



# Filters & Combiners

DATA SHEET

PCS D,B&E Plus C2&C3 In-Band Combiner

PFC-1819-DBE-C2C3



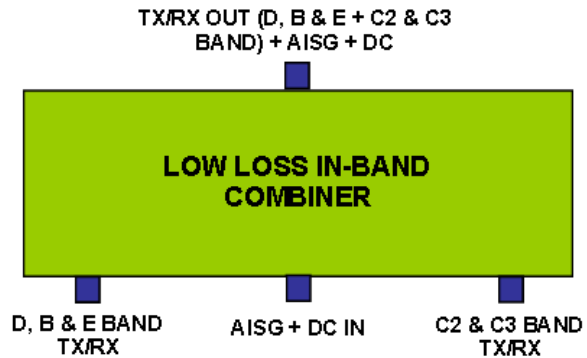
- Combines two Base Station Outputs in the PCS D, B & E with C2 & C3 Sub-bands onto a Single Feeder
- Low Loss Combining
- Full Transmit and Receive Combining typ. 0.7 dB loss
- DC + AISG Modem to power TMA's and Antennas
- High Reliability Design
- High Power Handling
- Excellent Filter Response
- Temperature Stable
- Fully Passive
- Low Intermodulation
- Optional Wall Mount Kit Available

## Overview

CCI's Low Loss PCS In-Band Combiner combines two of the PCS (1900 MHz) band Base Station outputs on the D, B & E sub-bands with the C2 & C3 sub-bands onto a single feeder without the insertion loss normally associated with hybrid combiners. The unit is fully passive and delivers a matched low insertion loss solution for the sharing of common feeder lines and antennas. The unit requires no power and provides an AISG port which connects to an AISG Modem that provides DC + AISG signal to power TMA's and Antennas. The unit is housed in a weatherproof outdoor enclosure suitable for tower mount application.

## Technical Description:

Internal duplexers deliver signal to independent Tx and Rx filter combiners, enabling a high level of control and performance to maintain good isolation while minimizing insertion loss. Stages are kept to a minimum to maximize power and efficiency. Transmit paths are fully isolated from Receive paths to prevent intermodulation products. The tower mount unit consists of multiple band-pass filters and an AISG Modem which are all housed in an IP67 moisture proof enclosure, with IP68 immersion proof connectors suited for long-life masthead mounting. The unit provides protection against lightning strikes via a multi-stage surge protection circuit.





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## SPECIFICATIONS PCS D,B&E Plus C2&C3 In-Band Combiner

PFC-1819-DBE-C2C3

### Electrical

RF Parameters	Ports	Frequency(MHz)	Specification	
Return Loss	TX/RX OUT	1865 - 1890	18 dB min., 20 dB typ.	
		1900 - 1910	18 dB min., 20 dB typ.	
		1945 - 1970	18 dB min., 20 dB typ.	
		1980 - 1990	18 dB min., 20 dB typ.	
	TX/RX IN 1 (D,B&E)	1865 - 1890	18 dB min., 20 dB typ.	
		1945 - 1970	18 dB min., 20 dB typ.	
	TX/RX IN 2 (C2&C3)	1900 - 1910	18 dB min., 20 dB typ.	
		1980 - 1990	18 dB min., 20 dB typ.	
	Insertion Loss	TX/RX IN 1 (D,B&E) to TX/RX OUT	1865 - 1890	0.4 dB typ., 0.7 dB at band edge
			1945 - 1970	0.4 dB typ., 0.7 dB at band edge
		TX/RX IN 2 (C2&C3) to TX/RX OUT	1900 - 1910	0.4 dB typ., 0.7 dB at band edge
			1980 - 1990	0.4 dB typ., 0.7 dB at band edge
Attenuation	TX/RX OUT to TX/RX IN 1 (D,B&E)	1900 - 1910	30 dB min.	
		1980 - 1990	30 dB min.	
	TX/RX OUT to TX/RX IN 2 (C2&C3)	1865 - 1890	30 dB min.	
		1945 - 1970	30 dB min.	
Isolation	TX/RX IN 1 (D,B&E) to TX/RX IN 2 (C2&C3)	1865 - 1890	30 dB min.	
		1900 - 1910	30 dB min.	
		1945 - 1970	30 dB min.	
		1980 - 1990	30 dB min.	

General Characteristics	
Impedance	50 ohms
Continuous Average Power	200 W max. (all ports)
Peak Envelope Power	2 kW max. (all ports)
Intermodulation Performance (at ANT port in RX band)	<-117 dBm (-160 dBc) typical (2 x +43 dBm tones) all bands
AISG	AISG 2.0 Compatible

### Environmental

Operating Temperature	-40 °C to +65 °C
Enclosure	IP67 (Unit Body), IP68 (Connector) - Suitable for Outdoor Applications
MTBF	>500,000 hours
Lightning Protection	8/20us, ±20KA max, 10 strikes per IEC61000-4-5

### Mechanical

Connectors	3 x 7-16 DIN female; 1x AISG-female
Dimensions(body only)(HxWxD)	10.6 x 7.9 x 2.5 in. (270 x 200 x 65 mm)
Dimensions (with brackets)(HxWxD)	14.3 x 8.3 x 3.5 in. (362 x 211 x 89 mm)
Weight with brackets	12 lbs (5.5 kg)
Mounting	Pole/Wall mounting bracket

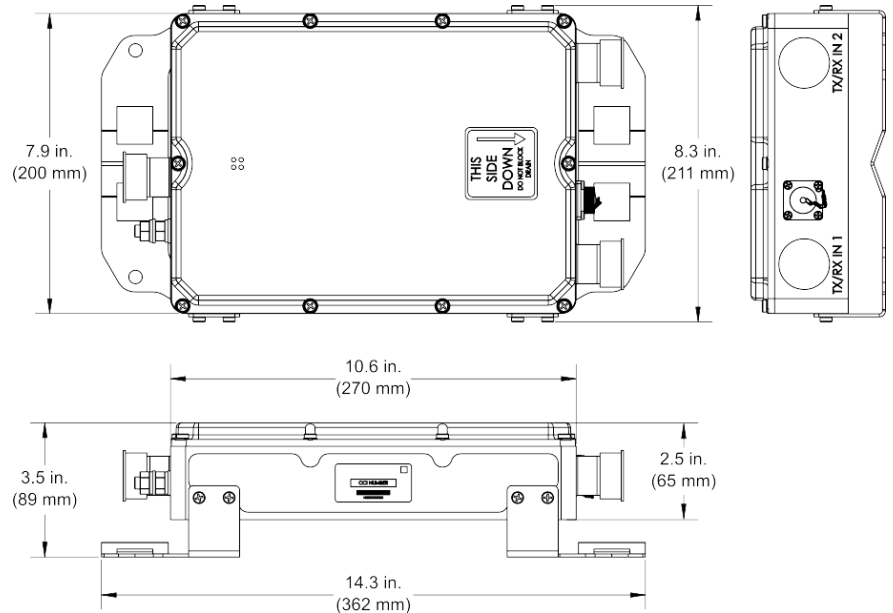


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SPECIFICATIONS

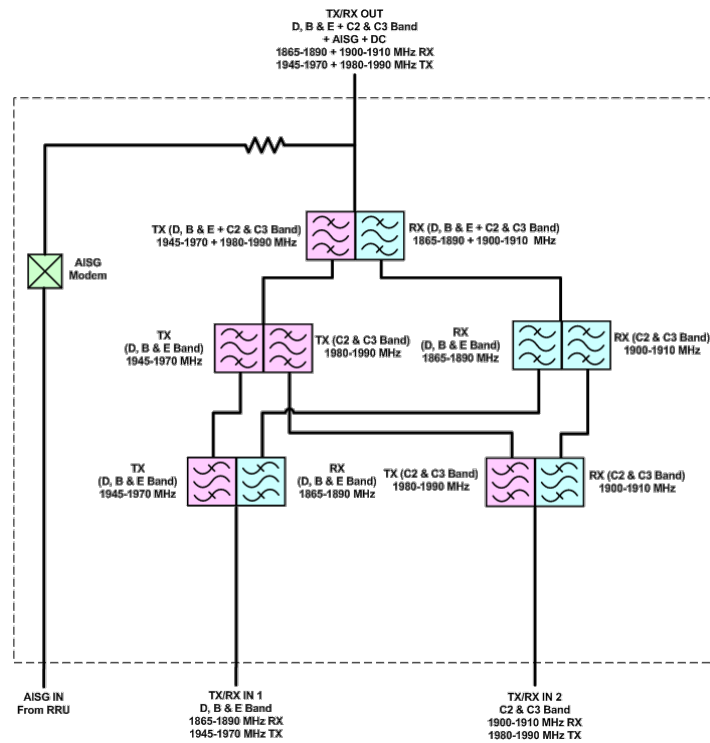
PCS D,B&E Plus C2&C3 In-Band Combiner

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PCS D,B & E plus C2 & C3 In-Band Combiner Outline Drawing

## Block Diagram



PCS D,B & E plus C2 & C3 In-Band Combiner Block Diagram



# Filters & Combiners

ORDERING

PCS D,B&E Plus C2&C3 In-Band Combiner

PFC-1819-DBE-C2C3

Parts & Accessories

PFC-1819-DBE-C2C3 In-Band Combiner with bracket



# Filters & Combiners

STANDARDS &  
CERTIFICATIONS

PCS D,B&E Plus C2&C3 In-Band Combiner

PFC-1819-DBE-C2C3

Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US

