QBC0017F1V1-1

QUADRUPLEXER 698-960/1710-1880/1920-2170/2300-2600

The Kaelus QBC0017 is a bi-directional Quadruplexer designed to combine 700- 900 with 1800, 2100 and 2300-2600 technologies, the QBC0017 provides excellent insertion loss and passive intermodulation performance. Bidirectional passage of DC/AISG is an option provided in this outdoor product.

FEATURES

- Enables antenna/feeder sharing for 700-900, 1800, 2100 and 2300-2600 networks
- Low insertion loss & high return loss
- Low passive IM performance
- Hard Wired and DC Autosense versions available

TECHNICAL SPECIFICATIONS

BAND NAME	700-900	1800	2100	2300-2600
Passband	698 - 960MHz	1710 - 1880MHz	1920 - 2170MHz	2300 - 2690MHz
Insertion loss	0.1dB typical 0.25dB maximum	0.4dB typical 0.5dB maximum	0.3dB typical 0.55dB maximum	0.2dB typical 0.3dB maximum
Return loss	18dB minimum			
Maximum input power	250W (average)	250W (average)	250W (average)	250W (average)
Intermodulation products	-160 dBc maximum with 2 x +43dBm TX Carrier (IM3)	-160 dBc maximum with 2 x +43dBm TX Carrier (IM3)	-168 dBc maximum with 2 x +43dBm TX Carrier (IM7)	-160 dBc maximum with 2 x +43dBm TX Carrier (IM3)
Rejection in 700-900	N/A	50dB minimum	55dB minimum	50dB minimum
Rejection in 1800	50dB minimum	N/A	50dB minimum	50dB minimum
Rejection in 2100	50dB minimum	50dB minimum	N/A	50dB minimum
Rejection in 2300-2600	50dB minimum	50dB minimum	50dB minimum	N/A

ELECTRICAL	
Impedance	50Ohms

DC / AISG

For **DC-FIXED** versions, DC/AISG can be fully connected (DC all) or a specific connection can be ordered (DC custom).
For **DC autosense** versions, the DC/AISG path is automatically selected. In bottom of the tower applications (combiner mode), each RF channel port is sequentially checked for the presence of DC voltage. If more than one port has voltage, the port that has the highest (programmed) priority is passed to the common port. If a short circuit is detected on the common port DC/AISG is disabled. In top-of-tower applications (splitter mode), DC/AISG is passed to all ports that do not present a short circuit. If a short circuit is detected, the shorted RF port will be disabled for DC/AISG while other RF ports remain connected.

Feature	DC FIXED	DC AUTOSENSE
Passband	0 - 3MHz	0 - 3MHz
Insertion loss, single DC/AISG pass	1dB maximum	1dB maximum
Return loss, single DC/AISG pass	12dB minimum	12dB minimum
Insertion loss, two DC/AISG pass	4.5dB maximum	
Return loss, two DC/AISG pass	6dB typical	
Input voltage range	8 – 30V DC	8 – 30V DC
DC current rating	3A	2A
Compliance	3GPP, TS 25.461	
Port priority (combiner mode)	N/A	Refer to ordering table

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ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-40ºC to +65ºC | -40ºF to +149ºF
Ingress protection	IP67
Lightning protection	±5kA maximum (8/20us)
MTBF	>1,000,000 hours
Compliance	ETS 300 019-1-4 Class 4.1E, IEC/EN 62368-1

MECHANICAL	
Dimensions H x D x W	250 x 160 x 49.5 mm | 9.84 x 6.30 x 1.95 in maximum
Weight	4.5kg / 9.92lbs
Finish	NCS 1502-R (light grey)
Connectors	4.3-10 (F)
Mounting	Pole/wall bracket supplied with two metal clamps for 40-140 mm diameter poles

ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS	DC/AISG CONFIGURATION
QBC0017F1V1-1	SINGLE 1 in / 4 out	BASE MODEL	4.3-10 (F)	NO DC
QBC0017F1V94-1	SINGLE 1 in / 4 out	DC AUTOSENSING WITHOUT LED	4.3-10 (F)	PRIORITY: 1800 / 700-900 / 2100 / 2600

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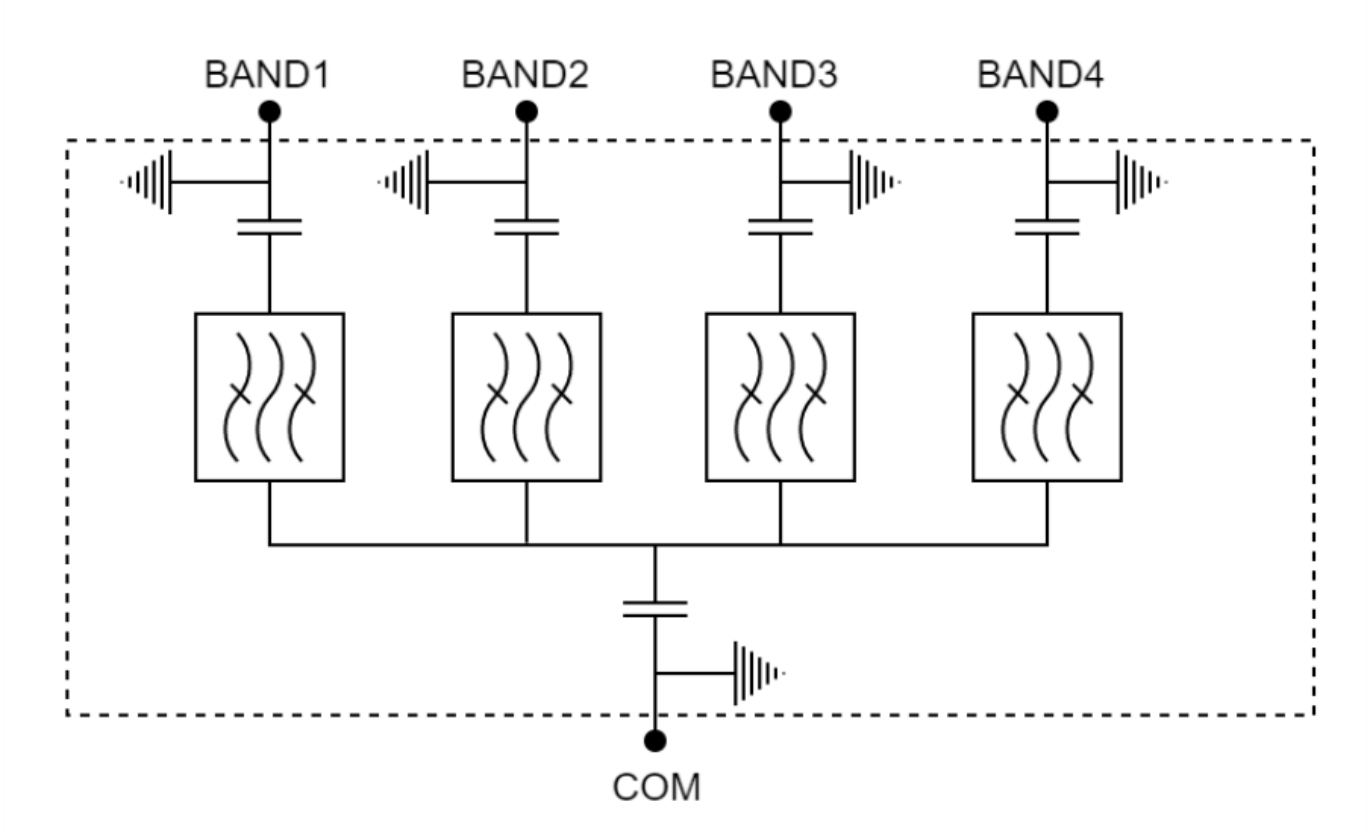
ELECTRICAL BLOCK DIAGRAM

For clarity, only Electrical Block Diagram for the Fixed DC (No DC) is shown

- **BAND1** port is 700-900 band
- **BAND2** port is 1800 band
- **BAND3** port is 2100 band
- **BAND4** port is 2300-2600 band



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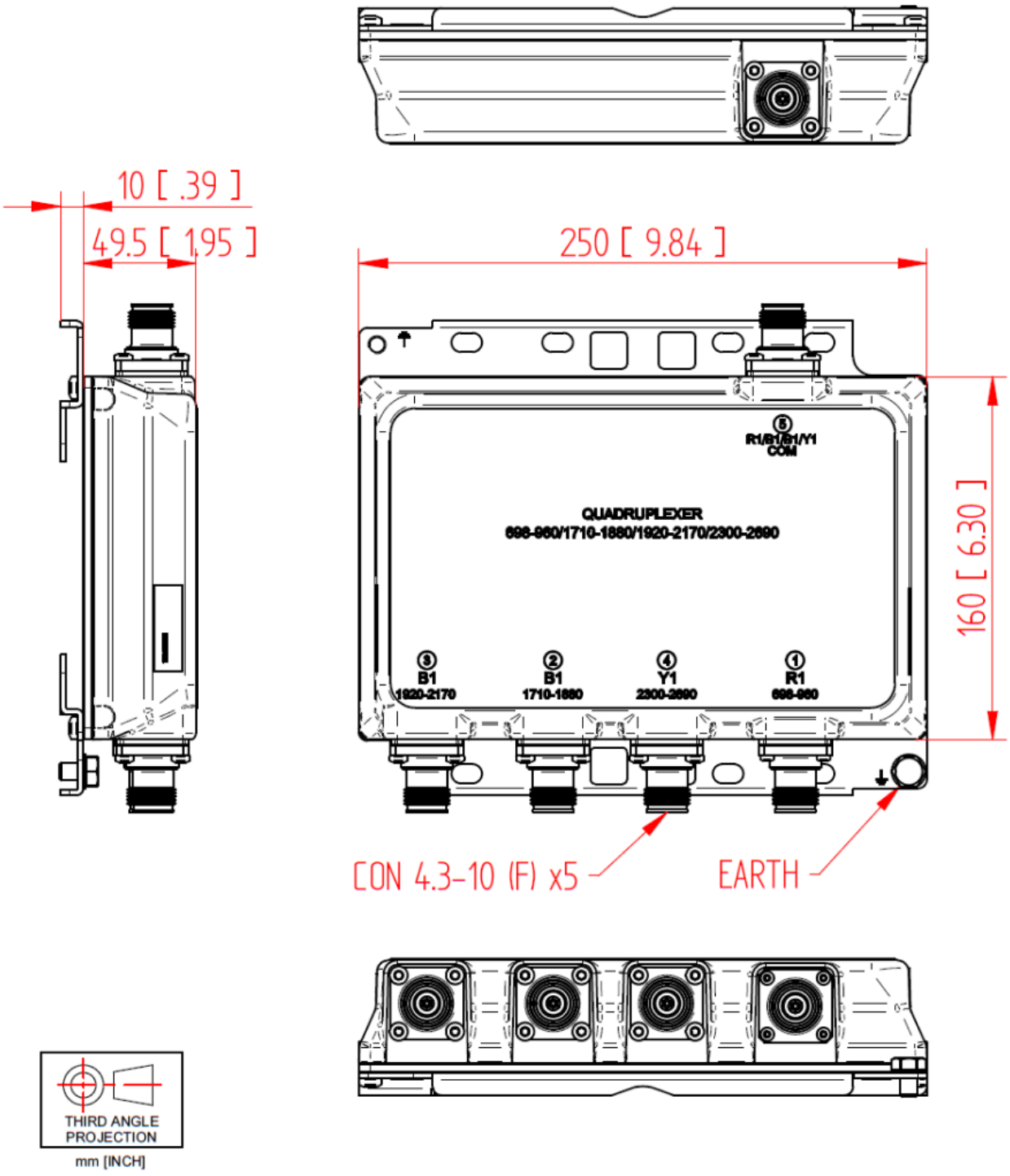
MECHANICAL BLOCK DIAGRAM



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