



Loop Coupler, EC-D and FC-D series

High Power, Low Loss, Low PIM
Range 200 - 3000 MHz

- Precise Setting of Coupling Value
- Single (EC-D) and Dual (FC-D) Models
- 750 Watt Average Power Rating
- High Directivity
- Air Dielectric for minimal RF
- Insertion Loss
- High Reliability, Low PIM
- RoHS Compliant



Loop couplers are set-and-lock devices that provide precise coupling values over customer specified frequency ranges and excellent unit-to-unit tracking. Air dielectric main lines provide the extremely low insertion loss required to handle high power levels. They are available in single and dual units for use over bandwidths of 15% or less, anywhere in the 200 to 3000 MHz frequency range. Loop couplers are constructed from standardized designs and employ stocked components. Loop couplers exhibit a 6 dB per octave coupling variation, generally acceptable for system applications. Options include other connectors for the coupled port, 3 and 4 coupled ports, substitution of a loop coupler with a low pass filter that can carry a DC bias to the main line, and incorporation of a DC Block into the main line as required.

| Frequency Range, MHz: | 200 - 400 | 400 - 800 | 800 - 1200 | 1200 - 3000 |
|--------------------------------|-----------|-----------|------------|-------------|
| Available Coupling Values, dB: | 30 - 50 | 25 - 50 | 20 - 50 | 20 - 50 |
| Main Line VSWR, max: | 1.20:1 | 1.20:1 | 1.20:1 | 1.25:1 |
| Coupled Line VSWR, max: | 1.25:1 | 1.25:1 | 1.25:1 | 1.50:1 |
| Dissipative Loss, dB max: | 0.05 | 0.05 | 0.05 | 0.10 |
| Directivity, dB: | 25 | 25 | 25 | 20 |

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|--|----------------------------|--|--|--|
| Power Rating: | 750W avg., 10 kW pk. | | | |
| Impedance: | 50Ω nominal | | | |
| Intermod. Distortion: | <-140 dBc (2 x 20W) | | | |
| Temperature: | -35°C to +75°C | | | |
| Applications: | Indoor | | | |
| Body Finish: | Passivated Aluminum | | | |
| 7-16 Connectors: | Silver or triplate | | | |
| SMA Connectors: | Passivated stainless steel | | | |
| Weight CE/CF, nom: | 10 (280)/15 (425) oz (g) | | | |
| Coupling Specifications and Limitations | | | | |
| Coupling accuracy at mid-band: | | | | |
| For Coupling Values: 20 - 40 >40 dB | | | | |
| Accuracy, dB: ±0.25 ±0.35 | | | | |
| Coupling flatness: | | | | |
| Bandwidth: 2% 4% 10% 15% | | | | |
| Flatness, dB: ±0.1 ±0.2 ±0.5 ±0.7 | | | | |
| Available coupled arm connectors: N or SMA | | | | |

