

OMNIMATE Power - series LXXX LXXX 15.00/05/90F 4.5SN BK BX

Weidmüller Interface GmbH & Co. KG
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Germany
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Product image



Similar to illustration

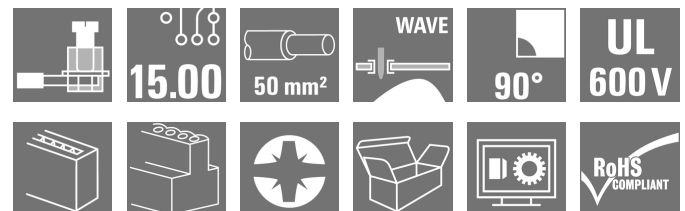
The high-current PCB connection for more power on board: 150 A / 1000 V with wires up to 50 mm², transmitted right to the PCB!

The LXXX 15.0 – with its proven steel clamping-yoke technology in a compact standard housing – integrates the latest market requirements for security, power density and miniaturization in power electronics. It connects these requirements into an efficient solution for the entire value-creation chain – including development, production, installation and maintenance.

The function and form of the application's connection method plays a key role. It influences the application's design, reliability, usability and costs. With the Substitution of

For example, with the replacement of complex constructions involving bolts or bus bars, the PCB can be transformed into a system platform that is both consistent and sustainable into the future – even for high-current applications.

The LXXX 15.0 reduces size and complexity while at the same time improving application integration. In so doing, it fulfils the requirements of power electronics better than the established mechanisms and connection elements.



General ordering data

Type	LXXX 15.00/05/90F 4.5SN BK BX
Order No.	1386290000
Version	Printed circuit board terminals, 15.00 mm, No. of poles: 5, 90°, Solder pin length (l): 4.5 mm, tinned, black, Clamping yoke connection, Clamping range, max. : 50 mm ² , Box
GTIN (EAN)	4050118186178
Qty.	12 pc(s).
Product data	IEC: 1000 V / 150 A / 0.5 - 50 mm ² UL: 600 V / 126 A / AWG 20 - AWG 1
Packaging	Box

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Technical data

Dimensions and weights

Width	105 mm	Width (inches)	4.134 inch
Height	56 mm	Height (inches)	2.205 inch
Height of lowest version	51.5 mm	Depth	31 mm
Depth (inches)	1.22 inch	Net weight	149.88 g

System parameters

Product family	OMNIMATE Power - series LXXX	Wire connection method	Clamping yoke connection
Mounting onto the PCB	THT solder connection	Conductor outlet direction	90°
Pitch in mm (P)	15 mm	Pitch in inches (P)	0.591 inch
No. of poles	5	Fitted by customer	No
Solder pin length (l)	4.5 mm	Solder pin dimensions	1.2 x 1.2 mm
Solder eyelet hole diameter (D)	1.6 mm	Solder eyelet hole diameter tolerance (D)+	0,1 mm
Number of solder pins per pole	4	Screwdriver blade	1.2 x 6.5
Screwdriver blade standard	DIN 5264	Tightening torque, min.	2.5 Nm
Tightening torque, max.	4 Nm	Clamping screw	M 6
Stripping length	18 mm	L1 in mm	60 mm
L1 in inches	2.363 inch		

Material data

Insulating material	Wemid (PA)	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	I
CTI	≥ 600	Insulation strength	≥ 10 ⁸ Ω
UL 94 flammability rating	V-0	GWIT	960 °C
GWFI	960 °C	Contact material	Copper alloy
Contact surface	tinned	Layer structure of solder connection	1.5-3 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.	0.5 mm ²
Clamping range, max.	50 mm ²
Wire connection cross section AWG, min.	AWG 20
Wire connection cross section AWG, max.	AWG 1
Solid, min. H05(07) V-U	0.5 mm ²
Solid, max. H05(07) V-U	16 mm ²
Stranded, min. H07V-R	6 mm ²
Stranded, max. H07V-R	50 mm ²
Flexible, min. H05(07) V-K	0.5 mm ²
Flexible, max. H05(07) V-K	35 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, 0.5 mm ² min.	
w. plastic collar ferrule, DIN 46228 pt 4, 35 mm ² max.	
w. wire end ferrule, DIN 46228 pt 1, min 0.5 mm ²	
w. wire end ferrule, DIN 46228 pt 1, 35 mm ² max.	

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Technical data

Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	2.5 mm ²	
AEH		Stripping length	nominal	20 mm
		Stripping length	nominal	18 mm
Cross-section for conductor connection		Type	fine-wired	
		nominal	4 mm ²	
AEH		Stripping length	nominal	20 mm
		Stripping length	nominal	18 mm
Cross-section for conductor connection		Type	fine-wired	
		nominal	6 mm ²	
AEH		Stripping length	nominal	20 mm
		Stripping length	nominal	18 mm
Cross-section for conductor connection		Type	fine-wired	
		nominal	10 mm ²	
AEH		Stripping length	nominal	21 mm
		Stripping length	nominal	18 mm
Cross-section for conductor connection		Type	fine-wired	
		nominal	16 mm ²	
AEH		Stripping length	nominal	21 mm
		Stripping length	nominal	18 mm
Cross-section for conductor connection		Type	fine-wired	
		nominal	1.5 mm ²	
AEH		Stripping length	nominal	20 mm
		Stripping length	nominal	18 mm
Cross-section for conductor connection		Type	fine-wired	
		nominal	35 mm ²	
AEH		Stripping length	nominal	19 mm
		Stripping length	nominal	18 mm
Cross-section for conductor connection		Type	fine-wired	
		nominal	50 mm ²	
AEH		Stripping length	nominal	18 mm

Max. clamping range 50 mm²

Rated data acc. to IEC

tested acc. to standard	IEC 60664-1, IEC 61984	Rated current, min. no. of poles (Tu=20°C)	150 A
Rated current, min. no. of poles (Tu=40°C)	150 A	Rated voltage for surge voltage class / pollution degree II/2	1,000 V
Rated voltage for surge voltage class / pollution degree III/2	1,000 V	Rated voltage for surge voltage class / pollution degree III/3	1,000 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	8 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	8 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	8 kV		

Rated data acc. to CSA

Rated voltage (Use group B / CSA)	600 V	Rated voltage (Use group C / CSA)	600 V
Rated voltage (Use group D / CSA)	600 V	Rated current (Use group B / CSA)	127 A
Rated current (Use group C / CSA)	127 A	Rated current (Use group D / CSA)	5 A
Wire cross-section, AWG, min.	AWG 20	Wire cross-section, AWG, max.	AWG 1

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Technical data
Rated data acc. to UL 1059

Institute (UR)



Certificate No. (UR)

E60693

Rated voltage (Use group B / UL 1059) 600 V

Rated voltage (Use group C / UL 1059) 600 V

Rated current (Use group B / UL 1059) 126 A

Rated current (Use group C / UL 1059) 126 A

Wire cross-section, AWG, min. AWG 20

Wire cross-section, AWG, max. AWG 1

Reference to approval values

 Specifications are
 maximum values, details -
 see approval certificate.

Packing

Packaging Box

VPE length 60 mm

VPE width 135 mm

VPE height 355 mm

Classifications

ETIM 3.0 EC001284

ETIM 4.0 EC002643

ETIM 5.0 EC002643

ETIM 6.0 EC002643

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

Notes

Notes

- Additional colours on request
- 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.
- IP 20 from 16 mm² to 50 mm²
- The test point can only be used as potential-pickup point.
- Wire-end ferrules are mandatory for stranded wires with more than 19 strands.

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.

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Technical data**Approvals**

Approvals



ROHS

Conform

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

Brochure/Catalogue

[FL DRIVES EN](#)
[MB DEVICE MANUF. EN](#)
[FL DRIVES DE](#)
[CAT 2 PORTFOLIOGUIDE EN](#)
[FL APPL. INVERTER EN](#)
[FL_BASE_STATION_EN](#)
[FL ELEVATOR EN](#)
[FL POWER SUPPLY EN](#)
[FL 72H SAMPLE SER EN](#)
[PO OMNIMATE EN](#)

Engineering Data

[EPLAN, WSCAD](#)

Engineering Data

[STEP](#)

Motion controllers white paper

[Download Whitepaper](#)

User Documentation

[QR-Code product handling video](#)

White Paper UL 600 V

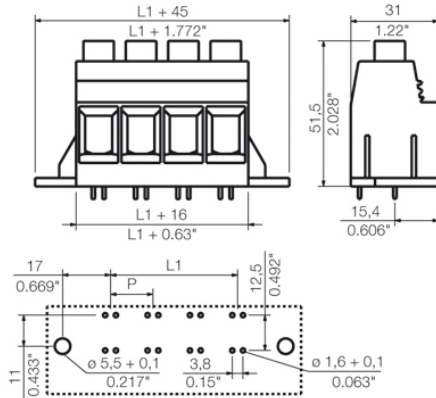
[Download Whitepaper](#)

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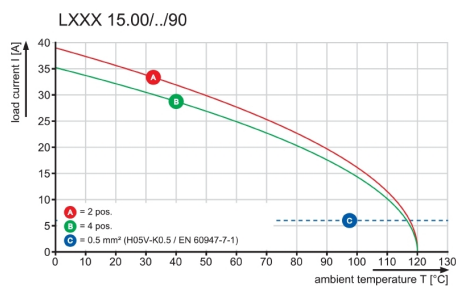
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Drawings

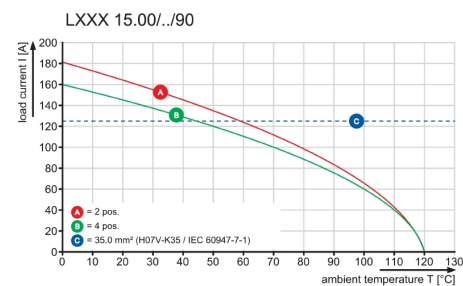
Dimensional drawing



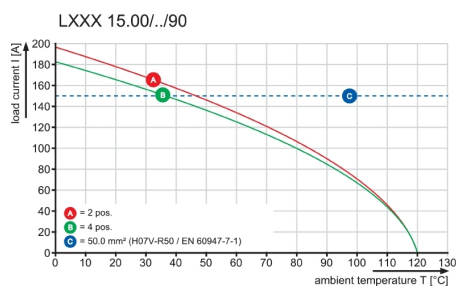
Graph



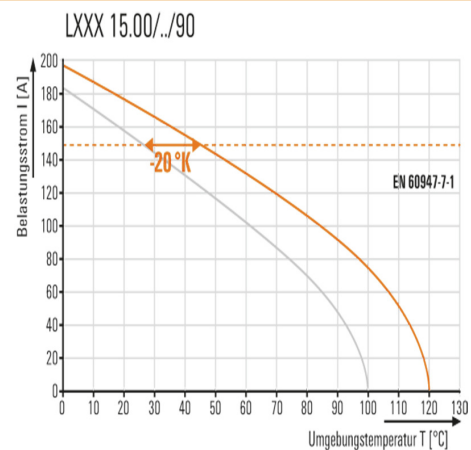
Graph



Graph



Product benefits



Increased power reserves
Optimised application safety

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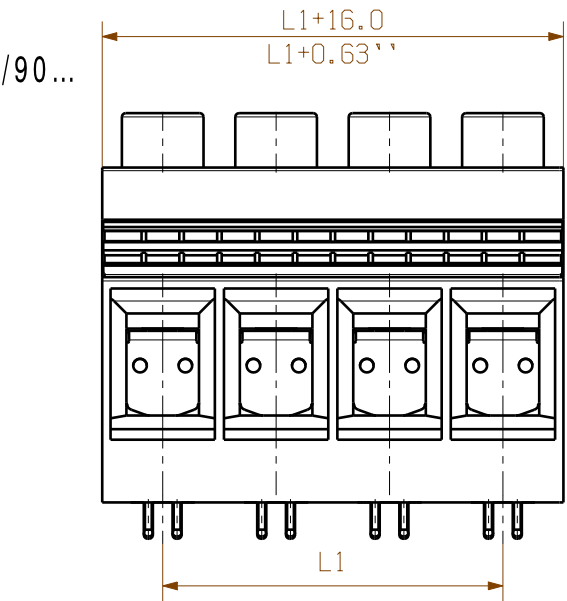
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Drawings

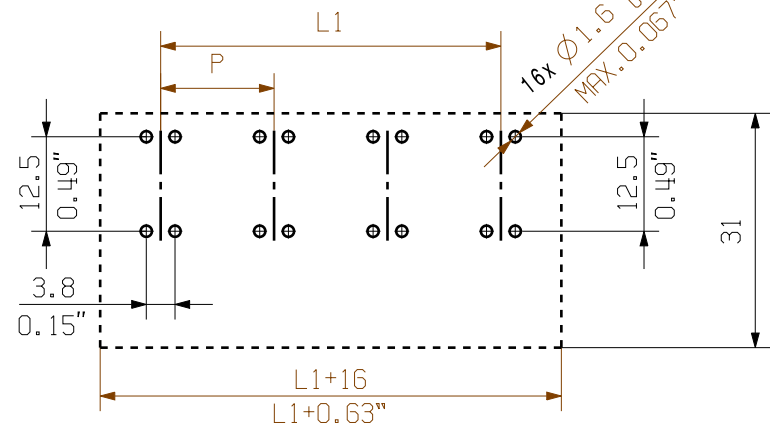


Standard-compliant integration

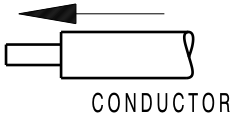
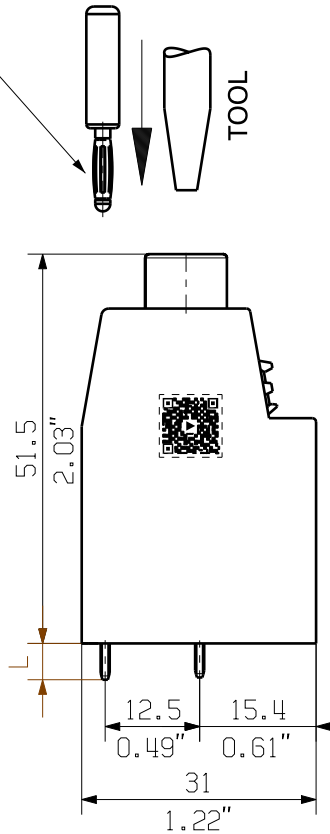
LXXX 15.00/04/90...



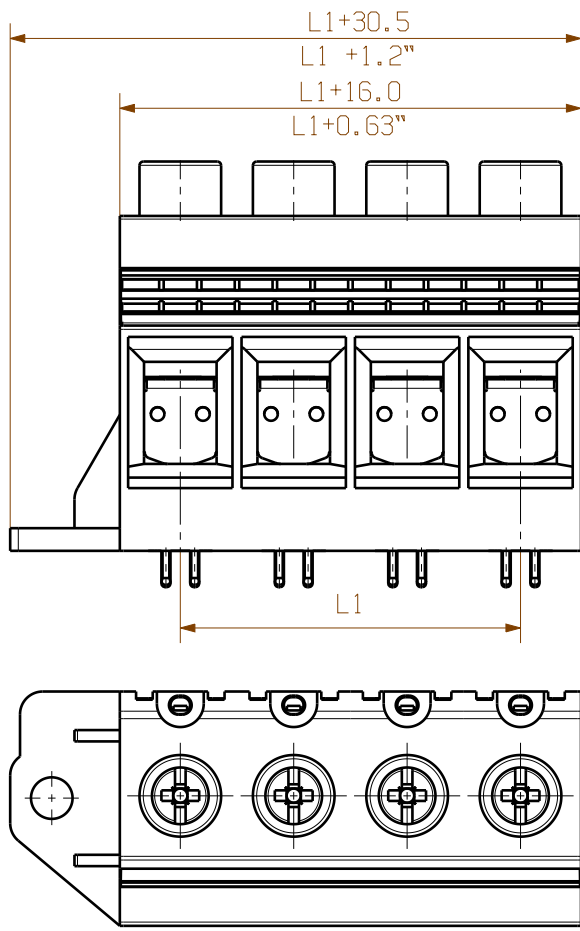
HOLE PATTERN



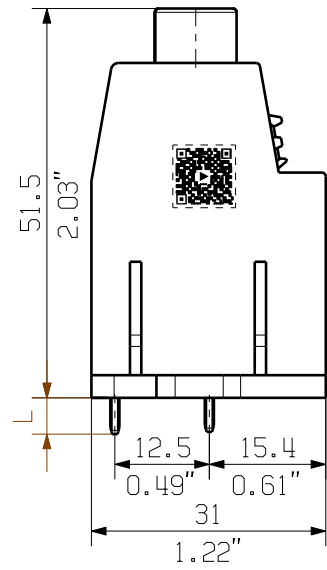
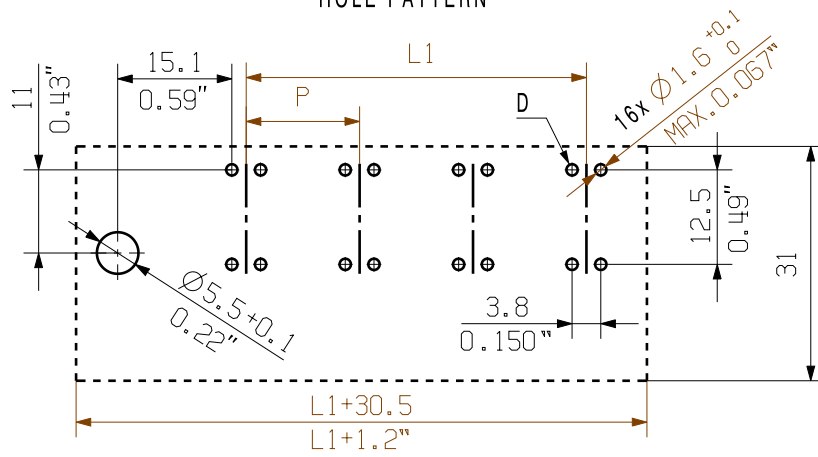
TEST PLUG PS 2.0
ORDER NO. 031000 0000



LXXX 15.00/04/90FL...

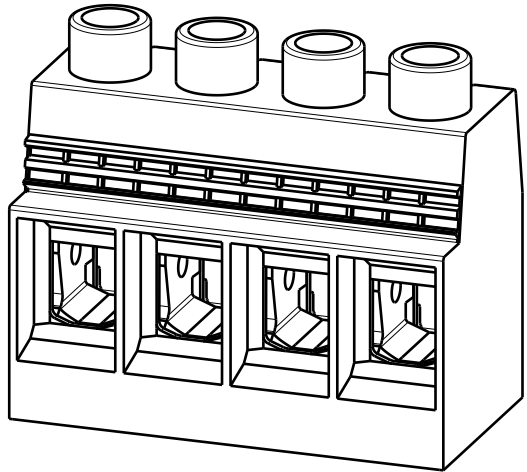


HOLE PATTERN



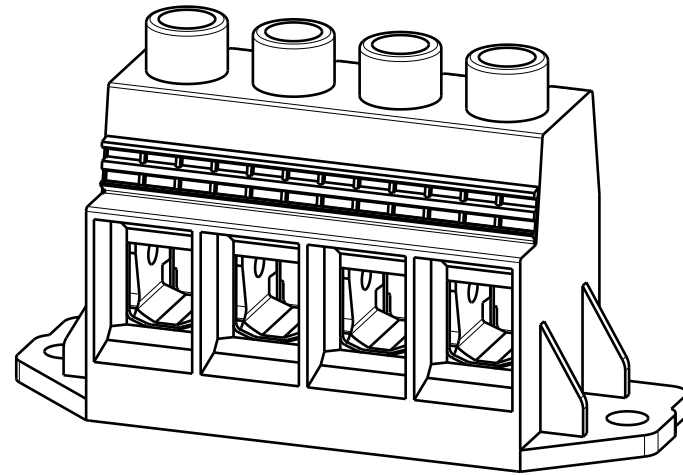
LXXX 15.00/04/90...

M 1:1



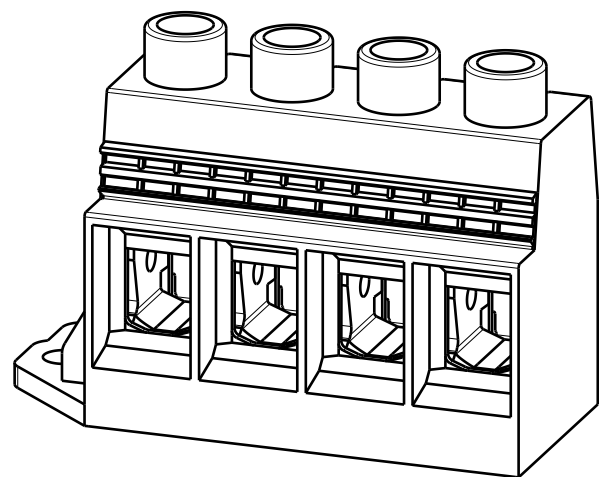
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M 1:1



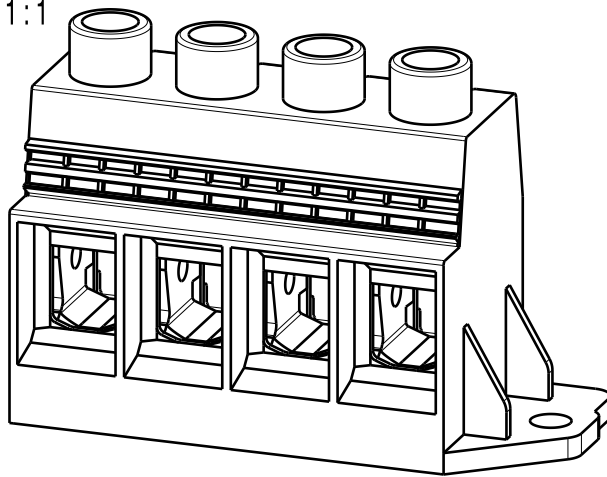
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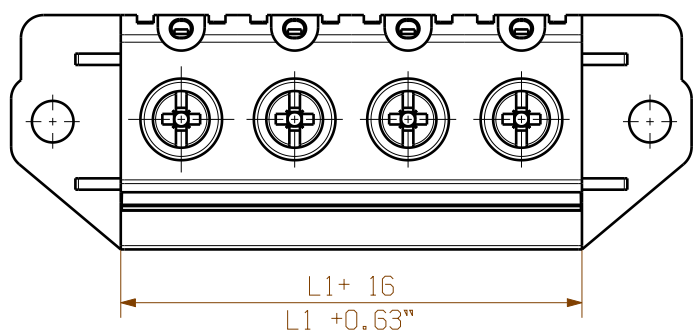
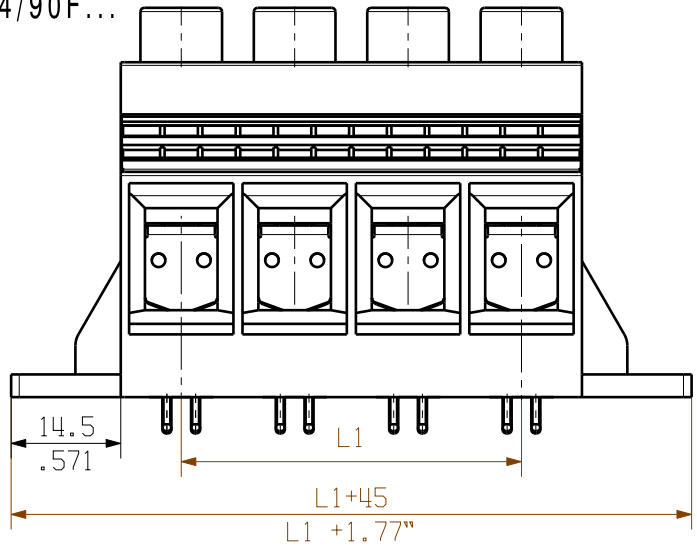


LXXX 15.00/04/90FR...

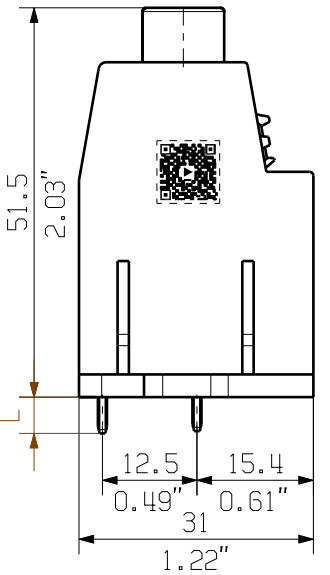
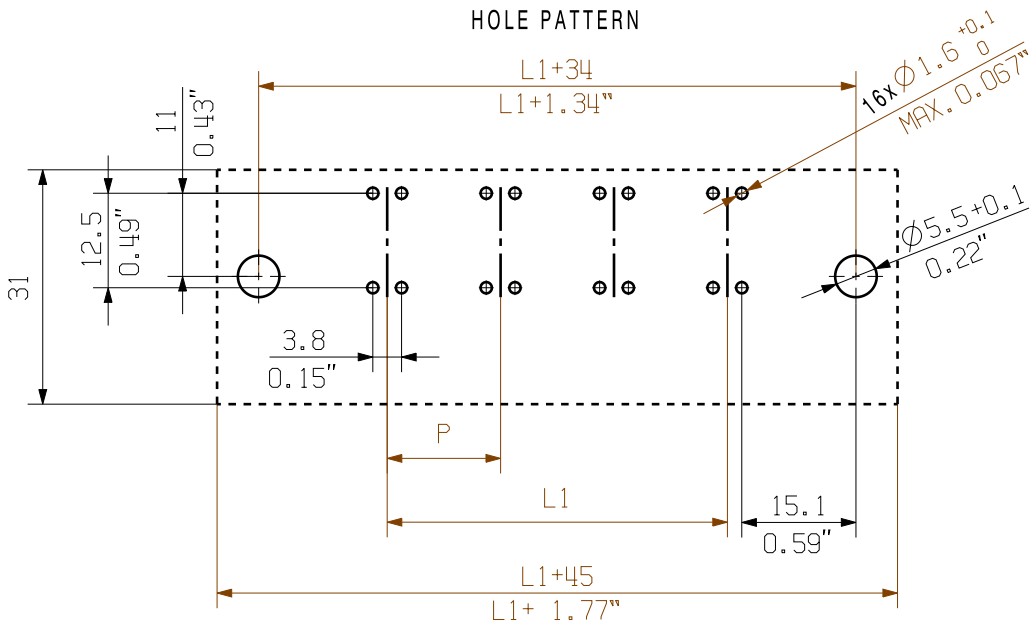
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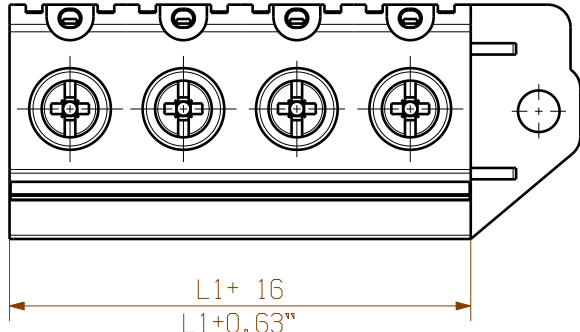
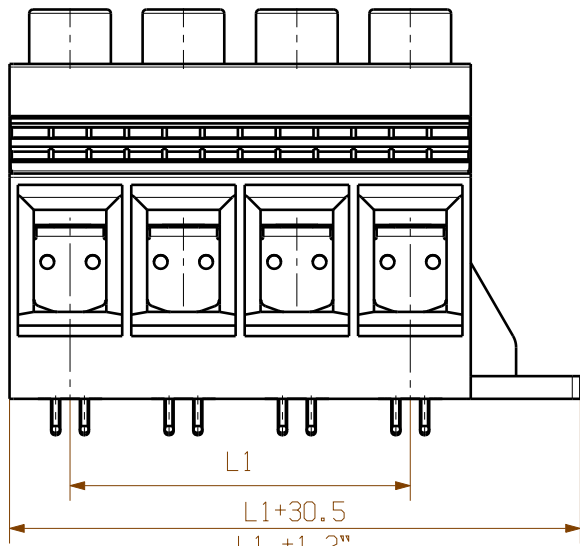
LXXX 15.00/04/90F...



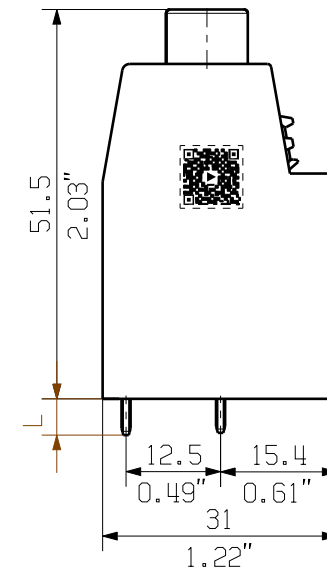
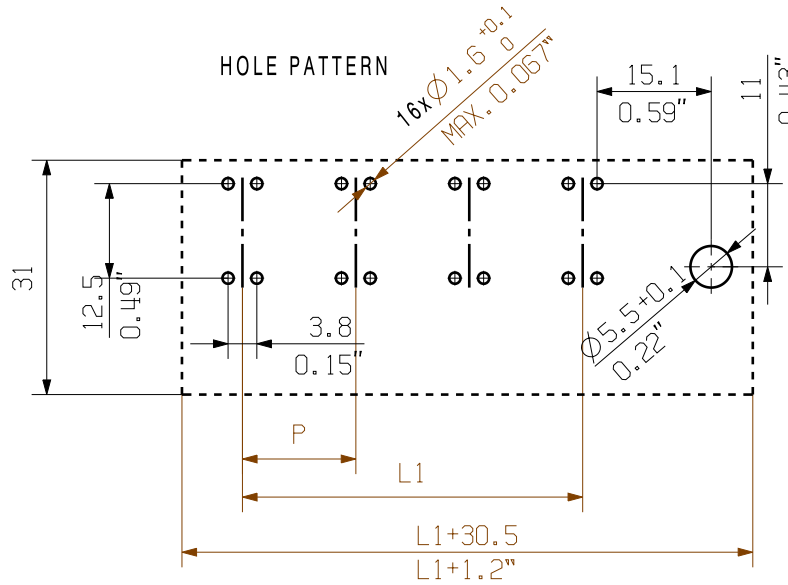
HOLE PATTERN



LXXX 15.00/04/90FR...



HOLE PATTERN



n = No. of poles
L = 4.8⁺⁰_{-0.35}
P = Pitch

For the mounting of PCBs, it should be noted that the rated data 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 60664-1 (VDE 0110). The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 60326-3 very fine. Weidmüller PCB components are tested to the IEC 60947-7-4 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.

9	120	1.372
8	105	1.313
7	90	1.254
6	75	1.195
5	60	1.136
4	45	1.77
3	30	1.18
2	15	0.59
n	L1[mm]	L1[inch]

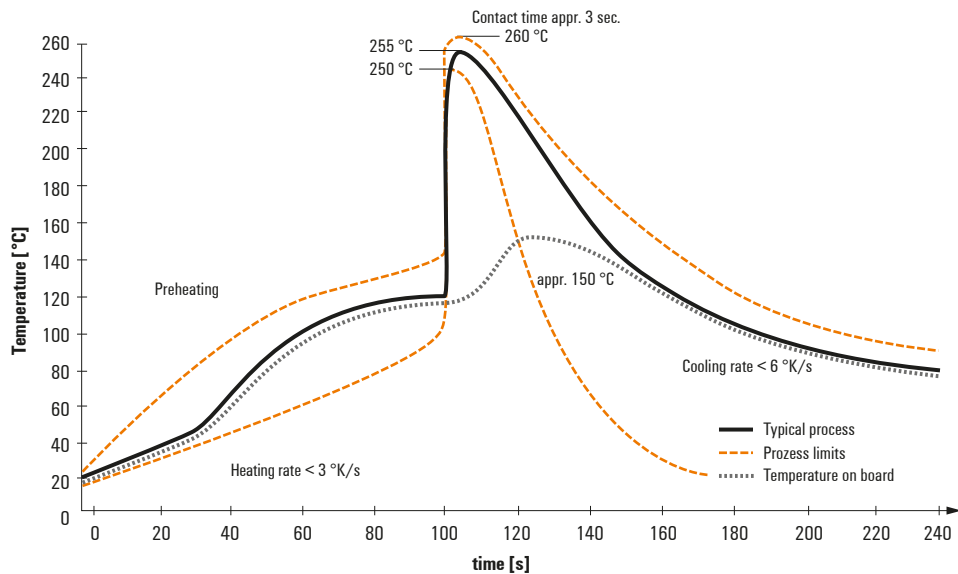
GENERAL TOLERANCE:
DIN ISO 2768-m

	EC00000683		00	Prim PLM Part No.: 004587			Prim ERP Part No.: 1047150000		
	First Issue Date 14.05.2018		Max. nos.			46279			
			Modification						
			Date	Name	LXXX 15.00/.../90... LEITERPLATTENKLEMME PCB TERMINAL				
		Drawn	03.12.2018	Xiang, Kegin					
		Responsible		Xiang, Kegin					
		Approved	04.12.2018	Xu, Shary					
Scale: 1/1		Size: A2		Product file: 7082 LXXX 15.00					
Drawings Assembly									

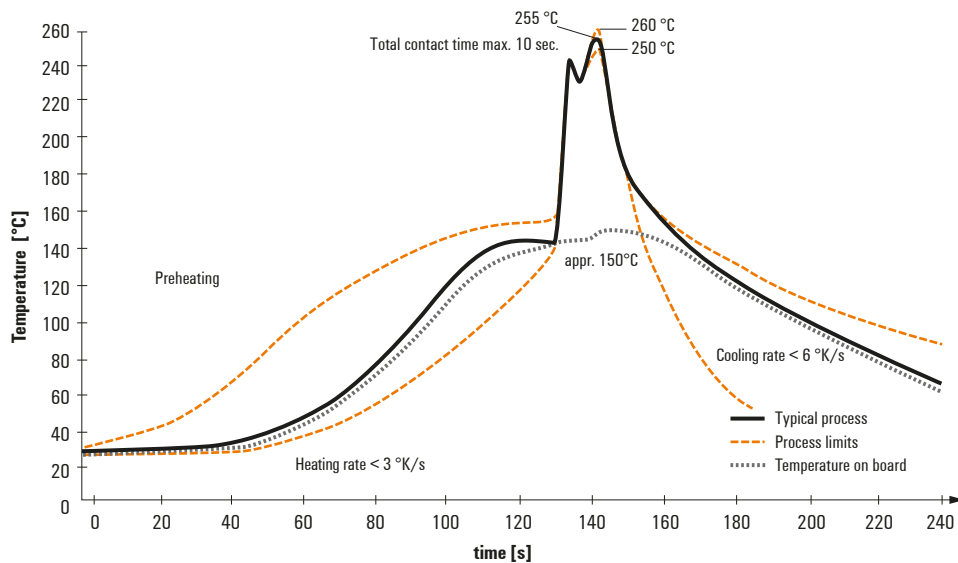
Recommended wave soldering profiles

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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.