

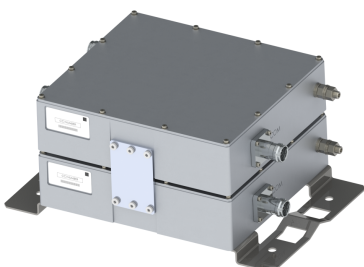


Filters & Combiners

DATA SHEET

FirstNet Outdoor Diplexer

DPO-7C14-XXX



- Combines the 700 MHz Low Band (698-746 MHz) and FirstNet (758-798 MHz) Band 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 >50 dB port to port
- Available twin 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 "LTE700" low band with FirstNet band 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 moisture 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.



Filters & Combiners

SPECIFICATIONS

FirstNet Outdoor Diplexer

DPO-7C14-XXX

Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	Common	698 - 746	18 dB minimum, 20 dB typical
		758 - 798	18 dB minimum, 20 dB typical
	700 Low	698 - 746	18 dB minimum, 20 dB typical
	FirstNet	758 - 798	18 dB minimum, 20 dB typical
Insertion Loss	COM to 700 Low	698 - 746	0.25 dB typical, 0.7 dB maximum
	COM to FirstNet	758 - 798	0.3 dB typical, 0.6 dB maximum
Isolation	COM to 700 Low	698 - 746	50 dB minimum
	COM to FirstNet	758 - 798	50 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

Connectors - Single	3 x 7-16 DIN female or 3 x 4.3-10 female
Dimensions w/Bracket - Single (HxWxD)	12.6 x 8.58 x 3.11 in.(320 x 218 x 79 mm)
Housing Dimensions - Single (HxWxD)	8.98 x 8.19 x 2.48 in.(228 x 208 x 63 mm)
Weight - Single	13.9 lbs (6.3 kg)
Connectors - Twin	6 x 7-16 DIN female or 6 x 4.3-10 female
Dimensions w/Bracket - Twin (HxWxD)	12.6 x 8.58 x 5.67 in. (320 x 218 x 144 mm)
Housing Dimensions - Twin (HxWxD)	8.98 x 8.19 x 5.04 in. (228 x 208 x 128 mm)
Weight - Twin	27.7 lbs (12.6 kg)
Mounting	Pole/Wall mounting bracket

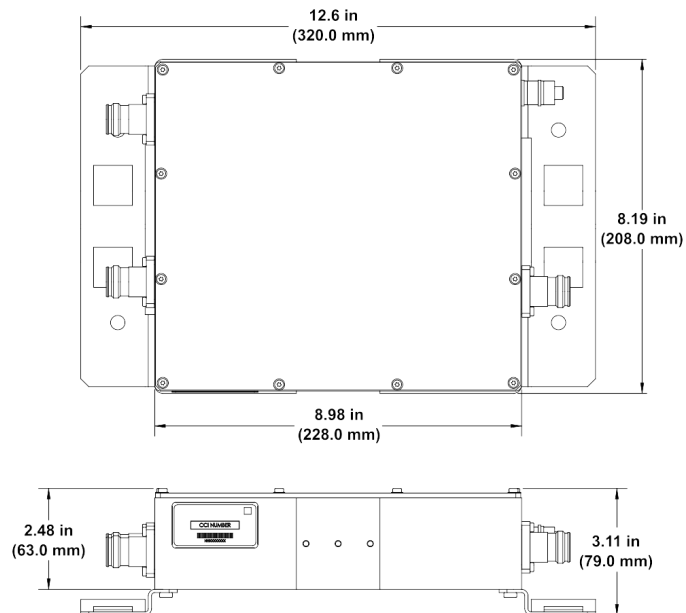


Filters & Combiners

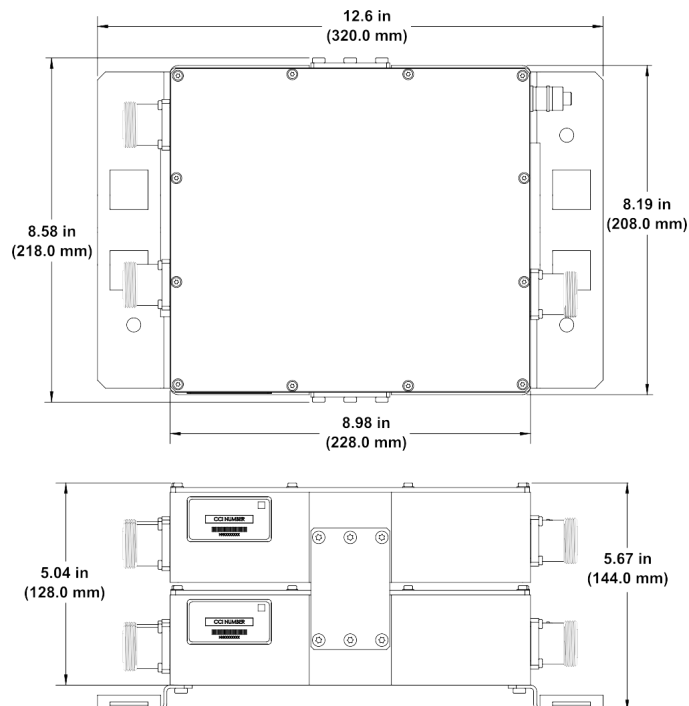
SPECIFICATIONS

FirstNet Outdoor Diplexer

DPO-7C14-XXX



Outdoor DPO-7C14-x-S2 Diplexer Outline Drawing
(Single with 4-10 Connectors)



Outdoor DPO-7C14-x-T1 Diplexer Outline Drawing
(Twin with 7-16 Connectors)



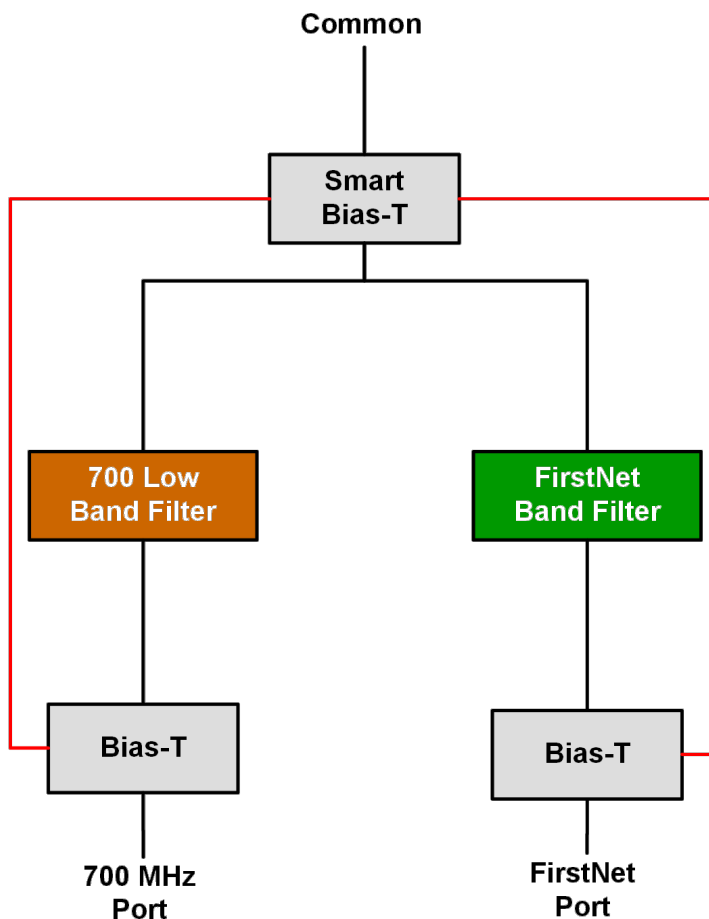
Filters & Combiners

SPECIFICATIONS

FirstNet Outdoor Diplexer

DPO-7C14-XXX

Block Diagram



700 Low Band/FirstNet Diplexer with Smart Bias-T Block Diagram



Filters & Combiners

STANDARDS & CERTIFICATIONS

FirstNet Outdoor Diplexer

DPO-7C14-XXX

Parts & Accessories

DPO-7C14-x-S2	Outdoor Diplexer with 4.3-10 connectors
DPO-7C14-x-T2	Outdoor Twin 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 700 Low Band to COMMON, DC Block on all other input ports
-2	DC/AISG Pass through FirstNet 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

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



CCI Communication Components Inc.
EXTENDING WIRELESS PERFORMANCE