

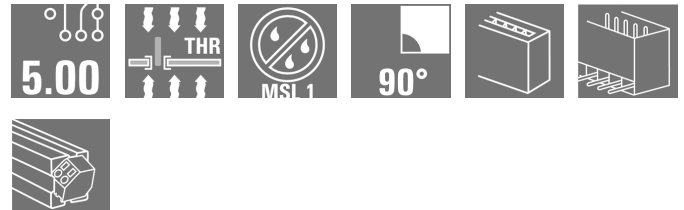
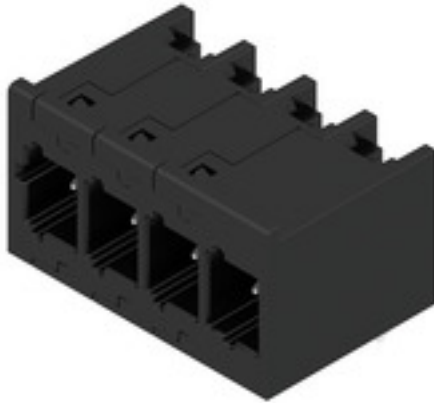
**MHS 5/04 H T3 B T****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image**

Configurable connector portfolio with fast and safe SNAP IN connection technology. The modular slice concept allows different hybrid combinations out of signal, data and power in one. The future-proof system is suitable for the highest requirements of the digital and connected world.

**General ordering data**

|              |  |
|--------------|--|
| Order No.    | <a href="#">2741430000</a>             |
| Type         | MHS 5/04 H T3 B T                      |
| GTIN (EAN)   | 4064675055402                          |
| Qty.         | 25 pc(s).                              |
| Product data | IEC: 400 V / 26.8 A UL: 300 V / 18.5 A |
| Packaging    | Tube                                   |

Creation date December 21, 2020 4:40:40 PM CET

Catalogue status 08.12.2020 / We reserve the right to make technical changes.

## MHS 5/04 H T3 B T

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## Technical data

## Dimensions and weights

|                          |            |                 |            |
|--------------------------|------------|-----------------|------------|
| Depth                    | 14 mm      | Depth (inches)  | 0.551 inch |
| Height                   | 15.1 mm    | Height (inches) | 0.594 inch |
| Height of lowest version | 11.9 mm    | Net weight      | 14.338 g   |
| Weight                   | 3.3 g      | Width           | 21.4 mm    |
| Width (inches)           | 0.843 inch |                 |            |

## System specifications

| Type of connection                                | Board connection | Mounting onto the PCB                        | THT/THR solder connection                  |
|---|------------------|--|--|
| Pitch in mm (P)                                   | 5 mm             | Pitch in inches (P)                          | 0.197 inch                                 |
| Outgoing elbow                                    | 90°              | Number of poles                              | 4  |
| Number of solder pins per pole                    | 1                | Solder pin length (l)                        | 3.2 mm                                     |
| Solder pin dimensions                             | 1.0 x 1.0 mm     | Solder eyelet hole diameter (D)              | 1.4 mm                                     |
| Solder eyelet hole diameter tolerance (D)+ 0,1 mm |                  | Outside diameter of solder pad               | 2.3 mm                                     |
| Template aperture diameter                        | 2.1 mm           | Number of rows                               | 1  |
| Pin series quantity                               | 1                | Touch-safe protection acc. to DIN VDE 57 106 | Touch-safe above the printed circuit board |
| Touch-safe protection acc. to DIN VDE 0470        | IP 20            | Volume resistance                            | ≤5 mΩ                                      |
| Plugging force/pole, max.                         | 8.5 N            | Pulling force/pole, max.                     | 8.5 N                                      |

## Material data

|                                  |                                |                                      |                                |
|----------------------------------|--------------------------------|--------------------------------------|--------------------------------|
| Insulating material              | PA 9T                          | Colour                               | black                          |
| Colour chart (similar)           | RAL 9011                       | Insulating material group            | I                              |
| Comparative Tracking Index (CTI) | ≥ 600                          | Moisture Level (MSL)                 | 1                              |
| UL 94 flammability rating        | V-0                            | Contact base material                | CuMg                           |
| Contact material                 | CuMg                           | Contact surface                      | tinned                         |
| Tinning type                     | matt                           | Layer structure of solder connection | 1...3 μm Ni / 2...4 μm Sn matt |
| Layer structure of plug contact  | 1...3 μm Ni / 2...4 μm Sn matt | Storage temperature, min.            | -25 °C                         |
| Storage temperature, max.        | 55 °C                          | Operating temperature, min.          | -50 °C                         |
| Operating temperature, max.      | 100 °C                         |                                      |                                |

## Rated data acc. to IEC

|   |                        |   |        |
|---|------------------------|---|--------|
| tested acc. to standard   | IEC 60664-1, IEC 61984 | Rated current, min. number of poles (Tu=20°C)                         | 26.8 A |
| Rated current, max. number of poles (Tu=20°C)                             | 19.7 A                 | Rated current, min. number of poles (Tu=40°C)                         | 23.1 A |
| Rated current, max. number of poles (Tu=40°C)                             | 16.9 A                 | Rated voltage for surge voltage class / pollution degree II/2         | 400 V  |
| Rated voltage for surge voltage class / pollution degree III/2            | 320 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 250 V  |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 4 kV                   | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 4 kV   |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 4 kV                   |   |        |

**Data sheet**


**MHS 5/04 H T3 B T**

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 Germany

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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) | 300 V   | Rated voltage (Use group D / UL 1059) | 300 V  |
| Rated current (Use group B / UL 1059) | 18.5 A  | Rated current (Use group D / UL 1059) | 10 A   |
| Reference to approval values          | Specifications are maximum values, details - see approval certificate.            |                                       |        |

**Classifications**

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002637    | ETIM 7.0    | EC002637    |
| ECLASS 9.0  | 27-44-04-02 | ECLASS 9.1  | 27-44-04-02 |
| ECLASS 10.0 | 27-44-04-02 | ECLASS 11.0 | 27-46-02-01 |

**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          | <ul style="list-style-type: none"> <li>• Rated current related to rated cross-section &amp; min. No. of poles.</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>• Diameter of solder eyelet D = 1.4+0.1mm</li> </ul> |

**Approvals**

|                       |   |
|-----------------------|---|
| Approvals             |  |
| UL File Number Search | E60693  |

**Downloads**

|                  |                      |
|------------------|----------------------|
| Engineering Data | <a href="#">STEP</a> |
|------------------|----------------------|

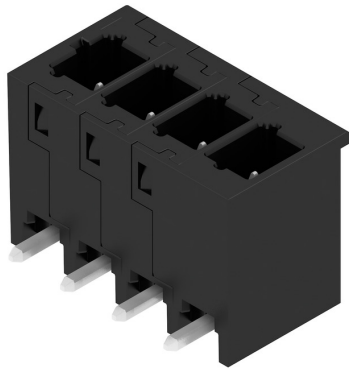
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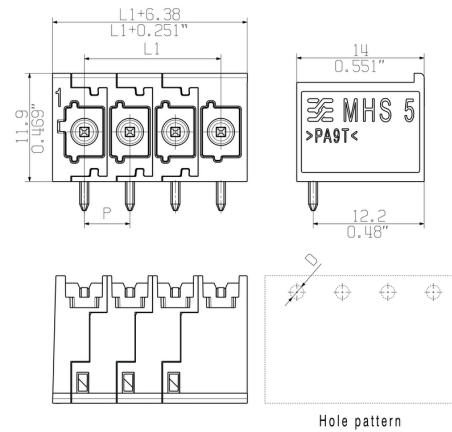
[www.weidmueller.com](http://www.weidmueller.com)

**Drawings**

**Product image**



**Dimensional drawing**



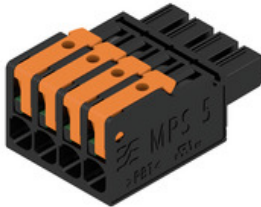
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## Mating connector (fully pluggable)

## Without middle-flange



## General ordering data

| General ordering data |                            | Product data                                    | Packaging |
|-----------------------|----------------------------|---|-----------|
| Type                  | MPS 5/04 S TN B B          | IEC: 400 V / 26.8 A / 0.5 - 2.5 mm <sup>2</sup> | Box       |
| Order No.             | <a href="#">2741580000</a> | UL: 300 V / 18.5 A / AWG 20 - AWG 12/7, AWG12/9 |           |
| GTIN (EAN)            | 4064675055105              |   |           |
| Qty.                  | 84 pc(s).                  |   |           |

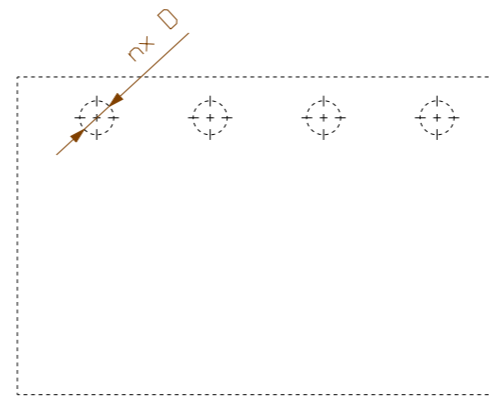
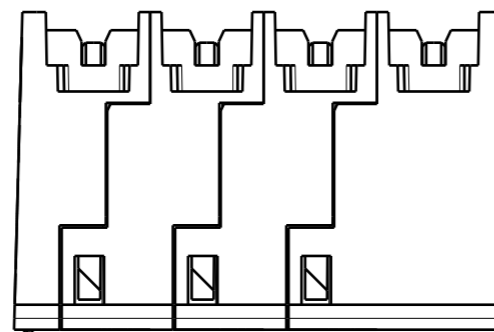
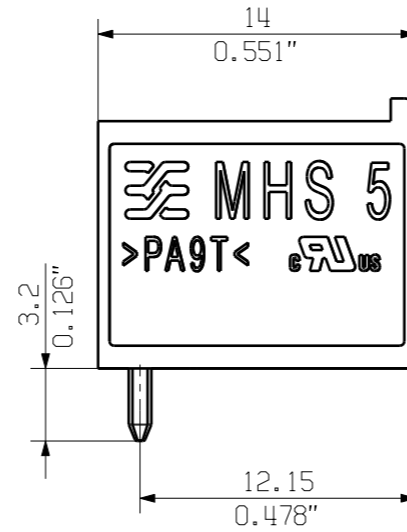
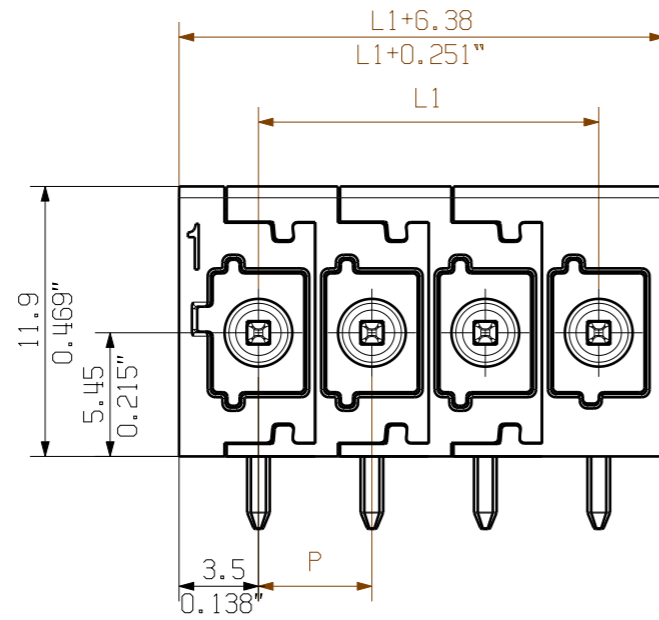
## With middle-flange



## General ordering data

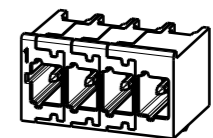
| General ordering data |                            | Product data                                    | Packaging |
|-----------------------|----------------------------|---|-----------|
| Type                  | MPS 5/04 S F2 TN B B       | IEC: 400 V / 26.8 A / 0.5 - 2.5 mm <sup>2</sup> | Box       |
| Order No.             | <a href="#">2741690000</a> | UL: 300 V / 18.5 A / AWG 20 - AWG 12/7, AWG12/9 |           |
| GTIN (EAN)            | 4064675055211              |   |           |
| Qty.                  | 84 pc(s).                  |   |           |

Allgemeingültige Kundenzeichnung, aktueller Stand nur auf Anfrage  
 General customer drawing, topical version only if required



Hole pattern

|         |         |           |
|---------|---------|-----------|
| 12      | 55.00   | 2.165     |
| 11      | 50.00   | 1.969     |
| 10      | 45.00   | 1.772     |
| 9       | 40.00   | 1.575     |
| 8       | 35.00   | 1.378     |
| 7       | 30.00   | 1.181     |
| 6       | 25.00   | 0.984     |
| 5       | 20.00   | 0.787     |
| 4       | 15.00   | 0.591     |
| 3       | 10.00   | 0.394     |
| 2       | 5.00    | 0.197     |
| n Poles | L1 [mm] | L1 [inch] |



M 1/1

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 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 according to the DIN EN 61984 or to the DIN EN 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.

Further Dim. & Info. See data sheet

General tolerance:  
 DIN ISO 2768-mK

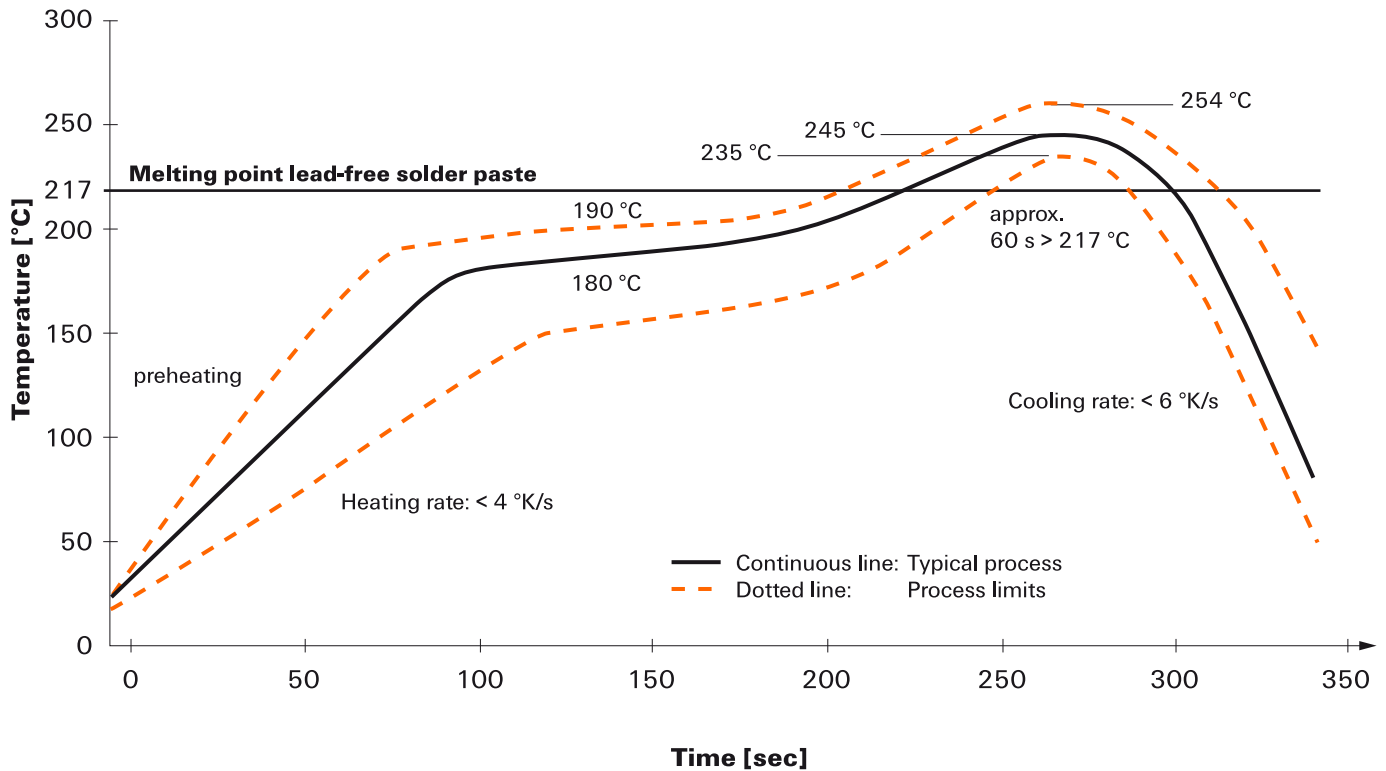
|            |                                |                      |               |                      |   |
|------------|--------------------------------|----------------------|---------------|----------------------|---|
|            | EC00004370<br>P028441          | Prim PLM Part No.: . |               | Prim ERP Part No.: . |   |
|            | First Issue Date<br>07.05.2020 | Max. nos.            |               |                      | <b>72562</b><br>Drawing no. <span style="float: right;">Issue no.</span><br>Sheet 3 of 4 sheets |
|            | Modification                   |                      |               |                      |   |
|            | Drawn                          | Date                 | Name          |                      | <b>MHS 5/... T3</b><br>STIFTLAISTE<br>MALE HEADER   |
|            | Responsible                    |                      | Schmitz, Till |                      |   |
|            | Approved                       |                      |               |                      |   |
| Scale: 3/1 | Size: A3                       | Drawings Assembly    |               | Product file:        |   |

not released

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## Recommended reflow soldering profile

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### Reflow soldering profile

The perfect soldering profile for SMT Surface Mount Technology is one the most exiting question in SMT production. But there are more than one correct answer: The diagram of temperature-on-time is related to processing features of solder paste and to maximum load of components.

We have to consider the following parameters:

- Time for pre heating
- Maximum temperature
- Time above melting point
- Time for cooling
- Maximum heating rate
- Maximum cooling rate

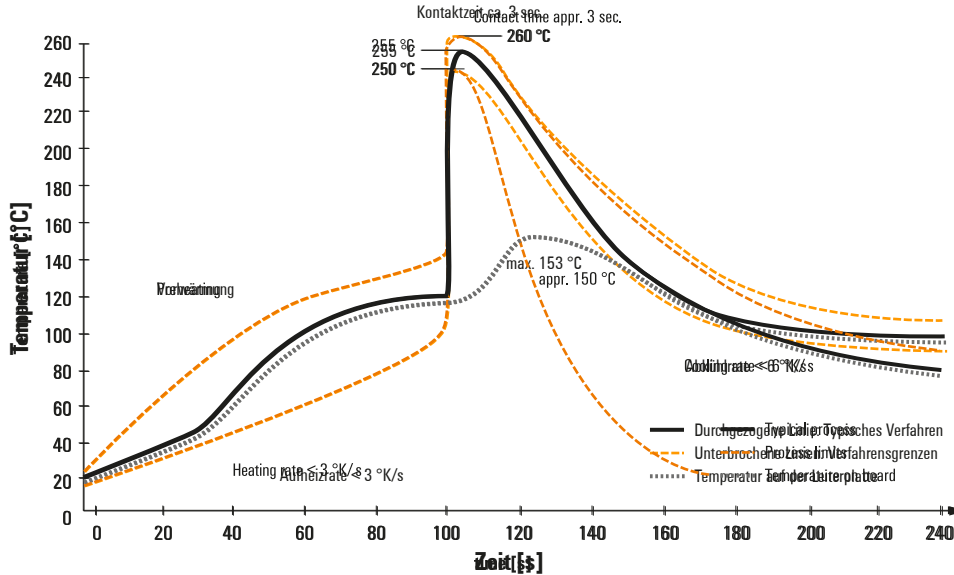
We recommend a typical solder profile with associated process limits. With preheating components and board are prepared smoothly for the solder phase. Heating rate is typically  $\leq +4\text{K/s}$ . In parallel the solder paste is 'activated'. The time above melting point of  $217\text{°C}$  the paste gets liquid and components and boards begin to connect. The maximum temperature of  $245\text{°C}$  to  $254\text{°C}$  should stay between 10 and 40 seconds. In the cooling phase at  $\geq -6\text{K/s}$  solder is cured. Board and components cool down while avoiding cold cracks.

**Wave Solder Profile**

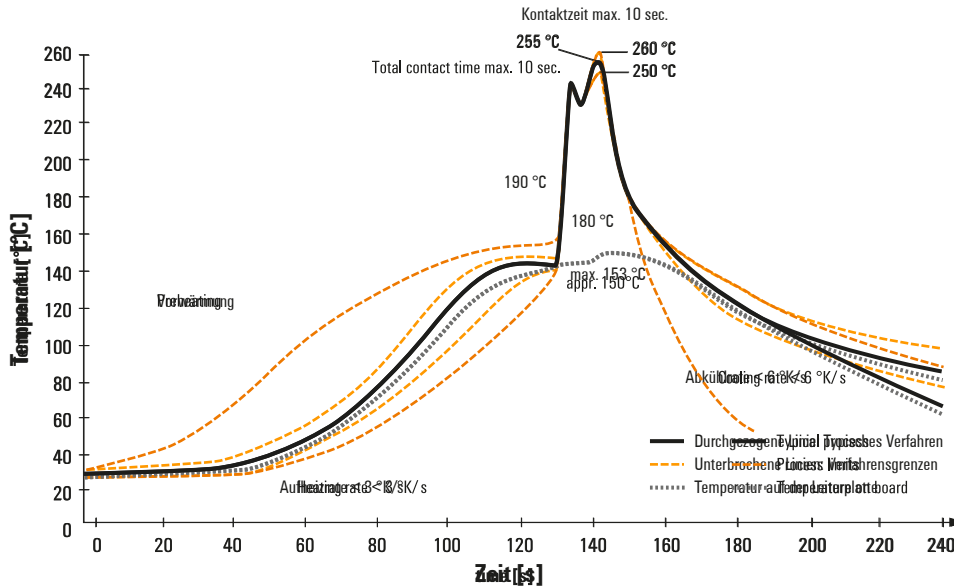
**Empfohlene Wellenlötprofilen**

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**Single Wave:**



**Doppel Wave:**



**Wellenlötprofilen**

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. Bedrahtete Anschlüsselemente sind in Anlehnung an die Norm DIN EN 61760-1 zu verarbeiten. Dabei sind zwei Empfehlungen für praxisbezogene Wellenlötprofile, mit denen Leiterplattenanschlussklammern und Steckverbinder von Weidmüller qualifiziert sind.

When choosing a suitable profile for your application, the following factors also need to be considered: Bei der Wahl eines passenden Profils für Ihre Anwendung sind unter anderem folgende Faktoren zu beachten:

- Stärke der Leiterplatte
- Anzahl der Schichten
- Ein-/Beidseitige Bestückung
- Produktspektrum
- Heating and cooling rates
- Aufheiz- und Abkühlrate

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 range. Die Einzel- und Doppelwelle zeigt jeweils den empfohlenen Verarbeitungsbereich inkl. der maximalen Löttemperatur von 260°C. In der Praxis liegt die maximale Löttemperatur sehr häufig weit unter dem o.g. Maximalprofil.

Verheerliche Änderungen vorbehalten.