

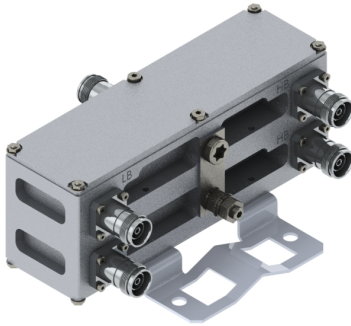


# Filters & Combiners

DATA SHEET

## Broadband Outdoor Diplexer

DPO-3730-xxx



- Combines two frequency ranges 380-2690 MHz with 3300-5925 MHz onto a single common port.
- The low band port covers the 380-2690 MHz frequency range and the high band port covers the 3300-5925 frequency range.
- High power 200 W per port with low insertion loss in a small, lightweight enclosure
- Low intermodulation with isolation of >50 dB port to port
- Available dual and quad unit configurations
- High reliability of >500K Hours MTBF and multi-strike lightning protection
- Available outdoor pole or wall mounting options

### Overview

The CCI Outdoor Broadband Diplexer passes 380-2690 MHz on its low band input port and 3300-5925 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 Diplexer provides full band coverage for each band with low insertion loss, low Intermodulation, and high 200 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 with DC/AISG 2.0 compliant pass-through on the low band input or with no DC/AISG pass-through on either port. It is available in single, twin or quad unit configuration.

### Technical Description:

The CCI Outdoor Broadband Diplexer consists of multiple filters and can be used as either a splitter or combiner to aggregate the 380-2690 MHz band with the 3300-5925 MHz band on to a common feeder line. The fully weatherproof tower mount outdoor Diplexer is available with DC and AISG signal pass-through on the low band port, enabling power and control for TMA's & RET antennas from this low band port, or with no DC/AISG pass-through on either port.

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 connectors suited to long-life masthead mounting. The Diplexer can be pole or wall mounted with the included bracket. The RF ports are configured with 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.



# Filters & Combiners

## SPECIFICATIONS

### Broadband Outdoor Diplexer

DPO-3730-xxx

#### Electrical Specification

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	COMMON	380-2690	18 dB minimum, 20 dB typical
		3300-5925	18 dB minimum, 20 dB typical
	Lowband Port	380-2690	18 dB minimum, 20 dB typical
	Highband Port	3300-5925	18 dB minimum, 20 dB typical
Insertion Loss	COMMON to Lowband Port	380-2690	0.1 dB typical, 0.2 dB maximum
	COMMON to Highband Port	3300-5925	0.1 dB typical, 0.15 dB maximum
Isolation	Highband Port to Lowband Port	3300-5925	50 dB minimum
	Lowband Port to Highband Port	380-2690	50 dB minimum

#### General Characteristics

Impedance	50 ohms
Continuous Average Power	200 W maximum all ports
Peak Envelope Power	2 kW maximum all ports
Intermodulation Performance	<-117 dBm (-160 dBc) minimum, all bands at 2x +43 dBm tones (380 - 2690 only)

#### Environmental

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

#### Mechanical

Model	DPO-3730-x-S2 (Single)	DPO-3730-x-T2 (Twin)	DPO-3730-x-Q2 (Quad)
Connectors	3 x 4.3-10 female	6 x 4.3-10 female	12 x 4.3-10 female
Dimensions w/Bracket (HxWxD)	6.26 x 8.15 x 2.44 in. (159.0 x 207.0 x 62.0 mm)	6.26 x 8.15 x 3.86 in. (159.0 x 207.0 x 98.0 mm)	6.26 x 8.15 x 6.69 in. (159.0 x 207.0 x 170.0 mm)
Housing Dimensions (HxWxD)	2.44 x 8.15 x 1.97 in. (62.0 x 207.0 x 50.0 mm)	2.44 x 8.15 x 3.39 in. (62.0 x 207.0 x 98.0 mm)	2.44 x 8.15 x 6.22 in. (62.0 x 207.0 x 170.0 mm)
Weight	2.8 lbs (1.258 Kg)	4.6 lbs. (2.09 kg)	8.25 lbs. (3.752 kg)
Frontal Wind Load @ 150 km/hour	16.4 Lbs. (72.8 N)	16.4 Lbs. (72.8 N)	16.4 Lbs. (72.8 N)
Lateral Wind Load @ 150 km/hour	2.2 Lbs. (9.7 N)	3.8 Lbs. (16.8 N)	6.8 Lbs. (30.5 N)
Mounting	Pole (3 - 4.65 in) and Wall mounting bracket		

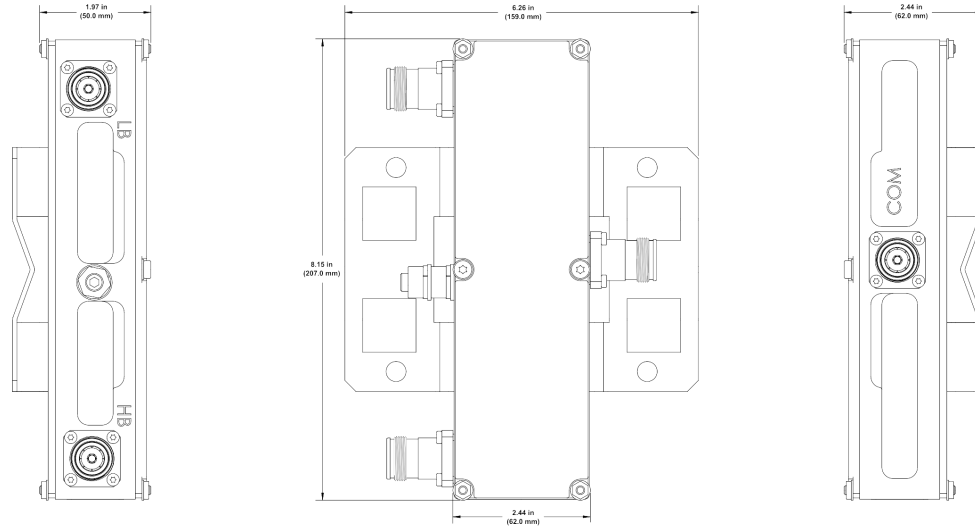


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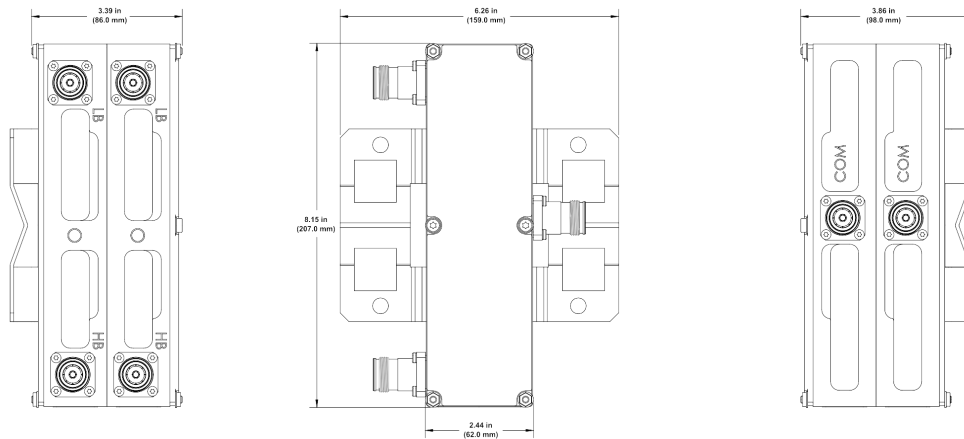
## SPECIFICATIONS

### Broadband Outdoor Diplexer

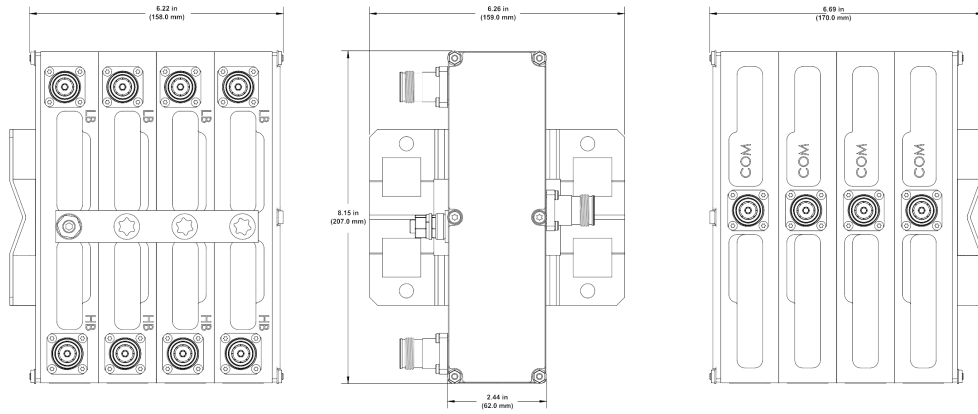
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Outdoor Broadband Single Diplexer Outline Drawing



Outdoor Broadband Twin Diplexer Outline Drawing



Outdoor Broadband Quad Diplexer Outline Drawing



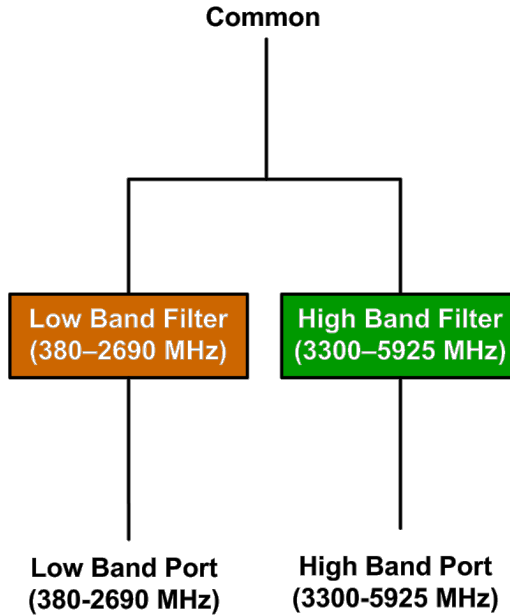
# Filters & Combiners

SPECIFICATIONS

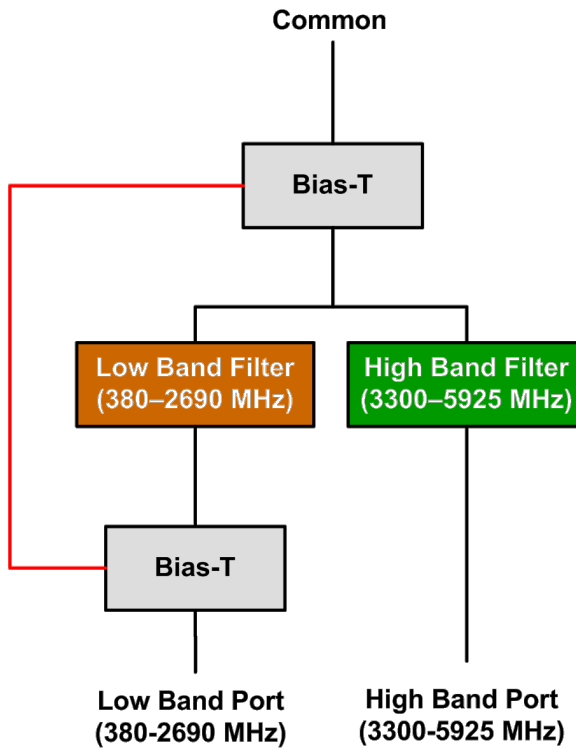
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Block Diagram



Outdoor Broadband Diplexer with No DC/ASIG Pass-through Block Diagram



Outdoor Broadband Diplexer with DC/ASIG Pass-through on Low Band Port Block Diagram



# Filters & Combiners

## STANDARDS & CERTIFICATIONS

### Broadband Outdoor Diplexer

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#### Parts & Accessories

**DPO-3730-x-S2** Outdoor Broadband Diplexer with 4.3-10 connectors

**DPO-3730-x-T2** Outdoor Twin Broadband Diplexer with 4.3-10 connectors

**DPO-3730-x-Q2** Outdoor Quad Broadband Diplexer with 4.3-10 connectors

#### Option (-x) Description

-0 No DC/AISG Pass through

-1 DC/AISG Pass through Low Band to COMMON, DC Block on all other input ports

#### 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

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