

## LL1N 5.08/11/90 3.2SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

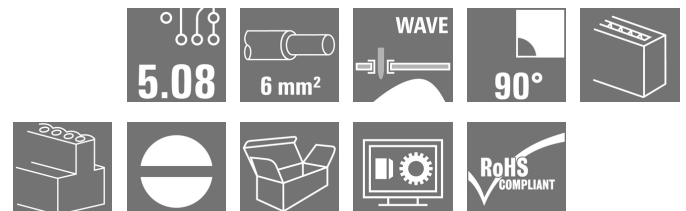
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### Product image



Similar to illustration

Low single-tier and multi-tier PCB terminals featuring proven clamping-yoke connections, in 5.00mm and 5.08mm pitch, with 90° conductor outlet direction. Suitable for conductor cross-sections up to 6.0 mm<sup>2</sup>.

### General ordering data

Version	Printed circuit board terminals, 5.08 mm, Number of poles: 11, 90°, Solder pin length (l): 3.2 mm, tinned, orange, Clamping yoke connection, Clamping range, max. : 6 mm <sup>2</sup> , Box
Order No.	<a href="#">1975460000</a>
Type	LL1N 5.08/11/90 3.2SN OR BX
GTIN (EAN)	4032248672677
Qty.	50 pc(s).
Product data	IEC: 500 V / 32.5 A / 0.5 - 6 mm <sup>2</sup> UL: 300 V / 20 A / AWG 26 - AWG 12
Packaging	Box

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## Technical data

## Dimensions and weights

Depth	10.84 mm	Depth (inches)	0.427 inch
Height	34.3 mm	Height (inches)	1.35 inch
Height of lowest version	31.1 mm	Width	56.52 mm
Width (inches)	2.225 inch	Net weight	23.23 g

## Temperatures

Operating temperature, min.	-50 °C	Operating temperature, max.	120 °C
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## System parameters

Product family	OMNIMATE Signal - series LL	Wire connection method	Clamping yoke connection
Property, clamping point	WireReady	Mounting onto the PCB	THT solder connection
Conductor outlet direction	90°	Pitch in mm (P)	5.08 mm
Pitch in inches (P)	0.2 inch	Number of poles	11
Pin series quantity	1	Fitted by customer	Yes
Number of rows	1	Max. adjacent poles per row	12
Solder pin length (l)	3.2 mm	Solder pin dimensions	0.75 x 0.9 mm
Solder eyelet hole diameter (D)	1.3 mm	Solder eyelet hole diameter tolerance (D)	+ 0,1 mm
Number of solder pins per pole	1	Screwdriver blade	0.6 x 3.5
Screwdriver blade standard	DIN 5264	Tightening torque, min.	0.5 Nm
Tightening torque, max.	0.6 Nm	Clamping screw	M 3
Stripping length	6 mm	L1 in mm	50.8 mm
L1 in inches	2 inch	Touch-safe protection acc. to DIN VDE 0470	IP 20
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch	Protection degree	IP20

## Material data

Insulating material	Wemid (PA)	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	I
Comparative Tracking Index (CTI)	≥ 600	UL 94 flammability rating	V-0
Contact material	Copper alloy	Contact surface	tinned
Coating	4-6 µm SN	Tinning type	matt
Layer structure of solder connection	4...6 µm Sn matt	Storage temperature, min.	-40 °C
Storage temperature, max.	70 °C	Operating temperature, min.	-50 °C
Operating temperature, max.	120 °C	Temperature range, installation, min.	-25 °C
Temperature range, installation, max.	120 °C		

## Conductors suitable for connection

Clamping range, min.	0.08 mm <sup>2</sup>
Clamping range, max.	6 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 26
Wire connection cross section AWG, max.	AWG 12
Solid, min. H05(07) V-U	0.5 mm <sup>2</sup>
Solid, max. H05(07) V-U	6 mm <sup>2</sup>
Flexible, min. H05(07) V-K	0.5 mm <sup>2</sup>
Flexible, max. H05(07) V-K	4 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, 0.5 mm <sup>2</sup> min.	

Creation date March 9, 2023 2:07:41 PM CET

Catalogue status 03.03.2023 / We reserve the right to make technical changes.

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**Technical data**

w. plastic collar ferrule, DIN 46228 pt 4, 2.5 mm<sup>2</sup> max.

w. wire end ferrule, DIN 46228 pt 1, 0.5 mm<sup>2</sup> min.

w. wire end ferrule, DIN 46228 pt 1, 2.5 mm<sup>2</sup> max.

Plug gauge in accordance with EN 60999 a x b; ø 2.8 mm x 2.4 mm; 3.0 mm

Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.5 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	8 mm
		Recommended wire-end ferrule	<a href="#">H0.5/12 OR</a>	
		Stripping length	nominal	6 mm
		Recommended wire-end ferrule	<a href="#">H0.5/6</a>	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.75 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	8 mm
		Recommended wire-end ferrule	<a href="#">H0.75/12 W</a>	
		Stripping length	nominal	6 mm
		Recommended wire-end ferrule	<a href="#">H0.75/6</a>	
Cross-section for conductor connection	Type	fine-wired		
	nominal	1 mm <sup>2</sup>		
wire end ferrule	Stripping length	nominal	8 mm	
	Recommended wire-end ferrule	<a href="#">H1.0/12 GE</a>		
	Stripping length	nominal	6 mm	
	Recommended wire-end ferrule	<a href="#">H1.0/6</a>		

Reference text Length of ferrules is to be chosen depending on the product and the rated voltage., The outside diameter of the plastic collar should not be larger than the pitch (P)

**Rated data acc. to IEC**

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. number of poles (Tu=20°C)	32.5 A
Rated current, max. number of poles (Tu=20°C)	26 A	Rated current, min. number of poles (Tu=40°C)	27.5 A
Rated current, max. number of poles (Tu=40°C)	22 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	Short-time withstand current resistance	3 x 1s with 120 A

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200039-1202191

## Technical data

## Rated data acc. to CSA

Institute (CSA)



Certificate No. (CSA)

www.weidmueller.com

Rated voltage (Use group B / CSA) 300 V

Rated voltage (Use group D / CSA) 300 V

Rated current (Use group B / CSA) 20 A

Rated current (Use group D / CSA) 10 A

Wire cross-section, AWG, min. AWG 26

Wire cross-section, AWG, max. AWG 12

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) 20 A

Rated current (Use group D / UL 1059) 10 A

Wire cross-section, AWG, min. AWG 26

Wire cross-section, AWG, max. AWG 12

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

## Packing

Packaging	Box	VPE length	351 mm
VPE width	137 mm	VPE height	48 mm

## Classifications

ETIM 6.0	EC002643	ETIM 7.0	EC002643
ETIM 8.0	EC002643	ECLASS 9.0	27-44-04-01
ECLASS 9.1	27-44-04-01	ECLASS 10.0	27-44-04-01
ECLASS 11.0	27-46-01-01	ECLASS 12.0	27-46-01-01

## 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

- Rated current related to rated cross-section & min. No. of poles.
- Wire end ferrule without plastic collar to DIN 46228/1
- Wire end ferrule with plastic collar to DIN 46228/4
- 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.
- Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

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**Technical data**

**Approvals**

Approvals



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

**Downloads**

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Engineering Data	<a href="#">WSCAD</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">FL DRIVES EN</a>
	<a href="#">FL ANALO.SIGN.CONV. 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="#">FLIndustr.CONTROLS EN</a>
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	<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>	

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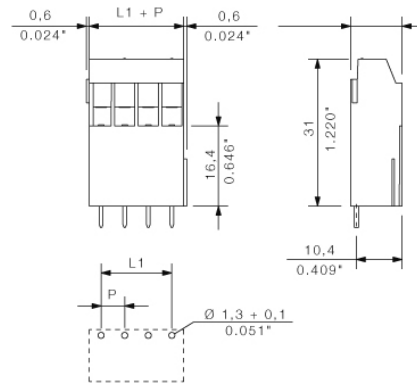
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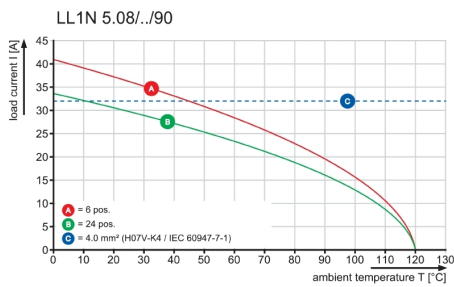
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**Drawings**

**Dimensional drawing** [info@weidmueller.com](mailto:info@weidmueller.com)

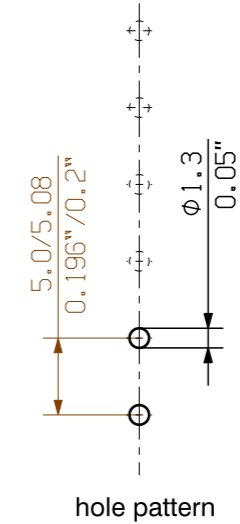
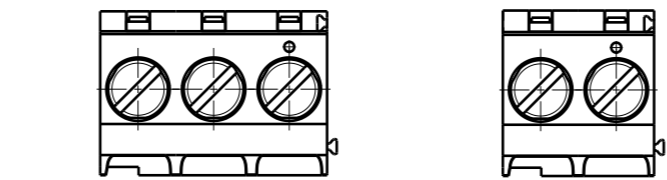
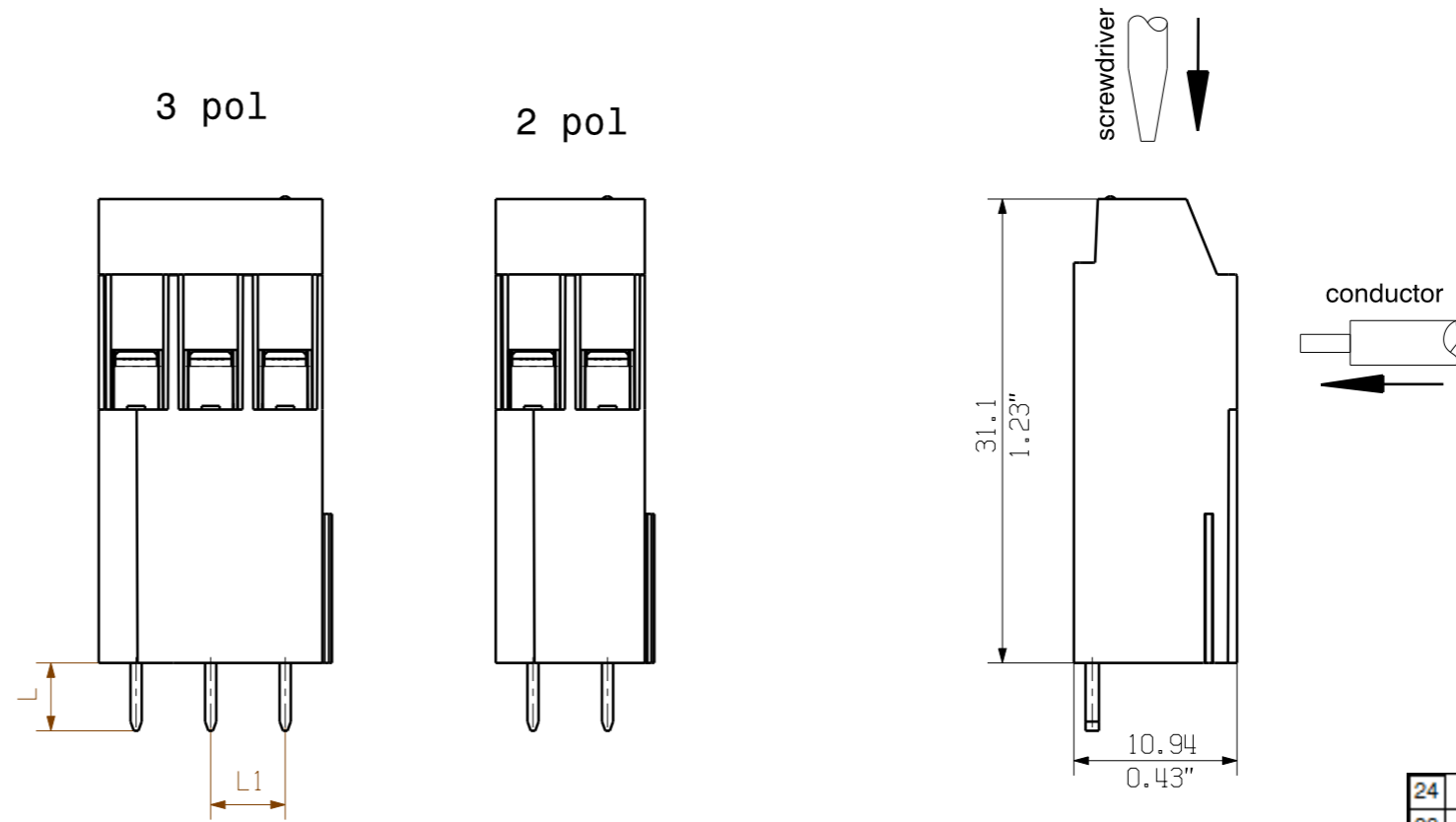


**Graph**



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24	116,84	4,600	24	115,00	4,528
23	111,76	4,400	23	110,00	4,331
22	106,68	4,200	22	105,00	4,134
21	101,60	4,000	21	100,00	3,937
20	96,52	3,800	20	95,00	3,740
19	91,44	3,600	19	90,00	3,543
18	86,36	3,400	18	85,00	3,346
17	81,28	3,200	17	80,00	3,150
16	76,20	3,000	16	75,00	2,953
15	71,12	2,800	15	70,00	2,756
14	66,04	2,600	14	65,00	2,559
13	60,96	2,400	13	60,00	2,362
12	55,88	2,200	12	55,00	2,165
11	50,80	2,000	11	50,00	1,969
10	45,72	1,800	10	45,00	1,772
9	40,64	1,600	9	40,00	1,575
8	35,56	1,400	8	35,00	1,378
7	30,48	1,200	7	30,00	1,181
6	25,40	1,000	6	25,00	0,984
5	20,32	0,800	5	20,00	0,787
4	15,24	0,600	4	15,00	0,591
3	10,16	0,400	3	10,00	0,394
2	5,08	0,200	2	5,00	0,197
n	L1 [mm]	L1 [Inch]	n	L1 [mm]	L1 [Inch]

For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone.  
 The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.  
 The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmüller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application. Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

General tolerance: DIN ISO 2768-mK		91592/5 15.02.17 HELIS_MA 00		Cat.no.: .	
				<b>3 42533</b>	
				Drawing no. <span style="float: right;">Issue no.</span> Sheet 00 of 00 sheets	
		Date	Name	<b>LL1N 5.0x</b> LEITERPLATTENKLEMME PCB TERMINAL	
		Drawn	02.01.2007 KRUG_M		
Responsible	KRUG_M				
Checked	17.02.2017 HELIS_MA				
Supersedes: .	Approved	LANG_T	Product file: LL5.0x 3Stock	7191	

## Recommended wave soldering profiles

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 Germany  
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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.