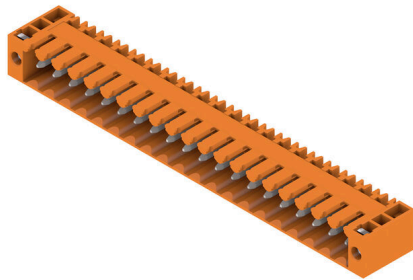


## SL 3.50/20/90F 3.2SN OR BX

**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: 20, 90°, Solder pin length (l): 3.2 mm, tinned, orange, Box
Order No.	<a href="#">1619800000</a>
Type	SL 3.50/20/90F 3.2SN OR BX
GTIN (EAN)	4008190147549
Qty.	20 items
Product data	IEC: 320 V / 17 A UL: 300 V / 10 A
Packaging	Box

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## Technical data

### Approvals

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate No. (UR) E60693

### Dimensions and weights

Depth	11.1 mm	Depth (inches)	0.437 inch
Height	10.7 mm	Height (inches)	0.4213 inch
Height of lowest version	7.5 mm	Width	77 mm
Width (inches)	3.0315 inch	Net weight	5.76 g

### Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption		
REACH SVHC	No SVHC above 0.1 wt%		
Product Carbon Footprint	Cradle to gate	0.038 kg CO2eq.	

### 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)	3.50 mm		
Pitch in inches (P)	0.138 "		
Outgoing elbow	90°		
Number of poles	20		
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	66.50 mm		
L1 in inches	2.618 "		
Number of rows	1		
Pin series quantity	1		
Touch-safe protection acc. to DIN VDE 57 106	finger-safe plugged/ back-of-hand-safe unplugged		
Touch-safe protection acc. to DIN VDE 0470	IP20 plugged/ IP10 unplugged		
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 <a href="#">PTSC KA 2.2X4.5 WN1412</a>

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## Technical data

## Material data

Insulating material	PBT	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	Moisture Level (MSL)	
UL 94 flammability rating	V-0	Contact base material	CuSn
Contact material	Cu-alloy	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

## 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 voltage for surge voltage class / pollution degree II/2	320 V
Rated voltage for surge voltage class / pollution degree III/2	160 V	Rated impulse voltage for surge voltage class/ pollution degree II/2	2500 V
Rated impulse voltage for surge voltage class/ pollution degree III/2	2.5 kV		

## Rated data acc. to CSA

Institute (CSA)	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)	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	97.00 mm
VPE width	90.00 mm	VPE height	40.00 mm

## 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	<ul style="list-style-type: none"> <li>• Additional variants on request</li> <li>• Gold-plated contact surfaces on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• P on drawing = pitch</li> </ul>

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## Technical data

- 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.
- In accordance with IEC 61984, OMNIMATE-connectors are connectors without breaking capacity (COC). During designated use, connectors are not allowed to be engaged or disengaged when live or under load
- Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

### Classifications

ETIM 8.0	EC002637	ETIM 9.0	EC002637
ETIM 10.0	EC002637	ECLASS 14.0	27-46-02-01
ECLASS 15.0	27-46-02-01		

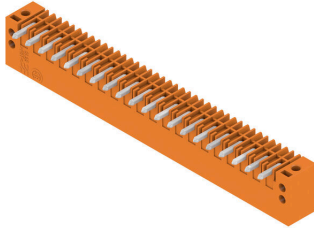
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Drawings

Product image



Dimensional drawing



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## Accessories

## Additional accessories



No task is too small when creating the perfect solution. 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	BL/SL 3.50 VR BK BX	Version
Order No.	<a href="#">1669300000</a>	PCB plug-in connector, Accessories, Latches, black, Number of poles:
GTIN (EAN)	4008190428471	0
Qty.	100 ST	
Type	BL/SL 3.50 VR OR BX	Version
Order No.	<a href="#">1669310000</a>	PCB plug-in connector, Accessories, Latches, orange, Number of
GTIN (EAN)	4008190428488	poles: 0
Qty.	100 ST	

## 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 OR	Version
Order No.	<a href="#">1693430000</a>	PCB plug-in connector, Accessories, Coding element, orange, Number
GTIN (EAN)	4008190867447	of poles: 1
Qty.	100 ST	

## SL 3.50/20/90F 3.2SN OR BX

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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 1.5/8	Version
Order No.	<a href="#">1597510000</a>	PCB plug-in connector, Accessories, Flood-light display, Transparent,
GTIN (EAN)	4008190127541	Number of poles: 1
Qty.	50 ST	
Type	SL 3.5 FLA 2.3/8	Version
Order No.	<a href="#">1597520000</a>	PCB plug-in connector, Accessories, Flood-light display, Transparent,
GTIN (EAN)	4008190120566	Number of poles: 1
Qty.	50 ST	
Type	SL 3.5 FLA 4.0/8	Version
Order No.	<a href="#">1597530000</a>	PCB plug-in connector, Accessories, Flood-light display, Transparent,
GTIN (EAN)	4008190075699	Number of poles: 1
Qty.	50 ST	
Type	SL 3.5 FLA 1.5/1.75/8	Version
Order No.	<a href="#">1597630000</a>	PCB plug-in connector, Accessories, Flood-light display, Transparent,
GTIN (EAN)	4008190148386	Number of poles: 1
Qty.	50 ST	
Type	SL 3.5 FLA 2.3/1.75/8	Version
Order No.	<a href="#">1597640000</a>	PCB plug-in connector, Accessories, Flood-light display, Transparent,
GTIN (EAN)	4008190011321	Number of poles: 1
Qty.	25 ST	
Type	SL 3.5 FLA 4.0/1.75/8	Version
Order No.	<a href="#">1597650000</a>	PCB plug-in connector, Accessories, Flood-light display, Transparent,
GTIN (EAN)	4008190027773	Number of poles: 1
Qty.	50 ST	

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## Accessories

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## General ordering data

Type	BL SL 3.5 KO SW	Version	
Order No.	<a href="#">1610100000</a>	PCB plug-in connector, Accessories, Coding element, black, Number of poles: 1	
GTIN (EAN)	4008190187637		
Qty.	100 ST		

## Additional accessories



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## General ordering data

Type	PTSC KA 2.2X4.5 WN1412	Version	
Order No.	<a href="#">1610740000</a>	PCB plug-in connector, Accessories, Mounting screw, Number of poles: 1	
GTIN (EAN)	4008190039523		
Qty.	100 ST		