



Iris Power Epoxy Mica Capacitors (80 pF)

PARTIAL DISCHARGE SENSORS FOR TESTING HIGH VOLTAGE ELECTRICAL EQUIPMENT

Iris Power Epoxy Mica Capacitors (EMCs) are designed to detect Partial Discharge (PD) activity in electrical equipment such as switchgear, isolated phase bus, and dry type transformers without imposing on the equipment operation or reliability in any way. Over 80,000 EMCs are in service around the world, and have accumulated a million years of reliable operation.

Iris Power EMCs are permanently installed (one or more per phase) as close as possible to the equipment to be monitored to maximize sensitivity. In order to improve noise separation, the Iris Power EMCs are installed directionally or differentially, depending on the equipment.

Iris Power's 80 pF EMCs are designed to block the 50/60 Hz power frequency and allow only high frequency (>40 MHz) signals to pass through, to be collected and analyzed by an appropriate Iris Power portable instrument or continuous monitor.

Iris Power offers four different Epoxy Mica Couplers to accommodate voltage ratings:

EMC Voltage Rating	6.9 kV	16 kV	25 kV	35 kV
DEV @ 1 pC	5.0 kV	11.0 kV	17.3 kV	24.4 kV
AC Withstand	28.5 kVrms	50 kVrms	60 kVrms	80 kVrms
BIL	90 kV	110 kV	125 kV	150 kV
Mass	1.1 kg	1.6 kg	2.0 kg	2.3 kg
Height	95 mm (3.75")	127 mm (5.0")	206 mm (8.1")	233 mm (9.2")
Diameter	86 mm (3-3/8")	86 mm (3-3/8")	86 mm (3-3/8")	86 mm (3-3/8")

OTHER SPECIFICATIONS

- Capacitance rating: 80 pF +/- 4 pF
- Dissipation factor: 0.10% at room temperature
- PDEV Sensitivity: 1 pC (ASTM D1868 and IEC 60270)
- Bandwidth into 50 ohms (3dB): 40 MHz to 500 MHz
- Operating temperature range: -50 °C to +130 °C (-58 °F to + 266 °F)
- Thermal Cycle Testing to -40 °C to +150 °C
- Inclined Plane Tracking Test: 300 min (ASTM D2303-85)
- Comparative Tracking Index: 600 (IEC 60112)
- Lifetime Warranty on Manufacturers Defects (Contact Iris Power for details)
- Meets the requirements of IEEE C37.20.2 and IEEE C37.23

VOLTAGE ENDURANCE TESTING

Independent voltage endurance testing (IEEE 1043) proved that the 16 kV Iris Power EMC withstands over 1,000 hours at 30 kVrms. According to statistical methods (IEEE 930-1987), this translates into 60,000 years of use at normal operating voltage.

For motors & generator applications, see separate EMC brochure

GET IN TOUCH

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MICA SPLITTING DIELECTRIC

Iris Power EMCs are safe for use in operating equipment because they have the excellent electrical properties of the mica splitting dielectric.

For example, it has an 80 mm (3 inch) layer of epoxy impregnated mica splittings as the main dielectric in the 16 kV version.

HAZARDOUS LOCATIONS

The Iris Power EMCs can be used in classified (hazardous) environments and be certified as a part of the installation.

RADIATION ENVIRONMENTS

Iris Power EMC kits with installation material tested according to IEEE 323-1983 for nuclear power generating stations are available.

