protection acc. to DIN V	DE	Protection degree	
0470	IP 20		IP20
Volume resistance	≤5 mΩ	Plugging cycles	≥ 25
Plugging force/pole, max.	8.5 N	Pulling force/pole, max.	8.5 N

Material data

Colour	I.II.
· ·	black
O11 Insulating material group	p I
Moisture Level (MSL)	1
Contact base material	CuMg
Contact surface	tinned
Storage temperature, mi	in25 °C
Operating temperature,	min50 °C
,	
	O11 Insulating material grou Moisture Level (MSL) Contact base material Contact surface Storage temperature, m

Rated data acc. to IEC

tested acc. to standard		Rated current, min. number of poles	
	IEC 60664-1, IEC 61984	(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	Conformity: The products are developed, manufactured and delivered according international recognized standards and norms and comply with the assured properties in the data sheet resp. fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products 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 Data	CAD data – STEP	
Catalogues	Catalogues in PDF-format	



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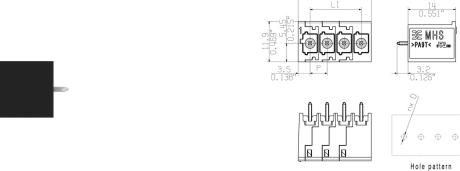
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Drawings

Product image





Dimensional drawing



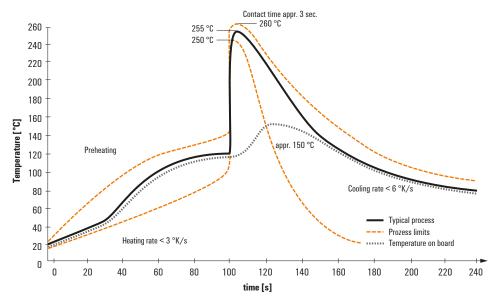
Recommended wave solderding profiles

Weidmüller Interface GmbH & Co. KG

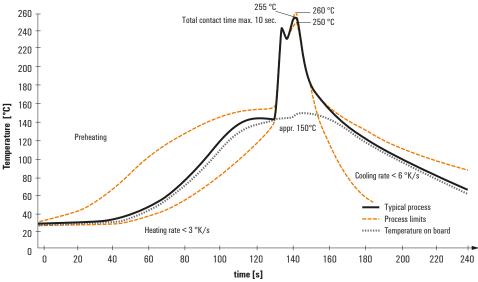
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Single Wave:



Double 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.

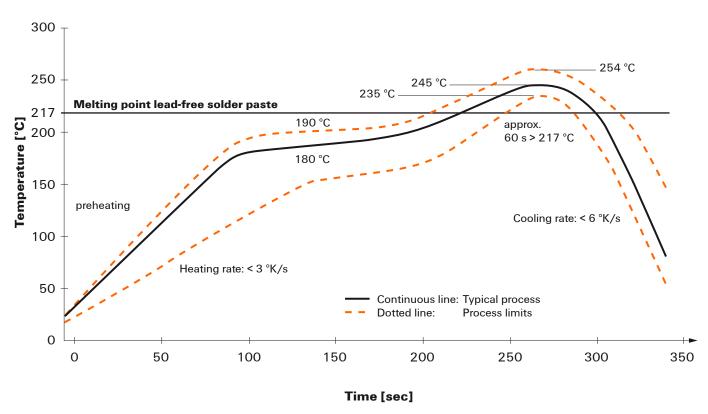


Recommended reflow soldering profile

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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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