

Series MMPX – 80 Gbps snap-on connectors

Description

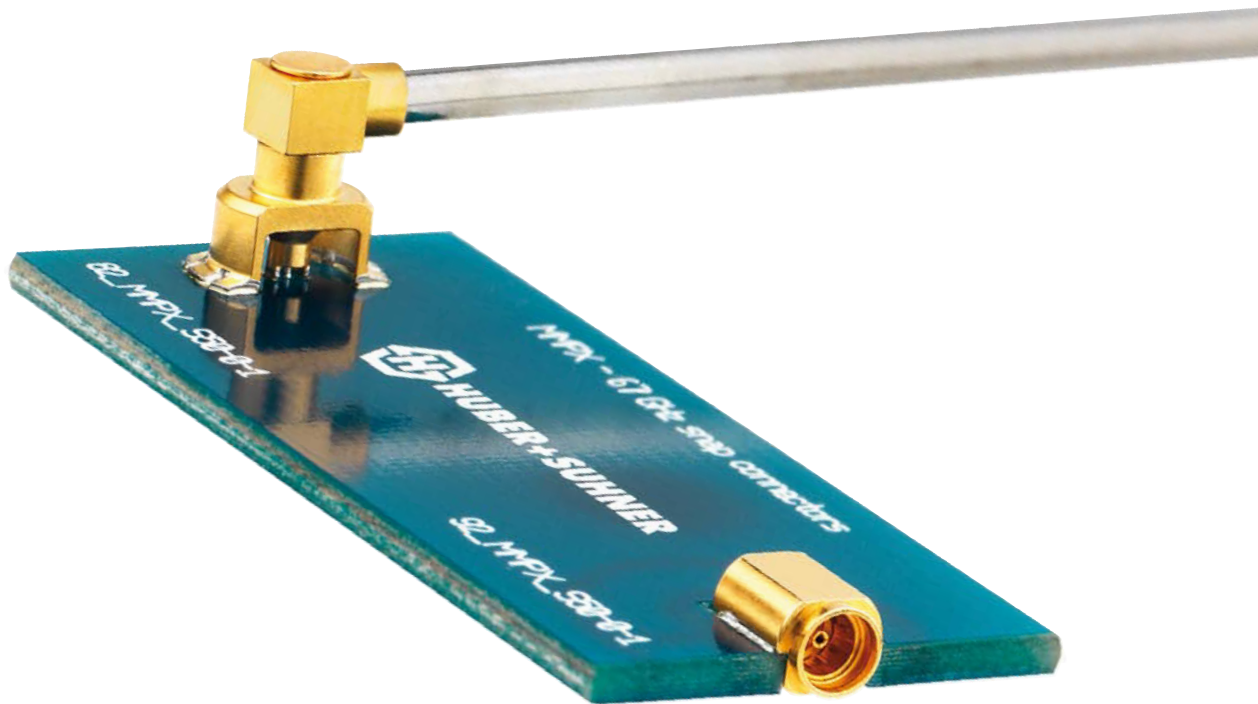
The snap-on connector family MMPX is the most ideal coaxial-to-PCB system solution for operating frequencies up to 65 GHz and data rates up to 80 Gbps. The comprehensive product range consists of cable connectors and assemblies, PCB connectors and adaptors to open standards. MMPX connectors feature excellent electrical performance at smallest mechanical dimensions. The broadband characteristics, the small size and the outstanding performance permit new solutions for applications in numerous markets such as high speed digital testing and radio frequency testing (60 GHz WPAN), industrial, mobile communication, space and defence.

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Interface dimensions conformable to the standards:

HUBER+SUHNER proprietary interface standard



Series MMPX – smallest dimensions and highest performance

Key features

- True 65 GHz/80 Gbps coaxial-to-PCB transition
- Broadband characteristics from DC to 65 GHz
- Excellent return loss
- Excellent shielding, low cross-talk
- Via-in-pad capable
- 5.08 mm pitch (0.2 inch)
- Mechanically robust design
- Extensive technical support

Comprehensive product range of standard products

- Various PCB connector and cable connector types
- Broad range of standard Multiflex 86 HE cable assemblies (MMPX to SMA, PC 3.5, SK (2.92 mm standard) and PC 1.85/phase match: ± 1 ps absolute)
- Customised assemblies with semi-rigid, Sucoform, Multiflex and Minibend L cables
- Adaptors to SK (2.92 mm standard) and to PC 1.85
- Decoupling tools for easy and safe connector decoupling

Benefits

- **Future proof design**
Thanks to the broadband characteristics, the excellent return loss and the true 65 GHz coaxial-to-PCB transition, MMPX helps in developing future proof RF systems.
- **Quick and reliable mating**
The MMPX snap-on mechanism is completely decoupled from the electrical path and therefore specifically optimised for quick and reliable mating.
- **Space saving**
The minimal pitch on boards of 5.08 mm (0.2 inch) saves expensive board material.
- **One connector for several applications**
The unique electrical and mechanical performance as well as the compact form makes MMPX ideal for a variety of applications.
- **Overall cost saving**
The attractive pricing, the extensive technical support including footprint service and the HUBER+SUHNER one-stop shop approach minimises the overall costs for design-ins and trade procedures.

Series MMPX – technical data

Electrical data				
Impedance	50 Ω			
Frequency range	DC to 65 GHz			
Return loss	typical values for coaxial-to-PCB transition (measured) ¹⁾			
	configuration	DC to 26.5 GHz	26.5 to 50 GHz	50 to 65 GHz
	straight PCB jack mated with a straight cable plug	25 dB	20 dB	10 dB
	straight PCB jack mated with a right angle cable plug	25 dB	20 dB	10 dB
edge mount PCB jack mated with a straight cable plug	25 dB	20 dB	16 dB	
RF leakage (interface only)	-40 dB (DC to 65 GHz)			
Dielectric withstanding voltage (at sea level)	500 V rms, 50 Hz			
Working voltage (at sea level)	≤ 170 V rms, 50 Hz			
Insulation resistance	≥ 1 GΩ			
Contact resistance				
• Centre contact	≤ 5 mΩ			
• Outer contact	≤ 2 mΩ			

Mechanical data	
Engagement force	max. 30 N/6.7 lb _f (typical 20 N/4.4 lb _f)
Disengagement force	max. 30 N/6.7 lb _f (typical 15 N/3.3 lb _f)
Durability (matings)	100 (adaptors: 500)

Environmental data	Testing conditions
Temperature range	-65 to +155 °C/-85 to +31 °F
Thermal shock	MIL-STD-202, method 107 G, condition A/F
High temperature endurance	IEC-61-169-1
Corrosion	MIL-STD-202, method 101, condition B
Vibration	MIL-STD-202, method 204 D, condition D
Mechanical shock	MIL-STD-202, method 213 B, condition I
Solderability	MIL-STD-883

Processing data		
Typical values adherent to the PCB	straight PCB jack full SMT	edge mount PCB full SMT
• Shearing	90 N/20.2 lb _f	70 N/15.7 lb _f
• Pulling (vertical to the PCB)	50 N/11.2 lb _f	no standard value available

Material data		
Male connector parts	Material	Plating
Centre contact	CuBe/brass	SUCOPRO® gold plating
Outer contact	brass	SUCOPRO® gold plating
Body	brass	SUCOPRO® gold plating
Insulators	PTFE	
Female connector parts		
Centre contact	CuBe	SUCOPRO® gold plating
Outer contact	CuBe	SUCOPRO® gold plating
Body	brass	SUCOPRO® gold plating
Insulators	PTFE	

Some connectors may have a specification that differs from the mentioned data.

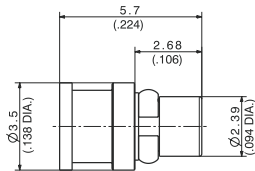
¹⁾ Valid for recommended PCB material/stacking only!

Series MMPX – cable connectors

Straight cable plugs (male)

For semi-rigid cables

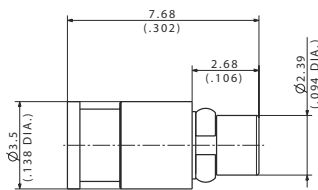
- Outer contact soldered
- Center contact soldered



HUBER+SUHNER type	Item no.	Cable	Packaging	Notes
11_MMPX-50-2-1/111_NE	84022225	EZ_86, STORM SR 86	single	precision interface, air dielectric

For semi-rigid, semi-flexible and flexible cables

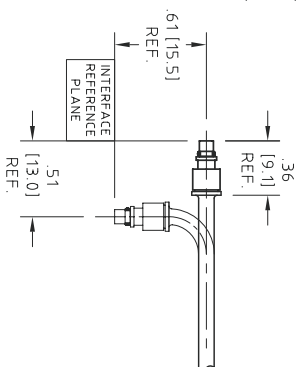
- Outer contact soldered
- Center contact plugged



HUBER+SUHNER type	Item no.	Cable	Packaging	Notes
11_MMPX-50-1-4/111_NE	84122130	MULTIFLEX_53-02	single	for HUBER+SUHNER Multiflex 53-02 cable
11_MMPX-50-2-2/111_NE	84022228	EZ_86, SUCOFORM_86, STORM SR 86		for semi-rigid and HUBER+SUHNER Sucoform cables
11_MMPX-50-2-3/111_NE	84089228	MULTIFLEX_86_HE		for HUBER+SUHNER Multiflex 86 HE cables

For minibend L assemblies

- Bend to the end cable entry
- Available as assembly only



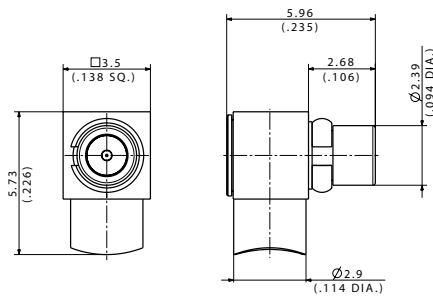
HUBER+SUHNER type	Item no.	Cable	Packaging
11_MMPX-50-0-1/19-_NE	---	Minibend L	single

Series MMPX – cable connectors

Right angle cable plugs (male)

For semi-rigid, semi-flexible and flexible cables

- Outer contact soldered
- Center contact plugged

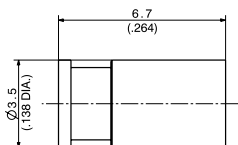


HUBER+SUHNER type	Item no.	Cable	Packaging	Notes
16_MMPX-50-1-1/111_NE	84122132	MULTIFLEX_53-02	single	for HUBER+SUHNER Multiflex 53-02 cable
16_MMPX-50-2-1/111_NE	84022227	EZ_86, SUCOFORM_86, STORM SR 86		for semi-rigid and HUBER+SUHNER Sucoform cables
16_MMPX-50-2-2/111_NE	84067778	MULTIFLEX_86_HE		for HUBER+SUHNER Multiflex 86 HE cable

Straight cable jack (female)

For semi-rigid and semi-flexible cables

- Outer contact soldered
- Center contact soldered

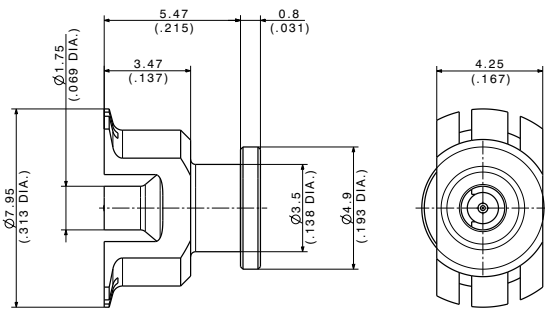


HUBER+SUHNER type	Item no.	Cable size	Packaging
21_MMPX-50-2-1/111_NE	84022226	EZ_86, SUCOFORM_86, STORM SR 86	single

Series MMPX – PCB connectors

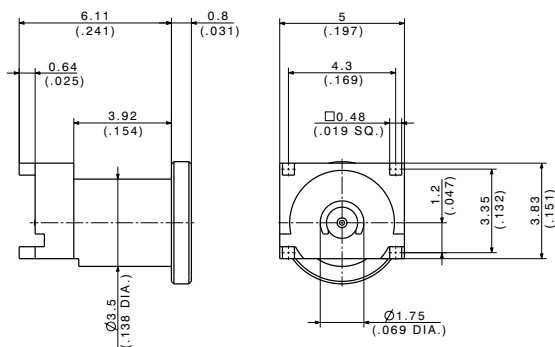
Straight PCB jacks (female)

- Full surface mount (SMD)
- Decoupling tool 74_Z-0-0-491 or 74_Z-0-0-555 recommended



HUBER+SUHNER type	Item no.	Packaging	Notes
82_MMPX-S50-0-2/111_NM	84096711	tape	blister tape containing 10 pcs.
82_MMPX-S50-0-2/111_NM-1	84096752	tape and reel	reeled blister tape containing 750 pcs.

- Semi surface mount (semi-SMD)
- Short print legs
- Decoupling tool 74_Z-0-0-491 or 74_Z-0-0-555 recommended

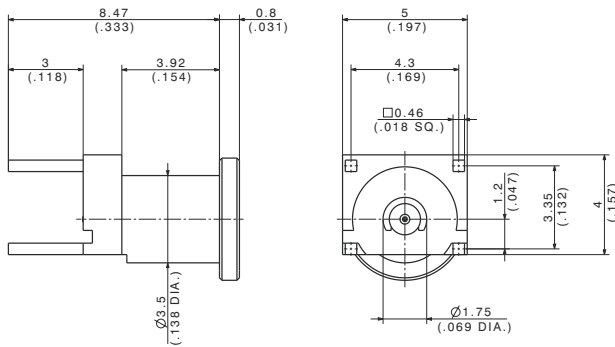


HUBER+SUHNER type	Item no.	Packaging	Notes
96_MMPX-50-0-2/111_NM-1	84093961	tape	blister tape containing 10 pcs.
96_MMPX-50-0-2/111_NM	84093966	tape/reel	reeled blister tape containing 750 pcs.

Series MMPX – PCB connectors

Straight PCB jacks (female)

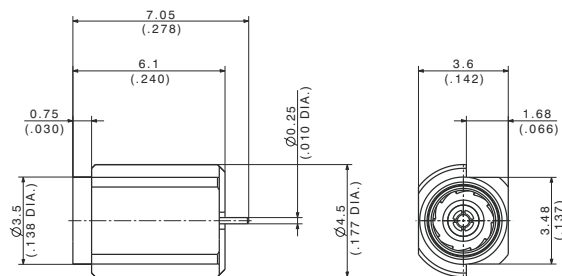
- Semi surface mount (semi-SMD)
- Long print legs



HUBER+SUHNER type	Item no.	Packaging	Notes
96_MMPX-50-0-3/111_NM-1	84099981	tape	blister tape containing 10 pcs.
96_MMPX-50-0-3/111_NM	84099988	tape and reel	reeled blister tape containing 500 pcs.

Straight PCB jacks (female), edge-mount

- Full surface mount (SMD)
- PCB cut out required
- Decoupling tool 74_Z-0-0-491 or 74_Z-0-0-555 recommended

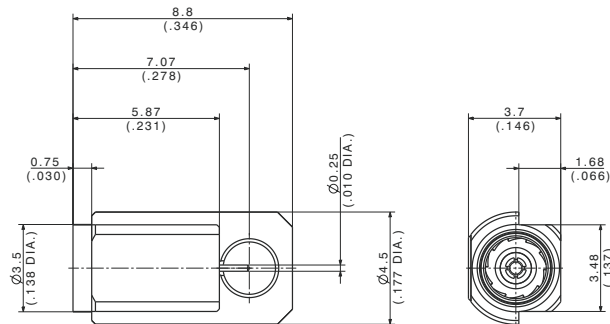


HUBER+SUHNER type	Item no.	Packaging	Notes
92_MMPX-S50-0-1/111_NM	84009138	tape	blister tape containing 10 pcs.
92_MMPX-S50-0-1/111_NM-1	84009140	tape and reel	reeled blister tape containing 500 pcs.

Series MMPX – PCB connectors

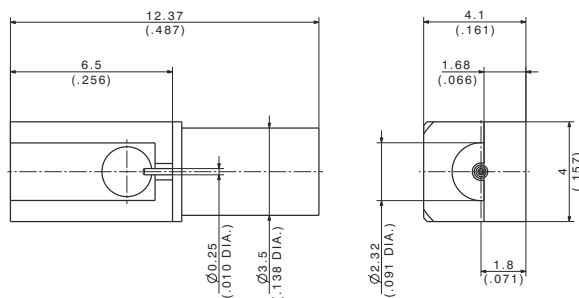
Straight PCB jacks (female), edge-mount

- Full surface mount (SMD)
- PCB cut out required
- Extra shielded for EMF sensitive applications
- Operating range at up to 26.5 GHz
- Decoupling tool 74_Z-0-0-491 or 74_Z-0-0-555 recommended



HUBER+SUHNER type	Item no.	Packaging
92_MMPX-S50-0-2/111_NE	84016110	single

- Full surface mount (SMD)
- No PCB cut-out required
- Operating range at up to 15 GHz
- Decoupling tool 74_Z-0-0-491 or 74_Z-0-0-555 recommended



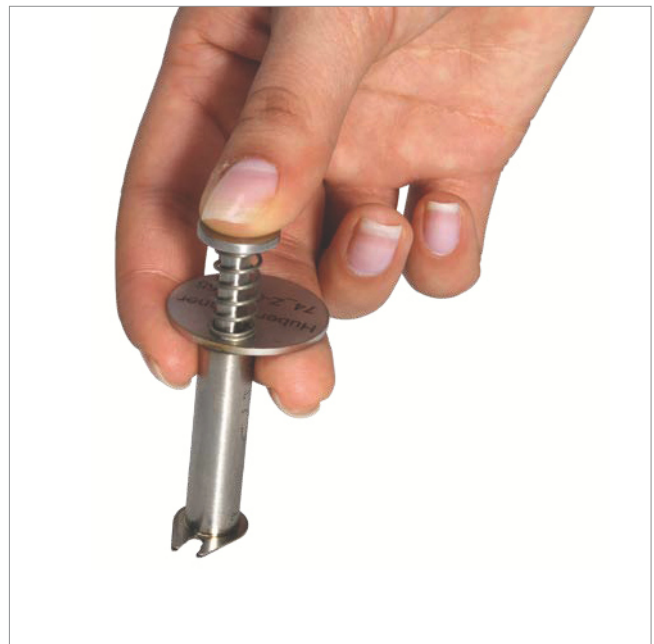
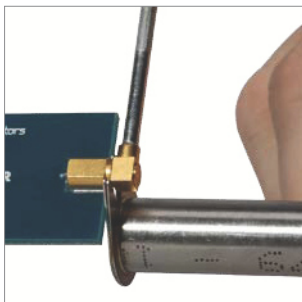
HUBER+SUHNER type	Item no.	Packaging	Notes
92_MMPX-S50-0-3/111_NM-1	84100614	tape	blister tape containing 10 pcs.
92_MMPX-S50-0-3/111_NM	84096563	tape and reel	blister tape containing 1750 pcs.

Series MMPX – decoupling tools

"All-round" decoupling tool

This decoupling tool is suitable for all kind of MMPX combinations.

74_Z-0-0-555	84020011
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"PCB" decoupling tool

This high-end decoupling tool is especially suited for decoupling MMPX combinations when the PCB connectors are placed very close to each other. The anodized surface is non-conductive and helps to prevent short-cutting circuits on the PCB.

Note: Suitable for flexible cables only!

Possible combination of patterns

- 11_MMPX/82_MMPX
- 11_MMPX/92_MMPX
- 11_MMPX/96_MMPX
- 16_MMPX/82_MMPX
- 16_MMPX/96_MMPX

74_Z-0-0-491	84114252
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