

Series SMB – subminiature connectors

Description

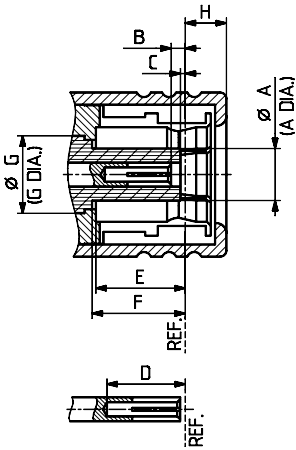
The HUBER+SUHNER subminiature connectors series SMB and SMC have the same basic design. They only differ with regard to their coupling mechanism. HUBER+SUHNER SMB subminiature connectors are suitable for applications from DC up to 4 GHz.

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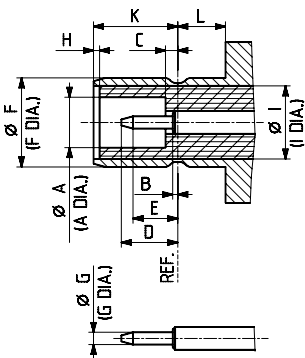
Interface dimensions (mm/inches)

Plug (male)



	Plug		Jack	
	min.	max.	min.	max.
	-	2.06/0.081	2.08/0.082	-
B	0.18/0.007	0.94/0.037	-	0.18/0.007
C	0.18/0.007	-	-	0.18/0.007
D	2.97/0.117	-	-	2.97/0.117
E	3.58/0.141	-	1.32/0.052	-
F	3.58/0.141	-	3.66/0.144	3.71/0.146
G	3.05/0.120 nom.		0.48/0.019	0.53/0.021
H	-	1.63/0.064	0.00/0.000	-
I	-	-	3.05/0.120 nom.	
K	-	-	3.33/0.131	3.58/0.141
L	-	-	1.65/0.065	-

Jack (female)



Interface dimensions conformable to the standards:

International:	IEC 60169-10
Europe:	CECC 22130
USA:	MIL-PRF-39012
	Interface MIL-STD-348/311

Series SMB – technical data

Electrical data	Requirements
Impedance	50 Ω
Frequency range	DC to 4 GHz
Dielectric withstanding voltage (at sea level)	750 V rms, 50 Hz (depending on cable)
Working voltage (at sea level)	250 V rms for cables with 1 mm/0.039 in. dielectric 335 V rms for cables with 2 mm/0.078 in. dielectric
Insulation resistance	≥10 ⁴ MΩ
Contact resistance	
• Centre contact	≤ 5 mΩ
• Outer contact	≤ 2.5 mΩ
RF leakage (measured at 1 GHz)	≥ 55 dB

Mechanical data	Requirements
Engagement force	8 to 63 N/1.8 to 14.2 lbs
Disengagement force	8 to 63 N/1.8 to 14.2 lbs
Contact captivation	≥ 18 N/4.0 lbs
Cable retention force ¹⁾	see pages 32 - 37
Durability (matings)	≥ 500

Environmental data	Requirements
Temperature range	-65 to +165 °C/-85 to +329 °F
Climatic category	IEC → 55/155/21
Thermal shock	MIL-STD-202, method 107, condition B
Moisture resistance	MIL-STD-202, method 106
Corrosion	saltspray test acc. to MIL-STD-202, method 101, condition B
Vibration	MIL-STD-202, method 204, condition B

Material data		
Connector parts	Material	Plating
Bodies	brass	gold or SUCOPLATE®
Pin contacts	brass	gold
Socket contacts	copper-beryllium alloy	gold
Crimp ferrules	copper/brass	gold or SUCOPLATE®
Springs and washers	copper-beryllium alloy	gold or SUCOPLATE®
Insulators	PTFE or PFA	

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

The products are designed and guaranteed to pass the above mentioned test procedures. Any additional or different requirement arising from specific applications or environmental conditions which is not covered by these test procedures is subject to request.

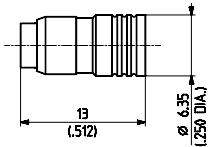
¹⁾ Value considers maximum load of the cables without irreversible variations of specifications.

Series SMB – cable connectors

Straight cable plugs (male)

For semi-rigid cables

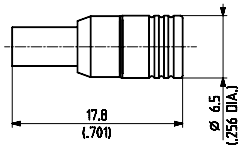
- Open entry
- Cable entry soldered
- Centre contact crimp or soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
11_SMB-50-2-13/111_NE 11_SMB-50-2-13/111_NH	22543362 22658765	Y3, Y11, (EZ_86)	single bulk 100 pcs.	9002	1

For flexible cables

- Closed entry
- HUBER+SUHNER full crimp
- Taper sleeves see page 526



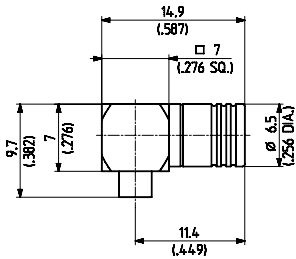
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Notes
11_SMB-50-1-40/111_NE 11_SMB-50-1-40/111_NH	22648050 22650186	U1 (RG_178_B/U)	single bulk 100 pcs.	3077	1 A	low retention
11_SMB-50-2-40/111_NE 11_SMB-50-2-40/111_NH	22648051 23014146	U2 (RG_316/U)	single bulk 100 pcs.			
11_SMB-50-2-40/133_NE 11_SMB-50-2-40/133_NH	22648498 22650179		single bulk 100 pcs.			
11_SMB-50-2-41/111_NE 11_SMB-50-2-41/111_NH	22648052 22650536	U4 (K-02252_D)	single bulk 100 pcs.			

Series SMB – cable connectors

Right angle cable plugs (male)

For semi-rigid cables

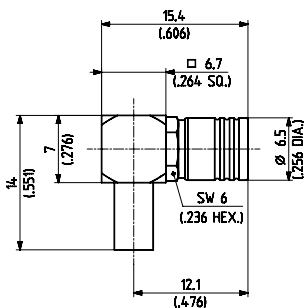
- Closed entry
- Cable entry soldered
- Centre contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
16_SMB-50-2-23/111_NE	22644079	Y3, Y11 (EZ_86)	single	9160

For flexible cables

- Closed entry
- HUBER+SUHNER full crimp
- Taper sleeves see page 526



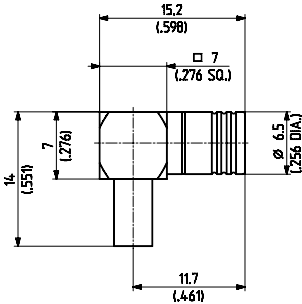
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Notes
16_SMB-50-2-110/111_NE	22659113	U2 (RG_316_/U	single	3096	1 A	high retention, open entry
16_SMB-50-2-110/133_NH	22659116	U2 (RG_316_/U	bulk 100 pcs.			high retention, open entry
16_SMB-50-2-111/111_NH	22659120	U4 (K-02252_D)	bulk 100 pcs.			
16_SMB-50-2-111/111_NH-1	23015343		bulk 100 pcs.			
16_SMB-50-1-40/111_NE	22648053	U1 (RG_178_B/U)	single			
16_SMB-50-2-40/111_NE	22648054	U2 (RG_316_/U	single			
16_SMB-50-2-40/111_NH	22650695		bulk 100 pcs.			
16_SMB-50-2-41/111_NH	22660335	U4 (K-02252_D)	bulk 100 pcs.			

Series SMB – cable connectors

Right angle cable plugs (male)

For flexible cables

- Closed entry
- Cable entry crimp
- Centre contact soldered
- Taper sleeves see page 526

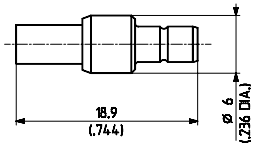


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Plating body
16_SMB-50-2-50/111_NE 16_SMB-50-2-50/111_NH	22648057 23011371	U2 (RG_316_/U)	single bulk 100 pcs.	9157	A	
16_SMB-50-2-50/133_NH ¹⁾	22650181	U2 (RG_316_/U)	bulk 100 pcs.			SUCOPLATE®
16_SMB-50-2-51/111_NE 16_SMB-50-2-51/111_NH	22648058 22658985	U 4 (K_02252_D)	single bulk 100 pcs.			
16_SMB-50-2-51/133_NE ¹⁾ 16_SMB-50-2-51/133_NH ¹⁾	23029417 22650182	U 4 (K_02252_D)	single bulk 100 pcs.			SUCOPLATE®

Straight cable jacks (female)

For flexible cables

- HUBER+SUHNER full crimp
- Taper sleeves see page 526



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert
21_SMB-50-1-10/111_NE ²⁾	22543424	U1 (RG_17_B/U)	single	3077	1 A
21_SMB-50-2-10/111_NE 21_SMB-50-2-10/111_NH	22640205 22651810	U2 (RG_316_/U)	single bulk 100 pcs.		
21_SMB-50-2-11/111_NE	22642407	(K_02252_D)	single		

¹⁾ Cost effective

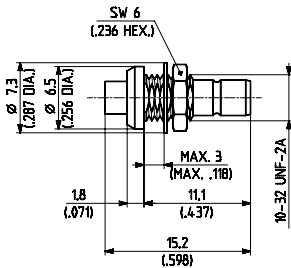
²⁾ Centre contact not captivated

Series SMB – cable connectors

Straight bulkhead cable jacks (female)

For semi-rigid cables

- Cable entry soldered
- Centre contact crimp or soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole	Crimp insert
24_SMB-50-2-13/111_NE ¹⁾	22640822	Y3, Y11, Y16 (EZ_86)	single	9002	ML 11	1
24_SMB-50-2-13/111_NH ¹⁾	84047710		bulk 100 pcs.			

For flexible cables

- HUBER+SUHNER full crimp
- Rear mounting
- Mounting hole ML 11
- Taper sleeves see page 526

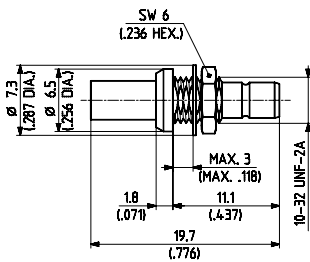


Fig. 1

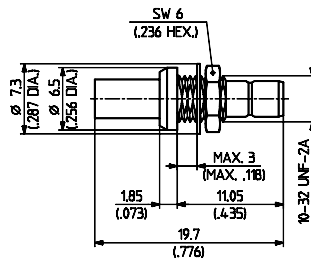


Fig. 2



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Plating body	Fig.
24_SMB-50-1-10/111_NE ¹⁾	22543631	U1 (RG_178_B/U)	single	3077	1 A		1
24_SMB-50-1-10/111_NH	22645690		bulk 100 pcs.				
24_SMB-50-2-110/111_NE	22658161	U2 (RG_316_/U)	single				2
24_SMB-50-2-110/111_NH	22659126		bulk 100 pcs.				
24_SMB-50-2-110/133_NH ²⁾	22659128	U2 (RG_316_/U)	bulk 100 pcs.			SUCOPLATE®	
24_SMB-50-2-111/111_NH	22659130	U2 (RG_316_/U)	bulk 100 pcs.				
24_SMB-50-2-111/133_NH ²⁾	23005564	U4 (K_02252_D)	bulk 100 pcs.			SUCOPLATE®	

¹⁾ Cost effective

²⁾ Centre contact not captivated

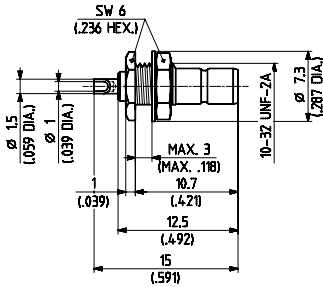
Series SMB – receptacles with solder end

Receptacle jack (female)

- Bulkhead mounted
- Rear mounting
- Insulating washers see page 528

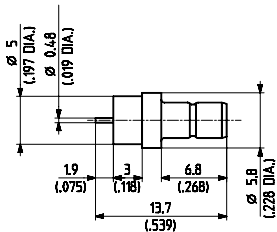


SMB



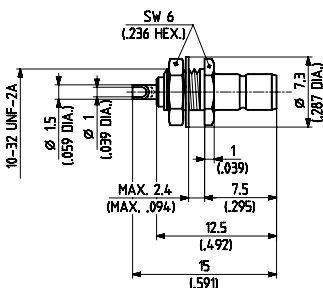
HUBER+SUHNER type	Item no.	Packaging	Mounting hole
22_SMB-50-0-3/111_NE	22640207	single	ML 11

- Bulkhead mounted
- Hermetically sealed
- Suited for microstrip circuits for direct soldering (250 °C/482 °F max.)
- RoHS compliant alternative on request



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Leak rate
22_SMB-50-0-5/111_NE	22640209	single	ML 90	≤ 10 ⁻⁸ Torr. l/sec.(atm cc/s)

- Bulkhead mounted
- Front mounting
- Insulating washers see page 528

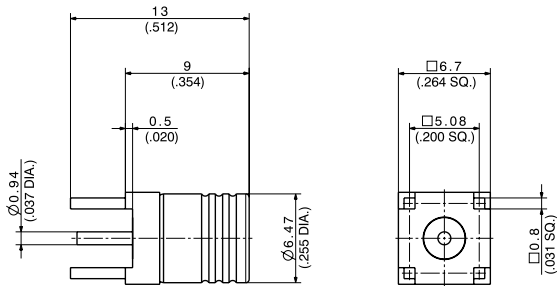


HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Plating body
22_SMB-50-0-2/133_NH	22651503	bulk 100 pcs.	ML 11	SUCOPLATE®

Series SMB – PCB connectors

Straight PCB plug (male)

- 2.54 mm/0.100 in. grid
- Open entry



HUBER+SUHNER type	Item no.	Mounting hole	Plating body	Notes
81_SMB-50-0-41/111_NE	22648059	ML 15	gold	with stand-off

Straight PCB jacks (female)

- 2.54 mm/0.100 in. grid

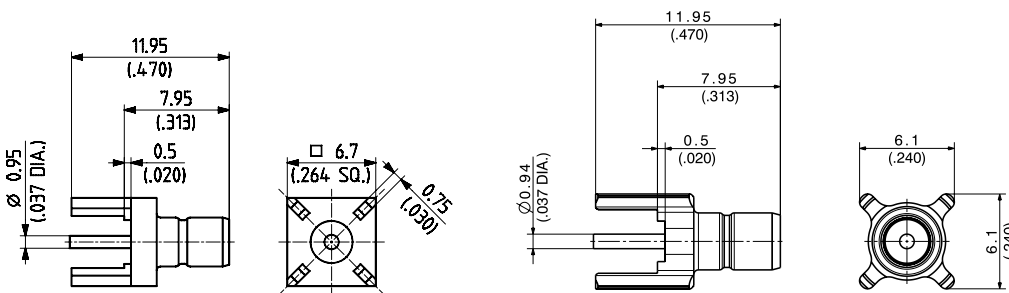


Fig. 1

Fig. 2

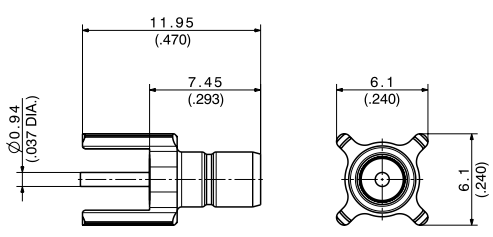


Fig. 3

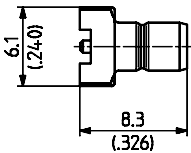
HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Plating body	Fig.	Notes
82_SMB-50-0-1/133_NE	22641492	single	ML 15	SUCOPLATE®	1	with stand-off
82_SMB-50-0-1/111_NH-1	23017254	bulk 100 pcs.		SUCOPRO® plating	1	with stand-off
82_SMB-50-0-17/111_NH	23010991	bulk 100 pcs.		SUCOPRO® gold plating	2	with stand-off
82_SMB-50-0-19/111_NH	23011018	bulk 100 pcs.		SUCOPRO® gold plating	3	without stand-off

Cable groups see page 32 Assembly tools see page 509 Mounting holes/PCB layouts see page 533

Series SMB – PCB connectors

Straight PCB jacks (female)

- Surface mount type SMT



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Plating body
82_SMB-S50-0-18/111_NH	23010995	bulk 100 pcs.	ML 122	SUCOPRO® gold plating

Right angle PCB jacks (female)

- 2.54 mm/0.100 in. grid
- With stand-off

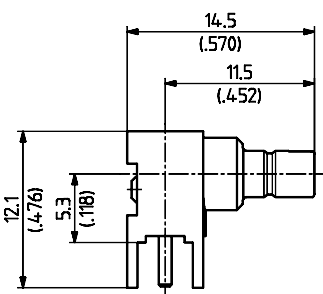


Fig. 1

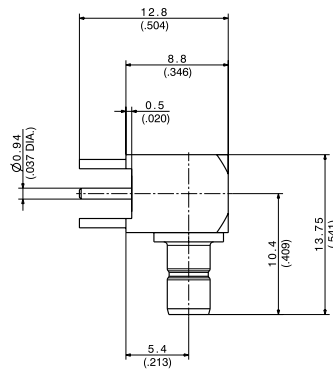
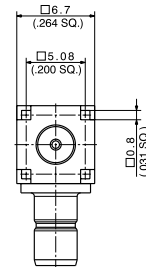


Fig. 2



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Plating body	Fig.
85_SMB-Z50-0-19/111_NE	84041359	single	ML 15	SUCOPRO® gold plating	1
85_SMB-Z50-0-19/111_NH	23010999	bulk 100 pcs.		gold	2
85_SMB-50-0-1/111_NE	22640235	single		SUCOPLATE®	
85_SMB-50-0-1/111_NH	22645989	bulk 100 pcs.			
85_SMB-50-0-1/133_NE ¹⁾	22641270	single			
85_SMB-50-0-1/133_NH ¹⁾	22644524	bulk 100 pcs.			

¹⁾ Cost effective