



2. JUMPER CABLES

For high performance flexible inter-connection of DIN 7-16 or N type interfaces between RF-equipment and antenna, EUPEN supplies EC³ cables with pre attached connectors also called EC³ jumper cables.

With EC³ jumper cables reliability of the system is improved and installation time reduced.

The combination of EC³ cables and connectors guarantees Jumper cables with unsurpassed electrical performances. Typically Return loss is better than 32 dB and PIM - 162 dBc over the cellular bands.

The standard EC³ Jumper cables are offered in sizes of 1/4" and 1/2". The outer jacket is an all weather-resistant black Durathene PE. For

applications requiring flame retardancy, jumper cables can be offered with flame retardant and halogen free outer sheath.

Longitudinal watertight!

For additional longitudinal watertightness we offer the **new developed Polymert Jumpers** with an environment-friendly water barrier between the outer conductor and the outer jacket, that provides functionality even when the jacket is damaged by birdclaws, inappropriate handling etc.

Harmless wrinkling of the Polymert cable jacket when bending with a radius lower than 50 mm, caused by the polymert layer.

		EC ³ Cable type		
		1/4" Hiflex EC1-50-HF	1/2" Hiflex EC4-50-HF	1/2" EC4-50
Attenuation for 1m / 3,28ft jumper at 20°C / 68°F				
at 960 MHz	dB	0.18	0.11	0.07
at 1880 MHz	dB	0.26	0.16	0.11
at 2200 MHz	dB	0.28	0.17	0.12
Intermodulation measured with 43dBm/20W Typical in cellular bands	dBc	-162	-162	-162
VSWR				
at 960 MHz		≤ 1.09	≤ 1.06	≤ 1.06
at 1880 MHz				
at 2200 MHz				
Power rating at 40°C / 104°F ambient temperature				
at 960 MHz	kW	0.38	0.9	1.1
at 1880 MHz	kW	0.27	0.61	0.74
at 2200 MHz	kW	0.24	0.56	0.69
Min. bending radius for min. 15 repeated bends	cm / inch	3 / 1.2	4 / 1.6	20 / 7.9

* values without connector, typical connector attenuation is less than $0,1 \cdot \sqrt{f(\text{GHz})}$ dB



Description of attached connectors	Order reference		
	1m / 3,2ft	2m / 6,5ft	3m / 9,8ft
1/4" Hiflex			
	EC1-HF-100	EC1-HF-200	coaxial cable 5042
7-16 plug to 7-16 plug	EC1-HF-100-DMDM	EC1-HF-200-DMDM	EC1-HF-300-DMDM
7-16 plug to 7-16 socket	EC1-HF-100-DMDF	EC1-HF-200-DMDF	EC1-HF-300-DMDF
7-16 socket to 7-16 socket	EC1-HF-100-DFDF	EC1-HF-200-DFDF	EC1-HF-300-DFDF
N plug to 7-16 plug	EC1-HF-100-NMDM	EC1-HF-200-NMDM	EC1-HF-300-NMDM
N plug to 7-16 socket	EC1-HF-100-NMDF	EC1-HF-200-NMDF	EC1-HF-300-NMDF
N socket to 7-16 plug	EC1-HF-100-NFDM	EC1-HF-200-NFDM	EC1-HF-300-NFDM
N socket to 7-16 socket	EC1-HF-100-NFDF	EC1-HF-200-NFDF	EC1-HF-300-NFDF
N plug to N plug	EC1-HF-100-NMNM	EC1-HF-200-NMNM	EC1-HF-300-NMNM
N plug to N socket	EC1-HF-100-NMNF	EC1-HF-200-NMNF	EC1-HF-300-NMNF
N socket to N socket	EC1-HF-100-NFNF	EC1-HF-200-NFNF	EC1-HF-300-NFNF
1/2" Hiflex			
	EC4-HF-100	EC4-HF-200	coaxial cable 5092 ^{1) 2)}
7-16 plug to 7-16 plug	EC4-HF-100-DMDM	EC4-HF-200-DMDM	EC4-HF-300-DMDM
7-16 plug to 7-16 socket	EC4-HF-100-DMDF	EC4-HF-200-DMDF	EC4-HF-300-DMDF
7-16 socket to 7-16 socket	EC4-HF-100-DFDF	EC4-HF-200-DFDF	EC4-HF-300-DFDF
N plug to 7-16 plug	EC4-HF-100-NMDM	EC4-HF-200-NMDM	EC4-HF-300-NMDM
N plug to 7-16 socket	EC4-HF-100-NMDF	EC4-HF-200-NMDF	EC4-HF-300-NMDF
N socket to 7-16 plug	EC4-HF-100-NFDM	EC4-HF-200-NFDM	EC4-HF-300-NFDM
N socket to 7-16 socket	EC4-HF-100-NFDF	EC4-HF-200-NFDF	EC4-HF-300-NFDF
N plug to N plug	EC4-HF-100-NMNM	EC4-HF-200-NMNM	EC4-HF-300-NMNM
N plug to N socket	EC4-HF-100-NMNF	EC4-HF-200-NMNF	EC4-HF-300-NMNF
N socket to N socket	EC4-HF-100-NFNF	EC4-HF-200-NFNF	EC4-HF-300-NFNF
1/2"			
	EC4-100	EC4-200	coaxial cable 5128 ¹⁾
7-16 plug to 7-16 plug	EC4-100-DMDM	EC4-200-DMDM	EC4-300-DMDM
7-16 plug to 7-16 socket	EC4-100-DMDF	EC4-200-DMDF	EC4-300-DMDF
7-16 socket to 7-16 socket	EC4-100-DFDF	EC4-200-DFDF	EC4-300-DFDF
N plug to 7-16 plug	EC4-100-NMDM	EC4-200-NMDM	EC4-300-NMDM
N plug to 7-16 socket	EC4-100-NMDF	EC4-200-NMDF	EC4-300-NMDF
N socket to 7-16 plug	EC4-100-NFDM	EC4-200-NFDM	EC4-300-NFDM
N socket to 7-16 socket	EC4-100-NFDF	EC4-200-NFDF	EC4-300-NFDF
N plug to N plug	EC4-100-NMNM	EC4-200-NMNM	EC4-300-NMNM
N plug to N socket	EC4-100-NMNF	EC4-200-NMNF	EC4-300-NMNF
N socket to N socket	EC4-100-NFNF	EC4-200-NFNF	EC4-300-NFNF

¹⁾ For Jumper with Jumper Seal-Water stop (see also page 30).

Please add to the order reference "s" for a simple sleeve or "ss" for sleeves attached on both sides of the jumper.

²⁾ Also available with compound for outdoor use.

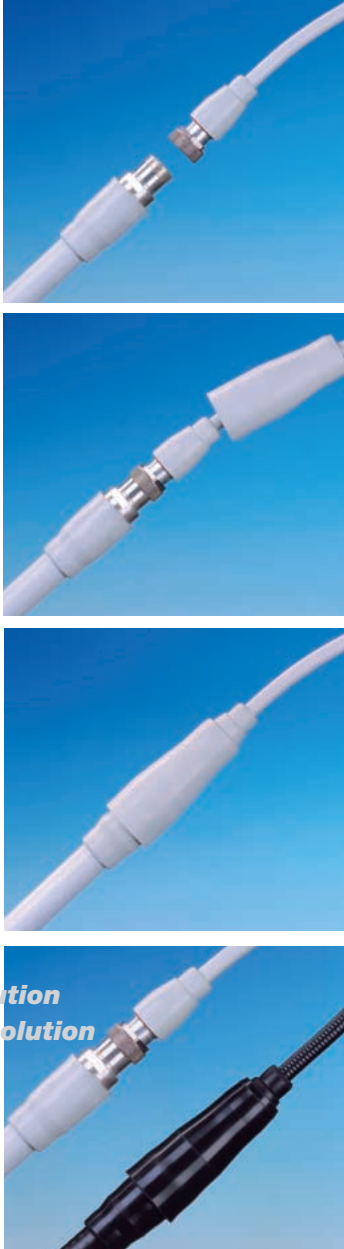
3.2 Jumper Seal - waterstop

Jumper Seal is designed to provide a quick weatherproofing system for EC³ jumper and feeder cables as well as for EC³ DIN 7/16" connectors. The UV resistant system consists of special EPDM cable sleeves and junctions to seal interconnections. Sealing level exceeds IP68 requirements.

Jumper Seal: the revolutionary
"Waterstop" solution
"Waterstop" solution

For measurement and service purposes, the interconnection can be opened and closed simply by pushing the junction seal aside.

This easy and reusable interconnection accessory replaces the use of time consuming weatherproofing tape kits or cold shrinks.



patent pending

Order reference		Description
7780006	JPS-EC4-HF	Jumper Seal Sleeve for cable 5092-(1/2"-50 Ohm-HIFLEX) black
7782006	JPS-EC4	Jumper Seal Sleeve for cable 5128-(1/2"-50 Ohm) black
7783006	JPS-EC5	Jumper Seal Sleeve for cable 5228-(7/8"-50 Ohm) black
7784006	JPS-EC6	Jumper Seal Sleeve for cable 5328-(1 1/4"-50 Ohm) black
7787006	JPS-EC7	Jumper Seal Sleeve for cable 5438-(1 5/8"-50 Ohm) black
7790006	JSJ-EC4	Jumper Seal Junction 5092 to 5128 black
7791006	JSJ-EC5	Jumper Seal Junction 5092 to 5228 black
7797006	JSJ-EC6	Jumper Seal Junction 5092 to 5328 black
7798006	JSJ-EC7	Jumper Seal Junction 5092 to 5438 black
9426996	JSJ-TMA-ANT	Jumper Seal Junction 1/2" and O-Ring grey for 7-16F TMA and antenna
7780066	JPS-EC4-HF	Jumper Seal Sleeve for cable 5092-(1/2"-50 Ohm-HIFLEX) grey
7782066	JPS-EC4	Jumper Seal Sleeve for cable 5128-(1/2"-50 Ohm) grey
7783066	JPS-EC5	Jumper Seal Sleeve for cable 5228-(7/8"-50 Ohm) grey
7784066	JPS-EC6	Jumper Seal Sleeve for cable 5328-(1 1/4"-50 Ohm) grey
7787066	JPS-EC7	Jumper Seal Sleeve for cable 5438-(1 5/8"-50 Ohm) grey
7790066	JSJ-EC4	Jumper Seal Junction 5092 to 5128 grey
7791066	JSJ-EC5	Jumper Seal Junction 5092 to 5228 grey
7797066	JSJ-EC6	Jumper Seal Junction 5092 to 5328 grey
7798066	JSJ-EC7	Jumper Seal Junction 5092 to 5438 grey
94260	JSJ-TMA-ANT	Jumper Seal Junction 1/2" and O-Ring grey for 7-16F TMA and antenna