

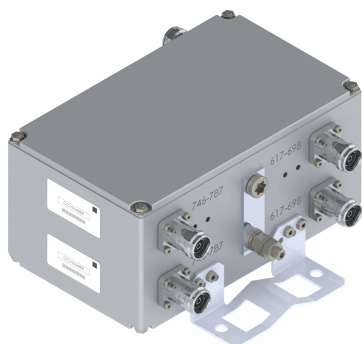


# Filters & Combiners

## DATA SHEET

### Outdoor Low Band Diplexer

DPO-0613F-XXX



- Combines the 600 MHz Band (617-698 MHz) and 700 MHz Band 13 (746-787 MHz) onto a common port.
- High power 200 W per port with low insertion loss
- AISG 2.0 compliant with multiple options for DC/AISG pass through
- Low intermodulation with isolation of >35 dB port to port
- Available twin and quad unit configuration
- High reliability of >500K Hours MTBF and multi-strike lightning protection
- Lightweight outdoor enclosure with pole or wall mounting options

#### Overview

CCI's Outdoor Diplexer combines 600 MHz Band (Band 71) with 700 MHz Band (Band 13) base stations onto a common feeder line. Specifically intended for use in dual band systems, the diplexer reduces the number of required feeder lines while providing a high degree of isolation between systems. By reducing the number of feeder lines, the cost to upgrade a site is reduced. Additionally, diplexers can be utilized in "crowded" sites where feeder lines are not easily accessible. Optional Dual unit with two Diplexers mounted on a single bracket is available.

#### Technical Description:

The CCI Outdoor Diplexer provides full band performance in each band with low insertion loss, low Intermodulation, high isolation and high power handling. Excellent return loss and low insertion loss delivers an excellent match to antennas and base station, saving precious transmitter power. The fully weatherproof tower mount unit is available with a smart bias-tee. The Smart Bias-Tee architecture passes the DC and AISG carrier frequency from any of the input ports to the common port while blocking the DC and AISG signals from being re-injected into the other input ports. The Diplexer housing is constructed from die cast aluminum and consists of an IP67 moisture proof enclosure, with IP67 immersion proof connectors suited to long-life masthead mounting. With a variety of mounting options, the Diplexer can be adapted for use in all outdoor or indoor conditions.



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## SPECIFICATIONS

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#### Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	Common	617 - 698	18 dB minimum, 20 dB typical
		746 - 787	18 dB minimum, 20 dB typical
	600 (Band 71)	617 - 698	18 dB minimum, 20 dB typical
	700 (Band 13)	746 - 787	18 dB minimum, 20 dB typical
Insertion Loss	COM to 600	617 - 698	0.3 dB maximum, 0.2 dB typical
	COM to 700 Low	746 - 787	0.3 dB maximum, 0.2 dB typical
Isolation	COM to 600	617 - 698	35 dB minimum
	COM to 700 Low	746 - 787	35 dB minimum

#### General Characteristics

Impedance	50 ohms
Continuous Average Power	200 W max. per input port simultaneous
Peak Envelope Power	2 kW max. per input port simultaneous
Intermodulation Performance (all ports)	<-117dBm (-160 dBc) typical (2 x +43 dBm tones) all bands
DC Pass Current/AISG Pass (700 & 850 to COMMON port)	3A/AISG signal (2.176 Mhz) per AISG 2.0

#### Environmental

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

#### Mechanical

Model	DPO-0613F-0-T1	DPO-0613F-0-Q1
Modularity	Twin	Quad
Weight with brackets	9.25 lbs (4.2 Kg)	18.7 lbs (8.5 Kg)
Dimensions with brackets	10.55 x 11.3 x 2.87 in. (268.0 x 287.0 x 73.0 mm)	10.55 x 11.3 x 5.24 in. (268.0 x 287.0 x 133.0 mm)
Dimensions enclosure only	10.55 x 7.68 x 2.26 in. (268.0 x 195.0 x 57.5 mm) - per Diplexer	
Connectors	3 x 7-16 DIN female or 4.3-10 female - per Diplexer	
Mounting	Pole/Wall mounting bracket	

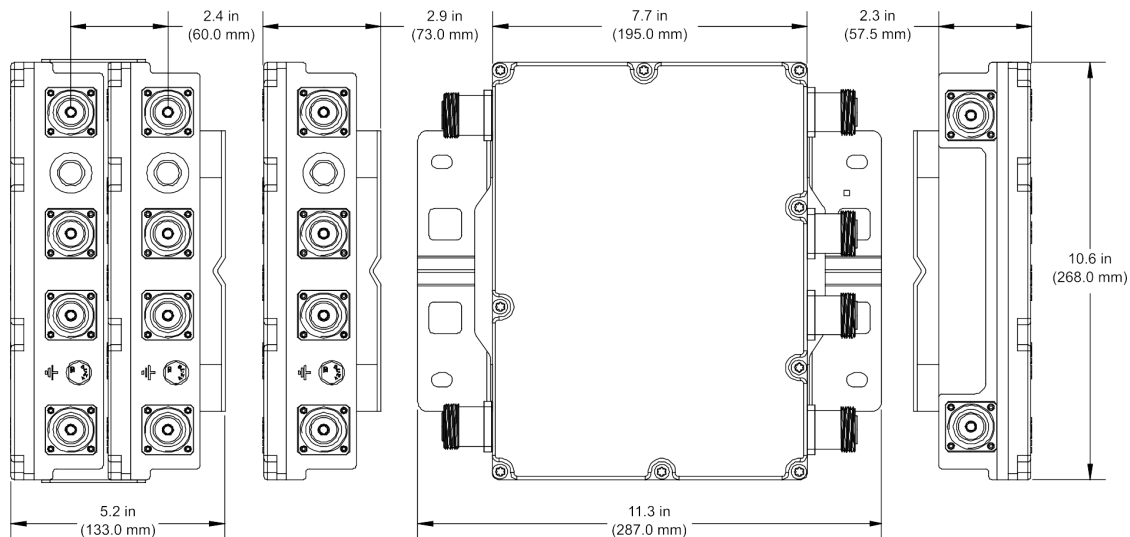


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## SPECIFICATIONS

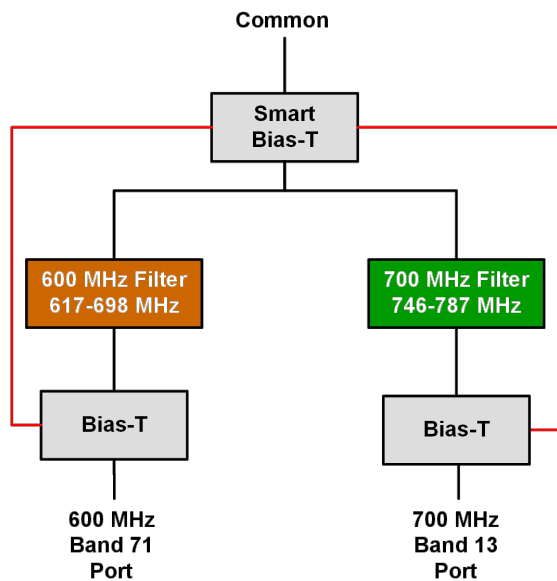
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Outdoor Twin and Quad Diplexer Outline Drawing

### Block Diagram



600 MHz (Band 71)/700 MHz (Band 13) Diplexer with Smart Bias-T Block Diagram



# Filters & Combiners

## STANDARDS & CERTIFICATIONS

### Outdoor Low Band Diplexer

DPO-0613F-XXX

#### Parts & Accessories

**DPO-0613-x-T1** Outdoor Twin Diplexer with 7/16 DIN connectors

**DPO-0613-x-T2** Outdoor Twin Diplexer with 4.3-10 connectors

**DPO-0613-x-Q1** Outdoor Quad Diplexer with 7/16 DIN connectors

**DPO-0613-x-Q2** Outdoor Quad Diplexer with 4.3-10 connectors

Option (-x)	Description
-S	Smart Bias-T, DC/AISG Pass through on either port
-0	No DC/AISG Pass through and No DC Block
-1	DC/AISG Pass through 600 Band (Band 71) to COMMON, DC Block on all other input ports
-2	DC/AISG Pass through 700 Band (Band 13) to COMMON, DC Block on all other input ports

#### Standards & Compliance

<b>Safety</b>	EN 60950-1, UL 60950-1
<b>Emission</b>	EN 55022
<b>Immunity</b>	EN 55024
<b>Environmental</b>	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