

FFP D1/68H S1 B TY
Weidmüller Interface GmbH & Co. KG

 Klingenbergstraße 26
 D-32758 Detmold
 Germany

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.

- Flexible device design - Industrial suitable density combined with high flexible connection combinations (Mezzanine, Mother-to-Daughter, Extender-card, Cable-to-Board)
- Automation-Ready - Developed for automatic assembly with high precise pin coplanarity and SMT-fixation
- Reliable contact - Up to 500 mating cycles due to industry suitable gold-surface (PdNi-Au)
- Process-Ready - High performance LCP material for reflow soldering
- Scalability - Different heights with high contact overlapping ensure various solutions from 12 – 80 poles.
- Robust miniaturisation - simple and safe connection even possible under unfavorable mating conditions – e.g. inclination or offset.

General ordering data

| | |
|--------------|-----------------------------------------------------------------------------------------------------------|
| Version | PCB plug-in connector, female plug, Pitch in mm (P): 1.27 mm, Number of poles: 68, Tray (manual assembly) |
| Order No. | 2747590000 |
| Type | FFP D1/68H S1 B TY |
| GTIN (EAN) | 4050118896169 |
| Qty. | 75 items |
| Product data | IEC: / 1.9 A UL: 150 V / 1 A / AWG 30 sol - AWG 30 sol |
| Packaging | Tray (manual assembly) |

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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 | 50.96 mm | Width (inches) | 2.0063 inch |
| Net weight | 4.8 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 | 68 | 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 | 190.00 mm |
| VPE width | 122.00 mm | VPE height | 79.00 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

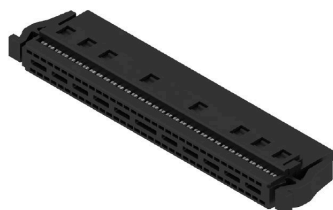
Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 6.0 | EC002638 | ETIM 7.0 | EC002638 |
| ETIM 8.0 | EC002638 | ETIM 9.0 | EC002638 |
| ETIM 10.0 | EC002638 | ECLASS 9.0 | 27-44-03-09 |
| ECLASS 9.1 | 27-44-03-09 | ECLASS 10.0 | 27-44-03-09 |
| ECLASS 11.0 | 27-46-02-02 | ECLASS 12.0 | 27-46-02-02 |
| ECLASS 13.0 | 27-46-02-02 | ECLASS 14.0 | 27-46-02-02 |
| ECLASS 15.0 | 27-46-02-02 | | |

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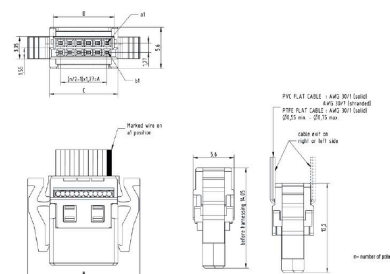
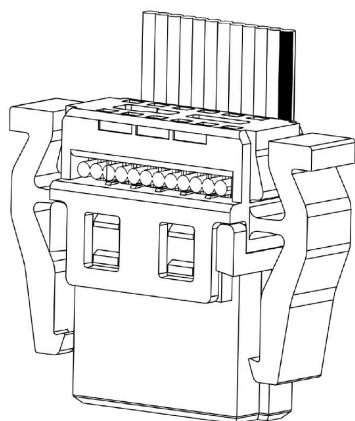
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Drawings


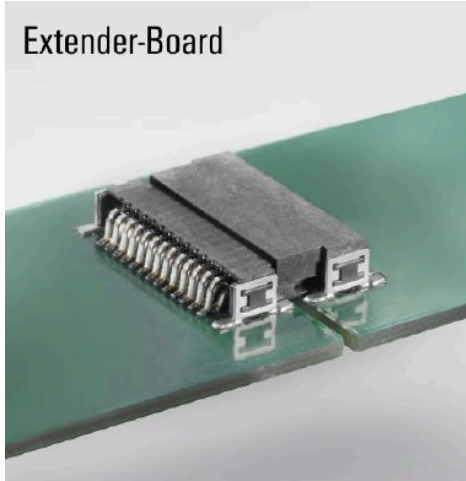
With optional strain relief

Dimensional drawing

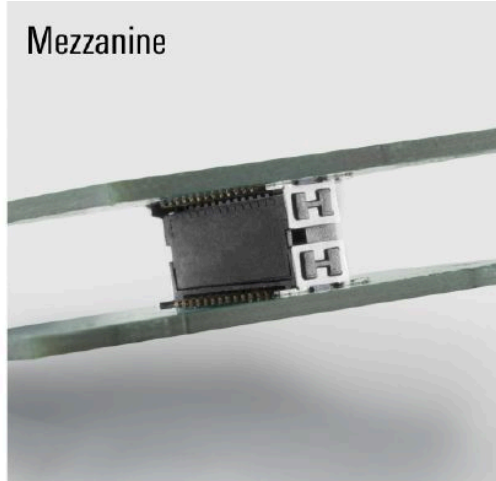
| Type | Order no. | No. of poles | A | B | C | D | E |
|--------------------|------------|--------------|-------|-------|-------|-------|------|
| FFP D1/128 S1 B TY | 2747620000 | 12 | 8.39 | 15.64 | 8.37 | 5.31 | 15 |
| FFP D1/168 S1 B TY | 2747630000 | 16 | 8.89 | 17.54 | 11.91 | 5.31 | 15 |
| FFP D1/208 S1 B TY | 2747640000 | 20 | 11.43 | 20.58 | 14.46 | 13.45 | 15 |
| FFP D1/248 S1 B TY | 2747650000 | 24 | 15.71 | 24.28 | 15.25 | 17.25 | 15 |
| FFP D1/288 S1 B TY | 2747660000 | 32 | 19.85 | 28.1 | 22.07 | 21.67 | 15 |
| FFP D1/408 S1 B TY | 2747670000 | 40 | 24.13 | 33.18 | 27.15 | 26.15 | 15 |
| FFP D1/508 S1 B TY | 2747680000 | 50 | 32.43 | 39.53 | 33.5 | 32.5 | 15 |
| FFP D1/608 S1 B TY | 2747690000 | 60 | 41.91 | 50.58 | 43.52 | 43.52 | 16.2 |
| FFP D1/688 S1 B TY | 2747700000 | 68 | 45.51 | 54.58 | 50.08 | 50.08 | 16.2 |


Detailed drawing


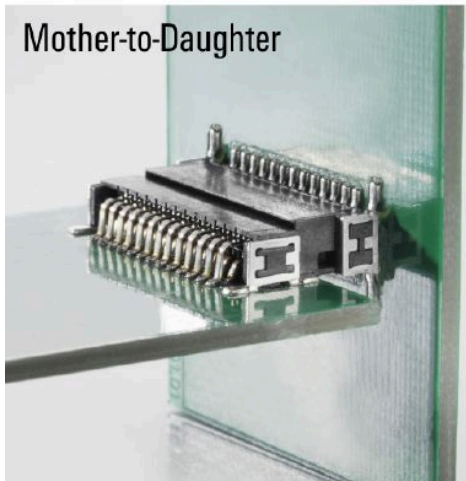
Extender-Board



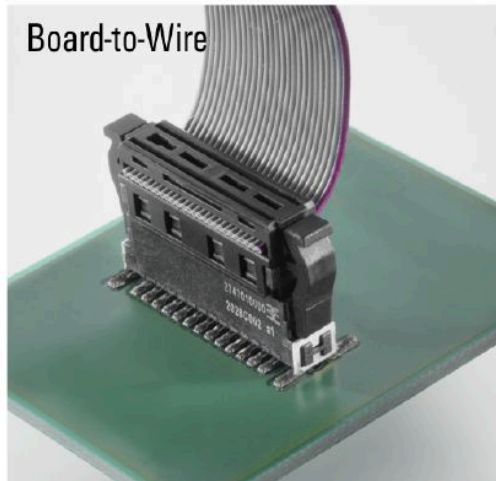
Mezzanine

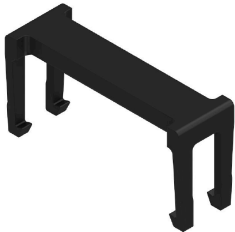


Mother-to-Daughter



Board-to-Wire



FFP D1/68H S1 B TY**Weidmüller Interface GmbH & Co. KG**Klingenbergstraße 26
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Germanywww.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/68 B BX | Version |
| Order No. | 2853160000 | PCB plug-in connector, Accessories, Pitch in mm (P): 1.27 mm, |
| GTIN (EAN) | 4064675476030 | Number of poles: 68, Box |
| Qty. | 50 ST | |

FFP D1/68H S1 B TY**Weidmüller Interface GmbH & Co. KG**Klingenbergstraße 26
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Germanywww.weidmueller.com**Counterpart****FMH - Male header, Board connection****OMNIMATE® - Board-to-Board connectors**

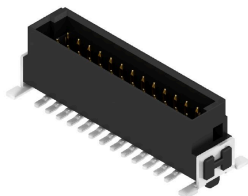
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General ordering data

| | | |
|------------|----------------------------|---------------------------------------------------------------------|
| Type | FMH S1/68H F1 B RL | Version |
| Order No. | 2747230000 | PCB plug-in connector, male header, SMD solder connection, Pitch in |
| GTIN (EAN) | 4064675001027 | mm (P): 1.27 mm, Number of poles: 68, 90°, Tape |
| Qty. | 560 ST | |

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 S1/68V F1 B RL | Version |
| Order No. | 2747050000 | PCB plug-in connector, male header, SMD solder connection, Pitch in |
| GTIN (EAN) | 4064675001188 | mm (P): 1.27 mm, Number of poles: 68, 180°, Tape |
| Qty. | 280 ST | |

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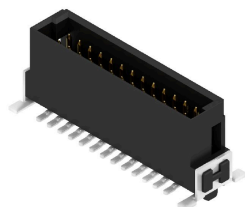
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Counterpart

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



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General ordering data

| | | |
|------------|----------------------------|---------------------------------------------------------------------|
| Type | FMH3 S1/68V F1 B RL | Version |
| Order No. | 2747140000 | PCB plug-in connector, male header, SMD solder connection, Pitch in |
| GTIN (EAN) | 4064675001201 | mm (P): 1.27 mm, Number of poles: 68, 180°, Tape |
| Qty. | 280 ST | |