

Series 7/16 - coaxial connectors

Description

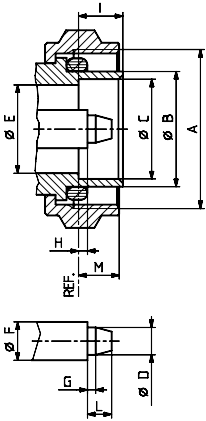
HUBER+SUHNER 7/16 connectors are mechanically very rugged coaxial connectors with screw lock. They have a characteristic impedance of 50 Ω and are applicable with excellent electrical properties up to 7.5 GHz. Transmission of medium to high power with radio transmitters and low PIM transmission of received signals such as in mobile phone base stations are typical applications.

Content

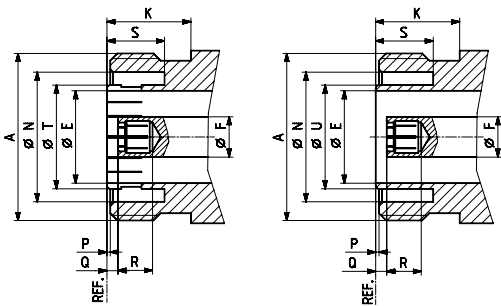
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Interface dimensions (mm/inches)

Plug (male)



Jack (female)



	Plug		Jack	
	min.	max.	min.	max.
A	M29 × 1.5		M29 × 1.5	
B	20.60/0.811	21.40/0.843	-	-
C	18.03/0.710	18.21/0.717	-	-
D	4.96/0.195	5.04/0.198	-	-
E	15.85/0.624	16.25/0.640	15.85/0.624	16.25/0.640
F	7.00/0.276 nom.		7.00/0.276 nom.	
G	1.40/0.055	1.60/0.063	-	-
H	1.47/0.058	1.77/0.070	-	-
I	7.00/0.276	8.00/0.315	-	-
K	-	-	10.00/0.394	-
L	-	4.50/0.177	-	-
M	7.00/0.276	9.00/0.354	-	-
N	-	-	22.10/0.870	22.90/0.902
P	-	-	0.50/0.020	0.70/0.028
Q	-	-	1.77/0.070	2.07/0.082
R	-	-	5.00/0.197	-
S	-	-	8.10/0.319	-
T	-	-	-	18.50/0.728 ¹⁾
U	-	-	-	18.50/0.709

Interface dimensions conformable to the standards:

International	IEC 61169-4
Europe	CECC 22 190
Germany	DIN 47223

Degree of protection (interface, mated) IP68

¹⁾ Prior to slotting

Series 7/16 - technical data

Electrical data	Requirements
Impedance	50 Ω
Frequency range	DC to 7.5 GHz combination types: DC to 1 GHz
Dielectric withstanding voltage (at sea level) • Combination system	4.0 kV rms, 50 Hz 2.5 kV rms, 50 Hz
Working voltage (at sea level) • Combination system	\leq 2.5 kV rms, 50 Hz \leq 1.0 kV rms, 50 Hz
Insulation resistance	\geq 10 ⁴ M Ω
Contact resistance • Centre contact • Outer contact	\leq 0.4 m Ω \leq 1.5 m Ω
RF-leakage (at 1 GHz)	\geq 110 dB
VSWR	see table below

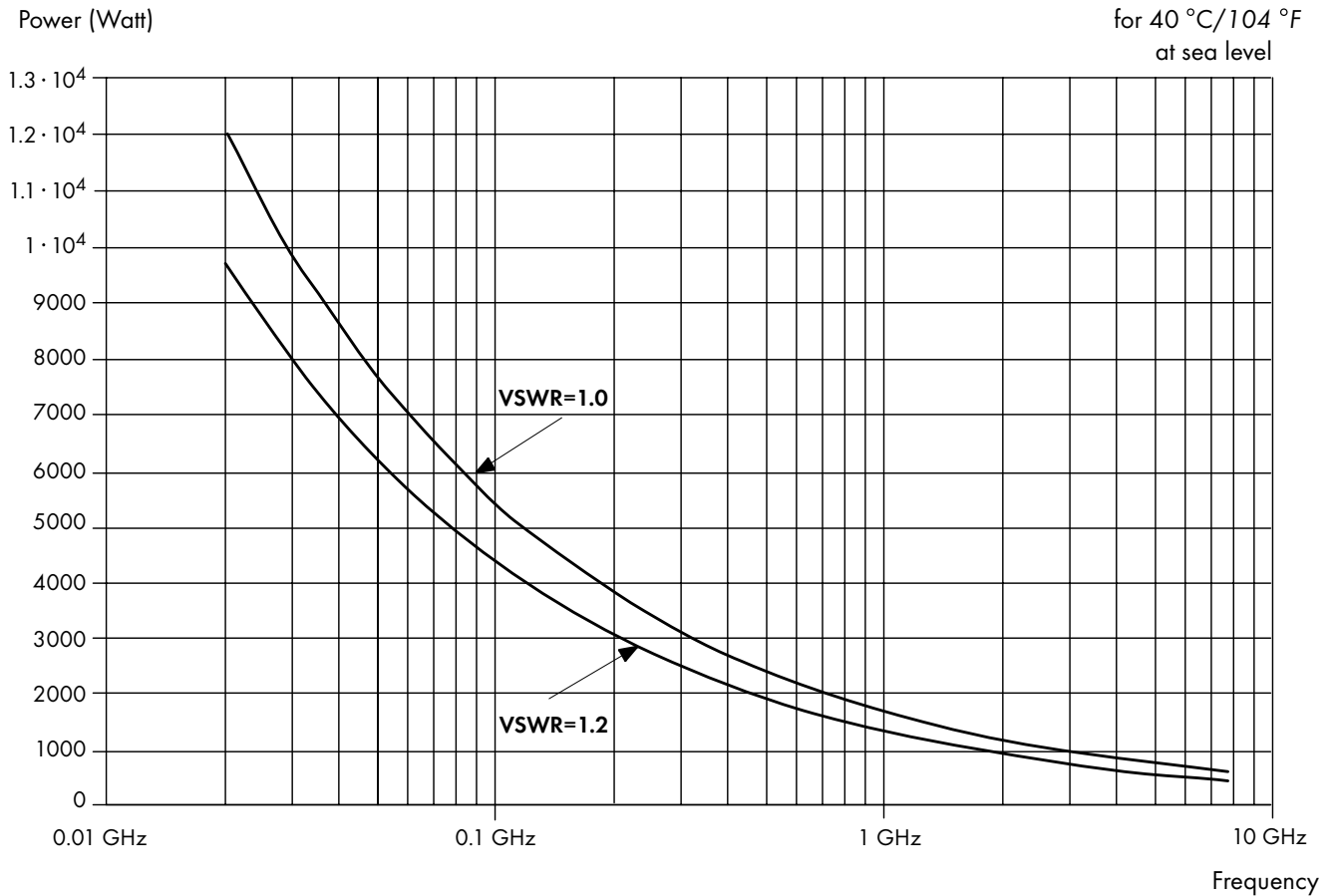
Typical VSWR ¹⁾	Frequency range			Cable group
	1 GHz	2.5 GHz	5 GHz	
Straight connectors	1.04	1.05	1.12	M5, M7
	1.05	1.07	1.10	U29, U32
	1.03	1.05	1.10	S39
Right angle connectors	1.04	1.05	1.12	M5; M7

Other connections and cables on request.

¹⁾ Values which can be achieved when connectors are perfectly fixed onto cable.

Series 7/16 - technical data

Admissible power of 7/16 connectors



Mechanical data	Requirements
Coupling nut torque • Recommended	25 to 30 Nm/221 to 260 in lbs
Coupling nut retention force	≥ 1000 N/225.0 lbs
Contact captivation	≥ 200 N/45.0 lbs
Cable retention force ¹⁾	see pages 32 - 37
Durability (matings)	≥ 500

Environmental data	CECC 22190 test conditions	Equivalent MIL test conditions
Temperature range		-65 to +165 °C/-85 to +329 °F
Climatic category	4.6.5 → 55/155/56	
Corrosion (mated connectors)	4.6.10 → IEC 68-2-11 Ka	salt spray test acc. to MIL-STD-202, method 101, condition B
Vibration	4.6.3 → IEC 68-2-6 Fc	

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

Series 7/16 - technical data

Material data		
Connector parts	Material	Plating
Bodies	brass	SUCOPLATE®
Pin contacts	brass	silver
Outer contact, jacks Socket contact	spring bronze	silver
Crimp ferrules	copper	SUCOPLATE®
Insulators, standard version	PTFE or PFA	
Gaskets	silicone rubber	

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.

Series 7/16 - cable connectors

Straight cable plugs (male)

For Sucoform cables

- Cable entry soldered
- Centre contact soldered

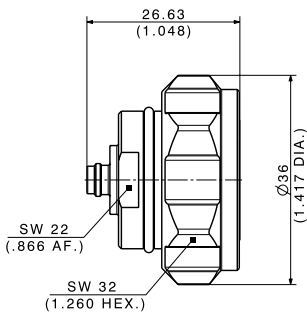


Fig. 1

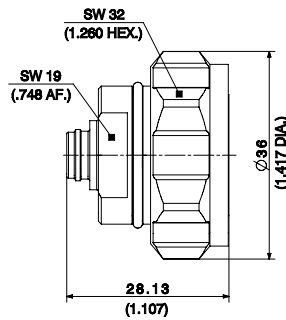
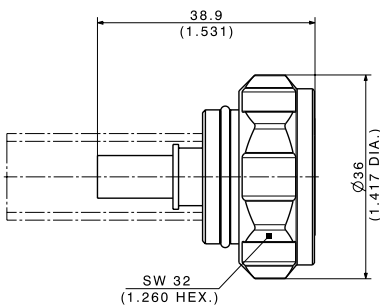


Fig. 2

HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Weight	Fig.
11_716-50-3-3/003_Y	23031257	Y12 (SUCOFORM_141)	bulk 30 pcs.	196279	82.8 g/2.92 oz.	1
11_716-50-5-6/003_Y	84008435	Y14 (SUCOFORM_250-01)	bulk 10 pcs.	215393	75.0 g/2.65 oz.	2

For flexible cables

- Cable entry crimp
- Centre contact plugged-in
- Degree of protection IP67



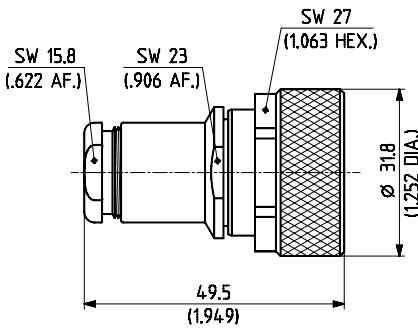
HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Weight
11_716-50-4-5/033_Y	84098543	X9, X28 (SPUMA_240)	tray 20 pcs.	327739	74.47 g/2.62 oz.

Series 7/16 - cable connectors

Straight cable plugs (male)

For flexible cables

- Cable entry HUBER+SUHNER pressure-sleeve
- Centre contact soldered



HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Weight
11_716-50-7-3/003_-E	22544075	U29 (RG_213_/U)	single	9018	105.0 g/3.68 oz.
11_716-50-7-4/003_-E	22544076	U32 (RG_214_/U)			100.0 g/3.50 oz.

For flexible cables

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

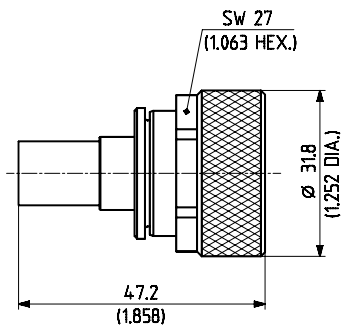


Fig. 1

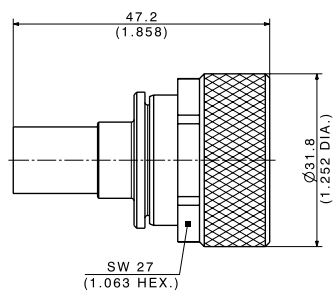


Fig. 2

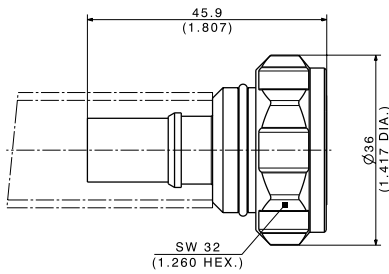
HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Crimp insert	Weight	Fig.
11_716-50-7-1/003_-E	22544073	U29 (RG_213_/U)	single	9017	3 D	85.0 g/2.98 oz.	1
11_716-50-7-2/003_-E	22544074	U32 (RG_214_/U)				85.0 g/2.98 oz.	1
11_716-50-7-18/003_-E	22651493	U33 (RG_393, RG_225)				87.65 g/3.09 oz.	2

Series 7/16 - cable connectors

Straight cable plugs (male)

For flexible cables

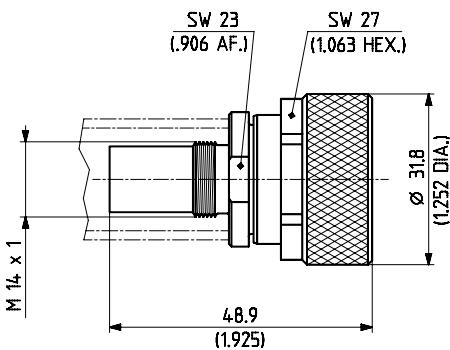
- Cable entry crimp
- Centre contact plugged-in
- Degree of protection IP67



HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Crimp insert	Weight
11_716-50-7-31/033_Y	85010777	U30 (SPUMA_400)	tray 10 pcs.	418807	D	89.5 g/3.16 oz.

For flexible cables

- Cable entry crimp
- Centre contact soldered



HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Crimp insert	Weight
11_716-50-7-14/003_E	22646908	S32 (S_07262_BD)	single	27003	D	91.0 g/3.19 oz. ¹⁾

¹⁾ Type available with additional sealing ferrule (IP67)

Series 7/16 - cable connectors

Straight cable plugs (male)

For flexible cables

- Cable entry crimp
- Centre contact plugged-in
- Degree of protection IP67

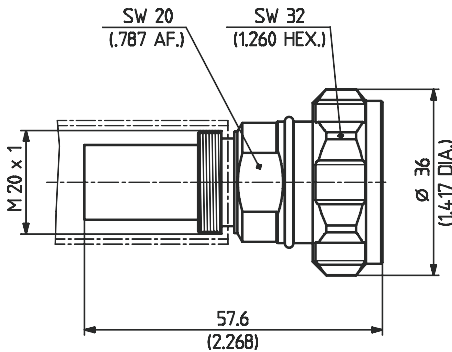


Fig. 1

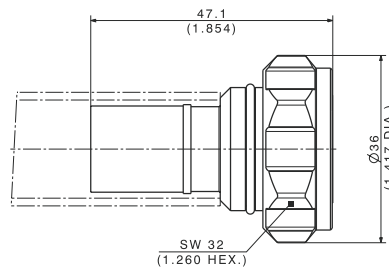
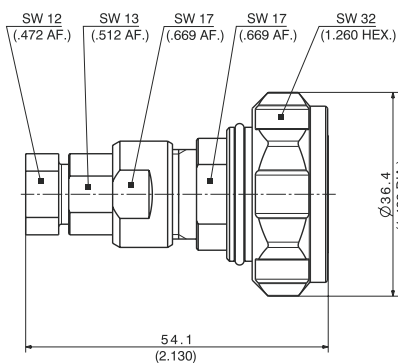


Fig. 2

HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Crimp insert	Weight	Fig.
11_716-50-10-3/003_Z	23002520	S39 (S_10172_B-11)	bulk 10 pcs.	27354	12.4	100.0 g/3.52 oz.	1
11_716-50-12-8/033_Y	85018507	X29 (SPUMA_600)		444947	14.5	46.5 g/1.64 oz.	2

For corrugated cables

- Cable entry clamp
- Centre contact plugged
- Degree of protection IP68



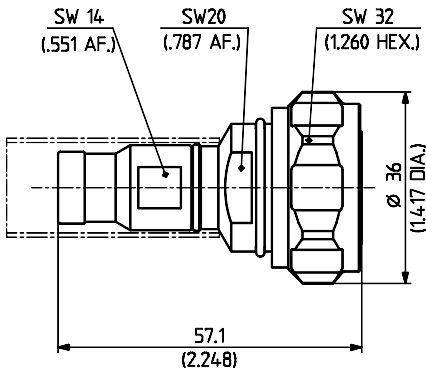
HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Weight
11_716-50-5-7/003_E	84064394	M5 (SUFOFEED_1/4_HF)	single	267204	145.0 g/5.12 oz.

Series 7/16 - cable connectors

Straight cable plugs (male)

For corrugated cables

- Cable entry soldered
- Centre contact soldered
- Degree of protection IP66

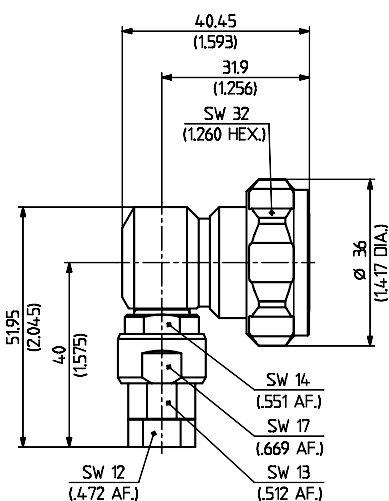


HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Weight
11_716-50-7-20/003_-Z	22658154	M7 (SUCCOFEED_3/8_HF)	bulk 10 pcs.	27186	115.0 g/4.05 oz.

Right angle cable plugs (male)

For corrugated cables

- Cable entry clamp
- Centre contact soldered
- Degree of protection IP68



HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Crimp insert	Weight
16_716-50-5-2/003_-Z	23016774	M5 (SUCCOFEED_1/4_HF)	bulk 10 pcs.	273569	12.4	150.0 g/5.25 oz.

Series 7/16 - cable connectors

Right angle cable plugs (male)

For flexible cables

- Cable entry crimp
- Centre contact soldered

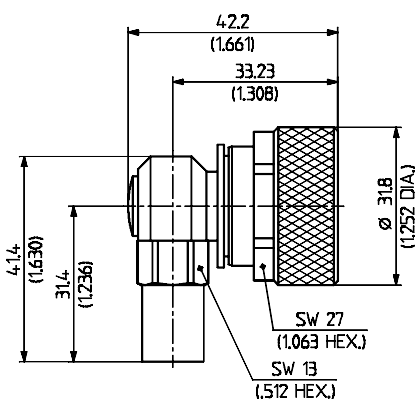


Fig. 1

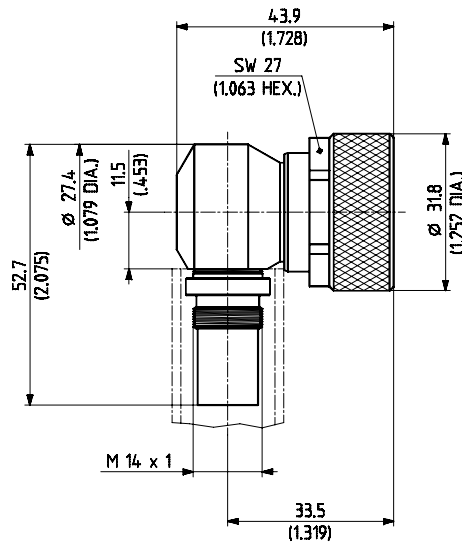


Fig. 2

HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Crimp insert	Weight	Fig.
16_716-50-7-10/003_-E	22658839	U33 (RG_393_/U) U32 (RG_214_/U)	single	9087	D	103.0 g/3.61 oz.	1
16_716-50-7-11/003_-E	22649421	S32 (S_07262_BD)		9094		154.0 g/5.39 oz.	2 ¹⁾

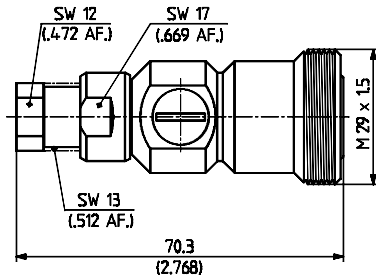
¹⁾ Types available with additional sealing ferrule (IP67)

Series 7/16 - cable connectors

Straight cable jacks (female)

For corrugated cables

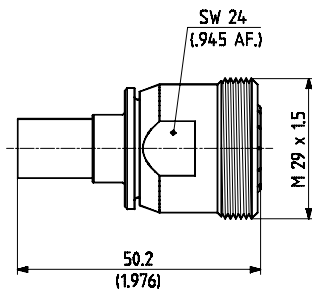
- Cable entry clamp
- Centre contact soldered
- Degree of protection IP68



HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Weight
21_716-50-5-400/003_-Z	23011950	M5 (SUCCOFEED_1/4_HF)	bulk 10 pcs.	27297	140.0 g/4.90 oz.

For flexible cables

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



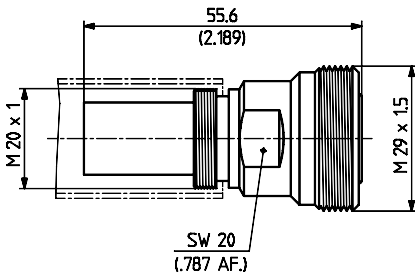
HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Crimp insert	Weight
21_716-50-7-1/003_-E	22544092	U29 (RG_213_/U)	single	9017	3 D	90.0 g/3.15 oz.
21_716-50-7-2/003_-E	22544093	U32 (RG_214_/U)				

Series 7/16 - cable connectors

Straight cable jacks (female)

For flexible cables

- Cable entry crimp
- Centre contact plugged-in
- Degree of protection IP67

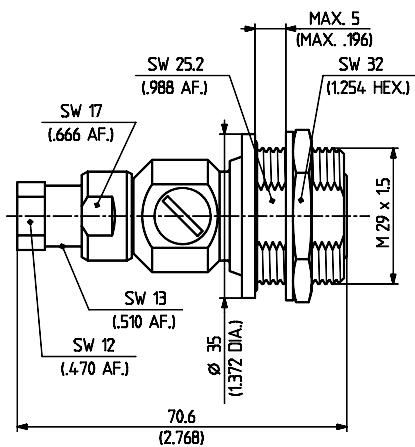


HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Crimp insert	Weight
21_716-50-10-1/003_-Z	23002535	S39 (S_10162_B-11)	bulk 10 pcs.	27354	12.4	85.0 g/2.99 oz.

Straight bulkhead cable jacks (female)

For corrugated cables

- Cable entry clamp
- Centre contact soldered
- Degree of protection IP68



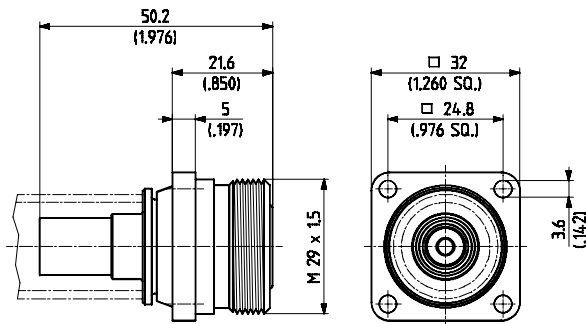
HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Mounting hole	Weight
24_716-50-5-400/003_-Z	22658272	M5 (SUCCOFEED_1/4_HF)	bulk 10 pcs.	27297	ML 110	171.0 g/6.03 oz.

Series 7/16 - cable connectors

Straight panel cable jacks (female)

For flexible cables

- Cable entry crimp
- Centre contact soldered
- Mounting hole ML 27
- Degree of protection IP66



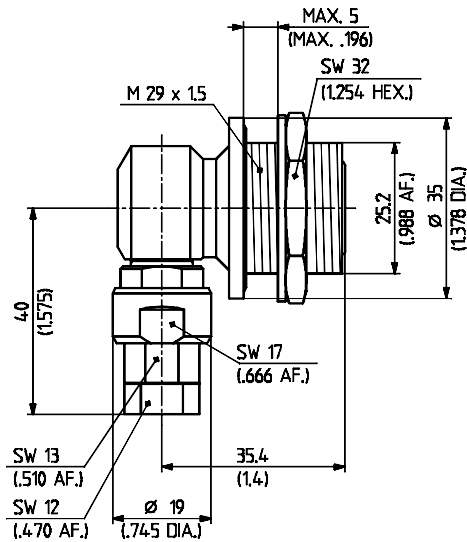
HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Crimp insert	Weight
25_716-50-7-11/003_-E	22649423	S32 (S_07262_BD)	single	27003	D	112.0 g/3.92 oz.

Series 7/16 - cable connectors

Right angle bulkhead cable jacks (female)

For corrugated cables

- Cable entry clamp
- Centre contact soldered
- Degree of protection IP68



HUBER+SUHNER type	Item no.	Cable group	Packaging	Assembly instruction	Mounting hole	Weight
29_716-50-5-400/003_-Z	22658301	M5 (SUCCOFEEED_1/4_HF))	bulk 10 pcs.	27315	ML 110	171.0 g/6.03 oz.

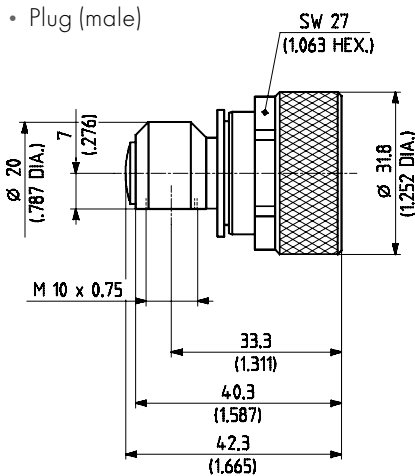
Series 7/16 - combination system

The HUBER+SUHNER 7/16 combination system enables efficient, lowcost and flexible stocking of 7/16 cable connectors. The 11 basic parts can be combined to obtain 48 different cable connector types for almost all coaxial cables with 2.95 mm (0.116 in.), 4.7 mm (0.185 in.) or 7.25 mm (0.285 in.) dielectric diameter. The cable entries are available with both crimp type or pressure-sleeve (no special tools) cable attachment.

Centre conductors are soldered. All cable entries can be used together with any of the combi-heads. Taper sleeves can be supplied for the crimp type cable entries. Straight or right angle configurations are possible with the same sub-assemblies. All types have 50 Ω impedance and are suitable for frequencies up to 1 GHz. The working voltage is limited to 1.0 kV rms.

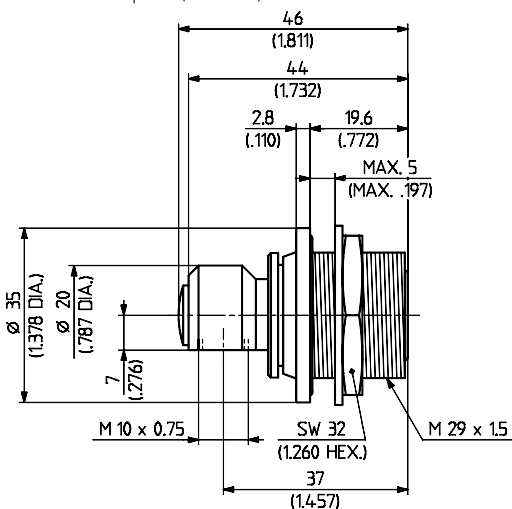
Combi-heads

- Plug (male)



HUBER+SUHNER type	Item no.	Packaging	Weight	Notes
11_716-50-0-2/003_-E	22641432	single	100.0 g/3.50 oz.	cable entries see following pages

- Bulkhead jack (female)



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Weight	Notes
24_716-50-0-1/003_-E	22650517	single	ML 110	126.0 g/4.44 oz.	cable entries see following pages

Cable groups see page 32

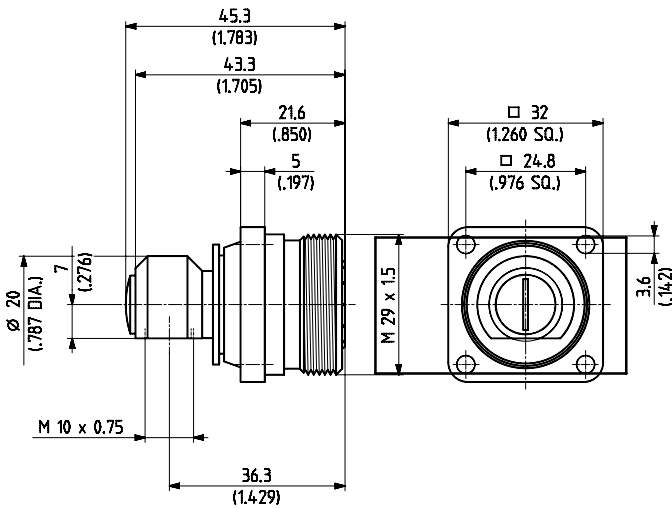
Assembly tools see page 509

Mounting holes/PCB layouts see page 533

Series 7/16 - combination system

Combi-heads

- Panel jack (female)



HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Weight	Notes
25_716-50-0-2/003_E	22641434	single	ML 27	124.0 g/4.34 oz.	cable entries see below

Cable entries (for use with all combi-heads)

- Cable entry crimp
- Taper sleeves see page 526

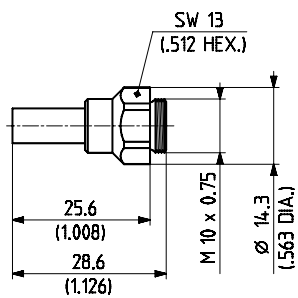


Fig. 1

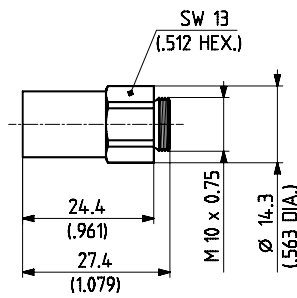


Fig. 2



HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Crimp insert	Fig.
71_Z-0-3-21/-33_E	22641435	U7 (RG_58_C/U)	single	9084	B	1
71_Z-0-3-22/-33_E	22641436	U9 (RG_223_/U)				
71_Z-0-7-21/-33_E	22641440	U29 (RG_213_/U)	single	9087	D	2
71_Z-0-7-22/-33_E	22641441	U32 (RG_214_/U)				

Series 7/16 – combination system

Cable entries (for use with all combi-heads)

- Cable entry pressure-sleeve

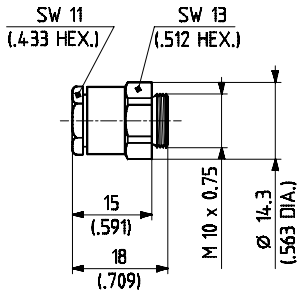


Fig. 1

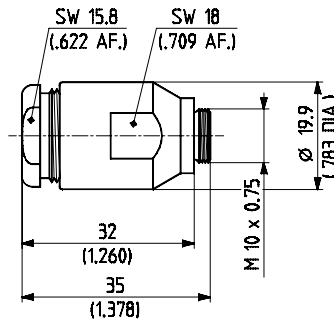


Fig. 2

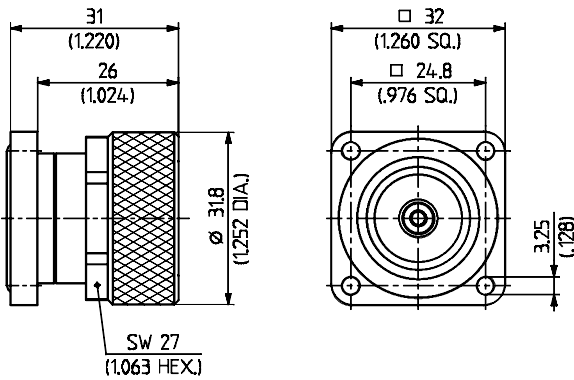


HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Assembly instruction	Fig.
71_Z-0-3-24/-33_-E	22641438	U7, U9 (RG_58_C/U)	single	9085	1
71_Z-0-7-24/-33_-E	22641443	U32 (RG_214_/U)		9088	2

Series 7/16 - receptacles with solder end

Receptacle, plug (male)

- Panel mounted
- Flange with O-ring
- Centre contact captivated for torque



HUBER+SUHNER type	Item no.	Packaging	Weight	Notes
13_716-50-0-4/003_V	22658959	bulk 20 pcs.	98.0 g/6.00 oz.	centre conductor with threaded stud M3

Receptacles, jacks (female)

- Panel mounted

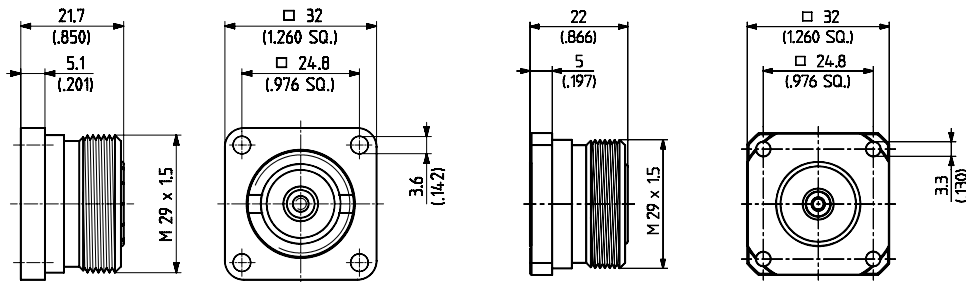


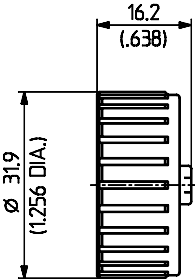
Fig. 1

Fig. 2

HUBER+SUHNER type	Item no.	Packaging	Mounting hole	Weight	Notes	Fig.
23_716-50-0-1/003_E	22544102	single	ML 27	75.0 g/2.65 oz.	centre conductor with threaded stud M3	1
23_716-50-0-57/003_V	23015661	bulk 20 pcs.		80.0 g/2.80 oz.		2

Series 7/16 - protective cap

- Protective cap for jack
- Made of plastic



HUBER+SUHNER type	Item no.	Packaging	Notes
62_716-0-0-4/--_H	23005877	bulk 100 pcs.	water protection according to IP68