

## OMNIMATE Housing - series CH20M6 LHZ-SMT R 1.5SN BK BX

**Weidmüller Interface GmbH & Co. KG**  
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www.weidmueller.com



### The electronics world in a single slice

With a width of only 6.1 mm, a wide range of compact applications originates from this electronic development expertise.

The modular housing design supports the engineering with many intelligent features:

- **Maximum freedom of design** with large total surface area (6800 mm<sup>2</sup>) on the PCB – enabling the maximum component assembly with the space-saving form of the reflow-compatible THR terminals.
- **Customised design opportunities** with laser printing and housing colours, individual processing options, variable printing, and easily labelled hinged cover
- **Maximum processing efficiency** with reflow-compatible connection elements for reflow soldering in machine-ready tape packaging.
- **Error-free assembly and solder processes** with optimised frame and connecting adapter shapes on the PCB resulting in a perfect fit and positioning of the connection elements
- **Quick installation** with features such as "Wire Ready" or the all-purpose Multi-Tool screw head

The combination of extensive knowledge from electronics developers and Weidmüller competence - creating innovative synergy for electronics applications.

### General ordering data

Type	LHZ-SMT R 1.5SN BK BX
Order No.	<a href="#">1137880000</a>
Version	PCB terminal, Connection element, right, block assembly, closed side, THT/THR solder connection, No. of poles: 1, Solder pin length (l): 1.5 mm, tinned, Black, Box
GTIN (EAN)	4032248919734
Qty.	306 pc(s).
Product data	IEC: 500 V / 0.2 - 2.5 mm <sup>2</sup> UL:
Packaging	Box

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**Technical data****Dimensions and weights**

Length	23.5 mm	Length (inches)	0.925 inch
Width	6 mm	Width (inches)	0.236 inch
Height	16.9 mm	Height (inches)	0.665 inch
Net weight	2.26 g		

**System characteristics**

Version	Connection element, right	Type of connection	Clamping yoke connection
Number of connections	1	PCB thickness	0.8 mm
Solder pin length (l)	1.5 mm	Type of contact to PCB	Reflow
Contact to terminal rail	No	Protection degree	IP20

**Material data**

Insulating material	LCP	Colour	Black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
CTI	≥ 175	Insulation resistance	≥ 10 <sup>8</sup> Ω
Moisture Level (MSL)	1	UL 94 flammability rating	V-0
Contact surface	tinned	Storage temperature, min.	-25 °C
Storage temperature, max.	55 °C	Max. relative humidity during storage	80 %
Operating temperature, min.	-40 °C	Operating temperature, max.	120 °C
Temperature range, installation, min.	-25 °C	Temperature range, installation, max.	120 °C

**Rated data acc. to IEC**

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, max. no. of poles (Ta = 20°C)	13 A
Rated current, max. no. of poles (Ta = 40°C)	13 A	Rated voltage for surge voltage class / pollution degree II/2	500 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		

**Classifications**

ETIM 3.0	EC001284	ETIM 4.0	EC002643
ETIM 5.0	EC002643	ETIM 6.0	EC002643
eClass 6.2	27-26-11-01	eClass 7.1	27-44-04-01
eClass 8.1	27-44-04-01	eClass 9.0	27-44-04-01
eClass 9.1	27-44-04-01		

**Notes**

Notes	
IPC conformity	The products are developed, manufactured and delivered according to the internationally recognised IPC-A-610 standard, category "permissible". More extensive demands on the products can be evaluated on request.

**Data sheet****OMNIMATE Housing - series CH20M6  
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**Technical data****Approvals**

Approvals



ROHS

Conform

**Downloads**

Brochure/Catalogue

[FL ANALO.SIGN.CONV. EN](#)  
[MB DEVICE MANUF. EN](#)  
[CAT 2 PORTFOLIOGUIDE EN](#)  
[FL MACHINE SAFETY EN](#)  
[FL 72H SAMPLE SER EN](#)  
[PO OMNIMATE EN](#)

Engineering Data

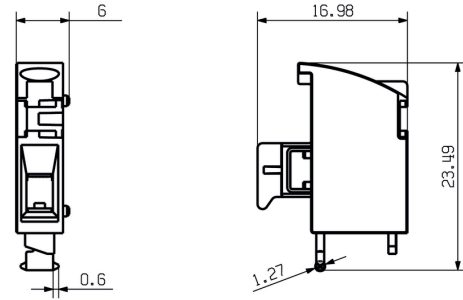
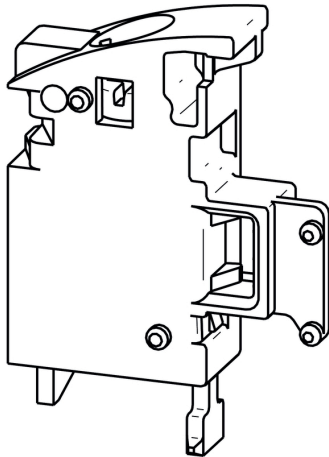
[EPLAN, WSCAD](#)

**Data sheet**

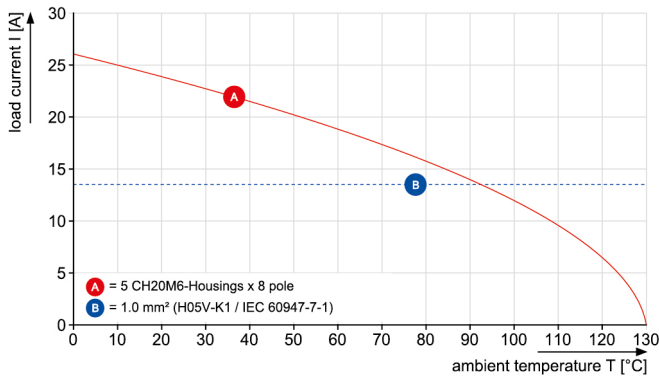
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**Drawings**



LHZ-SMT



## 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  $\leq +3\text{K/s}$ . 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.

## Recommended wave soldering profiles

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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.

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