

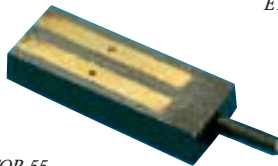
OJ Thermostat Range

**ETO**

ETF-744/99



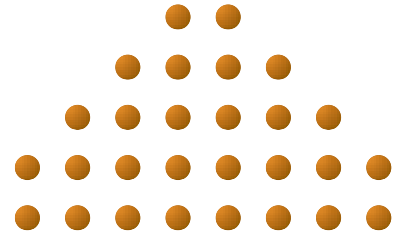
ETOG-55



ETOR-55



ETO-1550



THERMOSTATS FOR COMFORT HEATING

## Control of snow melting system

- Economical control of snow melting systems in the outdoor area or gutters.
- Detection of temperature and moisture.
- Electronic on/off control up to 8200W.
- Built-in timer for manual snow melting.
- With adjustable afterrun time.
- Connection of remote timer.
- Surface wall mounting or DIN-rail mounting.
- Supply voltage 230V.
- Built-in transformer 24V.

### THERMOSTAT FUNCTIONS

#### For Gutters - ETO-1550, ETOR-55 and ETF-744/99:

The sensor type ETOR is designed for mounting in gutters and down pipes etc.

ETOR detects moisture, while ETF detects temperature.

The snow melting system will be energized only when the outdoor temperature is below the selected setting and snow or ice occurs on the ETOR.

#### For Outdoor areas - ETO-1550 and ETOG-55 is used:

The sensor type ETOG is designed for embedding into the surface of the outdoor area. ETOG detects ground temperature and moisture. The air sensor type ETF-744/99 can be used for measuring rapidly temperature decreases.

The snow melting system will be energized only when the outdoor temperature is below the selected setting and snow or ice occurs on the ETOG.

#### Moist Control. Setting of detecting mode:

*Normal position ON:* The snow melting system is energized only when the outdoor temperature is below the selected setting and the sensor is also detecting moisture.

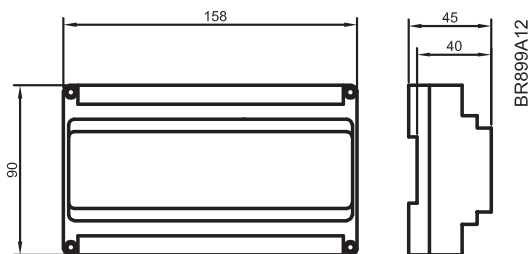
*Position OFF:* The system is energized when the outdoor temperature is below the selected setting. This position is used on demand when weather conditions are very unstable.

#### After run time:

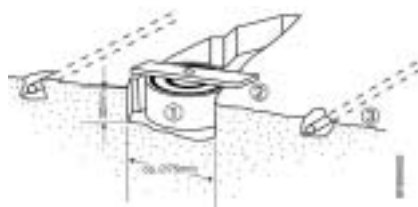
With TIME SET the after run time is set between 1 to 6 hours. After a heating cycle when the humidity / temperature signal disappears the system will continue running in the selected time.

### PRODUCT PROGRAM

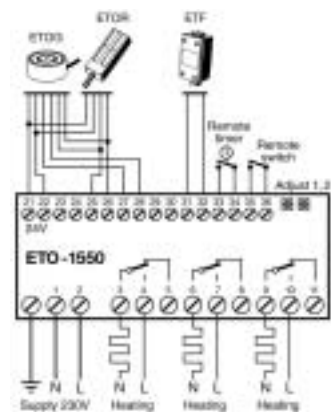
| TYPE        | PRODUCT   |
|-------------|---|
| ETO-1550    | Thermostat incl. cover for surface wall mounting                    |
| ACCESSORIES |   |
| ETOG-55     | Ground sensor for detection of temperature and moisture, 10 m cable |
| ETOR-55     | Gutter sensor for detection of moisture, 10 m cable                 |
| ETF-744/99  | Outdoor sensor for detection of temperature                         |



Dimensions (mm)



Mounting of ground sensor  
1: Sensor. 2: ETOG Fitting. 3: Heating cable.



Connections

### Manual snow melting:

The ETO has a built-in timer for manual overrun of the system. In this function the sensors are deactivated. The system is started with TIMER START or by using a remote switch. This position is used if a snowdrift occurs.

### Remote day/week timer:

It is possible to connect a timer to start the snow melting system only in the pre-determined periods.

### SENSORS

#### Ground sensor type ETOG:

Designed for embedding into the surface of the outdoor area. Detects temperature and moisture. Up to two sensors type ETOG can be installed.

#### Gutter sensor type ETOR:

Designed for mounting in gutters and down pipes etc. Detects moisture only. Is mounted in combination with outdoor sensor ETF. Up to two sensors type ETOR can be installed.

#### Outdoor sensor type ETF:

Detects temperature. Is used in combination with gutter sensor ETOR, but can also be used separately only for temperature detection.

The outdoor sensor can also be used together with the ETOG sensor for outdoor areas. The Outdoor sensor detects rapidly decrease in air temperatures avoiding icy areas.

### MOUNTING

#### Mounting of thermostat ETO:

DIN-rail mounting in switchboard or on wall surface.

#### Mounting of ground sensor ETOG:

Is mounted where the worst snow and ice problems normally occur. The sensor is mounted on a hard foundation, in a concrete base, with the top of the sensor flush with the surface. Where an asphalt surface is used, it should be placed in a concrete recess. The sensor cable must be mounted in accordance with local regulation, the use of conduit is suggested.

#### Mounting of gutter sensor ETOR:

Is mounted in the gutter or down pipe on the sunny side of the building. The contact point of the sensor must be placed in the direction of flow of the melting water. Where necessary, it is possible to connect two sensors in parallel.

### Mounting of outdoor sensor ETF:

Is mounted under the roof eaves on the north side of the building.

### TECHNICAL DATA

| THERMOSTAT ETO-1550:          |   |                                |
|-------------------------------|---|--------------------------------|
| SUPPLY VOLTAGE                | BUILT-IN TRANSFORMER                              | ON/OFF DIFFERENTIAL            |
| 230V ±10%, 50-60 Hz           | 24V AC, 6VA                                       | 0.3°C                          |
| TEMPERATURE RANGE             | BUILT-IN TIMER FOR MANUAL SNOW MELTING / AFTERRUN |                                |
| 0/+5°C                        | 1-6 hours   |                                |
| DETECTING MODE MOIST CONTROL  |   | AMBIENT TEMPERATURE            |
| Position ON:                  | Moisture and temp.                                | 0/+50°C                        |
| Position OFF:                 | Only temperature                                  |                                |
| HOUSING / INCL. COVER         | WEIGHT  | DIMENSIONS EXCL. COVER (H/W/D) |
| IP20 / IP21                   | 495 g   | 90/156/45 mm                   |
|                               |   | DIM. INCL. COVER (H/W/D)       |
|                               |   | 170/162/45 mm                  |
| LED'S INDICATE THE FUNCTIONS: |   |                                |
| ON                            | Supply voltage to the thermostat                  |                                |
| Relay                         | The relays are energized                          |                                |
| Moist                         | Moisture occurs on sensor ETOG or ETOR            |                                |
| Temp                          | Outdoor temperature is below selected setting     |                                |
| Timer                         | The built-in timer is energized                   |                                |

#### Ground sensor ETOG-55:

| DETECTING           | MOUNTING     | HOUSING |
|---------------------|--------------|---------|
| Moisture and temp.  | Outdoor area | IP68    |
| AMBIENT TEMPERATURE | DIMENSIONS   |         |
| -20/+70°C           | H32, Ø60 mm  |         |

#### Gutter sensor ETOR-55:

| DETECTING           | MOUNTING             | HOUSING |
|---------------------|----------------------|---------|
| Moisture            | Gutter and down pipe | IP68    |
| AMBIENT TEMPERATURE | DIMENSIONS (H/W/D)   |         |
| -20/+70°C           | 105/30/13 mm         |         |

#### Outdoor sensor ETF-744/99:

| DETECTING           | MOUNTING           | HOUSING |
|---------------------|--------------------|---------|
| Temperature         | Wall surface       | IP54    |
| AMBIENT TEMPERATURE | DIMENSIONS (H/W/D) |         |
| -20/+70°C           | 86/45/35 mm        |         |