

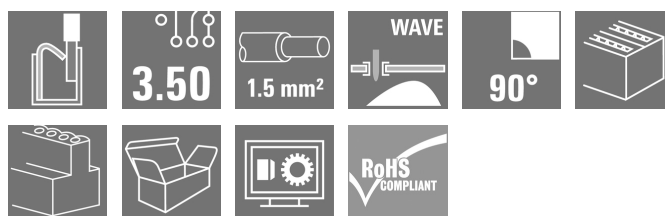
**LS2HF 3.50/24/90 3.5SN OR BX****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

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: 24, 90°, Solder pin length (l): 3.5 mm, orange, PUSH IN with actuator, Clamping range, max.: 1.5 mm², Box |
| Order No.    | <a href="#">2001040000</a>   |
| Type         | LS2HF 3.50/24/90 3.5SN OR BX   |
| GTIN (EAN)   | 4050118382631  |
| 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 July 3, 2024 12:32:12 PM CEST

## LS2HF 3.50/24/90 3.5SN OR BX

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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           | 47 mm      |
| Width (inches)           | 1.85 inch | Net weight      | 22.35 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 "               |
| Number of poles                              | 24                          | 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 pin dimensions = d tolerance        | 0 / -0,05 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                                   | 38.5 mm               |
| L1 in inches                                 | 1.516 "                     | 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, min.                            | 0.2 mm <sup>2</sup> |
| w. wire end ferrule, DIN 46228 pt 1, max.                            | 1.5 mm <sup>2</sup> |

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## Technical data

|                     |  |                              |                               |
|---------------------|--|------------------------------|-------------------------------|
| 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 | 229 mm |
| VPE width | 124 mm | VPE height | 26 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 stranded 0.2 mm <sup>2</sup> conductor cross-section |
|   | Evaluation     | passed   |
|   | Requirement    | 0.3 kg   |
|   | Conductor type | Type of conductor and solid 0.5 mm <sup>2</sup> conductor cross-section    |
|   | Evaluation     | passed   |
|   | Requirement    | 0.4 kg   |
|   | Conductor type | Type of conductor and stranded 0.5 mm <sup>2</sup> conductor cross-section |
|   |                | Type of conductor and solid 0.5 mm <sup>2</sup> conductor cross-section    |
|   | Evaluation     | passed   |

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|               |                |   |
|---------------|----------------|---|
| 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 stranded 0.2 mm <sup>2</sup> conductor cross-section  |
|               | Evaluation     | passed  |
|               | Requirement    | ≥20 N   |
|               | Conductor type | Type of conductor and solid 0.5 mm <sup>2</sup> conductor cross-section   |
|               | Evaluation     | passed  |
|               | Requirement    | ≥40 N   |
|               | Conductor type | Type of conductor and stranded 1.5 mm <sup>2</sup> conductor cross-section<br>Type of conductor and solid 1.5 mm <sup>2</sup> conductor cross-section |
|               | 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 | 27-46-01-01 |

## Environmental Product Compliance

REACH SVHC

/

## 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          | <ul style="list-style-type: none"> <li>• Additional variants on request</li> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>• Wire end ferrule without plastic collar to DIN 46228/1</li> <li>• Wire end ferrule with plastic collar to DIN 46228/4</li> <li>• P on drawing = pitch</li> <li>• 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.</li> <li>• Crimping shape "A" for wire end ferrules with PZ 6/5 crimping tool recommended.</li> <li>• Long term storage of the product with average temperature of 50 °C and maximum humidity 70%, 36 months</li> </ul> |

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[www.weidmueller.com](http://www.weidmueller.com)**Technical data****Approvals**

Approvals



|                         |            |
|-------------------------|------------|
| ROHS                    | Conform    |
| UL File Number Search   | UL Website |
| Certificate No. (cURus) | E60693     |

**Downloads**

|   |  |
|---|--|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a>  |
| Engineering Data                            | <a href="#">CAD data – STEP</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> |

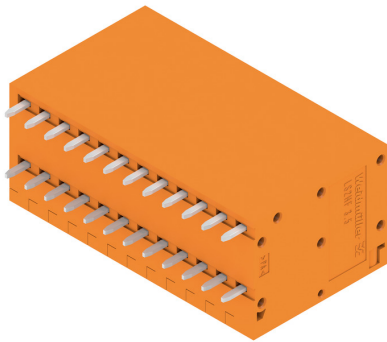
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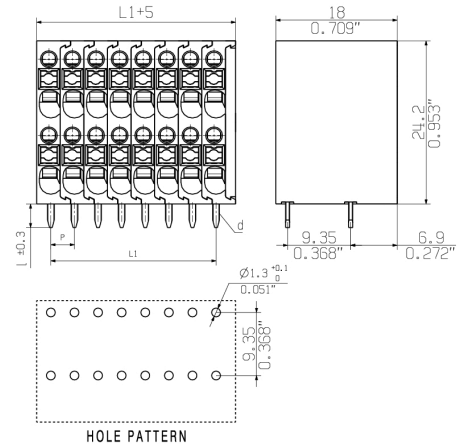
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# Drawings

## Product image



## 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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## Accessories

### Slotted screwdriver



Slotted screwdriver with rounded blade SD DIN 5265, ISO 2380/2, output to DIN 5264, ISO 2380/1. ChromTop tip, SoftFinish grip

### General ordering data

|            |                            |                          |
|------------|----------------------------|--------------------------|
| Type       | SDS 0.4X2.5X75             | Version                  |
| Order No.  | <a href="#">9009030000</a> | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248266944              |                          |
| Qty.       | 1 pc(s).                   |                          |

### Additional accessories



#### No task is too small when creating the perfect solution.

Connections form just one part of the overall process. Small details are often the key to the perfect solution in applications where potentials are tested, grouped or even isolated.

A system is not a system without small but essential details:

- Test plugs ensure reliable pick-up from diagnostic sockets

In tandem with the manufacturing process and application.

### General ordering data

|            |                            |  |              |           |
|------------|----------------------------|--|--------------|-----------|
| Type       | PS 2.0 MC                  | Version  | Product data | Packaging |
| Order No.  | <a href="#">0310000000</a> | PCB plug-in connector, Accessories, Test plug, red, Number of poles: 1 |              | Box       |
| GTIN (EAN) | 4008190000059              |  |              |           |
| Qty.       | 20 pc(s).                  |  |              |           |



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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Slotted screwdriver**

VDE insulated slot-head screwdriver, SDI DIN 7437, ISO 2380/2, drive output acc. to DIN 5264, ISO 2380/1.  
SoftFinish grip

**General ordering data**

|            |                            |                          |
|------------|----------------------------|--------------------------|
| Type       | SDIS 0.4X2.5X75            | Version                  |
| Order No.  | <a href="#">9008370000</a> | Screwdriver, Screwdriver |
| GTIN (EAN) | 4032248056330              |                          |
| Qty.       | 1 pc(s).                   |                          |

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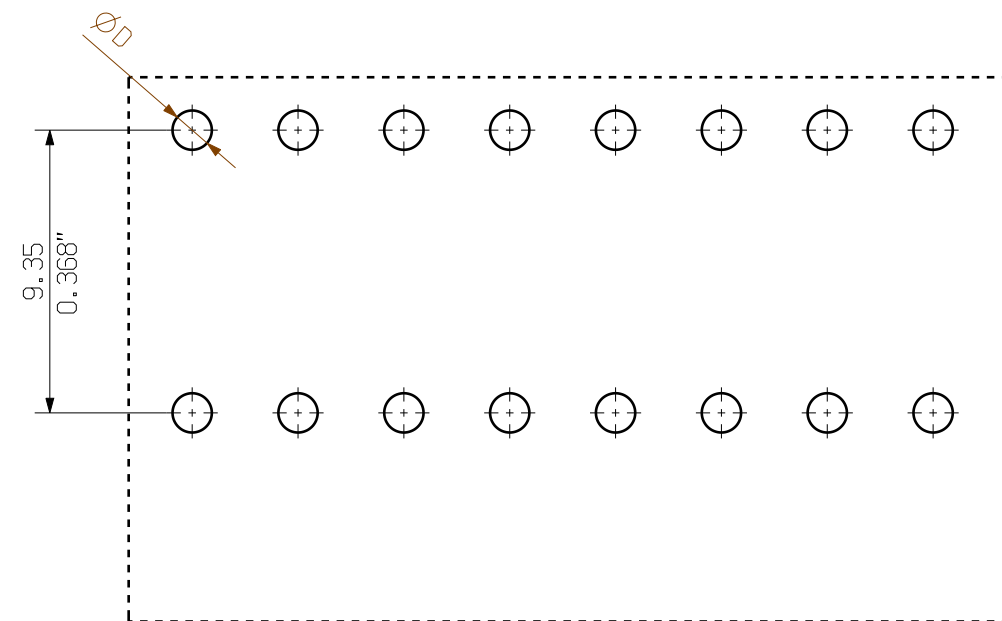
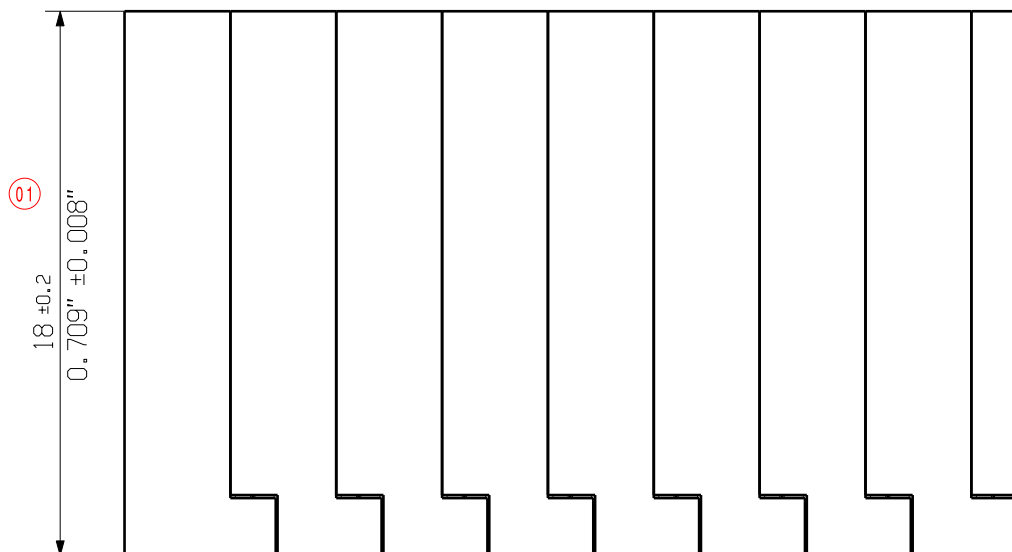
## Drawings

### Product benefits







Maintenance through test tap

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P = 3.50 RASTER  
PITCH  
D =  $\varnothing 1.3 + 0.1$   
0.051"  
d =  $\frac{0.6 \times 1.0}{0.024'' \times 0.039''}$   
I =  $\frac{3.5}{0.138''}$

|                     |              |
|---------------------|--------------|
| CAT.NO.: 1514540000 |              |
| <b>C 59281</b>      | <b>01</b>    |
| DRAWING NO.         | ISSUE NO.    |
| SHEET 02            | OF 02 SHEETS |

|   |  |                             |         |   |                     |                            |
|---|--|-----------------------------|---------|---|---------------------|----------------------------|
| GENERAL TOLERANCE:<br>DIN ISO 2768-m  |  | 83699/5<br>22.09.15 XIANG_K |         | 04  | CAT.NO.: 1514540000 |                            |
|    |  | MODIFICATION                |         |  |                     | <b>C 59281</b> <b>(01)</b> |
|   |  | DATE                        | NAME    | DRAWING NO. ISSUE NO.<br>SHEET 02 OF 02 SHEETS  |                     |                            |
| DRAWN   |  | 09.02.2015                  | ZHOU_N  | <b>LS2HF 3.5/.../90...</b><br>LEITERPLATTENKLEMME<br>PCB TERMINAL                     |                     |                            |
| RESPONSIBLE   |  |                             | XIANG_K |   |                     |                            |
| CHECKED   |  | 22.09.2015                  | ZHOU_N  |   |                     |                            |
| SCALE: 4/1  |  | APPROVED                    | XU_S    | PRODUCT FILE: LS2HF   |                     |                            |
| SUPERSEDES: .   |  |                             |         | 7647  |                     |                            |

## Recommended wave soldering 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](http://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.