

SERIES SMS SUBMINIATURE CONNECTORS

Description

SUHNER SMS connectors are used in applications requiring rapid connection and disconnection, even where space is limited. The small physical size of the connector allows a high packing density to be achieved. The low engaging and disengaging forces due to the slide-on mechanism make this connectors specially suited for rack or panel systems. These connectors are suitable for applications up to 4 GHz.

The SMB, SMC and SMS series have an identical inner construction, but a different coupling mechanism.

In accordance with the international specifications, plugs are fitted with female center contacts and jacks with male center contacts. To increase the voltage rating, all insulators overlap.

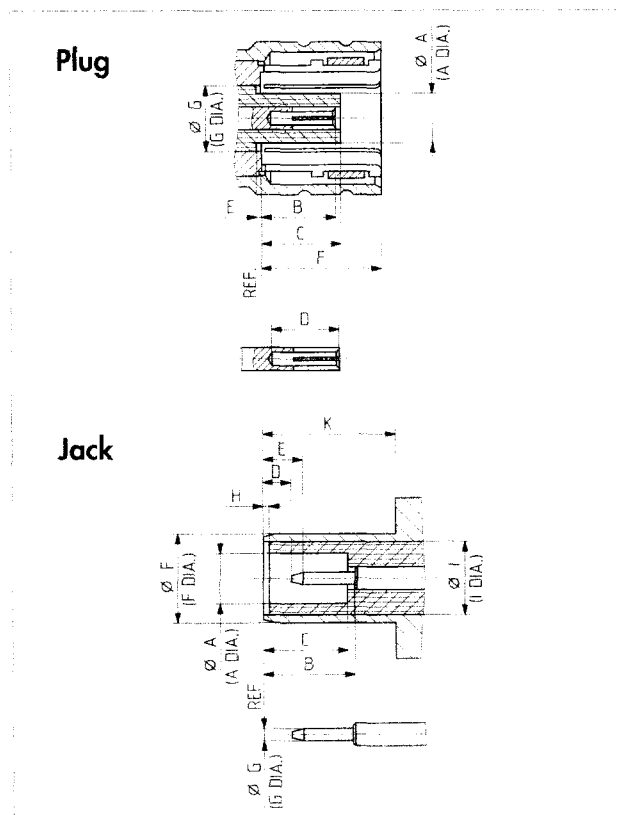
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SMS

Interface Dimensions



Interface Dimensions in mm / inches

	Plug		Jack	
	min.	max.	min.	max.
A	—	2.06/.081	2.08/.082	—
B	2.85/.112	3.40/.134	3.40/.134	—
C	—	3.40/.134	3.40/.134	—
D	2.79/.110	—	0.61/.024	—
E	0.00/.000	—	—	2.13/.084
F	—	5.20/.205	3.66/.144	3.71/.146
G	3.05/.120 nom.		0.48/.019	0.53/.021
H	—	—	0.00/.000	—
I	—	—	3.05/.120 nom.	
K	—	—	5.30/.209	—

Note: SUHNER SMS plugs are intermateable with SUHNER SMB jacks.

These products are mentioned in the List of Preferred Products of CECC/MUAHAG.

Technical Data

ELECTRICAL DATA CABLE DIELECTRIC DIAMETER	REQUIREMENTS	
	0.87 MM / .034 IN.	1.5 MM / .059 IN.
Impedance	50 Ω	
Frequency range	DC ... 4 GHz (see also Appendix page 436)	
VSWR	see table below	
Insertion loss (f in GHz)	see Appendix page 437	
RF-leakage (measured at 1 GHz)	≥ 55 dB	
Dielectric withstanding voltage (at sea level in V rms, 50 Hz)	750	1000
Working voltage (at sea level in V rms, 50 Hz)	≤ 250	≤ 335
Working voltage DC (at sea level in V)	≤ 350	≤ 450
Insulation resistance	$\geq 10^4$ M Ω	
Contact resistance		
- centre contact	≤ 6 m Ω	
- outer contact	≤ 1 m Ω	

TYPICAL VSWR CONNECTOR TYPE	FREQUENCY RANGE			CABLE GROUP
	1 GHz	2.5 GHz	4 GHz	
straight connectors	1.14	1.30	1.33	U1
	1.12	1.15	1.18	U2, U4
right angle connectors	1.14	1.25	1.30	U1
	1.12	1.25	1.33	U2, U4

Other connectors and cables on request

MECHANICAL DATA	REQUIREMENTS
Engagement force	typ. 8 N / 1.8 lbs
Disengagement force	typ. 5 N / 1.1 lbs
Contact captivation	≥ 18 N / 4.0 lbs
Cable retention force ¹⁾	see pages 36 – 41
Durability (matings)	≥ 500

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

ENVIRONMENTAL DATA	TEST CONDITIONS
Temperature range	- 65° C ... + 165° C / -85° F ... + 329° F
Climatic category acc. to IEC	55 / 155 / 21
Thermal shock	MIL-STD-202, Method 107, Condition C
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 C

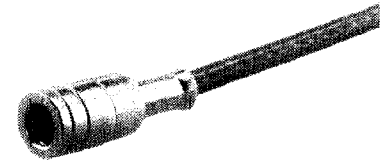
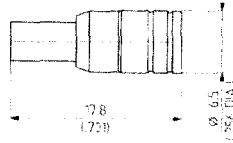
MATERIAL DATA			
CONNECTOR PART	STANDARDS	MATERIAL	SURFACE/PLATING
Bodies, pin contact	QQ-B-626	brass	gold plated, other platings available
Socket contact	QQ-C-530	beryllium-copper, hardened	gold plated
Crimp ferrule (SUHNER® crimp)	SUHNER® specification	copper	gold plated
Springs and washers	QQ-C-530	beryllium-copper, hardened	gold plated
Insulators	ASTM-D-1457, BS 4271 Grade B	PTFE	
Gaskets (SUHNER® pressure-sleeve)	ASTM-E-1418 PS 1	silicone rubber	

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

Cable Connectors for Flexible Cables

straight plugs

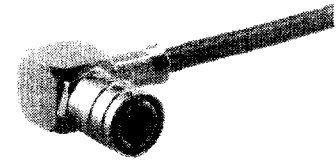
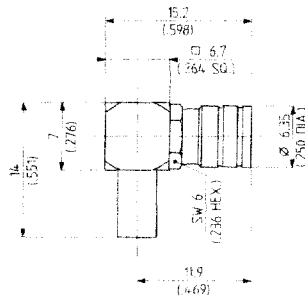
> SUHNER® full crimp



SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Weight	Notes
11 SMS-50-1-10	543572	U1 (RG 178 B/U)	1/2 A	3077	2.30 g/.081 oz.	
11 SMS-50-2-10/111●	640334	U2 (RG 316/U)	1/2 A	3077	2.30 g/.081 oz.	
11 SMS-50-2-10/133●	611445	U2 (RG 316/U)	1/2 A	3077	2.30 g/.081 oz.	SUCOPLATE®

right angle plugs

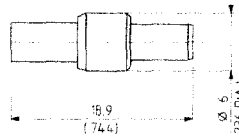
> SUHNER® full crimp



SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Weight	Notes
16 SMS-50-1-10	544402	U1 (RG 178 B/U)	1/2 A	3096	4.00 g/.140 oz.	
16 SMS-50-2-10 ●	543574	U2 (RG 316/U)	1/2 A	3096	4.00 g/.140 oz.	

straight jacks

> SUHNER® full crimp



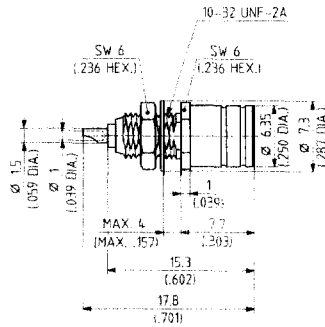
SUHNER TYPE	Ident. no.	Cable group (example)	Crimp insert	Assembly instruction	Weight	Notes
21 SMS-50-1-10	641147	U1 (RG 178 B/U)	1/2 A	3077	1.60 g/.056 oz.	
21 SMS-50-2-10 ●	640348	U2 (RG 316/U)	1/2 A	3077	1.60 g/.056 oz.	

● centre contact captivated

Receptacles with Solder End

receptacle, male

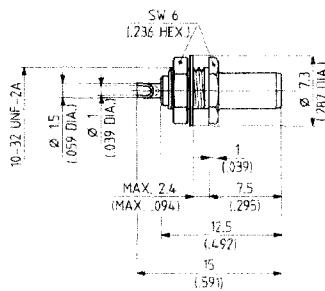
- > bulkhead mounted



SUHNER TYPE	Ident. no.	Mounting hole	Weight	Notes
12 SMS-50-0-3	651812	ML 11	2.10 g/.074 oz.	without panel seal

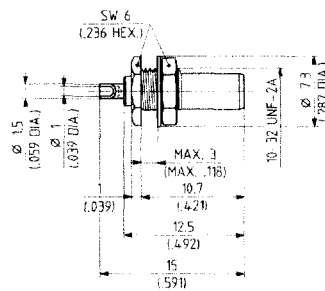
receptacles, female

- > bulkhead mounted
- > front mounting
- > suitable for insulated mounting
- > insulating washers see page 425



SUHNER TYPE	Ident. no.	Mounting hole	Weight	Notes
22 SMS-50-0-2	640350	ML 11	1.10 g/.039 oz.	

- > bulkhead mounted
- > rear mounting
- > suitable for insulated mounting
- > insulating washers see page 425

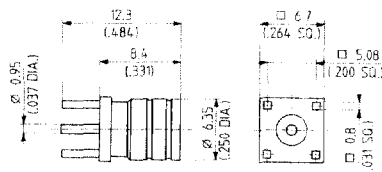


SUHNER TYPE	Ident. no.	Mounting hole	Weight	Notes
22 SMS-50-0-3	640351	ML 11	1.10 g/.039 oz.	without panel seal

- centre contact captivated

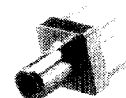
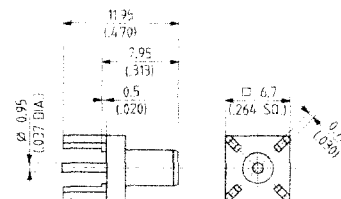
PCB Connectors

straight PCB plug



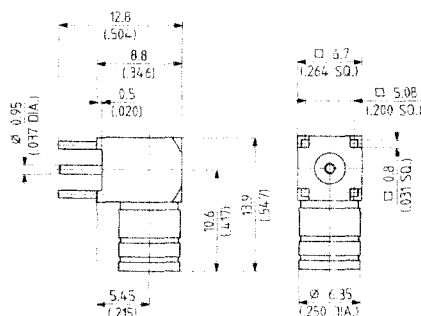
SUHNER TYPE	Ident. no.	Mounting hole	Weight	Notes
81 SMS-50-0-1	• 640375	ML 15	1.50 g / .053 oz.	5.08 mm / .200 in. grid

straight PCB jack



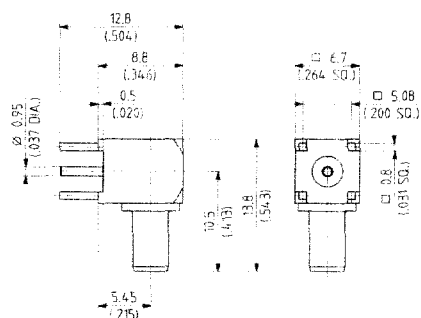
SUHNER TYPE	Ident. no.	Mounting hole	Weight	Notes
82 SMS-50-0-1	• 640376	ML 15	0.80 g / .028 oz.	5.08 mm / .200 in. grid

right angle PCB plug



SUHNER TYPE	Ident. no.	Mounting hole	Weight	Notes
84 SMS-50-0-1	• 640377	ML 15	3.70 g / .130 oz.	5.08 mm / .200 in. grid

right angle PCB jack



SUHNER TYPE	Ident. no.	Mounting hole	Weight	Notes
85 SMS-50-0-1	• 640378	ML 15	3.00 g / .105 oz.	5.08 mm / .200 in. grid

• centre contact captivated

cable groups see page 36

assembly tools see page 403

mounting holes see page 441