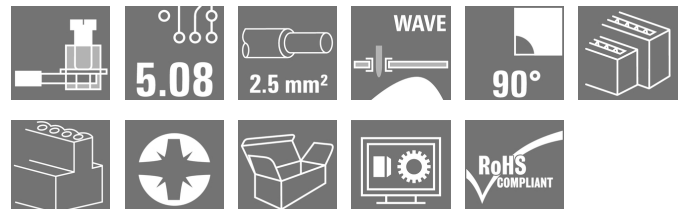


## OMNIMATE Signal - series LM LM2N 5.08/16/90 3.5SN OR BX

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 16  
D-32758 Detmold  
Germany  
Fon: +49 5231 14-0  
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### Product image



Similar to illustration

Single- and multi-row PCB terminal with proven clamping yoke connection at 5.08 mm pitch. Suitable for conductor cross-sections up to 2.5 mm<sup>2</sup>.

### General ordering data

Type	LM2N 5.08/16/90 3.5SN OR BX
Order No.	<a href="#">1768910000</a>
Version	PCB terminal, 5.08 mm, No. of poles: 16, 90°, Solder pin length (l): 3.5 mm, tinned, Orange, Clamping yoke connection, Clamping range, max.: 2.5 mm <sup>2</sup> , Box
GTIN (EAN)	4032248115648
Qty.	20 pc(s).
Product data	IEC: 630 V / 17.5 A / 0.2 - 2.5 mm <sup>2</sup> UL: 300 V / 15 A / AWG 24 - AWG 14
Packaging	Box

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

Width	44.18 mm	Width (inches)	1.739 inch
Height	28.7 mm	Height (inches)	1.13 inch
Height of lowest version	25.2 mm	Depth	21.6 mm
Depth (inches)	0.85 inch	Net weight	22.55 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)	5.08 mm	Pitch in inches (P)	0.2 inch
No. of poles	16	Fitted by customer	Yes
Max. adjacent poles per row	48	Solder pin length (l)	3.5 mm
Solder pin dimensions	0.95 x 0.8 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.	0.4 Nm	Tightening torque, max.	0.5 Nm
Clamping screw	M 2.5	Stripping length	6 mm
L1 in mm	35.56 mm	L1 in inches	1.4 inch
Touch-safe protection acc. to DIN VDE 0470	IP 20	Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch
Volume resistance	1.20 mΩ		

**Material data**

Insulating material	Wemid (PA)	Colour	Orange
Colour chart (similar)	RAL 2000	Insulating material group	I
CTI	≥ 600	Insulation resistance	≥ 10 <sup>8</sup> Ω
UL 94 flammability rating	V-0	Contact material	Copper alloy
Contact surface	tinned	Coating	1-3 μm Ni, 4-6 μm Sn
Tinning type	matt	Layer structure of solder connection	1-3 μm Ni / 4-6 μm Sn matt
Storage temperature, min.	-25 °C	Storage temperature, max.	55 °C
Max. relative humidity during storage	80 %	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.	0.2 mm <sup>2</sup>	Clamping range, max.	2.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 24	Wire connection cross section AWG, max.	AWG 14
Solid, min. H05(07) V-U	0.2 mm <sup>2</sup>	Solid, max. H05(07) V-U	2.5 mm <sup>2</sup>
Flexible, min. H05(07) V-K	0.2 mm <sup>2</sup>	Flexible, max. H05(07) V-K	2.5 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.25 mm <sup>2</sup>	w. plastic collar ferrule, DIN 46228 pt 4, max.	1.5 mm <sup>2</sup>
w. wire end ferrule, DIN 46228 pt 1, min.	0.25 mm <sup>2</sup>	w. wire end ferrule, DIN 46228 pt 1, max.	1.5 mm <sup>2</sup>
Plug gauge in accordance with EN 60999 a x b; ø	2.4 mm x 1.5 mm; 1.9mm		

## OMNIMATE Signal - series LM LM2N 5.08/16/90 3.5SN OR BX


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## Technical data


### Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. no. of poles (Tu=20°C)	17.5 A
Rated current, max. no. of poles (Tu=20°C)	16 A	Rated current, min. no. of poles (Tu=40°C)	17.5 A
Rated current, max. no. of poles (Tu=40°C)	14.2 A	Rated voltage for surge voltage class / pollution degree II/2	630 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

### Rated data acc. to CSA

Institute (CSA)		Certificate No. (CSA)	200039-1815154
Rated voltage (Use group B / CSA)	300 V	Rated voltage (Use group D / CSA)	300 V
Rated current (Use group B / CSA)	18 A	Rated current (Use group D / CSA)	10 A
Wire cross-section, AWG, min.	AWG 24	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 (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)	15 A	Rated current (Use group D / UL 1059)	10 A
Wire cross-section, AWG, min.	AWG 24	Wire cross-section, AWG, max.	AWG 14
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

### Packaging

Packaging	Box	VPE length	52 mm
VPE width	98 mm	VPE height	180 mm

### Classifications

ETIM 3.0	EC001284	ETIM 4.0	EC002643
ETIM 5.0	EC002643	ETIM 6.0	EC002643
UNSPSC	30-21-18-01	eClass 6.2	27-26-11-01
eClass 7.1	27-44-04-01	eClass 8.1	27-44-04-01
eClass 9.0	27-44-04-01	eClass 9.1	27-44-04-01

**Data sheet**

**OMNIMATE Signal - series LM  
LM2N 5.08/16/90 3.5SN OR BX**

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**Technical data**

**Notes**

Notes	<ul style="list-style-type: none"> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Wire end ferrule without plastic collar to DIN 46228/1</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</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> </ul>
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.

**Approvals**

Approvals



ROHS Conform

**Downloads**

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Brochure/Catalogue	<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="#">CAT 2 PORTFOLIOGUIDE EN</a> <a href="#">FL BUILDING SAFETY EN</a> <a href="#">FL APPL LED LIGHTING EN</a> <a href="#">FLIndustr.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>
Engineering Data	<a href="#">EPLAN, WSCAD</a>
Engineering Data	<a href="#">LM2N.zip</a>

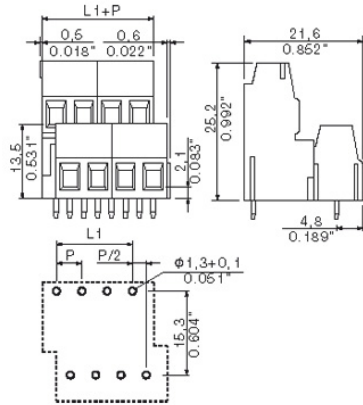
**Data sheet**

**OMNIMATE Signal - series LM  
LM2N 5.08/16/90 3.5SN OR BX**

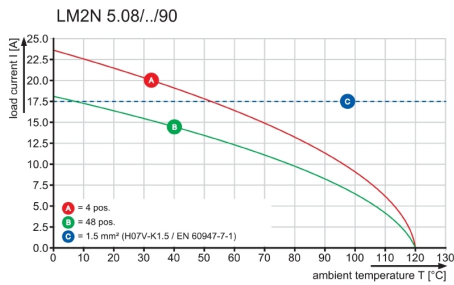
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**Drawings**

**Dimensional drawing**



**Graph**



## Technical Data

Rev.

### Material data

Insulation material type	PA 66/6(WEMID)
Insulation material colours	orange,black,green,grey
Insulation material flammability class	UL94 V-0
Insulation resistance	>10 <sup>3</sup>
Contact base material	Cu-alloy
Contact plating	Tin-plated

### System characteristic values

Pitch <b>P</b>	mm/inch	5.08 / 0.200
Number of rows		2
Dielectric strength (r.m.s withstand voltage)	kV	>2.5
Through resistance (typical)	mOhm	1.4
Operating temperature range	°C	-55...+120° 1)
Degree of protection acc. to VDE 0106		finger safe
Degree of protection acc. to DIN EN 60529		IP20
Conductor connection method		clamping yoke
Screw size		M2.5
Screw torque max. acc. to EN 60999	Nm	0.4 - 0.5
Screwdriver type	⊕/⊖	SD 0.6 x 3.5 / SDK PZ0
Solder pin length <b>L</b>	mm/inch	3.5 / 0.138
PCB hole diameter <b>D</b> (wave soldering)	mm/inch	1.3+0.10/0.051+0.004 2)
PCB hole diameter <b>D</b> (reflow soldering)	mm/inch	n.a. 3)
Resistance to soldering heat acc. to DIN IEC 60512-6	°C/sec	260/10 4)
Resistance to soldering heat acc. to EN 61760-1	°C/sec	n.a. 5)
Solderability classification acc. to EN 61760-1		n.a.
Solder connection type		wave soldering
Solder pin diameter <b>d</b> (max.)	mm/inch	1.24/0.049

### Application notes

Coding possibility	yes/no	no
Joinable without loss of pitch	yes/no	yes
Manual assembly of modules	yes/no	yes
Max. number of poles	n	48

### Conductor

Clamping range	mm <sup>2</sup>	0.20-2.5
"e" solid H05(07) V-U	mm <sup>2</sup>	0.20-2.5
"f" flexible H05(07) V-K	mm <sup>2</sup>	0.20-1.5
"f" with ferrule acc. to DIN 46228/1	mm <sup>2</sup>	0.25-1.5
... with plastic collar acc. to DIN 46228/4	mm <sup>2</sup>	0.25-1.5
Conductor insulation stripping length	mm/inch	6.0
Conductor insulation diameter max.	mm/inch	n.a.
Two wire clamping range	mm <sup>2</sup>	n.a.
Gauge to EN 60999 (a x b ; Ø)	mm	2.4x1.5 (A1); Ø1.9 (B1)

### IEC 664-1 / VDE0110 (4.97) rated data

Rated cross section acc. to EN 60999	mm <sup>2</sup>	1.5
Rated current @ 20°C ambient (min. pole , max. wire)	A	17.5 6)
Rated current @ 40°C ambient (min. pole , max. wire)	A	17.5 6)

### Overvoltage category / Pollution degree


Rated voltage	V	III/3	III/2	II/2
Rated impulse voltage	kV	250	320	630
		4.0	4.0	4.0

### UL 1059 rated data

 File No.: E60693

Rated voltage	V	B	C	D
Rated current	A	300	n.a.	300
AWG wire range (field wiring / factory wiring)		15	n.a.	10
		24-14		

### CSA C22.2 rated data

 File No.: LR12400

Rated voltage	V	B	C	D
Rated current	A	300	n.a.	300
AWG wire range (field wiring / factory wiring)		18	n.a.	10
		24-14		

### Packaging

cardboard box

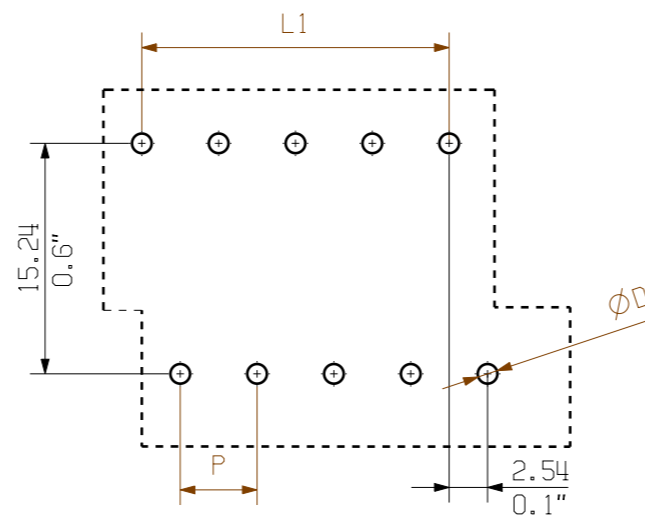
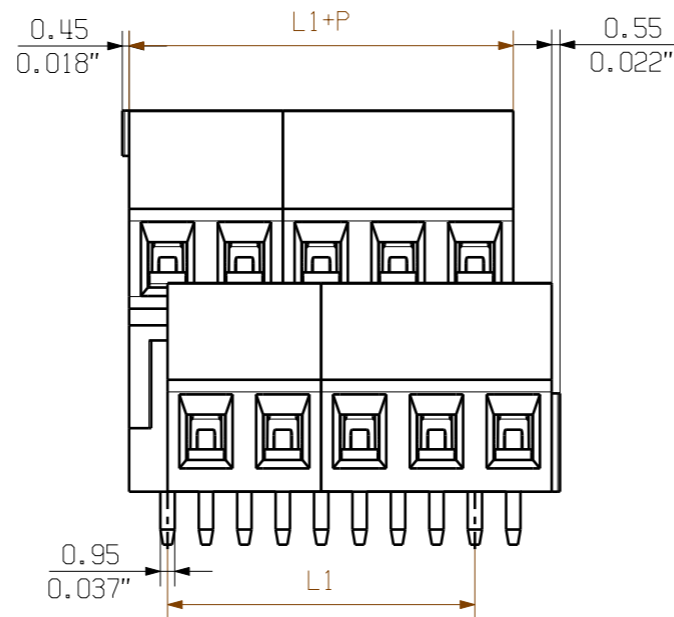
### Downloads

www.weidmueller.de

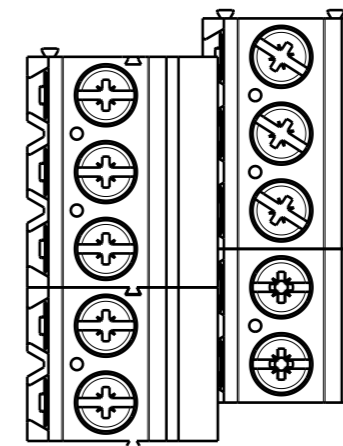
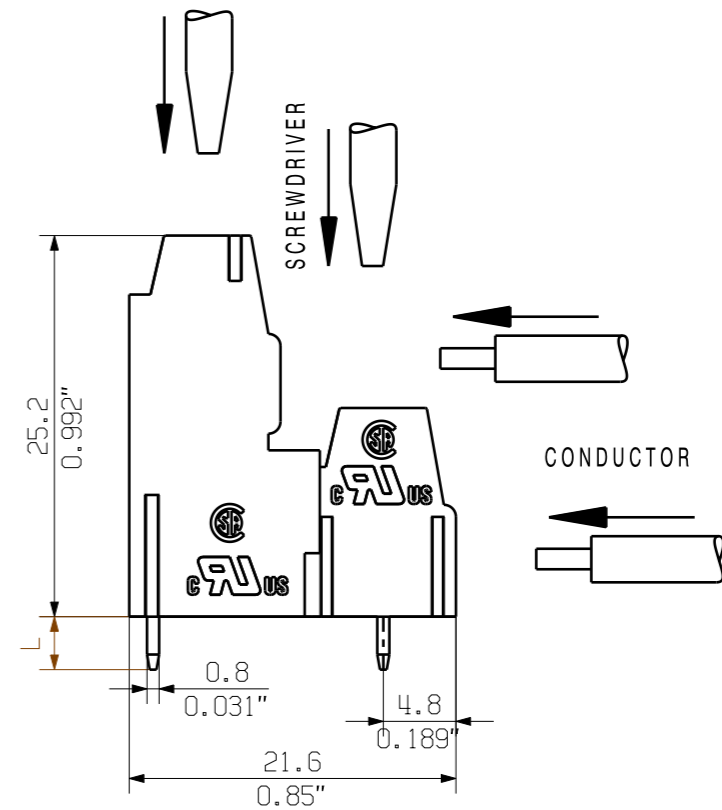
- 1) Sum of ambient temperature and temperature rise
- 2) Recommendation for manual assembly
- 3) Recommendation for automatic assembly
- 4) Recommendation for wave soldering
- 5) Recommendation for reflow soldering
- 6) Referred to rated cross section and minimum pole number

n.a. = not applicable

Subject to technical changes



PCB LAYOUT





KUNDENZEICHNUNG  
CUSTOMER DRAWING

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 occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

SHOWN: LM2N 5.08/10

METRIC TOLERANCES X. = ±0.3 X.X = ±0.1 X.XX = ±0.05	41404/5 05.11.08 SHI_S 00	<b>Weidmüller</b> 		CAT.NO.: <b>C 41737 07</b>
	MODIFICATION	DRAWING NO.	ISSUE NO.	
	DATE	NAME		
SCALE: 2/1	DRAWN	31.03.2005	XU_S	
SUPERSEDES: 4 29161/01	RESPONSIBLE		WANG_R	
SUPERSEDED BY: .	CHECKED	20.07.2007	LIU_ZH	
	APPROVED		DONG_H	
				PRODUCT FILE: LM2N 5.08 7065

48	116.84	4.600
46	111.76	4.400
44	106.68	4.200
42	101.60	4.000
40	96.52	3.800
38	91.44	3.600
36	86.36	3.400
34	81.28	3.200
32	76.20	3.000
30	71.12	2.800
28	66.04	2.600
26	60.96	2.400
24	55.88	2.200
22	50.80	2.000
20	45.72	1.800
18	40.64	1.600
16	35.56	1.400
14	30.48	1.200
12	25.40	1.000
10	20.32	0.800
8	15.24	0.600
6	10.16	0.400
4	5.08	0.200
N	L1 [mm]	L1 [inch]

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## Recommended wave soldering profiles

**Weidmüller Interface GmbH & Co. KG**  
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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.