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OJ Thermostat Range

# ETO2

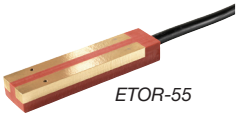
*ETO2-4550*

*ETF-744/99*

*ETO2-BOX*
*ETO2 mounting box*

*ETOG-56*
*ETOK-1*

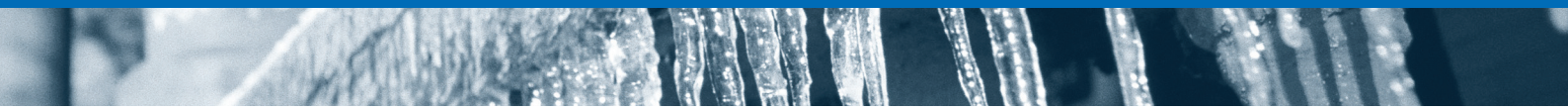
*ETOG-55*


*ETOR-55*

**Intelligent Control**
Maximum comfort with low energy consumption

**Save 66% $CO_2$***

THERMOSTATS FOR SNOW MELTING



# Energy-efficient control of ice and snow melting

An intelligent all-in-one solution for ice and snow melting suitable for any application which uses hydronic or electric heating. Optimal operation is ensured through output control, making the system both effective and economical. ETO2 offers the possibility of snow melting - the green way.

- Electronic on/off control of up to 11 KW
- Two-zone control, individually controlled
- Economical control - minimised energy consumption
- Adjustable moisture sensitivity
- Measurement of both temperature and moisture
- Display and selector knob for easy programming
- Control of hydronic or electric ice and snow melting systems
- Several language options

PRODUCT PROGRAMME

| TYPE | PRODUCT |
|---|---|
| ETO2-4550 | Thermostat incl. cover for wall surface mounting |
| ACCESSORIES | |
| ETOG-55 | Ground sensor for measuring temperature and moisture, 10 m cable |
| ETOG-56/ETOK-1 | Ground sensor for embedding in outdoor surfaces, e.g. asphalt, 25 m cable |
| ETOR-55 | Gutter sensor for measuring moisture, 10 m cable |
| ETF-744/99 | Outdoor sensor for measuring temperature |
| ETO2-BOX | UL mounting box for ETO2 |
| ETTB | Spacer plate for ETO2-4550 |

**WE CANNOT CHANGE THE WEATHER**
**- BUT WE CAN CONTROL THE CONSEQUENCES**
OJ has developed the ETO2 controller for ice and snow melting on the ground and in gutters.
Using readings from temperature and moisture sensors, the controller ensures economical control of power consumption while keeping outdoor areas and roofs free of ice and snow.
The moisture sensor should be installed in the ground surface or placed in the gutter. As soon as moisture is detected in conjunction with low temperature, the ETO2 controller activates the snow-melting system.
Once the sensor has dried out, the thermostat immediately goes into afterrun and the system continues to provide heat for a set time.

THERMOSTAT FUNCTIONS
ENSURING MINIMAL ENERGY CONSUMPTION
**The snow melting system is only energized when the outdoor temperature drops below the selected setting and snow or ice is detected by the sensors. Energy is thus only used when absolutely needed.**

**For gutters - ETO2-4550, ETOR-55 and ETF-744/99**
The ETOR sensor is designed for installation in gutters, downpipes, etc. ETOR sensors detect moisture, while ETF sensors measure temperature.

**For outdoor surfaces - ETO2-4550, ETOG-55 and ETOG-56/ ETOK-1**
The ETOG sensor is designed for embedding in the surface of the outdoor area. ETOG sensors measure ground temperature and moisture. The ETF-744/99 sensor can be used for measuring rapid temperature drops.

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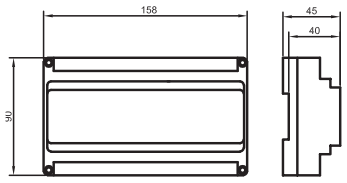
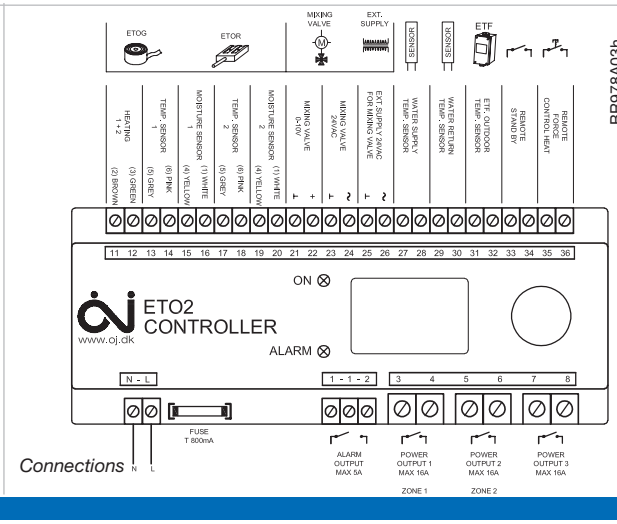
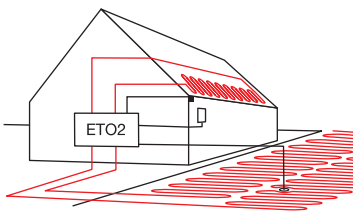
OJ ELECTRONICS
KNOW-HOW CREATES




*Dimensions (mm)*




*Connections*




*Ground and roof application*

**Remote control:**
It is possible to control the ETO2 via an external signal (day/week timer, GSM module or other signal source).
The ETO2 can be switched on/off (standby) and the system can be temporarily forced to provide heat during the period of time set in the afterrun menu.

## SENSORS

**ETOG ground sensor:**
Designed for embedding in the surface of the outdoor area. Measures temperature and moisture.
Up to two ETOG sensors can be installed.

**ETOR gutter sensor:**
Designed for installation in gutters, downpipes, etc. Measures moisture only. Should be installed in combination with an ETF outdoor temperature sensor. Up to two ETOR sensors can be installed.

**ETF outdoor temperature sensor:**
Measures temperature. Is normally used in combination with ETOR gutter sensors, but can also be used separately for temperature measurement only.
An ETF sensor can also be used in combination with ETOG ground sensors for outdoor areas. The ETF sensor can detect rapid drops in air temperature, thus avoiding icy areas.

## INSTALLATION

**ETO2 thermostat installation:**
DIN-rail mounting in electrical cabinet, OJ mounting box or on a wall surface.

**ETOG ground sensor installation:**
Should be installed where the worst snow and ice problems normally occur. The sensor should be embedded in a concrete base on a hard surface with the top of the sensor flush with the surface. Where an asphalt surface is used, or where easy installation is desired, installing ETOG-56 together with ETOK-1 is the obvious choice.

**ETOR gutter sensor installation:**
Should be installed in the gutter or downpipe on the sunny side of the building. The sensor contact point must be aligned in the direction of the melt-water flow. Where necessary, two sensors can be connected in parallel.

**ETF outdoor temperature sensor installation:**
Should be installed beneath the eaves on the northern side of the building.

## TECHNICAL DATA

| | |
|---|---|
| **ETO2-4550 thermostat:** | |
| Supply voltage | 120-240 V ±10%, 50-60 Hz |
| Temperature range (control) | -20/+50°C |
| Built-in timer for manual snow melting / afterrun | 0-18 hours |
| Output relays | 3 x 16 A potential-free relays |
| 2-zone application | Via 2 x 16 A potential-free output relays |
| Hydronic system | Control of 3 or 4 way valve, primary pump, secondary pump |
| Display | Graphic, backlit |
| Temperature range (ambient) | 0/+40°C |
| Temperature range (storage) | -50/+70°C |
| Housing / incl. cover | IP20 |
| Weight | 495 g |
| Dimensions excl. cover (H/W/D) | 90/156/45 mm |
| Dimensions incl. cover (H/W/D) | 170/162/45 mm |
| LED indication: | |
| ON/Green | Thermostat energised |
| Error/Red | Fault |
| **ETOG-55 ground sensor:** | |
| Measurement | Moisture and temperature |
| Installation | Outdoor surface |
| Housing | IP68 |
| Temperature range (ambient) | -50/+70°C |
| Dimensions (H/Ø) | 32/60 mm |
| **ETOG-56/ETOK-1 embedded ground sensor:** | |
| Measurement | Moisture and temperature |
| Installation | Outdoor surface |
| Housing | IP68 |
| Temperature range (ambient) | -50/+70°C |
| Dimensions, sensor (H/Ø) | 32/60 mm |
| Dimensions, tube (H/Ø) | 78/63.5 mm |
| **ETOR-55 gutter sensor:** | |
| Measurement | Moisture |
| Installation | Gutter or downpipe |
| Housing | IP68 |
| Temperature range (ambient) | -50/+70°C |
| Dimensions (H/W/D) | 105/30/13 mm |
| **ETF-744/99 outdoor temperature sensor:** | |
| Measurement | Temperature |
| Installation | Wall surface |
| Housing | IP54 |
| Temperature range (ambient) | -50/+70°C |
| Dimensions (H/W/D) | 86/45/35 mm |
| **All products:** | 3-year warranty from production date |

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*Source: DMI, Moscow 2010

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