

Installation taps and splitters

4-way 1.2 GHz Core series low-loss tap

technetix



- High quality installation tap
- Modem Safe® surge protection
- CPD Safe™ corrosion protection
- Compact, white-bronze plated housing
- Meets Class A++ screening



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 due to their IP68 rating. The products are easy to install with a compact housing, specifically sized to make replacement and upgrade installation simple.

All F-connector contacts meet BS EN IEC 61169-24:2019 standards. The inner spring has been designed to accommodate a wide range of coax cables with an inner core of 0.64 to 1.30mm. It retains its elasticity and provides superior clamping forces, even when varying thicknesses of inner conductor are connected in succession.

Intermodulation performance, which is an important factor in high-level return path signals, has been greatly improved through a newly developed ferrite and specially designed circuits.

The screening effectiveness meets the Class A++ requirements defined in BS EN 50083-2:2012 across the whole frequency range from 12 to 1218 MHz.

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 magnetised (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 oxidation 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

Electrical specifications

Characteristic	Port type	(MHz)	10 dB			12 dB			Units	Notes
			Min	Typ	Max	Min	Typ	Max		
Insertion loss	In - out	12 - 550			4.3			3.2 - 3.2	dB	
		550 - 1006			4.3 - 4.4			3.2 - 3.6	dB	
		1006 - 1218			4.4 - 4.6			3.6 - 3.8	dB	
Tap loss	In - tap	12 - 1218			10.5			12.5	dB	8
Return loss	All ports	12 - 47	18.0			18.0			dB	
		14 - 1218	18.0			18.0			dB	3
Directivity	Out - tap	12 - 15	30			35			dB	
		15 - 65	30 - 28			35 - 29			dB	
		65 - 550	28 - 23			29 - 24			dB	
		550 - 1006	23 - 20			24 - 20			dB	
		1006 - 1218	20			20			dB	
Isolation	Tap - tap	12 - 65	25 - 23			28 - 25			dB	
		65 - 1006	23 - 18			25 - 22			dB	
		1006 - 1218	18			20			dB	

Characteristic	Port type	(MHz)	16 dB			20 dB			Units	Notes
			Min	Typ	Max	Min	Typ	Max		
Insertion loss	In - out	12 - 550			1.4 - 1.8			1.2 - 1.4	dB	
		550 - 1006			1.8 - 2.2			1.4 - 1.6	dB	
		1006 - 1218			2.2 - 2.6			1.6 - 1.8	dB	
Tap loss	In - tap	12 - 1218			16			20	dB	8
Return loss	All ports	12 - 47	18.0			18.0			dB	
		14 - 1218	18.0			18.0			dB	3
Directivity	Out - tap	12 - 15	35			35			dB	
		15 - 65	35 - 29			35 - 30			dB	
		65 - 550	29 - 25			30 - 26			dB	
		550 - 1006	25 - 22			26 - 24			dB	
		1006 - 1218	22			24			dB	
Isolation	Tap - tap	12 - 65	29 - 26			30 - 28			dB	
		65 - 1006	26 - 20			28 - 20			dB	
		1006 - 1218	20			20			dB	

Installation taps and splitters

4-way 1.2 GHz Core series low-loss tap



General specifications

Characteristic	Port type	Min	Typ	Max	Units	Notes
Frequency range	All ports	12		1218	MHz	
Temperature range	Operating	-15		+45	°C	7
	Storage	-40		+60	°C	
	Specification	+20		+25	°C	5
Impedance	RF I/P		75		Ω	
	RF O/P 1,2		75		Ω	
Surge withstand	All ports	1			kV	4,9
Intermodulation	All ports	25V		115	dBc	1
		1kV		115	dBc	1
Screening effectiveness	12 - 30 MHz			2.5	mΩ/m	2
	30 - 1000 MHz	105			dBc	2
	1000 - 2000 MHz	95			dBc	2

Mechanical specifications

Description	Port type	Details
Connectors	All ports	F-female
Materials	Body	Die-cast zinc alloy, white-bronze plated
	Lid	Mild steel, >0.8µm tin plated
	F-spring	Beryllium copper, silver plated
	Grounding block	Will accommodate two 2.5mm ² conductors
Dimensions	L x H x D	76.7mm x 64.5mm x 16.0mm
Equipment approval		CE

Installation taps and splitters

4-way 1.2 GHz Core series low-loss tap



Environmental specifications

Condition	Standard	Severity
Degree of protection provided by the enclosure	BS EN 60529:1992	IP68, 1-meter immersion 1-week duration with all ports terminated
Salt fog	BS EN 60068-2-52:2018 [test Kb] Salt mist cyclic	Test Method 4 (14 Days)
Drop	BS EN 60068-2-31:2008 [tests Ec] Rough handling shocks.	The unpackaged device under test (DUT) must be able to withstand a 1000mm drop from 2 planes (top & bottom) using a drop tester. Device shall survive and continue to operate ¹
Temperature cycle	BS EN 60068-2-14:2000 [test N] Change of temperature	6 cycles of: 3 hrs at the low limit 5°C, 1hr transition to high limit +40°C at 95% RH, wait 3 hrs then 1 hr transition to low limit. The device shall continue to operate during and after test.
Damp heat cyclic	BS EN 60068-2-30:2005 [test Db] Damp heat cyclic (12hr + 12hr)	55°C, 6 cycles, 9 5% RH
Dry heat	BS EN 60068-2-2:2007 [test B] Dry heat	85°C, 72 hrs
Vibration	BN EN 60068-2-6:2008 [test Fc] Vibration [sinusoidal]	The sample shall be subjected to a constant displacement amplitude test with an amplitude of 0.15mm or 20 m/s ² , the frequency varying exponentially with time from 10 Hz and 150 Hz and back. One cycle taking 5 mins. Test duration 10 cycles in each of the 3 axis.

Note¹ 0.5dB degradation in insertion loss and 3 dB degradation in return loss and isolation permissible.

Notes

1	Two carriers (60 & 65 MHz), out to out, @ 120 dBμV, after 10 pulses (25V/1.2 μS rise time / 500 μS duration) at all ports. Two carriers (60 & 65 MHz), out to out, @ 120 dBμV, after one positive and one negative pulse (1kV/1.2 μS rise time / 50 μS fall time) at all ports. Two carriers (60 & 65 MHz), out to out, @ 120 dBμV, before and after activation of a 50Kg force magnet over any port.
2	IEC 62153-7, IEC 60728-2 and EN-50083 (transfer impedance method, absorbing clamp)
3	F > 47 MHz -1.5 dB/oct (>14 dB)
4	Surge pulse 1kV/1.2 μS rise time / 50 μS fall time (IEC61000-4-5:1995) 2 Ω source impedance (one positive and one negative)
5	Performance measured at 22°C
6	Linear point-to-point limit line.
7	Tolerances over temperature; Insertion loss +/- 0.5 dB Isolation +/- 2 dB Return loss +/- 2 dB
8	Tap loss +/- 1 from 12 MHz to 860 MHz and +/- 1.2 dB from 860 MHz to 1218 MHz
9	0.5 dB degradation in insertion loss and 2 dB degradation in return loss and isolation permissible
TYP	Typical values

Order information

19012841	CTX-4-10
19012842	CTX-4-12
19012843	CTX-4-16
19012844	CTX-4-20

Technetix Group Limited

e: sales@technetix.com w: technetix.com

02/2020 - EN/V1

© Copyright 2020 Technetix Group Limited. All rights reserved.

This document is for information only. Features and specifications are subject to change without notice. Technetix, the Technetix logo, Technetix Ingress Safe®, Technetix Modem Safe® and certain other marks and logos are trade marks or registered trade marks of Technetix Group Limited in the UK and certain other countries. Other brand and company names are trade marks of their respective owners. Technetix protects its technology and designs by registering patents, trade marks and designs in Europe and certain other countries.