

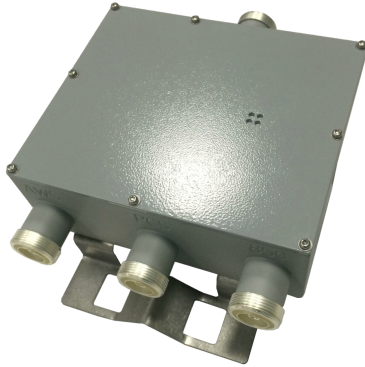


Filters & Combiners

DATA SHEET

Outdoor Broadband Triplexer

TPO-781921-xxx



- Combines 694 to 960 MHz, Extended PCS (1850-1995) and AWS (1695-2180), which includes AWS-3
- High power 100 W per port with low insertion loss
- Low intermodulation with isolation of >50 dB per band
- Optional DC and AISG 2.0 pass through on customer specified band
- Available indoor rack mount or outdoor pole mount configurations
- High reliability of >500K Hours MTBF and multi-strike lightning protection
- Small, lightweight

Overview

Communication Components, Inc. Outdoor Broadband Triplexer combines Base Station TX/RX signals from 694 to 960 MHz on the first port, AWS (1696 - 2180) which includes AWS-3 on the second port, and the extended PCS band (1850-1995) on the third port, onto a common port. Specifically intended for use in multi-band systems with limited feeder lines, the CCI Triplexer model TPX-781921 facilitates the addition of new technologies to existing sites while providing a high degree of isolation between systems. By reducing the number of feeder lines, the cost to upgrade a site (tower loading, leasing and installation costs) is reduced.

The CCI Outdoor 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. DC and AISG pass-through retains full RET and TMA capability utilizing CCI's AISG suite of products.

Technical Description:

Outdoor Broadband Triplexer consists of multiple filters to combine (or divide) 694-960, AWS, and PCS signals onto a common port. This tower mount unit can be used as either a splitter or combiner to aggregate multiple bands on a common feeder line. All RF ports consist of DIN 7-16 connectors. The fully weatherproof tower mount unit incorporates a Bias-T which passes DC and the AISG carrier frequency from the AWS port to the common port. The unit has internal lightning strike protection using a multi-stage surge protection circuit.

The filters have been designed to minimize insertion loss while maximizing isolation. Particular attention has been given to the intermodulation performance of the Broadband Triplexer to minimize any passive intermodulation products from occurring. All DIN Connectors are fully IP68 rated and the unit body is rated for IP66.



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SPECIFICATIONS

Outdoor Broadband Triplexer

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Electrical Specification

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	COMMON	694 - 960	18 dB min., 20 dB Typ.
		1695 - 1780	18 dB min., 20 dB Typ.
		2110 - 2180	18 dB min., 20 dB Typ.
		1850 - 1995	18 dB min., 20 dB Typ.
Insertion Loss	700-900	694 - 960	18 dB min., 20 dB Typ.
	AWS	1710 - 1780	18 dB min., 20 dB Typ.
		2110 - 2180	18 dB min., 20 dB Typ.
	PCS	1850 - 1995	18 dB min., 20 dB Typ.
Insertion Loss	700-900	694 - 960	0.1 dB typ.
	AWS	1710 - 1780	0.2 dB typ.
		2110 - 2180	0.2 dB typ.
	PCS	1850 - 1990	0.2 dB typ.
Isolation	700-900 to AWS or PCS	1710 - 1780	50 dB minimum
		2110 - 2180	50 dB minimum
		1850 - 1995	50 dB minimum
	AWS to 700-900 or PCS	694 - 960	50 dB minimum
		1850 - 1995	50 dB minimum
	PCS to 700-900 or AWS	694 - 960	50 dB minimum
		1695 - 1780	50 dB minimum
		2110 - 2180	50 dB minimum

General Characteristics	
Impedance	50 ohms
Continuous Average Power	300 W max.
Peak Envelope Power	5 kW max.
Intermodulation Performance(all ports)	<-117 dBm (-160 dBc) Maximum (2 x +43 dBm tones) all bands
DC Pass Current/AISG Pass (PCS/AWS to ANT port)	3A/AISG signal (2.176 Mhz) per AISG 2.0

Environmental Specification

Operating Temperature	-50 °C to +60 °C
Enclosure	IP66 (Unit Body), IP68 (Connector)
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max., 10 strikes per IEC61000-4-5

Mechanical Specification

Connectors	4 x 7-16 DIN female long neck
Dimensions with Bracket	9.00 x 6.89 x 3.48 in. (228 x 175 x 88.5 mm)
Housing Dimensions	5.83 x 6.89 x 2.4 in. (148 x 175 x 60 mm)
Weight	7.9 lbs (3.6 kg)
Mounting	Pole/Wall mounting bracket

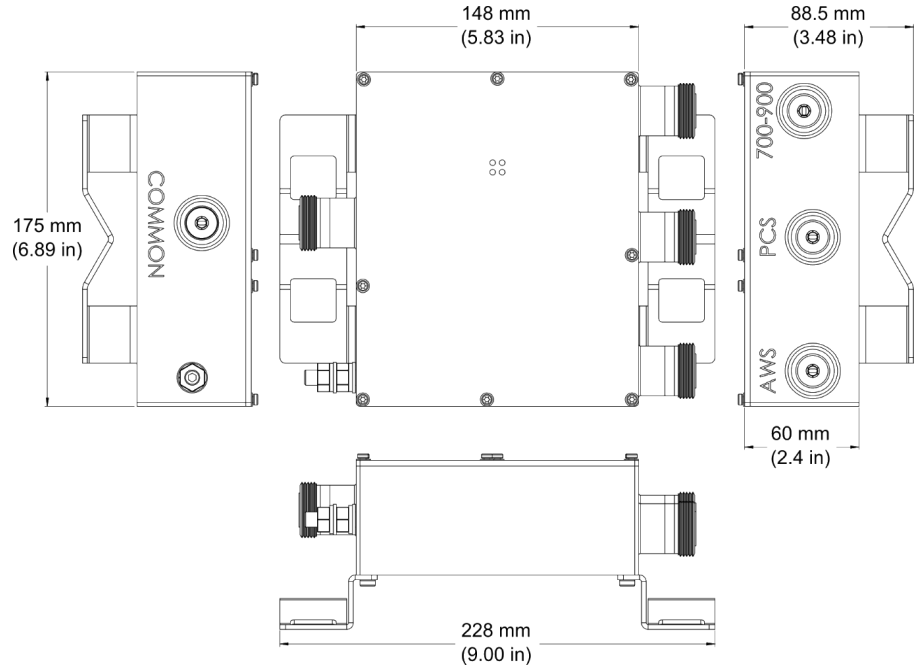


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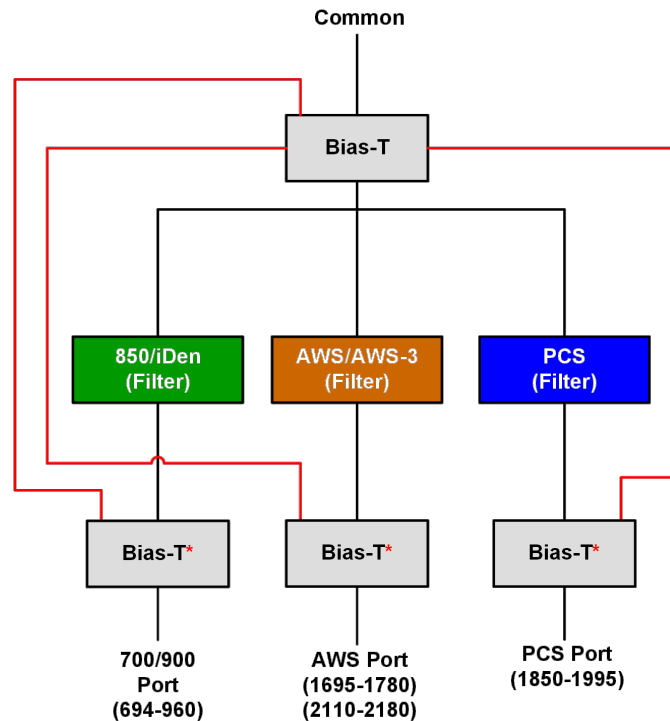
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Outdoor Broadband Triplexer Outline Drawing

Block Diagram



Outdoor Broadband Triplexer Block Diagram *See ordering details for the DC/AISG pass-through options



Filters & Combiners

STANDARDS & CERTIFICATIONS

Outdoor Broadband Triplexer

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Parts & Accessories

TPO-781921-x-S1	Outdoor Triplexer with 7/16 DIN connectors
TPO-781921-x-S2	Outdoor Triplexer with 4.3-10 connectors
TPO-781921-x-T1	Outdoor Twin Triplexer with 7/16 DIN connectors
TPO-781921-x-T2	Outdoor Twin Triplexer with 4.3-10 connectors

Option (-x)	Description
-0	No DC/AISG pass through
-1	DC/AISG pass through AWS to COMMON, DC Block on all other input ports
-2	DC/AISG pass through PCS to COMMON, DC Block on all other input ports
-3	DC/AISG pass through 700-900 to COMMON, DC Block on all other input ports
-S	Smart Bias-T, DC/AISG pass through on any single port

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 IP66, IP68

Certifications

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



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EXTENDING WIRELESS PERFORMANCE