



Filters & Combiners

DATA SHEET

Outdoor Diplexer

DIP-2126-O-AISG-xx



- Low Loss
- Small, lightweight
- AISG 2.0 compliant
- Good Isolation
- Excellent IM
- Lightning protected
- High reliability
- AWS-PCS/BRS Band Diplexer with AWS-PCS Band, and BRS Band paths to a Common port

Overview

Communication Components, Inc. Outdoor AWS-PCS/BRS Band Diplexer passes AWS & PCS signals at its low band input port and BRS Band signals at its high band input port. This AWS-PCS/BRS Band Diplexer combines the low band and high band signals on the common port. Specifically intended for use in multi-band systems with limited feeder lines, the CCI AWS-PCS/BRS Band Diplexer facilitates the addition of new technologies including LTE to existing sites. By reducing the number of feeder lines, the cost to upgrade a site (tower loading, leasing and installation costs) is reduced.

The CCI Outdoor AWS-PCS/BRS Band 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 is through either input port to the common port.

Technical Description:

The Outdoor AWS-PCS/BRS Band Diplexer consists of multiple filters to combine (or split) AWS-PCS band and BRS band port connection with a common connection. 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 are DIN 7-16 connectors. The fully weatherproof tower mount unit incorporates a Bias-T which passes DC and AISG carrier frequency on either input 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 Diplexer 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

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Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	COMMON	1695 - 2180	18 dB min., 20 dB Typ.
		2496 - 2690	18 dB min., 20 dB Typ.
	AWS-PCS	1695 - 2180	18 dB min., 20 dB Typ.
	BRS	2496 - 2690	18 dB min., 20 dB Typ.
	Insertion Loss	COMMON to AWS-PCS	0.2 dB typ., 0.25 dB max.
		COMMON to BRS	0.2 dB typ., 0.25 dB max.
Rejection	COMMON to AWS-PCS	2496 - 2690	50 dB min.
	COMMON to BRS	1695 - 2180	60 dB min.
General Characteristics			
Impedance	50 ohms		
Continuous Average Power	500 W max. (all ports)		
Peak Envelope Power	2 kW max. (all ports)		
Intermodulation Performance(Low or High band ports)	<-110 dBm (-153 dBc) minimum (2 x +43 dBm tones) all bands		
DC Pass Current/AISG Pass	3A/AISG signal (2.176 Mhz) per AISG 2.0		

Environmental

Operating Temperature	-50 °C to +60 °C
Enclosure	IP66 (unit body), IP68 (connector)
MTBF	>100,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes per IEC61000-4-5

Mechanical

Connectors Single Unit	3 x 7-16 DIN female long neck
Dimensions (body only)(HxWxD)	3.47 x 9.33 x 1.93 in. (88 x 237 x 49 mm)
Dimensions (w/bracket) (HxWxD)	6.73 x 9.33 x 2.64 in. (171 x 237 x 67 mm)
Connectors Dual Unit	6 x 7-16 DIN female long neck
Dimensions (body only) (HxWxD)	3.47 x 9.33 x 4.02 in. (88 x 237 x 102 mm)
Dimensions (w/bracket) (HxWxD)	6.73 x 9.33 x 4.72 in. (171 x 237 x 120 mm)
Connector Spacing	6.5 in. (165 mm) AWS to LTE2600 Band port
Weight with brackets	4.65 lbs (2.11 kg) single and 9.20 lbs (4.17 kg) dual
Mounting	Pole/Wall mounting bracket

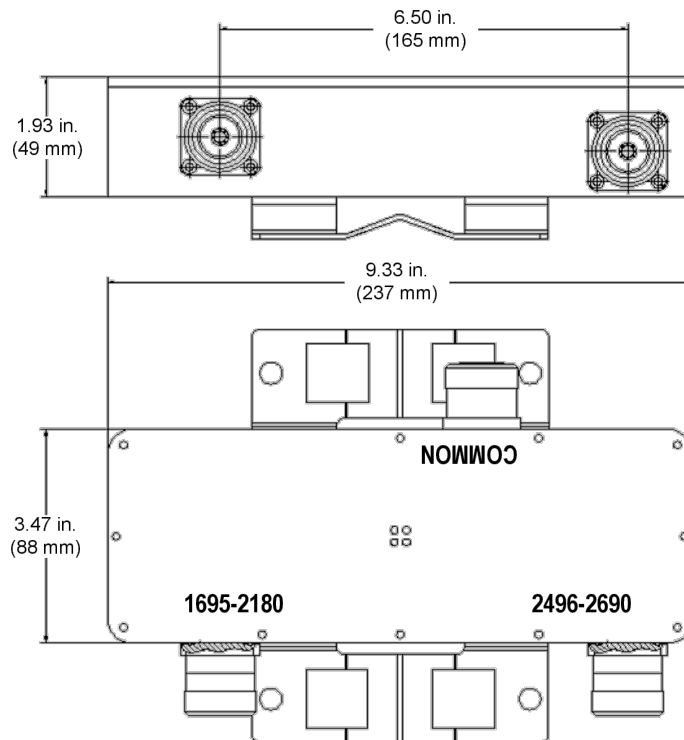


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SPECIFICATIONS

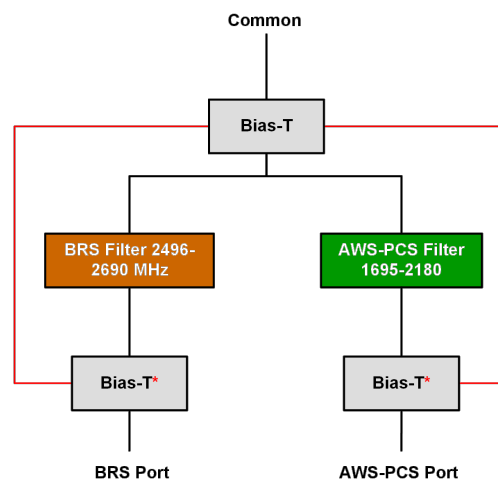
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Outdoor Diplexer Outline Drawing

Block Diagram



* See ordering details for options
of DC/AISG pass-through

Outdoor Diplexer Block Diagram



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ORDERING

Outdoor Diplexer

DIP-2126-O-AISG-xx

Parts & Accessories

DIP-2126-O-AISG-x	Outdoor Diplexer with bracket
DIP-2126-O-AISG-D-x	Outdoor Dual Diplexer with bracket
Option (-x)	Description
-1	DC/AISG Pass thru AWS-PCS (1695-2180) to COMMON, DC Block on BRS (2496-2690) ports
-2	DC/AISG Pass thru BRS (2496-2690) to COMMON, DC Block on AWS-PCS (1695-2180) ports
-3	DC Block on all ports



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STANDARDS & CERTIFICATIONS

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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



CCI Communication Components Inc.
EXTENDING WIRELESS PERFORMANCE