

FFH S1/80H F1 B RL

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



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 industrial 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 header, SMD solder connection, Pitch in mm (P): 1.27 mm, Number of poles: 80, 90°, Tape |
| Order No. | 2747510000 |
| Type | FFH S1/80H F1 B RL |
| GTIN (EAN) | 4064675000792 |
| Qty. | 560 items |
| Product data | IEC: / 2.8 A UL: 150 V |
| Packaging | Tape |

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Technical data

Approvals

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate No. (cURus) E92202

Dimensions and weights

| | | | |
|------------|----------|-----------------|-------------|
| Depth | 10.9 mm | Depth (inches) | 0.4291 inch |
| Height | 3.7 mm | Height (inches) | 0.1457 inch |
| Width | 55.88 mm | Width (inches) | 2.2 inch |
| Net weight | 5.98 g | | |

Environmental Product Compliance

RoHS Compliance Status Compliant without exemption

REACH SVHC No SVHC above 0.1 wt%

System specifications

| | | | |
|--------------------------------|------------------|---------------------------|----------------------------------|
| Transmission rate | 3.125 Gbit/s | Product family | OMNIMATE Signal - Board-to-Board |
| Type of connection | Board connection | Mounting onto the PCB | SMD solder connection |
| Pitch in mm (P) | 1.27 mm | Pitch in inches (P) | 0.050 " |
| Outgoing elbow | 90° | Number of poles | 80 |
| Number of solder pins per pole | 1 | Coplanarity: | 0.1 mm |
| 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 | ≥ 10 ¹⁰ Ω | Moisture Level (MSL) | 1 |
| UL 94 flammability rating | V-0 | Contact base material | Copper alloy |
| Contact material | Cu-alloy | Contact surface | Gold over nickel |
| Layer structure of plug contact | ≥ 2 μm Ni / ≥ 0.4 μm PdNi / ≥ 0.05 μm Au | Storage temperature, min. | -40 °C |
| Storage temperature, max. | 70 °C | Operating temperature, min. | -55 °C |
| Operating temperature, max. | 125 °C | | |

Rated data acc. to IEC

| | | | |
|---|--------|-------------------------|--------|
| Rated current, min. number of poles (Tu=20°C) | 2.8 A | Creepage distance, min. | 0.4 mm |
| Clearance, min. | 0.4 mm | | |

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 |
|------------------------------|--|------------------------------------|-------|

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Technical data**Packing**

| | | | |
|-----------|-----------|------------|-----------|
| Packaging | Tape | 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.

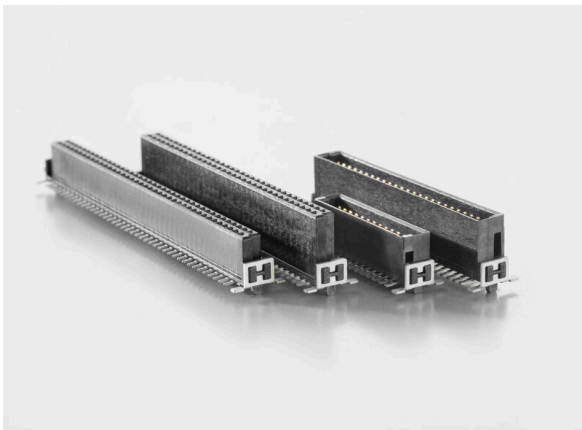
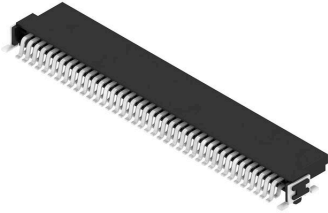
Notes

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 8.0 | EC002637 | ETIM 9.0 | EC002637 |
| ETIM 10.0 | EC002637 | ECLASS 14.0 | 27-46-02-01 |
| ECLASS 15.0 | 27-46-02-01 | | |

Drawings

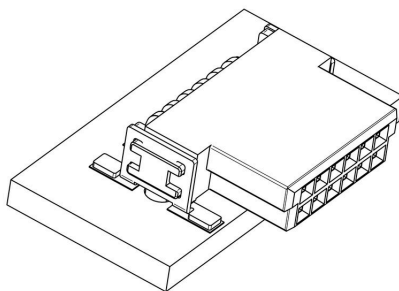
Product image



| Type | Order no. | No. of poles | A | B | C | D | E |
|--------------------|------------|--------------|-------|-------|-------|-------|-------|
| FFH S1/20H F1 B RL | 2747430000 | 12 | 6.35 | 10.27 | 12.7 | 5.37 | 8.37 |
| FFH S1/20H F1 B RL | 2747430001 | 16 | 8.89 | 13.31 | 15.24 | 11.81 | 10.81 |
| FFH S1/20H F1 B RL | 2747430002 | 20 | 11.43 | 15.85 | 17.78 | 14.45 | 13.45 |
| FFH S1/20H F1 B RL | 2747430003 | 25 | 13.97 | 18.39 | 21.29 | 16.99 | 17.29 |
| FFH S1/20H F1 B RL | 2747430004 | 30 | 16.51 | 20.93 | 24.14 | 22.57 | 21.57 |
| FFH S1/20H F1 B RL | 2747430005 | 40 | 21.43 | 26.85 | 30.48 | 27.15 | 26.15 |
| FFH S1/20H F1 B RL | 2747430006 | 50 | 26.35 | 32.77 | 36.81 | 33.11 | 32.11 |
| FFH S1/20H F1 B RL | 2747430007 | 60 | 31.27 | 38.69 | 43.14 | 38.99 | 42.99 |
| FFH S1/20H F1 B RL | 2747430008 | 80 | 41.15 | 50.51 | 56.36 | 52.55 | 51.55 |



Detailed drawing



Derating curve





FFH S1/80H F1 B RL

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Counterpart

FMH - Male header, Board connection



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General ordering data

| | | | |
|------------|----------------------------|---|--|
| Type | FMH S1/80H F1 B RL | Version | |
| Order No. | 2747240000 | PCB plug-in connector, male header, SMD solder connection, Pitch in | |
| GTIN (EAN) | 4064675000983 | mm (P): 1.27 mm, Number of poles: 80, 90°, Tape | |
| Qty. | 560 ST | | |

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Counterpart

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

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General ordering data

| | | |
|------------|----------------------------|---|
| Type | FMH1 S1/80V F1 B RL | Version |
| Order No. | 2747060000 | PCB plug-in connector, male header, SMD solder connection, Pitch in |
| GTIN (EAN) | 4064675001195 | mm (P): 1.27 mm, Number of poles: 80, 180°, Tape |
| Qty. | 280 ST | |

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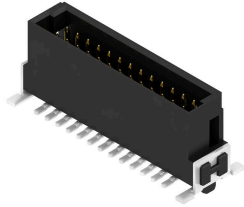
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Counterpart

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

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- Process-Ready - High performance LCP material for reflow soldering
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- Robust miniaturisation - simple and safe connection even possible under unfavorable mating conditions – e.g. inclination or offset.

General ordering data

| | | |
|------------|----------------------------|---|
| Type | FMH3 S1/80V F1 B RL | Version |
| Order No. | 2747150000 | PCB plug-in connector, male header, SMD solder connection, Pitch in |
| GTIN (EAN) | 4064675001096 | mm (P): 1.27 mm, Number of poles: 80, 180°, Tape |
| Qty. | 280 ST | |