



Filters & Combiners

DATA SHEET

Outdoor Diplexer

DPO-1920-XXX



- Low Loss
- Small, lightweight
- AISG 2.0 compliant
- Good Isolation
- Good IM
- Lightning protected
- High reliability
- Full AWS (including AWS-4) and PCS bands
- Optional Dual Unit available

Overview

Communication Components, Inc. Outdoor Combiner/Diplexer combines AWS and PCS band Basestation Tx/Rx onto a common feeder line. Specifically intended for use in dual band systems, the outdoor diplexer DPO-1920-xxx facilitates the addition of new technologies including LTE and new spectrum including AWS-4 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 significantly reduced.

The CCI Outdoor Combiner/Diplexer 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. Optional Dual unit with two Diplexers mounted on a single bracket is available.

Technical Description:

The Diplexer consists of multiple filters to combine (or divide) full band PCS and AWS signals. This tower mount unit separates (or combines) both Tx and Rx signals of PCS and AWS onto separate DIN 7-16 connectors. The fully weatherproof tower mount unit incorporates bypass circuitry which senses DC and AISG carrier frequency when presented to either port and automatically routes both to the antenna 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. DIN Connectors are fully IP68 unmated.



Filters & Combiners

SPECIFICATIONS

Outdoor Diplexer

DPO-1920-XXX

Electrical

RF Parameters	Ports	Frequency(MHz)	Specification	
Return Loss	COMMON	1850 - 1995	18 dB min., 20 dB typ.	
		1710 - 1780	18 dB min., 20 dB typ.	
		2110 - 2200	18 dB min., 20 dB typ.	
	PCS	COMMON	1850 - 1995	18 dB min., 20 dB typ.
			1710 - 1780	18 dB min., 20 dB typ.
			2110 - 2200	18 dB min., 20 dB typ.
	AWS	COMMON	1850 - 1995	18 dB min., 20 dB typ.
			1710 - 1780	18 dB min., 20 dB typ.
			2110 - 2200	18 dB min., 20 dB typ.
Insertion Loss	COMMON to PCS	1850 - 1995	0.2 dB typ., 0.3 dB max.	
	COMMON to AWS	1710 - 1780	0.2 dB typ., 0.3 dB max.	
		2110 - 2200	0.2 dB typ., 0.3 dB max.	
Rejection	PCS to AWS AWS to PCS	1850 - 1995	50 dB min.	
		1710 - 1780	50 dB min.	
		2110 - 2200	46 dB min.	

General Characteristics	
Impedance	50 ohms
Continuous Average Power	300 W max. (all ports)
Peak Envelope Power	3 kW max. (all ports)
Intermodulation Performance(all ports)	<-110 dBm (-153 dBc) typical (2 x +43 dBm tones) all bands
DC/AISG Pass current (AWS or PCS port to COMMON port)	3A/AISG signal (2.176 Mhz) per AISG 2.0

Environmental

Operating Temperature	-40° C to +65° C
Enclosure	IP66 (Unit Body), IP68 (Connector)
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes per IEC61000-4-5

Mechanical

Connectors	3 x 7-16 DIN female long neck
Dimensions - Single Unit(body only)(HxWxD)	5.08 x 7.32 x 2.09 in. (129 x 186 x 53 mm)
Weight	5.1 lbs (2.3 kg)
Mounting	Pole/Wall mounting bracket

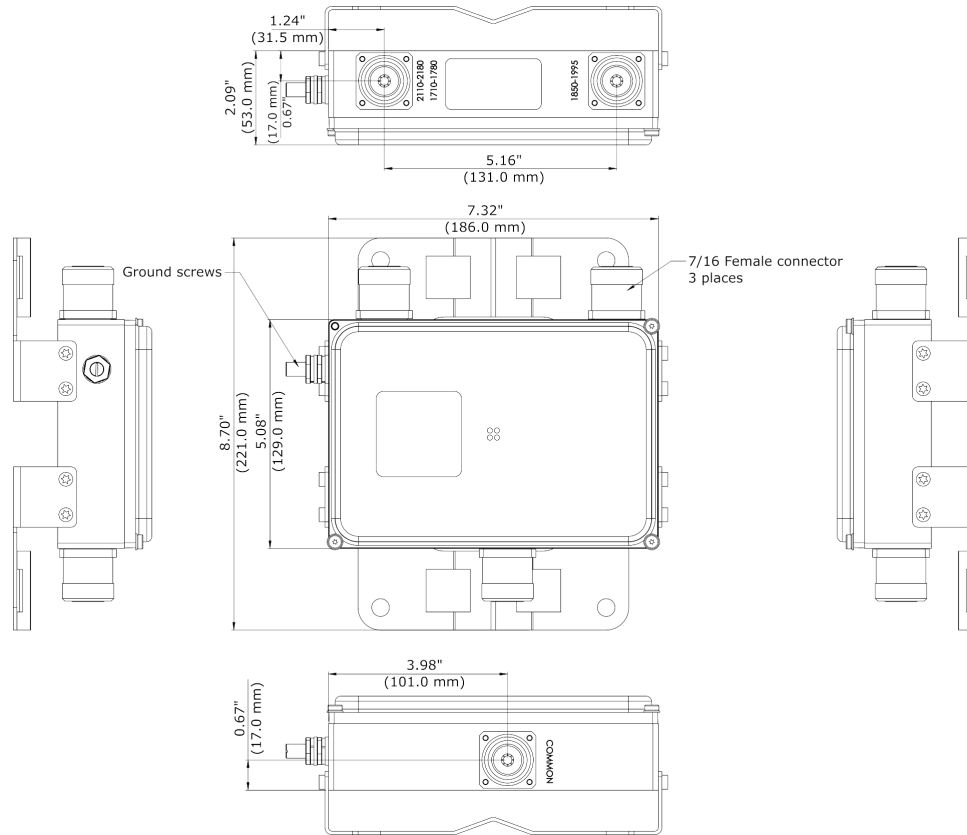


Filters & Combiners

SPECIFICATIONS

Outdoor Diplexer

DPO-1920-XXX



Outdoor Diplexer Outline Drawing

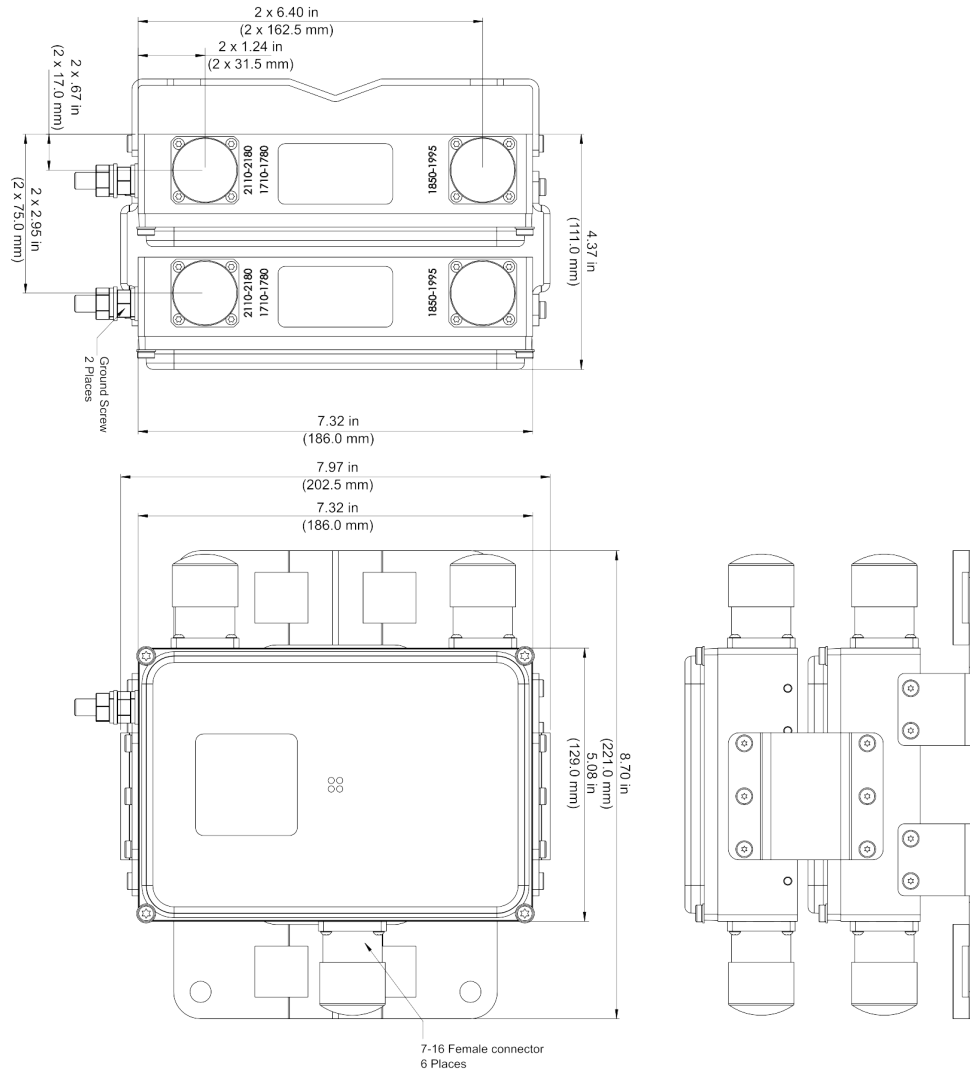


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SPECIFICATIONS

Outdoor Diplexer

DPO-1920-XXX



Dual Outdoor Diplexer with Bracket Outline Drawing



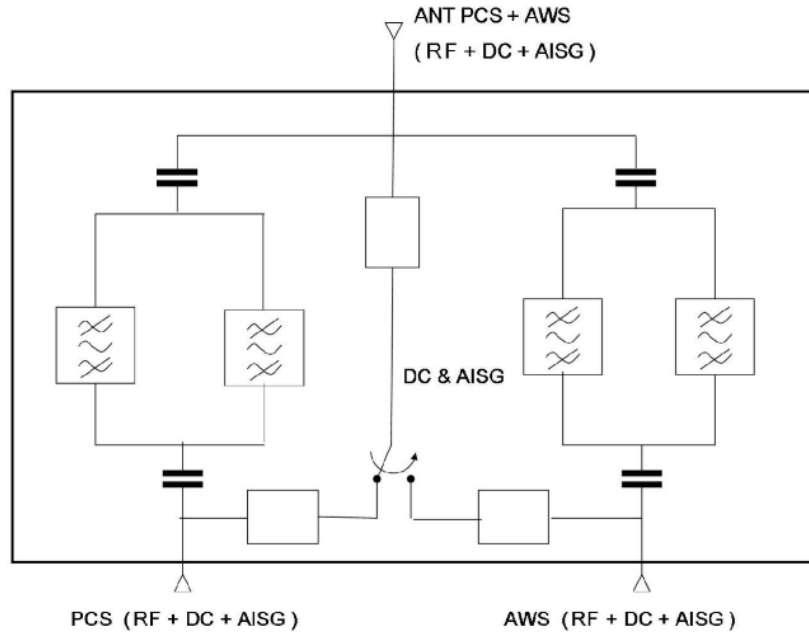
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SPECIFICATIONS

Outdoor Diplexer

DPO-1920-XXX

Block Diagram



Outdoor Diplexer Block Diagram



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ORDERING

Outdoor Diplexer

DPO-1920-XXX

Parts & Accessories

DPO-1920-S-S1 Single Outdoor Diplexer with Smart Bias-T and 7-16 connectors with bracket

DPO-1920-S-T1 Twin Outdoor Diplexer with Smart Bias-T and 7-16 connectors with bracket



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STANDARDS &
CERTIFICATIONS

Outdoor Diplexer

DPO-1920-XXX

Certifications

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

