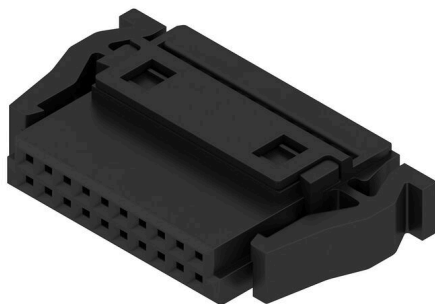


**FFP D1/20H S1 B TY**
**Weidmüller Interface GmbH & Co. KG**

 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

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

**OMNIMATE® - Board-to-Board connectors**
**Flexible engineering of compact devices**

The use of future-proof contact systems, as well as the optimisation of manufacturing processes, are increasingly important in the development of efficient industrial devices, especially in the field of Industry 4.0. OMNIMATE® board-to-board connectors feature a 1.27 mm pitch and offer maximum flexibility due to different designs.

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**General ordering data**

|              |   |
|--------------|---|
| Version      | PCB plug-in connector, female plug, Pitch in mm (P): 1.27 mm, Number of poles: 20, Tray (manual assembly) |
| Order No.    | <a href="#">2747540000</a>  |
| Type         | FFP D1/20H S1 B TY  |
| GTIN (EAN)   | 4050118895964   |
| Qty.         | 105 items   |
| Product data | IEC: / 1.9 A<br>UL: 150 V / 1 A / AWG 30 sol - AWG 30 sol   |
| Packaging    | Tray (manual assembly)  |

## FFP D1/20H S1 B TY

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## Technical data

## Approvals

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate No. (cURus) E92202

## Dimensions and weights

|            |          |                 |             |
|------------|----------|-----------------|-------------|
| Depth      | 5.6 mm   | Depth (inches)  | 0.2205 inch |
| Height     | 14.05 mm | Height (inches) | 0.5531 inch |
| Width      | 20.48 mm | Width (inches)  | 0.8063 inch |
| Net weight | 2.27 g   |                 |             |

## Environmental Product Compliance

RoHS Compliance Status Compliant without exemption

REACH SVHC No SVHC above 0.1 wt%

## System Parameters

|                           |                                  |                            |  |
|---------------------------|----------------------------------|----------------------------|--|
| Product family            | OMNIMATE Signal - Board-to-Board | Type of connection         | Insulation displacement connection (IDC) |
| Wire connection method    | IDC terminal                     | Pitch in mm (P)            | 1.27 mm                                  |
| Pitch in inches (P)       | 0.050 "                          | Conductor outlet direction | 90°/270°                                 |
| Number of poles           | 20                               | Number of rows             | 1  |
| Pin series quantity       | 2                                | Protection degree          | IP20                                     |
| Volume resistance         | <25 mΩ                           | Plugging cycles            | 500                                      |
| Plugging force/pole, max. | 0.6 N                            | Pulling force/pole, max.   | 0.6 N                                    |

## Material data

|                                 |  |                             |              |
|---------------------------------|--|-----------------------------|--------------|
| Insulating material             | LCP  | Colour                      | black        |
| Colour chart (similar)          | RAL 9011   | Insulating material group   | IIIa         |
| Insulation resistance           | $\geq 10^{10} \Omega$  | Moisture Level (MSL)        | 1            |
| UL 94 flammability rating       | V-0  | Contact base material       | Copper alloy |
| Contact material                | Cu-alloy   | Contact surface             | Ni/Au        |
| Layer structure of plug contact | $\geq 2 \mu\text{m Ni} / \geq 0.4 \mu\text{m PdNi} / \geq 0.05 \mu\text{m Au}$ | Storage temperature, min.   | -40 °C       |
| Storage temperature, max.       | 70 °C  | Operating temperature, min. | -55 °C       |
| Operating temperature, max.     | 125 °C   |                             |              |

## Conductors suitable for connection

|   |                |   |                |
|---|----------------|---|----------------|
| Wire connection cross section AWG, min. | AWG 30/1, 30/7 | Wire connection cross section AWG, max. | AWG 30/1, 30/7 |
| Outer diameter of insulation, min.      | 0.55 mm        | Outer diameter of insulation, max.      | 0.75 mm        |

## Rated data acc. to IEC

|   |        |   |        |
|---|--------|---|--------|
| Rated current, min. number of poles (Tu=20°C) | 1.9 A  | Rated current, max. number of poles (Tu=20°C) | 2.3 A  |
| Rated current, min. number of poles (Tu=40°C) | 2.5 A  | Creepage distance, min.                       | 0.4 mm |
| Clearance, min.                               | 0.4 mm |   |        |

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## Technical data

## Rated data acc. to UL 1977

|                                    |  |                                    |        |
|------------------------------------|--|------------------------------------|--------|
| Reference to approval values       | Specifications are maximum values, details - see approval certificate. | Rated voltage (UL 1977) (obsolete) | 150 V  |
| Rated current (UL 1977) (obsolete) | 1 A  | AWG-conductor, min. (UL 1977)      | 30 sol |
| AWG-conductor, max. (UL 1977)      | 30 sol   |                                    |        |

## Packing

|           |                        |            |           |
|-----------|------------------------|------------|-----------|
| Packaging | Tray (manual assembly) | VPE length | 350.00 mm |
| VPE width | 340.00 mm              | VPE height | 135.00 mm |

## 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

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 8.0    | EC002638    | ETIM 9.0    | EC002638    |
| ETIM 10.0   | EC002638    | ECLASS 14.0 | 27-46-02-02 |
| ECLASS 15.0 | 27-46-02-02 |             |             |

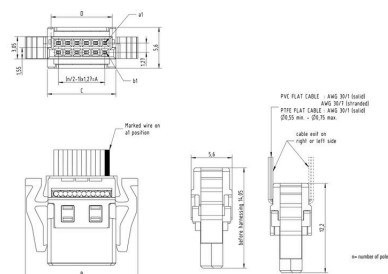
## Drawings



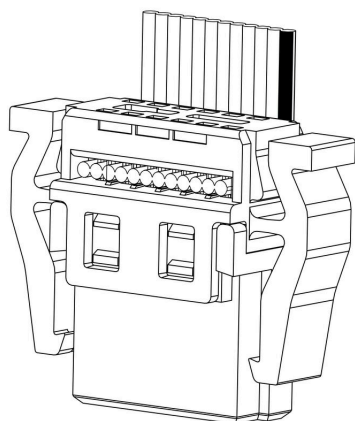
With optional strain relief

## Dimensional drawing

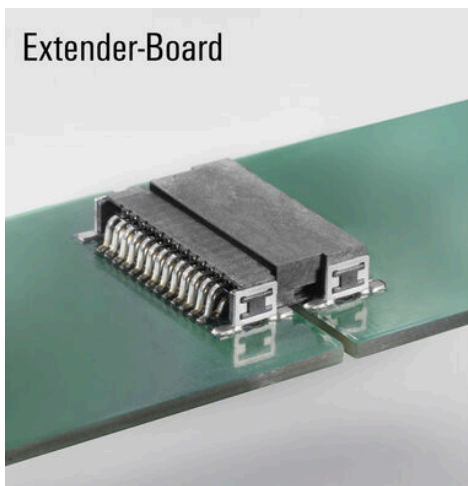
| Type                | Order no.  | No. of poles | A     | B     | C     | D     | E    |
|---------------------|------------|--------------|-------|-------|-------|-------|------|
| FFP D1/20H S1 B TY  | 2147520000 | 12           | 8,26  | 15,4  | 6,37  | 6,37  | 15   |
| FFP D1/20H S1 B TY  | 2147520000 | 15           | 8,85  | 17,84 | 11,91 | 11,91 | 15   |
| FFP D1/20H S1 B TY  | 2147540000 | 20           | 11,43 | 20,48 | 14,45 | 13,45 | 15   |
| FFP D1/20H S1 B TY  | 2147560000 | 25           | 15,41 | 24,29 | 16,26 | 17,26 | 15   |
| FFP D1/20H S1 B TY  | 2147580000 | 32           | 19,65 | 28,1  | 22,07 | 21,07 | 15   |
| FFP D1/40H S1 B TY  | 2147590000 | 40           | 24,13 | 33,18 | 27,16 | 26,16 | 15   |
| FFP D1/50H S1 B TY  | 2147590000 | 50           | 30,48 | 39,53 | 33,5  | 32,5  | 15   |
| FFP D1/80H S1 B TY  | 2147590000 | 80           | 41,91 | 50,96 | 44,93 | 43,93 | 16,2 |
| FFP D1/100H S1 B TY | 2147590000 | 95           | 49,53 | 59,58 | 50,96 | 50,96 | 16,2 |



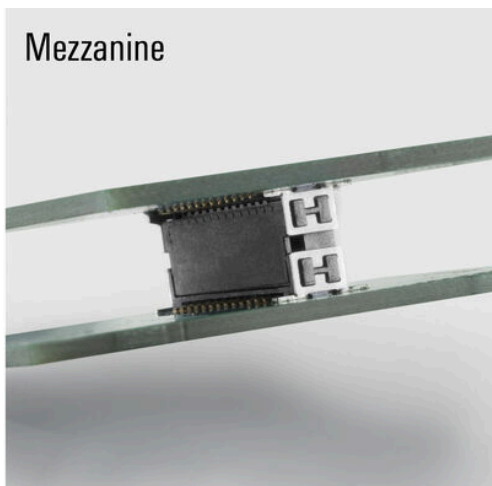
## Detailed drawing



Extender-Board



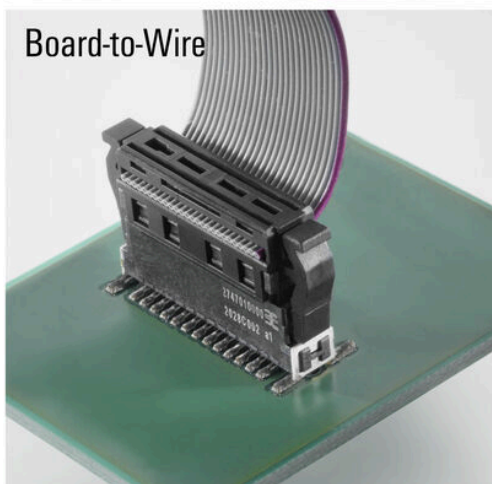
Mezzanine



Mother-to-Daughter



Board-to-Wire



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Germany[www.weidmueller.com](http://www.weidmueller.com)**Accessories****FC/FFP - Strain relief (Accessory)****OMNIMATE® - Board-to-Board connectors**

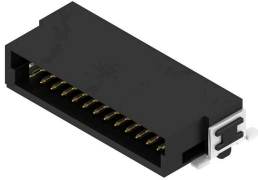
Flexible engineering of compact devices

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**General ordering data**

|            |                            |   |
|------------|----------------------------|---|
| Type       | FC/FFP ZE/20 B BX          | Version   |
| Order No.  | <a href="#">2853000000</a> | PCB plug-in connector, Accessories, Pitch in mm (P): 1.27 mm, |
| GTIN (EAN) | 4064675475330              | Number of poles: 20, Box                                      |
| Qty.       | 100 ST                     |   |

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Germany[www.weidmueller.com](http://www.weidmueller.com)**Counterpart****FMH - Male header, Board connection****OMNIMATE® - Board-to-Board connectors**

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**General ordering data**

|            |                            |   |
|------------|----------------------------|---|
| Type       | FMH S1/20H F1 B RL         | Version   |
| Order No.  | <a href="#">2747180000</a> | PCB plug-in connector, male header, SMD solder connection, Pitch in |
| GTIN (EAN) | 4064675001300              | mm (P): 1.27 mm, Number of poles: 20, 90°, Tape                     |
| Qty.       | 560 ST                     |   |

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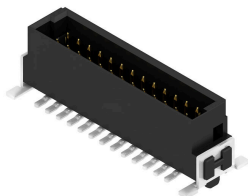
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## Counterpart

## FMH1 - Male header, Board connection (stack height 1.75 mm)



## OMNIMATE® - Board-to-Board connectors

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## General ordering data

|            |                            |   |
|------------|----------------------------|---|
| Type       | FMH1 S1/20V F1 B RL        | Version   |
| Order No.  | <a href="#">2747000000</a> | PCB plug-in connector, male header, SMD solder connection, Pitch in |
| GTIN (EAN) | 4064675001249              | mm (P): 1.27 mm, Number of poles: 20, 180°, Tape                    |
| Qty.       | 280 ST                     |   |



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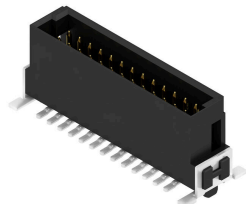
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## Counterpart

## FMH3 - Male header, Board connection (stack height 3.25 mm)



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## General ordering data

|            |                            |   |
|------------|----------------------------|---|
| Type       | FMH3 S1/20V F1 B RL        | Version   |
| Order No.  | <a href="#">2747090000</a> | PCB plug-in connector, male header, SMD solder connection, Pitch in |
| GTIN (EAN) | 4064675001171              | mm (P): 1.27 mm, Number of poles: 20, 180°, Tape                    |
| Qty.       | 280 ST                     |   |