

LS2HF 3.50/20/90 3.5SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmueller.com

www.weidmueller.com

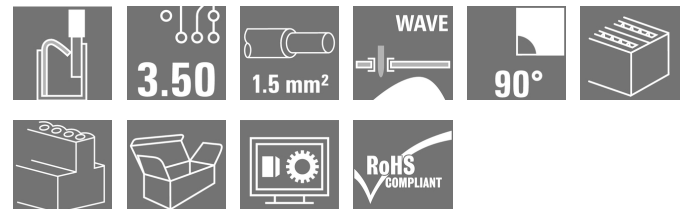
Product image



Similar to illustration

Double-level PCB terminal for the wave soldering process, with PUSH IN wire connection system. Conductor insertion and slider operation from the same direction (TOP).

- Solid and flexible conductors with wire-end ferrules can just be inserted - done
- When connecting flexible wires without wire-end ferrules, the actuating element is used to open the clamping point
- Intuitive handling thanks to the clear distinction between wire entry and actuating element
- Packed in a box
- Conductor outlet direction 90°



General ordering data

Version	Printed circuit board terminals, 3.50 mm, Number of poles: 20, 90°, Solder pin length (l): 3.5 mm, orange, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Box
Order No.	2001020000
Type	LS2HF 3.50/20/90 3.5SN OR BX
GTIN (EAN)	4050118383027
Qty.	50 pc(s).
Product data	IEC: 400 V / 17.5 A / 0.2 - 1.5 mm² UL: 150 V / 12.5 A / AWG 26 - AWG 16
Packaging	Box

LS2HF 3.50/20/90 3.5SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmueller.com

www.weidmueller.com

Technical data

Dimensions and weights

Depth	18 mm	Depth (inches)	0.709 inch
Height	27.7 mm	Height (inches)	1.091 inch
Height of lowest version	24.2 mm	Width	40 mm
Width (inches)	1.575 inch	Net weight	18.63 g

Temperatures

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

System parameters

Product family	OMNIMATE Signal - series LS	Wire connection method	PUSH IN with actuator
Mounting onto the PCB	THT solder connection	Conductor outlet direction	90°
Pitch in mm (P)	3.5 mm	Pitch in inches (P)	0.138 inch
Number of poles	20	Pin series quantity	2
Fitted by customer	No	Number of rows	2
Solder pin length (l)	3.5 mm	Solder pin length tolerance	-0.1 / 0 mm
Solder pin dimensions	1.0 x 0.6 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	0.4 x 2.5	Stripping length	8 mm
L1 in mm	31.5 mm	L1 in inches	1.24 inch
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	PA 66/6	Colour	orange
Colour chart (similar)	RAL 2000	Comparative Tracking Index (CTI)	≥ 600
UL 94 flammability rating	V-0	Contact material	Copper alloy
Layer structure of solder connection	4...7 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.	100 °C		

Conductors suitable for connection

Clamping range, min.	0.2 mm ²
Clamping range, max.	1.5 mm ²
Wire connection cross section AWG, min.	AWG 26
Wire connection cross section AWG, max.	AWG 16
Solid, min. H05(07) V-U	0.2 mm ²
Solid, max. H05(07) V-U	1.5 mm ²
Flexible, min. H05(07) V-K	0.2 mm ²
Flexible, max. H05(07) V-K	1.5 mm ²
w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm ² min.	
w. plastic collar ferrule, DIN 46228 pt 4, 0.75 mm ² max.	
w. wire end ferrule, DIN 46228 pt 1, 0.2 mm ² min.	
w. wire end ferrule, DIN 46228 pt 1, 1.5 mm ² max.	

Creation date March 9, 2023 3:07:50 PM CET

LS2HF 3.50/20/90 3.5SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

Technical data

Clampable conductor	Cross-section for conductor connection	Type	fine-wired
		nominal	0.25 mm ²
wire end ferrule	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire end ferrule	H0,25/12 HBL
Cross-section for conductor connection	Cross-section for conductor connection	Type	fine-wired
		nominal	0.34 mm ²
wire end ferrule	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire end ferrule	H0,34/12 TK
Cross-section for conductor connection	Cross-section for conductor connection	Type	fine-wired
		nominal	0.5 mm ²
wire end ferrule	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire end ferrule	H0,5/14 OR
Cross-section for conductor connection	Cross-section for conductor connection	Type	fine-wired
		nominal	0.75 mm ²
wire end ferrule	wire end ferrule	Stripping length	nominal 10 mm
		Recommended wire end ferrule	H0,75/14T HBL
Cross-section for conductor connection	Cross-section for conductor connection	Type	fine-wired
		nominal	1.5 mm ²
wire end ferrule	wire end ferrule	Stripping length	nominal 7 mm
		Recommended wire end ferrule	H1,5/7

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 60947-7-4	Rated current, min. number of poles (Tu=20°C)	17.5 A
Rated current, max. number of poles (Tu=20°C)	9 A	Rated current, min. number of poles (Tu=40°C)	17.5 A
Rated current, max. number of poles (Tu=40°C)	8 A	Rated voltage for surge voltage class / pollution degree II/2	400 V
Rated voltage for surge voltage class / pollution degree III/2	200 V	Rated voltage for surge voltage class / pollution degree III/3	160 V
Rated impulse voltage for surge voltage class/ pollution degree II/2	2.5 kV	Rated impulse voltage for surge voltage class/ pollution degree III/2	2.5 kV
Rated impulse voltage for surge voltage class/ contamination degree III/3	2.5 kV		

Rated data acc. to CSA

Rated voltage (Use group B / CSA)	150 V	Rated voltage (Use group D / CSA)	150 V
Rated current (Use group B / CSA)	12.5 A	Rated current (Use group D / CSA)	12.5 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 16

LS2HF 3.50/20/90 3.5SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmueller.com

Technical data

Rated data acc. to UL 1059

Institute (cURus)



Certificate No. (cURus) www.weidmueller.com

E60693

Rated voltage (Use group B / UL 1059)	150 V	Rated voltage (Use group D / UL 1059)	150 V
Rated current (Use group B / UL 1059)	12.5 A	Rated current (Use group D / UL 1059)	12.5 A
Wire cross-section, AWG, min.	AWG 26	Wire cross-section, AWG, max.	AWG 16
Reference to approval values	Specifications are maximum values, details - see approval certificate.		

Packing

Packaging	Box	VPE length	260 mm
VPE width	209 mm	VPE height	28 mm

Type tests

Test: Durability of markings	Test	mark of origin, type identification, pitch, date clock	
	Evaluation	available	
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	0.2 kg	
	Conductor type	Type of conductor and conductor cross-section	stranded 0.2 mm ²
	Evaluation	passed	
	Requirement	0.3 kg	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm ²
	Evaluation	passed	
	Requirement	0.4 kg	
	Conductor type	Type of conductor and conductor cross-section	stranded 0.5 mm ²
		Type of conductor and conductor cross-section	solid 0.5 mm ²
	Evaluation	passed	

LS2HF 3.50/20/90 3.5SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

IEC 60999-1 section 9.4 / 11.99, IEC 60999-1
section 9.5 / 11.99
info@weidmueller.com

Technical data

Pull-out test	Standard	IEC 60999-1 section 9.4 / 11.99, IEC 60999-1 section 9.5 / 11.99	
	Requirement	≥10 N	
	Conductor type	Type of conductor and conductor cross-section	
	Evaluation	passed	
	Requirement	≥20 N	
	Conductor type	Type of conductor and conductor cross-section	solid 0.5 mm ²
	Evaluation	passed	
	Requirement	≥40 N	
	Conductor type	Type of conductor and conductor cross-section	stranded 1.5 mm ²
		Type of conductor and conductor cross-section	solid 1.5 mm ²
	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.
- Crimping shape "A" for wire end ferrules with PZ 6/5 crimping tool recommended.
- Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months

LS2HF 3.50/20/90 3.5SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

info@weidmueller.comwww.weidmueller.com**Technical data****Approvals**

Approvals



ROHS Conform

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
Engineering Data	WSCAD
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

LS2HF 3.50/20/90 3.5SN OR BX

Weidmüller Interfaces GmbH & Co. KG

Postfach 3030

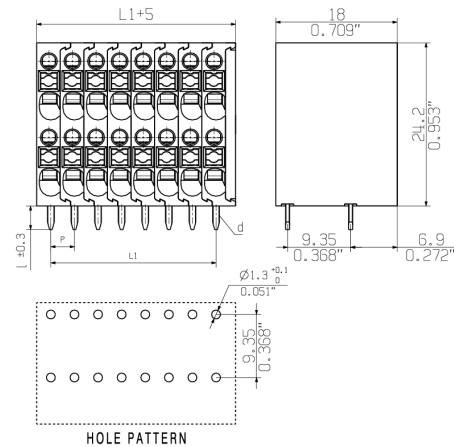
32760 Detmold

Tel. +49 5231 14-0

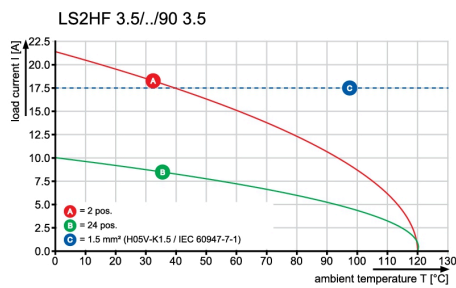
Fax. +49 5231 14-2083

Drawings

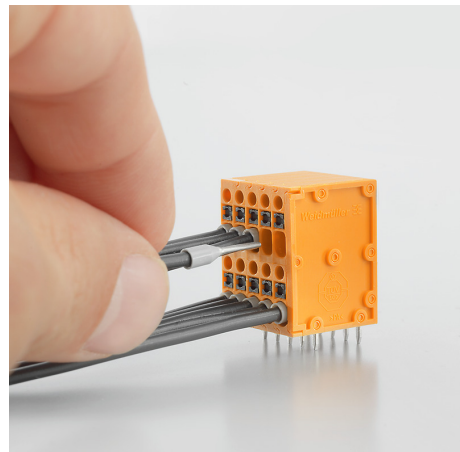
Dimensional drawing info@weidmueller.com



Graph

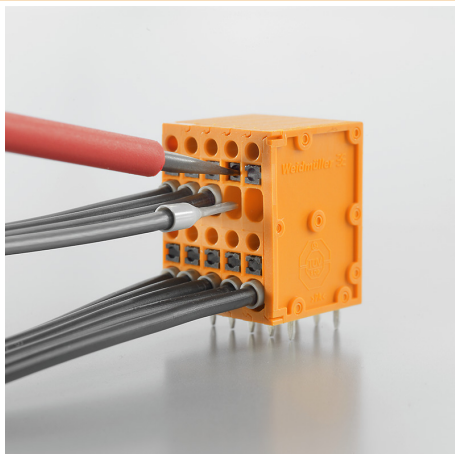


Product benefits



Fast conductor entry through PUSH IN

Product benefits



Simple and reliable connection

Product benefits



Compact design with 2 levels

LS2HF 3.50/20/90 3.5SN OR BX**Weidmüller Interfaces GmbH & Co. KG**

Postfach 3030

32760 Detmold

Tel. +49 5231 14-0

Fax. +49 5231 14-2083

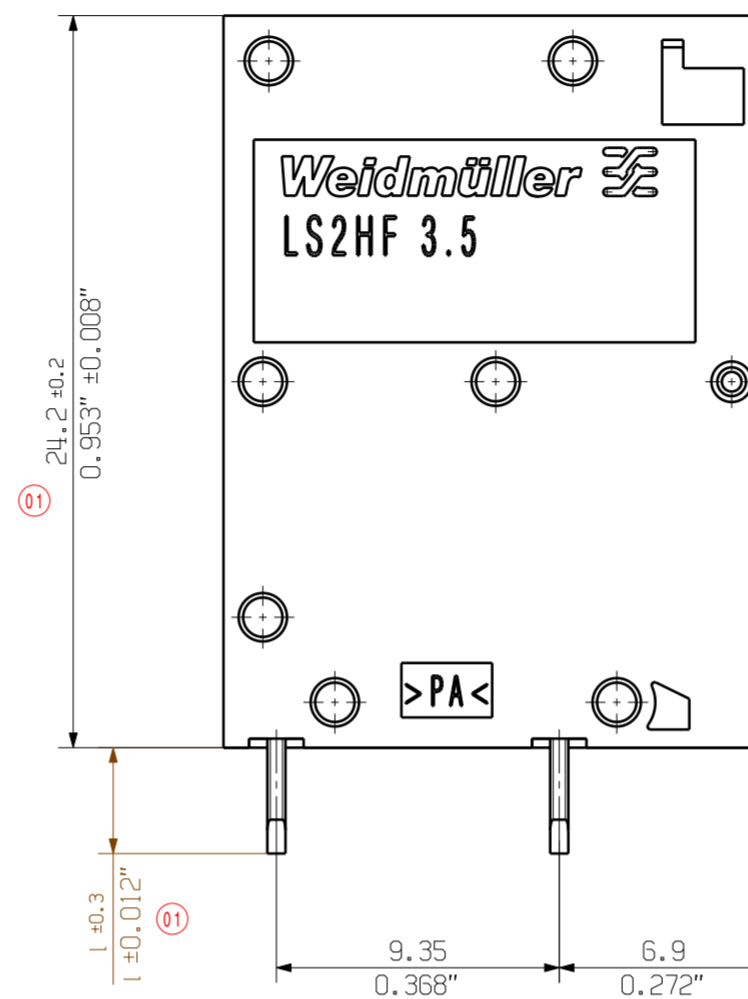
info@weidmueller.com

www.weidmueller.com

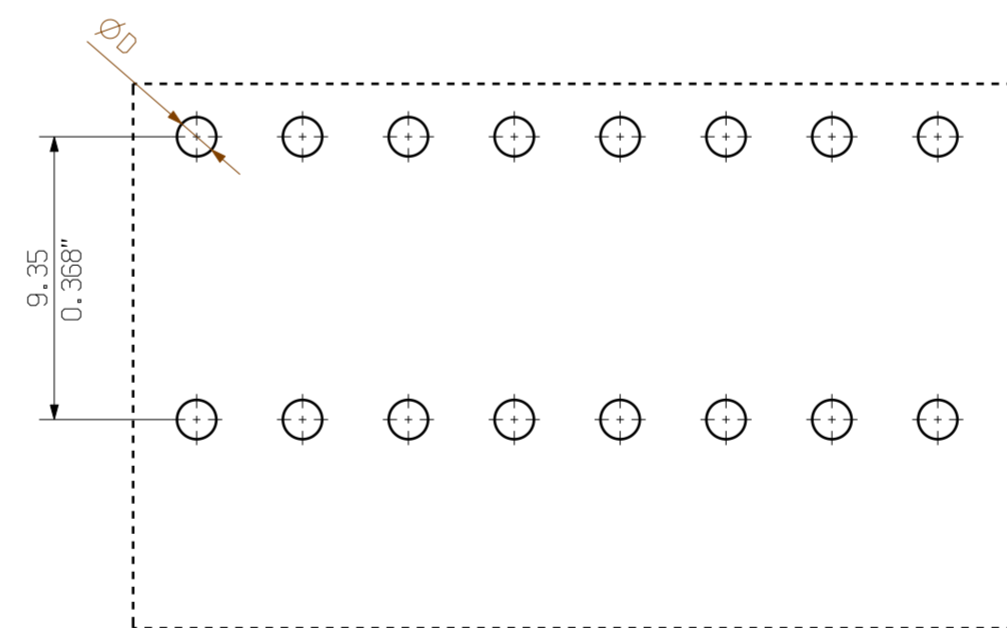
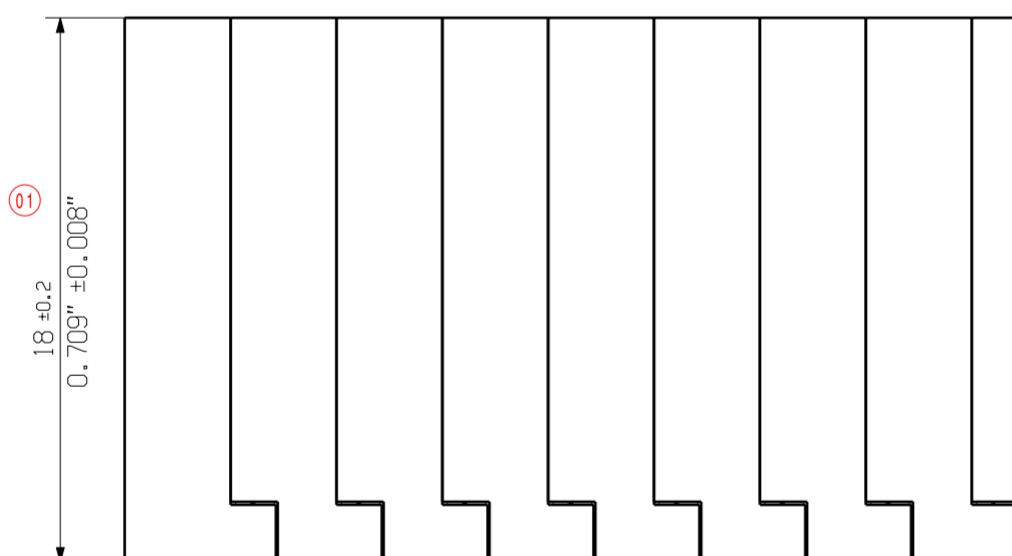
Drawings**Product benefits**

Maintenance through test tap

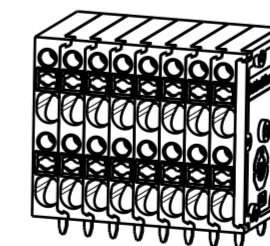
MASSE OHNE TOLERANZ SIND KEINE PRUEFMASSE
 DIMS. WITHOUT TOLERANCE ARE NOT CONTROL DIMS.



SCREWDRIVER AND
 CONDUCTOR DIRECTION



HOLE PATTERN



M 1/1

P = 3.50 RASTER PITCH
 D = Ø1.3 +0.1
 0.051"
 d = 0.6x1.0
 4 3.5 0.138
 2 0.0 0.0
 l = 3.5
 0.138"

48	80.5	3.169
46	77.0	3.031
44	73.5	2.894
42	70.0	2.756
40	66.5	2.618
38	63.0	2.480
36	59.5	2.343
34	56.0	2.205
32	52.5	2.067
30	49.0	1.929
28	45.5	1.791
26	42.0	1.654
24	38.5	1.516
22	35.0	1.378
20	31.5	1.240
18	28.0	1.102
16	24.5	0.965
14	21.0	0.827
12	17.5	0.689
10	14.0	0.551
8	10.5	0.413
6	7.0	0.276
4	3.5	0.138
2	0.0	0.0
POLES	L1 [mm]	L1 [inch]

ALLGEMEINGUELTIGE KUNDENZEICHNUNG, AKTUELLER STAND NUR AUF ANFRAGE
 GENERAL CUSTOMER DRAWING, TOPICAL VERSION ONLY IF REQUIRED

GENERAL TOLERANCE: DIN ISO 2768-m

83889/5 22.09.15 XIANG_K 04

RoHS COMPLIANT

MODIFICATION

DATE	NAME
DRAWN 09.02.2015	ZHOU_N
RESPONSIBLE	XIANG_K
CHECKED 22.09.2015	ZHOU_N
APPROVED	XU_S

SCALE: 4/1
 SUPERSEDES: .

CAT. NO.: 1514540000

Weidmüller

C 59281 01

DRAWING NO. SHEET 02 OF 02 SHEETS

ISSUE NO.

LS2HF 3.5/.../90...
 LEITERPLATTENKLEMME
 PCB TERMINAL

PRODUCT FILE: LS2HF 7647

WEITERGABE SOWIE Vervielfaeltigung dieses Dokuments, Verwertung und Mitteilung seines Inhalts sind verboten, soweit nicht ausdrücklich gestattet.
 ZUWIDERHANDLUNGEN VERPFLICHTEN ZU SCHADENSATZ ALLE RECHTE EINER FÜR DEN FALL DER PATENT-, GEBRAUCHSMUSTER-, ODER GESCHMACKSMUSTERRECHTUNG VORBEHALTEN.
 THE REPRODUCTION, DISTRIBUTION AND UTILIZATION OF THIS DOCUMENT AS WELL AS THE COMMUNICATION OF ITS CONTENTS TO OTHERS WITHOUT EXPLICIT AUTHORIZATION IS PROHIBITED.
 OFFENDERS WILL BE HELD LIABLE FOR THE PAYMENT OF DAMAGES. WEIDMÜLLER EXCLUSIVELY RESERVES THE RIGHT TO FILE FOR PATENTS, UTILITY MODELS OR DESIGNS.
 © WEIDMÜLLER INTERFACE GmbH & Co. KG

Recommended wave soldering profiles

Weidmüller Interface GmbH & Co. KG
 Klängenbergstraße 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.