

MI-231

QUADRUPLEXER 800/900/1800-2100/2600

The Kaelus MI-231 is a bi-directional Quadruplexer, designed to combine or split 800/900/1800-2100/2600 MHz. The MI-231 provides low insertion loss and high return loss with excellent passive inter-modulation performance in an extremely small and lightweight IP67 capable package

FEATURES

- Enables antenna & coax sharing for 800/900/2100-2600 MHz bands systems.
- Compact & lightweight - perfect for Small Cell applications
- Low insertion loss & high return loss
- High passive IM performance
- Single and dual models available
- 7/16 (F) or 4.3-10 (F) connectors
- Hard Wired and DC Autosense versions available
- Provisions for wall or mast mounting



TECHNICAL SPECIFICATIONS

BAND NAME	800	900	1800-2100	2600
Passband	790 - 862 MHz	880 - 960 MHz	1710 - 2170 MHz	2500 - 2690 MHz
Insertion loss	0.2 dB typical, 0.4 dB maximum	0.2 dB typical, 0.4 dB maximum	0.2 dB typical, 0.4 dB maximum	< 0.3
Return loss	>18 dB	>18 dB	>18 dB	>18 dB
Maximum input power	250 W			
Intermodulation products	-159 dBc at 2 x 43dBm TX Carrier			
Rejection	50 dB minimum in 880 - 2690 MHz	50 dB minimum in 790 - 862 and 1710 - 2690 MHz	50 dB minimum in 790 - 960 and 2500 - 2690 MHz	50 dB minimum in 790 - 2170 MHz

ELECTRICAL

Impedance	50 Ω
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DC / AISG

For hardwired 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.

Insertion loss	1 dB max
Return loss	12 dB min
Input voltage range	8 - 30 V DC max 0.3 W
DC current rating	3 A continuous, Drop max 2.4 V
Compliance	3GPP TS 37.461

ENVIRONMENTAL

For further details of environmental compliance, please contact Kaelus.

Temperature range	-40 $^{\circ}$ C to +65 $^{\circ}$ C -40 $^{\circ}$ F to +149 $^{\circ}$ F
Ingress protection	IP67
Lightning protection	5 kA maximum (8/20 us)
MTBF	> 1,000,000 Hours
Compliance	ETSI EN 300 019-1-4 class 4.1E, RoHS

MECHANICAL		
Feature	Single Mount	Dual Mount
Dimensions H x D x W	264 x 160 x 58 mm 10.39 x 6.3 x 2.26 in	264 x 160 x 118.5 mm 10.39 x 6.3 x 4.66 in
Volume	2.4 l	5.0 l
Weight	3.9 kg 8.6 lb	6.1 kg 13.4 lb
Finish	Painted, NCS 1502-R (Light Grey)	
Mounting	Hose clamps or wall mount (Supporter pole Diameter: 40 - 140 mm)	
Feature	Single Mount	Dual Mount
Dimensions H x D x W	264 x 160 x 71 mm 10.39 x 6.3 x 2.83 in	264 x 160 x 142 mm 10.39 x 6.3 x 5.59 in
Volume	3.0 l	6.0 l
Weight	4.3 kg 9.48 lb	6.5 kg 14.33 lb
Finish	Painted, NCS 1502-R (Light Grey)	
Mounting	Hose clamps or wall mount (Supporter pole Diameter: 40 - 140 mm)	

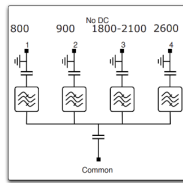
ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS	DC/AISG CONFIGURATION
MI-2310n	Single Mount	BASE MODEL	7/16 (F)	Refer to DC /AISG table
MI-2311n	Dual Mount	BASE MODEL	7/16 (F)	Refer to DC /AISG table
MI-2313n	Single Mount	BASE MODEL	4.3-10 (F)	Refer to DC /AISG table
MI-2314n	Dual Mount	BASE MODEL	4.3-10 (F)	Refer to DC /AISG table
DC / ASIG CONFIGURATION				
MI-231nA	Auto-sense			
MI-231n1	DC BLOCK			
MI-231n2	DC TO All			
MI-231n3	DC TO 1800-2100			
MI-231n4	DC TO 2600			
MI-231n5	DC TO 1800 - 2100 and 2600			
MI-231n6	DC TO 800, 1800 - 2100 and 2600			
Auto-sense Priority				
MI-231nA.1	FPO TO 800, 900, 1800 - 2100 and 2600			
MI-231nA.2	XOR TO 800, 900, 1800 - 2100 and 2600			
MI-231nA.3	2600 priority 1, 1800 - 2100 priority 2, 900 priority 3 and 800 priority 4			
MI-231nA.4	800 Priority 1, 900 Priority 2 and 1800 - 2100 Priority 3 and 2600 priority 4			

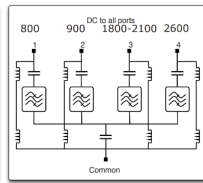
ELECTRICAL BLOCK DIAGRAM

MI-231nA

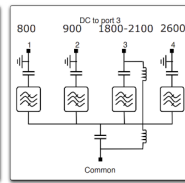
**DC/ AISG
Auto-Sense**



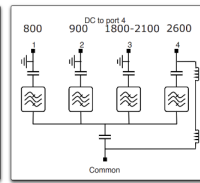
MI-231n1



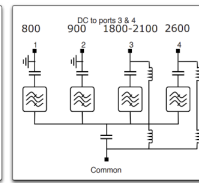
MI-231n2



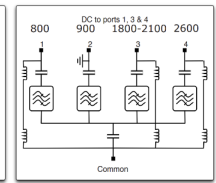
MI-231n3



MI-231n4



MI-231n5



MI-231n6

MECHANICAL BLOCK DIAGRAM

