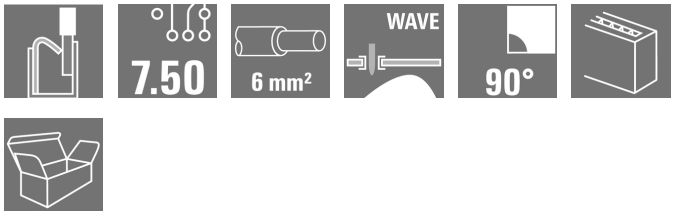
LLF 7.50/04/90V 5.0SN BK BX

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

www.weidmueller.com

Product image





The sturdy, direct connection for extreme current and voltage requirements in all power electronics applications such as solar inverters, frequency converters, servo-controllers and power supplies.

General ordering data

Version	Printed circuit board terminals, 7.50 mm, Number of poles: 4, 90°, Solder pin length (l): 5 mm, tinned, black, PUSH IN with actuator, Clamping range, max. : 6 mm², Box
Order No.	2472100000
Type	LLF 7.50/04/90V 5.0SN BK BX
GTIN (EAN)	4050118543780
Qty.	80 pc(s).
Product data	IEC: 1000 V / 41 A / 0.5 - 6 mm² UL: 600 V / 35 A / AWG 24 - AWG 8
Packaging	Box

Creation date February 5, 2024 4:17:19 PM CET

LLF 7.50/04/90V 5.0SN BK BX

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D-32758 Detmold
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Technical data

Dimensions and weights

Depth	22.07 mm	Depth (inches)	0.869 inch
Height	36.55 mm	Height (inches)	1.439 inch
Height of lowest version	31.55 mm	Width	31 mm
Width (inches)	1.22 inch	Net weight	14.715 g

System parameters

Product family	OMNIMATE Power - series LL	Wire connection method	PUSH IN with actuator
Mounting onto the PCB	THT solder connection	Conductor outlet direction	90°
Pitch in mm (P)	7.5 mm	Pitch in inches (P)	0.295 "
Number of poles	4	Pin series quantity	1
Fitted by customer	No	Number of rows	1
Solder pin length (l)	5 mm	Solder pin dimensions	d = 1.5 mm
Solder eyelet hole diameter (D)	2 mm	Solder eyelet hole diameter tolerance (D)	+ 0,1 mm
Number of solder pins per pole	1	Stripping length	12 mm
L1 in mm	22.5 mm	L1 in inches	0.885 "
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		

Material data

Insulating material	Wemid (PA)	Colour	black
Colour chart (similar)	RAL 9011	Insulating material group	I
UL 94 flammability rating	V-0	Contact material	Cu-alloy
Contact surface	tinned	Layer structure of solder connection	4...10 µ Sn matt
Storage temperature, min.	-40 °C	Storage temperature, max.	70 °C
Operating temperature, min.	-40 °C	Operating temperature, max.	120 °C

Conductors suitable for connection

Clamping range, min.	0.25 mm²
Clamping range, max.	6 mm²
Wire connection cross section AWG, min.	AWG 24
Wire connection cross section AWG, max.	AWG 8
Solid, min. H05(07) V-U	0.5 mm²
Solid, max. H05(07) V-U	6 mm²
Stranded, min. H07V-R	0.5 mm²
Flexible, min. H05(07) V-K	0.5 mm²
Flexible, max. H05(07) V-K	6 mm²
w. plastic collar ferrule, DIN 46228 pt 4, min.	0.25 mm²
w. plastic collar ferrule, DIN 46228 pt 4, max.	6 mm²
w. wire end ferrule, DIN 46228 pt 1, min.	0.25 mm²
w. wire end ferrule, DIN 46228 pt 1, max.	6 mm²

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Technical data

Clampable conductor	Cross-section for conductor connection	Type		fine-wired
		nominal		0.5 mm²
	wire end ferrule	Stripping length	nominal	14 mm
		Recommended wire-end ferrule		H0,5/18 OR
	Cross-section for conductor connection	Type		fine-wired
		nominal		1 mm²
	wire end ferrule	Stripping length	nominal	15 mm
		Recommended wire-end ferrule		H1,0/18 GE
	Cross-section for conductor connection	Type		fine-wired
		nominal		1.5 mm²
	wire end ferrule	Stripping length	nominal	15 mm
		Recommended wire-end ferrule		H1,5/18D SW
		Stripping length	nominal	12 mm
		Recommended wire-end ferrule		H1,5/12
	Cross-section for conductor connection	Type		fine-wired
		nominal		0.75 mm²
	wire end ferrule	Stripping length	nominal	14 mm
		Recommended wire-end ferrule		H0,75/18 W
	Cross-section for conductor connection	Type		fine-wired
		nominal		2.5 mm²
	wire end ferrule	Stripping length	nominal	14 mm
		Recommended wire-end ferrule		H2,5/19D BL
		Stripping length	nominal	12 mm
		Recommended wire-end ferrule		H2,5/12
	Cross-section for conductor connection	Type		fine-wired
		nominal		4 mm²
	wire end ferrule	Stripping length	nominal	12 mm
		Recommended wire-end ferrule		H4,0/12
		Stripping length	nominal	14 mm
		Recommended wire-end ferrule		H4,0/20D GR
	Cross-section for conductor connection	Type		fine-wired
		nominal		6 mm²
	wire end ferrule	Stripping length	nominal	14 mm
		Recommended wire-end ferrule		H6,0/20 SW
		Stripping length	nominal	12 mm
		Recommended wire-end ferrule		H6,0/12
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)			

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Technical data

Rated data acc. to IEC

tested acc. to standard	In accordance with IEC 60947-7-1	Rated current, min. number of poles (Tu=20°C)	41 A
Rated current, max. number of poles (Tu=20°C)	35 A	Rated current, min. number of poles (Tu=40°C)	41 A
Rated current, max. number of poles (Tu=40°C)	30 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)	35 A
Rated current (Use group C / CSA)	35 A	Rated current (Use group D / CSA)	5 A
Wire cross-section, AWG, min.	AWG 24	Wire cross-section, AWG, max.	AWG 8

Rated data acc. to UL 1059

Institute (cURus)	c US	Certificate No. (cURus)	E60693
Rated voltage (Use group B / UL 1059)	600 V	Rated voltage (Use group C / UL 1059)	600 V
Rated voltage (Use group D / UL 1059)	600 V	Rated current (Use group B / UL 1059)	35 A
Rated current (Use group C / UL 1059)	35 A	Rated current (Use group D / UL 1059)	5 A
Wire cross-section, AWG, min.	AWG 24	Wire cross-section, AWG, max.	AWG 8
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	300 mm
VPE width	210 mm	VPE height	45 mm

Type tests

Test: Durability of markings	Test	mark of origin, type identification, type of material, pitch, durability
	Evaluation	available

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Technical data

Test: Clampable cross section	Standard	IEC 60999-1 section 7 and 9.1 / 11.99, IEC 60947-1 section 8.2.4.5.1 / 03.11	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm²
		Type of conductor and conductor cross-section	stranded 0.5 mm²
		Type of conductor and conductor cross-section	solid 6 mm²
		Type of conductor and conductor cross-section	stranded 6 mm²
		Type of conductor and conductor cross-section	AWG 24/19
		Type of conductor and conductor cross-section	AWG 24/1
		Type of conductor and conductor cross-section	AWG 10/1
		Type of conductor and conductor cross-section	AWG 10/19
		Type of conductor and conductor cross-section	H07V-K10
	Evaluation	passed	

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LLF 7.50/04/90V 5.0SN BK BX

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Technical data

Test for damage to and accidental loosening of conductors	Standard	IEC 60999-1 section 9.4 / 11.99, IEC 60999-1 section 9.5 / 11.99	
	Requirement	0.3 kg	
	Conductor type	Type of conductor and conductor cross-section	H05V-K0.5
		Type of conductor and conductor cross-section	H05V-U0.5
	Evaluation	passed	
	Requirement	0.7 kg	
	Conductor type	Type of conductor and conductor cross-section	H07V-K2.5
		Type of conductor and conductor cross-section	H07V-U2.5
	Evaluation	passed	
	Requirement	0.9 kg	
	Conductor type	Type of conductor and conductor cross-section	H07V-K4
		Type of conductor and conductor cross-section	H07V-U4.0
	Evaluation	passed	
	Requirement	1.4 kg	
	Conductor type	Type of conductor and conductor cross-section	H07V-K6
		Type of conductor and conductor cross-section	H07V-U6
	Evaluation	passed	

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Technical data

Pull-out test	Standard	DIN EN 60999-1 section 9.5 / 12.00	
	Requirement	≥20 N	
	Conductor type	Type of conductor and conductor cross-section	H05V-K0.5
		Type of conductor and conductor cross-section	H05V-U0.5
	Evaluation	passed	
	Requirement	≥50 N	
	Conductor type	Type of conductor and conductor cross-section	H07V-K2.5
		Type of conductor and conductor cross-section	H07V-U2.5
	Evaluation	passed	
	Requirement	≥60 N	
	Conductor type	Type of conductor and conductor cross-section	H07V-K4
		Type of conductor and conductor cross-section	H07V-U4.0
	Evaluation	passed	
	Requirement	≥80 N	
	Conductor type	Type of conductor and conductor cross-section	H07V-K6
		Type of conductor and conductor cross-section	H07V-U6
	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	27460101

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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	• 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. • The test point can only be used as potential-pickup point. • The single-position PCB terminal block can be used for voltages up to 1500 V (DC) and 1000 V (AC). The relevant device standard and the appropriate required clearances and creepage distances should be observed in the application • Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months

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	20210909 Color Change of Actuator to LLF(S) and LUF(S) Family 20210909 LLF(S) und LUF(S) Familie - Farbänderung des Betätigungselementes 20220603 Change OMNIMATE® Power LLF 7.5090 20220603 Technische Änderung OMNIMATE® Power LLF 7.5090
User Documentation	QR-Code product handling video Assembly_instruction_Montageanleitung_LLF_LUF_EN_DE
Catalogues	Catalogues in PDF-format

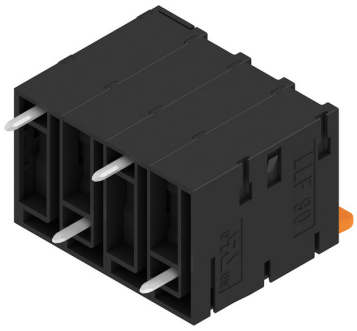
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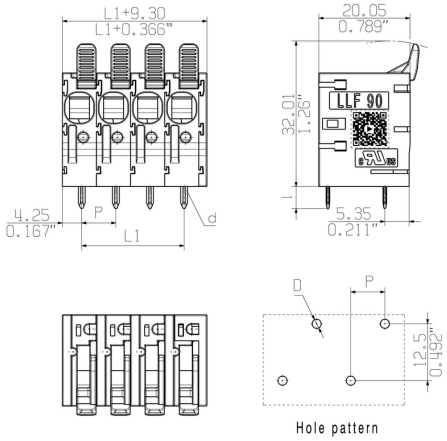
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Drawings

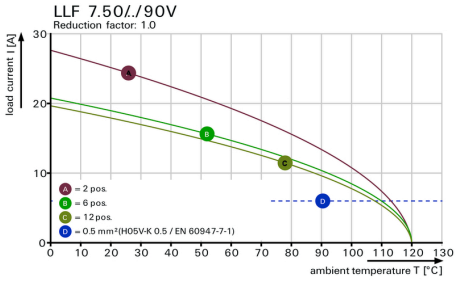
Product image



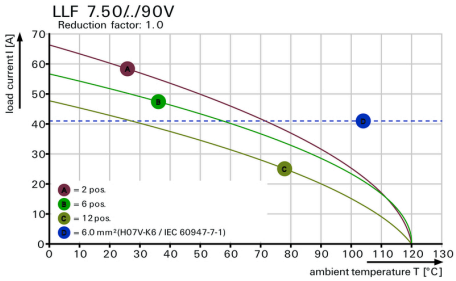
Dimensional drawing



Derating curve



Derating curve



Product benefits



Power up to UL 600 V
Offset solder pins

Product benefits



Tool-free wiring
Top contact security

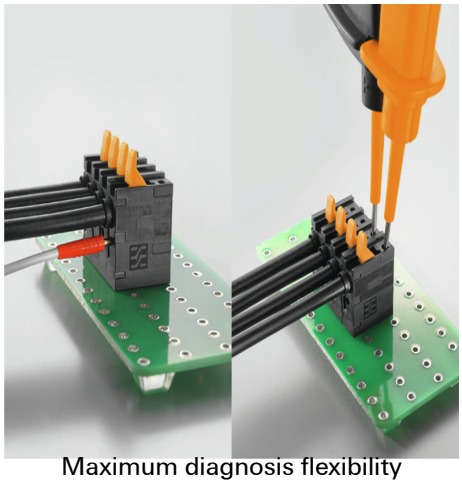
LLF 7.50/04/90V 5.0SN BK BX

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Drawings

Product benefits



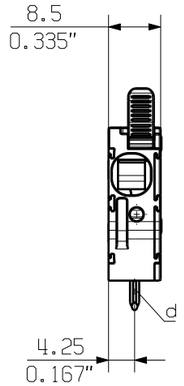
Maximum diagnosis flexibility
Easily accessible test point

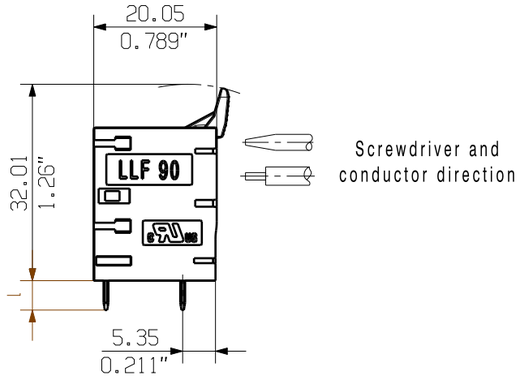
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Dimensions without tolerances are no check dimensions

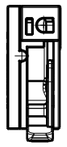
The English version is binding

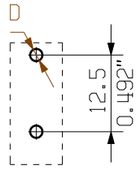
General customer drawing, topical version only if required





Screwdriver and conductor direction



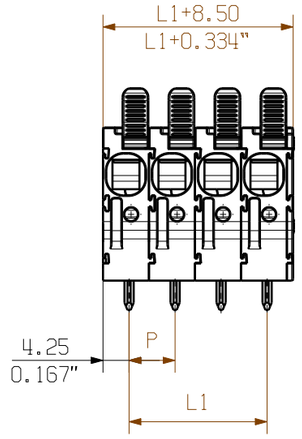


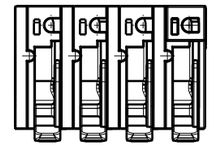
Hole pattern

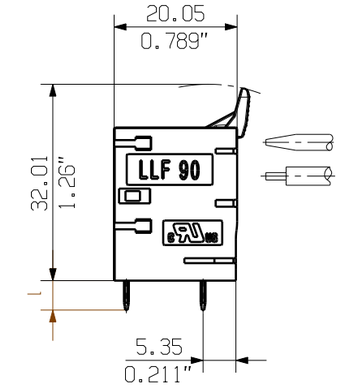


For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone.
The neccessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.
The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

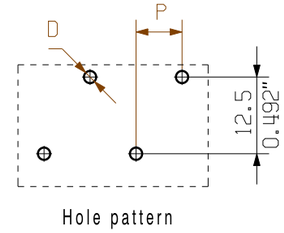
Weidmüller PCB components are tested to the DIN EN 61984
standard, and are valid for its field of application.
Provided that the components are used to the intended purpose, all requirements with respect to the occuring of electrical, mechanical, thermic and corrosive stress will be satisfied.



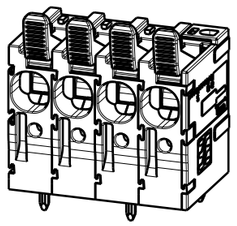




Screwdriver and conductor direction



Hole pattern



P = 7.50 0.295" (Pitch)
D = Ø2 +0.1 0.079"
d = 1.5x0.8 0.059"x0.031"
l = 5.0 +0.2 -0.6 0.197"

n Poles	L1 [mm]	L1 [inch]
12	82.50	3.248
11	75.00	2.953
10	67.50	2.657
9	60.00	2.362
8	52.50	2.067
7	45.00	1.772
6	37.50	1.476
5	30.00	1.181
4	22.50	0.886
3	15.00	0.591
2	7.50	0.295

General tolerance: DIN ISO 2768-mK

RoHS COMPLIANT

96880/3 02.08.17 DAMERIUS_A 00

Modification

. .

Cat.no.: .

Weidmüller

3 61339 06

Drawing no. Issue no.

Sheet 01 of 01 sheets

	Date	Name
Drawn	04.07.2016	KRECHT_M
Responsible		WRIGHT_ST
Checked	02.08.2017	HELIS_MA
Approved		NOLTE_S

Scale: 1/1

Supersedes: .

LLF 7.50/.../90...

LEITERPLATTENKLEMME
PCB TERMINAL

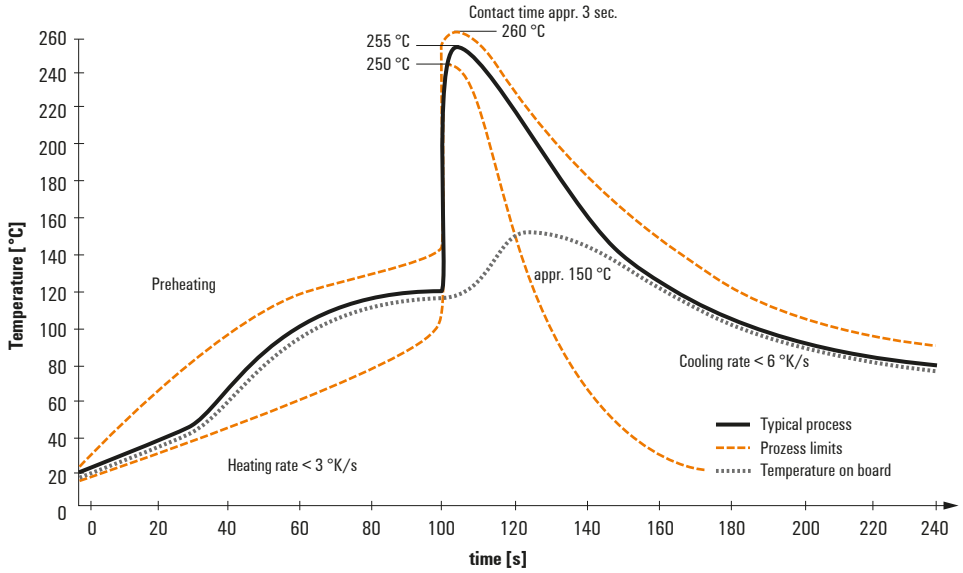
Product file: LLF 7.50 7416

Wave Solder Profile

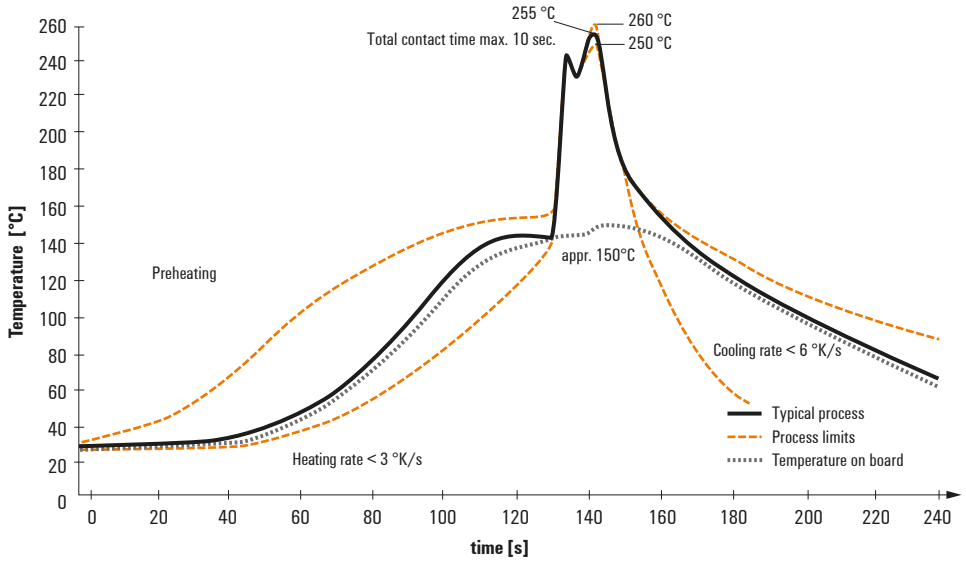
Recommended wave solderding profiles

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
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.

We reserve the right to make technical changes.

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

WeidmÃ¼ller:

1950200000 8690200000 1221360000 8951460000 0303620000 1289470000 1607520000 9037380000
024892 SAKS3 1622940000 1608830000 1760040000 1890260000 9456650000 1013450000 1804580000
2535780000 1121990000 1124150000 1127570000 1608570000 1609820000 1649300000 1784180000
1786450000 1906650000 2642470000 1031470000 1779950000 1818090500