

RF outdoor passives 1.8 GHz outdoor passives

- Full range of 1.8 GHz outdoor passives
- DOCSIS 4.0 compatible and backwards compatible with legacy frequency ranges
- Patented no-screw connector design providing superior RF performance, eliminating CPD and is four times faster to install
- 15 A line power passing and able to withstand 20 A peaks
- Designed for extreme environmental conditions



Overview

DOCSIS 4.0 extended spectrum (ESD) architecture requires line taps and passives capable of passing signals up to 1.8 GHz. The XGxx range of products is designed to offer optimal performance up to 1.8 GHz and facilitate power distribution over coaxial cable.

The range of outdoor passives includes splitters, directional couplers and a power inserter, all providing 6 kV surge protection on all ports and excellent RF and HUM modulation performance.

The passives can be strand mounted through the clamp at the back of the housing or surface mounted with a bracket. Tested under extreme environmental conditions, the passives are designed to operate near salt water, along busy highways and in very hot conditions.

All line passives are standard fitted with mini blade jumpers to pass all power to all ports. The mini blade jumpers can be replaced with mini blade fuses to provide protection or be removed to prevent power passing to a specific port.

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Electrical specifications

Parameter	MHz	XGS1800-02	XGS1800-03	XGS1800-33	XGDC1800-08	XGDC1800-10	XGDC1800-12	XGDC1800-16	XGPI1800	Tolerance	Units	Notes
		Typ	Typ	Typ	Typ	Typ	Typ	Typ	Typ			
Insertion loss in-out	12	4.7	7.3	5.2	3.1	2.7	2.2	1.6	0.7	+/-0.5	dB	1,2
	200	4.2	6.6	4.8	2.8	2.2	2.0	1.3	0.7	+/-0.5	dB	1,2
	750	4.2	6.6	4.8	2.8	2.1	2.0	1.2	0.7	+/-0.5	dB	1,2
	860	4.2	6.8	4.8	2.9	2.2	2.0	1.2	0.7	+/-0.5	dB	1,2
	1006	4.5	7.0	4.9	2.9	2.3	2.1	1.5	0.7	+/-0.5	dB	1,2
	1218	4.8	7.1	5.0	3.0	2.5	2.3	1.9	0.7	+/-0.8	dB	1,2
	1825	5.8	8.3	6.0	4.2	3.5	2.9	2.6	0.7	+/-0.8	dB	1,2
Insertion loss in-tap	12				8.5	10.5	12.5	17.0		+/-1.0	dB	1,2
	200				8.3	10.2	12.5	16.8		+/-1.0	dB	1,2
	750				8.2	10.1	12.5	16.6		+/-1.0	dB	1,2
	860				8.2	10.1	12.5	16.6		+/-1.0	dB	1,2
	1006				8.0	10.1	12.5	16.6		+/-1.0	dB	1,2
	1218				8.0	10.4	12.5	16.8		+/-1.0	dB	1,2
	1825				8.5	10.5	12.5	17.0		+/-1.0	dB	1,2

Parameter	MHz	Min	Min	Min	Min	Min	Min	Min	Min	Units	Notes
Return loss all ports	12 - 100	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	dB	2
	100 - 750	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	dB	2
	750 - 1006	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	dB	2
	1006 - 1218	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	dB	2
	1218 - 1825	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	dB	2
Isolation out-out	12 - 47	20.0	20.0	20.0	22.0	20.0	20.0	23.0	60.0	dB	2
	47 - 100	25.0	25.0	25.0	25.0	25.0	25.0	25.0	60.0	dB	2
	100 - 1218	20.0	20.0	20.0	20.0	20.0	20.0	20.0	60.0	dB	2
	1218 - 1825	20.0	20.0	20.0	20.0	20.0	20.0	20.0	38.0	dB	2

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General electrical specifications

	Characteristic	Min	Max	Units	Notes
Frequency range	I/P to O/P	12	1825	MHz	
Connectors	I/P, O/P	5/8 - 24 female			
Temperature range	Operating	-40	60	°C	2
	Storage	-40	70	°C	
	Spec	20	25	°C	
Impedance	All ports	75		Ω	
Surge	All ports		6	kV	3
Power passing	I/P to O/P		15	A	7
	I/P to O/P		20	A	8
	XGPI in port		20	A	7
Hum modulation	12 - 50 MHz		55	dB	4
	50 - 860 MHz		65	dB	4
	860 - 1218 MHz		65	dB	4
	1218 - 1825 MHz		55	dB	4
Shielding	12 - 1218 MHz	110		dB	5
	1218 - 1825 MHz	100		dB	5
Screening effectiveness	12 - 100 MHz	90		dB	6
	100 - 750 MHz	90		dB	6
	750 - 1006 MHz	90		dB	6
	1006 - 1218 MHz	90		dB	6
	1218 - 1825 MHz	80		dB	6

Notes

1	Linear point to point limit
2	Deviation over temperature: ±0.5 dB insertion loss. +2 dB isolation and return loss
3	IEEE-C62.14 Combination Wave, Category B3 (rise time 1,2 μs/ fall time 50 μs). 10 surges +/- on all ports. No degradation allowed.
4	Measured at 15 A (test set up in accordance to ANSI-SCTE-16)
5	Tested according to SCTE IPS-TP403
6	Tested according to EN 50083-2
7	Continuous
8	Two hours @ 20°C

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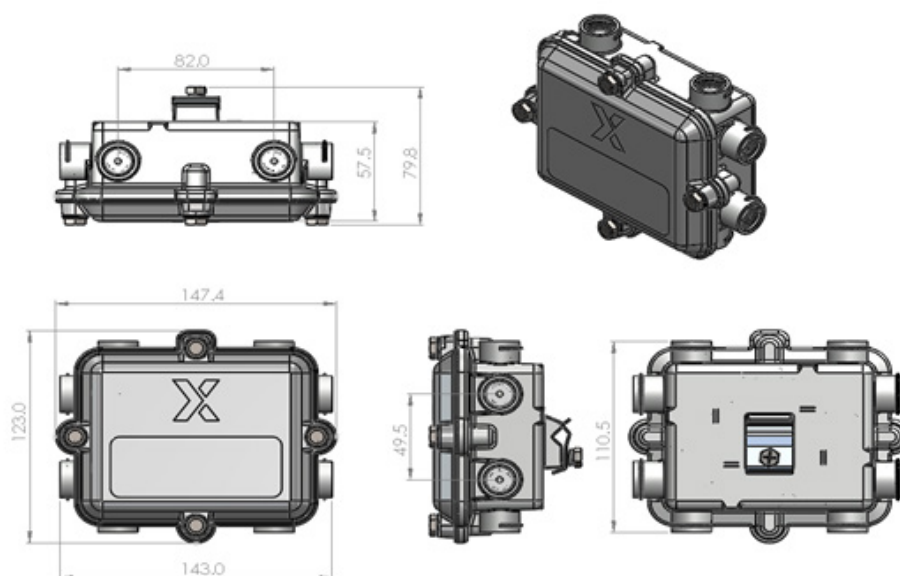
Environmental specifications

Condition	Standard	Severity
Degree of protection provided by the enclosure	BS EN 60529 1992	IP68, one metre immersion one week duration
Salt fog	ASTM B 117	1,000 hour exposure, minimal level 2
Drop	The unpackaged device under test (DUT) must be able to withstand a 1 metre drop from all 6 planes using an approved test device (such as Accudrop) on a cement floor.	Device shall survive without degradation in electrical performance of more than +/-0.5 dB insertion loss / 2 dB isolation and return loss also without allowing breaks in back plate.
UV	UV testing conducted as per ASTM G154 for 1000 hours using UVA-340 lamps, or ASTM G53 for 500 hours using UVB-313 lamps.	Samples shall be rotated 90° every 125 hours. A repetitive cycle of 4 hours UV at 60° C followed by 4 hours condensation at 50° C shall be used resulting in a total test time of 1,000 hours.
Temperature cycle	ANSI/SCTE 153 2008	15 cycles of: 2 hours at the low limit -40° C, 1 hour transition to high limit +60° C at 95% RH, wait 2 hours then 1 hour transition to low limit. The device must meet all performance requirements during and after testing.
Damp heat cyclic	BS EN 60068-2-30:2005 test Db damp heat cyclic (12 hour + 12 hour)	55° C, 6 cycles, 95% RH
Vibration	BELLCORE GR-2873-CORE	The sample shall be subjected to simple harmonic motion having vertical amplitude of 0.762mm (0.03"), the frequency varying uniformly between 10 Hz and 55 Hz for 20 minutes. The entire frequency range from 10 to 55 Hz and back to 10 Hz shall be traversed in one minute.

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Mechanical specifications

Connectors	Input & Output	5/8" –24 female with auto seizure mechanism
Lid & Housing	Material	Die cast aluminum
	Coating	Tri-valent Chromate base layer, paint top layer.



Order information

Item number	Item code	Description
19013831	XGS1800-02	TECHNETIX 10 GIGABIT SPLITTER 2-WAY 1.8 GHz
19013832	XGS1800-03	TECHNETIX 10 GIGABIT SPLITTER 3-WAY 1.8 GHz
19013833	XGS1800-33	TECHNETIX 10 GIGABIT SPLITTER 3-WAY 1.8 GHz UNBAL
19013834	XGDC1800-08	TECHNETIX 10 GIGABIT DIRECTIONAL COUPLER 08 1.8 GHz
19013991	XGDC1800-10	TECHNETIX 10 GIGABIT DIRECTIONAL COUPLER 10 1.8 GHz
19013835	XGDC1800-12	TECHNETIX 10 GIGABIT DIRECTIONAL COUPLER 12 1.8 GHz
19013836	XGDC1800-16	TECHNETIX 10 GIGABIT DIRECTIONAL COUPLER 16 1.8 GHz
19013837	XGPI1800	TECHNETIX 10 GIGABIT POWER INSERTER 1.8 GHz

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Product line information

XGS1800-02



XGDC1800-08



XGS1800-03



XGDC1800-10



XGS1800-33



XGDC1800-12



XGPI1800



XGDC1800-16

