

Line passives (directional couplers) OTVCX-xx TP vertically mounted configurable outdoor tap with test port cover

technetix

- DOCSIS 3.1 ready
- 1-way outdoor directional couplers enabling vertical connections
- Optional lid without test point
- Excellent RF and hum modulation performance
- Designed for extreme environmental conditions



Overview

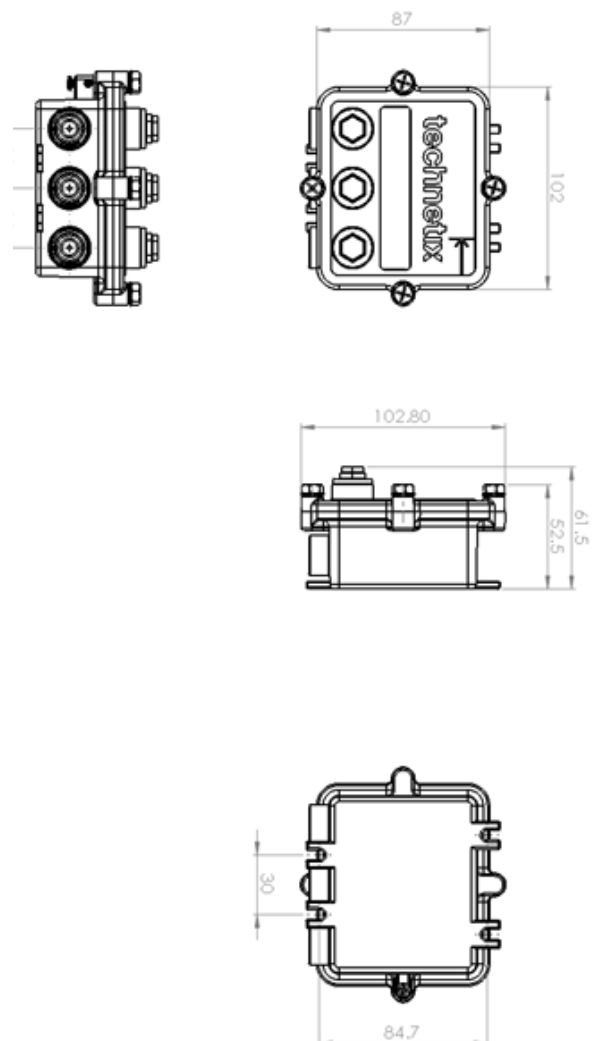
The OTVCX series of 1.2 GHz outdoor directional couplers includes various values. The unit can be configured by inserting the required value plug-in into the main board of the unit.

The taps are supplied with a test point lid. The test point lid allows a test probe to be used to check incoming/outgoing RF power without removing the lid or disconnecting cables.

Providing surge protection on all ports, and excellent RF and hum modulation performance, the couplers feature 5/8" -24 NEF-female ports for input and output cable connection on the housing.

The units are surface mountable and to aid installation instreet cabinets, all ports are on the bottom edge of the unit, pointing in the same direction.

Tested under extreme environmental conditions, the couplers are designed to operate near salt water, along busy highways and in very hot conditions.



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Specifications

Characteristic	Port type	MHz	PI Jump		4dB		7dB		10dB		13dB		16dB		19dB		22dB		Unit	Notes			
			Typ	Max	Typ	Max	Typ	Max	Typ	Max	Typ	Max	Typ	Max	Typ	Max	Typ	Max					
Insertion loss	In to out	10-65	N/A			5	5	2.3	2.8	2.5	2.5	1.5	1.8	1	1.4	1	1.4	1	1.4	dB	5		
		65-300				5	5	2.8	3	2.5	2.5	1.5	1.8	1.2	1.8	1.2	1.8	1.2	1.8	1.2	1.8	dB	5
		300-550				5	5	3.5	3	2.6	2.6	1.3	1.7	1	1.8	1	1.8	1	1.8	1	1.8	dB	5
		550-750				5.5	5.5	2.8	3.2	2.9	2.9	1.4	2	1.2	1.8	1.2	1.8	1.2	1.8	1.2	1.8	dB	5
		750-862				5.5	5.5	3	3.7	2.9	2.9	1.7	2.3	1.2	2	1.2	2	1.2	2	1.2	2	dB	5
		862-1000				5.5	5.5	3.2	3.9	3.2	3.2	2.2	2.6	1.8	2.3	1.8	2.3	1.8	2.3	1.8	2.3	dB	5
		1000-1218				5.5	5.5	3.8	4.5	3.5	3.5	2.8	3.3	2	2.6	2	2.6	2	2.6	2	2.6	dB	5
	In to tap	10 – 15	1	1.5	5	5	8	8.5	11.5	11.5	13	14.5	17	17.5	19.5	20.5	23	23.5	dB	5			
		15 – 65	1	1.5	5	5	8	8.5	11	11	13	14.5	17	17.5	19	20	22	23	dB	5			
		65 – 300	1	1.5	5	5	8	8.5	11	11	13	14	16	17	19	20	22	23	dB	5			
		300 - 1000	1	1.5	5	5	7	8	11	11	13	14	16	17	18	20	21	23	dB	5			
		1000-1218	1.5	2	5.5	5.5	8	8.5	11	11	13	14	16	17	19	20	21.5	23	dB	5			
Return loss	All ports	10 – 40	20	18	20	18	18	18	20	18	20	18	20	18	20	18	20	18	dB	5			
		40 - 1218	20	18	20	18	20	18	20	18	20	18	20	18	20	18	20	18	dB	1,5			
Isolation	Tap to out	10-15	N/A			22	20	22	20	22	20	22	20	20	20	20	20	20	20	dB	5		
		15-65				25	25	25	25	25	25	25	25	30	30	30	30	30	30	30	dB	5	
		65-862				25	22	25	22	25	22	25	22	27	22	27	22	27	22	27	22	dB	5
		862-1000				25	20	25	20	25	20	25	20	25	20	25	20	25	20	25	20	dB	5
		1000-1218				22	20	22	20	22	20	22	20	22	20	23	20	23	20	23	20	23	dB

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		Typ	Max	Typ	Max	Typ	Max	Typ	Max	Typ	Max	Typ	Max	Typ	Max	Typ	Max		
Screening efficiency	10-300	>85																dB	
	300-470	>80																dB	
	470-950	>75																dB	
	950-1218	>55																dB	
Hum modulation		-70																dB	2
Power passing (AC/DC)		10																A	
Surge withstand		1000																V	3
Surge class conformance	All ports	1 kV combination wave, 1.2 µs rise time, 50 µs fall time on all ports																	
Impedance		75																Ω (typ)	
Connectors		5/8 KS																	
Pin length		Min 20 mm - Max 25 mm																	
Connectors	Input	5/8-24 UNEF (KS) female																	
	Outputs	5/8-24 UNEF (KS) female																	
Material		Aluminium, liquid paint over Alocrom 1000																	
Temperature range		-40°C to +60°C																	
Current passing capability	All Ports	1 A																	
	Fuses	10 A																	
Equipment approval		CE																	

Notes

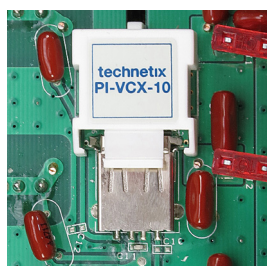
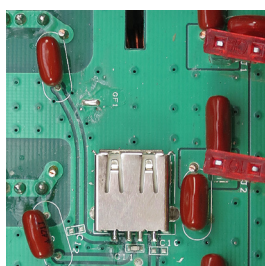
	Measurements taken at room temperature
1	18 dB - 1.5 dB per octave
2	Average @ 10 A Power Passing, 20 MHz stepping from 10 MHz to 1 GHz and 50 MHz stepping from 1 GHz to 1.2 GHz.
3	1 kV combination wave, 1.2 µs rise time, 50 µs fall time on all ports.
4	According to EN 50083-2:2012
5	Coupling tolerances ±0.5 dB for insertion loss and ±1.0 dB for return loss and isolation for different plugin match.

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Mechanical and environmental specifications

Performance parameter	Details	
Connectors	Input and Output	Female (5/8"-24NEF)
Water immersion (IP68)	Tighten torque on connectors	2.26 Nm (< 20 In-Lb)
	Water head	1m (3.28 ft)
	Duration	168 hrs
	Observation: no water leak	No electrical degradation after dry
Temperature cycling with humidity (EN 60068-2-30:2005)	Temperature	+40° C to +600° C (+39.20° F to +1400° F)
	Extreme temperature duration	3 hrs
	Transient	3 hrs
	Humidity	95% RH
	Number of cycles	20
	Observation: no water leakage	No electrical degradation after dry
High temperature cycling (EN 60068-2-2:2007)	Temperature	+60° C (+140° F)
	Duration	48 hrs
	Observation: no crack or damage	No electrical degradation after dry
Drop test (EN 60068-2-32:1993, IEC 68-2-32:1975)	75cm (29.5 in) high onto concrete floor or metal plate surface	Corner, edge and port
	Number of drop for each impact point	1
	Observation: no crack on metal	No electrical performance degradation
Salt fog (MSTM-B-117)	Tighten torque on connectors	2.26 Nm (< 20 In-Lb)
	Temperature	+35° C (+95° F)
	Salt percentage and acidity	5% and pH7
	Duration	672 hrs
	Observation: no electrical performance degradation	No metal corrosion or salt incursion
WEEE (2002/96/EC)	Complete product	Marked with wheelie bin logo
RoHS (2002/95/EC)	Complete product	Complies to RoHS
Temperature	Operating temperature	-40° C to +60° C (-40° F to +140° F)



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Order information

Item number	Item code	Description
19007229	OTVCX	OUTDOOR TAP VERT CON.
19007230	OTVCX/P	OUTDOOR TAP VERT CON. PWR INS
19007231	OTVCX/TP	OUTDOOR TAP VERT CON. TEST POINT
19007232	OTVCX/PTP	OUTDOOR TAP VERT CON. PWR INS TEST POINT

Related product order information

Item number	Item code	Description
19007163	SPI-KS-2MB	1.2 GHZ 2-WAY VERTICAL OUTDOOR SPLITTER
19008862	TXJTP12-2000	1.2 GHZ 2-WAY VERTICAL OUTDOOR SPLITTER WITH POWER INSERTION PORT
19007233	PI-VCX-PI	PLUG IN VERT CON PWR INS - 1.2GHZ
19007234	PI-VCX-4	PLUG IN VERT CON 4 DB - 1.2GHZ
19007235	PI-VCX-7	PLUG IN VERT CON 7 DB - 1.2GHZ
19007236	PI-VCX-10	PLUG IN VERT CON 10 DB - 1.2GHZ
19007237	PI-VCX-13	PLUG IN VERT CON 13 DB - 1.2GHZ
19007238	PI-VCX-16	PLUG IN VERT CON 16 DB - 1.2GHZ
19007239	PI-VCX-19	PLUG IN VERT CON 19 DB - 1.2GHZ
19007240	PI-VCX-22	PLUG IN VERT CON 22 DB - 1.2GHZ