

SR-SMD 4.50/05/90LFM 3.2AU BK RL**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**The integrated rail bus for the modular electronics housing system**

When supplying, connecting or distributing within modular applications, the rail bus can replace the tedious individual wiring process with a flexible and uninterrupted system-wide solution.

The system bus is securely integrated within the 35-mm standard mounting rail. The SMD-bus contact block can be reflow-soldered so that it can be completely automatically processed during the component assembly. The resistant, gold-plated contact surfaces ensure a permanent and reliable contact for all housing widths.

- **Unlimited scalability** The integrated connection solution covers all system widths: from the 6-mm slice to the 67-mm large-area housing.
- **Easy to service during installation** It's easy to replace a module, even in existing modules groups – without any influence on the neighbouring modules.
- **Universal integration** The uninterrupted system bus is securely integrated within the 35-mm standard mounting rail.
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General ordering data

Version	PCB plug-in connector, Bus-contact block for CH20M12-67, Middle solder flange, THT/THR solder connection, Number of poles: 5, 180°, Solder pin length (l): 3.2 mm, Gold-plated, black
Order No.	1155880000
Type	SR-SMD 4.50/05/90LFM 3.2AU BK RL
GTIN (EAN)	4032248942305
Qty.	300 pc(s).
Product data	IEC: 160 V UL: 300 V / 5 A
Packaging	Tape

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Technical data

Dimensions and weights

Height	5.9 mm	Height (inches)	0.232 inch
Width	16.3 mm	Width (inches)	0.642 inch
Length	24 mm	Length (inches)	0.945 inch
Net weight	3.38 g		


Material data

Insulating material	LCP	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	$175 \leq \text{CTI} < 400$	Insulation strength	$\geq 10^8 \Omega$
Moisture Level (MSL)	1	Contact surface	Gold-plated
Storage temperature, min.	-40 °C	Storage temperature, max.	70 °C
Operating temperature, min.	-50 °C	Operating temperature, max.	100 °C
Temperature range, installation, min.	-30 °C	Temperature range, installation, max.	100 °C

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated voltage for surge voltage class / pollution degree II/2	160 V
Rated voltage for surge voltage class / pollution degree III/2	100 V	Rated voltage for surge voltage class / pollution degree III/3	63 V
Rated impulse voltage for surge voltage class / pollution degree II/3	1.5 kV	Clearance, min.	2.3 mm
Creepage distance, min.	3.2 mm		

Rated data acc. to UL 1059

Institute (cURus)		Certificate No. (cURus)	E60693
Rated voltage (Use group B / UL 1059)	300 V	Rated voltage (Use group C / UL 1059)	50 V
Rated voltage (Use group D / UL 1059)	50 V	Rated current (Use group B / UL 1059)	5 A
Rated current (Use group C / UL 1059)	5 A	Rated current (Use group D / UL 1059)	5 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Material data

Comparative Tracking Index (CTI)	$175 \leq \text{CTI} < 400$	Insulating material	LCP
Insulating material group	IIIa		

General data

Colour	black	Colour chart (similar)	RAL 9011
Protection degree	IP20 in installed state		

Classifications

ETIM 6.0	EC001031	ETIM 7.0	EC001031
ETIM 8.0	EC001031	ETIM 9.0	EC001031
ECLASS 9.0	27-18-27-90	ECLASS 9.1	27-18-27-90
ECLASS 10.0	27-18-27-92	ECLASS 11.0	27-18-27-92
ECLASS 12.0	27-18-27-92	ECLASS 13.0	27-18-27-92

Creation date July 2, 2024 10:35:45 PM CEST

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Technical data

Environmental Product Compliance

REACH SVHC

/

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.

Approvals

Approvals



ROHS

Conform

UL File Number Search

UL Website

Certificate No. (cURus)

E60693

Downloads

Engineering Data

[CAD data – STEP](#)

Catalogues

[Catalogues in PDF-format](#)

Brochures

[FL ANALO.SIGN.CONV. EN](#)
[MB DEVICE MANUF. EN](#)
[FL MACHINE SAFETY EN](#)
[FL 72H SAMPLE SER EN](#)
[PO OMNIMATE EN](#)
[PO OMNIMATE EN](#)

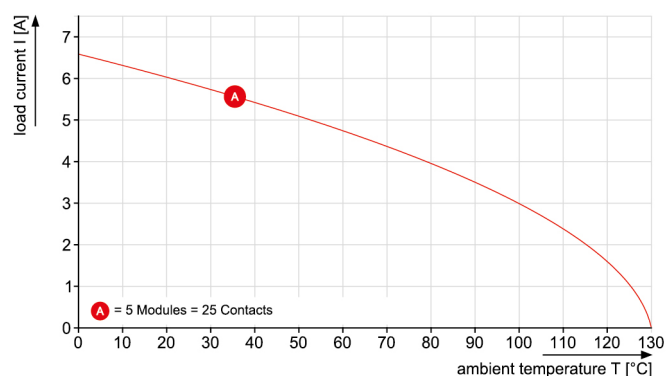
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Drawings

CH20M22-Bus



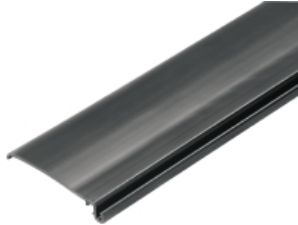
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Accessories

CH20M BUS-ADP - Bus insert profil cover



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General ordering data

Type	CH20M BUS-ADP TS 35/750	Version
Order No.	1248270000	OMNIMATE Housing - series CH20M, Length: 750 mm, Width: 39.5
GTIN (EAN)	4050118052985	mm
Qty.	5 pc(s).	
Type	CH20M BUS-ADP TS 35/500	Version
Order No.	1248260000	OMNIMATE Housing - series CH20M, Length: 500 mm, Width: 39.5
GTIN (EAN)	4050118052992	mm
Qty.	10 pc(s).	
Type	CH20M BUS-ADP TS 35/250	Version
Order No.	1248250000	OMNIMATE Housing - series CH20M, Length: 250 mm, Width: 39.5
GTIN (EAN)	4050118053203	mm
Qty.	10 pc(s).	

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Accessories

Bus insert profil - TS35x7.5

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General ordering data

Type	CH20M BUS-PROFIL TS 35X ...	Version
Order No.	1248150000	OMNIMATE Housing - series CH20M, Length: 250 mm, Width: 25.1
GTIN (EAN)	4050118053296	mm
Qty.	10 pc(s).	
Type	CH20M BUS-PROFIL TS 35X ...	Version
Order No.	1248160000	OMNIMATE Housing - series CH20M, Length: 500 mm, Width: 25.1
GTIN (EAN)	4050118053289	mm
Qty.	10 pc(s).	
Type	CH20M BUS-PROFIL TS 35X ...	Version
Order No.	1248170000	OMNIMATE Housing - series CH20M, Length: 750 mm, Width: 25.1
GTIN (EAN)	4050118053272	mm
Qty.	5 pc(s).	

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Accessories

CH20M BUS-AP - Bus insert profil endplates

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General ordering data

Type	CH20M BUS-AP RE TS 35X7 ...	Version
Order No.	1193170000	OMNIMATE Housing - series CH20M, Length: 40.5 mm, Width: 5.1
GTIN (EAN)	4032248987924	mm
Qty.	50 pc(s).	
Type	CH20M BUS-AP LI TS 35X7 ...	Version
Order No.	1193160000	OMNIMATE Housing - series CH20M, Length: 40.5 mm, Width: 5.1
GTIN (EAN)	4032248987771	mm
Qty.	50 pc(s).	

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Accessories

CH20M BUS - Bus printed circuit board



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General ordering data

Type	CH20M BUS 4.50/05 AU/500	Version
Order No.	1248230000	OMNIMATE Housing - series CH20M, Width: 21.8 mm
GTIN (EAN)	4050118053227	
Qty.	10 pc(s).	
Type	CH20M BUS 4.50/05 AU/750	Version
Order No.	1248240000	OMNIMATE Housing - series CH20M, Width: 21.8 mm
GTIN (EAN)	4050118053210	
Qty.	5 pc(s).	
Type	CH20M BUS 4.50/05 AU/250	Version
Order No.	1248220000	OMNIMATE Housing - series CH20M, Length: 250 mm, Width: 21.8 mm
GTIN (EAN)	4050118053234	mm
Qty.	10 pc(s).	

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Bus insert profil - TS35x15

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General ordering data

Type	CH20M BUS-PROFIL TS 35X ...	Version
Order No.	1248180000	OMNIMATE Housing - series CH20M, Length: 250 mm, Width: 25.1
GTIN (EAN)	4050118053265	mm
Qty.	5 pc(s).	
Type	CH20M BUS-PROFIL TS 35X ...	Version
Order No.	1248190000	OMNIMATE Housing - series CH20M, Length: 500 mm, Width: 25.1
GTIN (EAN)	4050118053258	mm
Qty.	5 pc(s).	
Type	CH20M BUS-PROFIL TS 35X ...	Version
Order No.	1248210000	OMNIMATE Housing - series CH20M, Length: 750 mm, Width: 25.1
GTIN (EAN)	4050118053241	mm
Qty.	5 pc(s).	

Recommended reflow soldering profile

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Klingenbergstraße 16

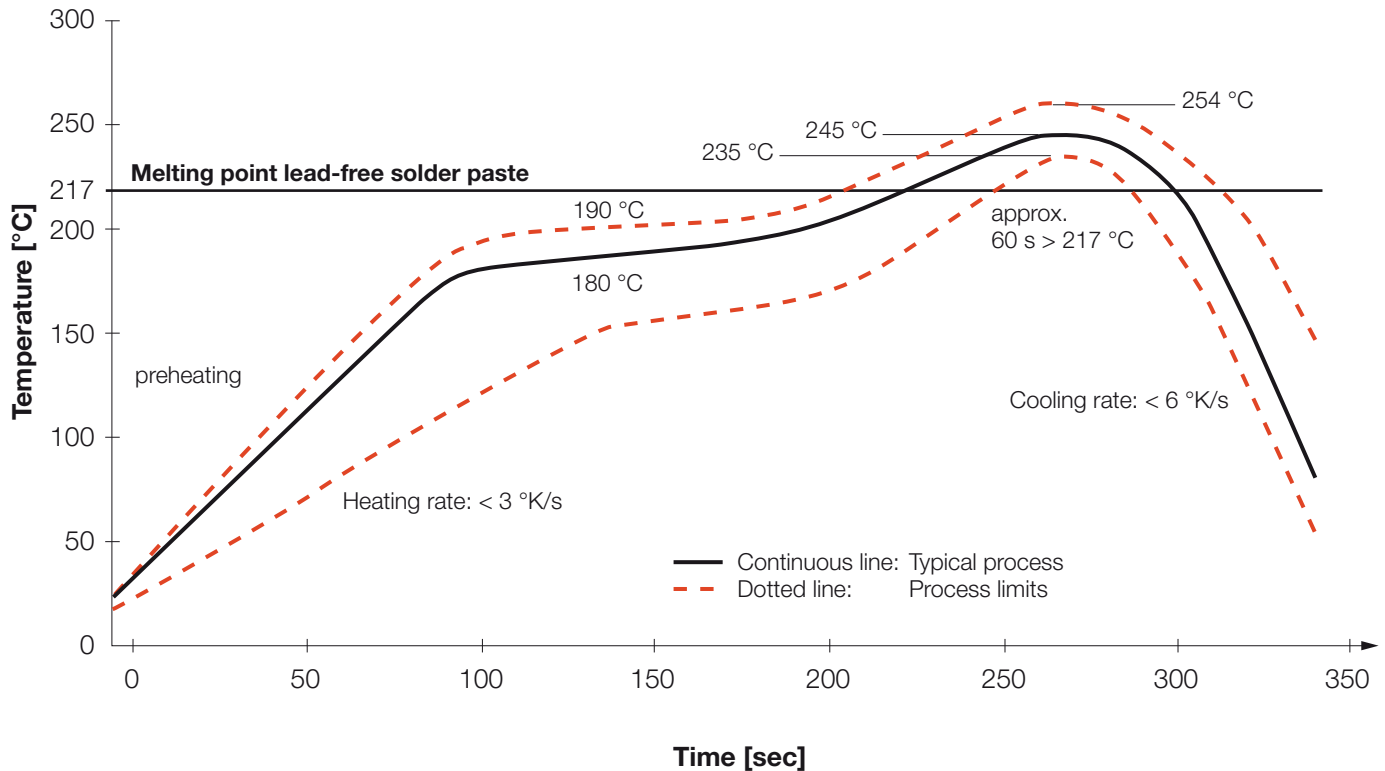
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Reflow soldering profile

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 $\leq +3\text{K/s}$. 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 $\geq -6\text{K/s}$ solder is cured. Board and components cool down while avoiding cold cracks.