

# DBC0115 | MI-294

## DIPLEXER 555-960/1695-2690

Kaelus world proven outdoor solutions provide strong RF performance coupled with rugged features. The DBC0115 | MI-294 dual band combiner combines the 555-960 MHz and 1695-2690 MHz frequency bands. The DBC0115 | MI-294 can be used at either the BTS or antenna end of the feeder.

### FEATURES

- Designed for multi-band, co-located sites
- Multiple DC/AISG bypass configurations available with built-in lightning protection
- DC autosense available as an optional feature
- Single and twin configurations available
- Suitable for outdoor and indoor applications
- UMTS & LTE ready
- Wall or mast mounting



### TECHNICAL SPECIFICATIONS

| BAND NAME                                                               | 555 - 960                                                                                                                    | 1695 - 2690                   |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Passband                                                                | 555 - 960MHz                                                                                                                 | 1695 - 2690MHz                |
| Insertion loss                                                          | 0.1dB typical (0.2dB maximum)                                                                                                | 0.1dB typical (0.2dB maximum) |
| Return loss                                                             | > 20dB                                                                                                                       | > 20dB                        |
| Maximum input power                                                     | 250W (average) / 2kW (PEP)                                                                                                   | 250W (average) / 2kW (PEP)    |
| Intermodulation products                                                | < -160dBc at 2 x 43dBm TX Carrier                                                                                            |                               |
| Rejection high band                                                     | 50dB min                                                                                                                     | N/A                           |
| Rejection low band                                                      | N/A                                                                                                                          | 50dB min                      |
| <b>DC / AISG</b>                                                        |                                                                                                                              |                               |
| Feature                                                                 | DC-FIXED                                                                                                                     | DC-AUTOSENSE                  |
| Compliance                                                              | 3GPP, TS 25.461                                                                                                              | 3GPP, TS 25.461               |
| 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                                                                                                                | 4.5dB maximum                 |
| Return loss, two DC/AISG pass                                           | 6dB typical                                                                                                                  | 6dB typical                   |
| Input voltage range                                                     | 8 – 31V DC                                                                                                                   | 8 – 31V DC                    |
| DC current rating                                                       | 3A                                                                                                                           | 2A                            |
| Power consumption                                                       |                                                                                                                              | 0.3W                          |
| Port priority (combiner mode)                                           | N/A                                                                                                                          | Refer Ordering Information    |
| <b>ENVIRONMENTAL</b>                                                    |                                                                                                                              |                               |
| For further details of environmental compliance, please contact Kaelus. |                                                                                                                              |                               |
| Temperature range                                                       | -40°C to +65°C   -40°F to +149°F                                                                                             |                               |
| Ingress protection                                                      | IP67                                                                                                                         |                               |
| Lightning protection                                                    | 5kA maximum (8/20us)                                                                                                         |                               |
| MTBF                                                                    | > 1,000,000 Hours                                                                                                            |                               |
| Compliance                                                              | Operation: ETSI EN 300 019 class 4.1E<br>Storage: ETS 300 019-1-1 class 1.3E<br>Transport: ETS 300 019-1-2 class 2.3<br>RoHS |                               |

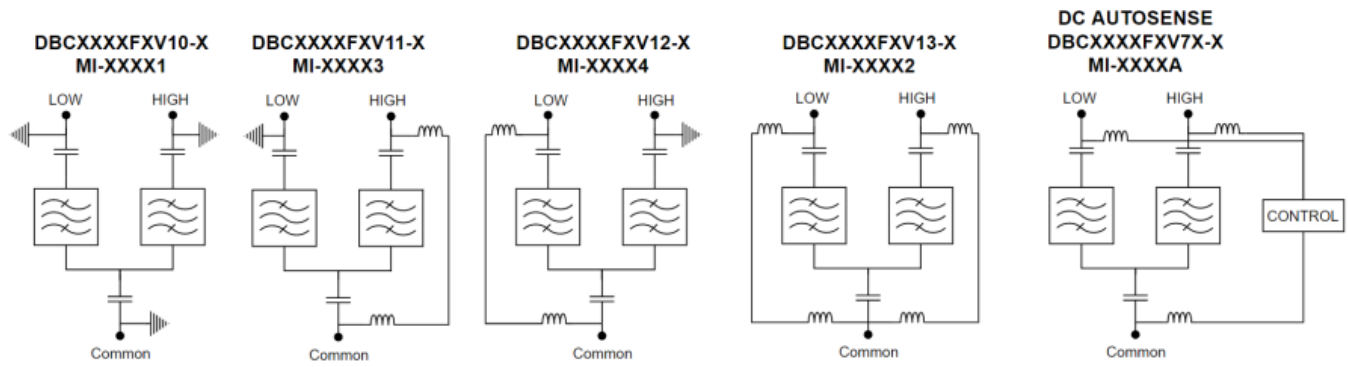
| MECHANICAL                         |                                                                                                                                               |                                          |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Feature                            | DC-FIXED                                                                                                                                      | DC-AUTOSENSE                             |
| Dimensions H x D x W (single unit) | 108 x 142 x 55mm   4.25 x 5.59 x 2.18in                                                                                                       | 108 x 142 x 66mm   4.25 x 5.59 x 2.60in  |
| Dimensions H x D x W (twin unit)   | 108 x 142 x 112mm   4.25 x 5.59 x 4.51in                                                                                                      | 108 x 142 x 134mm   4.25 x 5.59 x 5.28in |
| Weight (single unit)               | 1.2kg   2.65lbs                                                                                                                               | 1.3kg   2.87lbs                          |
| Weight (twin unit)                 | 2.8kg   6.17lbs                                                                                                                               | 2.9kg   6.39lbs                          |
| Finish                             | Powder Coated, NCS 1502-R                                                                                                                     |                                          |
| Wind Load                          | Front 116N, Side 32N (Single)<br>Front 87N, Side 96N (Twin)<br>At 74m/s (AS/NZS 1170-2:2011 Structural design - Wind actions - Cyclone areas) |                                          |
| Connectors                         | 4.3-10 (F) long neck                                                                                                                          |                                          |
| Mounting                           | Pole/wall bracket supplied with two metal clamps for 45-178 mm diameter poles                                                                 |                                          |

| SHIPPING INFORMATION               |                        |                      |
|------------------------------------|------------------------|----------------------|
| Feature                            | SINGLE<br>1 in / 2 out | TWIN<br>2 in / 4 out |
| Carton size                        | 295 x 165 x 145mm      | 300 x 160 x 200mm    |
| Gross weight (including packaging) | 1.8kg                  | 3.4kg                |
| Carton Qty / Pallet                | 112                    | 80                   |

## ORDERING INFORMATION

| PART NUMBER    | CONFIGURATION       | OPTIONAL FEATURES          | CONNECTORS | DC/AISG CONFIGURATION          |
|----------------|---------------------|----------------------------|------------|--------------------------------|
| DBC0115F1V10-1 | SINGLE 1 in / 2 out | FIXED DC                   | 4.3-10 (F) | NO DC                          |
| DBC0115F1V10-2 | TWIN 2 in / 4 out   | FIXED DC                   | 4.3-10 (F) | NO DC                          |
| DBC0115F1V13-1 | SINGLE 1 in / 2 out | FIXED DC                   | 4.3-10 (F) | DC to ALL                      |
| DBC0115F1V13-2 | TWIN 2 in / 4 out   | FIXED DC                   | 4.3-10 (F) | DC to ALL                      |
| DBC0115F1V71-1 | SINGLE 1 in / 2 out | DC AUTOSENSING WITHOUT LED | 4.3-10 (F) | PRIORITY 1695 - 2690/555 - 960 |
| DBC0115F1V71-2 | TWIN 2 in / 4 out   | DC AUTOSENSING WITHOUT LED | 4.3-10 (F) | PRIORITY 1695 - 2690/555 - 960 |
| DBC0115F1V91-1 | SINGLE 1 in / 2 out | DC AUTOSENSING WITHOUT LED | 4.3-10 (F) | PRIORITY 1695 - 2690/555 - 960 |
| DBC0115F1V91-2 | TWIN 2 in / 4 out   | DC AUTOSENSING WITHOUT LED | 4.3-10 (F) | PRIORITY 1695 - 2690/555 - 960 |
| DBC0115F1V92-1 | SINGLE 1 in / 2 out | DC AUTOSENSING WITHOUT LED | 4.3-10 (F) | PRIORITY 555 - 960/1695 - 2690 |
| DBC0115F1V92-2 | TWIN 2 in / 4 out   | DC AUTOSENSING WITHOUT LED | 4.3-10 (F) | PRIORITY 555 - 960/1695 - 2690 |
| MI-29431       | SINGLE 1 in / 2 out | FIXED DC                   | 4.3-10 (F) | NO DC                          |
| MI-29441       | TWIN 2 in / 4 out   | FIXED DC                   | 4.3-10 (F) | NO DC                          |
| MI-29432       | SINGLE 1 in / 2 out | FIXED DC                   | 4.3-10 (F) | DC to ALL                      |
| MI-29442       | TWIN 2 in / 4 out   | FIXED DC                   | 4.3-10 (F) | DC to ALL                      |
| MI-2943A       | SINGLE 1 in / 2 out | DC AUTOSENSING             | 4.3-10 (F) | PRIORITY 1695 - 2690/555 - 960 |
| MI-2944A       | TWIN 2 in / 4 out   | DC AUTOSENSING             | 4.3-10 (F) | PRIORITY 1695 - 2690/555 - 960 |

## ELECTRICAL BLOCK DIAGRAM



## MECHANICAL BLOCK DIAGRAM

