tekmar

Ice and Snow Detector
1871-ESM (for gutter heatings, sensor 3354)
1872-ESM (for slab heatings, sensor 3356)

Quick Start Guide

Ice and snow detectors

The two ice and snow detectors 1871-ESM and 1872-ESM are ideal as entry-level models, especially for controlling small systems with one temperature and moisture sensor and one heating circuit. An uncomplicated commissioning is achieved by only two rotary adjusters for setting the activation temperature and the moisture threshold.

Further parameters, such as the minimum heating time, the follow up time and the lower temperature limit (switch-off time), are pre-defined with factory settings and can be adjusted, if required, via a parameter setting mode.

	Device 1871	Device 1872
Minimum heating time	30 min	90 min
Follow up time	0 min	0 min
Lower temperature limit	-15°C	-15°C

Two three-colour LEDs are provided to indicate the operating status.

The model 1871 with sensor 3354 is ideally suited for use with gutter heating systems, the model 1872 with sensor 3356 for small to medium-sized electrical slab heating systems.

Commissioning and adjustment

Setting the temperature and moisture values

Use the rotary adjusters on the front of the device to set the two basic parameters. During operation the activation temperature (upper temperature limit) and the moisture threshold can be adjusted with regard to the detection of water, ice or snow on the sensor.

The moisture threshold can be set within a range of 0 to 10. Low values mean high sensitivity.The basic setting for the moisture threshold should be 1 to 2 points above the dry value indicated on the sensor.

If the system switches the heating system on too early, i.e. if there is very little moisture or the sensor is dry, the moisture threshold should be increased.

Changes to these values take effect immediately.
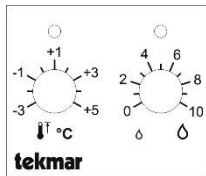
▪ left: activation temperature (upper temperature limit),
range: -3 to +5°C

▪ right: moisture threshold,
range: 0 to 10

Note: If the moisture threshold is too low, the heating system may be permanently activated during times when the temperature is below the activation temperature. This can lead to increased energy consumption.

LED displays

Feedback of the various operating states is provided by two three-colour LEDs. The following tables show the meaning of the LED displays.
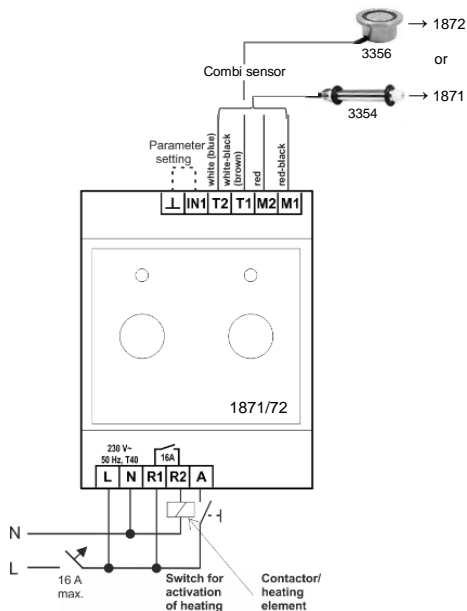
System displays upon start-up

L	R	Description
⚪	⚪	no supply voltage
⚪	⚪	hardware error
🔴	🔴	software error
⚪	⚪🟢	software initialisation
⚪	⚪🟢	reset to factory settings ongoing
⚪	🟠	reset to factory settings completed
🟠	⚪🟢	device check ongoing
🟠	⚪🔴	device check error
🟠	🔴🟢	label/application error
🟠	⚪🟢	software start

Status displays during operation

L	R	Description
⚪	⚪🟢	several seconds after power-up
🟠	⚪	only temperature measurement active
🟢	🟠	temperature and moisture measurement active
🟢	🟢	heating with minimum heating time
🟢	🟢🟠	heating with regular moisture measurement
🟢	⚪🟢	follow up heating
🟠🔴	🟢🟠	error state
🟠🔴	🟢	error state/heating active

Connection of the device