RF/MW cable assemblies for Aerospace & Defense

hubersuhner.com

HUBER+SUHNER

Complete ruggedized solutions for land, air and sea

Robust interconnection solutions for aerospace and defense applications

Offering a comprehensive portfolio of high-performance and field-reliable interconnection solutions, HUBER+SUHNER is at the forefront of innovation for the most challenging applications.

HUBER+SUHNER offers a complete set of RF and MW cable assemblies for defense applications. These assemblies are comprised of the SUCOFLEX 100, MULTIFLEX CT, SPUMA RS and MINIBEND coaxial cable families and are all MIL qualified.
In addition, HUBER+SUHNER has recently released configurations that incorporate stainless steel 316L connectors, which offer outstanding mechanical durability and are able to withstand extremely harsh environments. These connectors include:

SMA, TNC and N series in the following configurations

- straight (male)
- right angle (male)
- bulkhead

SUCOFLEX 100
Our renowned microwave cable assembly SUCOFLEX 100 offers up to five cable diameters. With a specific selection of cables built with our patented rotary swaging technology, it delivers excellent mechanical and electrical performance and is available with various options for both the cables (ruggedization) and the connectors (316L stainless steel).

MULTIFLEX CT
Featuring exceptional phase stability versus temperature with typical values of 300 ppm in the range from -55°C to +125°C, MULTIFLEX_CT is reliable even under rapid or extreme changes, setting a new standard in the market.

SPUMA RS
Available with three cable diameters (240, 400, 600), SPUMA RS delivers a highly flexible, abrasion resistant, low-loss coaxial cable for applications up to 6 GHz. Built with our patented rotary-swaged technology, combining the benefits of a solid (better IL) and a stranded (better mechanical behavior) inner conductor construction, in one cable.

MINIBEND®
The original “bend-to-the-end” cable with solderless assembly technology which allows bending immediately behind the connector delivering impressive pull strength and mechanical durability. The MINIBEND family of flexible assemblies offers a wide range of cable dimensions.

Cable selection for defense applications

	SUCOFLEX 100	MULTIFLEX CT	SPUMA RS	MINIBEND
Frequency limit	50 GHz	40 GHz	6 GHz	85 GHz
Land	✓	✓	✓	✓
Naval	✓	✓	✓	✓
Air	✓	✓	✓	✓
Outdoor	✓	✓	✓	
Indoor	✓	✓	✓	✓
Stainless Steel Connectors	✓	✓	✓	
When to select	Whenever a high-end solution is needed, regardless of the application	Whenever best-in-class phase stability vs. temperature is required	Whenever the most cost-effective solution up to 6 GHz and MIL qualified is required	Whenever the best flex solution for indoor applications and minimal footprint is required

SUCOFLEX, MULTIFLEX, SPUMA – For integration (between systems)

These cables offer reliable data and signal flow between units, offering robust connectivity and interfacing. They are built to perform with high reliability in harsh environmental conditions, including vibrations, high temperatures, humidity, and electromagnetic interference (EMI).

			Frequency (GHz)					
Cable	**Weight (g/m)**	**OD (mm/inch)**	**6**	**18**	**26.5**	**30**	**40**	**50**
			IL (dB/m) typ.					
SUCOFLEX 101	35.6	3.65 / 0.14	1.10 / 0.34	1.99 / 0.61	2.46 / 0.75	2.63 / 0.80	3.09 / 0.94	3.51 / 1.07
SUCOFLEX 102	40.0	4.00 / 0.16	0.95 / 0.29	1.70 / 0.52	2.09 / 0.64	2.24 / 0.68	2.62 / 0.80	x
SUCOFLEX 103	53.0	4.60 / 0.18	0.74 / 0.23	1.33 / 0.41	1.65 / 0.50	1.77 / 0.54	x	x
SUCOFLEX 126*	70.0	5.50 / 0.22	0.60 / 0.18	1.10 / 0.34	1.37 / 0.42	x	x	x
SUCOFLEX 104	72.0	5.50 / 0.22	0.60 / 0.18	1.10 / 0.34	1.37 / 0.42	x	x	x
SUCOFLEX 118*	145.0	7.90 / 0.31	0.41 / 0.13	0.76 / 0.23	x	x	x	x
SUCOFLEX 106	145.0	7.90 / 0.31	0.41 / 0.13	0.76 / 0.23	x	x	x	x
MULTIFLEX 141 CT (02)	30.7	3.80 / 0.15	1.05 / 0.32	1.97 / 0.60	2.49 / 0.76	2.68 / 0.82	3.20 / 0.98	x
MULTIFLEX 141 CT	29.0	4.20 / 0.17	0.85 / 0.26	1.62 / 0.49	2.05 / 0.63	2.22 / 0.68	x	x
MULTIFLEX 210 CT	45.0	5.00 / 0.20	0.72 / 0.22	1.40 / 0.43	1.79 / 0.54	1.94 / 0.59	x	x
MULTIFLEX 318 CT	90.0	7.50 / 0.30	0.49 / 0.15	1.00 / 0.30	x	x	x	x
SPUMA-240-RS-FR*	62.0	6.17 / 0.24	0.78 / 0.24	x	x	x	x	x
SPUMA-400-RS-FR*	142.0	10.25 / 0.40	0.39 / 0.12	x	x	x	x	x
SPUMA-600-RS-FR*	216.5	15.00 / 0.59	0.25 / 0.08	x	x	x	x	x

* Built with our patented rotary swaging technology.

CT: Constant over temperature
RS: Rotary swaging
FR: Flame retardant
L: Low loss

MINIBEND – For design-in activities (within systems)

Our advanced cables are engineered to deliver exceptional signal integrity while offering outstanding flexibility for a wide range of defense applications. Whether you need to integrate cables within a system or connect multiple subsystems, our cables offer custom solutions tailored to meet your size, weight, power, and cost (SWaP-C) requirements.

			Frequency (GHz)					
Cable	**Weight (g/m)**	**OD (mm/inch)**	**6**	**18**	**30**	**40**	**50**	**65**
			IL (dB/m) typ.					
NANOBEND	7.4	1.60 / 0.06	3.71 / 1.13	6.58 / 2.00	8.63 / 2.63	10.07 / 3.07	11.36 / 3.46	13.11 / 4.06
MICROBEND	11.9	1.91 / 0.08	2.60 / 0.79	4.66 / 1.42	6.16 / 1.88	7.22 / 2.20	8.18 / 2.50	9.50 / 2.89
MICROBEND-L	10.4	2.03 / 0.08	1.96 / 0.62	3.44 / 1.08	4.48 / 1.37	5.21 / 1.63	5.85 / 1.84	6.72 / 2.05
MINIBEND	14.9	2.49 / 0.10	1.86 / 0.57	3.38 / 1.04	4.50 / 1.37	5.31 / 1.63	6.04 / 1.86	7.06 / 2.15
MINIBEND-L	16.4	2.64 / 0.11	1.50 / 0.47	2.65 / 0.82	3.46 / 1.05	4.03 / 1.25	4.53 / 1.41	x
MINIBEND-CT	14.9	2.49 / 0.10	1.97 / 0.60	3.62 / 1.10	4.84 / 1.48	5.73 / 1.75	6.55 / 2.00	7.67 / 2.34
MINI141	31.2	3.61 / 0.14	0.94 / 0.29	1.68 / 0.52	2.21 / 0.67	2.59 / 0.79	x	x
MINI141-CT	14.9	3.66 / 0.14	1.37 / 0.42	2.62 / 0.80	3.51	4.21 / 1.30	x	x
MINI250	81.9	5.72 / 0.23	0.61 / 0.19	1.10 / 0.33	x	x	x	x

Cable and SS316L connector matrix

SS316L, also referred to as A4 stainless steel or marine grade stainless steel, is widely used in the defense industry due to its high corrosion resistance, strength, and ability to withstand high temperatures.

Cable	**Part Number**	**Straight SS316L Male Connector**	**Right Angle SS316L Male Connector**	**Bulkhead SS316L Connector**
SUCOFLEX 118	85084763	SMA TNC N	SMA TNC N	TNC N
SUCOFLEX 106	22511150	SMA TNC N	SMA TNC N	TNC N
SUCOFLEX 126	85020264	SMA TNC N	SMA TNC N	TNC N
SUCOFLEX 104	22510839	SMA TNC N	SMA TNC N	TNC N
MULTIFLEX 141 CT (02)	85215603	SMA		
MULTIFLEX 141 CT	85106242	SMA TNC N	SMA N	SMA TNC N
MULTIFLEX 210 CT	85097358	SMA TNC N	SMA TNC N	SMA TNC N
MULTIFLEX 318 CT	85097517	SMA TNC N	SMA TNC N	SMA TNC N
SPUMA-240-RS-FR	85089188	SMA TNC N	SMA TNC N	TNC N
SPUMA-400-RS-FR	85089191	SMA TNC N	TNC N	TNC N
SPUMA-600-RS-FR	85240547	N	N	

A wider range of connectors and configurations is available upon request to meet specific application requirements

Key qualification tests

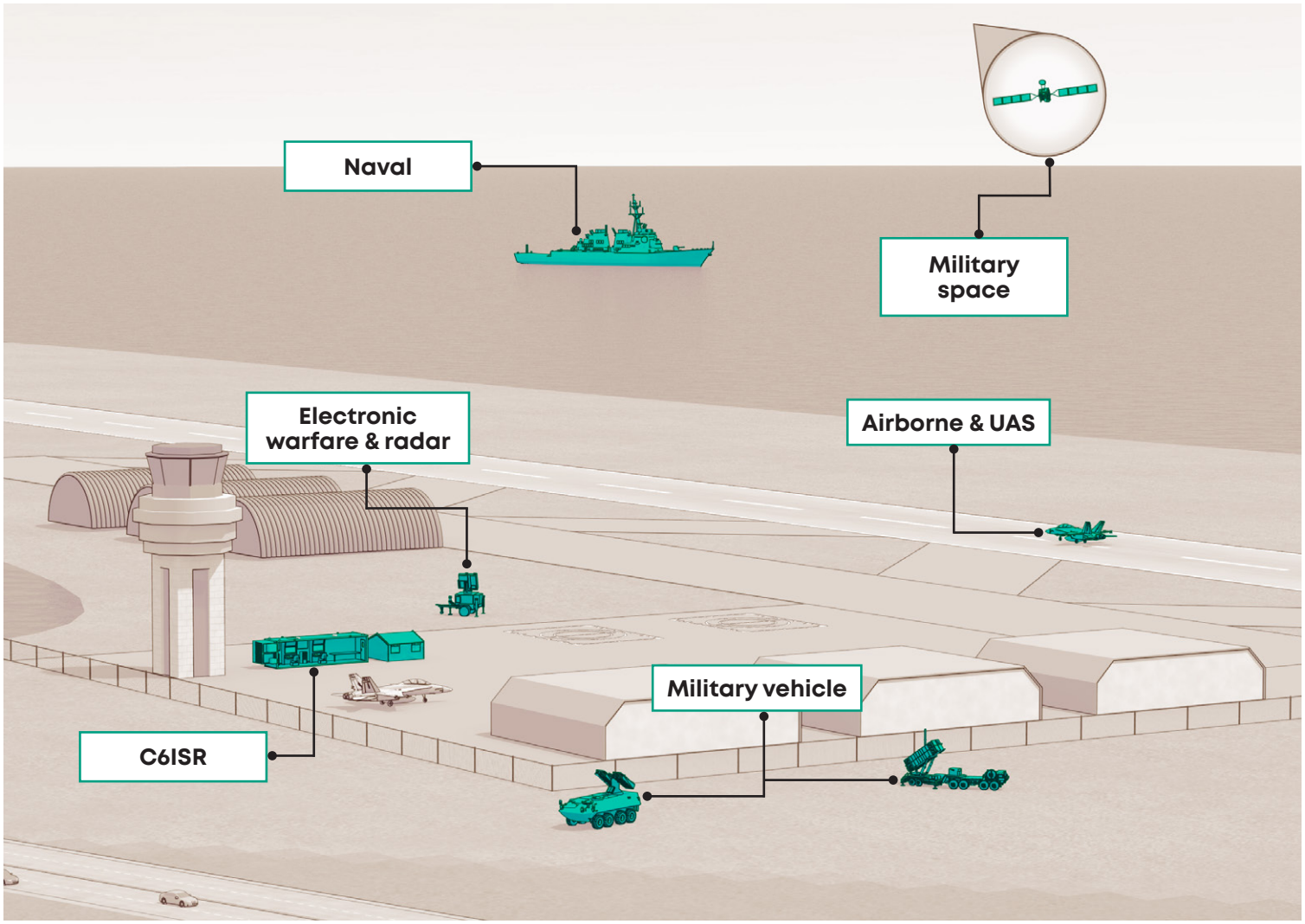
Test Characteristics	Norm Reference
Vibration - High Frequency	MIL-STD-202H, method 204, condition G
Mechanical shock - Half sine	MIL-STD-810G, method 516.6
Mechanical Shock - Saw Tooth	MIL-STD-810G, method 516.6
Vibration - Random	MIL-STD-810, method 514.8
Temperature, Humidity, Altitude	MIL-STD-810C, method 518.1
Moisture Resistance	MIL-STD-202-106
IP X7	IEC 60529
Thermal Shock	MIL-STD-202H, method 107
Multi temperature Cycles	IEC 60068-2-14 test Nb
Smoke Index / Flammability / Toxicity	EN45545-2
Fungus Resistance	MIL-STD-810G, method 508.7
Sand & Dust	MIL-STD-810, method 510.5 proc. I and II
Solar Radiation	MIL-STD-810, method 505.5 proc. I and II

The **RF Assembly Calculator** allows an easy comparison of up to three out of more than 320 HUBER+SUHNER radio frequency cables in different configurations and environments. It offers a straight access to technical specifications such as insertion loss and power rating. Furthermore it allows extended calculations of individual cable configurations.

Scan the QR code to link directly to the calculator.

Rotary swaging technology optimizes the inner conductor of RF cables by combining the flexibility of stranded wires with the low-loss characteristics of solid wires, ensuring optimal signal integrity in dynamic environments.

Scan the QR code to link directly to the video.



6.2025

HUBER+SUHNER AG
Degersheimerstrasse 14
9100 Herisau
Switzerland
Phone +41 71 353 41 11
hubersuhner.com

HUBER+SUHNER is certified to ISO 9001, ISO 14001, ISO 45001, EN/AS 9100, IATF 16949 and ISO/TS 22163-IRIS.