

TL-P

High flexible test lead for passive intermodulation (PIM) and return loss for frequency up to 4 GHz

Product description

HUBER+SUHNER TL-P assemblies are designed for indoor and outdoor applications where passive intermodulation (PIM) has to be tested.

This assembly family is based on a flexible cable which is optimised up to 4 GHz and protected with a steel armouring. The robust design is completed with a molded protection between connector and cable.

Product features

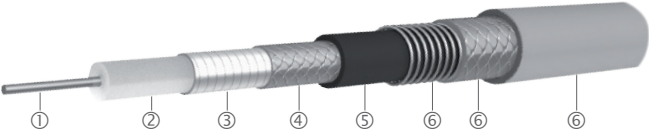
- Impedance 50 Ω
- Applicable up to 4 GHz
- Excellent PIM performance (≤ -160 dBc)
- High mechanical endurance
- Return Loss performance
- High mating cycle (> 2000)
- Highly flexible, rugged and reliable design
- Easy to handle for work in field
- Excellent performance to price ratio



Recommended connectors

TL-P	7/16, N, 4.3-10 (screw version)
	Other connectors available on request.

Construction



Cable	Inner conductor ①	Dielectric ②	Outer conductor ③ ④	Jacket ⑤	Ruggedisation ⑥	Outer diameter mm
TL-P	CuAg wire	PTFE	CuAg braid	FEP	stainless steel/PUR, blue	10.3

Technical data

Cable	Operating frequency	Velocity of propagation	Weight	Preferred bending radius	Temperature range
	GHz	%	g /m	mm	°C
TL-P	4	71	150.0	110.0	-15 to +65

Available connectors

Connector	Series, pattern	Code	Operating frequency GHz
7/16	straight cable plug	7/16	4
N	straight cable plug	N	4
4.3-10 (screwed)	straight cable plug	431X	4

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Technical data

Key values				
Frequency	up to 4 GHz			
Return loss (up to length = 3.0 m)	1 GHz	2 GHz	3 GHz	4 GHz
	≤ -29 dB	≤ -26 dB	≤ -23 dB	≤ -20 dB
Power (at 40 °C, sea level)	≤ 560 W	≤ 390 W	≤ 320 W	≤ 280 W
Attenuation (at 25 °C)	0.75 dB/m at 2 GHz, 0.90 dB/m at 3 GHz			
PIM	≥ -117 dBm (160 dBc), tested according IEC 62037-2			
Waterproof	IP67			
Shielding effectiveness	> -120 dB			
Temperature range	-15 to +65 °C (operating) -10 to +55 °C (installation)			
Durability (matings)	> 2000 cycles			
Bending radius repeated	min. 50 mm (15 ×)			
Bending radius dynamic	≥ 110 mm (4.3 in), flex-life 10 000 bendings ± 90°			

Stock assemblies

Item no.	Type	Length mm	Frequency GHz	Max. insertion loss at 25 °C	Max. VSWR	Min. PIM dBc	ROHS compliant
85017448	TL-P-11716-11716-01500-51	1500	4	1.54	1.22	160	yes
85027254	TL-P-11716-11716-03000-51	3000	4	2.97	1.22	160	yes
85027450	TL-P-11716-11N-01500-51	1500	4	1.54	1.22	160	yes
85027453	TL-P-11716-11N-03000-51	3000	4	2.97	1.22	160	yes
85029279	TL-P-11431X-11716-01500-51	1500	4	1.54	1.22	160	yes
85029280	TL-P-11431X-11716-03000-51	3000	4	2.97	1.22	160	yes

TL-P-11 431X-11 716-01500-51

