

#### Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26 D-32758 Detmold Germany

www.weidmueller.com

#### **Product image**





#### **OMNIMATE<sup>®</sup> 4.0 - the next evolution step**

OMNIMATE<sup>®</sup> 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

VersionPCB plug-in connector, male header, THT/THR solder connection, Pitch in mm (P): 5.00 mm, Number of poles: 10, 180°, TubeOrder No.8000072456TypeMHS 5/10 V T3 B TGTIN (EAN)4064675423201Oty.10 pc(s).Product dataIEC: 400 V / 25.3 A UL: 300 V / 14 A		
Type         MHS 5/10 V T3 B T           GTIN (EAN)         4064675423201           Qty.         10 pc(s).           Product data         IEC: 400 V / 25.3 A	Version	solder connection, Pitch in mm (P): 5.00 mm,
GTIN (EAN)         4064675423201           Qty.         10 pc(s).           Product data         IEC: 400 V / 25.3 A	Order No.	<u>8000072456</u>
Oty.         10 pc(s).           Product data         IEC: 400 V / 25.3 A	Туре	MHS 5/10 V T3 B T
Product data IEC: 400 V / 25.3 A	GTIN (EAN)	4064675423201
	Qty.	10 pc(s).
UL: 300 V / 14 A	Product data	IEC: 400 V / 25.3 A
		UL: 300 V / 14 A
Packaging Tube	Packaging	Tube

Creation date October 11, 2022 8:18:14 PM CEST

# **Technical data**



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Dimensions	and	weights
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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	51.38 mm
Width (inches)	2.023 inch	Net weight	4.368 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	10
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	45 mm
L1 in inches	1.772 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 VI	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**

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	standards and norms an	s are developed, manufactured and deliv d comply with the assured properties in t A-610 "Class 2". Further claims on the pro	the data sheet resp. fulfill decorative propertie
Notes	Rated current related to rated cross-section & min. No. of poles.		
	• P on drawing = pitch		
		to the component itself. Clearance and c lance with the relevant application stand	reepage distances to other components are to ards.
	Diameter of solder ey	elet 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-for	mat	

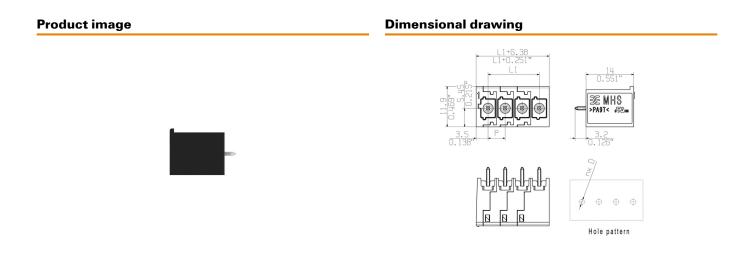
# Drawings



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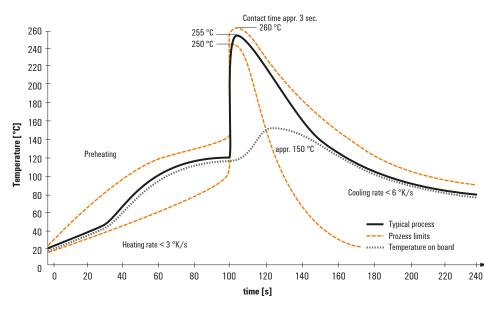
# Wave Solder Profile

### **Recommended wave solderding profiles**

# Weidmüller 🟵

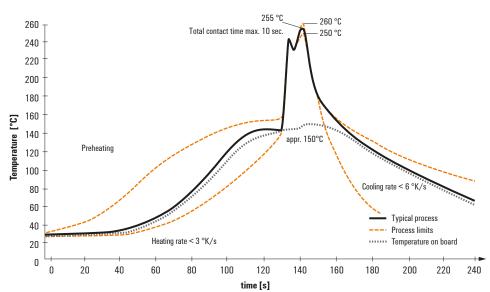
#### Weidmüller Interface GmbH & Co. KG

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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.

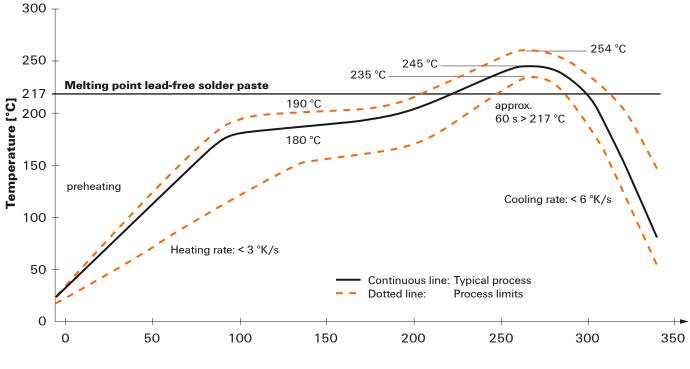
# **Reflow Solder Profile**

## **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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