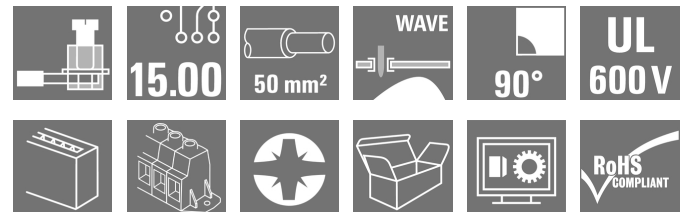


## LXXX 15.00/09/90FR 4.5SN GY BX

**Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany

www.weidmueller.com

### Product image



The high-current PCB connection for more power on board: 150 A / 1000 V with wires up to 50 mm<sup>2</sup>, 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

Version	Printed circuit board terminals, 15.00 mm, Number of poles: 9, 90°, Solder pin length (l): 4.5 mm, tinned, Pebble grey, Clamping yoke connection, Clamping range, max. : 50 mm <sup>2</sup> , Box
Order No.	<a href="#">1386990000</a>
Type	LXXX 15.00/09/90FR 4.5SN GY BX
GTIN (EAN)	4050118187540
Qty.	8 pc(s).
Product data	IEC: 1000 V / 150 A / 0.5 - 50 mm <sup>2</sup> UL: 600 V / 126 A / AWG 20 - AWG 1
Packaging	Box

**LXXX 15.00/09/90FR 4.5SN GY BX**
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**Technical data**
**Dimensions and weights**

Depth	31 mm	Depth (inches)	1.22 inch
Height	56 mm	Height (inches)	2.205 inch
Height of lowest version	51.5 mm	Width	150.5 mm
Width (inches)	5.925 inch	Net weight	276 g

**Temperatures**

Operating temperature, min.	-50 °C	Operating temperature, max.	120 °C
-----------------------------	--------	-----------------------------	--------

**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
Number of poles	9	Pin series quantity	1
Fitted by customer	No	Number of rows	1
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	120 mm
L1 in inches	4.727 inch	Touch-safe protection acc. to DIN VDE 0470	IP 20
Protection degree	IP20		

**Material data**

Insulating material	Wemid (PA)	Colour	Pebble grey
Colour chart (similar)	RAL 7032	Insulating material group	I
Comparative Tracking Index (CTI)	≥ 600	UL 94 flammability rating	V-0
Contact material	Copper alloy	Contact surface	tinned
Coating	4-6 µm SN	Layer structure of solder connection	1.5...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.	0.5 mm <sup>2</sup>
Clamping range, max.	50 mm <sup>2</sup>
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 <sup>2</sup>
Solid, max. H05(07) V-U	16 mm <sup>2</sup>
Stranded, min. H07V-R	6 mm <sup>2</sup>
Stranded, max. H07V-R	50 mm <sup>2</sup>
Flexible, min. H05(07) V-K	0.5 mm <sup>2</sup>
Flexible, max. H05(07) V-K	35 mm <sup>2</sup>
w. plastic collar ferrule, DIN 46228 pt 4, 0.5 mm <sup>2</sup> min.	

Creation date March 8, 2023 10:37:32 AM CET

Catalogue status 03.03.2023 / We reserve the right to make technical changes.

**Data sheet****LXXX 15.00/09/90FR 4.5SN GY BX****Weidmüller Interface GmbH & Co. KG**  
Klingenbergstraße 26  
D-32758 Detmold  
Germany[www.weidmueller.com](http://www.weidmueller.com)**Technical data**

---

w. plastic collar ferrule, DIN 46228 pt 4, 35 mm<sup>2</sup>  
max.

---

w. wire end ferrule, DIN 46228 pt 1, 0.5 mm<sup>2</sup>  
min.

---

w. wire end ferrule, DIN 46228 pt 1, 35 mm<sup>2</sup>  
max.

**LXXX 15.00/09/90FR 4.5SN GY BX**

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**Technical data**

Clampable conductor	Cross-section for conductor connection	Type	fine-wired	
		nominal	2.5 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	20 mm
		Recommended wire-end ferrule	<a href="#">H2.5/25D BL</a>	
		Stripping length	nominal	18 mm
		Recommended wire-end ferrule	<a href="#">H2.5/18</a>	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	4 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	20 mm
		Recommended wire-end ferrule	<a href="#">H4.0/26D GR</a>	
		Stripping length	nominal	18 mm
		Recommended wire-end ferrule	<a href="#">H4.0/18</a>	
	Cross-section for conductor connection	Type	fine-wired	
		nominal	6 mm <sup>2</sup>	
	wire end ferrule	Stripping length	nominal	20 mm
		Recommended wire-end ferrule	<a href="#">H6.0/26 SW</a>	
		Stripping length	nominal	18 mm
		Recommended wire-end ferrule	<a href="#">H6.0/18</a>	
Cross-section for conductor connection	Type	fine-wired		
	nominal	10 mm <sup>2</sup>		
wire end ferrule	Stripping length	nominal	21 mm	
	Recommended wire-end ferrule	<a href="#">H10.0/28 EB</a>		
	Stripping length	nominal	18 mm	
	Recommended wire-end ferrule	<a href="#">H10.0/18</a>		
Cross-section for conductor connection	Type	fine-wired		
	nominal	16 mm <sup>2</sup>		
wire end ferrule	Stripping length	nominal	21 mm	
	Recommended wire-end ferrule	<a href="#">H16.0/28 GN</a>		
	Stripping length	nominal	18 mm	
	Recommended wire-end ferrule	<a href="#">H16.0/18</a>		
Cross-section for conductor connection	Type	fine-wired		
	nominal	1.5 mm <sup>2</sup>		
wire end ferrule	Stripping length	nominal	20 mm	
	Recommended wire-end ferrule	<a href="#">H1.5/24 R</a>		
	Stripping length	nominal	18 mm	
	Recommended wire-end ferrule	<a href="#">H1.5/18</a>		
Cross-section for conductor connection	Type	fine-wired		
	nominal	35 mm <sup>2</sup>		
wire end ferrule	Stripping length	nominal	19 mm	
	Recommended wire-end ferrule	<a href="#">H35.0/32D R</a>		
	Stripping length	nominal	18 mm	
	Recommended wire-end ferrule	<a href="#">H35.0/18</a>		
Cross-section for conductor connection	Type	fine-wired		
	nominal	50 mm <sup>2</sup>		
wire end ferrule	Stripping length	nominal	18 mm	
	Recommended wire-end ferrule	<a href="#">H50.0/18</a>		

## LXXX 15.00/09/90FR 4.5SN GY BX

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## Technical data

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, min. number of poles (Tu=20°C)	150 A
Rated current, min. number 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

### 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	338 mm
VPE width	130 mm	VPE height	54 mm

### Type tests

Test: Durability of markings	Test	mark of origin, type identification, type of material, pitch, date clock, approval marking CSA, approval marking UL, durability
	Evaluation	available

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**Technical data**

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 conductor cross-section	solid 0.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	stranded 0.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	solid 16 mm <sup>2</sup>
		Type of conductor and conductor cross-section	AWG 20/1
		Type of conductor and conductor cross-section	AWG 20/19
		Type of conductor and conductor cross-section	AWG 10/1
	Evaluation	passed	
Test for damage to and accidental loosening of conductors	Standard	DIN EN 60999-1 section 9.5 / 12.00	
	Requirement	0.3 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	stranded 0.5 mm <sup>2</sup>
		Type of conductor and conductor cross-section	AWG 20/1
		Type of conductor and conductor cross-section	AWG 20/19
	Evaluation	passed	
	Requirement	1.4 kg	
	Conductor type	Type of conductor and conductor cross-section	AWG 10/1
	Evaluation	passed	
	Requirement	2.0 kg	
	Conductor type	Type of conductor and conductor cross-section	stranded 10 mm <sup>2</sup>
Evaluation	passed		

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**Technical data**

Pull-out test	Standard	DIN EN 60999 section 8.5 / 04.94		
	Requirement	≥20 N		
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm <sup>2</sup>	
		Type of conductor and conductor cross-section	stranded 0.5 mm <sup>2</sup>	
		Type of conductor and conductor cross-section	AWG 20/1	
		Type of conductor and conductor cross-section	AWG 20/19	
	Evaluation	passed		
	Requirement	≥80 N		
	Conductor type	Type of conductor and conductor cross-section	AWG 10/1	
		Evaluation	passed	
	Requirement	≥ 90N		
	Conductor type	Type of conductor and conductor cross-section	stranded 10 mm <sup>2</sup>	
		Evaluation	passed	

**Classifications**

ETIM 6.0	EC002643	ETIM 7.0	EC002643
ETIM 8.0	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

**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
- Additional variants 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 mm<sup>2</sup> to 50 mm<sup>2</sup>
  - The test point can only be used as potential-pickup point.
  - Wire-end ferrules are mandatory for stranded wires with more than 19 strands.
  - Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

**Data sheet**

**LXXX 15.00/09/90FR 4.5SN GY BX**

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**Technical data**

**Approvals**

Approvals



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

**Downloads**

Approval/Certificate/Document of Conformity	<a href="#">Declaration of the Manufacturer</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Engineering Data	<a href="#">WSCAD</a>
User Documentation	<a href="#">QR-Code product handling video</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	<a href="#">FL DRIVES EN</a>
	<a href="#">MB DEVICE MANUF. EN</a>
	<a href="#">FL DRIVES DE</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>



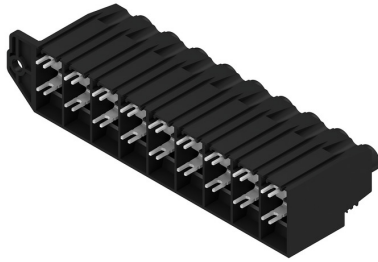
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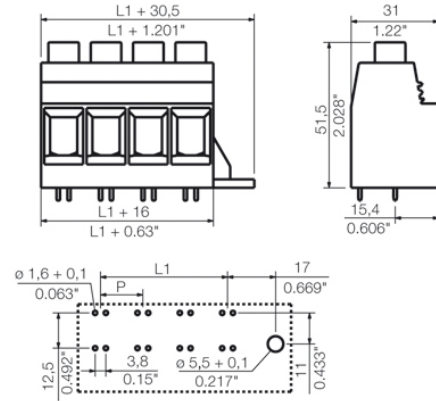
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**Drawings**

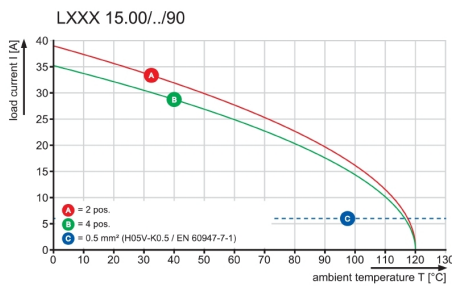
**Product image**



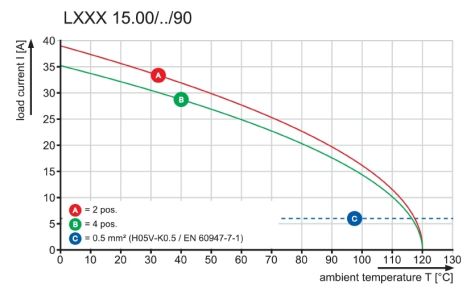
**Dimensional drawing**



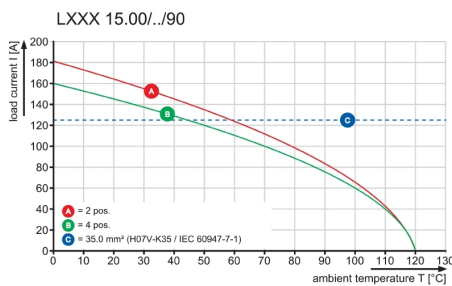
**Graph**



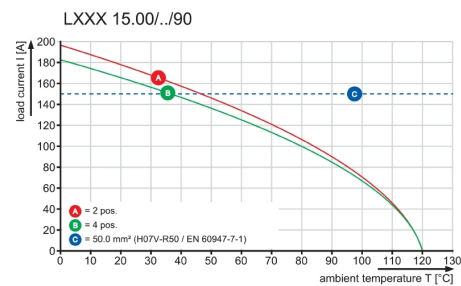
**Graph**



**Graph**



**Graph**



Increased power reserves  
 Optimised application safety

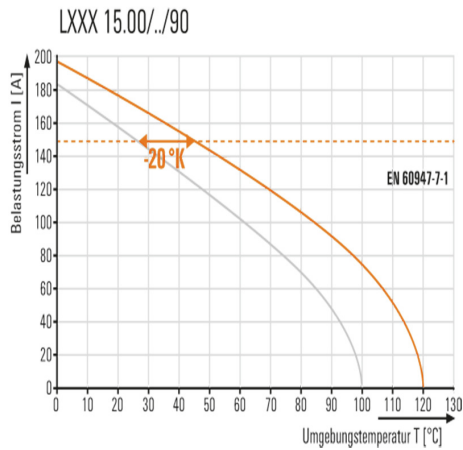
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**Drawings**

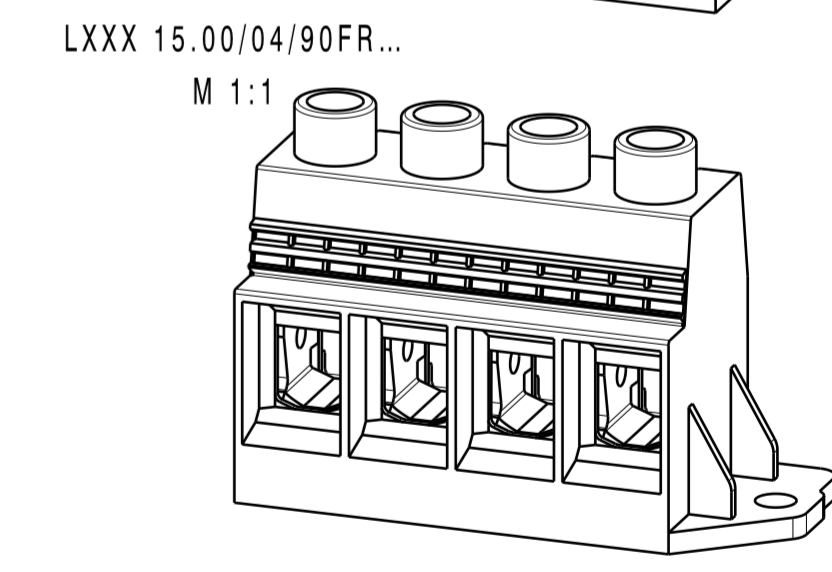
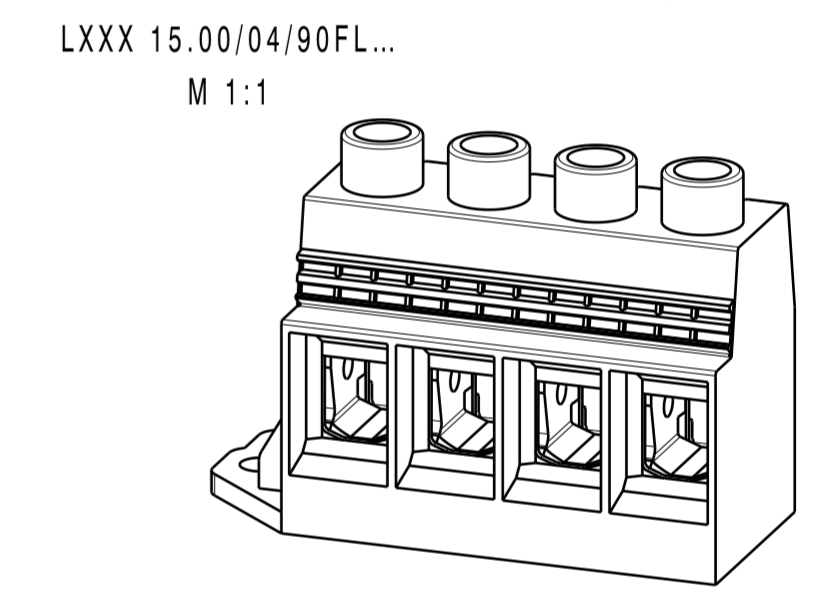
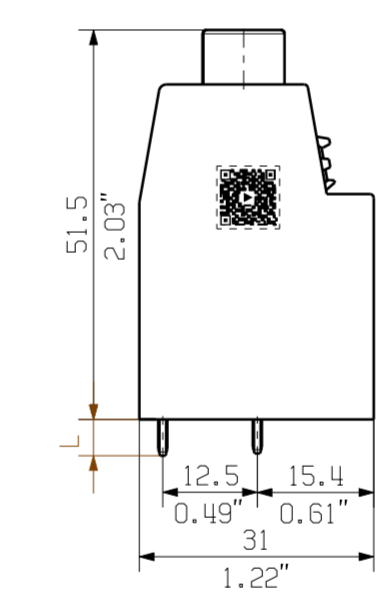
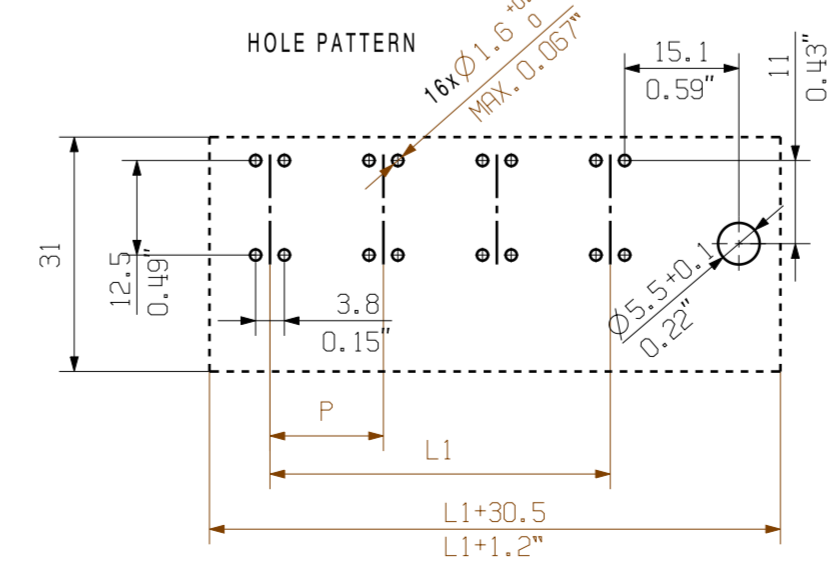
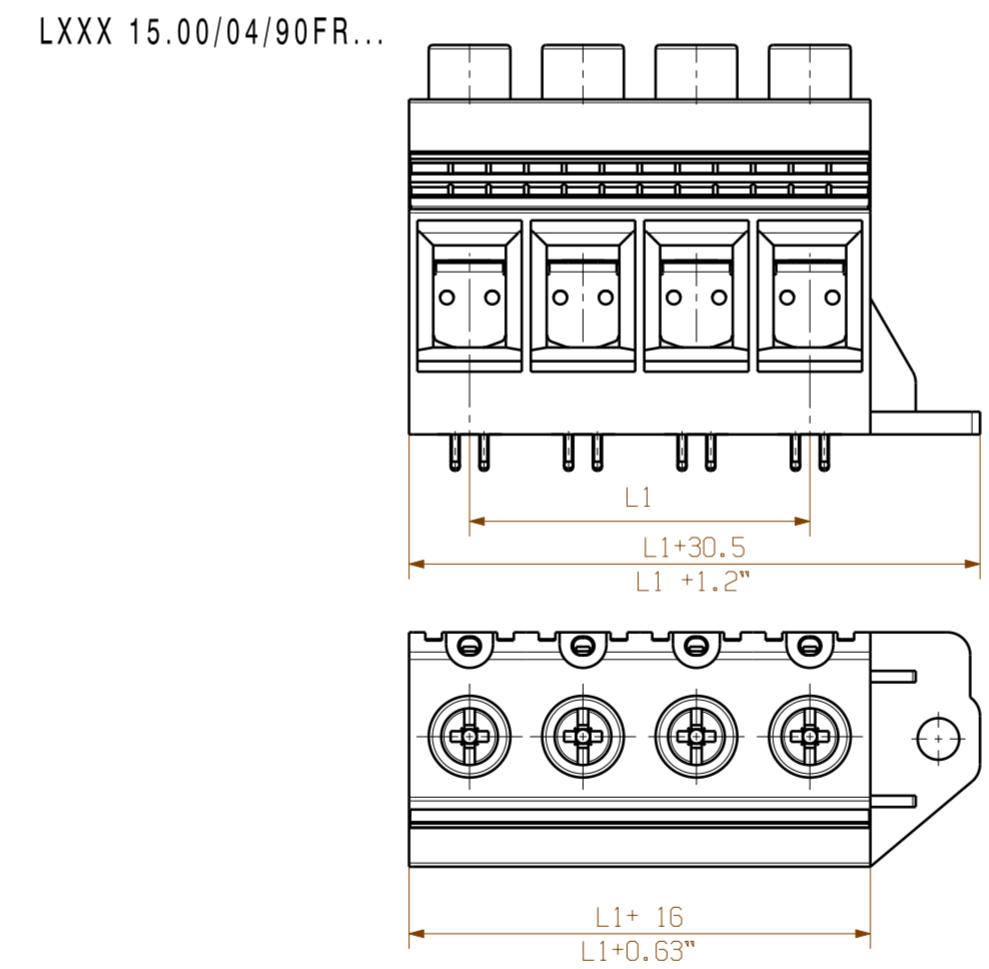
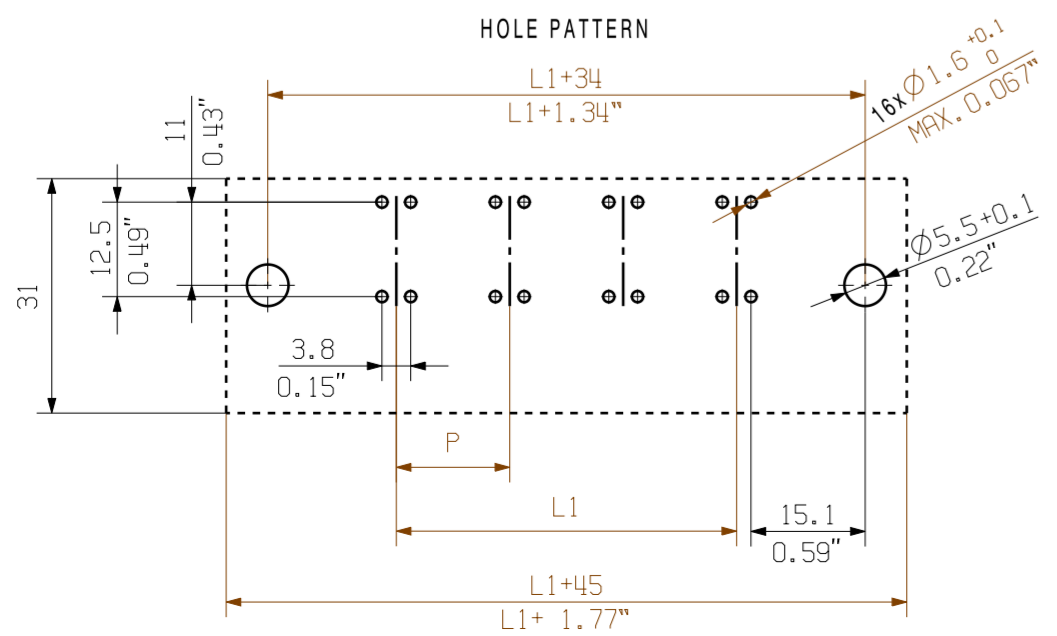
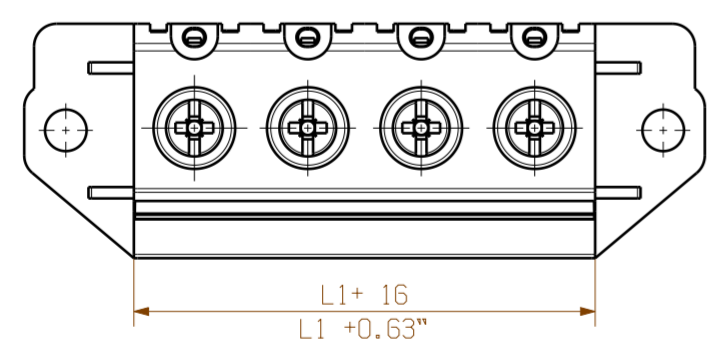
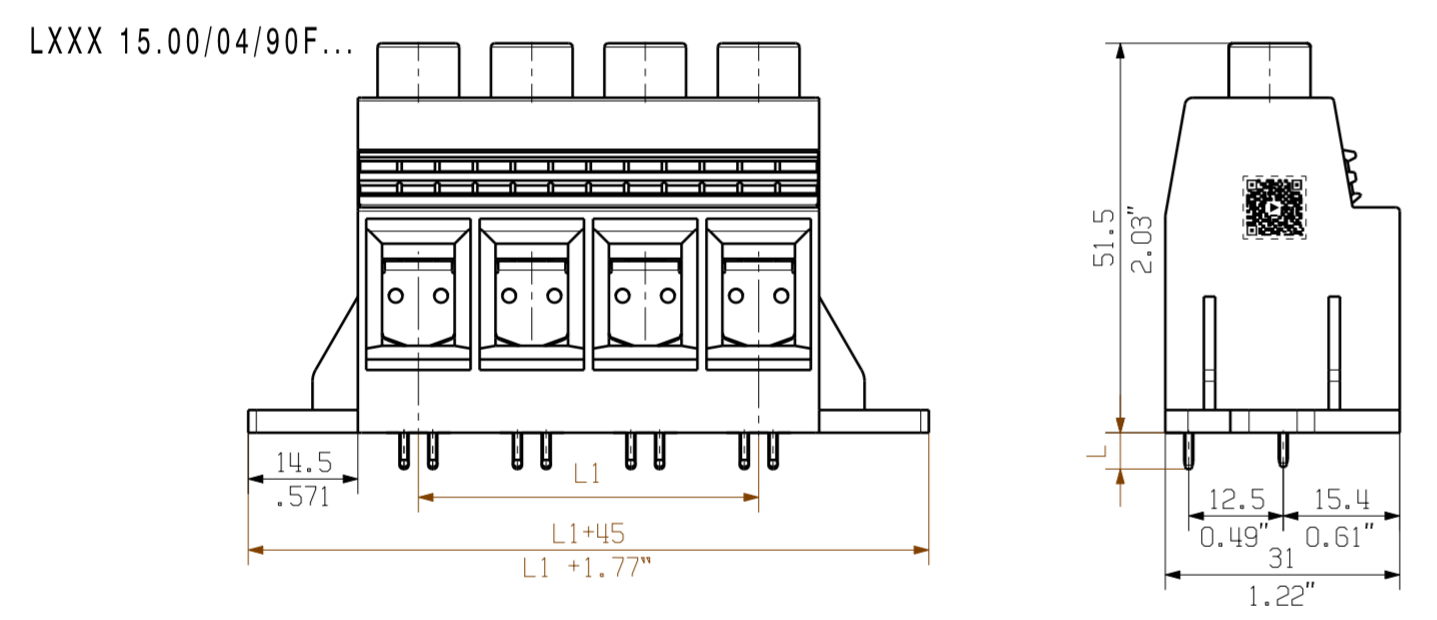
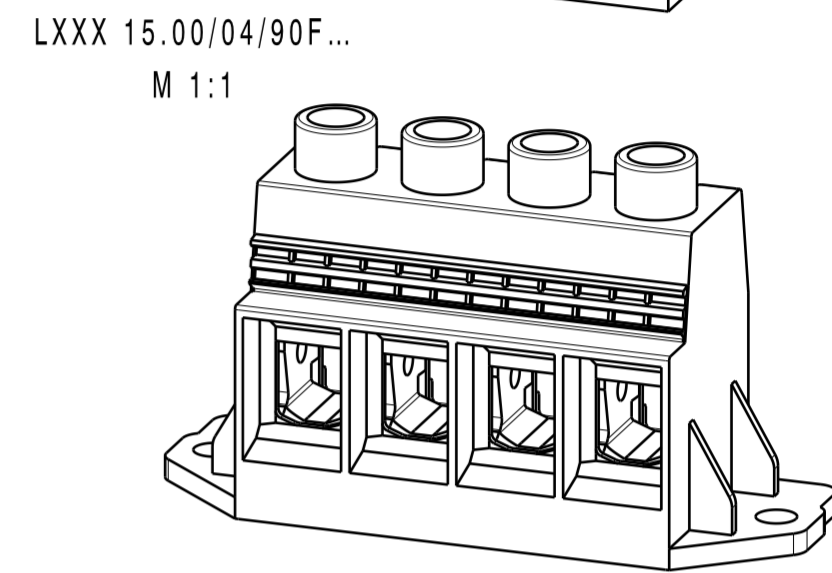
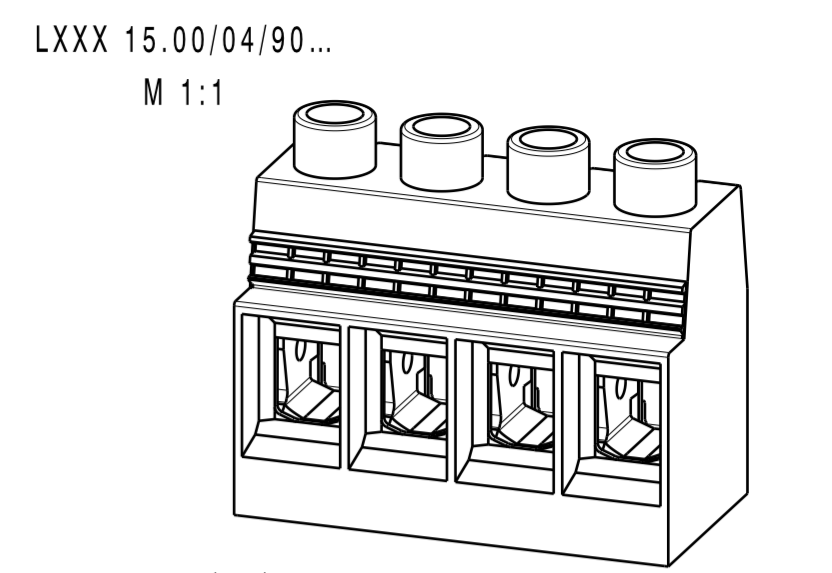
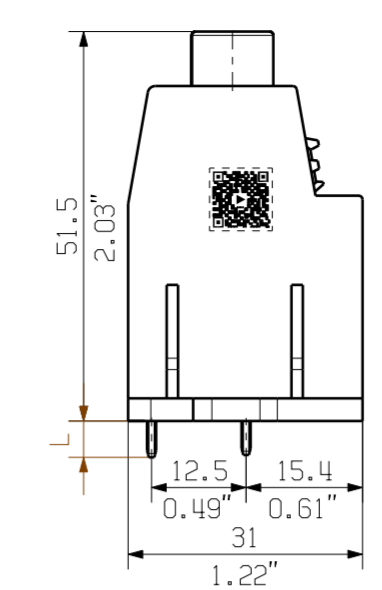
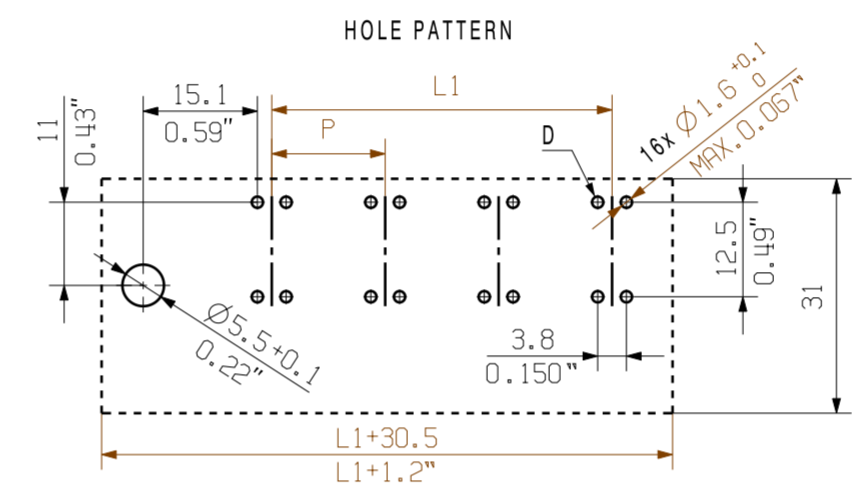
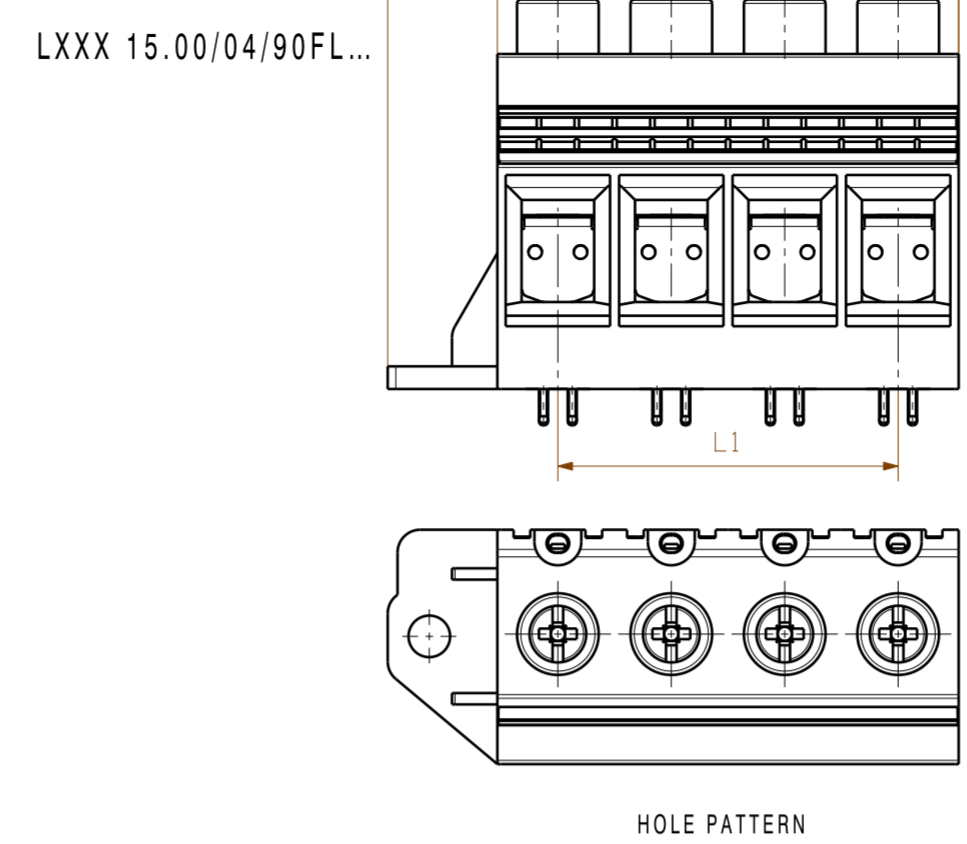
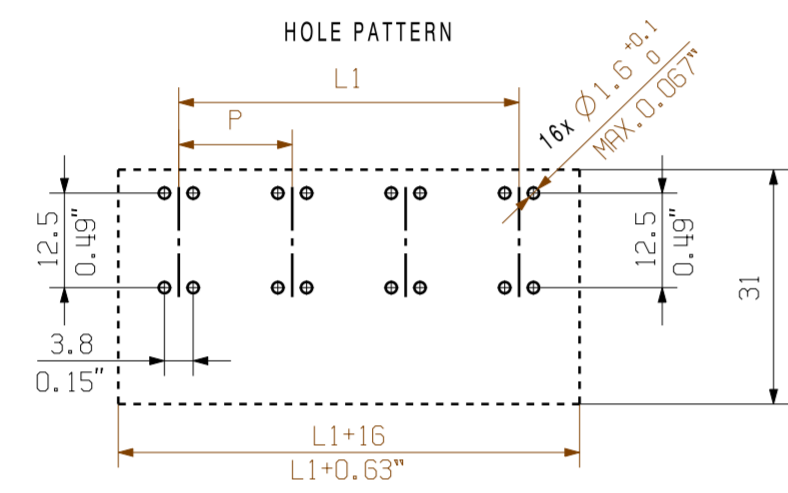
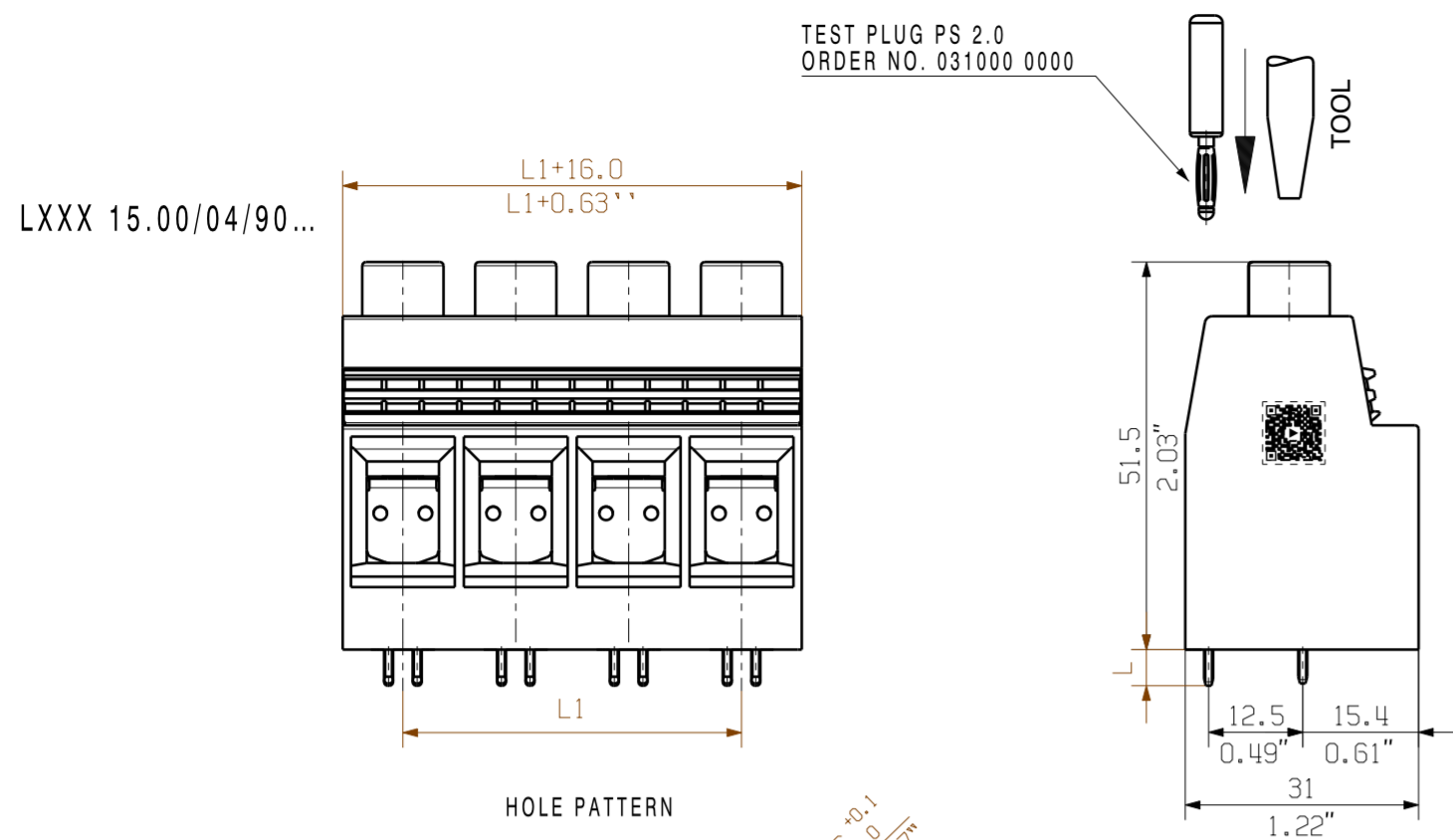
**Product benefits**



Increased power reserves  
 Optimised application safety



Standard-compliant integration



n = No. of poles  
L =  $4.8^{+0.35}_0$   
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]

Customer drawing

**GENERAL TOLERANCE:**  
DIN ISO 2768-m

EC00000683	00	Prim PLM Part No.: 004587	Prim ERP Part No.: 1047150000	
RoHS COMPLIANT	Max. nos.	<b>Weidmüller</b>		
First Issue Date 14.05.2018	Modification			
	Date	Name	<b>46279</b>	
Drawn	03.12.2018	Xiang, Keqin		
Responsible		Xiang, Keqin		
Scale: 1/1	Size: A2	Approved	04.12.2018	Xu, Shary
Drawings Assembly		Product file: 7082 LXXX 15.00		

LXXX 15.00/.../90...  
LEITERPLATTENKLEMME  
PCB TERMINAL

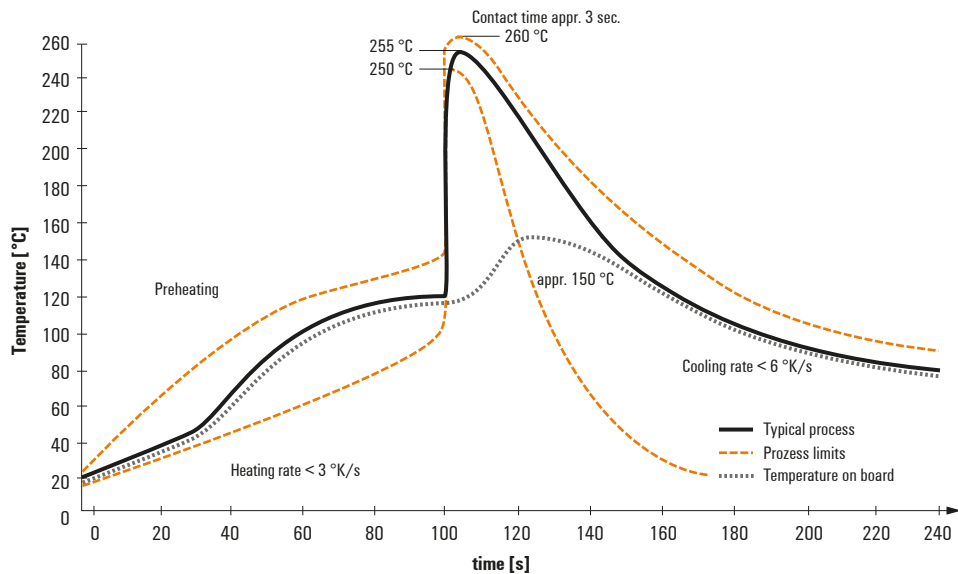
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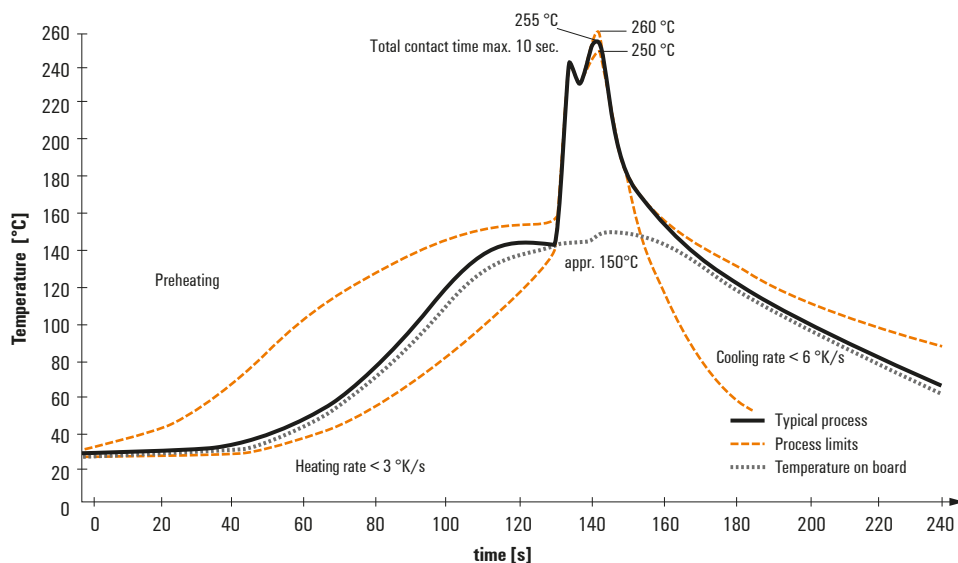
## Recommended wave soldering profiles

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 Germany  
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 Fax: +49 5231 14-292083  
 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.