



# Filters & Combiners

DATA SHEET

## 4x4 Wideband Hybrid Combiner

HYO-75-4gx



- Wideband Hybrid Combiner covering 698- 3800 MHz
- Near lossless combining
- Coupled port
- High in-band isolation
- Outdoor capable unit
- Very low PIM
- High power Handling 300W 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-75-4Fx is a wideband device that can combine all wireless frequency bands from 698 to 3800 MHz and provides a minimum of 35 dB of port to port isolation. 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 698 MHz to 3800 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	Coupling Loss	698 - 3800	6.2 dB
	Input* to Output*	698 - 3800	≤ 1.5 dB
Isolation	Input* to Input*	698 - 3800	≥ 25 dB
Return Loss	All Ports	698 - 3800	≥ 18 dB

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

General Characteristics	
Impedance	50 ohms
Continuous Average Power	300 W maximum (per port)
Peak Envelope Power	3 kW maximum
Intermodulation Performance	<-160 dBc (-117 dBm) at 2 × 43 dBm carriers

#### Environmental

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

#### Mechanical

Parameters	HYO-75-4F1	HYO-75-4F2
Input Connectors	7-16 DIN female × 4 (Port 1 - 4)	4.3-10 female × 4 (Port 1 - 4)
Output Connectors	7-16 DIN female × 4 (Port 5 - 8)	4.3-10 female × 4 (Port 5 - 8)
Dimensions	7.7 × 5.4 × 2.6 in. (195 × 136 × 66 mm)	
Weight with brackets	6.6 lbs (3 Kg)	
Mounting	Pole/Wall mounting bracket	

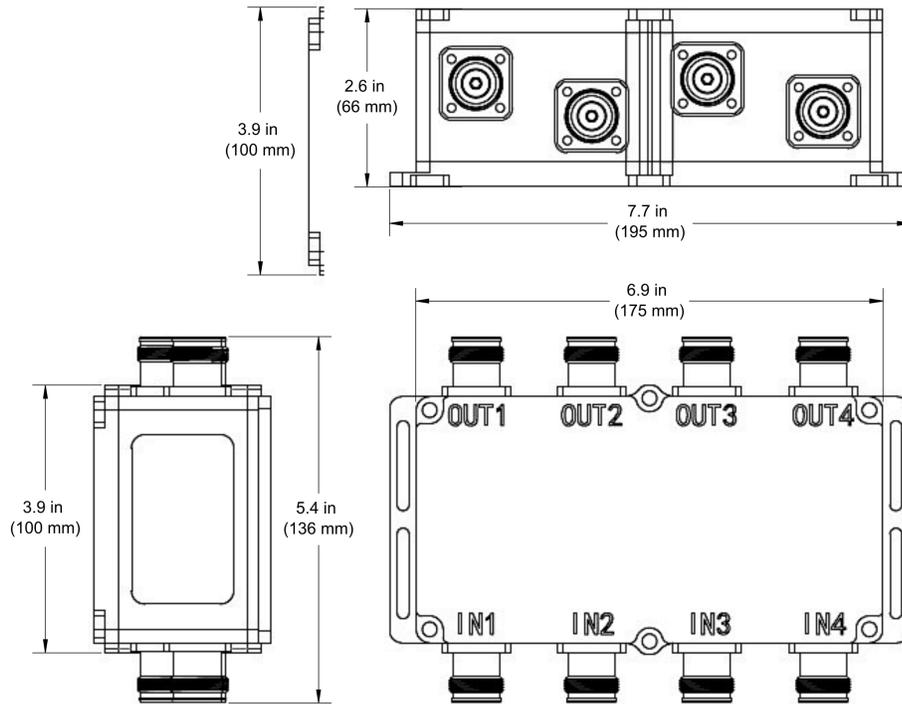


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## SPECIFICATIONS

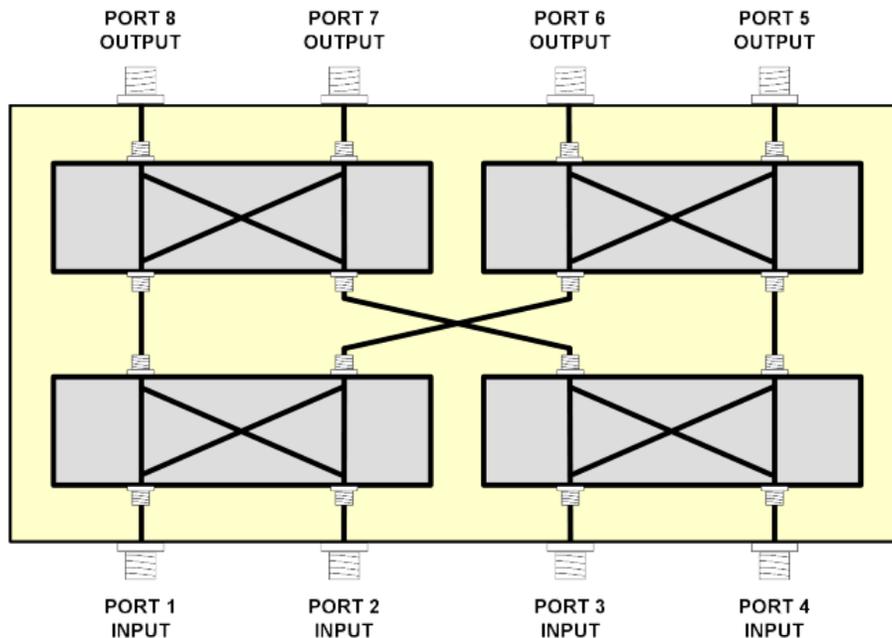
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4-Way Hybrid Combiner Outline Drawing with 7-16 DIN Connectors

### Block Diagram



4 x 4 Hybrid Combiner Block Diagram



# Filters & Combiners

## STANDARDS & CERTIFICATIONS

### 4x4 Wideband Hybrid Combiner

HYO-75-4gx

#### Parts & Accessories

- HYO-75-4F1** Outdoor Wideband 4-Way Hybrid Combiner with Coupler and DIN 7-16 Connectors
- HYO-75-4F2** 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

