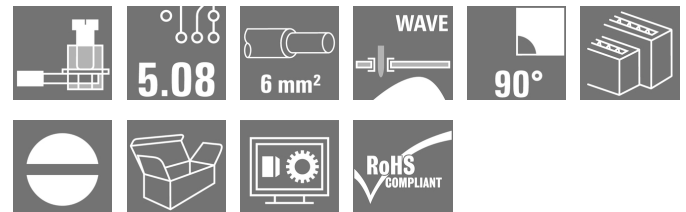


LL2N 5.08/20/90 3.2SN OR BX

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

www.weidmueller.com

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 mm².

General ordering data

Version	Printed circuit board terminals, 5.08 mm, Number of poles: 20, 90°, Solder pin length (l): 3.2 mm, tinned, orange, Clamping yoke connection, Clamping range, max. : 6 mm ² , Box
Order No.	1977540000
Type	LL2N 5.08/20/90 3.2SN OR BX
GTIN (EAN)	4032248673155
Qty.	20 pc(s).
Product data	IEC: 500 V / 32.5 A / 0.5 - 6 mm ² UL: 300 V / 20 A / AWG 26 - AWG 12
Packaging	Box

Creation date March 9, 2023 2:12:57 PM CET

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Technical data

Dimensions and weights

Depth	21.99 mm	Depth (inches)	0.866 inch
Height	34.32 mm	Height (inches)	1.351 inch
Height of lowest version	31.12 mm	Width	48.91 mm
Width (inches)	1.926 inch	Net weight	38.4 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	20
Pin series quantity	2	Fitted by customer	Yes
Number of rows	2	Max. adjacent poles per row	24
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	53.34 mm
L1 in inches	2.1 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 ²
Clamping range, max.	6 mm ²
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 ²
Solid, max. H05(07) V-U	6 mm ²
Flexible, min. H05(07) V-K	0.5 mm ²
Flexible, max. H05(07) V-K	4 mm ²
w. plastic collar ferrule, DIN 46228 pt 4,	0.5 mm ² min.

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Technical data

w. plastic collar ferrule, DIN 46228 pt 4, 2.5 mm²
 max.

w. wire end ferrule, DIN 46228 pt 1, 0.5 mm²
 min.

w. wire end ferrule, DIN 46228 pt 1, 2.5 mm²
 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 ²
wire end ferrule	wire end ferrule	Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H0.5/12 OR
		Stripping length	nominal 6 mm
		Recommended wire-end ferrule	H0.5/6
Cross-section for conductor connection	Type	fine-wired	
	nominal	0.75 mm ²	
wire end ferrule	wire end ferrule	Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H0.75/12 W
		Stripping length	nominal 6 mm
		Recommended wire-end ferrule	H0.75/6
Cross-section for conductor connection	Type	fine-wired	
	nominal	1 mm ²	
wire end ferrule	wire end ferrule	Stripping length	nominal 8 mm
		Recommended wire-end ferrule	H1.0/12 GE
		Stripping length	nominal 6 mm
		Recommended wire-end ferrule	H1.0/6

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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Technical data

Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	200039-1202191
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	145 mm
VPE width	114 mm	VPE height	64 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	<ul style="list-style-type: none"> 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 [Declaration of the Manufacturer](#)Engineering Data [CAD data – STEP](#)Engineering Data [WSCAD](#)Catalogues [Catalogues in PDF-format](#)
 Brochures
[FL DRIVES EN](#)
[FL ANALO.SIGN.CONV. EN](#)
[MB DEVICE MANUF. EN](#)
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[FL ELEVATOR EN](#)
[FL POWER SUPPLY EN](#)
[FL 72H SAMPLE SER EN](#)
[PO OMNIMATE EN](#)
[PO OMNIMATE EN](#)

Data sheet

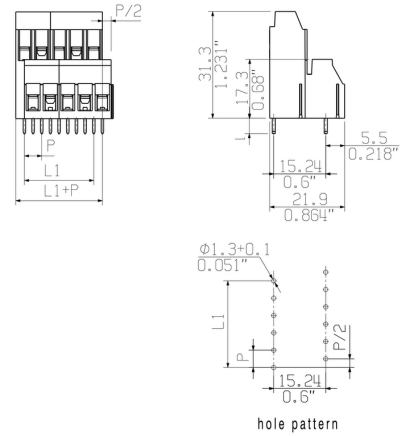
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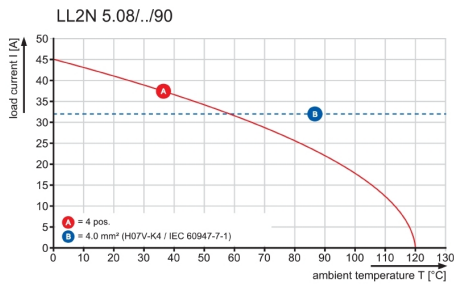
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Drawings

Dimensional drawing



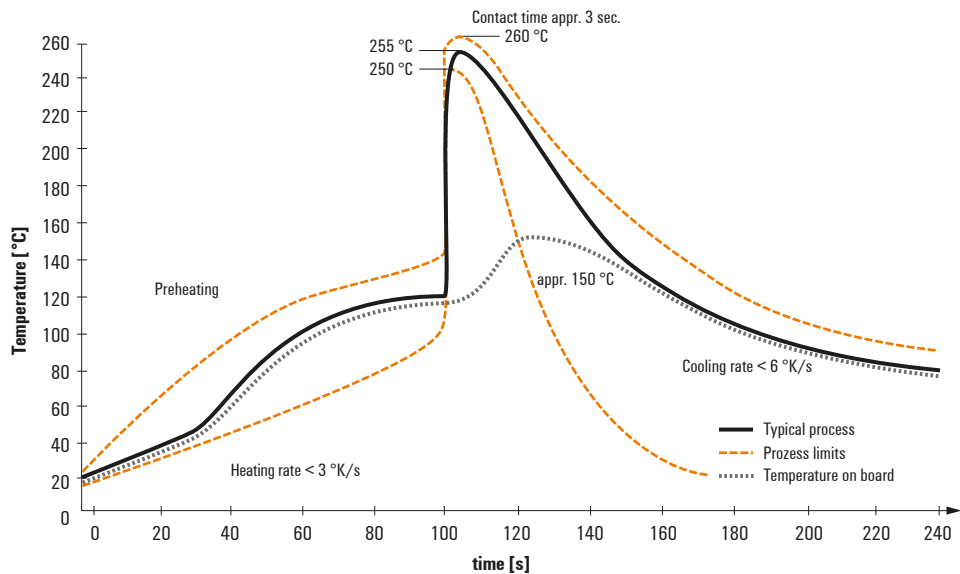
Graph



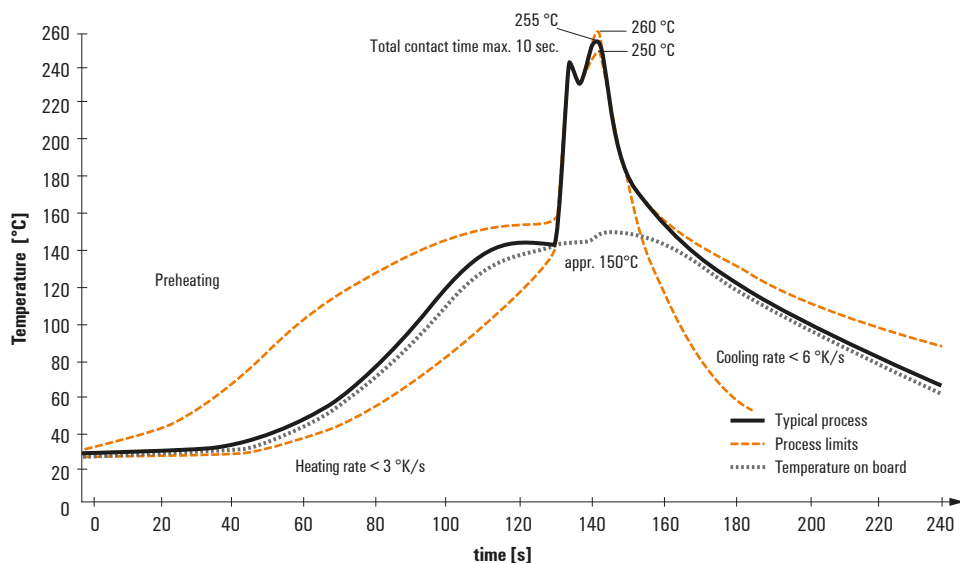
Recommended wave soldering profiles

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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.