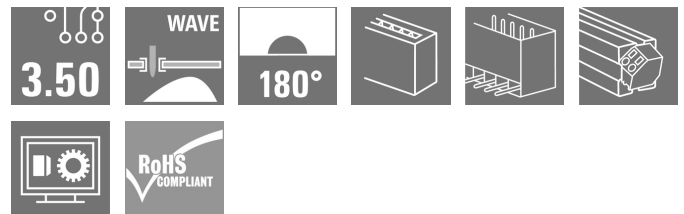


**BLL 3.50/05/180 3.2SN BK TU****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**Product image**

Inverted female header for:

- finger-safety on the PCB
- Board-to-board component connection (with SL/SL-SMT 3.50)
- Wave soldering
- Outlet direction: 180° (standing, vertical to PCB)

**General ordering data**

Version	PCB plug-in connector, female header, closed side, THT solder connection, 3.50 mm, Number of poles: 5, 180°, Solder pin length (l): 3.2 mm, tinned, black, Tube
Order No.	<a href="#">1376280000</a>
Type	BLL 3.50/05/180 3.2SN BK TU
GTIN (EAN)	4050118177633
Qty.	30 pc(s).
Product data	IEC: 320 V / 15.1 A UL: 300 V / 9 A
Packaging	Tube

Creation date July 5, 2024 2:11:28 AM CEST

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

Depth	11.85 mm	Depth (inches)	0.467 inch
Height	14.3 mm	Height (inches)	0.563 inch
Net weight	1.8 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 "	Outgoing elbow	180°
Number of poles	5	Number of solder pins per pole	1
Solder pin length (l)	3.2 mm	Solder pin length tolerance	+0.2 / -0.2 mm
Solder pin dimensions	d = 0.8 mm	Solder pin dimensions = d tolerance	0 / -0.03 mm
Solder eyelet hole diameter (D)	1.3 mm	Solder eyelet hole diameter tolerance (D)	+ 0,1 mm
L1 in mm	14 mm	L1 in inches	0.551 "
Number of rows	1	Pin series quantity	1
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch	Touch-safe protection acc. to DIN VDE 0470	IP20 plugged/ IP10 unplugged
Protection degree	IP20	Volume resistance	≤5 mΩ
Can be coded	Yes	Plugging force/pole, max.	8 N
Pulling force/pole, max.	7 N		

**Material data**

Insulating material	PBT	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	IIIa
Comparative Tracking Index (CTI)	≥ 200	UL 94 flammability rating	V-0
Contact material	Cu-alloy	Contact surface	tinned
Layer structure of solder connection	4...6 µm Sn glossy	Layer structure of plug contact	4...6 µm 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.	-25 °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)	15.1 A
Rated current, max. number of poles (Tu=20°C)	7.7 A	Rated current, min. number of poles (Tu=40°C)	13 A
Rated current, max. number of poles (Tu=40°C)	6.6 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 voltage for surge voltage class / pollution degree III/3	160 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 100 A

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**Technical data****Rated data acc. to CSA**

Institute (CSA)



Certificate No. (CSA)

200039-1121690

Rated voltage (Use group C / CSA) 300 V

Rated current (Use group C / CSA) 9 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 / UL 1059) 300 V

Rated voltage (Use group D / UL 1059) 300 V

Rated current (Use group B / UL 1059) 9 A

Rated current (Use group D / UL 1059) 9 A

Reference to approval values  
Specifications are maximum values, details - see approval certificate.**Packing**

Packaging	Tube
VPE width	21 mm
Surface resistance	$R_s = 10^9 - 10^{12} \Omega$

VPE length	556 mm
VPE height	16 mm

**Classifications**

ETIM 6.0	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	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
ECLASS 12.0	27-46-02-01	ECLASS 13.0	27-46-02-01

**Environmental Product Compliance**

REACH SVHC

/

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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	<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> <li>• 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.</li> <li>• 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</li> <li>• Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul>

**Approvals**

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E60693

**Downloads**

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">FL DRIVES EN</a> <a href="#">MB DEVICE MANUF. EN</a> <a href="#">FL DRIVES DE</a> <a href="#">FL BUILDING SAFETY EN</a> <a href="#">FL APPL LED LIGHTING EN</a> <a href="#">FL INDUSTR.CONTROLS EN</a> <a href="#">FL MACHINE SAFETY EN</a> <a href="#">FL HEATING ELECTR EN</a> <a href="#">FL APPL INVERTER EN</a> <a href="#">FL BASE STATION EN</a> <a href="#">FL ELEVATOR EN</a> <a href="#">FL POWER SUPPLY EN</a> <a href="#">FL 72H SAMPLE SER EN</a> <a href="#">PO OMNIMATE EN</a> <a href="#">PO OMNIMATE EN</a>

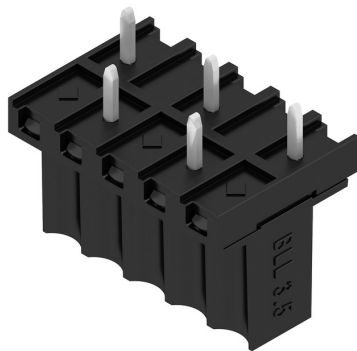
## BLL 3.50/05/180 3.2SN BK TU

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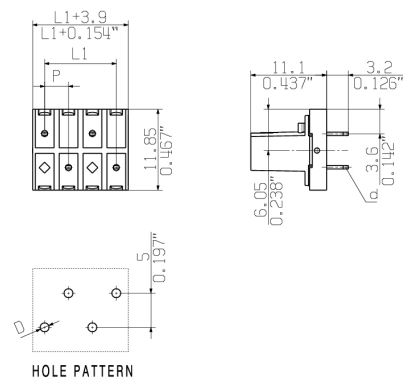
[www.weidmueller.com](http://www.weidmueller.com)

# Drawings

## Product image



## Dimensional drawing

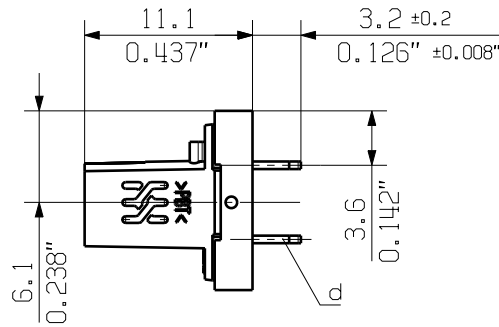


## Product benefits



Connection made easy  
Safe board-to-board connection

ALLGEMEINGUELTIGE KUNDENZEICHNUNG, AKTUELLER STAND NUR AUF ANFRAGE  
GENERAL CUSTOMER DRAWING, TOPICAL VERSION ONLY IF REQUIRED



DETAIL A  
X 5/1



M 1/1



P=3.50 RASTER  
PITCH  
D=Ø1.3 +0.1  
d=0.5x0.8

For the mounting of PCBs, it should be noted that the rated data given in the catalogue relates only to the connection elements. The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance with VDE 0110. The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller connectors are tested to the DIN VDE 0627 standard, and are valid for its field of application. Provided that the connectors are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

SHOWN : BLL 3.50/04/180

HOLE PATTERN

12	38.5	1.516	1	X	0	X	0	X	0	X	0	X	0	X	0	
			2	0	X	0	X	0	X	0	X	0	X	0	X	
11	35.0	1.378	1	X	0	X	0	X	0	X	0	X	0	X		
			2	0	X	0	X	0	X	0	X	0	X	0		
10	31.5	1.240	1	X	0	X	0	X	0	X	0	X	0			
			2	0	X	0	X	0	X	0	X	0	X			
9	28.0	1.102	1	X	0	X	0	X	0	X	0	X				
			2	0	X	0	X	0	X	0	X	0				
8	24.5	0.965	1	X	0	X	0	X	0	X	0					
			2	0	X	0	X	0	X	0	X					
7	21.0	0.827	1	X	0	X	0	X	0	X						
			2	0	X	0	X	0	X	0						
6	17.5	0.689	1	X	0	X	0	X	0							
			2	0	X	0	X	0	X							
5	14.0	0.551	1	X	0	X	0	X								
			2	0	X	0	X	0								
4	10.5	0.413	1	X	0	X	0									
			2	0	X	0	X									
3	7.0	0.276	1	X	0	X										
			2	0	X	0										
2	3.5	0.138	1	X	0											
			2	0	X											
n	POLZAHL POLES	L1 [mm]	L1 [inch]	REIHE/ ROW	1	2	3	4	5	6	7	8	9	10	11	12

GENERAL TOLERANCE:  
DIN ISO 2768-m



80439/5  
17.02.15 HELIS\_MA 01

MODIFICATION



DATE NAME  
DRAWN 22.04.2005 FROEHLKING\_M

RESPONSIBLE LANG\_T

CHECKED 17.02.2015 HELIS\_MA

APPROVED LANG\_T

SCALE: 2/1

SUPERSEDES: .

**Weidmüller**

**BLL 3.50/.../180...**  
BUCHSENLEISTE  
FEMALE HEADER

PRODUCT FILE: BLL 3.50

CAT.NO.: .

**C 33133 14**

DRAWING NO. ISSUE NO.  
SHEET 01 OF 01 SHEETS

7369

## 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.

We reserve the right to make technical changes.