

LM2N 3.50/40/90 3.2SN OR BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

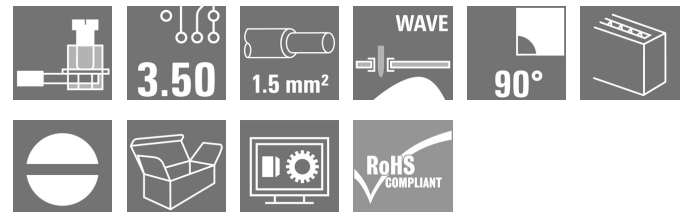
Germany

www.weidmueller.com

Product image

Similar to illustration

Small, compact PCB terminal or -tier PCB terminal with proven clamping yoke connection and 3.5 mm pitch. Suitable for conductor cross-sections up to 1.5 mm².

**General ordering data**

Version	Printed circuit board terminals, 3.50 mm, Number of poles: 40, 90°, Solder pin length (l): 3.2 mm, tinned, orange, Clamping yoke connection, Clamping range, max. : 2.08 mm ² , Box
Order No.	1703880000
Type	LM2N 3.50/40/90 3.2SN OR BX
GTIN (EAN)	4008190910952
Qty.	25 pc(s).
Product data	IEC: 320 V / 13 A / 0.5 - 1.5 mm ² UL: 300 V / 10 A / AWG 28 - AWG 14
Packaging	Box

Creation date May 23, 2024 12:55:37 PM CEST

Catalogue status 18.05.2024 / We reserve the right to make technical changes.

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Technical data

Dimensions and weights

Depth	16.75 mm	Depth (inches)	0.659 inch
Height	27.3 mm	Height (inches)	1.075 inch
Height of lowest version	24.1 mm	Width	72.35 mm
Width (inches)	2.848 inch	Net weight	30.4 g

System parameters

Product family	OMNIMATE Signal - series LM	Wire connection method	Clamping yoke connection
Mounting onto the PCB	THT solder connection	Conductor outlet direction	90°
Pitch in mm (P)	3.5 mm	Pitch in inches (P)	0.138 "
Number of poles	40	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	1.0 x 0.6 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	0.4 x 2.5	Screwdriver blade standard	DIN 5264
Tightening torque, min.	0.2 Nm	Tightening torque, max.	0.2 Nm
Clamping screw	M 2	Stripping length	5 mm
L1 in mm	66.5 mm	L1 in inches	2.618 "
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	Volume resistance	3.60 mΩ

Material data

Insulating material	PA	Colour	orange
Colour chart (similar)	RAL 2000	Insulating material group	I
Comparative Tracking Index (CTI)	≥ 600	UL 94 flammability rating	V-2
Contact material	Cu-alloy	Contact surface	tinned
Coating	1-3 µm Ni, 4-6 µm SN	Tinning type	matt
Layer structure of solder connection	1.5...3 µm Ni / 4...6 µm Sn matt	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		

Conductors suitable for connection

Clamping range, min.	0.08 mm ²
Clamping range, max.	2.08 mm ²
Wire connection cross section AWG, min.	AWG 28
Wire connection cross section AWG, max.	AWG 14
Solid, min. H05(07) V-U	0.5 mm ²
Solid, max. H05(07) V-U	1.5 mm ²
Flexible, min. H05(07) V-K	0.5 mm ²
Flexible, max. H05(07) V-K	1.5 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, 0.5 mm ² min.	
w. plastic collar ferrule, DIN 46228 pt 4, 0.75 mm ² max.	
Plug gauge in accordance with EN 60999 a x b; ø	2.4 mm x 1.5 mm

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Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.75 mm²	
	wire end ferrule	Stripping length	nominal	8 mm
		Recommended wire-end ferrule	H0.75/12 W	
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)	13 A
Rated current, max. number of poles (Tu=20°C)	12 A	Rated current, min. number of poles (Tu=40°C)	11 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 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 72 A

Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	154685-1202192
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
Wire cross-section, AWG, min.	AWG 28	Wire cross-section, AWG, max.	AWG 14
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
Wire cross-section, AWG, min.	AWG 28	Wire cross-section, AWG, max.	AWG 14
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	179 mm
VPE width	110 mm	VPE height	48 mm

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www.weidmueller.com**Technical data****Classifications**

ETIM 6.0	EC002643	ETIM 7.0	EC002643
ETIM 8.0	EC002643	ETIM 9.0	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	ECLASS 13.0	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

- Additional variants on request
- Rated current related to rated cross-section & min. No. of poles.
- Max. outer diameter of the conductor: 2.9 mm
- 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 maximum humidity 70%, 36 months

Approvals

Approvals



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

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Technical data

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	CAD data – STEP
Catalogues	Catalogues in PDF-format
Brochures	FL DRIVES EN FL ANALO.SIGN.CONV. 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

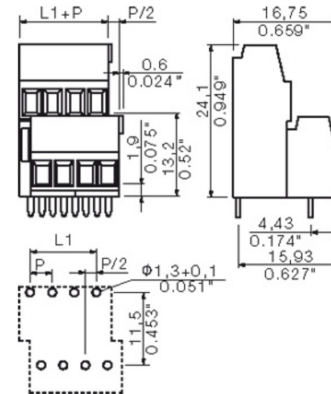
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Drawings

Dimensional drawing



Graph



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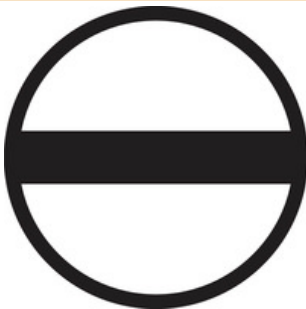
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Accessories**Slotted screwdriver**

VDE insulated slot-head screwdriver, SDI DIN 7437, ISO 2380/2, drive output acc. to DIN 5264, ISO 2380/1. SoftFinish grip

General ordering data

Type	SDIS 0.4X2.5X75	Version
Order No.	9008370000	Screwdriver, Screwdriver
GTIN (EAN)	4032248056330	
Qty.	1 pc(s).	

Slotted screwdriver

Slotted screwdriver with rounded blade SD DIN 5265, ISO 2380/2, output to DIN 5264, ISO 2380/1. ChromTop tip, SoftFinish grip

General ordering data

Type	SDS 0.4X2.5X75	Version
Order No.	9009030000	Screwdriver, Screwdriver
GTIN (EAN)	4032248266944	
Qty.	1 pc(s).	

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Technical Data

Rev.

Material data	
Insulation material type	PA 66
Insulation material colours	orange/black
Insulation material flammability class	UL94
Insulation resistance	MOhm
Conatct base material	Cu-alloy
Contact plating	tin-plated
System characteristic values	
Pitch P	mm/inch
Number of rows	2
Dielectric strength (r.m.s withstand voltage)	kV
Through resistance (typical)	mOhm
Operating temperature range	°C
Degree of protection acc. to VDE 0106	
Degree of protection acc. to DIN EN 60529	
Conductor connection method	
Screw size	
Screw torque max. acc. to EN 60999	Nm
Screw driver type	
Solder pin length L	mm/inch
PCB hole diameter D (wave soldering)	mm/inch
PCB hole diameter D (reflow soldering)	mm/inch
Resistance to soldering heat acc. to DIN IEC 60512-6	°C/sec
Resistance to soldering heat acc. to EN 61760-1	°C/sec
Solderability classification acc. to EN 61760-1	
Solder connection type	
Solder pin diameter d (max.)	mm/inch
Application notes	
Coding possibility	
Joinable without loss of pitch	
Manual assembly of modules	
Max. number of poles	n
Conductor	
Clamping range	mm²
"e" solid H05(07) V-U	mm²
"f" flexible H05(07) V-K	mm²
"f" with ferrule acc. to DIN 46228/1	mm²
... with plastic collar acc. to DIN 46228/4	mm²
Conductor insulation stripping length	mm/inch
Conductor insulation diameter max.	mm/inch
Two wire clamping range	mm²
Gauge to EN 60999 (a x b ; Ø)	mm
IEC 664-1 / VDE0110 (4.97) rated data	
Rated cross section acc. to EN 60999	mm²
Rated current @ 20°C ambient	A
Rated current @ 40°C ambient	A
Overvoltage category / Pollution degree	
Rated voltage	V
Rated impulse voltage	kV
UL 1059 rated data	
Rated voltage	
Rated current	
AWG wire range (field wiring / factory wiring)	
CSA C22.2 rated data	
Rated voltage	
Rated current	
AWG wire range (field wiring / factory wiring)	
Packaging	
Downloads	

PA 66		
orange/black		
V - 2		
10³		
Cu-alloy		
tin-plated		
3.5/0.138		
2		
>1.5		
2.2		
-55°...+100°		
finger safe		
IP20		
clamping yoke		
M2		
0.2		
SDI 0.4x2.5		
3.2/0.126		
1.3+0.1/0.051+0.004		
n.a.		
260/10		
n.a.		
n.a.		
wave soldering		
1.22/0.048		
no		
no		
yes		
48		
0.08...1.5		
0.08...1.5		
0.08...1.5		
n.a.		
n.a.		
5/0.197		
n.a.		
0.5		
2.4x1.5		
1.5		
10		
8,5		
III/3		
III/2		
II/2		
160		
160		
320		
2.5		
2.5		
2.5		
B		
C		
D		
300		

300		
10		

10		
28...14		
B		
C		
D		
300		

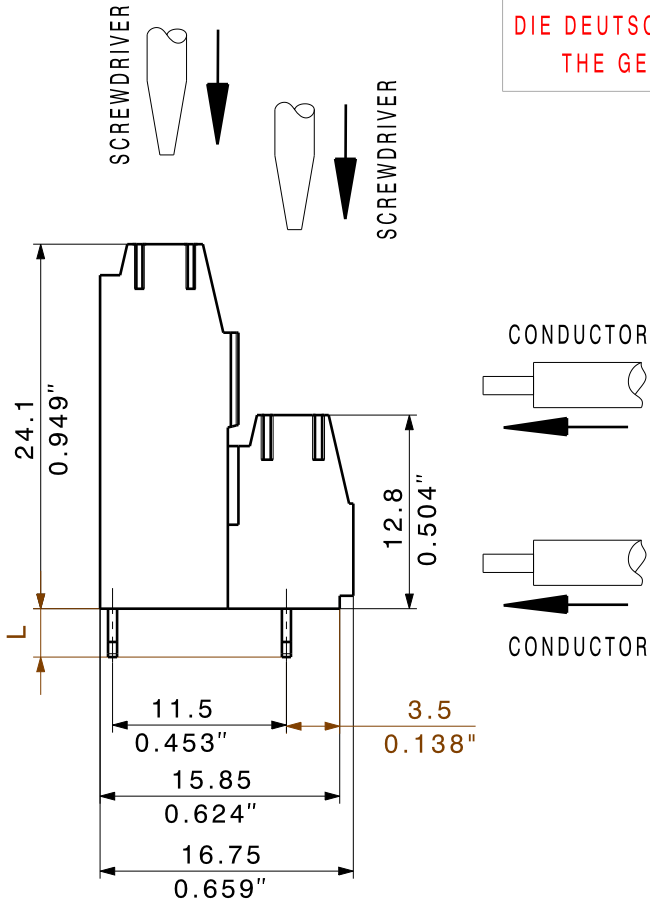
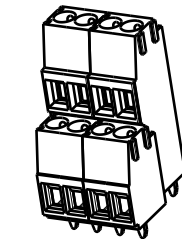
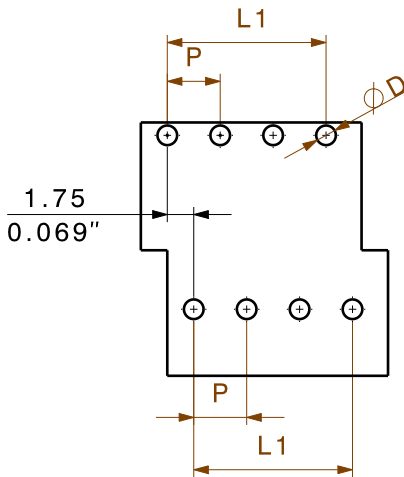
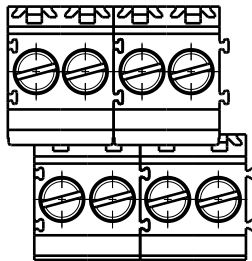
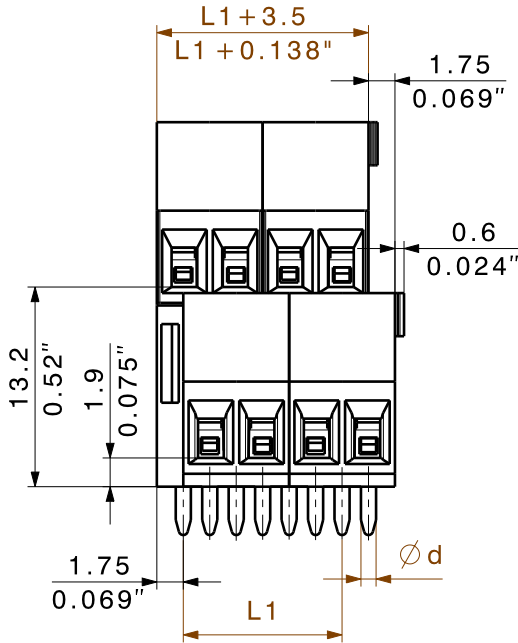
300		
10		

10		
28...14		
carton		
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- 1) Sum of ambient temperature and temperature rise
2) Recommendation for manual assembly
3) Recommendation for automatic assembly
4) Recommendation for wave soldering
5) Recommendation for reflow soldering
6) Referred to rated cross section and 12 pole number

n.a. = not applicable




Subject to technical changes



DIE DEUTSCHE VERSION IST VERBINDLICH
THE GERMAN VERSION IS BINDING

48	80,50	3,169
46	77,00	3,031
44	73,50	2,894
42	70,00	2,756
40	66,50	2,618
38	63,00	2,480
36	59,50	2,343
34	56,00	2,205
32	52,50	2,067
30	49,00	1,929
28	45,50	1,791
26	42,00	1,654
24	38,50	1,516
22	35,00	1,378
20	31,50	1,240
18	28,00	1,102
16	24,50	0,965
14	21,00	0,827
12	17,50	0,689
10	14,00	0,551
8	10,50	0,413
6	7,00	0,276
4	3,50	0,138
n	L1 [mm]	L1 [Inch]

SHOWN LM2N3.5/8/90

<div></div> <div>METRIC TOLERANCES</div> <div>X. = ±0.3</div> <div>X.X = ±0.1</div> <div>X.XX = ±0.05</div>	43264/5		00	<div><div>Weidmüller</div><div></div></div>		CAT.NO.: .	
	17.06.09 HELIS_MA					<div><div>C 23209</div><div>08</div></div>	
	MODIFICATION			DRAWING NO.		ISSUE NO.	
				SHEET 02		OF 03 SHEETS	
<div></div>		DATE	NAME	<div><div>LM2N 3.5/./90</div><div>LEITERPLATTENANSCHLUSSKLEMME</div><div>PCB TERMINAL</div></div>			
	DRAWN	23.09.2008	HELIS_MA				
	RESPONSIBLE		KRUG_M				
SCALE: 5/1	CHECKED	18.06.2009	HECKERT_M	<div>PRODUCT FILE: LM1N 3.5</div> <div>1111</div>			
SUPERSEDES: .	APPROVED		HECKERT_M				

For the mounting of PCBs, it should be noted that the rated data stated here 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 occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.

Recommended wave soldering profiles

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Germany
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Fax: +49 5231 14-292083
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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.

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