

OMNIMATE Signal - series B2C/S2C 3.50 - 2-row S2C-SMT 3.50/36/90G 3.2SN BK BX

Weidmüller Interface GmbH & Co. KG
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High-temperature-resistant male header

- Finger-safe
- Can be plugged into female plug B2CF 3.50 PUSH IN
- **Plug-in direction is perpendicular or parallel to the circuit board (180° / 90°)**
- Housing variants: closed (G) and with solder flange (LF)
- **Packed either in a box (BX) or on anti-static tape-on-reel (RL)**
- Suitable for reflow and wave soldering applications
- Pin length of either 1.5 mm or 3.2 mm

General ordering data

Type	S2C-SMT 3.50/36/90G 3.2SN BK BX
Order No.	1289440000
Version	PCB plug-in connector, male header, closed side, THT/THR solder connection, 3.50 mm, No. of poles: 36, 90°, Solder pin length (l): 3.2 mm, tinned, Black, Box
GTIN (EAN)	4050118081725
Qty.	24 pc(s).
Product data	IEC: 200 V / 13.4 A UL: 150 V / 10 A
Packaging	Box

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Technical data**Dimensions and weights**

Net weight	13.5 g
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System specifications

Product family	OMNIMATE Signal - series B2C/S2C 3.50 - 2-row	Type of connection	Board connection
Mounting onto the PCB	THT/THR solder connection	Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch	Outgoing elbow	90°
No. of poles	36	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Tolerance of solder pin position	± 0.20 mm
Solder pin dimensions	d = 1.0 mm, Octagonal	Solder eyelet hole diameter (D)	1.4 mm
Solder eyelet hole diameter tolerance (D)+	0,1 mm	Outside diameter of solder pad	2.1 mm
Template aperture diameter	1.9 mm	L1 in mm	59.5 mm
L1 in inches	2.343 inch	Number of rows	1
Pin series quantity	2	Touch-safe protection acc. to DIN VDE 57 106	touch-safe on connector face, safe to back of hand above the printed circuit board
Touch-safe protection acc. to DIN VDE 0470	IP 20	Can be coded	Yes
Plugging cycles	25	push-in force/pole	3 N
Withdrawal force per pole	3 N	Packaging	Box

Material data

Insulating material	LCP GF	Colour	Black
Colour chart (similar)	RAL 9011	Insulating material group	IIIb
CTI	≥ 175	Insulation resistance	≥ 10 ⁸ Ω
Moisture Level (MSL)	1	UL 94 flammability rating	V-0
Contact material	Copper alloy	Contact surface	tinned
Layer structure of solder connection	1-3 µm Ni / 2-5 µm Sn matt	Storage temperature, min.	-25 °C
Storage temperature, max.	55 °C	Max. relative humidity during storage	80 %
Operating temperature, min.	-50 °C	Operating temperature, max.	120 °C
Temperature range, installation, min.	-40 °C	Temperature range, installation, max.	120 °C

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. no. of poles (Ta = 20°C)	13.4 A
Rated current, min. no. of poles (Ta = 40°C)	12 A	Rated voltage for surge voltage class / pollution degree II/2	200 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated voltage for surge voltage class / pollution degree III/3	80 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	2.5 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	2.5 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	2.5 kV	Short-time withstand current resistance	3 x 1s with 80 A


Data sheet

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Technical data

Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	
		200039-1121690	
Rated voltage (Use group B)	150 V	Rated voltage (Use group C)	50 V
Rated voltage (use group D)	150 V	Rated current (use group B)	9.5 A
Rated current (use group C)	9.5 A	Rated current (use group D)	9.5 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Rated data acc. to UL 1059

Institute (cURus)		Certificate No. (cURus)	
		E60693	
Rated voltage (use group B)	150 V	Rated voltage (use group C)	50 V
Rated current (use group B)	10 A	Rated current (use group C)	10 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Classifications

ETIM 4.0	EC002637	ETIM 5.0	EC002637
ETIM 6.0	EC002637	eClass 6.2	27-26-07-04
eClass 7.1	27-44-04-02	eClass 8.1	27-44-04-02
eClass 9.0	27-44-04-02	eClass 9.1	27-44-04-02

Notes

Notes	<ul style="list-style-type: none"> • Gold-plated contact surfaces on request • Rated current related to rated cross-section & min. No. of poles. • Spacing between rows: see hole layout • 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.
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.

Approvals

Approvals	
ROHS	Conform

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Technical data**Downloads**

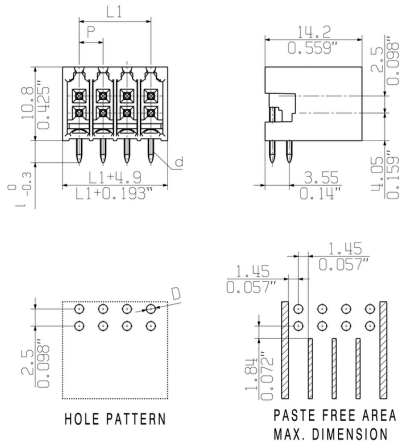
Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Brochure/Catalogue	FL DRIVES EN MB SMT EN FL DRIVES DE MB DEVICE MANUF. EN CAT 2 PORTFOLIOGUIDE EN FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FLIndustr.CONTROLS EN FL MACHINE SAFETY EN FL HEATING ELECTR EN FL APPL INVERTER EN FL_BASE_STATION_EN FL ELEVATOR EN FL POWER SUPPLY EN FL 72H SAMPLE SER EN PO OMNIMATE EN
Engineering Data	EPLAN, WSCAD
SMT white paper	Download Whitepaper

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Drawings

Dimensional drawing



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Mating connector (fully pluggable)
B2CF 3.50/180

Two-row female plug with PUSH IN spring connection

- Simply insert the prepared wire - and you're done
- Intuitive to use because
- the wire-entry area and handling area are clearly separated
- Integrated push-buttons for opening the terminal point
- High component density because of low heights
- Optional: locking and releasing require no tools when using Weidmüller's release latch (LR) or release lever (LH)

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
B2CF 3.50/36/180 SN OR BX	1277450000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 36, 180°, PUSH IN, Clamping range, rated connection, max.: 1.5 mm ² , Box	4050118067408	24 pc(s).	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm ² UL: 300 V / 9.5 A / AWG 26 - AWG 16	Box
B2CF 3.50/36/180 SN BK BX	1277640000	PCB plug-in connector, female plug, 3.50 mm, No. of poles: 36, 180°, PUSH IN, Clamping range, rated connection, max.: 1.5 mm ² , Box	4050118068573	24 pc(s).	IEC: 320 V / 13.4 A / 0.14 - 1.5 mm ² UL: 300 V / 9.5 A / AWG 26 - AWG 16	Box

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Accessories
LED Light guides

Effective: the link between LED and front panel.

Floodlight indicators allow users to monitor the switching states without requiring a special design: optical plastic directs the light from standard LEDs around a bend into the connectors or through the front plate.

The fibre-optic elements are simply clipped behind the relevant 90° bend male connectors (90° outlet direction). Versions with different incoming light beam heights achieve maximum light efficiency for LEDs with different designs or heights.

The advantages compared to conventional solutions:

- No additional LED circuit board required behind the front panel
- No "long-legged" LEDs with separate mounting required
- Bent fibre-optic cable line for maximum light efficiency
- Uncomplicated front plate bore holes due to circular shape of outgoing light beam
- Easy to maintain correct clearance and creepage distance
- Can be partitioned for smaller pole numbers

The result: simplified manufacturing process, reduced costs and simplified design

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
S2L/S2C 3.5 FLA 20/10 SMD	1814590000	PCB plug-in connector, Accessories, Flood-light display, Transparent, No. of poles: 10	4032248302826	50 pc(s).	UL:	Box
S2L/S2C 3.5 FLA 20/10	1699580000	PCB plug-in connector, Accessories, Flood-light display, Transparent, No. of poles: 10	4008190891350	100 pc(s).	UL:	Box

Data sheet

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Accessories

Coding elements



**Only connects what is supposed to be connected:
the right connection at the right place.**

Coding elements and locking devices clearly assign connecting elements during the manufacturing process and operation

The coding elements and locking devices are inserted prior to assembly or during the cable assembly phase. The Weidmüller alternative: configure online using the variant configurator to precode prior to delivery.

Incorrect assembly on the circuit board and incorrect plugging of connecting elements is no longer possible. The advantage: no troubleshooting during manufacture and no operational errors by the user.

General ordering data

Type	Order No.	Version	GTIN (EAN)	Qty.	Product data	Packaging
B2L/S2L 3.50 KO OR BX	1849730000	PCB plug-in connector, Accessories, Coding element, Orange, No. of poles: 1	4032248378197	100 pc(s).	UL:	Box
B2L/S2L 3.50 KO BK BX	1849740000	PCB plug-in connector, Accessories, Coding element, Black, No. of poles: 1	4032248378203	100 pc(s).	UL:	Box

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.

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.