## Single Element Stator Winding RTDs

Ultra Flat, laminated “stick” RTD ’s fit in slots between stator windings to monitor temperature rise and prevent overheating.

The National Electrical Manufacturers Association (NEMA) recognizes embedded detectors as a standard protection for motor and generator insulation.

Unlike on-off devices, RTD ‘s provide continuous sensing for earlier warning without unnecessary false alarms and trips.

The sensing elements of stator RTD ‘s extend through most of the body length to provide an average temperature reading. This eliminates the danger of a point-type sensor missing a localized hot spot.

Six sensors are recommended for each motor, two per phase. Sensors should be located near the hottest point of the windings for best performance.

HCS ’s stator RTD ‘s meet the specifications of ANSI C50.10-1990, general requirements for synchronous motors.

**Specifications**:

**Temperature range** -70°C to +500°C (continuous operation) (temporary use to 550 °C possible)

**Body material** High temperature epoxy glass. **Thickness** (mm) : 1, 1.5, 2, 2.5 & above as per customer requirement

**Length (mm)** 20, 45, 100, 150, 200, 250 & above as per customer requirement

**Standard body width (inches)** 6mm ( ¼ “) & above as per Customer requirement

**Tolerance class A** - 50 °C to + 300 °C **Temperature coefficient** TCR = 3850 ppm/K

**Leads** Pt clad Ni wire **Long-term stability** max. $R_0$-drift 0.04% after 1000 h at 500°C

**Vibration resistance** at least 40 g acceleration at 10 to 2000 Hz, depends on installation

**Shock resistance** at least 100 g acceleration with 8ms half sine wave, depends on installation

**Insulation resistance** > 100 MΩ at 20°C; > 2 MΩ at 500°C **Self heating** 0.4 K/mW at 0°C

**Response time** water current (v = 0.4 m/s): $t_{0.5}$ = 0.05 s $t_{0.9}$ = 0.15 s air stream (v = 2 m/s): $t_{0.5}$ = 3.0 s $t_{0.9}$ = 10.0 s

**Measuring current** 100 Ω: 0.3 to 1.0 mA 500 Ω: 0.1 to 0.7 mA 1000 Ω: 0.1 bis 0.3 mA

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