

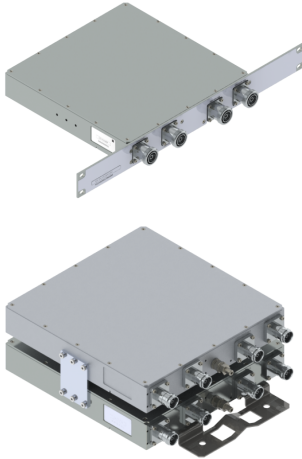


Filters & Combiners

DATA SHEET

Broadband Triplexer

TPX-192126A-xxx



- Combines PCS (1850-1995), AWS (1695-2180) and WCS/BRS (2310-2690), which includes AWS-3
- High power 60 W per port with low insertion loss
- Low intermodulation with isolation of >50 dB per band
- DC/AISG options include Smart Bias-T providing pass through on any input port
- Available in a 1U 19" rack mount or outdoor pole mount
- Outdoor model available in both single and twin configurations
- Rack mount unit includes pole/wall mount bracket for flexible mounting options
- High reliability of >500K Hours MTBF and multi-strike lightning protection

Overview

The CCI Broadband Triplexer combines three bands, PCS (1850-1995), AWS (1695-2180) and WCS/BRS (2310-2690) onto a common port. Specifically intended for use in multi-band systems with limited feeder lines, this CCI Triplexer facilitates the addition of new technologies including LTE and new spectrum including AWS-3 to existing sites while providing a high degree of isolation between systems. Decreasing the number of feeder lines lowers tower loading, leasing and installation expenditures and the total cost to upgrade a site is significantly reduced.

The CCI Broadband Triplexer provides full band performance for each band with low insertion loss, low Intermodulation, and high power handling. Excellent return loss delivers the best match to the antennas and base station, saving precious transmit power. The outdoor model of the Triplexer offers full Remote Electrical Tilt (RET) and Tower Mount Amplifiers (TMA) capability by providing multiple options for DC and AISG 2.0 compliant pass-through.

Technical Description:

The Triplexer consists of multiple filters and can be used as either a splitter or combiner to aggregate the PCS, AWS, and WCS/BRS bands on a common feeder line. The fully weatherproof triplexer is orderable with DC block on all ports or DC and AISG signal pass-through on any of the band specific ports. When configured with pass-through the Triplexer provides power and control for TMA's & RET antennas. DC and AISG signal pass-through is available on both the rack mounted and outdoor pole mount models. The triplexer has internal multi-strike lightning protection using a multi-stage surge protection circuit.



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The unit has been designed to minimize insertion loss while maximizing isolation. Particular attention has been given to the intermodulation performance of the Triplexer to minimize any passive intermodulation products from occurring. The indoor model can be 19" rack mounted and the unit body is rated for IP20. An optional wall mount bracket is available for the indoor model. The triplexer is available in a 1U high 19" rack mount configuration as well as an outdoor pole mounted single or twin configuration. An additional wall/pole bracket is included with the rack mount unit to provide flexible mounting options. Both the rack mount and pole mount configurations are available with either 7-16 DIN or 4.3-10 connectors and are IP67 rated for outdoor use. CCI filter and combiner products are designed and produced to ISO 9001 certification standards for reliability and quality at our state-of-the-art engineering and manufacturing facilities.



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SPECIFICATIONS

Electrical Specification

RF Parameters	Ports	Frequency(MHz)	Specification			
Return Loss	Common	1850 - 1995	18 dB minimum, 20 dB typical			
		1695 - 1780	18 dB minimum, 20 dB typical			
		2110 - 2180	18 dB minimum, 20 dB typical			
		2310 - 2690	18 dB minimum, 20 dB typical			
	PCS	AWS	1850 - 1995	18 dB minimum, 20 dB typical		
			1695 - 1780	18 dB minimum, 20 dB typical		
			2110 - 2180	18 dB minimum, 20 dB typical		
			2310 - 2690	18 dB minimum, 20 dB typical		
			Insertion Loss	COM to PCS	1850 - 1995	0.35 dB typical, 0.5 dB maximum
				COM to AWS	1695 - 1780	0.35 dB typical, 0.5 dB maximum
2110 - 2180	0.35 dB typical, 0.5 dB maximum					
Isolation	COM to WCS/BRS	2310 - 2690	0.35 dB typical, 0.5 dB maximum			
		COM to PCS	1695 - 1780	50 dB minimum		
			2110 - 2180	50 dB minimum		
	2310 - 2690		50 dB minimum			
	COM to AWS	1850 - 1995	50 dB minimum			
		2310 - 2690	50 dB minimum			
		COM to WCS/BRS	1850 - 1995	50 dB minimum		
	1695 - 1780		50 dB minimum			
	2110 - 2180		50 dB minimum			

General Characteristics

Impedance	50 ohms
Continuous Average Power	60 W per input port maximum
Peak Envelope Power	1.2 kW max. (PCS, AWS), 650 W max. (WCS, BRS)
Intermodulation Performance	<-117 dBm (-160 dBc) typical (2 x +43 dBm tones) all bands (Indoor & Outdoor)
DC Pass Current/AISG Pass	3A/AISG signal (2.176 Mhz) per AISG 2.0 (Outdoor)

Environmental Specification

Operating Temperature	-40 °C to +65 °C
Enclosure	IP67 outdoor rated
Connectors	IP67 outdoor rated
Relative Humidity	0 - 99%
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes each, IEC61000-4-5



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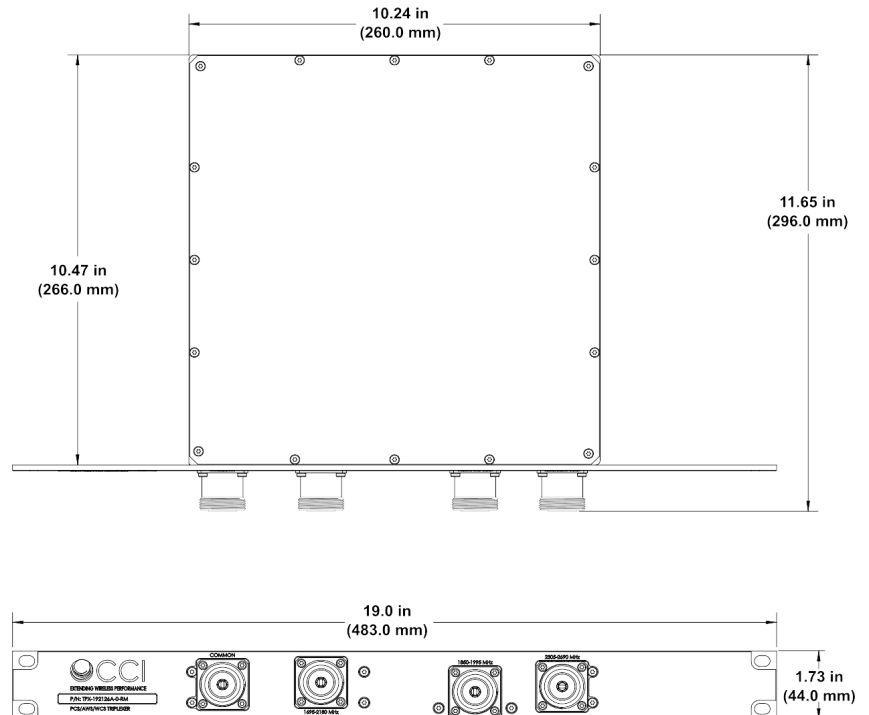
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Mechanical Specification

Indoor Rack Mount		
Connectors	4 x 7-16 DIN female or 4 x 4.3-10 female	
Body Dimensions	1.73 x 10.24 x 10.47 in. (44.0 x 260.0 x 266.0 mm)	
Overall Dimensions (7-16 DIN Connectors)	1.73 x 19.00 x 11.65 in. (44.0 x 483.0 x 296.0 mm)	
Overall Dimensions (4.3-10 Connectors)	1.73 x 19.00 x 11.89 in. (44.0 x 483.0 x 302.0 mm)	
Weight	11.9 lbs (5.4 kg)	
Mounting	19 inch (483 mm) x 1U (266 mm) rack or included wall mount bracket	
Outdoor Pole Mount		
	Single	Twin
Connectors	4 x 7-16 DIN female or 4 x 4.3-10 female	
Body Dimensions	1.73 x 10.24 x 10.47 in. (44.0 x 260.0 x 266.0 mm)	4.09 x 10.24 x 10.47 in. (104.0 x 260.0 x 266.0 mm)
Overall Dimensions	2.36 x 10.24 x 13.94 in. (60.0 x 260.0 x 354.0 mm)	4.72 x 10.78 x 13.94 in. (120.0 x 274.0 x 354.0 mm)
Weight (no Bracket)	11.9 lbs (5.4 kg)	24.4 lbs (11.1 kg)
Frontal Wind Load @ 150 km/hour	235.0 N (52.8 lbs)	235.0 N (52.8 lbs)
Lateral Wind Load @ 150 km/hour	38.9 N (8.7 lbs)	79.5 N (17.9 lbs)
Mounting	Pole/Wall Mount	



Indoor Broadband Triplexer (TPX-192126A-xRM) Outline Drawing

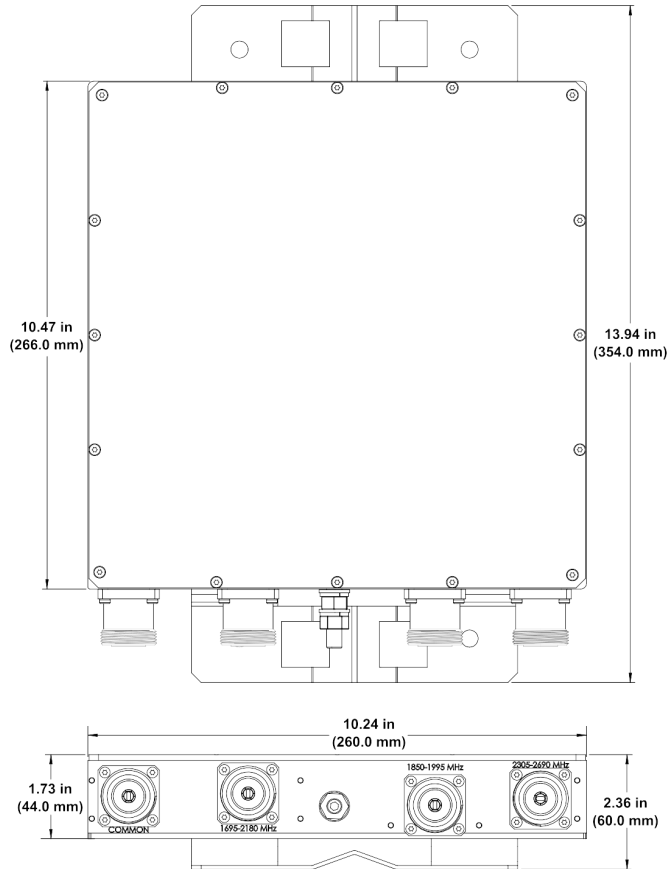


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Broadband Triplexer

TPX-192126A-xxx



Outdoor Broadband Triplexer (TPX-192126A-X-O) Outline Drawing

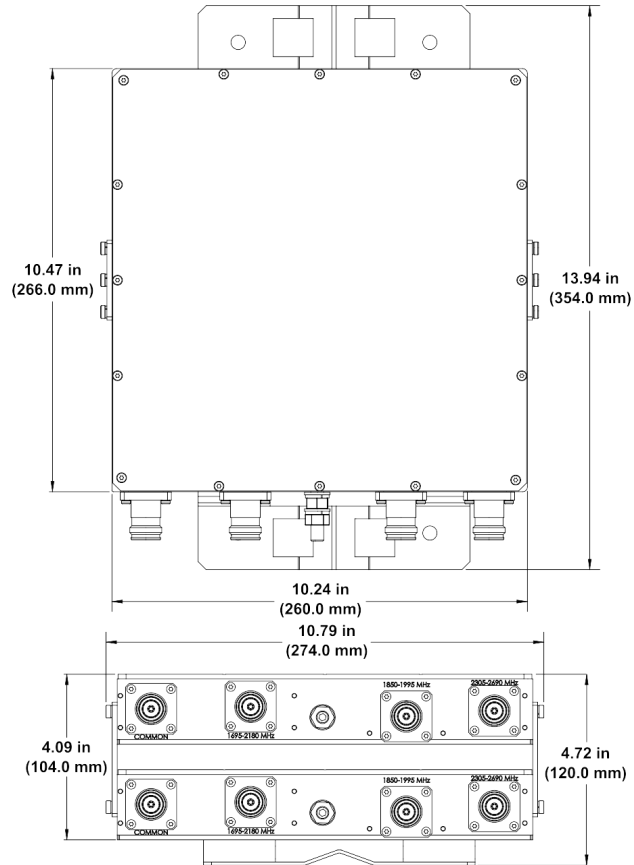


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Broadband Triplexer

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Outdoor Broadband Triplexer (TPX-192126A-X-O-D-C2) Outline Drawing



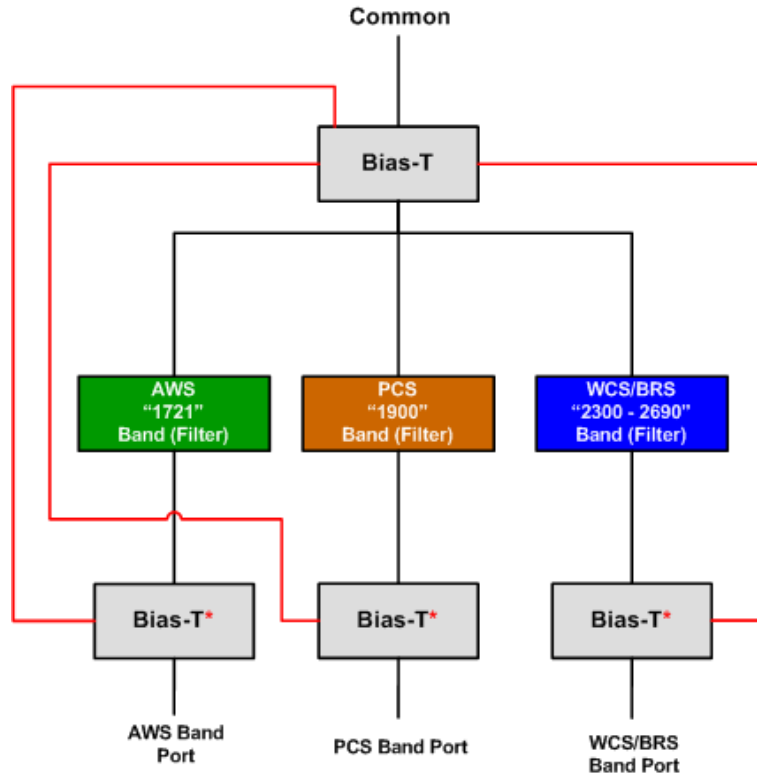
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Block Diagram



***See Ordering Options Table for specific combinations of DC/AISG Pass-Thru**

Outdoor Broadband Triplexer (TPX-192126A-X-O) Block Diagram



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STANDARDS & CERTIFICATIONS

Broadband Triplexer

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Parts & Accessories

TPX-192126A-xRM	19 in. Indoor Rack Mount Triplexer with 7-16 DIN connectors, includes optional wall mount
TPX-192126A-xRM-C2	19 in. Indoor Rack Mount Triplexer with 4.3-10 connectors, includes optional wall mount
MPW-01	Pole/Wall Mounting Kit for Select Filters and Amplifiers
TPX-192126A-X-O	Outdoor Pole/Wall Mount Triplexer with 7-16 DIN connectors
TPX-192126A-X-O-C2	Outdoor Pole/Wall Mount Triplexer with 4.3-10 connectors
TPX-192126A-X-O-D	Outdoor Twin Pole/Wall Mount Triplexer with 7-16 DIN connectors
TPX-192126A-X-O-D-C2	Outdoor Twin Pole/Wall Mount Triplexer with 4.3-10 connectors

Option (-X)	Description
-0	No DC/AISG Pass thru
-1	DC/AISG Pass thru PCS to COMMON, DC Block on AWS, WCS/BRS ports
-2	DC/AISG Pass thru AWS to CLOMMON, DC Block on PCS, WCS/BRS ports
-3	DC/AISG Pass thru WCS/BRS to COMMON, DC Block on AWS, PCS ports
-S	DC/AISG Pass thru on any port with Smart Bias-T

Standards & Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC-60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-02-30, IEC 60068-2-52, IEC 60068-2-64, IEC61000-4-5, GR-63-CORE 4.3.1, EN 60529 IP20, IP67, IP68

Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001

