

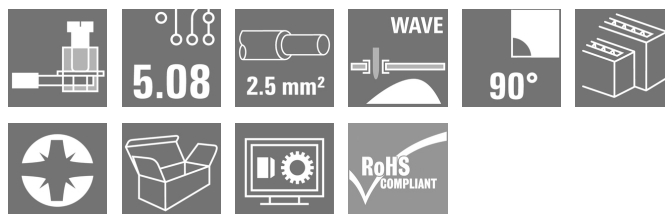
LM2N 5.08/20/90 3.5SN OR BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image

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 mm².

General ordering data

Version	Printed circuit board terminals, 5.08 mm, Number of poles: 20, 90°, Solder pin length (l): 3.5 mm, tinned, orange, Clamping yoke connection, Clamping range, max. : 2.5 mm ² , Box
Order No.	1768930000
Type	LM2N 5.08/20/90 3.5SN OR BX
GTIN (EAN)	4032248115662
Qty.	20 pc(s).
Product data	IEC: 630 V / 17.5 A / 0.2 - 2.5 mm ² UL: 300 V / 15 A / AWG 24 - AWG 14
Packaging	Box

Creation date July 26, 2024 5:56:26 AM CEST

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Technical data

Dimensions and weights

Depth	21.6 mm	Depth (inches)	0.85 inch
Height	28.7 mm	Height (inches)	1.13 inch
Height of lowest version	25.2 mm	Width	54.34 mm
Width (inches)	2.139 inch	Net weight	30 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 "
Number of poles	20	Pin series quantity	2
Fitted by customer	Yes	Number of rows	2
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	45.72 mm	L1 in inches	1.8 "
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	1.20 mΩ

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	Cu-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.	-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.	0.2 mm ²
Clamping range, max.	2.5 mm ²
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 ²
Solid, max. H05(07) V-U	2.5 mm ²
Flexible, min. H05(07) V-K	0.2 mm ²
Flexible, max. H05(07) V-K	2.5 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, 0.25 mm ² min.	
w. plastic collar ferrule, DIN 46228 pt 4, 1.5 mm ² max.	
w. wire end ferrule, DIN 46228 pt 1, 0.25 mm ² min.	

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Technical data

w. wire end ferrule, DIN 46228 pt 1, max. 1.5 mm²

Plug gauge in accordance with EN 60999 a x b; ø 2.4 mm x 1.5 mm; 1.9mm

Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.5 mm ²	
	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	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	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	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.25 mm ²	
	wire end ferrule	Stripping length	nominal	8 mm
		Recommended wire-end ferrule	H0.25/10 HBL	
		Stripping length	nominal	5 mm
		Recommended wire-end ferrule	H0.25/5	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	0.34 mm ²	
	wire end ferrule	Stripping length	nominal	8 mm
		Recommended wire-end ferrule	H0.34/10 TK	

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, max. number of poles (Tu=20°C)	16 A
Rated current, max. number of poles (Tu=40°C)	14.2 A
Rated voltage for surge voltage class / pollution degree III/2	320 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	4 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	4 kV

Rated current, min. number of poles (Tu=20°C)	17.5 A
Rated current, min. number of poles (Tu=40°C)	17.5 A
Rated voltage for surge voltage class / pollution degree II/2	630 V
Rated voltage for surge voltage class / pollution degree III/3	250 V
Rated impulse voltage for surge voltage class/ pollution degree III/2	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)

200039-1815154

Rated voltage (Use group B / CSA)	300 V
Rated current (Use group B / CSA)	18 A
Wire cross-section, AWG, min.	AWG 24
Reference to approval values	Specifications are maximum values, details - see approval certificate.

Rated voltage (Use group D / CSA)	300 V
Rated current (Use group D / CSA)	10 A
Wire cross-section, AWG, max.	AWG 14

Rated data acc. to UL 1059

Institute (cURus)



Certificate No. (cURus)

E60693

Rated voltage (Use group B / UL 1059)	300 V
Rated current (Use group B / UL 1059)	15 A
Wire cross-section, AWG, min.	AWG 24
Reference to approval values	Specifications are maximum values, details - see approval certificate.

Rated voltage (Use group D / UL 1059)	300 V
Rated current (Use group D / UL 1059)	10 A
Wire cross-section, AWG, max.	AWG 14

Packing

Packaging	Box	VPE length	44 mm
VPE width	108 mm	VPE height	180 mm

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

Environmental Product Compliance

REACH SVHC	/
RoHS Compliance Status	Compliant without exemption

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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"> 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 maximum humidity 70%, 36 months

Approvals

Approvals



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

Downloads

Approval/Certificate/Document of Conformity	Declaration of the Manufacturer
Engineering Data	CAD data – STEP
Product Change Notification	Change of packaging - DE Change of packaging - EN Modification of the clamping yoke on product families LM 5.0x, LL 6.35, LL 9.52 and WGK 4
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

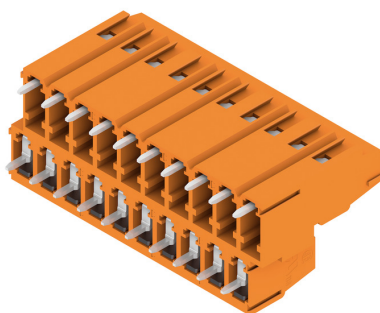
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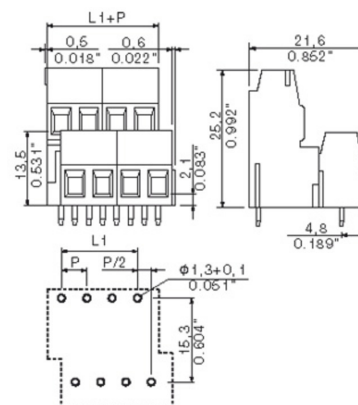
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Drawings

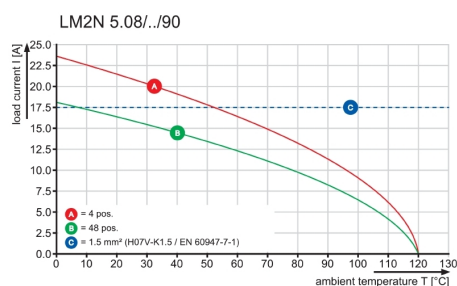
Product image



Dimensional drawing



Graph



LM2N 5.08/20/90 3.5SN OR BX**Weidmüller Interface GmbH & Co. KG**

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www.weidmueller.com**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 0.6X3.5X100	Version
Order No.	2749810000	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4050118897012	thickness (A): 0.6 mm
Qty.	1 pc(s).	

Crosshead screwdriver Phillips

Crosshead screwdriver, Phillips, SDK PH DIN 5262, ISO 8764/2-PH, output to ISO 8764-PH, ChromTop tip, SoftFinish grip

General ordering data

Type	SDK PH0 X 60	Version
Order No.	2749400000	Screwdriver, Blade width (B): 60 mm, Blade thickness (A):
GTIN (EAN)	4050118895629	
Qty.	1 pc(s).	

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Accessories

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 0.6X3.5X100	Version
Order No.	2749340000	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4050118895568	thickness (A): 0.6 mm
Qty.	1 pc(s).	

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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 ³
Conatct base material	Cu-alloy
Contact plating	Tin-plated

System characteristic values

Pitch P	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°
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 L	mm/inch	3.5 / 0.138
PCB hole diameter D (wave soldering)	mm/inch	1.3+0.10/0.051+0.004
PCB hole diameter D (reflow soldering)	mm/inch	n.a.
Resistance to soldering heat acc. to DIN IEC 60512-6	°C/sec	260/10
Resistance to soldering heat acc. to EN 61760-1	°C/sec	n.a.
Solderability classification acc. to EN 61760-1		n.a.
Solder connection type		wave soldering
Solder pin diameter d (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 ²	0.20-2.5
"e" solid H05(07) V-U	mm ²	0.20-2.5
"f" flexible H05(07) V-K	mm ²	0.20-1.5
"f" with ferrule acc. to DIN 46228/1	mm ²	0.25-1.5
... with plastic collar acc. to DIN 46228/4	mm ²	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 ²	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 ²	1.5
Rated current @ 20°C ambient (min. pole , max. wire)	A	17.5
Rated current @ 40°C ambient (min. pole , max. wire)	A	17.5

Overvoltage category / Pollution degree

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

UL 1059 rated data



File No.: E60693

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

CSA C22.2 rated data



File No.: LR12400

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

Packaging

cardboard box

Downloads

www.weidmueller.de

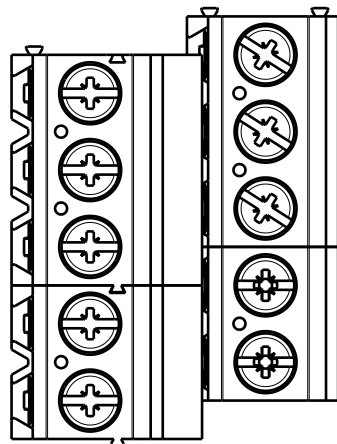
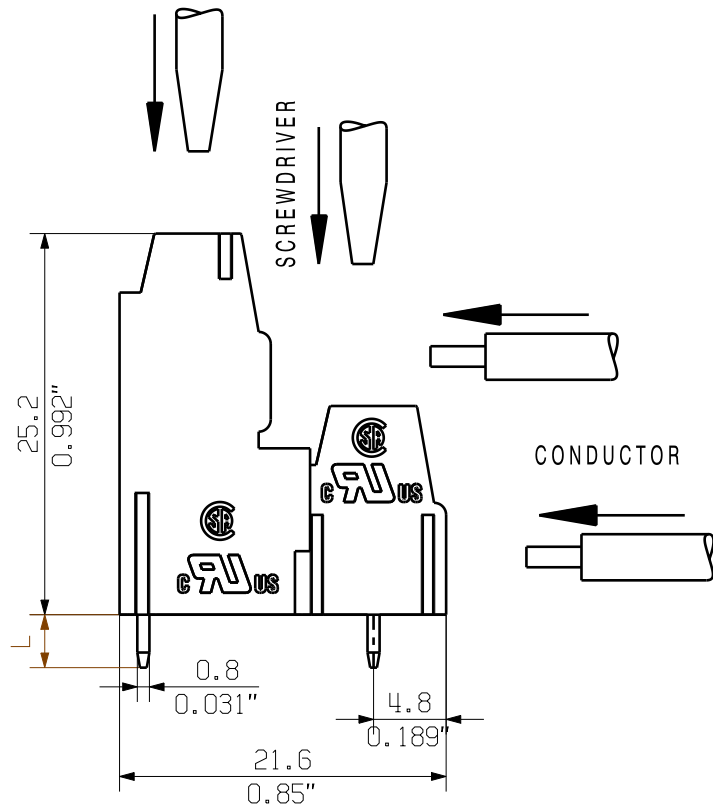
- 1) Sum of ambient temperature and temperature rise
- 2) Recommendation for manual assembly
- 3) Recommendation for automatic assembly
- 4) Recommendation for wave soldering
- 5) Recommendation for reflow soldering
- 6) Referred to rated cross section and minimum pole number

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	CAT.NO.: .	
MODIFICATION		Weidmüller	
DRAWN 31.03.2005 XU_S		C 41737 07	
RESPONSIBLE WANG_R		DRAWING NO. ISSUE NO.	
CHECKED 20.07.2007 LIU_ZH		LM2N 5.08/...	
APPROVED DONG_H		LEITERPLATTENKLEMME PCB TERMINAL	
SCALE: 2/1		PRODUCT FILE: LM2N 5.08	
SUPERSEDES: 4 29161/01		7065	
SUPERSEDED BY: .			

Recommended wave soldering profiles

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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.

We reserve the right to make technical changes.