



LISCA – RF jumpers

LISCA cable assemblies are specially developed for applications where low VSWR and low attenuation combined with low intermodulation products are required. The excellent performance is achieved by utilising corrugated cables with low intermodulation connectors and a controlled assembly process with HUBER+SUHNER solder technology.

LISCA jumpers are factory-made cable assemblies and can be ordered in different lengths. A hot-polyamide moulding between connector and cable jacket guarantees highest stability and tightness.

Benefits

- RoHS compliant (2011/65/EU)
- Wide variety of corrugated cable and connector types
- Standard products as well as customized assemblies with special lengths and markings according to customer specifications
- High volume capacity thanks to standard assembly processing at all main HUBER+SUHNER production sites worldwide

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Standard LISCA assemblies

These assemblies are produced under stringent quality manufacturing standards in order to achieve consistent high performance. All standard products are based on SUCOFEED cables with black PE jacket material. The assemblies are 100 % tested for attenuation and return loss according to the technical data. These LISCA products are factory-made cable assemblies and can only be ordered in predetermined lengths.

Features

- Excellent RF performance
- High RF shielding efficiency
- Low attenuation
- Moisture protection IP68
- High flexibility and small bending radius
- Low PIM

Customised LISCA assemblies

HUBER+SUHNER's strengths also include the production of products according to customer specifications. This product line offers additional possibilities for demanding customer wishes based on the LISCA standard requirements.

Additional features

- Improved return loss values
 - Example: better -28 dB at 2.2 GHz with straight N or DIN 7/16 connectors
- 100 % factory tested products for intermodulation
 - Example: max. -155 dBc at 1.8 GHz with 2 x 20 W carriers
- Factory tested products on phase length/tolerance and delay time
- Specified for frequencies up to 6 GHz
- Customised marking, labelling and product packaging
- Special connector designs
- Products with lengths up to 120 m



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Assembly performance code

Performance code		LIS...-51	LIS...-52		LIS...-71	LIS...-81	LIS...-01
Description		Standard	LTE*		USA ¹⁾	Test leads	Customer specific
Impedance		50 Ω	50 Ω		50 Ω	50 Ω	50 Ω
Frequency (max. operating)		6 GHz	6 GHz	6 GHz	6 GHz	6 GHz	6 GHz
Length of assemblies		≤ 10 m	≤ 5 m	≤ 12 m	≤ 5 m	≤ 5 m	≤ 120 m
Return loss	DC ..1.0 GHz	≥ 28 dB	≥ 28 dB	≥ 28 dB	≥ 28 dB	≥ 24 dB	open
	>1.0 .. 2.2 GHz	≥ 26 dB	≥ 26 dB	≥ 26 dB	≥ 26 dB	≥ 24 dB	
	>2.2 .. 2.7 GHz	-	≥ 23 dB	≥ 21 dB	-	-	
	>2.2 .. 4.0 GHz	-	-	-	≥ 22 dB	-	
	>4.0 .. 6.0 GHz	-	-	-	-	-	
Intermodulation		IM3 (2 x 20 W)	-162 dBc (typical)	-150 dBc -162 dBc (typical)	-160 dBc	-165 dBc QN: -155 dBc	open
RF power		see cable specification					
Attenuation		see cable specification					

LTE = Long Term Evolution
¹⁾ special marking on cable

LISCA standard type (-51) availability matrix

Connector pattern		Cable		Connector Series							
				DIN 7/16	4.1-9.5 Mini DIN	N	Qn	4.3-10 jack (f)	4.3-10 plug (m)		
pattern code		cable/ connector codes	716	4195	N	QN	4310	4310X ¹⁾	4310Y ²⁾	4310Z ³⁾	
Straight plug (male)	11	1/4" HF	C5	✓	-	✓	✓	n/a	-	-	-
		3/8" HF	C7	✓	-	✓	✓	-	-	-	
		1/2" HF	C9	✓	✓	✓	✓	✓	✓	✓	
		1/2	C12	✓	✓	✓	✓	✓	-	-	
Right angle plug (male)	16	1/4" HF	C5	✓	-	✓	✓	n/a	-	-	-
		3/8" HF	C7	✓	-	✓	✓	-	-	-	
		1/2" HF	C9	✓	✓	✓	✓	-	-	-	
		1/2	C12	✓	-	✓	-	-	-	-	
Straigh jack (female)	21	1/4" HF	C5	✓	-	✓	-	-	-	-	-
		3/8" HF	C7	✓	-	✓	-	-	-	-	
		1/2" HF	C9	✓	-	✓	-	-	-	-	
		1/2	C12	✓	-	✓	-	-	-	-	

¹⁾ screw type
²⁾ hand screw type
³⁾ push-pull type

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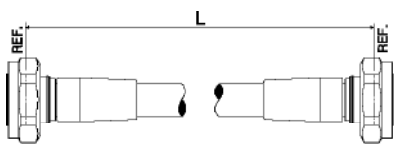
Order number for standard LISCA

		Example:	LIS-C9	F-11	716-16	716-02000	-51
		Product name					
SUCOFEED_1/4_HF	C5	Cable type					
SUCOFEED_3/8_HF	C7						
SUCOFEED_1/2_HF	C9						
SUCOFEED_1/2	C12						
Flame retardant: F PE: no indication							
Straight male	11	Pattern of connector		1			
Right angle male	16						
Straight female	21	Pattern of connector				2	
DIN 7/16	716	Connector interface			1	2	
4.1-9.5 Mini DIN	4195						
N	N						
QN	QN						
4.3-10 jack (f)	4310						
4.3-10 plug (m)	screw type	4310X					
	hand screw type	4310Y					
	push-pull type	4310Z					
		Assembly length in mm					
Jumper performance code	example: 51	Technical performance					

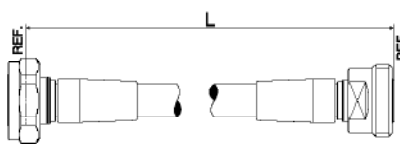
Rules for connector 1 and connector 2 description

1. For interface 1 and interface 2: numerical code before letter code (e.g. 716 before N).
2. For connector 1 use lower pattern code (e.g. 11 or 16 if pattern of connector 2 is 21).
3. If both connectors are of right angle, additional information about alignment is required.

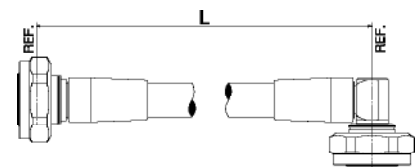
Assembly length: tolerance +/- 1 %



Plug to plug



Plug to jack



Plug to right angle plug

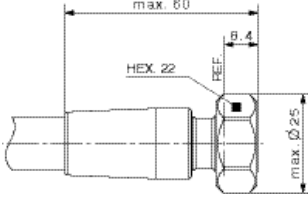
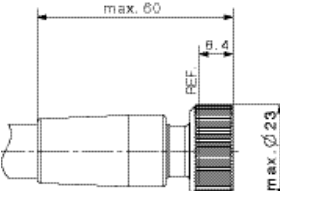
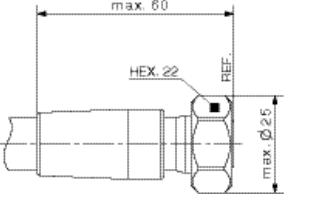

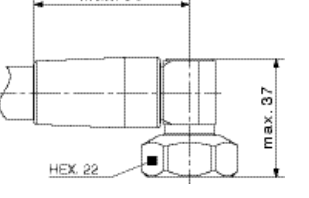
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LISCA connector pattern

Description	Series DIN 7/16	Series N	Series QN
Straight male (Pattern code: 11)			
	cable: C5, C7, C9, C12	cable: C5, C7, C9, C12	cable: C5, C7, C9, C12
Right angle male (Pattern code: 16)			
	cable: C5, C7, C9, C12	cable: C5, C7, C9, C12	cable: C5, C7, C9, C12
Straight female (Pattern code: 21)			
	cable: C5, C7, C9, C12	cable: C5, C7, C9, C12	
Straight bulkhead female (Pattern code: 24)			
	cable: C5, C7, C9	cable: C5, C7	
Right angle bulkhead female (Pattern code: 29)			
	cable: C5, C7	cable: C7	
Straight bulkhead female (Pattern code: 25)			
	cable: C5, C7		

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LISCA connector pattern

Description	Series 4310	Series 4310	Series 4195
Straight male (Pattern code: 11)			
	X cable: C9, C12	Y cable: C9	cable: C9, C12
Right angle male (Pattern code: 16)			
	Z cable: C9		cable: C9