

DBCT108F1V72-2

DIPLEXER 600-700/850, DC AUTOSENSE LED VISUAL STATUS, TWIN/DUAL TWIN

The Kaelus DBC0108 is a bi-directional Diplexer designed to combine 600 & 700 with 850 technologies, the DBCT108 provides excellent insertion loss and passive intermodulation performance. Bidirectional passage of DC/AISG is provided in this outdoor product.

FEATURES

- Enables antenna/feeder sharing for 600-700 and 850 networks
- Designed and 100% tested for low passive intermodulation
- Autosense of DC allows operation at the bottom or the top of the tower
- Very low insertion losses
- High Return Loss



TECHNICAL SPECIFICATIONS

PORT NAME	600-700	850
Passband	555 - 798MHz	824 - 894MHz
Insertion loss	0.15dB typical, 0.35dB maximum	0.15dB typical, 0.3dB maximum
Return loss	23dB typical, 22dB minimum	
EVM	≤0.5% across any 10MHz	≤0.5% across any 20MHz
Group delay variation	7.5ns typical, 20ns maximum over any 10MHz	10ns typical, 20ns maximum over any 20MHz
Absolute group delay	7.5ns typical, 30ns maximum	17.5ns typical, 30ns maximum
Maximum input power	120W (average) / 1200W (PEP)	120W (average) / 1200W (PEP)
Phase linearity over any 10MHz	2° typical, 10 °maximum	

ELECTRICAL	
Impedance	50Ohms
Intermodulation products	-156dBc maximum / -161dBc typical all ports with 2 x 20W carriers
Isolation	50dB typical

DC / AISG

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. To reduce current consumption at low supply voltage, LEDs are sequentially enabled.

Passband	2.076 - 2.276MHz
Input voltage range	7.5 - 30V DC
DC current rating	2.5A continuous
Compliance	3GPP, TS 25.461
Current consumption	20mA typical, 25mA maximum
Port priority (combiner mode)	1st) 600-700, 2nd) 850
LEDs	1 bi-colour LED per RF port connector
LEDs, bottom of tower application:	
- DC/AISG not present	Off
- DC/AISG pass	Green
- DC/AISG present, not passed	Red
LEDs, top of tower application:	
- DC/AISG disabled	Off
- DC/AISG pass	Green
- All ports disabled	R1/R1 LED red

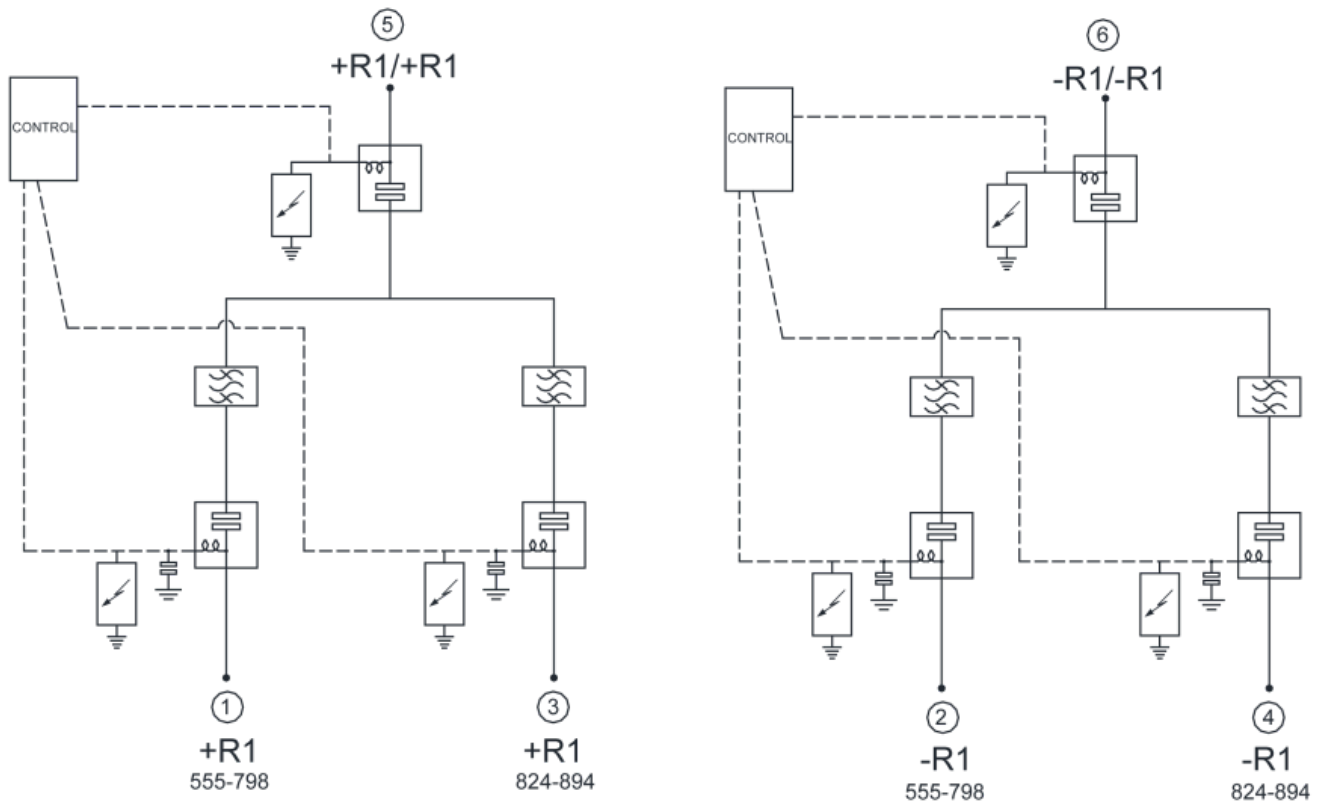
ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-40°C to +65°C -40°F to +149°F
Ingress protection	IP67
Altitude	3000m/10,000ft maximum
Lightning protection	RF: ±5kA maximum (8/20us), IEC61312-1
MTBF	>1,000,000 hours
Compliance	FCC part 15 subpart B

MECHANICAL	
Dimensions H x D x W (single unit)	272 x 172 x 89 mm 10.71 x 6.77 x 3.52 in
Dimensions H x D x W (twin unit)	272 x 172 x 181 mm 10.71 x 6.77 x 7.14 in
Weight	5.5kg / 12lbs (single twin) 10.9kg / 23.9lbs (dual twin)
Finish	Painted, light grey (RAL7035)
Wind Load	Front 55N, Side 304N (single twin) Front 140N, Side 339N (dual twin) At 74m/s (AS/NZS 1170-2-2011 Structural design - Wind actions - Cyclone areas)
Connectors	4.3-10 (F) x 6 long neck (single twin) 4.3-10 (F) x 12 long neck (dual twin)
Mounting	Pole/wall bracket supplied with two metal clamps for 45-178 mm diameter poles

ORDERING INFORMATION

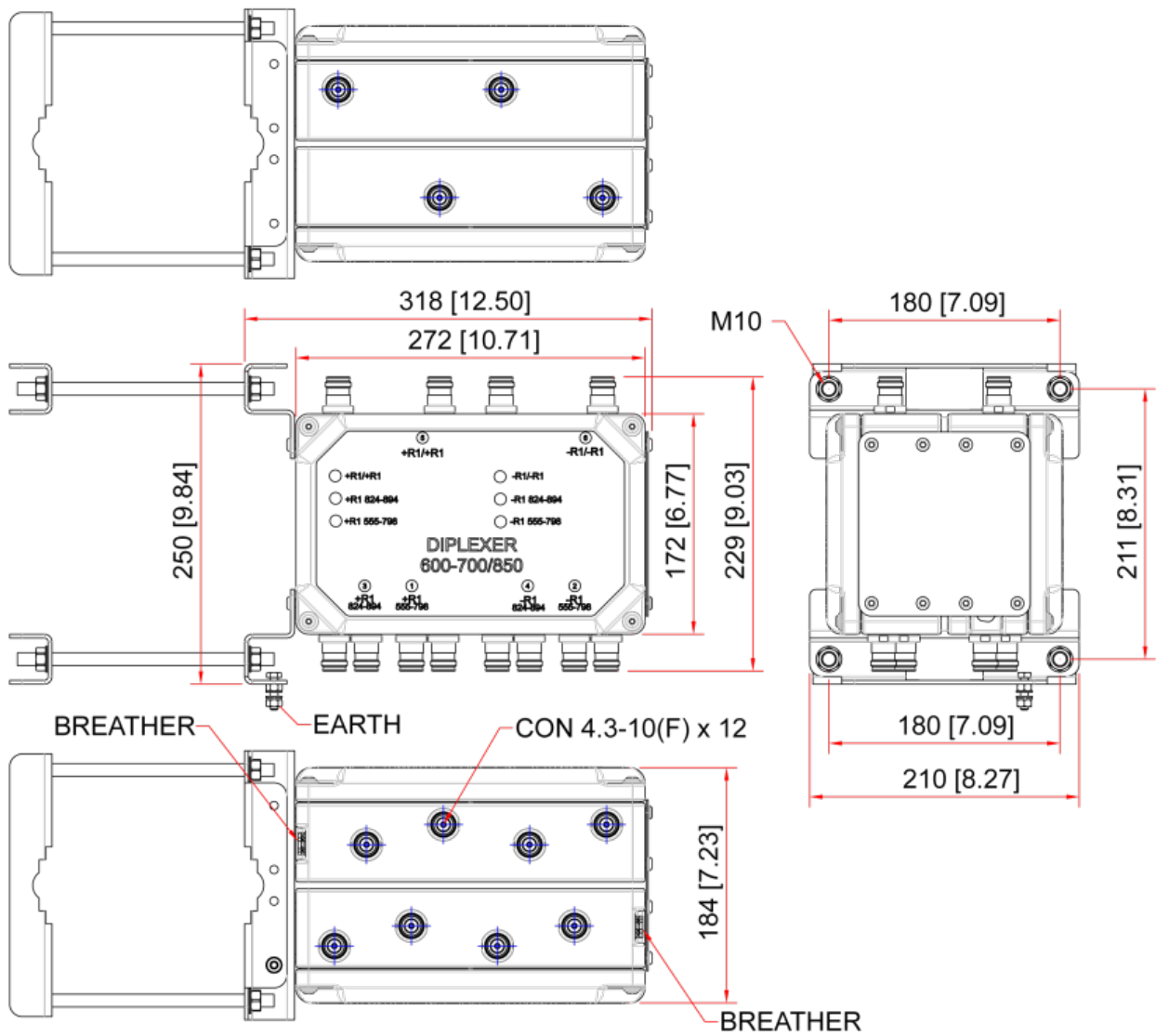
PART NUMBER	DESCRIPTION
DBC0108F1V72-1	DIPLEXER 600-700/850 DC AUTO 600-700 WITH LED
DBCT108F1V72-1	DIPLEXER TWIN 600-700/850 DC AUTO 600-700 WITH LED
DBCT108F1V72-2	DIPLEXER TWIN X2 600-700/850 DC AUTO 600-700 WITH LED

ELECTRICAL BLOCK DIAGRAM



TWIN ELECTRICAL DIAGRAM

MECHANICAL BLOCK DIAGRAM



QUAD MECHANICAL DIAGRAM