

Series 4.3-10

Description

HUBER+SUHNER 4.3-10 connectors offer very low PIM performance together with weight and compactness advantages. A key feature of this connector is the separation of the electrical and mechanical plane, which results in a lower coupling torque and the possibility of offering the connector with screw, hand-screw and quick-lock design, thus simplifying the installation effort and offering for all mechanisms a very high and reliable electrical performance independently from the torque applied

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Applications

Superior electrical and mechanical features of 4.3-10 make it an ideal interface which meets all future design requirements of base stations, distributed antenna systems (DAS), in-building architecture, and small cell applications.

Features

- Excellent RL and PIM performances independent of torque
- High screening efficiency
- Electrical contact protected
- Compactness: flange (25.4 mm)
- Low weight
- 3 possible mechanical connections (screw, hand-screw and quick-lock) on 1 universal female connector

Benefits

- High density module design because of smaller flange
- Light weight modules because of low components weight and no need of thick-walled modules (no torque or small torque required)
- High flexibility in the choice of the best matching coupling mechanism
- Reliable electrical performance
- Easy installation



Series 4.3-10 – technical data

The 4.3-10 interface dimensions conform to the international standards IEC 61169-54.

Electrical data	IEC 61169-1	
Nominal impedance		50 Ω
Frequency range		up to 12 GHz
Reflection factor (interface only)	9.2.1.	0.015 max. DC to 4 GHz 0.025 max. 4 - 6 GHz
Centre and outer contact resistance	9.2.3.	initial ≤ 1.0 mΩ after conditioning ≤ 1.5 mΩ
Insulation resistance	9.2.5.	initial ≥ 5 GΩ after conditioning ≥ 200 MΩ
Proof voltage at sea level r.m.s. values at 40 Hz to 60 Hz	9.2.6.	2500 V
Screening effectiveness • tool tightened • hand tightened and quick-lock	9.2.8.	≥ 120 dB DC to 3 GHz: ≥ 90 dB ; 3 - 6 GHz: ≥ 70 dB
Intermodulation • 2 × 20 W • 2 × 40 W	IEC 62037-3	-166 dBc -160 dBc
Mechanical data	IEC 61169-1	
Mechanical operations	9.5.	> 100 operations
Centre contact captivation (axial force)	9.3.5.	30 N
Coupling torque (screw)	9.3.6.	≥ 5 Nm proof torque: 8 Nm
Engagement force (quick-lock)		typ. 100 N
Separation force (quick-lock)		typ. 80 N
Tensile strength of coupling mechanism (quick-lock)	9.3.11.	≥ 450 N
Vibration	9.3.3.	100 m/s ² , 10 g acceleration, 2 - 200 Hz
Shock	9.3.14.	981 m/s ² , 100 g acceleration, ½ sin 6 ms
Environmental data	IEC 61169-1	
Temperature range		-55 to +90 °C
Climatic category ¹		55/155/56 40/85/21
Sealing	IEC 60529	IP x8 2.5 bar, 1 h
Salt mist	9.4.6.	duration of spraying 48 h
High temperature endurance	9.6.	250 h at 85 °C

¹ For certain connectors the upper temperature limit is restricted by the cable characteristics. Reference should be made to the relevant cable specification.

Performance listed is typical. Individual part configuration may vary. Contact HUBER+SUHNER for more information and specifications by item number.

Series 4.3-10 – cable connectors

Straight cable plugs (male)

For semi-rigid cables, SUCOFORM and MULTIFLEX cables

- Cable entry soldered
- Centre contact soldered

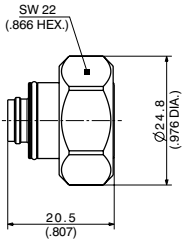


Fig. 1

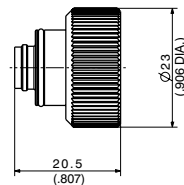


Fig. 2

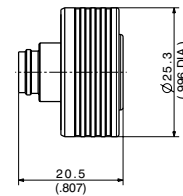


Fig. 3

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Fig.
11_4310-50-5-X1/003_-H 11_4310-50-5-X1/003_-E	85020471 85021044	Y14 (SUCOFORM_250-1)	bulk 100 pcs single	1
11_4310-50-5-Y1/003_-H 11_4310-50-5-Y1/003_-E	85020517 85021045	Y14 (SUCOFORM_250-1)	bulk 100 pcs single	2
11_4310-50-5-Z1/003_-H 11_4310-50-5-Z1/003_-E	85020523 85021047	Y14 (SUCOFORM_250-1)	bulk 100 pcs single	3

Right-angle cable plugs (male)

For semi-rigid cables, SUCOFORM and MULTIFLEX cables

- Cable entry soldered
- Centre contact soldered

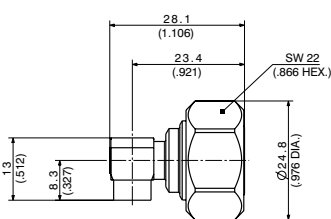


Fig. 1

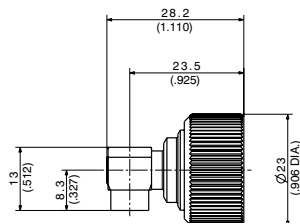


Fig. 2

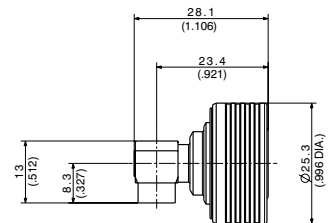


Fig. 3

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Fig.
16_4310-50-5-X1/003_-H 16_4310-50-5-X1/003_-E	85020524 85021049	Y14 (SUCOFORM_250-1)	bulk 100 pcs single	1
16_4310-50-5-Y1/003_-H 16_4310-50-5-Y1/003_-E	85020525 85021070	Y14 (SUCOFORM_250-1)	bulk 100 pcs single	2
16_4310-50-5-Z1/003_-H 16_4310-50-5-Z1/003_-E	85020526 85021071	Y14 (SUCOFORM_250-1)	bulk 100 pcs single	3

Straight cable jacks (female)

For semi-rigid cables, SUCOFORM and MULTIFLEX cables

- Cable entry soldered
- Centre contact soldered

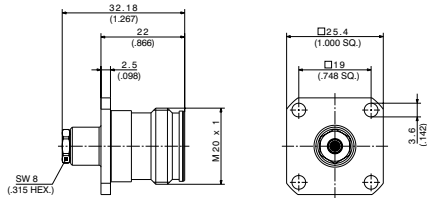


Fig. 1

HUBER+SUHNER type	Item no.	Cable group (example)	Packaging	Fig.
25_4310-50-2-1/003_Y	85020530	Y16 (SUCOFORM_86)	tray 20 pcs	1
25_4310-50-2-1/003_E	85021079		single	

Series 4.3-10 - Receptacle

Straight panel receptacle (jack)

With coaxial end

- 4 hole, 1 inch flange

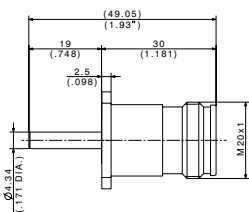


Fig. 1

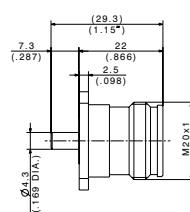


Fig. 2

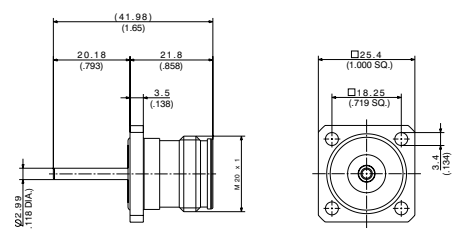
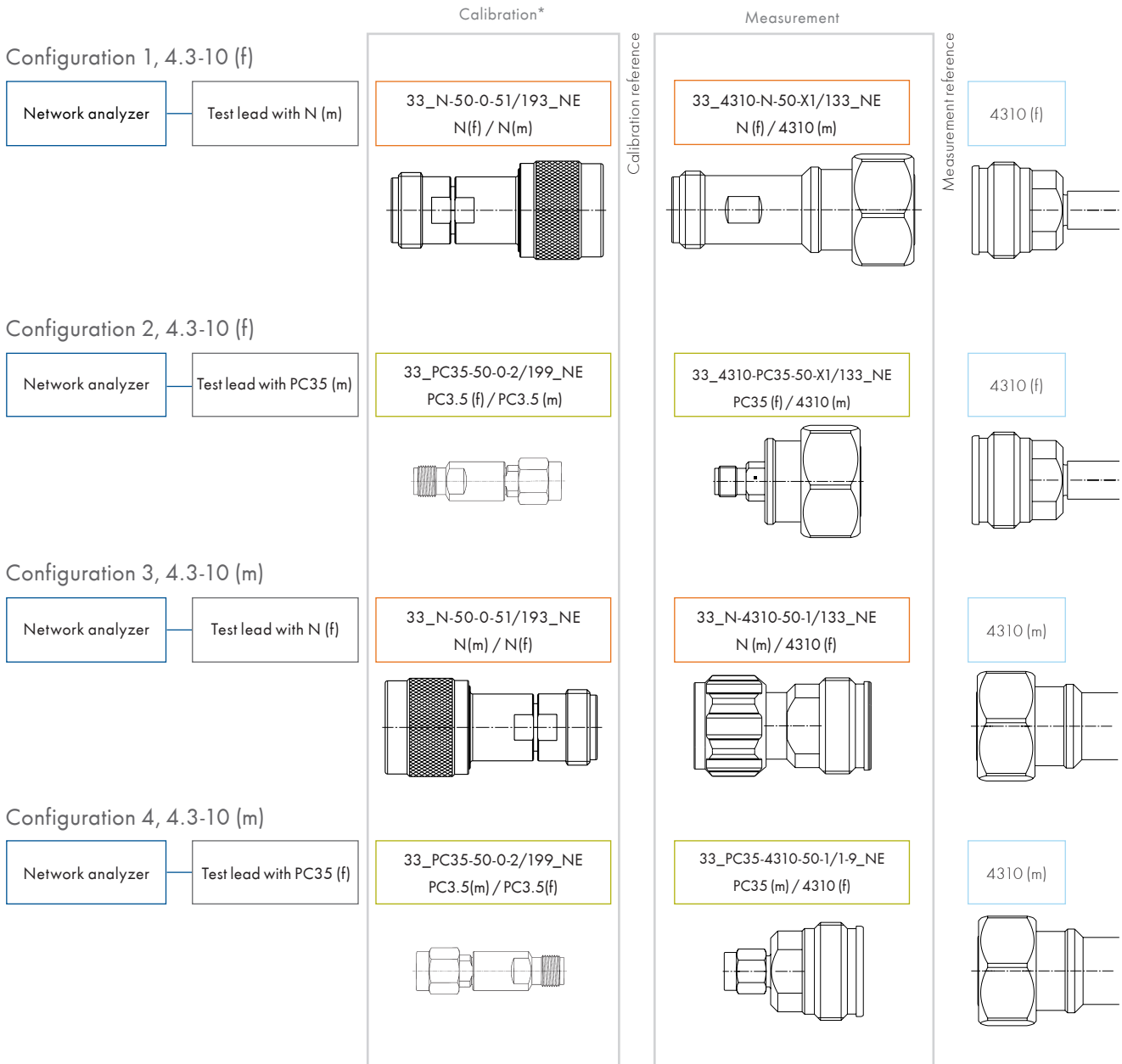


Fig. 3

HUBER+SUHNER type	Item no.	Packaging	Notes	Fig.
23_4310-50-0-1/003_Y	85020598	tray 40 pcs		1
23_4310-50-0-1/003_E	85021072	single		
23_4310-50-0-2/003_Y	85020599	tray 60 pcs		2
23_4310-50-0-2/003_E	85021073	single		
23_4310-50-0-5/003_Y	85021011	tray 60 pcs	with panel seal	3
23_4310-50-0-5/003_E	85020470	single		

Series 4.3-10 – calibration with precision adaptors (swapping method)

For return loss/VSWR measurements of 4.3-10 connectors, HUBER+SUHNER recommends the following calibration method. Depending on the 4.3-10 side (male or female) or ports on the test leads, different configurations are possible. Four different configurations with PC3.5 calibration kits or precision N calibration kits are listed below:



*The calibration connectors need to be swapped and replaced by the corresponding 4.3-10 adaptors