

Series MHV (H4) - high voltage connectors

Description

HUBER+SUHNER MHV (Miniature High Voltage) are coaxial miniature high voltage connectors with 5 kV rms test voltage (mated pairs). The MHV connectors have a working voltage up to 1.6 kV rms in mated condition and are suitable for applications up to 300 MHz. MHV connectors are of similar design to BNC connectors but the insulators protrude over the outer contacts to give a degree of contact-voltage proof when unmated.

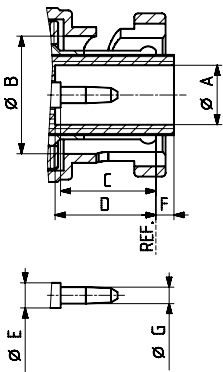
However, if a high degree of protection in the unmated condition is required, use of series SHV is recommended.

Content

Description	353
Interface dimensions in mm/inches	353
Technical data	354
Cable connectors	355
Receptacles with solder end	355

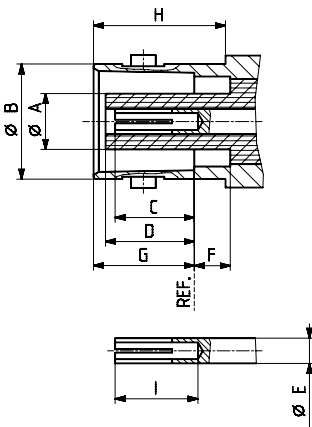
Interface dimensions (mm/inches)

Plug (male)



	Plug		Jack	
	min.	max.	min.	max.
A	4.83/0.190	-	-	4.72/0.186
B	9.78/0.385	9.91/0.390	9.60/0.378	9.70/0.382
C	7.18/0.283	-	-	7.11/0.280
D	8.10/0.319	-	-	8.05/0.317
E	-	2.31/0.091	2.06/0.081	2.31/0.091
F	-	2.18/0.086	2.18/0.086	-
G	1.32/0.052	1.37/0.054	8.31/0.327	8.51/0.335
H	-	-	10.52/0.414	-
I	-	-	6.86/0.270	-

Jack (female)



Series MHV – technical data

Electrical data	Requirements
Impedance	50 Ω
Frequency range	DC to 300 MHz
Dielectric withstanding voltage (at sea level)	5.0 kV rms, 50 Hz (depending on cable)
Working voltage (at sea level)	1.6 kV rms, 50 Hz (depending on cable)
Insulation resistance	$\geq 5 \text{ G}\Omega$
Contact resistance <ul style="list-style-type: none"> • Centre contact • Outer contact 	$\leq 2 \text{ m}\Omega$ $\leq 1 \text{ m}\Omega$
Corona extinction voltage (at 21 000 m)	$\geq 300 \text{ V rms}$, 50 Hz (depending on cable)
Current rating, continuous	$\leq 10 \text{ A}$

Mechanical data	Requirements
Coupling nut torque	7 to 28 Ncm/0.6 to 2.5 in lbs
Coupling nut retention force	$\geq 450 \text{ N}$ /101.2 lbs
Contact captivation	$\geq 15 \text{ N}$ /6.1 lbs
Cable retention force ¹⁾	see pages 32 - 37
Durability (matings)	≥ 500

Environmental data	Test conditions
Temperature range	-65 to +165 °C / -85 to +329 °F
Climatic category	IEC \rightarrow 55/155/21
Thermal shock	MIL-STD-202, method 107, condition B
Moisture resistance	MIL-STD-202, method 106
Corrosion	salt spray 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	SUCOPLATE®
Pin contacts	brass	gold
Socket contacts	copper-beryllium alloy	gold
Crimp ferrules	copper	SUCOPLATE®
Insulators	PTFE or PFA	

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

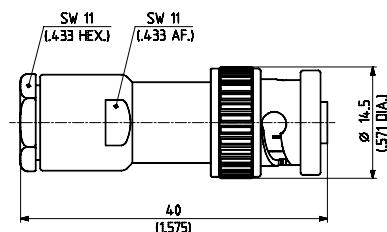
The products are designed and guaranteed to pass the above mentioned test procedures. Any additional or different requirement arising from specific applications or environmental conditions which is not covered by these test procedures is subject to request.

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

Series MHV – cable connectors

Straight cable plugs (male)

- Cable entry clamp
- Center contact soldered



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
11_H4-50-3-1/133_NE ¹⁾	22541732	U7 (RG_58_C/U)	single	3012
11_H4-50-4-1/133_NE ¹⁾	22541742	U16 (RG_59_B/U)		

- Cable entry crimp
- Taper sleeves see page 526

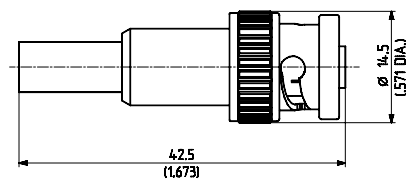


Fig. 1

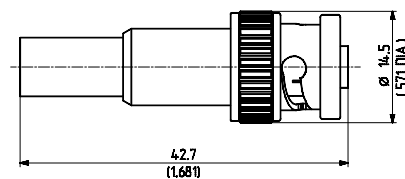
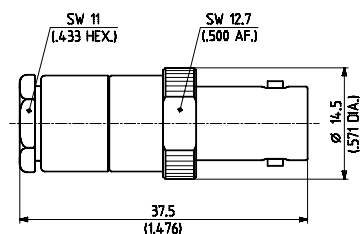


Fig. 2

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Fig.
11_H4-50-3-3/133_NE ¹⁾	22541737	U7 (RG_58_C/U)	single	3078	B	1
11_H4-50-4-4/133_NE ¹⁾	22543809	U16 (RG_59_B/U)			C	2

Straight cable jacks (female)

- Cable entry clamp
- Center contact soldered



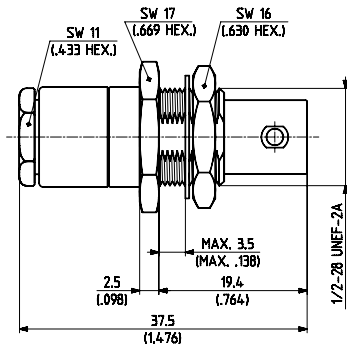
HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction
21_H4-50-3-1/133_NE ¹⁾	22541756	U7 (RG_58_C/U)	single	3012

¹⁾ Centre contact NOT captivated

Series MHV - cable connectors

Straight bulkhead cable jacks (female)

- Cable entry clamp
- Center contact soldered
- With panel seal

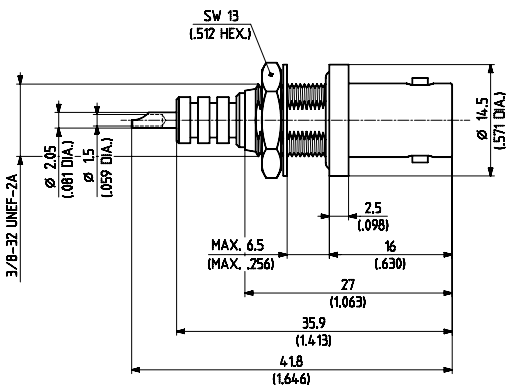


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Mounting hole
24_H4-50-3-1/133_NE ¹⁾	22541784	U7 (RG_58_C/U)	single	3012	ML 4

Receptacles with solder end

Receptacles, jacks (female)

- Bulkhead mounted
- With panel seal



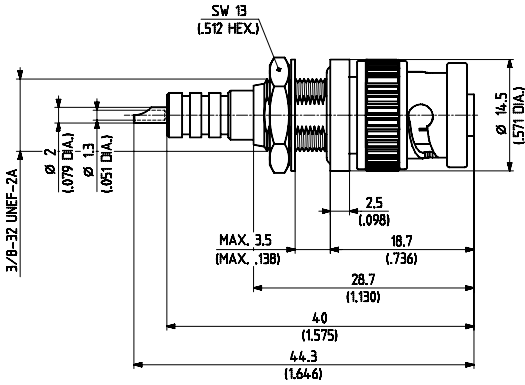
HUBER+SUHNER type	Item no.	Packaging	Mounting hole
22_H4-50-0-1/133_NE	22652095	single	ML 1

¹⁾ Centre contact NOT captivated

Series MHV – receptacles with solder end

Receptacles, plugs (male)

- Bulkhead mounted



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes
12_H4-50-0-1/133_NE	22543467	single	ML 2	with panel seal

Flange mount, jacks (female)

- Panel mounted

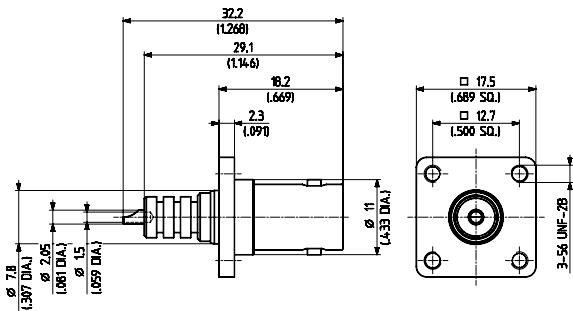


Fig. 1

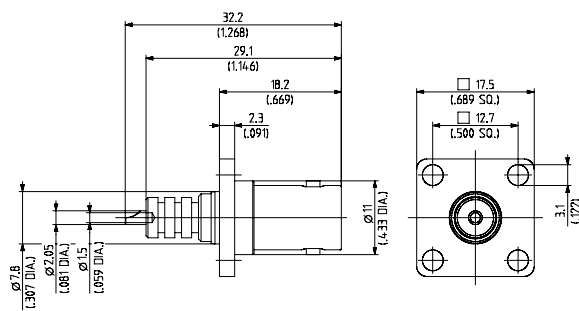


Fig. 2

HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Notes	Fig.
23_H4-50-0-7/133_NE	22541776	single	ML 6	mounting also possible with screws ISO M 2.5	1
23_H4-50-0-8/133_NE	22541779				2