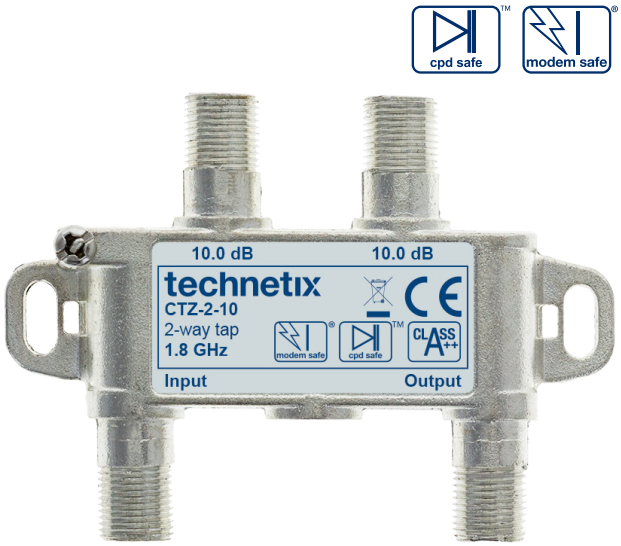
1.8 GHz core series inline 2-way taps

- **Frequency range 12-1825 MHz**
- **Best in class RF performance**
- **Modem Safe® surge protection on all ports**
- **CPD Safe™ corrosion protection using white-bronze plating**
- **F connectors provide superb retention force**



Overview

The Core series is our next generation of installation passives which excel in both electrical and mechanical performance. Though designed for indoor use, they are also specified for use in street-side plant. The products are easy to install with a compact housing, specifically sized to make replacement and upgrade installation simple.

Intermodulation performance, which is an important factor in high-level return path signals, has been greatly improved through a newly developed ferrites and specially designed circuits. The intermodulation performance remains very high even after being exposed to electrical surges from the network on all ports.

The screening effectiveness meets the Class A++ requirements defined in EN 50083-2:2012 across the whole frequency range from 12 to 1825 MHz. To provide maximum protection against interference from 4G/5G signals.

Technetix Modem Safe®

Technetix Modem Safe® is a highly effective surge protection solution for sensitive network and in-home CPE. This technology is based on passive circuits and is not reliant on discharge tubes, therefore extending the lifespan of the solution.

- Blocks high and low voltage pulses and unwanted DC voltages
- Prevents internal ferrites within the product from becoming magnetized (avoiding deterioration in the performance of CPE)
- Drives fewer reported faults, improving customer service and reducing truck rolls

Technetix CPD Safe™

Common Path Distortion (CPD) is well known for producing signal interference in the network. It is caused by electrolytic corrosion or the oxidization of dissimilar metals when in close contact. Technetix CPD Safe™ technology protects against CPD.

- Removes a primary cause of CPD
- Reduces signal interference in the network
- Drives fewer reported faults, improving customer service and reducing truck rolls

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1.8 GHz core series inline 2-way taps

1.8 GHz inline 2-way taps device and performance specifications

Core 2-way tap range

Parameter		CTZ-2-8			CTZ-2-10			CTZ-2-12			CTZ-2-16			CTZ-2-20			CTZ-2-24			Notes
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Insertion loss IN-OUT (dB)	12 MHz	3.3	3.6	3.9	1.9	2.2	2.5	1.5	1.8	2.1			1.7			1.5			1.5	1, 2, 3
	200 MHz	3.3	3.6	3.9	1.9	2.2	2.5	1.5	1.8	2.1			1.9			1.7			1.7	1, 2, 3
	750 MHz	3.5	3.8	4.1	2.1	2.4	2.7	1.5	1.8	2.1			2.4			2.2			2.2	1, 2, 3
	860 MHz	3.6	4.0	4.4	2.2	2.6	3.0	1.6	2.0	2.4			2.4			2.2			2.2	1, 2, 3
	1006 MHz	3.7	4.2	4.7	2.3	2.8	3.3	1.7	2.2	2.7			2.6			2.4			2.4	1, 2, 3
	1218 MHz	4.0	4.6	5.2	2.6	3.2	3.8	1.8	2.4	3.0			2.8			2.6			2.6	1, 2, 3
	1825 MHz	4.9	5.6	6.3	3.5	4.2	4.9	2.5	3.2	3.9			3.3			3.1			3.1	1, 2, 3
Tap loss IN-TAP (dB)	12 MHz	7.4	8.0	8.6	9.4	10.0	10.6	11.4	12.0	12.6	14.5	16.0	17.5	18.5	20.0	21.5	22.5	24.0	25.5	1, 2, 3
	200 MHz	7.5	8.0	8.5	9.5	10.0	10.5	11.5	12.0	12.5	14.5	16.0	17.5	18.5	20.0	21.5	22.5	24.0	25.5	1, 2, 3
	750 MHz	7.5	8.0	8.5	9.5	10.0	10.5	11.5	12.0	12.5	14.5	16.0	17.5	18.5	20.0	21.5	22.5	24.0	25.5	1, 2, 3
	860 MHz	7.5	8.0	8.5	9.5	10.0	10.5	11.5	12.0	12.5	14.5	16.0	17.5	18.5	20.0	21.5	22.5	24.0	25.5	1, 2, 3
	1006 MHz	7.3	8.0	8.7	9.3	10.0	10.7	11.3	12.0	12.7	14.5	16.0	17.5	18.5	20.0	21.5	22.5	24.0	25.5	1, 2, 3
	1218 MHz	7.2	8.0	8.8	9.2	10.0	10.8	11.2	12.0	12.8	14.5	16.0	17.5	18.5	20.0	21.5	22.5	24.0	25.5	1, 2, 3
	1825 MHz	7.0	8.0	9.0	9.0	10.0	11.0	11.0	12.0	13.0	14.2	16.0	17.8	18.2	20.0	21.8	22.2	24.0	25.8	1, 2, 3
Return loss All ports (dB)	12 MHz	14.0			14.0			14.0			14.0			14.0			14.0			1, 2, 3
	15 MHz	18.0			18.0			18.0			16.0			18.0			18.0			1, 2, 3
	30 MHz	18.0			18.0			18.0			16.0			18.0			18.0			1, 2, 3
	47 MHz	20.0			20.0			20.0			18.0			18.0			18.0			1, 2, 3
	100 MHz	20.0			20.0			20.0			18.0			18.0			18.0			1, 2, 3
	200 MHz	19.0			19.0			19.0			17.0			17.0			17.0			1, 2, 3
	400 MHz	18.0			18.0			18.0			16.0			16.0			16.0			1, 2, 3
	800 MHz	17.0			17.0			17.0			16.0			16.0			16.0			1, 2, 3
	1218 MHz	16.0			16.0			16.0			16.0			16.0			16.0			1, 2, 3
	1825 MHz	15.0			15.0			15.0			14.0			14.0			14.0			1, 2, 3
Isolation OUT-TAP (dB)	12 MHz	25.0			26.0			27.0			28.0			34.0			35.0			1, 2, 3
	47 MHz	25.0			26.0			27.0			29.0			35.0			36.0			1, 2, 3
	1218 MHz	22.0			24.0			25.0			20.0			20.0			24.0			1, 2, 3
	1825 MHz	20.0			21.0			22.0			20.0			20.0			24.0			1, 2, 3
Isolation TAP-TAP (dB)	12 MHz	30.0			30.0			35.0			38.0			38.0			38.0			1, 2, 3
	47 MHz	30.0			30.0			35.0			38.0			38.0			38.0			1, 2, 3
	1218 MHz	28.0			28.0			30.0			29.0			30.0			31.0			1, 2, 3
	1825 MHz	25.0			25.0			30.0			26.0			27.0			28.0			1, 2, 3

1.8 GHz core series inline 2-way taps

Electrical

Parameter		Specification			Units	Notes
		Min.	Typ.	Max.		
Frequency		12		1825	MHz	
Impedance			75		Ω	
Surge	All ports	1			kV	7
Intermodulation p+q	Before surge	122			dBc	4
	After 25 V surge	115			dBc	5
	After 1 kV surge	115			dBc	6
Screening class A++	12-30 MHz			2.5	mΩ/m	8
	30-1000 MHz	105			dBc	8
	1000-1825 MHz	95			dBc	8

Mechanical

Parameter		Frequency	Specification
Connectors	F connectors		EN 61169-24
	Conductor size acceptance	0.64-1.30 mm	Enhancement on EN 61169-24
	Withdrawal force	115 g	After cycle 0.7 mm, 1.2 mm, 0.7 mm 1.2 mm, 0.7 mm
Conductors	Inner contact		BeCu silver plated
Housing material	Body		Diecast zinc alloy, white-bronze plated
	Lid		Mild steel

Environmental

Parameter		Specification	Units	Notes
Temperature	Operating	-15°C to +45°C (+5°F to +113°F)	°C/°F	2
	Extended operating	-40°C to +85°C (-40°F to +185°F)	°C/°F	3
	Storage	-40°C to +85°C (-40°F to +185°F)	°C/°F	
	Temperature cycle	EN 60068-2-14		

Parameter	Standard	Severity	Units	Notes
IP rating	EN 60529 1992	IP68		
Drop test	EN 60068-2-31:2008	Rough handling shocks		9
Dry heat	EN 60068-2-2 2007	+85°C (+185°F), 72 hrs		
Temp cycling with humidity	EN 60068-2-30:2005	+55°C (+131°F), 6 cycles, 95% RH		
Vibration	EN 60068-2-6	Amplitude of 0.15 mm or 20 m/s2, the frequency varying exponentially with time from 10 Hz and 150 Hz and back. One cycle taking 5 mins.		
Salt fog	EN 60068-2-52 2018	Test method 4 (14 days)		

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Notes

1	Point-to-point linear limit line.
2	Deviation over operating temperature range: +/-0.5 dB insertion loss. +2 dB isolation and return loss.
3	Deviation over extended operating temperature: +/-1 dB insertion loss. +5 dB isolation and return loss.
4	Two carriers (60 & 65 MHz), OUT to OUT, @ 120 dBuV, fully demagnetized.
5	Two carriers (60 & 65 MHz), OUT to OUT, OUT to TAP (worse case), @ 120 dBuV, after 10 pulses (25 V/1.2 uS rise time / 500 uS duration) at all ports.
6	Two carriers (60 & 65 MHz), OUT to OUT, OUT to TAP (worse case), @ 120 dBuV, after 1x positive and 1x negative pulses (1 kV/1.2 uS rise time / 50 uS fall time) at all ports.
7	Surge pulse 1 kV/1.2 uS rise time / 50 uS fall time (IEC61000-4-5:1995) 2 Ω source impedance (1x positive and 1x negative).
8	IEC 62153-7 § 5.5, IEC 60728-2 and EN-50083 (transfer impedance method, absorbing clamp).
9	0.5 dB degradation in insertion loss and 3 dB degradation in return loss and isolation permissible.

Order information

Item code	Legacy code	Description
19014111	**CTZ-2-8**	Core 2-way inline tap 8 dB 1.8 GHz
19014112	**CTZ-2-10**	Core 2-way inline tap 10 dB 1.8 GHz
19014113	**CTZ-2-12**	Core 2-way inline tap 12 dB 1.8 GHz
19014114	**CTZ-2-16**	Core 2-way inline tap 16 dB 1.8 GHz
19014115	**CTZ-2-20**	Core 2-way inline tap 20 dB 1.8 GHz
19014116	**CTZ-2-24**	Core 2-way inline tap 24 dB 1.8 GHz

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