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Iris Power Epoxy Mica Capacitors

(80 pF)

FOR DETECTION OF STATOR WINDING PARTIAL DISCHARGE

Iris Power Epoxy Mica Capacitors (EMCs) are designed to detect Partial Discharge (PD) activity in motors, generators and bus without imposing on the machine's operation or reliability in any way. Over 80,000 Iris Power Epoxy Mica Capacitors are in service around the world, and have accumulated a million years of reliable operation. The EMCs meet all the reliability requirements in IEC TS 60034-27-2 and IEEE 1434 for PD sensors.

Iris Power EMCs are provided in coupler kits complete with all materials required for installation including the silicone rubber insulating boot. Iris Power EMCs are permanently installed, with at least one per phase, as close as possible to the stator winding to maximize sensitivity.

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, be collected and analyzed by an Iris Power portable instrument or continuous monitor.

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

EMC Voltage Rating	6.9 kV	16 kV	25 kV	28 kV
DEV @ 1 pC	8.0 kV	18.6 kV	29.0 kV	32.3 kV
AC Withstand	15 kVms	33 kVms	51 kVms	57 kVms
BIL	95 kV	95 kV	125 kV	125 kV
Mass	1.1 kg	1.6 kg	2.0 kg	2.0 kg
Height	95 mm (3.75″)	127 mm (5.0″)	206 mm (8.1″)	206 mm (8.1″)
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%
- PDEV Sensitivity: 1 pC (ASTM D1868 and IEC 60270)
- Bandwidth into 50 ohms (3 dB): 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 min (IEC 60112)
- Lifetime Warranty on manufacturers defects (contact Iris Power for details)

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. By comparison, the average 13.8 kV stator winding coil is expected to withstand only 400 hours of exposure to 30 kVrms.

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 80 mm (3 inch) layer of epoxy impregnated mica splittings as the main dielectric in the 16 kV version. In comparison, a typical 13.8 kV stator coil has only about 3 mm (0.12 inch) thickness of epoxy mica paper.

HAZARDOUS LOCATIONS

The Iris Power EMCs can also be used in hazardous environments with options available for ATEX certified EMCs (II 2 Exe II Tx Gb).

RADIATION ENVIRONMENTS

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

GET IN TOUCH

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