

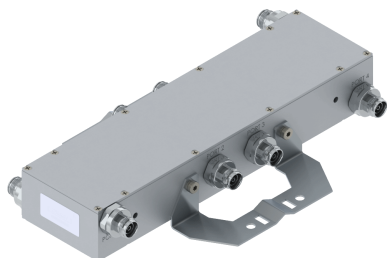


Filters & Combiners

DATA SHEET

4x4 Wideband Hybrid Combiner

HYO-67-4xx



- Wideband Hybrid Combiner covering 617 - 2690 MHz
- Near lossless combining
- Coupled port
- High in-band isolation
- Outdoor capable unit
- Very low PIM
- High power Handling 500W per port and 3KW peak
- RoHS compliant

Overview

CCI's High Power Outdoor 4x4 Hybrid Combiner with Coupler is commonly used to combine multiple Base Station (BTS) resources into a Distributed Antenna System (DAS). The RF from each input port is present equally at each one of the four output ports of the 4x4 Hybrid. The Model HYO-67-4xx is a wideband device that can combine all wireless frequency bands from 617 to 2690 MHz and provides a minimum of 30 dB of port to port isolation, 32 dB typical. It has been designed to minimize PIM while providing maximum Isolation between ports.

Technical Description:

CCI's outdoor wideband 4x4 Hybrid Combiner covers the full spectrum from 617 MHz to 2690 MHz. The unit allows DC/AISG pass-through on all ports for powering Tower Mount Amplifiers. The unit is housed in an IP67 moisture proof enclosure, with IP67 moisture proof connectors suited for long-life. The combiner can be wall or pole mounted.



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SPECIFICATIONS

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Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Insertion Loss	Input* to Output*	617 - 2690	6.1 dB \pm 0.8 dB
	Input* to Coupler	617 - 2690	34 dB \pm 10 dB
Isolation	Input* to Input*	617 - 2690	30 dB min. , 32 dB typ.
Return Loss	All Ports	617 - 2690	25 dB min.

*Input Refers to Ports 1-4 and Output Refers to Ports 5-8

General Characteristics	
Impedance	50 ohms
Continuous Average Power	500 W maximum (per port)
Peak Envelope Power	3 kW maximum
Intermodulation Performance	<-160 dBc (-117 dBm) minimum, <-165 dBc (-122 dBm) typ. (2 \times 43 dBm carriers)
DC Pass Current/AISG Pass	DC paths: Port 1 to Port 5; Port 2 to Port 7; Port 3 to Port 6; Port 4 to Port 8 (max 6.5 A per AISG 2.0)

Environmental

Operating Temperature	-40 °C to +70 °C
Ingress Protection	IP67
Relative Humidity	0 - 95%

Mechanical

Parameters	HYO-67-4F1	HYO-67-4F2
Input Connectors	7-16 DIN female \times 4 (Port 1 - 4)	4.3-10 female \times 4 (Port 1 - 4)
Output Connectors	7-16 DIN female \times 4 (Port 5 - 8)	4.3-10 female \times 4 (Port 5 - 8)
Coupler Connector	SMA female \times 1	
Dimensions (body only)(HxWxD)	3.94 \times 14.13 \times 2.24 in. (100.0 \times 359.0 \times 57.0 mm)	
Dimensions (incl. brackets)(HxWxD)	9.06 \times 14.13 \times 2.60 in. (230.0 \times 359.0 \times 66.0 mm)	
Weight with brackets	9.7 lbs (4.4 Kg)	
Mounting	Pole/Wall mounting bracket	

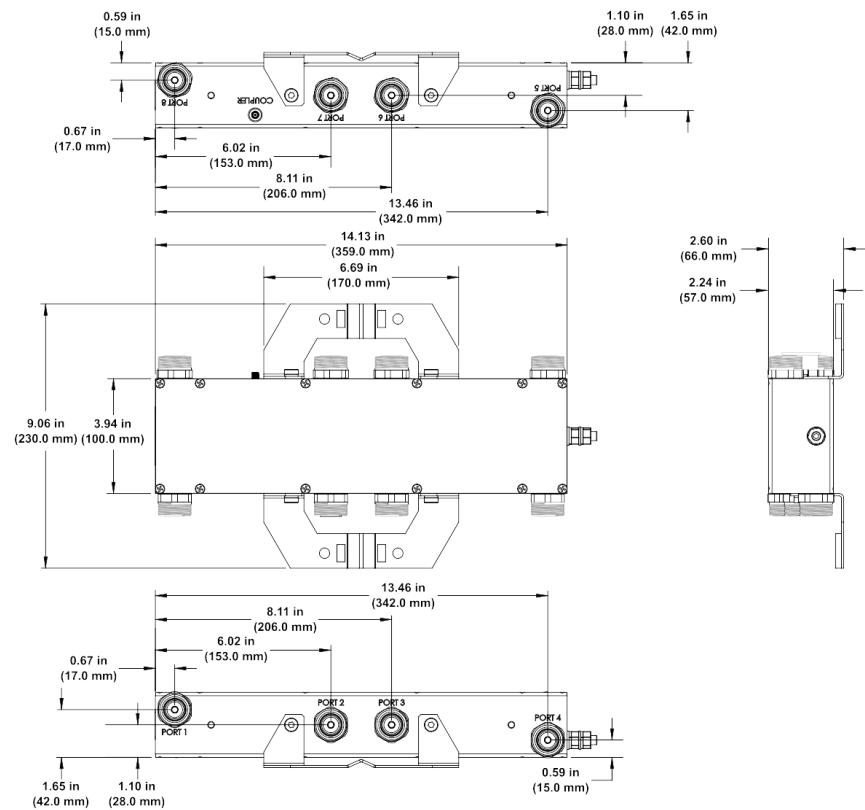


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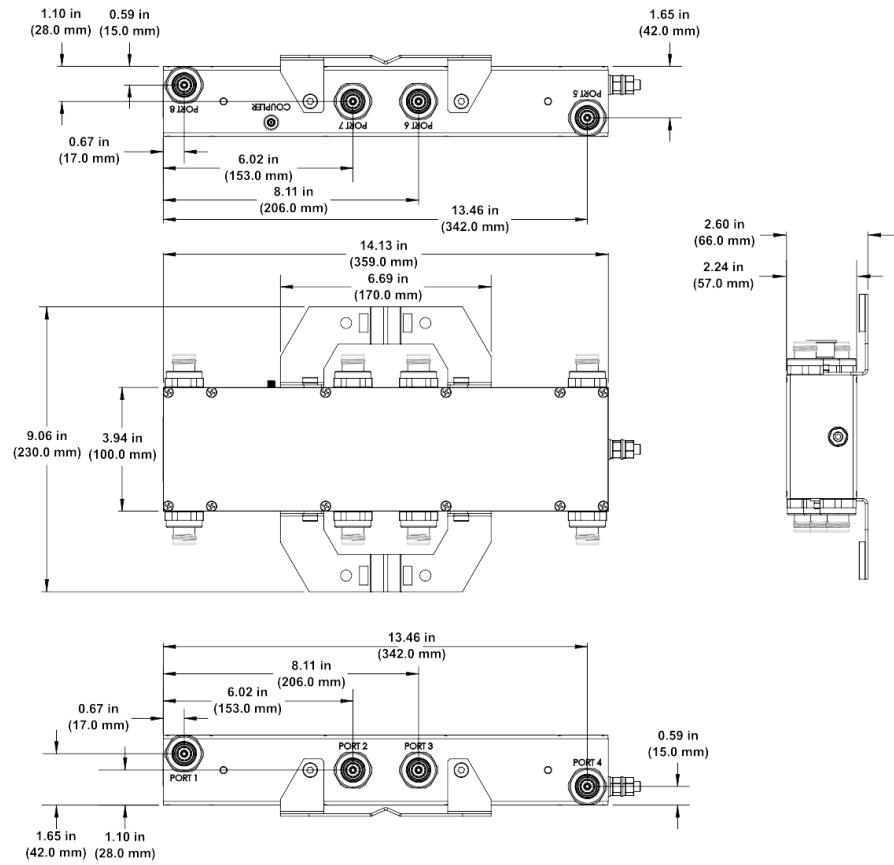
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4-Way Hybrid Combiner Outline Drawing with DIN Connectors



4-Way Hybrid Combiner Outline Drawing with 4.3-10 Connectors



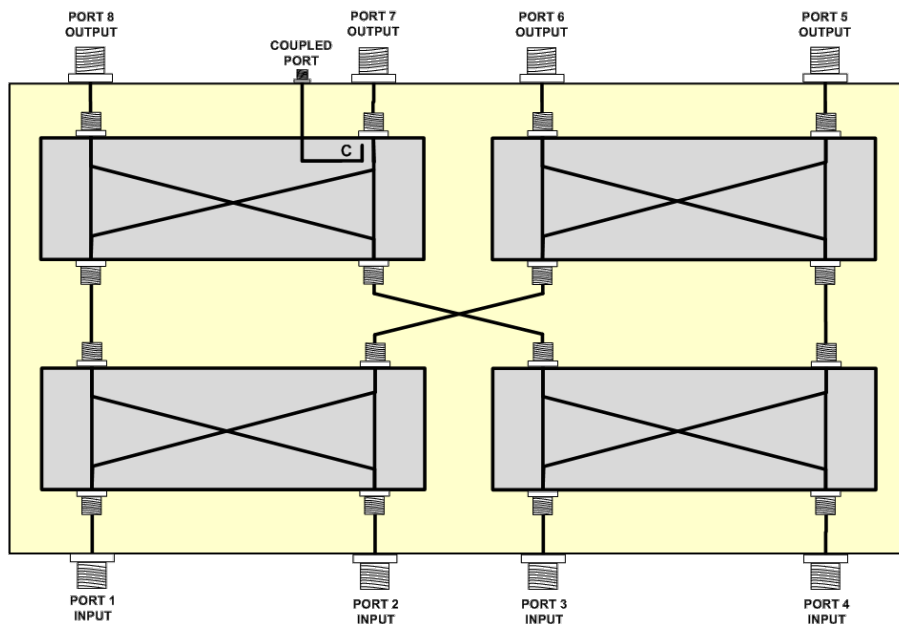
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Block Diagram



4 x 4 Hybrid Combiner Block Diagram



Filters & Combiners

STANDARDS & CERTIFICATIONS

4x4 Wideband Hybrid Combiner

HYO-67-4xx

Parts & Accessories

HYO-67-4F1 Outdoor Wideband 4-Way Hybrid Combiner with Coupler and DIN Connectors

HYO-67-4F2 Outdoor Wideband 4-Way Hybrid Combiner with Coupler and 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, GR-63-CORE 4.3.1, EN 60529 IP65 & IP67

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