

- High power coupler at 200 W across a wideband from 698 to 3800 MHz
- Low RF Insertion Loss and excellent return loss performance
- Outdoor unit with a wide range of coupling values from 6 to 40 dB
- Available with 7-16 DIN and 4.3-10 Connectors
- Rugged and high reliability design
- Designed for ultra-low PIM performance
- RoHS compliant

### Overview

CCI's QCO-68 series of outdoor directional couplers cover a broad frequency range from 698 to 3800 MHz, while delivering high power performance of up to 300 Watts per input port. Each model has a nominal coupling value with very low insertion loss and excellent return loss performance. The units are offered in a wide range of coupling values and are ideal for optimizing RF power distribution, which is often required for distributed antenna systems (DAS).

The extremely wide frequency range of the couplers enables their use with multiband and broadband antennas as well as a both active and passive DAS systems. The CCI couplers are also rated for outdoor use; this along with the high power handling makes them well-suited for use with wireless base stations. The design of CCI's directional couplers provides for extremely low insertion loss and excellent PIM performance. These units are constructed with a weatherproof aluminum IP66 rated housing and with IP66 immersion rated connectors which enhances the overall reliability.

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.



## SPECIFICATIONS

### High Power Directional Coupler

QCO-68-xxxx

#### Electrical Specification

RF Parameter					
Model Number	QCO-68-06Fx	QCO-68-07Fx	QCO-68-08Fx	QCO-68-10Fx	QCO-68-13Fx
Coupling Values 698 - 3800 MHz	6.0 dB	7.0 dB	8.0 dB	10.0 dB	13.0 dB
Accuracy 698 - 3700 MHz	±1.2 dB	±1.2 dB	±1.2 dB	±1.2 dB	±1.3 dB
Isolation	≥ 25 dB	≥ 25 dB	≥ 27 dB	≥ 25 dB	≥ 30 dB
Insertion Loss	≤1.65 dB	≤1.65 dB	≤1.3 dB	≤0.75 dB	≤0.6 dB

RF Parameter					
Model Number	QCO-68-15Fx	QCO-68-20Fx	QCO-68-30Fx	QCO-68-40Fx	
Coupling Values 698 - 3800 MHz	15.0 dB	20.0 dB	30.0 dB	40.0 dB	
Accuracy 698 - 3700 MHz	±1.3 dB	±1.3 dB	±1.6 dB	±1.6 dB	
Isolation	≥ 32 dB	≥ 32 dB	≥ 40 dB	≥ 50 dB	
Insertion Loss	≤0.6 dB	≤1.7 dB	≤0.3 dB	≤0.3 dB	

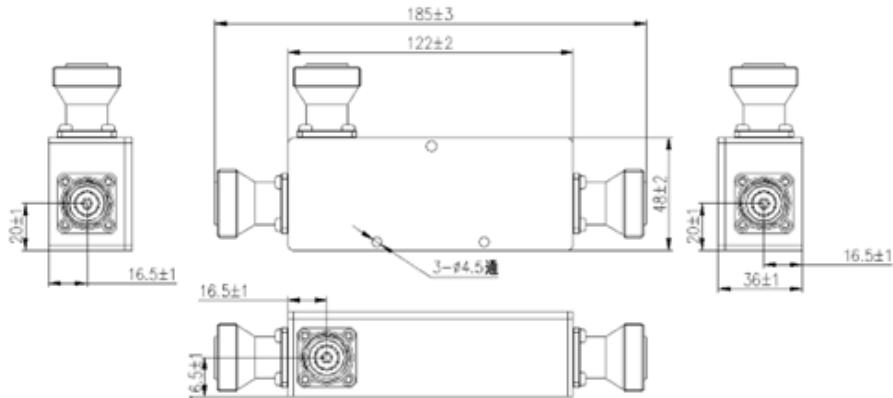
General Characteristics	
Return Loss	19 dB minimum, 20 dB typical
Continuous Average Power	300W per port
Peak Envelope Power	1.5 kW max.
Impedance	50 ohms
Intermodulation Performance	≤ -112 dBm (-155 dBc) at 2 x +43 dBm tones

#### Environmental Specification

Operating Temperature	-25°C to +75°C
Enclosure	IP65, indoor and outdoor use
Relative Humidity	0 - 95 %

#### Mechanical Specification

Model	QCO-68-xxF1	QCO-68-xxF2
Connectors	7-16 DIN-Female x 3	4.3-10-Female x 3
Dimensions: Body/Body with connectors	122 x 48 x 36 mm (4.8 x 1.9 x 1.4 in.)/ 185 x 48 x 36 (7.3 x 1.9 x 1.4)	
Weight	0.60 Kg (1.32 lbs)	



High Power Coupler with 4.3-10 Female Connector (QCO-68-xxF1) Outline Drawing



# DAS Products

## STANDARDS & CERTIFICATIONS

### High Power Directional Coupler

QCO-68-xxxx

#### Parts & Accessories

QCO-68-06Fx	Ultra-broadband High Power 6dB Coupler
QCO-68-07Fx	Ultra-broadband High Power 7dB Coupler
QCO-68-08Fx	Ultra-broadband High Power 8dB Coupler
QCO-68-10Fx	Ultra-broadband High Power 10dB Coupler
QCO-68-13Fx	Ultra-broadband High Power 13dB Coupler
QCO-68-15Fx	Ultra-broadband High Power 15dB Coupler
QCO-68-20Fx	Ultra-broadband High Power 20dB Coupler
QCO-68-30Fx	Ultra-broadband High Power 30dB Coupler
QCO-68-40Fx	Ultra-broadband High Power 40dB Coupler

Option (-x)	Description
-1	with DIN 7-16 connector
-2	with 4.3-10 connector

#### 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 IP67 & IP68

#### Certifications

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



**CCI** Communication Components Inc.  
EXTENDING WIRELESS PERFORMANCE