

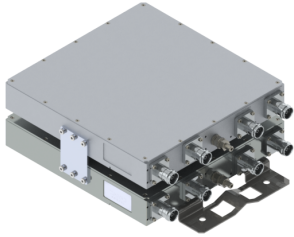


Filters & Combiners

DATA SHEET

Broadband Triplexer

TPO-192036-xxx



- Combines PCS (1850-1995), AWS (1695-2200) and WCS/BRS (2305-2690), which includes AWS 1-3 extended
- 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
- Outdoor rated triplexer available in a single or twin configuration with support for 7-16 ans 4.3-10 connectors.
- Triplexer is also available in a 19 inch rack mount unit, see model TPR-192036-xxx
- High reliability of >500K Hours MTBF and multi-strike lightning protection

Overview

The CCI Broadband Triplexer combines three bands, PCS (1850-1995), AWS (1695-2200) and WCS/BRS (2305-2690) 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 1-3 extended 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.

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. This triplexer is rated at IP67 and can be configured as a single or twin unit with several options for AISG/C pass through. The triplexer can also be configured as a 19 inch rack mount unit, see model number TPR-192036-xxx. 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 - 2200	18 dB minimum, 20 dB typical			
		2305 - 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 - 2200	18 dB minimum, 20 dB typical		
			2305 - 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 - 2200	0.35 dB typical, 0.5 dB maximum					
COM to WCS/BRS	2305 - 2690	0.35 dB typical, 0.5 dB maximum				
Isolation	COM to PCS	1695 - 1780	50 dB minimum			
		2110 - 2200	50 dB minimum			
		2305 - 2690	50 dB minimum			
	COM to AWS	1850 - 1995	50 dB minimum			
		2305 - 2325	45 dB minimum			
		2325 - 2690	50 dB minimum			
		COM to WCS/BRS	1850 - 1995	50 dB minimum		
	1695 - 1780		50 dB minimum			
	2110 - 2200		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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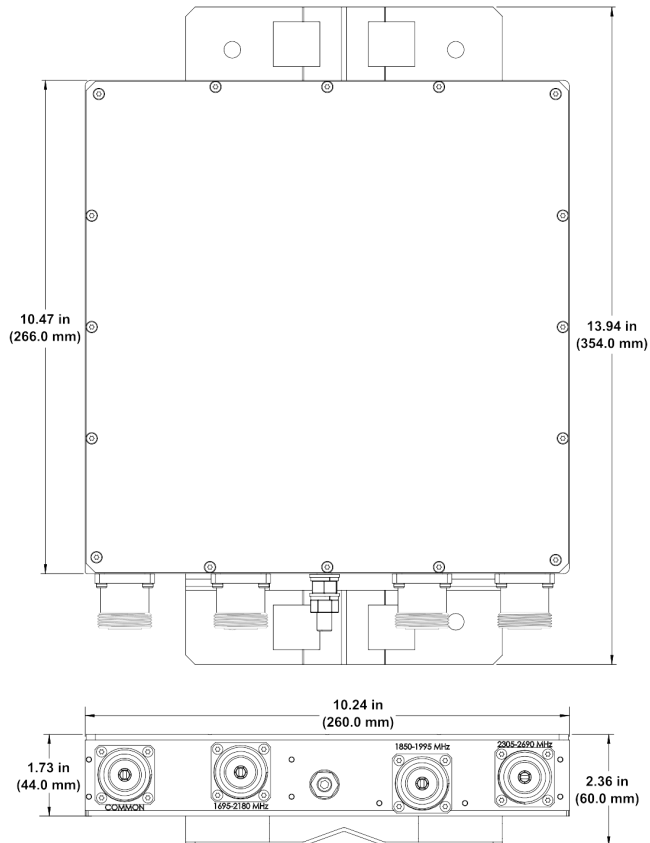
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Mechanical Specification

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	



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

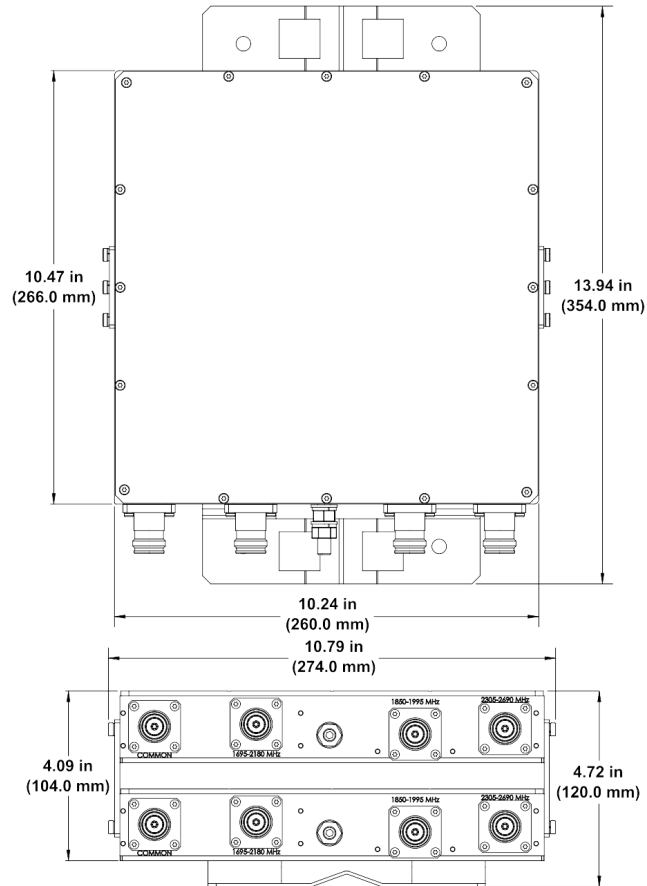


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SPECIFICATIONS

Broadband Triplexer

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



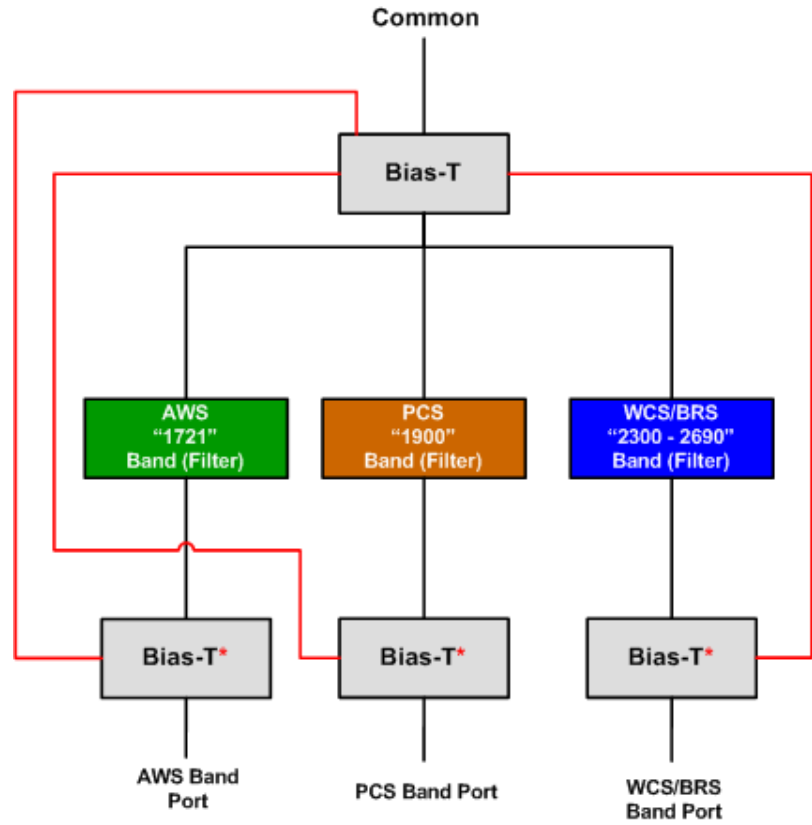
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Block Diagram



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

Outdoor Broadband Triplexer (TPO-192036-xxx) Block Diagram



Filters & Combiners

STANDARDS & CERTIFICATIONS

Broadband Triplexer

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Parts & Accessories

TPO-192036-x-S1	Outdoor Pole/Wall Mount Triplexer with 7-16 DIN connectors
TPO-192036-x-S2	Outdoor Pole/Wall Mount Triplexer with 4.3-10 connectors
TPO-192036-x-T1	Outdoor Twin Pole/Wall Mount Triplexer with 7-16 DIN connectors
TPO-192036-x-T2	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 COMMON, 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

