Data sheet

FMH S1/12H 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 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, male header, SMD solder connection, Pitch in mm (P): 1.27 mm, Number of poles: 12, 90°, Tape
Order No.	2747160000
Type	FMH S1/12H F1 B RL
GTIN (EAN)	4064675001089
Qty.	560 ST
Product data	IEC: / 2.8 A UL: 150 V
Packaging	Tape

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Technical data

Approvals

Approvals	cULus
ROHS	Conform
UL File Number Search	UL Website
Certificate No. (cURus)	E92202

Dimensions and weights

Depth	10.6 mm	Depth (inches)	0.4173 inch
Height	4.25 mm	Height (inches)	0.1673 inch
Width	12.7 mm	Width (inches)	0.5 inch
Net weight	2.95 g		

Environmental Product Compliance

RoHS Compliance Status	Compliant without exemption
REACH SVHC	No SVHC above 0.1 wt%

System specifications

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	12	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 strength	≥ 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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Packing

Packaging	Tape	VPE length	370.00 mm
VPE width	348.00 mm	VPE height	154.00 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	EC002637	ETIM 7.0	EC002637
ETIM 8.0	EC002637	ETIM 9.0	EC002637
ETIM 10.0	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	ECLASS 12.0	27-46-02-01
ECLASS 13.0	27-46-02-01	ECLASS 14.0	27-46-02-01
ECLASS 15.0	27-46-02-01		

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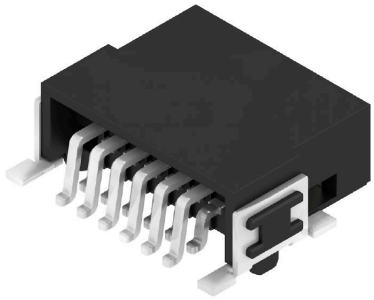
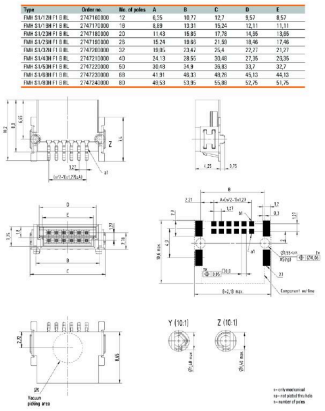
Drawings

Product image

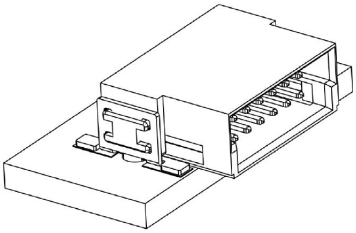


Dimensional drawing

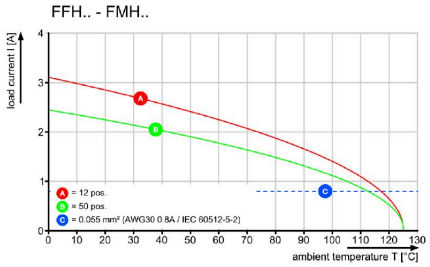


Type	Order no.	No. of poles	A	B	C	D	E
FMH S1/12H F1 B RL	2747160000	12	6,55	10,72	12,7	8,57	8,57
FMH S1/18H F1 B RL	2747170000	18	8,89	13,31	15,24	12,11	11,11
FMH S1/20H F1 B RL	2747180000	20	11,43	15,85	17,78	14,66	13,66
FMH S1/25H F1 B RL	2747190000	25	15,24	19,60	21,59	18,46	17,46
FMH S1/32H F1 B RL	2747200000	32	18,91	23,42	25,4	22,27	21,27
FMH S1/43H F1 B RL	2747210000	43	24,13	28,95	30,48	27,35	25,35
FMH S1/50H F1 B RL	2747220000	50	30,48	34,9	36,83	33,7	32,7
FMH S1/60H F1 B RL	2747230000	60	41,91	40,31	43,18	45,13	44,13
FMH S1/80H F1 B RL	2747240000	80	40,53	53,95	55,88	52,75	51,75

Detailed drawing



Derating curve



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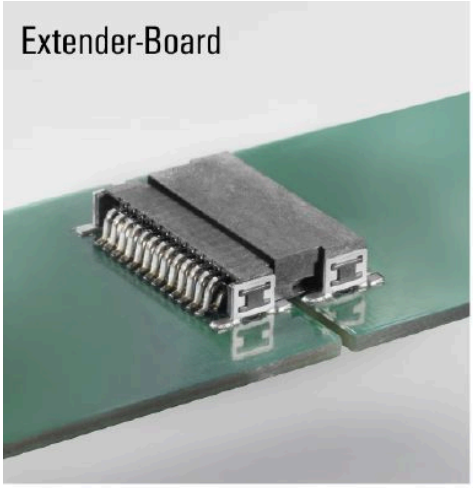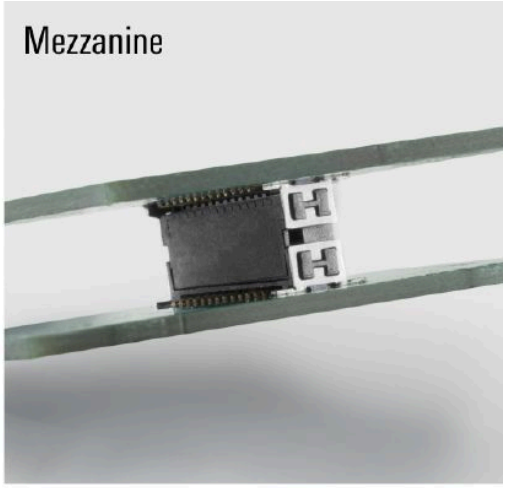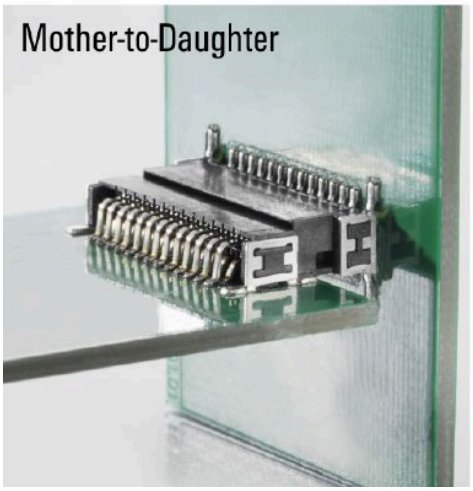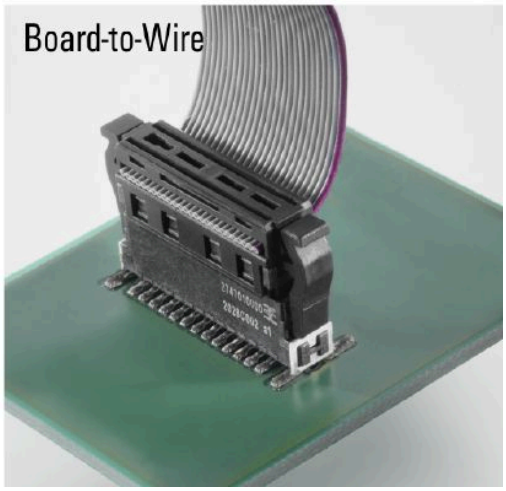
Drawings