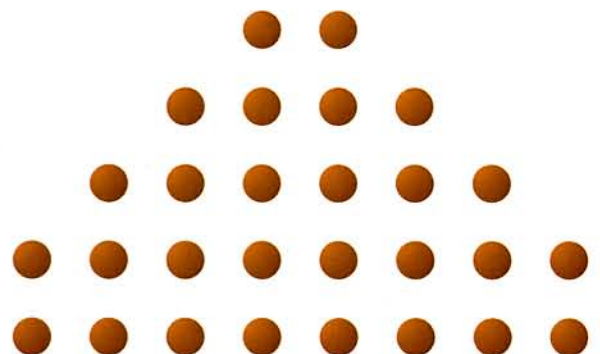




OJ Microline® Quick Selection Guide



Wired into your needs

Especially developed for control of electrical underfloor heating and ice/snow melting.

- **Design:** Electronic thermostats in an elegant design, which is suitable for either flush mounting in wall socket or surface wall mounting.
- **Function:** The thermostats are delivered with either floor sensor, built-in air sensor or dual sensor. The temperature is controlled with an accuracy of only 0.4°C.
- **Mounting:** The range is for vertically-flush mounting in a standard wall socket, except for type MTU, which is for mounting on to the wall surface.
- **Adjustment:** The thermostats are with graduated scale, which makes it easy to set the required floor or room temperature. If required the scale can be adjusted and furthermore limited for max. or min. temperature.

OJ thermostat range includes standard thermostats, clock thermostats, thermostats with limitation sensor, and output regulator. The program also includes thermostats for DIN-rail and for control of snow melting system.

OJ Microline® Range

					
TYPE NO.	MTC-1991-UCH incl. floor sensor 3 m	MCC2-1991-UA incl. floor sensor 3 m	MTD-1999-UA with built-in sensor incl. floor sensor 3m	MCD2-1999-UA with built-in sensor incl. floor sensor 3m	MRC-16-UH (without sensor)
THERMOSTAT TYPE	Manual thermostat	4-Event clock thermostat	Manual thermostat with 2 sensors	Clock thermostat with 2 sensors	Time proportional heating regulator
APPLICATION	Standard thermostat for control of underfloor heating etc.	Built-in clock function for automatic comfort and setback temperature.	Sensor 1: Room control. Sensor 2: Min./max. limitation.	Sensor 1: Room control. Sensor 2: Min./max. limitation.	Control of underfloor heating etc.
TECHNICAL DATA	Mounting Output relay Supply 50/60 Hz Temperature range - Sensor 2 Setback temperature Built-in interrupter On/off difference Housing Dim. H x W x D	Mounting Output relay Supply 50/60 Hz Temperature range - Sensor 2 Setback temperature Built-in interrupter On/off difference Housing Dim. H x W x D	Mounting Output relay Supply 50/60 Hz Temperature range - Sensor 2 Setback temperature Built-in interrupter On/off difference Housing Dim. H x W x D	Mounting Output relay Supply 50/60 Hz Temperature range - Sensor 2 Setback temperature Built-in interrupter On/off difference Housing Dim. H x W x D	Mounting Output relay Supply 50/60 Hz Temperature range - Sensor 2 Setback temperature Built-in interrupter On/off difference Housing Dim. H x W x D
	Flush mounting 16A 240V +10/-15% +10/+50°C	Flush mounting 16A 230V ±15% +5/+40°C	Flush mounting 16A 230V ±10% +5/+40°C +15/+50°C min./max. Variable 2-8°C	Flush mounting 16A 230V ±15% +5/+40°C +5/+55°C min./max. +5/+40°C	Flush mounting 16A 230V ±10% 0-100%
	-	+5°/+40°C	2-pole 0.4°C	2-pole 0.4°C	2-pole
	2-pole IP20	2-pole IP21	2-pole IP20	2-pole IP21	2-pole IP20
	115 x 84 x 58 mm	115 x 84 x 49 mm	115 x 84 x 58 mm	115 x 84 x 49 mm	115 x 84 x 58 mm

4-EVENT CLOCK THERMOSTAT, TYPE MCC2:

The MCC2 is an electronic thermostat with built-in timer specially developed to provide heating comfort while using as little energy as possible. The MCC2 is suitable for control of underfloor heating, but can also profitably be used with all types of heating systems.

Built-in Clock Function

The clock thermostats are delivered with factory-set 4-event program for automatic comfort and setback temperature. Set only time and day at installation.

DAY 1-5 / MONDAY - FRIDAY				
EVENT	TIME	TEMPERATURE	W/FLOOR SENSOR	W/ROOM SENSOR
1	06:00 - 08:00	Comfort	25°C	20°C
2	08:00 - 16:00	Setback	20°C	15°C
3	16:00 - 22:30	Comfort	27°C	22°C
4	22:30 - 06:00	Setback	20°C	15°C
DAY 6-7 / SATURDAY - SUNDAY				
EVENT	TIME	TEMPERATURE	W/FLOOR SENSOR	W/ROOM SENSOR
1	08:00 - 23:00	Comfort	27°C	22°C
4	23:00 - 08:00	Setback	20°C	15°C

New settings: Both times and temperatures can, of course, be changed as desired. The symbols and self-explanatory information on the display make it easy to make changes.

Self-adjusting:

The MCC2 has an adaptive capability. This means that the thermostat automatically ensures that the desired comfort temperature is reached by the time selected - the warm-up time from the setback temperature to the comfort temperature will be different throughout the year, but the MCC2 automatically adjusts the warm-up time to suit the current situation.

4-EVENT CLOCK THERMOSTAT, TYPE MCD2

With 2 sensors and 4-event clock function. Like type MCC2 with built-in air sensor for temperature control and incl. floor sensor, which can be used for:

- Min. temperature limitation.
- Max. temperature limitation.
- Min./max. temperature limitation.

THERMOSTATS TYPE MTC & MTD



Type MTC and MTD are electronic on/off thermostats in an elegant design for flush mounting. The range comes with a 16A output relay and 2-pole interrupter. At greater outputs the heat can be controlled by a contactor. Type MTD is with built-in air sensor for temperature control and incl. floor sensor, which can be used for:

- Min. temperature limitation.
- Max. temperature limitation.

HEATING REGULATOR TYPE MRC

Suitable for setting of fixed heat output. Recommended for rooms with a limited heat requirement, stairwells, halls and small bathrooms without external walls. Type MRC is also suitable when it is not possible to mount a floor sensor, - or when it is not possible to replace a defect sensor.

Mounting of Thermostats

			
TYPE NO.	MTU-1991HN incl. floor sensor 3 m MTU-1999HN with built-in sensor	ETF-944/99-H	MOUNTING OF FLOOR SENSOR: Floor sensor is used for comfort heating of floor. The sensor can be mounted in conduit of consideration to replacement. The conduit is mounted between the heating cables and ended towards the floor surface.
THERMOSTAT TYPE	Thermostat	Remote room sensor	MOUNTING OF AIR SENSOR: Air sensor is used for room heating. Thermostat with internal air sensor is mounted approx. 1.6m above the floor.
APPLICATION	Thermostat for surface wall mounting	Mounting of remote room sensor. Surface wall mounted	MOUNTING OF LIMITATION SENSOR: Max. temperature limitation is used for protection of installation or construction against excessive temperature. The sensor is mounted at a place where excessive temperature may arise. Min. temperature is used for better heating comfort. The sensor is mounted as floor sensor.
TECHNICAL DATA	Output relay - w/floor sensor - w/room sensor Supply 50/60 Hz Temperature range Setback temperature On/off difference Housing Dim. H x W x D	10A 8A 230V ±10% +5/+40°C 5°C 0.4°C IP20 84 x 84 x 28 mm	If required, the floor sensor and limitation sensor can be extended up to 100m with a standard installation cable. MOUNTING OF REMOTE ROOM SENSOR: Thermostat incl. floor sensor is used, but remote room sensor is mounted instead of floor sensor.
		84 x 84 x 28 mm	

Comfort heating of floor and room - DIN-rail mounted

					
	ETV-1991	ETV-1999	ETV-1991-P	ETN/F-2P-1441	ETN/F-2P-1449
THERMOSTAT TYPE	Thermostat incl. floor sensor 3 m	Thermostat incl. room sensor	Thermostat incl. floor sensor 3 m	Thermostat incl. floor sensor 3 m	Thermostat incl. room sensor
Supply 50/60 Hz Output relay Temperature range Setback temperature Built-in interrupter On/off difference Dim. H x W x D	230V ±10% 16A 0/+40°C 5°C - 0.4°C 86 x 36 x 58 mm	230V ±10% 16A 0/+40°C 5°C - 0.4°C 86 x 36 x 58 mm	230V ±10% 16A potential free 0/+40°C - 0.4°C 86 x 36 x 58 mm	230V ±10% 16A 0/+35°C +3/+10°C 2-pole 0.3-6°C 86 x 52.5 x 58 mm	230V ±10% 16A 0/+35°C +3/+10°C 2-pole 0.3-6°C 86 x 52.5 x 58 mm

Snow melting systems

					
	ETO-1550	ETOG-55		ETOR-55	ETF-744/99
THERMOSTAT TYPE	Thermostat incl. cover	Ground sensor Detects moisture and temperature		Gutter sensor Detects moisture	Outdoor sensor Detects temperature
Mounting Supply 50/60Hz Output relay Temperature range Dim. H x W x D - incl. cover	DIN-rail 230V ±10% 10A, 10A, 16A 0/+5°C 90 x 156 x 45 mm 170 x 162 x 45 mm	Ground surface 24V - H32, Ø60 mm		Gutter etc. 24V - 105 x 30 x 13 mm	Wall surface - - 86 x 45 x 35 mm

Heating cable in gutter

Frost protection of pipes, ground, etc.

					
	ETR/F-1447A	ETF-744/99	ETI-1551	ETF-144/99A	ETF-622
THERMOSTAT TYPE	Thermostat incl. outdoor sensor	Outdoor sensor for temperature	Thermostat	Temperature sensor for ground	Temperature sensor for pipe
Mounting Supply 50/60 Hz Output relay Temperature range Dim. H x W x D	DIN-rail 230V ±10% 16A -15/+10°C 86 x 52.5 x 58 mm	Wall surface - - 86 x 45 x 35 mm	DIN-rail 230V ±10% 10A potential free -10/+50°C 86 x 36 x 58 mm	In conduit - - 7.2 x 5.5 mm	Outside on pipe - - 8 x 12 mm

OJ ELECTRONICS A/S
STENAGER 13B
DK-6400 SØNDERBORG
DENMARK

T. +45 73 12 13 14
F. +45 73 12 13 13
OJ@OJ.DK
WWW.OJ.DK