

SURETECH

Power Factor Capacitor Voltage Monitoring System

The SURETECH Power Factor Capacitor measures various parameters on PF capacitors such as DC voltage, AC voltage, Phase rotation. These measurements enable users to make an assessment of the state of safety of personnel working on the equipment. Before working on, or coupling MV boards or cables, it is necessary to determine whether the capacitors are energized from AC AND / OR DC voltage. Optional diagnostics includes accurate measurements of voltage of AC and DC components. The system consists of three major components interconnected by cabling:

- three MV sensors mounted in the MV chamber, one for each phase
- processing unit (Smart Load Processor - SLP) enclosure containing the PSU, analog interface and measurement circuits, threshold detectors for AC and DC on each phase, power healthy circuits
- User display LEDs for panel mounting



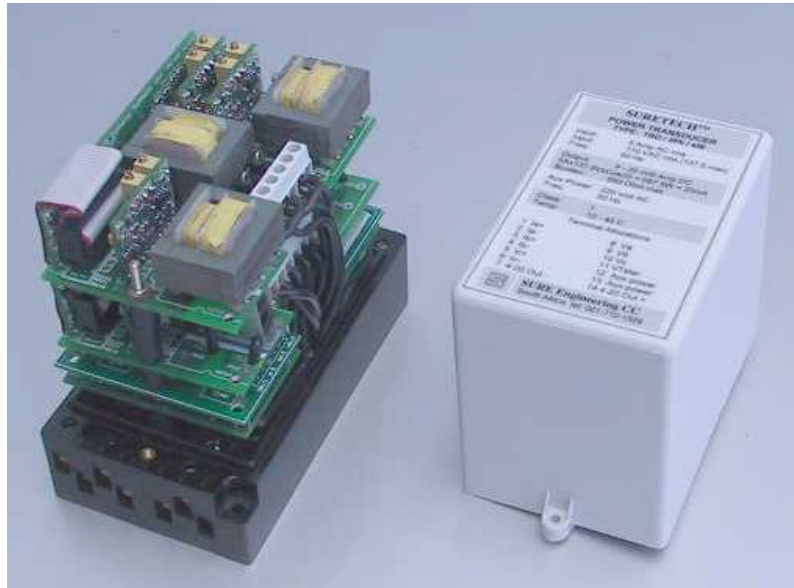
MV Sensors

- MV insulators are 180mm high by 40mm diam, with 60x60mm base
- Connection to MV is via sealed in silicone cable specially designed for high voltage
- Base connection onto plate with earth connection
- Resistive stack can either be mounted individually, or as a group of three
- Sensing circuitry is encapsulated within the potted insulation poly-urethane (FR453)
- Resistive stack is constructed from the finest high voltage resistors available, and arranged such that the voltage gradient is linearly distributed across insulator with electric gradient of 40 Vrms per mm
- Resistive stack distributed capacitance has been carefully designed to ensure transient voltage gradient is spread evenly across the stack
- Even under 95kV impulse conditions, each resistor element operates within rated voltage
- Power dissipation at 6350Vac is less than a watt
- Electric field strength is designed to only reach a maximum of <50Volts per mm. (Partial discharge is therefore well under control)
- Life expectancy of the sensor is 20 years or more
- Electronic processing is done at the base of the sensor to extract AC and DC components and send them to the Smart Load Processor

Smart Load Processor:

DIN Rail mounted Smart Load Processor contains the following:

- 90-260Vac / dc power supply
- 3 phase transducer with precision rectifiers
- 3 phase DC sampling interface
- 3 phase voltage phase rotation sampling
- Signal processor for threshold determination and logic to control LED outputs
- Optional LCD or RS232 outputs
- Should the user require LCD readouts for phase rotation, AC voltage and DC voltage, the SLP can be made available for panel mounting



LED Outputs for Panel Mounting:

- LEDs are available for panel mounting
- 3x RED LEDs to indicate whether AC voltage of greater than 50 volts rms is being sensed
- 3x RED LEDs to indicate whether DC voltage of greater than 50 volts dc is being sensed
- 1x GREEN LED flashes every second to indicate whether the power supply is operative
- WITHOUT THIS LED FLASHING, OPERATORS MUST TAKE FURTHER PRECAUTIONS

System Interconnection:

The system is interconnected as follows:

- MV sensors are connected to Smart Load Processor in LV chamber by means of screened cable with maximum length of 10m. Longer lengths are possible, but contact the manufacturer. Terminal connections are provided
- From SLP to LEDs on front panel, cabling is required to drive the LEDs
- Further cabling may be required for RS232 interface or LCD display

PRICE (Excl VAT)	RANDS (per unit)
MV Sensors	
Smart Load Processor	
LED panel	



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