

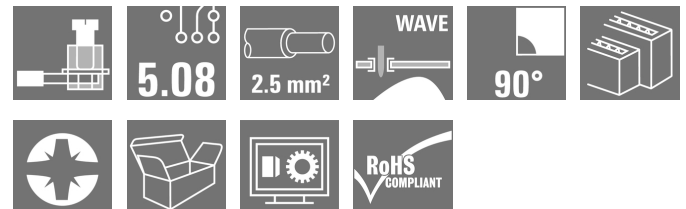
LM3R 5.08/21/90 3.5SN OR BX**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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 mm².

General ordering data

Version	Printed circuit board terminals, 5.08 mm, Number of poles: 21, 90°, Solder pin length (l): 3.5 mm, tinned, orange, Clamping yoke connection, Clamping range, max. : 2.5 mm ² , Box
Order No.	1769670000
Type	LM3R 5.08/21/90 3.5SN OR BX
GTIN (EAN)	4032248117048
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 March 25, 2021 5:06:27 AM CET

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Technical data

Dimensions and weights

Depth	31.8 mm	Depth (inches)	1.252 inch
Height	40.1 mm	Height (inches)	1.579 inch
Height of lowest version	36.6 mm	Net weight	36.05 g
Width	39.1 mm	Width (inches)	1.539 inch

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
Number of poles	21	Pin series quantity	3
Fitted by customer	Yes	Max. adjacent poles per row	72
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	30.48 mm
L1 in inches	1.2 inch	Touch-safe protection acc. to DIN VDE 0470	IP 20
Touch-safe protection acc. to DIN VDE 57 106	Safe from finger touch	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	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.	-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	67 mm
VPE width	85 mm	VPE height	190 mm

Classifications

ETIM 6.0	EC002643	ETIM 7.0	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

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 E60693

Downloads

Approval/Certificate/Document of
Conformity[Declaration of the Manufacturer](#)

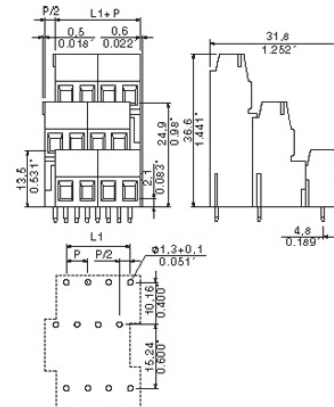
Engineering Data

[EPLAN, WSCAD](#)

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Drawings**Dimensional drawing****Graph**

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Technical Data

07

Rev.

Material data

Insulation material type	PA 66/6(WEMID)
Insulation material colours	orange,black,green,grey
Insulation material flammability class	UL94
Insulation resistance	MOhm
Conatct base material	Cu-alloy
Contact plating	Tin-plated

System characteristic values

Pitch P	mm/inch	5.08 / 0.200
Number of rows		3
Dielectric strength (r.m.s withstand voltage)	kV	>2.5
Through resistance (typical)	mOhm	1.7
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	72

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

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

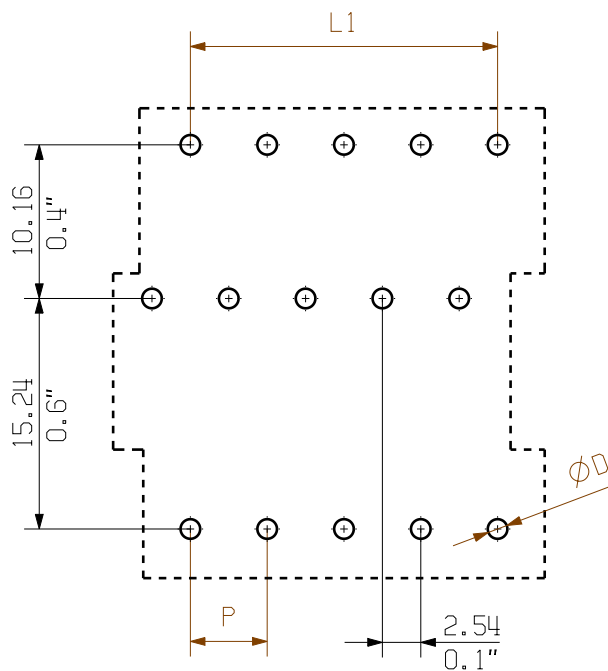
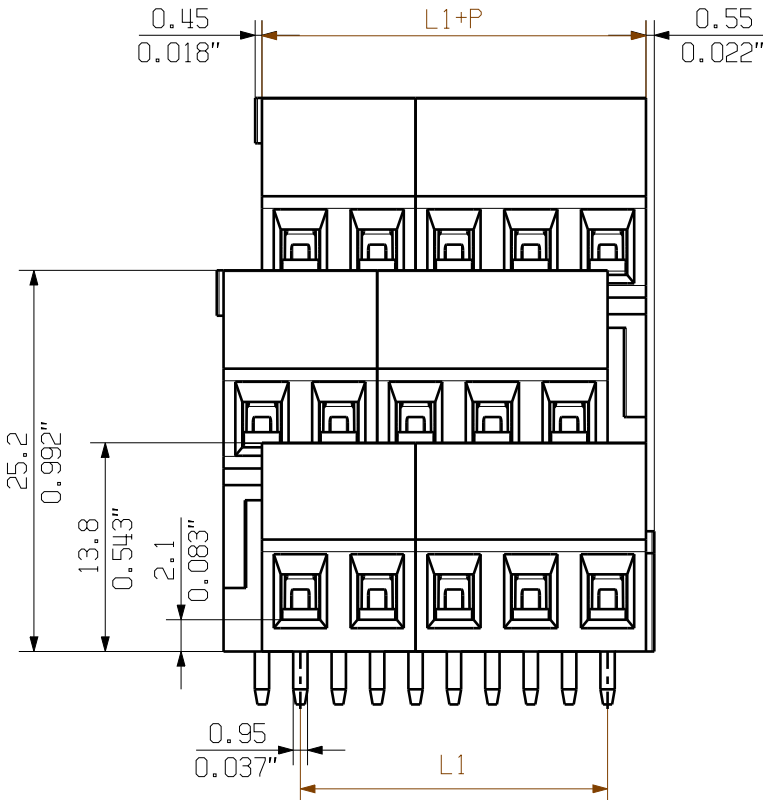
Downloads

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



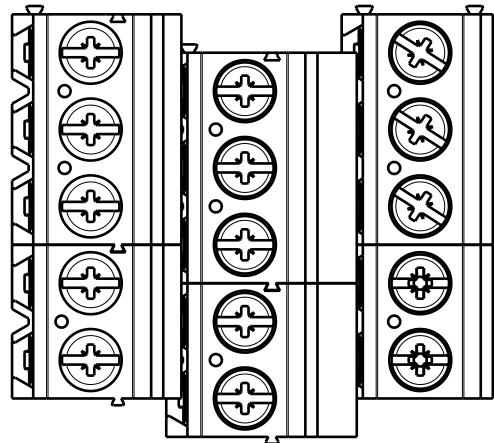
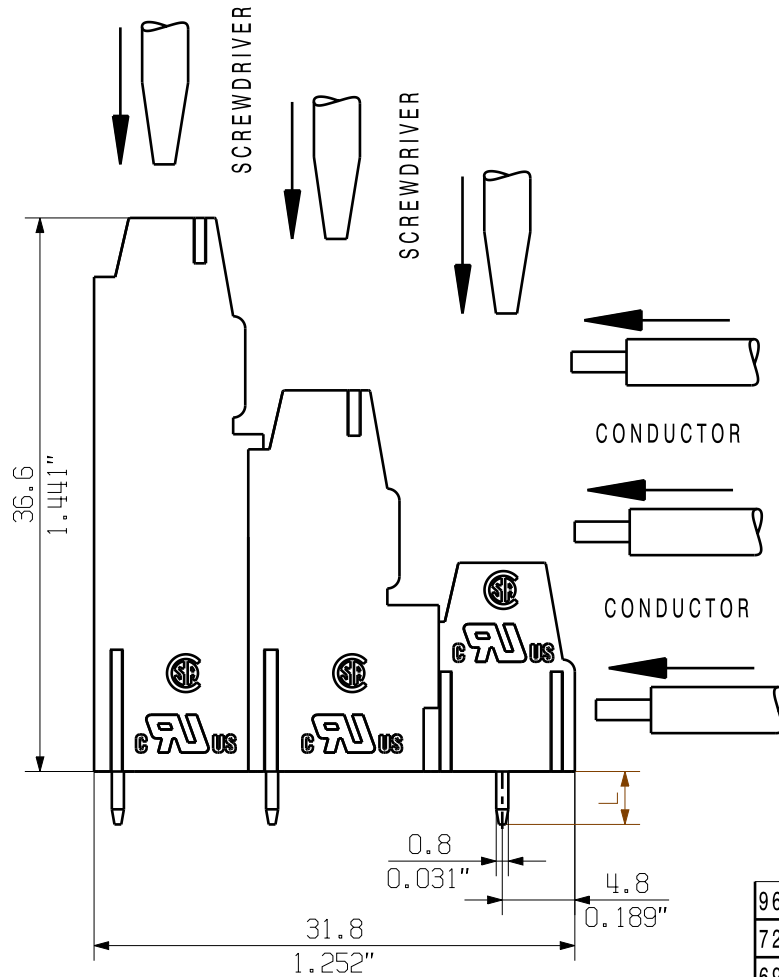
PCB LAYOUT

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.



KUNDENZEICHNUNG
CUSTOMER DRAWING

SHOWN: LM3R 5.08/15

METRIC TOLERANCES X. = ±0.3 X.X = ±0.1 X.XX = ±0.05	66212/5 14.12.12 SHI_S	01	CAT.NO.: .	
MODIFICATION		DRAWING NO.		ISSUE NO.
SCALE: 2/1	DRAWN	01.04.2005	XU_S	LM3R 5.08/... LEITERPLATTENKLEMME PCB TERMINAL
SUPERSEDES: 4 29162/01	RESPONSIBLE	20.07.2007	RUHNAU_S	
SUPERSEDED BY: .	CHECKED	20.07.2007	XU_S	
APPROVED		PRODUCT FILE: LM3R 5.08		7065

96	157.48	6.200
72	116.84	4.600
69	111.76	4.400
66	106.68	4.200
63	101.60	4.000
60	96.52	3.800
57	91.44	3.600
54	86.36	3.400
51	81.28	3.200
48	76.20	3.000
45	71.12	2.800
42	66.04	2.600
39	60.96	2.400
36	55.88	2.200
33	50.80	2.000
30	45.72	1.800
27	40.64	1.600
24	35.56	1.400
21	30.48	1.200
18	25.40	1.000
15	20.32	0.800
12	15.24	0.600
9	10.16	0.400
6	5.08	0.200
N	L1 [mm]	L1 [inch]

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.

We reserve the right to make technical changes.