

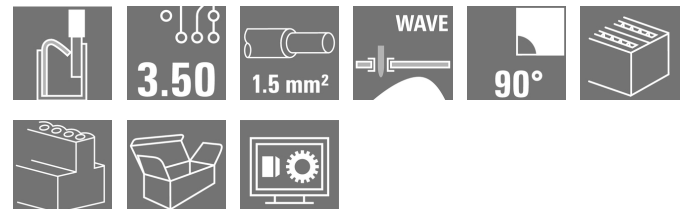
**LS2HF 3.50/42/90 3.5SN OR BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

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: 42, 90°, Solder pin length (l): 3.5 mm, orange, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Box |
| Order No.    | <a href="#">2001130000</a>                                                                                                                                           |
| Type         | LS2HF 3.50/42/90 3.5SN OR BX                                                                                                                                         |
| GTIN (EAN)   | 4050118382884                                                                                                                                                        |
| Qty.         | 20 pc(s).                                                                                                                                                            |
| Product data | IEC: 400 V / 17.5 A / 0.2 - 1.5 mm²<br>UL: 150 V / 12.5 A / AWG 26 - AWG 16                                                                                          |
| Packaging    | Box                                                                                                                                                                  |

Creation date September 17, 2022 9:14:37 PM CEST

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## 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           | 78.5 mm    |
| Width (inches)           | 3.091 inch | Net weight      | 39.113 g   |

## 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                              | 42                          | Pin series quantity                        | 2                     |
| Fitted by customer                           | No                          | 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                                   | 70 mm                 |
| L1 in inches                                 | 2.756 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 <sup>2</sup> |
| Clamping range, max.                                                 | 1.5 mm <sup>2</sup> |
| 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 <sup>2</sup> |
| Solid, max. H05(07) V-U                                              | 1.5 mm <sup>2</sup> |
| Flexible, min. H05(07) V-K                                           | 0.2 mm <sup>2</sup> |
| Flexible, max. H05(07) V-K                                           | 1.5 mm <sup>2</sup> |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.2 mm <sup>2</sup> min.  |                     |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.75 mm <sup>2</sup> max. |                     |
| w. wire end ferrule, DIN 46228 pt 1, 0.2 mm <sup>2</sup> min.        |                     |
| w. wire end ferrule, DIN 46228 pt 1, 1.5 mm <sup>2</sup> max.        |                     |

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|                     |                                        |                              |                               |
|---------------------|----------------------------------------|------------------------------|-------------------------------|
| Clampable conductor | Cross-section for conductor connection | Type                         | fine-wired                    |
|                     |                                        | nominal                      | 0.25 mm <sup>2</sup>          |
|                     | wire end ferrule                       | Stripping length             | nominal 10 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.25/12 HBL</a>  |
|                     | Cross-section for conductor connection | Type                         | fine-wired                    |
|                     |                                        | nominal                      | 0.34 mm <sup>2</sup>          |
|                     | wire end ferrule                       | Stripping length             | nominal 10 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.34/12 TK</a>   |
|                     | Cross-section for conductor connection | Type                         | fine-wired                    |
|                     |                                        | nominal                      | 0.5 mm <sup>2</sup>           |
|                     | wire end ferrule                       | Stripping length             | nominal 10 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.5/14 OR</a>    |
|                     | Cross-section for conductor connection | Type                         | fine-wired                    |
|                     |                                        | nominal                      | 0.75 mm <sup>2</sup>          |
|                     | wire end ferrule                       | Stripping length             | nominal 10 mm                 |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H0.75/14T HBL</a> |
|                     | Cross-section for conductor connection | Type                         | fine-wired                    |
|                     |                                        | nominal                      | 1.5 mm <sup>2</sup>           |
|                     | wire end ferrule                       | Stripping length             | nominal 7 mm                  |
|                     |                                        | Recommended wire-end ferrule | <a href="#">H1.5/7</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 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 |

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## Technical data

## Rated data acc. to UL 1059

Institute (cURus)



Certificate No. (cURus)

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 160 mm

VPE height 28 mm

## 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

## Approvals

Approvals



UL File Number Search

UL Website

Certificate No. (cURus)

E60693

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## Technical data

### 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="#">EPLAN, WSCAD</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Catalogues                                  | <a href="#">Catalogues in PDF-format</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Brochures                                   | <a href="#">FL DRIVES EN</a><br><a href="#">FL ANALO.SIGN.CONV. EN</a><br><a href="#">MB DEVICE MANUF. EN</a><br><a href="#">FL DRIVES DE</a><br><a href="#">FL BUILDING SAFETY EN</a><br><a href="#">FL APPL LED LIGHTING EN</a><br><a href="#">FL INDUSTR.CONTROLS EN</a><br><a href="#">FL MACHINE SAFETY EN</a><br><a href="#">FL HEATING ELECTR EN</a><br><a href="#">FL APPL INVERTER EN</a><br><a href="#">FL_BASE_STATION_EN</a><br><a href="#">FL ELEVATOR EN</a><br><a href="#">FL POWER SUPPLY EN</a><br><a href="#">FL 72H SAMPLE SER EN</a><br><a href="#">PO OMNIMATE EN</a> |

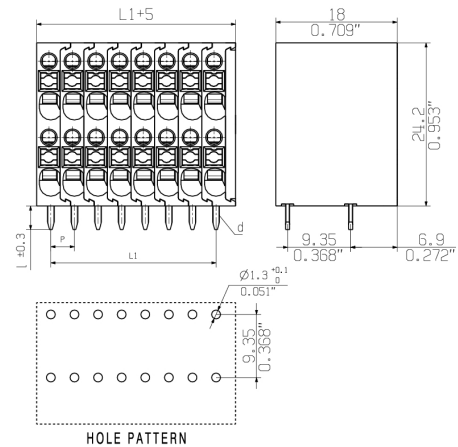
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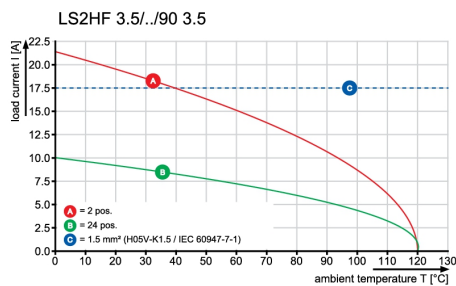
[www.weidmueller.com](http://www.weidmueller.com)

# Drawings

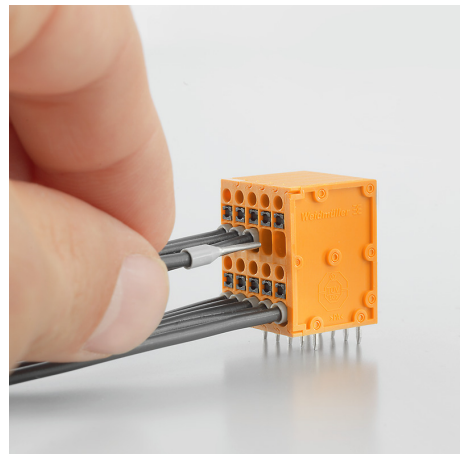
## Dimensional drawing



## Graph

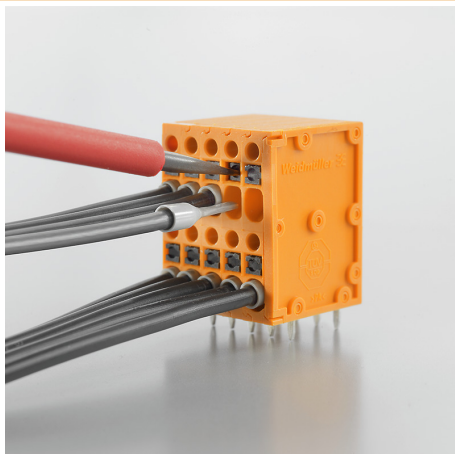


## Product benefits



Fast conductor entry through PUSH IN

## Product benefits



Simple and reliable connection

## Product benefits



Compact design with 2 levels

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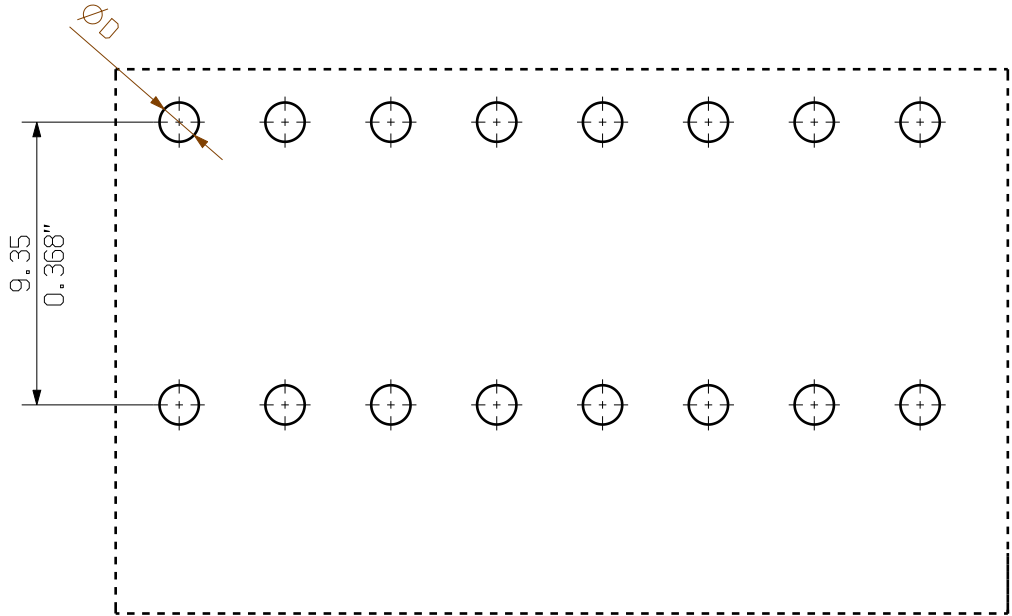
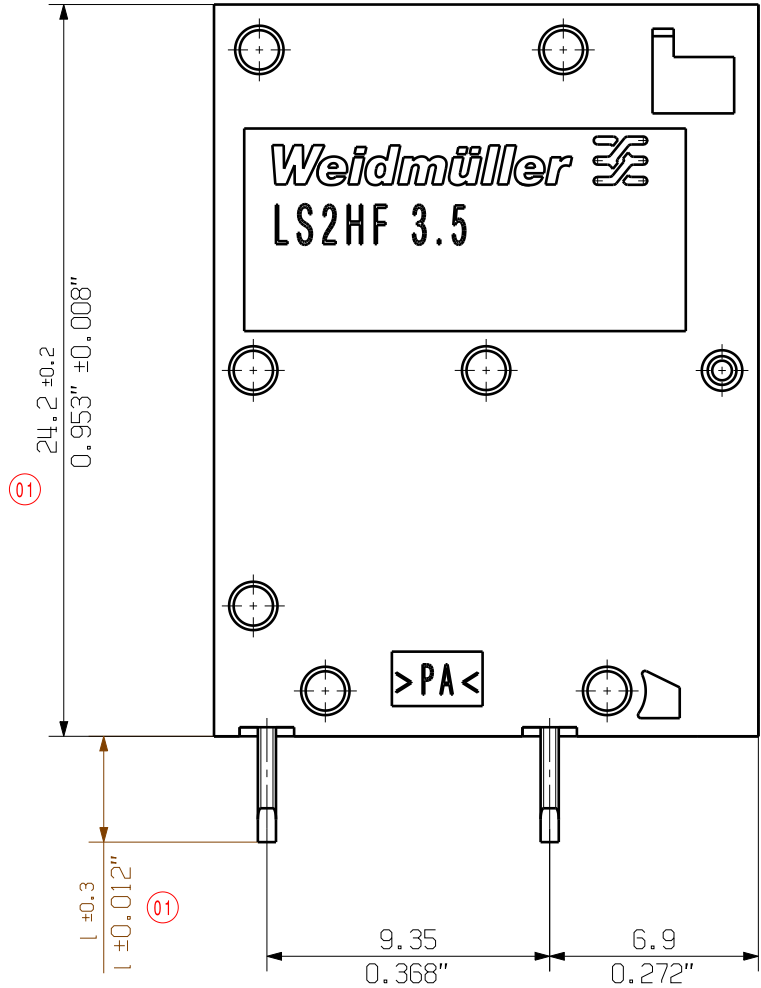
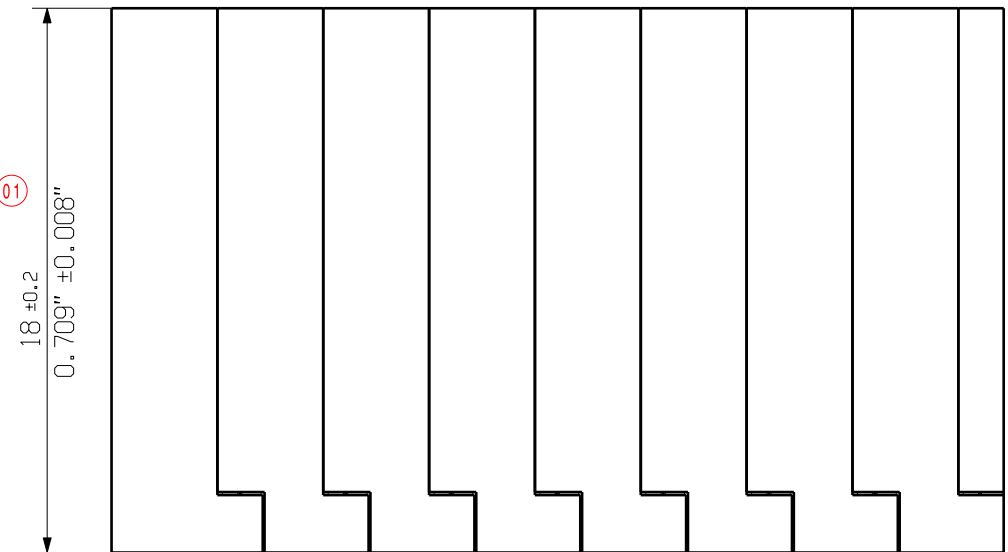
## Drawings

### Product benefits

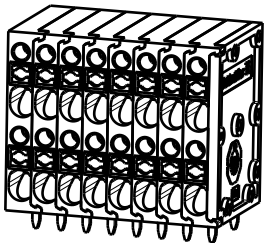


Maintenance through test tap

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



HOLE PATTERN



M 1/1

P = 3.50 RASTER PITCH  
D = Ø1.3 +0.1 / 0.051"  
d = 0.6x1.0 / 0.024"x0.039"  
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

SCALE: 4/1

SUPERSEDES: .

83889/5  
22.09.15 XIANG\_K

04

MODIFICATION

DATE

NAME

DRAWN 09.02.2015 ZHOU\_N

RESPONSIBLE XIANG\_K

CHECKED 22.09.2015 ZHOU\_N

APPROVED XU\_S

CAT.NO.:1514540000

C 59281 01

DRAWING NO. SHEET 02 OF 02 SHEETS

ISSUE NO.

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

PRODUCT FILE:LS2HF

7647

## 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.