Differential Thermostat

ETR/F-1447A

USER MANUAL

APPLICATION.

The ETR is a specialist thermostat for economical control of external heating cables. Used to control the anti-icing system of satellite antennas, it turns on the power supply in the set temperature range in which icing can occur. The critical range includes temperatures near 0 °C.

INSTALLATION.

The system is installed as per the connection diagram.

The ETR is mounted on a DIN rail. A single thermostat can control multiple anti-icing systems as long as the maximum load (16A/3600W) is not exceeded. For loads above 3600 W, an ETR controlled contactor must be used.

The SENSOR should be mounted outdoors in a place that best reflects the temperature near the antennas. The sensor cable can be extended up to 50 m. The other two cores, e.g. from a multi-core cable powering a heating cable, cannot be used. This could be a source of signals interfering with the operation of the thermostat. The best solution is to use a two-wire cable in a separate conduit as the sensor cable.

ADJUSTMENT OF THE SYSTEM.

The range of temperatures at which the power supply to the anti-icing system is switched on is set using two knobs - the upper threshold (HIGH), the lower threshold (LOW).

The status of the thermostat is indicated by the LEDs:

Yellow:	the temperature of the sensor is above the upper threshold, the power to the anti-icing system is turned off;
Red:	the temperature of the sensor is in the set de-icing interval, the power to the anti-icing system is turned on;
Green:	the temperature of the sensor is below the lower threshold, the power to the anti-icing system is turned off;

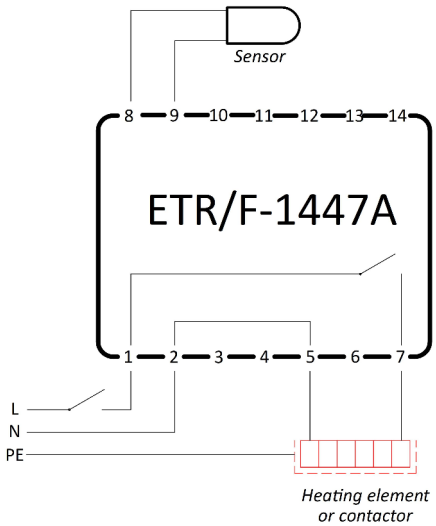
By switching on the ETR, we initially set temperature thresholds. „HIGH" should be set to +2°C and „LOW" to -2°C. If, however, icing of the antennas occurs with this setting, you should observe which LED is lit. Depending on this, we correct the threshold settings:

- "GREEN" lights up, turn the "LOW" knob towards lower temperatures until the red LED lights up.
- "YELLOW" lights up, turn the HIGH knob towards higher temperatures until the red LED lights up.

After a few adjustments, we will achieve the optimal setting of temperature thresholds, minimizing electricity consumptio.

If ice builds up even though the red LED is lit, it means that the heating power of the system is too low or there is a fault in the circuit.

CONNECTION DIAGRAM.



TECHNICAL DATA.

Supply voltage	AC 230 V
Power consumption	3 W
Maximum relay load	16 A
ON/OFF Differencal	0,4
Temperature setting range	"HIGH": 0÷ +10 °C "LOW": 0 ÷ -15 °C
Ambient temperature	-20 ÷ +50 °C
Housing	IP20

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