

OIL TEMPERATURE INDICATORS FOR POWER TRANSFORMERS

These instruments are designed to measure the temperature of the insulating oil inside power transformer tanks.

The oil temperature indicators can be fitted with one, two, three or four change-over microswitches suitable to control cooling equipment and protection circuits (alarm and trip) of the transformer.

Description and general specifications

TEMPERATURE SENSING SYSTEM : expansion type compensated for ambient temperature changes by means of a built-in compensating device.

CAPILLARY TUBE PROTECTION :

copper tubing

flex galvanized steel + PVC armouring

flexible AISI 304 stainless steel armouring

BULB : bronze or stainless steel

CASING : aluminium alloy powder painted (RAL 7035) suitable to withstand to any climate and to heavy polluted atmosphere in as well tropical or arctical climates (-40/+70°C). All components are made of corrosion resistant or surface treated materials. The case is provided with a breather device to avoid dew on the lens. To make cable layout quick and easy, the case is equipped with a large junction box that is completely separate from instrument's sensing system.

MECHANICAL PROTECTION DEGREE : IP 65.

LENS : special glass or polycarbonate.

LOCKING RING : chrome plated brass.

STANDARD MEASURING RANGES :

∅=100mm. ▷ 0/+120°C; 0/+200°C
∅=150mm. ▷ -20/+130°C; 0/+150°C;
-20/+140°C; 0/+160°C; 0/+200°C.

MEASURING TOLERANCE : 1,5% of fsv.

COMMUTATION TOLERANCE : 2% of fsv.

COMMUTATION DIFFERENTIAL : 4% of full scale value. On customer's request the differential can be increased.

INSULATION : 2000V 50Hz between terminals and earth for a 60secs. time.

MICROSWITCHES MAKING AND BREAKING CAPACITY :

VOLTAGE	STANDARD MICROSWITCHES				HIGH-PERFORMANCE MICROSWITCHES			
	RESISTIVE LOAD		INDUCTIVE LOAD		RESISTIVE LOAD		INDUCTIVE LOAD	
125 VAC	5	A	5	A	10	A	10	A
250 VAC	5	A	5	A	10	A	10	A
30 VDC	5	A	3	A	10	A	10	A
50 VDC	1	A	1	A	3	A	2,5	A
75 VDC	0,75	A	0,25	A	1	A	0,5	A
125 VDC	0,5	A	0,1	A	0,5	A	0,1	A
250 VDC	0,25	A	0,1	A	0,25	A	0,1	A

MAX. TEMPERATURE POINTER: a red pointer, with reset knob located on the lens, indicates the max. temperature measured by the instrument.

BACK FLANGE: for wall mounting. Four holes ∅=7mm on ∅=175mm diameter allow the mounting of the instrument on the transformer tank.

ELASTIC SUSPENSION: it's a vibration damping system able to minimize the effects of a machine vibrations on the instrument (Drwg. No.1231).

EARTHQUAKE PROOF VERSION: equipping the instrument with the elastic suspension and suitable internal components.

PT 100 SENSOR: the oil temperature indicator can be equipped with a PT 100 sensor to transmit measured value to a receiver or to a monitoring system.

RECEIVER: we can supply a digital receiver to display the temperature signal received from the sensor.

RANGE OF MICROSWITCHES-EQUIPPED THERMOMETER AND THERMOSTATS

TYPE	DESCRIPTION
THERMOSTAT TWM 7284	Temperature control instrument. Rigid stem execution. Supplied either with 1 or 2 microswitches or in minimum/maximum version.
THERMOSTAT TWM 7287	Temperature control instrument. Supplied with capillary (a suitable screw allows fitting of instrument to plant). Supplied either with 1 or 2 microswitches or in minimum/maximum version.
THERMOMETER MSVT 100	Temperature reading and control instrument. Nominal diameter 100mm. Rigid stem execution. Supplied either with 1 or 2 microswitches or in minimum/maximum version.
THERMOMETER MSRT 100	Temperature reading and control instrument. Nominal diameter 100mm. Supplied with capillary (a suitable screw allows fitting of instrument to plant). Supplied either with 1 or 2 microswitches or in minimum/maximum version.
THERMOMETER MSVT 150	Temperature reading and control instrument. Nominal diameter 150mm. Rigid stem execution. Supplied either with 1 or 2 microswitches or in minimum/maximum version.
THERMOMETER MSRT 150/LJB	Temperature reading and control instrument. Nominal diameter 150mm. Supplied with capillary (a suitable screw allows fitting of instrument to plant). Supplied either with 1 or 2 microswitches or in minimum/maximum version.
THERMOMETER MSRT 150	Temperature reading and control instrument. Nominal diameter 150mm. Supplied with capillary (a suitable screw allows fitting of instrument to plant). Supplied either with 1, 2, 3 or 4 microswitches or in minimum version.
THERMOMETER MSRT-AD	Temperature reading and control instrument. Suitable for mounting in environments where there is hazard of fire or explosion (European Standard Compliance and Approval Certificate provided). Supplied either with 1 or 2 microswitches or in minimum/maximum version.