CQX782123-DS-43 | E14F15P25

Quadplexer, 700/850/PCS-AWS/WCS,DC Sense, 4.3-10

- BTS-to-feeder and feeder-to-antenna application
- Automatic dc switching with dc sense
- Convertible mounting brackets
- New 4.3-10 connectors for improved PIM performance and size reduction
- DC Load Sense in Feeder-to-Antenna applications

Product Classification

Product Type	Quadplexer

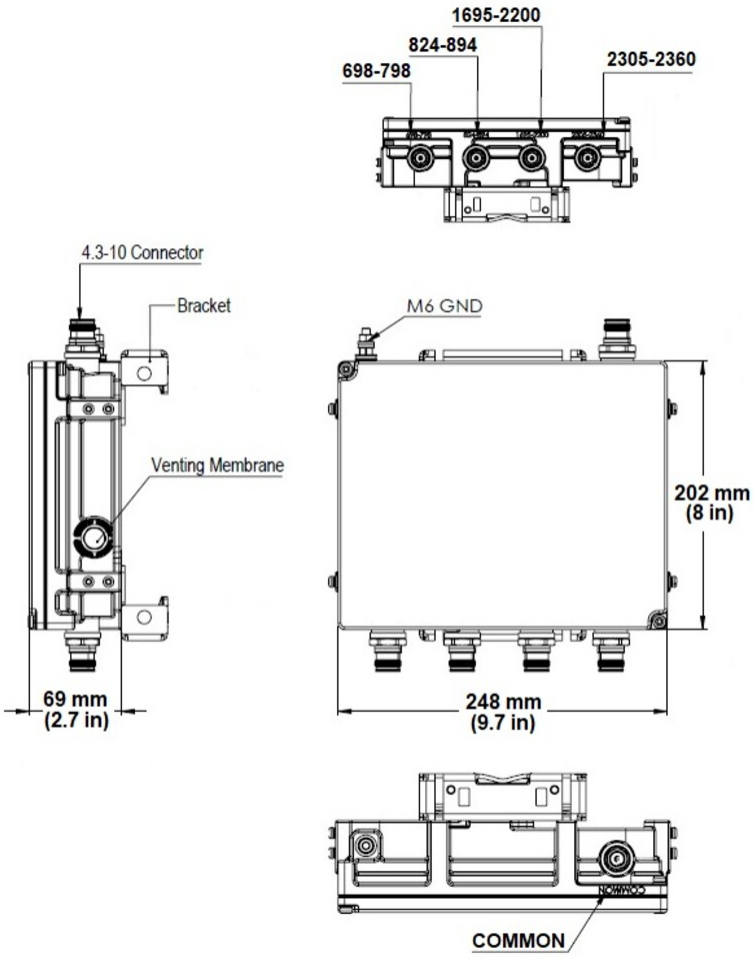
General Specifications

Color	Gray
Common Port Label	Common
Modularity	1-Single
Mounting	Pole | Wall
RF Connector Interface	4.3-10 Female
RF Connector Interface Body Style	Long neck

Dimensions

Height	202 mm | 7.953 in
Width	248 mm | 9.764 in
Depth	69 mm | 2.717 in

Outline Drawing



Electrical Specifications

Impedance	50 ohm
License Band, Band Pass	AWS 1700 | CEL 850 | LMR 750 | PCS 1900 | USA 700 | USA 750 | WCS 2300

Electrical Specifications, dc Power/Alarm

dc/AISG Pass-through Method	Auto sensing
dc/AISG Pass-through Path	See logic table
Lightning Surge Current	5 kA
Lightning Surge Current Waveform	8/20 waveform
Operating Current at Voltage	15 mA @ 12 V | 15 mA @ 24 V
Voltage	7–30 Vdc

Electrical Specifications, AISG

AISG Carrier	2176 KHz ± 100 ppm
Insertion Loss, maximum	1 dB
Return Loss, minimum	15 dB

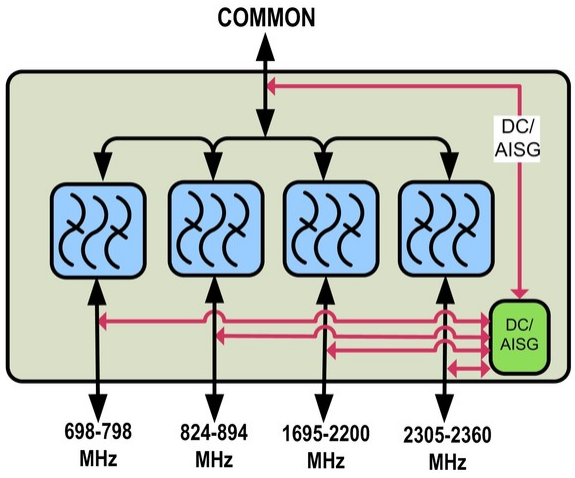
Electrical Specifications

Sub-module	**1**	**1**	**1**	**1**
Branch	1	2	3	4
Port Designation	698–798	824–894	AWS-PCS	WCS
License Band	LMR 750, Band Pass USA 700, Band Pass USA 750, Band Pass	CEL 850, Band Pass	PCS 1900, Band Pass AWS 1700, Band Pass	WCS 2300, Band Pass

Electrical Specifications, Band Pass

Frequency Range, MHz	**698–798**	**824–894**	**1695–2200**	**2305–2360**
Insertion Loss, typical, dB	0.3	0.3	0.3	0.3
Total Group Delay, maximum, ns	40	40	20	25
Return Loss, minimum, dB	20	20	20	20
Isolation, minimum, dB	50	50	50	50
Input Power, RMS, maximum, W	200	200	200	200
Input Power, PEP, maximum, W	2000	2000	2000	2000
3rd Order PIM, minimum, dBc	-155	-155	-155	
3rd Order PIM Test Method	2 x 20 W CW tones	2 x 20 W CW tones	1 x 20 W AWS CW tone 1 x 20 W PCS CW tone	
Higher Order PIM, minimum, dBc				-155
Higher Order PIM Test Method				2 x 20 W CW tones

Block Diagram



Logic Table

Combining Mode Operation (Bottom)					
RF Ports Input Voltage					
698-798 MHz	824-894 MHz	1695-2200 MHz	2305 to 2360 MHz	COMMON	DC/AISG Path Selection
Any*	Any*	7 ≤ V ≤ 30	Any*	<7	698-798 MHz "OFF" 824 to 894 MHz "OFF" **1695-2200 MHz to COMMON"ON"** 2305 to 2360 MHz "OFF"
7 ≤ V ≤ 30	Any*	<7	Any*	<7	**698-798 MHz to COMMON "ON"** 824-894 MHz "OFF" 1695-2200 MHz "OFF" 2305 to 2360 MHz "OFF"
<7	Any*	<7	7 ≤ V ≤ 30	<7	698-798 MHz "OFF" 824-894MHz "OFF" 1695-2200 MHz "OFF" **2305 to 2360 MHz to COMMON "ON"**
<7	7 ≤ V ≤ 30	<7	<7	<7	698-798 MHz "OFF" **824-894 MHz to COMMON "ON"** 1695-2200 MHz "OFF" 2305 to 2360 MHz "OFF"
<7	<7	<7	<7	<7	ALL PORTS OFF

* Any DC voltage applied in the ON (7-30V) or OFF (< 7V) ranges

Splitting Mode Operation (Tower Top)					
RF Ports Impedance DC (Load Sense)					
698-798 MHz	824-894 MHz	1695-2200MHz	2305 to 2360 MHz	COMMON	DC/AISG Path Selection
Short	Short	Short	Short	7 ≤ V ≤ 30	ALL PORTS OFF
Open/ Load	**Open/ Load**	**Open/ Load**	**Open/ Load**	7 ≤ V ≤ 30	**ALL PORTS ON**
One or more port(s) are Open/ Load				7 ≤ V ≤ 30	DC/AISG will be be passed to ALL Open/Load port(s)

Note: In this mode DC/AISG will be passed to all detected ports and blocked at shorted ones

Mechanical Specifications

Wind Loading @ Velocity, frontal	71.0 N @ 150 km/h (16.0 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	7.0 N @ 150 km/h (1.6 lbf @ 150 km/h)

Environmental Specifications

Operating Temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Corrosion Test Method	IEC 60068-2-11, 30 days
Ingress Protection Test Method	IEC 60529:2001, IP67

Packaging and Weights

Included	Mounting hardware
Volume	3.5 L
Weight, without mounting hardware	4 kg | 8.818 lb