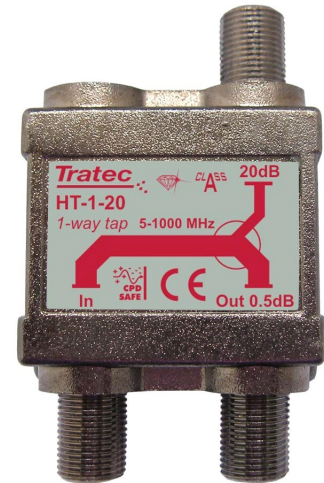


1-way head-end Tap HT-1-20

Features:

- Compliance to many environmental standards
- Designed for panel mounting in head-end applications (as HPP-xxF panels)
- Excellent intermodulation performance by ferrite (1.2/50µs surge)
- Operational Temperature range from -25°C to +70°C
- Low loss and high return loss performance
- Cenelec Class A screening effectiveness
- NiSn plated housing, connectors and F-inner conductor
- Machined brass press-in F-connectors



Description

There is an ever increasing requirement for splitting and combining of RF-signals with a very high quality and a quick off the shelf delivery. Therefore Technetix developed a concept with which we are able to deliver a versatile and flexible solution supporting many different head end applications.

The HT-1-xx Taps have been developed specifically for panel mounting in head end applications. Technetix has taken every precaution to ensure that the range meets the European cable industries most stringent and demanding standards such as CENELEC- and IEC-standards and guidelines. Increasing complexity of the networks places extra pressure on the long term reliability of the network. Subscriber expectations of new services are high, with a contingent burden upon the operator not to disappoint. Every element in the system network must therefore meet the highest standards of quality and reliability, right down to the smallest component. Employing the very highest design and environmental engineering standards, Technetix developed this line of high frequency Taps. The HT-taps are tested under extreme conditions. Some examples of the tests: Salt Spray, Vibration, Damp Heat, Operational Temperature range (-25°C to +70°C). These extremes must not be allowed adversely to effect system performance! For the HT-taps we also specify the MTBF, Mean Time Between Failure, which enables an accurate prediction of the probable reliability of the product. Our products have estimated MTBF's of several tens of years, the MTBF values are calculated according to MIL 217D.

Furthermore the HT-taps employ specially developed magnesium/ferrite materials so that Insertion- and Return losses are optimal, also a high Intermodulation performance can be reached without using Modem Safe circuits even after 1KV surges (1.2/50µs). The housings of the HT-taps are all particularly designed for panel mounting aimed at easy and convenient installation straight through the mounting panel(s). The housings are assembled with specially designed press-in connectors made of machined brass with a NiSn plating. Additionally the F-inner spring (C-strap) is made of the best material there is: beryllium copper giving a powerful resilience over a wide range of test gauges between 0.51-1.30 mm. The clamp force of the F-spring, tested with 0.51 mm gauge, remains perfectly well after insertion of the maximum gauge due to the great resilience of beryllium copper. The F-spring has a NiSn plating in order to obtain minimum electrical resistance. Amongst many features, the topic is the material of the housings: one body zinc die-cast, NiSn plated giving optimum anti-corrosion resistance and unbeatable screening effectiveness. Extensive research in a number of labs worldwide has shown that NiSn plating is the best plating material for products used in the CATV networks. The most important feature is the prevention against Common Path Distortion (CPD), the nightmare of every Cable operator.

With other words: The HT-series of Taps have been developed to be strong in every detail !

Specifications

V1 okt 10, 2008

	Port	Range	Min	Typical	Max	Units	Remark	Margin
Frequency Range	-		5		1000	MHz		
Equipment Approval				CE				

Ordering Information

HT-1-20	1-way head-end Tap	Article number:	19001946
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Mechanical & environmental requirements

V1 okt 10, 2008

	Port	Range	Min	Typical	Max	Units	Remark	Margin
Protection (IEC 529)	Protection provided by enclosures			IP54				
Temperature Range (IEC 68-1)	Specified Temp. Range		-15		+55	°C	6	
	Operating Temp. Range		-25		+70	°C	6	
Temperature Test (IEC 68-14)	Low temp. (Ta)			-15°C			7	
	High temp. (Tb)			+55°C			7	
	Rate of temp. Change			1°C per minute			7	
	Number of cycles			5			7	
	Exposure time			3 hours (at Ta&Tb)			7	
Dry Heat Test (IEC 68-2-2)	Temperature			+70°C			8	
	Time			16 hours			8	
Damp Heat (IEC 68-2-30)	Relative humidity			30% max			8	
	Damp heat cyclic			12+12 hours			9	
	Upper/lower temperature			+40°C/+25°C			9	
	Number cycles after re-entries			21			9	
	Variant 1			>95% relative humidity			9	
MTBF							10	
Salt mist (IEC 68-2-11)	Salt concentration			5%			11	
	Temperature			+35°C+/-2°C			11	
	Exposure time			16 hours			11	
Vibration (IEC-2-6)	Frequency range			10-55 Hz			12	
	Sweep cycles			10			12	
	Sweep rate			1 octave p/m			12	
	Displacement amplitude			0.75 mm			12	
	Axis			3			12	
RF Connector (IEC 169-24)	Standard torque			4.0		Nm	13	
	Survival torque			8.0		Nm	13	

Specifications

V1 okt 10, 2008

	Port	Range	Min	Typical	Max	Units	Remark	Margin
Insertion Loss	In -> Out	5 MHz < F < 40 MHz	0.1	0.4	0.7	dB		+/-0.1
		40 MHz < F < 470 MHz	0.2	0.4	0.6	dB		+/-0.1
		470 MHz < F < 862 MHz	0.2	0.5	0.8	dB		+/-0.1
		862 MHz < F < 1000 MHz	0.3	0.6	0.9	dB		+/-0.1
Tap Loss Return Loss	In -> Tap	5 MHz < F < 1000 MHz	19.0	20.0	21.0	dB		+/-0.2
		5 MHz < F < 10 MHz	20			dB		-2
		10 MHz < F < 40 MHz	22			dB		-1
		40 MHz < F < 862 MHz	22			dB	1	-1
		862 MHz < F < 1000 MHz	14			dB		-1
		5 MHz < F < 10 MHz	20			dB		-2
	Out	10 MHz < F < 40 MHz	22			dB		-1
		40 MHz < F < 862 MHz	22			dB	1	-1
		862 MHz < F < 1000 MHz	14			dB		-1
		5 MHz < F < 10 MHz	20			dB		-2
		10 MHz < F < 40 MHz	22			dB		-2
		40 MHz < F < 862 MHz	22			dB	1	-2
Tap	862 MHz < F < 1000 MHz	14			dB		-2	
	5 MHz < F < 10 MHz	20			dB		-2	
	10 MHz < F < 40 MHz	22			dB		-2	
	40 MHz < F < 862 MHz	22			dB	1	-2	
Isolation	Out -> Tap	862 MHz < F < 1000 MHz	14			dB		-2
		5 MHz < F < 10 MHz	36			dB		-2

	Port	Range	Min	Typical	Max	Units	Remark	Margin
Tap Loss	Out -> Tap	10 MHz < F < 40 MHz	39			dB		-2
		40 MHz < F < 862 MHz	39			dB	1	-2
		862 MHz < F < 1000 MHz	32			dB		-1
Screening Effectiveness	-	5 MHz < F < 300 MHz	85	95		dB	2	
		300 MHz < F < 470 MHz	80	90		dB	2	
Intermodulation p+q (min)		470 MHz < F < 1000 MHz	75	85		dB	2	
		No surge		-122		dB	5	
		25 V surge		-115		dB	4	
		1 KV surge		-115		dB	3	

Remarks	
1	F > 40 MHz -1.5 dB/oct
10	MIL-271D
11	After this test the insertionloss and tapploss shall be tested at room temperature and shall stay within the limits which apply for the "Specified Temperature Range".
12	Basic environmental testing procedures. At the last cycle the insertionloss and tapploss shall be tested and shall stay within the limits which apply for the "Specified Temperature Range".
13	Coaxial connectors with screw coupling typically for use in 75 Ohm distribution systems
14	Parameters within the "Specified Temperature Range" are subject to additional tolerances as mentioned in the "margin" column. Specifications within the "Operating Temperature Range" may change twice the tolerances mentioned in the "margin"column.
2	Transfer Impedance Method according IEC 60728-2(5-30 MHz) Absorbtion clamp method according IEC-60728-2 § 4.4 (30-1000 MHz)
3	Two carriers (50 & 55MHz), tap to in, @ 120dBµV, after 1 pulse 1KV (IEC 1000-4-5 level 2) at all ports.
3	Two carriers (50 & 55MHz),out to in, @ 120dBµV, after 1 pulse 1KV (IEC 1000-4-5 level 2) at all ports
4	Two carriers (50 & 55MHz),out to in, @ 120dBµV, after 10 pulses (25V/1,2µS rise time/500µS duration) at all ports
4	Two carriers (50 & 55MHz), tap to in, @ 120dBµV, after 10 pulses (25V/1,2µS risetime/500µS duration) at all ports.
5	Two carriers (50 & 55MHz), tap to in, @ 120dBµV, before surge
5	Two carriers (50 & 55MHz),out to in, @ 120dBµV, before surge
6	Specification within the "Operating Temperature Range" may change twice as much as specifications of "Specified Temperature Range".
7	Change of temperature with specified rate of change. After this test insertionloss and tapploss shall be measured (at room temperature) and shall stay within the range which applies for the "Specified Temperature Range".
8	Dry heat for non heat dissipating specimen with gradual change of temp.After 16hrs, the ins.loss and tapploss tested at 70°C (within the limits for Op.Temp. Range).After this test all specs shall be tested at roomtemp.(within limits for spec temp.range)
9	Test dB and guidance. At last cycle the insertionloss and tapploss shall be tested and shall stay within the limits which apply for the "Specified Temperature Range".

note:	Specifications are measured at room temperature
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