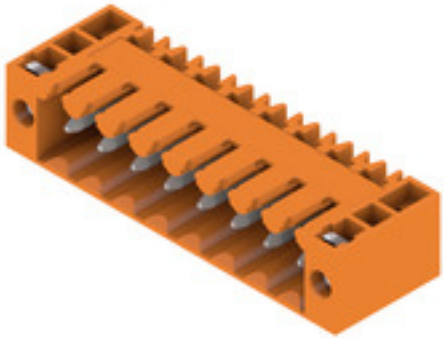
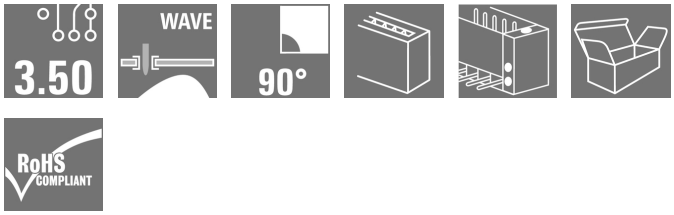
SL 3.50/08/90F 3.2SN OR BX

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com

Product image





Pin headers for wave soldering in 3.50 mm pitch

- Plugging direction is parallel (90°), straight 180° or angled (135°) to the PCB
- Housing variant: screw flange (F)
- Packed in a cardboard box (BX)
- Pin header can be coded

General ordering data

Version	PCB plug-in connector, male header, Flange, THT solder connection, 3.50 mm, Number of poles: 8, 90°, Solder pin length (l): 3.2 mm, tinned, orange, Box
Order No.	1607100000
Type	SL 3.50/08/90F 3.2SN OR BX
GTIN (EAN)	4008190157661
Qty.	50 pc(s).
Product data	IEC: / 17 A UL: 300 V / 10 A
Packaging	Box

Creation date January 12, 2022 10:16:03 PM CET

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Technical data

Dimensions and weights

Depth	11.1 mm	Depth (inches)	0.437 inch
Height	10.7 mm	Height (inches)	0.421 inch
Height of lowest version	7.5 mm	Width	35 mm
Width (inches)	1.378 inch	Net weight	2.63 g

System specifications

Product family	OMNIMATE Signal - series BL/SL 3.50
Type of connection	Board connection
Mounting onto the PCB	THT solder connection
Pitch in mm (P)	3.5 mm
Pitch in inches (P)	0.138 inch
Outgoing elbow	90°
Number of poles	8
Number of solder pins per pole	1
Solder pin length (l)	3.2 mm
Solder pin length tolerance	+0.1 / -0.3 mm
Solder pin dimensions	d = 1.2 mm, Octagonal
Solder pin dimensions = d tolerance	0 / -0,03 mm
Solder eyelet hole diameter (D)	1.4 mm
Solder eyelet hole diameter tolerance (D)	+ 0,1 mm
L1 in mm	24.5 mm
L1 in inches	0.965 inch
Number of rows	1
Pin series quantity	1
Touch-safe protection acc. to DIN VDE 57 106	Safe from back-of-hand touch
Touch-safe protection acc. to DIN VDE 0470	IP 10
Volume resistance	6.00 mΩ
Can be coded	Yes
Plugging force/pole, max.	10 N
Pulling force/pole, max.	10 N

Tightening torque				
	Torque type	Mounting screw, PCB		
	Usage information	Tightening torque	min.	0.1 Nm
			max.	0.15 Nm
		Recommended screw	Part number	PTSC KA 2.2X4.5 WN1412

Material data

Insulating material	PBT	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	UL 94 flammability rating	V-0
Contact base material	CuSn	Contact material	CuSn
Contact surface	tinned	Layer structure of solder connection	2...4 µm Ni / 5...8 µm Sn glossy
Layer structure of plug contact	2...4 undefined Ni / 5...8 undefined Sn glossy	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		

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Technical data

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	17 A
Rated current, max. number of poles (Tu=20°C)	12 A	Rated current, min. number of poles (Tu=40°C)	14.5 A
Rated current, max. number of poles (Tu=40°C)	10 A		

Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	154685-1318353
Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group D / CSA)	300 V
Rated current (Use group B / CSA)	10 A	Rated current (Use group D / CSA)	10 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Rated data acc. to UL 1059

Institute (UR)		Certificate No. (UR)	E60693
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)	10 A	Rated current (Use group D / UL 1059)	10 A
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	110 mm
VPE width	71 mm	VPE height	59 mm

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		

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Technical data

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	• Additional colours on request • Gold-plated contact surfaces on request • 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. • For additional mechanical support for male connectors with screw flange (...F), we recommend an additional cable gland with fastening screws (sheet metal screw ISO 1481-ST 2.2x4.5 C or ISO 7049-ST 2.2x4.5 C – see Accessories). Cable gland only permitted before soldering. • Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

Approvals

Approvals	
ROHS	Conform
UL File Number Search	E60693

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	CAD data – STEP
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN MB DEVICE MANUF. EN FL DRIVES DE FL BUILDING SAFETY EN FL APPL LED LIGHTING EN FL INDUSTR.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 PO OMNIMATE EN

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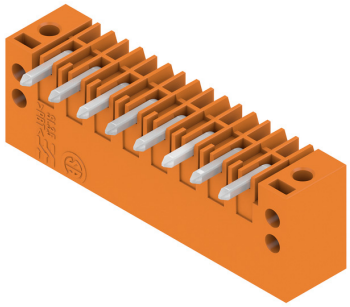
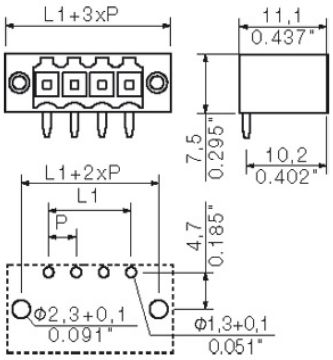
Drawings

Product image



Dimensional drawing



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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	SL 3.5 FLA 2.3/1.75/8	Version	Product data	Packaging
Order No.	1597640000	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box
GTIN (EAN)	4008190011321	Number of poles: 1		
Qty.	25 pc(s).			
Type	SL 3.5 FLA 1.5/1.75/8	Version	Product data	Packaging
Order No.	1597630000	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box
GTIN (EAN)	4008190148386	Number of poles: 1		
Qty.	50 pc(s).			
Type	SL 3.5 FLA 1.5/8	Version	Product data	Packaging
Order No.	1597510000	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box
GTIN (EAN)	4008190127541	Number of poles: 1		
Qty.	50 pc(s).			
Type	SL 3.5 FLA 2.3/8	Version	Product data	Packaging
Order No.	1597520000	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box
GTIN (EAN)	4008190120566	Number of poles: 1		
Qty.	50 pc(s).			
Type	SL 3.5 FLA 4.0/8	Version	Product data	Packaging
Order No.	1597530000	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box
GTIN (EAN)	4008190075699	Number of poles: 1		
Qty.	50 pc(s).			
Type	SL 3.5 FLA 4.0/1.75/8	Version	Product data	Packaging
Order No.	1597650000	PCB plug-in connector, Accessories, Flood-light display, Transparent,		Box
GTIN (EAN)	4008190027773	Number of poles: 1		
Qty.	50 pc(s).			

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Accessories

Additional accessories

No task is too small when creating the perfect solution. br />
Connections form just one part of the overall process. Small details are often the key to the perfect solution in applications where potentials are tested, grouped or even isolated.
A system is not a system without small but useful details:

- Test plugs - ensure reliable pick-up from diagnostic sockets
- Cross-connectors - ensure a stable electrical distribution contact directly at the connection
- Compartment partition elements - divide a large number of male connectors into several separate socket connector channels
- Locks and clips - optional vibration-resistant clip-on connection or mounting for male and female connectors

In tandem with the manufacturing process and application - more accessories = smaller workload

General ordering data

Type	PTSC KA 2.2X4.5 WN1412	Version	Product data
Order No.	1610740000	PCB plug-in connector, Accessories, Mounting screw, Number of	
GTIN (EAN)	4008190039523	poles: 1	
Qty.	100 pc(s).		
Type	BL/SL 3.50 VR OR BX	Version	Product data
Order No.	1669310000	PCB plug-in connector, Accessories, Latches, orange, Number of poles:	
GTIN (EAN)	4008190428488	1	
Qty.	100 pc(s).		
Type	BL/SL 3.50 VR BK BX	Version	Product data
Order No.	1669300000	PCB plug-in connector, Accessories, Latches, black, Number of poles:	
GTIN (EAN)	4008190428471	1	
Qty.	100 pc(s).		

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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	BL SL 3.5 KO SW	Version	Product data	Packaging
Order No.	1610100000	PCB plug-in connector, Accessories, Coding element, black, Number		Box
GTIN (EAN)	4008190187637	of poles: 1		
Qty.	100 pc(s).			

Type	BL SL 3.5 KO OR	Version	Product data	Packaging
Order No.	1693430000	PCB plug-in connector, Accessories, Coding element, orange, Number		Box
GTIN (EAN)	4008190867447	of poles: 1		
Qty.	100 pc(s).			

Dimensions without tolerances are no check dimensions

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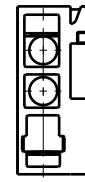

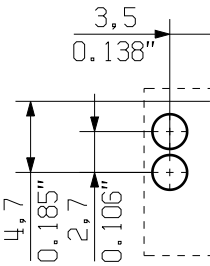

For the mounting of PCBs, it should be noted th
rated data given in the catalogue relates only t
connection elements. The neccessary creepage
clearance paths must be observed in connectio
the respective applicant in accordance to VDE
The current-carrying capacity and pitch toleran
be determined according to DIN IEC 326 part 3

Weidmueller connectors are tested to the DIN V
standard, and are valid for its field of applicati
Provided that the connectors are used to the in
purpose, all requirements with respect to the
occuring of electrical, mechanical, thermic and
corrosive stress will be satisfied.

Wave Solder Profile

Recommended wave solderding profiles

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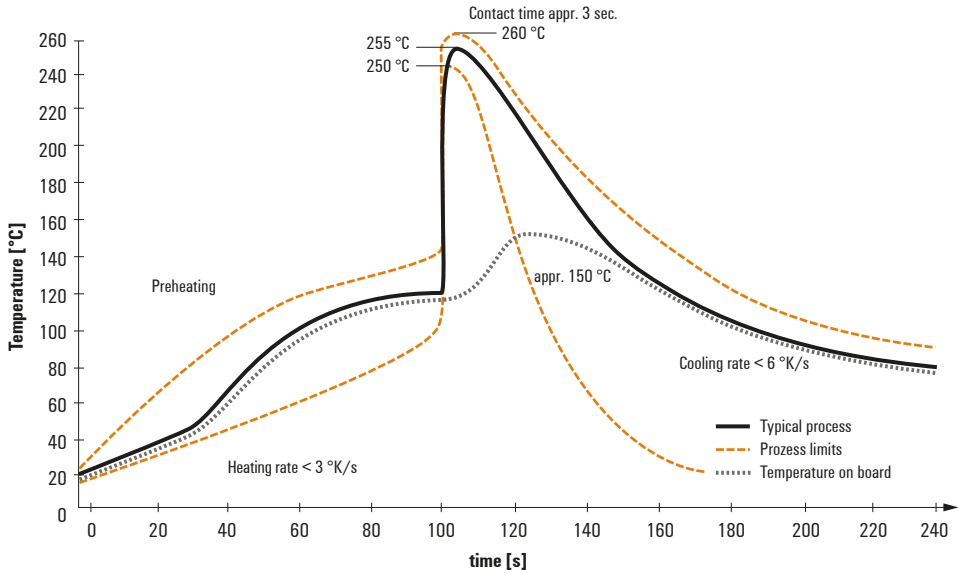
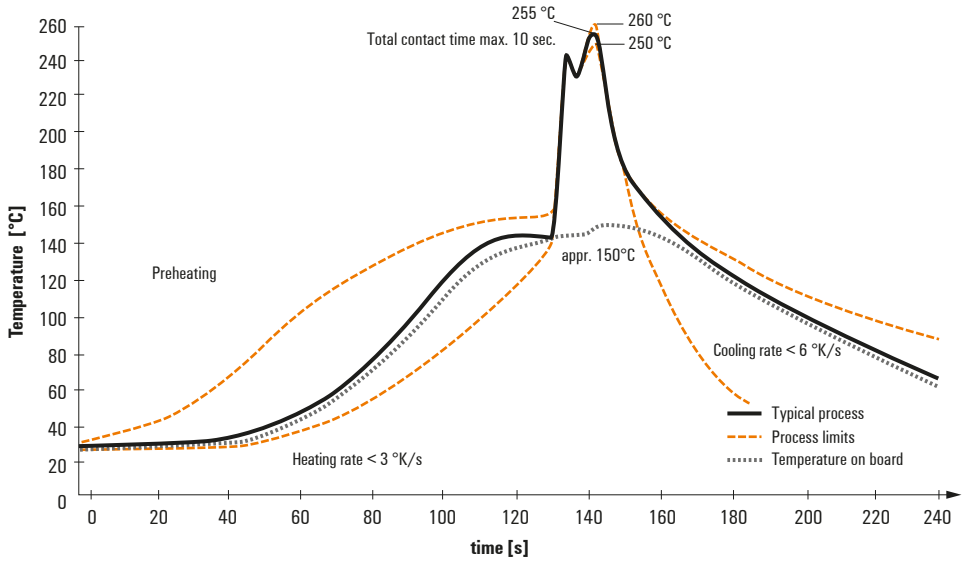
Single Wave:



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.

We reserve the right to make technical changes.

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