



Filters & Combiners

DATA SHEET

Outdoor Diplexer

DPO-7126Y-0x1



- Combines the frequencies covering PCS/AWS (1695-2200 MHz) with BRS (2496-2690 MHz)
- High power 250 W per port with low insertion loss in a small, lightweight enclosure
- Low intermodulation with isolation of >50 dB port to port
- High reliability of >500K Hours MTBF and multi-strike lightning protection
- Designed and produced to ISO 9001 certification standards
- Weatherproof enclosure (IP67) with available outdoor pole or wall mounting options

Overview

The CCI Outdoor Diplexer passes the PCS and AWS bands covering 1695-2200 MHz on its low band input port and the full BRS band which covers 2496-2690 MHz on its high band input port. The Diplexer combines the low band and high band signals on to a common port and is specifically intended for use in multi-band systems with limited feeder lines. The Diplexer facilitates the addition of new technologies including LTE and new spectrum 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 significantly reduces the total cost to upgrade a site.

The CCI Outdoor Diplexer provides full band performance for each band with low insertion loss, low Intermodulation, and high 250 W per port power handling. Excellent return loss performance delivers the best match to the antennas and base station, saving precious transmit power. The CCI Diplexer is available in a single, twin or quad unit configuration.

Technical Description:

The CCI Outdoor Diplexer consists of multiple filters and can be used as either a splitter or combiner to aggregate the PCS/AWS with the BRS bands on to a common feeder line. The fully weatherproof tower mount Diplexer 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 Diplexer to minimize any passive intermodulation products from occurring. The Diplexer housing is constructed from die cast aluminum and consists of an IP67 moisture proof enclosure, with IP68 immersion proof connectors suited to long-life masthead mounting. The Diplexer can be pole or wall mounted with the included bracket. The RF ports are available with DIN 7-16 or 4.3-10 connectors.

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

Outdoor Diplexer

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Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	COMMON	1695 - 2200	18 dB minimum, 20 dB typical
		2496 - 2690	18 dB minimum, 20 dB typical
	PCS/AWS	1695 - 2200	18 dB minimum, 20 dB typical
	BRS	2496 - 2690	18 dB minimum, 20 dB typical
Insertion Loss	COMMON to PCS/AWS	1695 - 2180	0.2 dB typical, 0.25 dB maximum
		2180 - 2200	0.3 dB maximum
	COMMON to BRS	2496 - 2690	0.2 dB typical, 0.25 dB maximum
Rejection	COMMON to PCS/AWS	2496 - 2690	50 dB minimum
	COMMON to BRS	1695 - 2200	50 dB minimum
Isolation	PCS/AWS to BRS	1695 - 2200	50 dB minimum
	BRS to PCS/AWS	2496 - 2690	50 dB minimum

General Characteristics

General Impedance	50 ohms
Continuous Average Power	250 W maximum (input ports), 500 W maximum (Common port)
Peak Envelope Power	1 kW maximum (input ports), 3 kW maximum (Common port)
Intermodulation Performance	<-117 dBm (-160 dBc) at 2 x +43 dBm tones all bands

Environmental

Operating Temperature	-40 °C to +65 °C
Enclosure	Enclosure IP67, Connectors IP68
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA maximum, 10 strikes per IEC61000-4-5

Mechanical

Model	DPO-7126Y-0-S1	DPO-7126Y-0-T1	DPO-7126Y-0-Q1
Modularity	Single	Twin	Quad
Weight with brackets	3.7 lbs (1.6 Kg)	7.3 lbs (3.3 Kg)	14.4 lbs (6.6 Kg)
Dimensions with brackets	5.94 x 7.94 x 2.02 in. (151 x 201.8 x 51.4 mm)	5.94 x 7.94 x 4.07 in. (151 x 201.8 x 103.4 mm)	5.94 x 7.94 x 8.17 in. (151 x 201.8 x 207.4 mm)
Dimensions enclosure only	3.03 x 7.42 x 1.92 in. (77.0 x 188.5 x 48.8 mm)		
Connectors	3 x 7-16 DIN female or 4.3-10 female (per diplexer)		
Mounting	Pole/Wall mounting bracket		

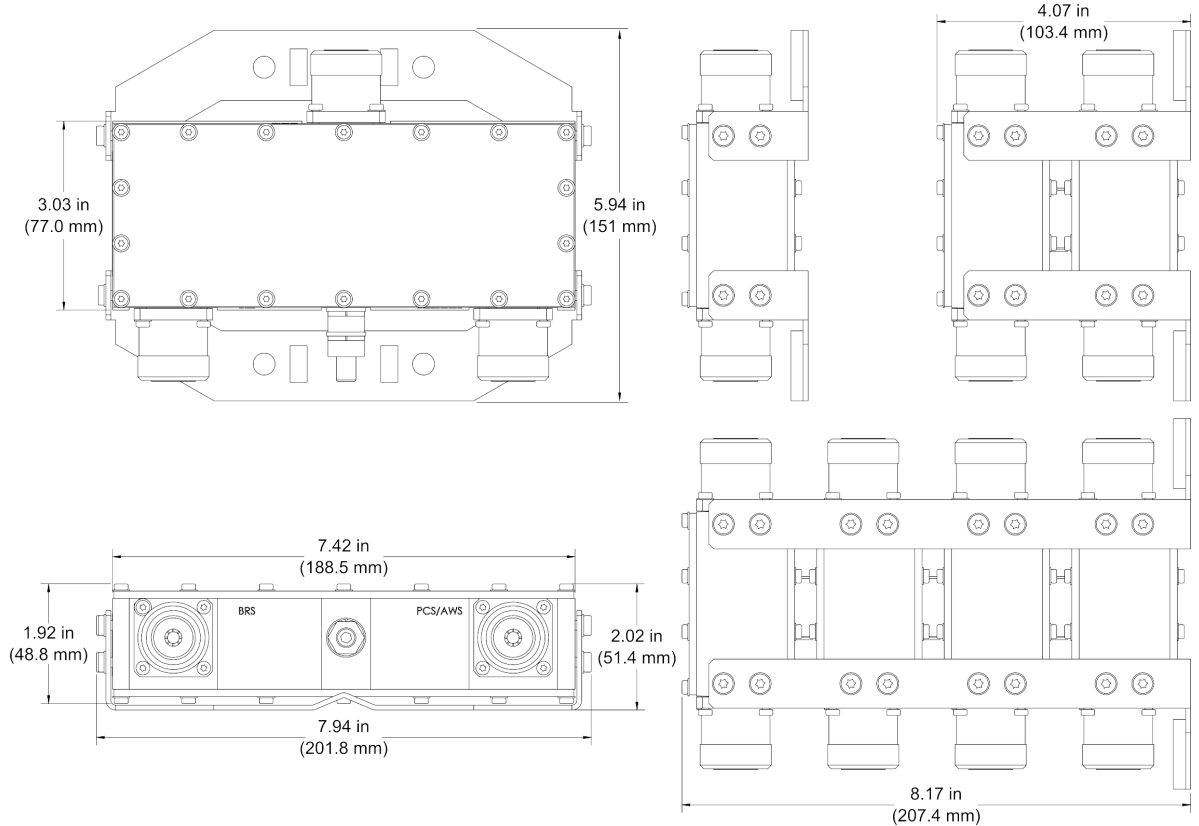


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SPECIFICATIONS

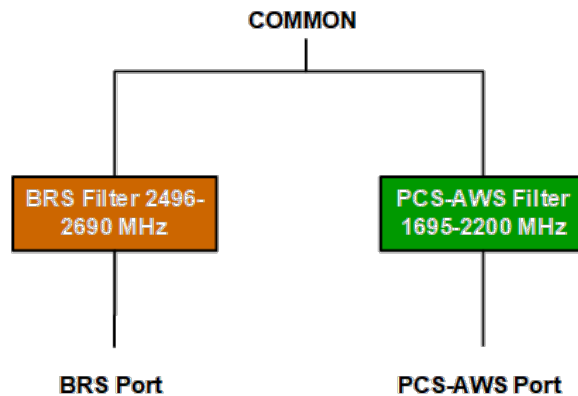
Outdoor Diplexer

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Outdoor Diplexer Outline Drawing

Block Diagram



Outdoor Diplexer Block Diagram



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STANDARDS & CERTIFICATIONS

Outdoor Diplexer

DPO-7126Y-0x1

Parts & Accessories

DPO-7126Y-0-S1	Outdoor Diplexer with 7-16 DIN connectors
DPO-7126Y-0-S2	Outdoor Diplexer with 4.3-10 connectors
DPO-7126Y-0-T1	Outdoor Twin Diplexer with 7/16 DIN connectors
DPO-7126Y-0-T2	Outdoor Twin Diplexer with 4.3-10 connectors
DPO-7126Y-0-Q1	Outdoor Quad Diplexer with 7/16 DIN connectors
DPO-7126Y-0-Q2	Outdoor Quad Diplexer with 4.3-10 connectors

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 IP67, IP68

Certifications

Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001



CCI Communication Components Inc.
EXTENDING WIRELESS PERFORMANCE