

# MANUAL

## Type ETR2 Ice and snow melting



## Introduction

Type ETR2 is an electronic thermostat for fully automatic, economical control of ice and snow melting systems on small outdoor areas and in gutters. Ice forms due to a combination of low temperature and moisture. ETR2 monitors both temperature and moisture, and the heating system is only activated if a possibility of snow or ice is indicated. ETR2 is suitable for controlling electric heating cables.

## Glossary

**TEMP SET** For setting the temperature at which heating should be activated.

**TIME SET** For setting the afterheat duration. The length of time the system should continue to provide heat after the moisture/temperature signals have been eliminated by a heating cycle.

**CONSTANT** Allows heat to be provided constantly, independently of temperature and moisture.



**Startup**

- Connect a power supply and the LED will light green.
- Adjust TEMP SET to the temperature at which ice and snow detection should be activated. Recommended initial setting: +3°C.
- Adjust TIME SET to the required afterheat duration (0-5 hours). Recommended initial setting: 2 hours.
- The thermostat is now set up and will begin melting ice and snow when necessary.

**Mode of operation/operating instructions**

ETR2 activates the heating system if the outdoor temperature falls below the temperature setpoint (TEMP SET) and the moisture sensor simultaneously detects moisture.

When the outdoor temperature is below the temperature setpoint, the TEMP LED will light red.

When the moisture sensor detects moisture, the MOIST LED will light red.

When both preconditions (low temperature and moisture) are met, the thermostat will activate the ice and snow melting system, and the RELAY LED will light red. After the moisture/temperature signals have been eliminated by a heating cycle, heat will continue to be provided for the specified length of time, to ensure that all ice and snow is completely melted.

If some ice and snow remains after the heating system has been deactivated, the afterheat duration should be increased slightly by adjusting TIME SET. The longer the afterheat duration, the more effective and less economical the system will be.

If ice and snow is present on the heated area, but the TEMP LED is not lit, the temperature setpoint (TEMP SET) should be increased to the point where the TEMP LED lights red. The higher the temperature setpoint, the more effective and less economical the system will be.

### **Constant heat On**

In order to force ice and snow melting ON in any condition, it is possible to turn on the output relay, by turning the TIME SET knob to Constant. The ON led flashes as long as Constant is activated. Be aware to adjust TIME SET back at the desired afterrun time, after all snow and ice has melted, to save energy.



Note that the CONSTANT HEAT ON setting will result in high energy consumption/costs.

#### Light indicator overview

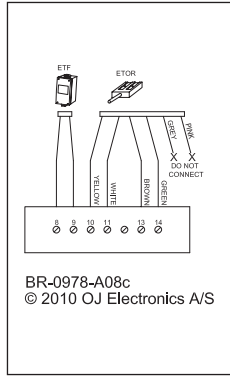
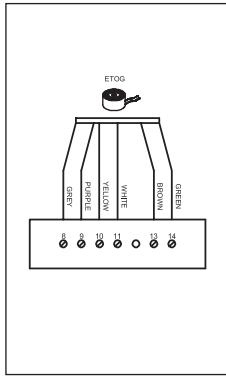
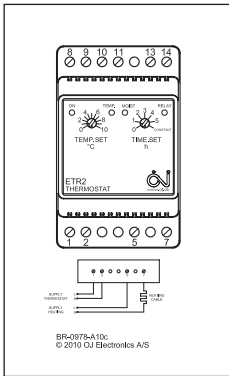
○ ON	The power is on / Constant heat on (flashing)
○ TEMP	Sensor temperature is below TEMP SET
○ MOIST	Moisture/snow has been detected by sensor
○ RELAY	Output RELAY ON / HEAT ON

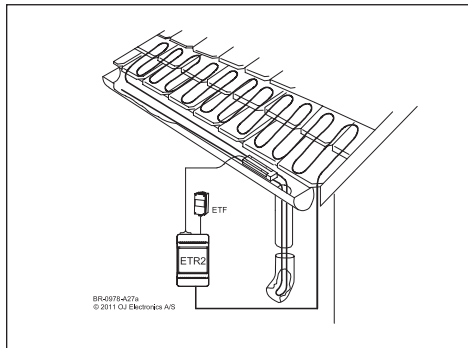
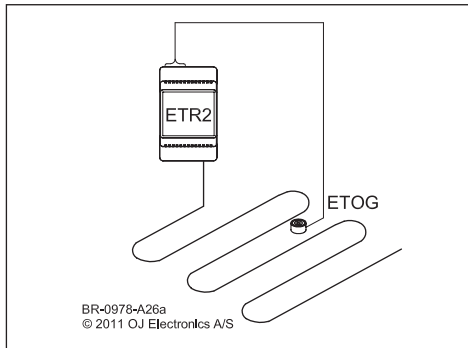
**Fault codes**

If faults occur, the thermostat disables all outputs and ceases to operate until the fault has been remedied.

TEMP LED flashes red:	Temperature sensor (ETOG / ETF) has been disconnected or short-circuited.
MOIST LED flashes red:	Moisture sensor in sensor (ETOG / ETOR) has been short-circuited.
RELAY LED flashes red:	Heating element in sensor (ETOG / ETOR) has been short-circuited.











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