

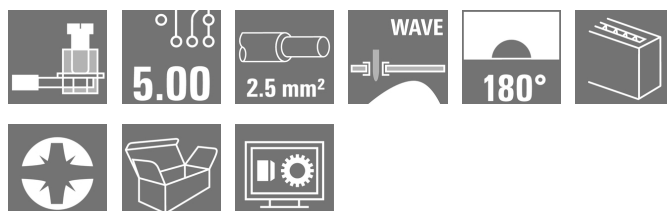
**LM 5.00/21/180 3.5SN OR BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

PCB terminal with proven clamping yoke connection at 5.00 and 5.08 mm pitch. Conductor outlet direction 90°, 135° and 180°. Suitable for conductor cross-sections up to 2.5 mm².

**General ordering data**

Version	Printed circuit board terminals, 5.00 mm, Number of poles: 21, 180°, Solder pin length (l): 3.5 mm, tinned, orange, Clamping yoke connection, Clamping range, max. : 2.5 mm², Box
Order No.	<a href="#">1234430000</a>
Type	LM 5.00/21/180 3.5SN OR BX
GTIN (EAN)	4050118018806
Qty.	50 pc(s).
Product data	IEC: 630 V / 17.5 A / 0.2 - 2.5 mm² UL: 300 V / 15 A / AWG 24 - AWG 14
Packaging	Box

Creation date May 6, 2024 7:51:47 AM CEST

## LM 5.00/21/180 3.5SN OR BX

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## Technical data

## Dimensions and weights

Depth	13.8 mm	Depth (inches)	0.543 inch
Height	13.5 mm	Height (inches)	0.531 inch
Height of lowest version	10 mm	Width	105.55 mm
Width (inches)	4.156 inch	Net weight	25 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	180°
Pitch in mm (P)	5 mm	Pitch in inches (P)	0.197 "
Number of poles	21	Pin series quantity	1
Fitted by customer	Yes	Number of rows	1
Max. adjacent poles per row	24	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	100 mm	L1 in inches	3.937 "
Touch-safe protection acc. to DIN VDE 0470	IP 10	Touch-safe protection acc. to DIN VDE 57 106	Safe from back-of-hand 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	Insulation strength	≥ 10 <sup>8</sup> Ω
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
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, 0.25 mm <sup>2</sup> min.	
w. plastic collar ferrule, DIN 46228 pt 4, 1.5 mm <sup>2</sup> max.	
w. wire end ferrule, DIN 46228 pt 1, 0.25 mm <sup>2</sup> min.	

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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

Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 8 mm
		Recommended wire-end ferrule	<a href="#">H0.5/12 OR</a>
		Stripping length	nominal 6 mm
		Recommended wire-end ferrule	<a href="#">H0.5/6</a>
	Cross-section for conductor connection	Type	fine-wired
		nominal	0.75 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 8 mm
		Recommended wire-end ferrule	<a href="#">H0.75/12 W</a>
		Stripping length	nominal 6 mm
		Recommended wire-end ferrule	<a href="#">H0.75/6</a>
	Cross-section for conductor connection	Type	fine-wired
		nominal	1 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 8 mm
		Recommended wire-end ferrule	<a href="#">H1.0/12 GE</a>
		Stripping length	nominal 6 mm
		Recommended wire-end ferrule	<a href="#">H1.0/6</a>
	Cross-section for conductor connection	Type	fine-wired
		nominal	0.25 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 8 mm
		Recommended wire-end ferrule	<a href="#">H0.25/10 HBL</a>
		Stripping length	nominal 5 mm
		Recommended wire-end ferrule	<a href="#">H0.25/5</a>
	Cross-section for conductor connection	Type	fine-wired
		nominal	0.34 mm <sup>2</sup>
	wire end ferrule	Stripping length	nominal 8 mm
		Recommended wire-end ferrule	<a href="#">H0.34/10 TK</a>

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 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.

## Packing

Packaging Box

VPE length 275 mm

VPE width 150 mm

VPE height 105 mm

## Type tests

Test: Durability of markings

Test

mark of origin, type identification, pitch, type of material, approval marking UL, approval marking CSA, durability

Evaluation

available

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Test: Clampable cross section	Standard	DIN EN 60999-1 section 7 and 9.1 / 12.00, DIN EN 60947-1 section 8.2.4.5.1 / 12.02
	Conductor type	Type of conductor and solid 0.2 mm <sup>2</sup> conductor cross-section
		Type of conductor and stranded 0.2 mm <sup>2</sup> conductor cross-section
		Type of conductor and stranded 1.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and solid 2.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and AWG 24/1 conductor cross-section
		Type of conductor and AWG 24/19 conductor cross-section
		Type of conductor and AWG 14/1 conductor cross-section
		Type of conductor and AWG 14/19 conductor cross-section
	Evaluation	passed
Test for damage to and accidental loosening of conductors	Standard	DIN EN 60999-1 section 9.4 / 12.00
	Requirement	0.2 kg
	Conductor type	Type of conductor and stranded 0.25 mm <sup>2</sup> conductor cross-section
		Type of conductor and AWG 24/1 conductor cross-section
		Type of conductor and AWG 24/19 conductor cross-section
	Evaluation	passed
	Requirement	0.3 kg
	Conductor type	Type of conductor and solid 0.5 mm <sup>2</sup> conductor cross-section
	Evaluation	passed
	Requirement	0.4 kg
	Conductor type	Type of conductor and stranded 1.5 mm <sup>2</sup> conductor cross-section
	Evaluation	passed
	Requirement	0.7 kg
	Conductor type	Type of conductor and solid 2.5 mm <sup>2</sup> conductor cross-section
		Type of conductor and AWG 14/1 conductor cross-section
		Type of conductor and AWG 14/19 conductor cross-section
	Evaluation	passed

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## Technical data

Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00
	Requirement	≥10 N
	Conductor type	Type of conductor and stranded 0.25 mm <sup>2</sup> conductor cross-section
		Type of conductor and AWG 24/1 conductor cross-section
		Type of conductor and AWG 24/19 conductor cross-section
	Evaluation	passed
	Requirement	≥20 N
	Requirement	≥40 N
	Conductor type	Type of conductor and H07V-K1.5 conductor cross-section
	Evaluation	passed
	Requirement	≥50 N
	Conductor type	Type of conductor and H07V-U2.5 conductor cross-section
		Type of conductor and AWG 14/1 conductor cross-section
		Type of conductor and AWG 14/19 conductor cross-section
	Evaluation	passed

## 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	<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> <li>Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul>

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## Technical data

## Approvals

Approvals



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

[Modification of the clamping yoke on product families LM 5.0x, LL 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](#)

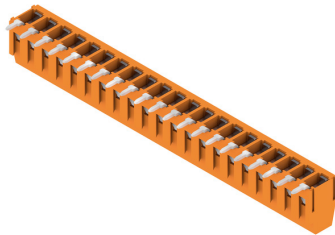
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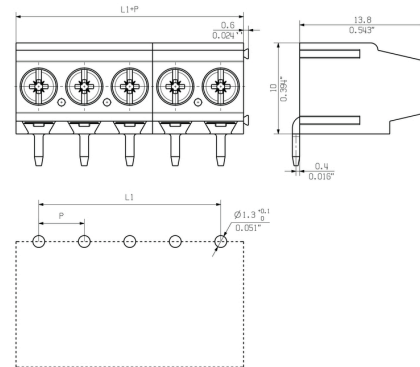
[www.weidmueller.com](http://www.weidmueller.com)

# Drawings

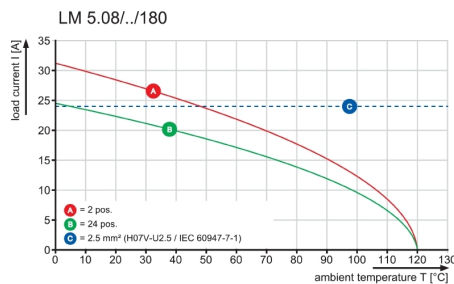
## Product image



## Dimensional drawing



## Graph



Derating curve valid for 5.00 & 5.08 pitch



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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****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.	<a href="#">2749400000</a>	Screwdriver, Blade width (B): 60 mm, Blade thickness (A):
GTIN (EAN)	4050118895629	
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 0.6X3.5X100	Version
Order No.	<a href="#">2749340000</a>	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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[www.weidmueller.com](http://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.	<a href="#">2749810000</a>	Screwdriver, Blade width (B): 3.5 mm, Blade length: 100 mm, Blade
GTIN (EAN)	4050118897012	thickness (A): 0.6 mm
Qty.	1 pc(s).	

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WEIDMUELLER INTERFACE GmbH & Co.KG

MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE  
DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.

09



STIFTLÄNGE L PIN LENGTH L	TOLERANZ TOLERANCE
3.5	0.2 -0.2



24	115.00	4.528	116.84	4.600
23	110.00	4.331	111.76	4.400
22	105.00	4.134	106.68	4.200
21	100.00	3.937	101.60	4.000
20	95.00	3.740	96.52	3.800
19	90.00	3.543	91.44	3.600
18	85.00	3.346	86.36	3.400
17	80.00	3.150	81.28	3.200
16	75.00	2.953	76.20	3.000
15	70.00	2.756	71.12	2.800
14	65.00	2.559	66.04	2.600
13	60.00	2.362	60.96	2.400
12	55.00	2.165	55.88	2.200
11	50.00	1.969	50.80	2.000
10	45.00	1.772	45.72	1.800
9	40.00	1.575	40.64	1.600
8	35.00	1.378	35.56	1.400
7	30.00	1.181	30.48	1.200
6	25.00	0.984	25.40	1.000
5	20.00	0.787	20.32	0.800
4	15.00	0.591	15.24	0.600
3	10.00	0.394	10.16	0.400
2	5.00	0.197	5.08	0.200
N	L1 [mm]	L1 [inch]	L1 [mm]	L1 [inch]
	P=5.00 mm, 0.197inch		P=5.08mm, 0.200 inch	

PCB LAYOUT

KUNDENZEICHNUNG  
CUSTOMER DRAWING

For the mounting of PCBs, it should be noted that the rated data stated in the catalog 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.

GENERAL TOLERANCE: DIN ISO 2768-m		78183/5 24.09.14 MA_J		01	CAT.NO.: .	
RoHS COMPLIANT		MAX. NRN./NOS.		MODIFICATION		
DRAWN		31.03.2005	XU_S		LM 5.../.../180 ... LEITERPLATTENKLEMME PCB TERMINAL	
RESPONSIBLE			GE_G			
CHECKED		25.09.2014	ZHOU_N			
SCALE: 2/1		CHECKED			PRODUCT FILE: LM	
SUPERSEDES: .		APPROVED				
					7065	

C 41709

DRAWING NO. SHEET 01 OF 01 SHEETS

ISSUE NO.

## Recommended wave soldering profiles

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Germany  
Fon: +49 5231 14-0  
Fax: +49 5231 14-292083  
[www.weidmueller.com](http://www.weidmueller.com)

### 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.