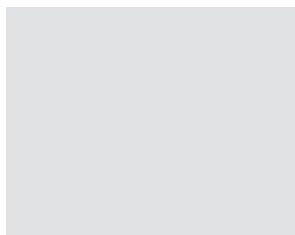


HUBER+SUHNER is certified according to
ISO 9001, ISO 14001, ISO/TS 16949 and IRIS.

WAIVER

It is exclusively in written agreements that we provide our customers with warrants and representations as to the technical specifications and/or the fitness for any particular purpose. The facts and figures contained herein are carefully compiled to the best of our knowledge, but they are intended for general informational purposes only.



HUBER+SUHNER AG
Business Unit RF Industrial
Degersheimerstrasse 14
9100 Herisau/Switzerland
Tel. +41 71 353 4111
Fax +41 71 353 4647
info@hubersuhner.com

84068669/11.2008

hubersuhner.com



EACON

Field mountable microwave cable

Edition 2008



Easy connected





Your partner for system solutions

The HUBER+SUHNER Group is a leading global supplier of components and systems for electrical and optical connectivity.

Our customers in Communications, Industrial and Transportation markets appreciate that we are specialists with detailed knowledge of practical applications. We offer technical expertise in radio frequency technology, fiber optics and low-frequency under one roof, thus providing a unique basis for continual innovation focused on the needs of our customers all over the world.

EACON, the field mountable microwave cable assembly

To suit to the needs of the customers, HUBER+SUHNER has developed this innovative solution. EACON stands for a simple, flexible and fast way to assemble microwave cable and connectors in the field without compromises to the best performance. The new field mountable microwave cable and connectors are light and waterproofed, built for frequencies up to 6 GHz - ready for use in the aviation and defence market as well as generally in the industrial market.



EACON 4C - customer need

Features

- Easy assembling - only two connector parts
- Waterproof IP 68
- Low loss
- Excellent return loss up to 6 GHz
- Extremely reliable
- Assembling tool kit for field mounting
- SMA, N, TNC connectors

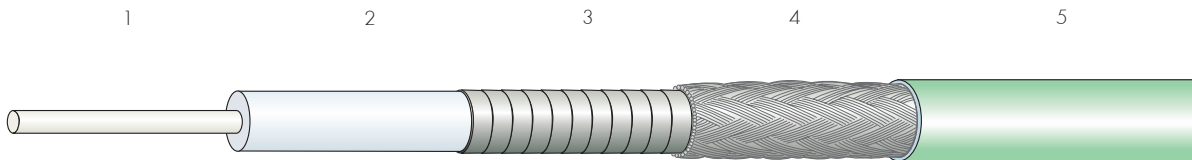
Applications

The EACON 4C family has been developed for the easy assembling in the defence and industrial market.



EACON 4C, the field mountable microwave cable assembly

Cable Design



Construction

	Material	Diameter	
1	Centre conductor	Silver-plated copper wire, solid	1.40 mm (0.055 inch)
2	Dielectric	Extruded low density PTFE	4.10 mm (0.161 inch)
3	Inner shield	Silver-plated copper tape	4.35 mm (0.171 inch)
4	Outer shield	Silver-plated copper braid	4.85 mm (0.191 inch)
5	Jacket	Fluorinated Ethylene Propylene (FEP)	5.50 mm (0.216 inch)

Electrical characteristics

Impedance	$50 \pm 1 \Omega$
Operating frequency	6.0 GHz
Capacitance	87 pF/m (26.5 pF/ft)
Velocity of propagation	77%
Signal delay	4.3 ns/m (1.31 ns/ft)
Nominal phase	1564.6°/GHz/m (477.0°/GHz/ft)
Insertion loss stability vs. temperature	$\leq 0.0021 / ^\circ\text{C}$
Insertion loss stability vs. bending	0.20 dB
Screening effectiveness up to 6 GHz	> 90 dB
Attenuation	See graph 1
Power handling	See graph 2

Mechanical characteristics

Weight	<72 g/m
Min. bending radius	16 mm
Crush resistance	800 N / 100mm

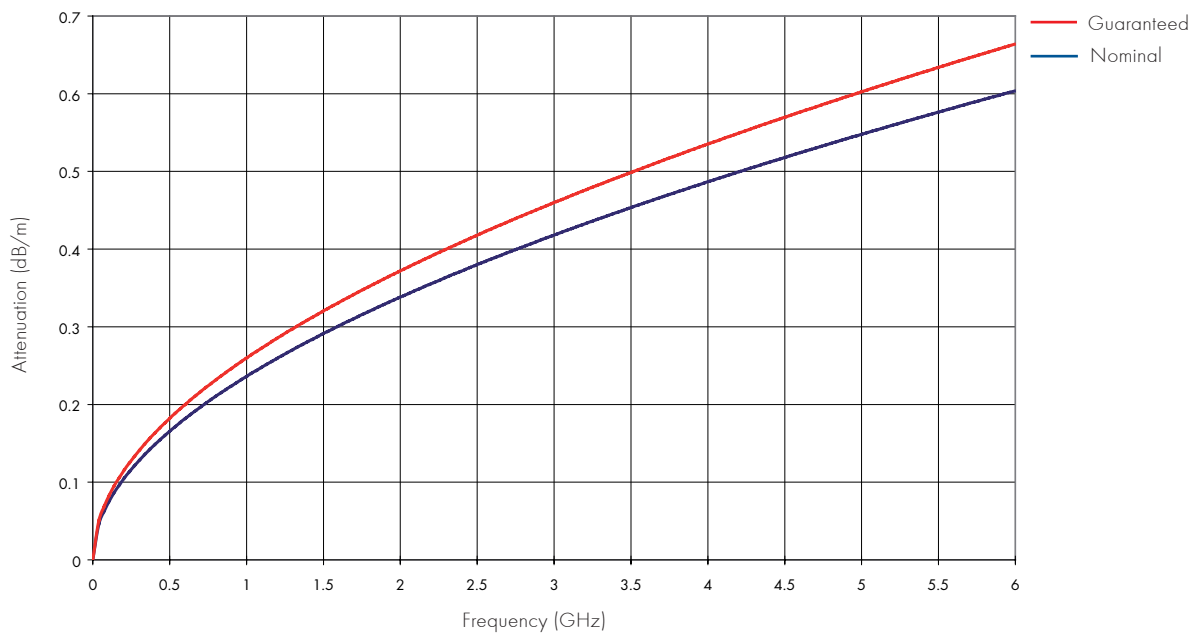
Environmental characteristics

Operating temperature range	-65° to +200°C
IP rating	IP 68
Smoke index	Naval engineering Standard 711 and ASTM-B 622-92 (140°F for 24 hours, conditioned @ 73°F and 50% relative humidity)
Solar radiation	MIL-STD-810, Method 505, Procedure II
Flammability	MIL-C-87104, Paragraph 4.6.4.8
Chemical resistance	British Standard 3G100, Part 2, Section 3, Class A
Halogen free product	No
Fungus	MIL-STD-810, Method 508.3
RoHS (2002/95/EC)	Compliant

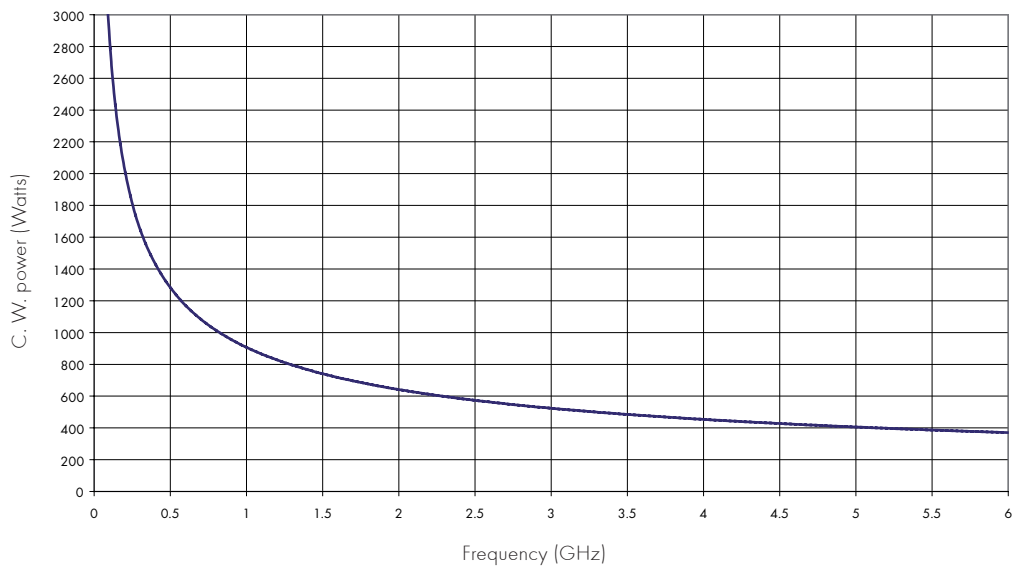


EACON 4C technical data

Graph 1: Cable attenuation (25 °C ambient temperature)



Graph 2: Max. power handling (40 °C ambient temperature and sea level)



EACON 4C suitable SMA cable connectors

Electrical Data

Impedance	50 Ω
Max. operating frequency	6.0 GHz

Mechanical Data

Centre contact	plugged
Outer contact	clamped
Cable retention force	min. 180 N/1 min.

Environmental Data

Operating temperature	-65°C to + 165°C
IP rating	IP 68
2002/95/EC (RoHS)	compliant

Material Data

Material

Surface Plating

Centre contact	Copper Beryllium Alloy	Gold plating (nickel underplated)
Outer contact	Stainless Steel	Passivated
Insulator	PTFE	
Gasket	MVQ (Silicone Rubber)	
Fastening nut	Stainless Steel	Passivated

Series, pattern	HUBER +SUHNER connector type	Item no.	VSWR up to 6.0 GHz	Drawing
Straight cable plug	11_SMA-50-4-101/199_NE	84070289	1.06 + 0.01*f (f in GHz)	Fig. 1
Right angle cable plug	16_SMA-50-4-165/199_NE	84070290	1.12 + 0.03*f (f in GHz)	Fig. 2

Fig. 1

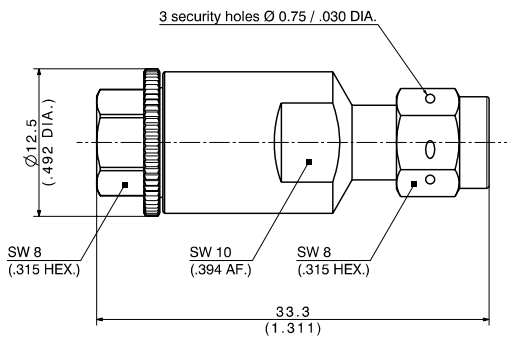
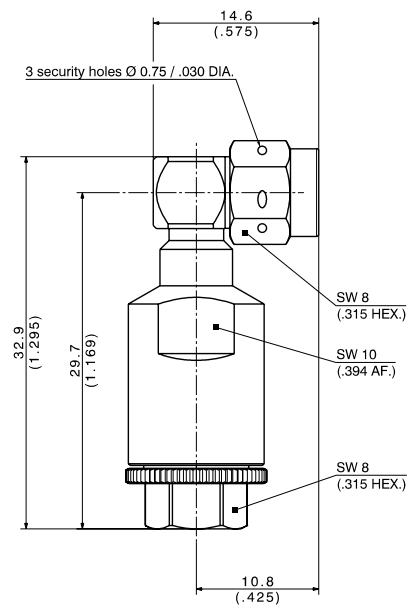


Fig. 2



EACON 4C suitable TNC cable connectors

Electrical Data

Impedance	50 Ω
Frequency range	6.0 GHz

Mechanical Data

Centre contact	plugged
Outer contact	clamped
Cable retention force	min. 180 N/1 min.

Environmental Data

Operating temperature	-65°C to + 165°C
IP rating	IP 68
2002/95/EC (RoHS)	compliant

Material Data

Material

Surface Plating

Centre contact	Copper Beryllium Alloy	Gold plating (nickel underplated)
Outer contact	Brass	Nickel plating
Insulator	PTFE	
Gasket	MVQ (Silicone Rubber)	
Fastening nut	Stainless Steel	Passivated

Series, pattern

HUBER +SUHNER connector type

Item no.

VSWR up to 6.0 GHz

Drawing

Straight cable plug	11_TNC-50-4-23/12_NE	84070283	1.072 + 0.013*f (f in GHz)	Fig. 1
Right angle cable plug	16_TNC-50-4-101/12_NE	84070284	1.072 + 0.038*f (f in GHz)	Fig. 2
Straight panel cable jack, flange mount	25_TNC-50-4-18/122_NE	84070285	1.072 + 0.013*f (f in GHz)	Fig. 3

Fig. 1

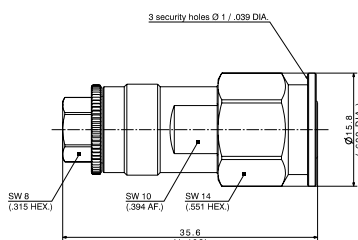


Fig. 2

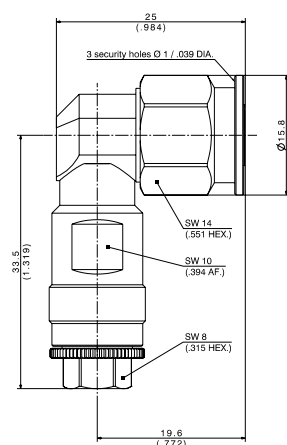
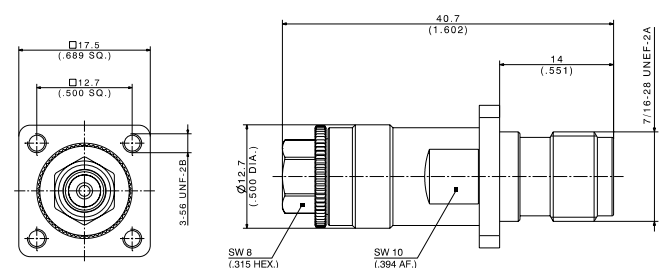


Fig. 3



EACON 4C suitable N cable connectors

Electrical Data

Impedance	50 Ω
Frequency range	6.0 GHz

Mechanical Data

Centre contact	plugged
Outer contact	clamped
Cable retention force	min. 180 N/1 min.

Environmental Data

Operating temperature	-65°C to + 165°C
IP rating	IP 68
2002/95/EC (RoHS)	compliant

Material Data

Material

Surface Plating

Centre contact	Copper Beryllium Alloy	Gold plating (nickel underplated)
Outer contact	Brass	Nickel plating
Insulator	PTFE	
Gasket	MVQ (Silicone Rubber)	
Fastening nut	Stainless Steel	Passivated

Series, pattern	HUBER +SUHNER connector type	Item no.	VSWR up to 6.0 GHz	Drawing
Straight cable plug	11_N-50-4-19/12_NE	84070286	1.072 + 0.013*f (f in GHz)	Fig. 1
Right angle cable plug	16_N-50-4-13/12_NE	84070287	1.072 + 0.038*f (f in GHz)	fig. 2
Straight panel cable jack, flange mount	25_N-50-4-8/122_NE	84070288	1.072 + 0.013*f (f in GHz)	fig. 3

Fig. 1

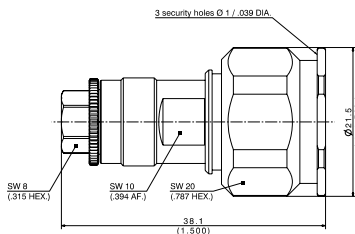


Fig. 2

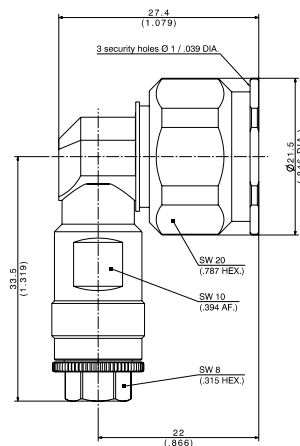
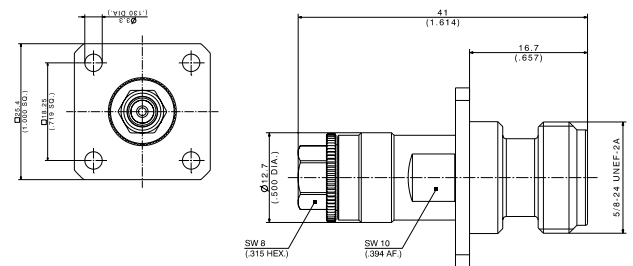


Fig. 3







EACON 4C, assembling tool kit

Assembling tool kit for all connectors, used with EACON 4C cable (with additional space for other auxiliary tools and spare parts).

HUBER + SUHNER type	Item no.	Content	Size
74_Z-0-0-606	84074447	all tools, needed to assemble the EACON 4C cable	395 x 315 x 100mm/ 15.5 x 12.4 x 3.9 in.



Our core competencies

- Worldwide field of activity
- Own research, development and production
- Design-in and engineering of RF interconnect solutions
- Development of customized solutions
- Customized qualifications
- Prototypes and series production
- Own mechanical, electrical and environmental testing capabilities
- EMC optimized solutions

