IDRT3-1

EN **Digital room thermo-controller**

Characteristics

- IDRT3-1 is a digital wall temperature controller used to regulate the temperature in a room.

- Using the IDRT3-1, it is possible to correct the given heating / cooling circuit within a range of ±3, ±4 or ±5 °C (optional in SW iDM3).

- The temperature controller is equipped with an integrated heat sensor used to measure the room temperature. It is also equipped with two analog digital inputs (AIN/DIN), which can be used to connect two potential free contacts or a single external temperature sensor TC/TZ (e.g. for measuring the floor temperature).

- The display shows the current temperature and after pressing one of two buttons under the display, you can control the desired temperature.

- Readability improves after pressing one of the buttons to activate the backlight.

- Heating / cooling circuit is assigned with a thermo-regulator using iDM3.

- In the case of temperature correction within ±3, ±4 or ± 5 °C, this change is valid until the next time mark within the time schedule established in iDM3.

- IDRT3 -1 in design LOGUS⁹⁰ is intended for mounting into an installation box.

Description of device

1. Button to lower temperature
2. LED indication
3. Display
4. Button to rise temperature

General instrucions

EXAMPLE MODEL OF CONTROL, ALL FUNCTIONS ARE FULLY PROGRAMMABLE

HOW TO CONTROL THE DEVICE

Buttons ⱱ\ᴧ can be set to required temperature in a room (of the given temperature circuit) within the framework of the set correction range of ±3, ±4 or ±5 °C.

Activity of the heating circuit is indicated on the display by the ON symbol. In case red LED in a right upper corner shines, the assigned heating circuit is active and the heating source is in operation. Each heating circuit operate according to a temperature set in the iDM3 program (day and night, weekend program, etc) in the software iDM3. If the display is symbol MAN, the heating circuit constantly heats at a manually corrected temperature (correction is valid until the next time mark of the set program).

CONNECTION TO THE SYSTEM, INSTALLATION BUS

iNELS3 peripheral units are connected to the system through the BUS installation. Installation BUS conductors are connected to the terminal units to BUS+ and BUS- terminals, wires cannot be interchanged. For installation of BUS it is necessary to use a cable with a twisted pair of wires with a diameter of at least 0.8 mm, the recommended cable is iNELS BUS Cable, whose features best meet the requirements of the BUS installation. Bearing in mind that in terms of all the properties is it is possible in most cases also use the cable JYSTY 1x2x0.8 or JYSTY 2x2x0.8, however it is not recommended as the best option. In the case of a cable with two pairs of twisted wires it is not possible to use the second pair of the other for modulated signal due to the speed of communications; it is not possible within one cable to use one pair for one segment BUS and the second pair for the second segment BUS. For installation of BUS it is vital to ensure that it is kept at a distance from the power lines of at least 30 cm and must be installed in accordance with its mechanical properties. To increase mechanical resistance of cables we recommend installation into a conduit of suitable diameter. BUS topology installation is free except for the ring, wherein each end of the bus must terminate at the terminals BUS + and BUS- peripheral unit. While maintaining all the above requirements, the maximum length of one segment of the installation BUS can reach up to 500 m. Due to the data communication and supply of units in one pair of wires, it is necessary to keep in mind the diameter of wires with regards to voltage loss on the lead and the maximum current drawn. The maximum length of the BUS applies provided that they comply with the tolerance of the supply voltage.

CAPACITY AND CENTRAL UNIT

It is possible to connect to the central unit CU3-01M or CU3-02M two independent BUSes by means of terminals BUS1+, BUS1- and BUS2+, BUS2-. It is possible to connect to each BUS up to 32 units, so it is possible to connect directly to the central unit a total of 64 units. It is necessary to comply with the requirement of a maximum load of one BUS line - maximum up to 1000 mA current. When connecting units which draw greater than 1A, BPS3-01M with 3A sampling can be used. It is the sum of the rated currents of the units connected to the BUS line, other units can be connected using the units MI3-02M, which generate further BUSes. These are connected to the CU3 unit via the system BUS EBM and you can connect a total of 8 units via EBM BUS to the central unit MI3-02M.

SUPPLYING THE SYSTEM

For supplying power to system units, it is recommended to use the power source of ELKO EP titled PS3-100/iNELS. We recommend backing up the system with backup batteries connected to the source of PS3-100/iNELS (see sample diagram of connecting the control system).
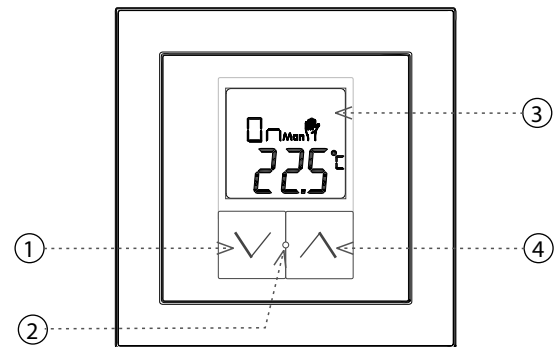
GENERAL INFORMATION

To operate the unit, it is necessary that the unit is connected to a central unit CU3 series, connected to the central unit of the system CU3, or to a system that already contains this unit as its expansion to include further system.

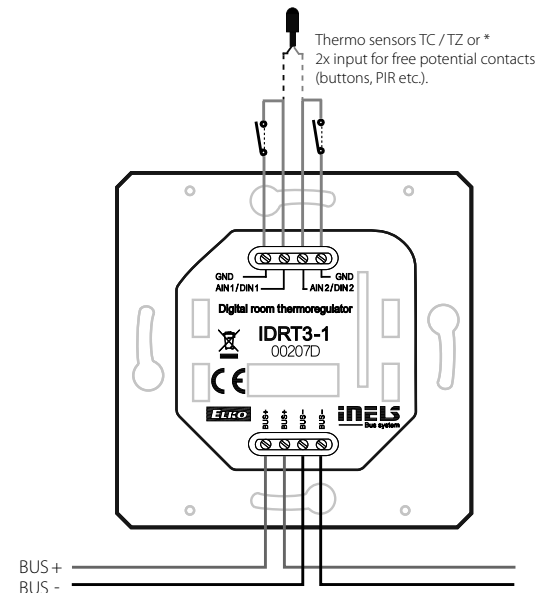All unit parameters are set through the central unit CU3-01M in the software iDM3.

There is LED diode on the PCB for indication of supply voltage and communication with the central unit series CU3. In case that the RUN diode flashes at regular intervals, so there is standard communication between the unit and BUS. If the RUN diode lights permanently, so the unit is supplied from BUS, but there is no communication between BUS and unit. In case that RUN diode is OFF, so there is no supply voltage on the terminals BUS+ and BUS-.

Connection

Thermo sensors TC / TZ or *
2x input for free potential contacts (buttons, PIR etc.).

BUS +
BUS -

* The choice is made in iDM3 for each unit separately.

Technical parameters

IDRT3-1

Inputs

Temperature measuring:	YES, built-in thermo sensor
Range / accuracy of temp. measuring:	0 .. +55 °C; 0.3 °C from range
Heating / cooling circuit correction:	±3, ±4 or ±5°C
Manual ontrol of heating / cooling circuit:	2x buttons
External temperature sensor:	YES, the connection between AIN1/DIN1 and AIN2/DIN2
Type external sensor:	TC/TZ
Temperature measurement range:	-20 °C .. +120 °C
Temperature measurement accuracy:	0.5°C from range

Communication

Installation:	BUS
Display:	symbol display
Backlight:	YES

Power supply

Supply voltage / tolerance:	27 V DC, -20 / +10 %
Dissipated power:	max. 0.5 W
Rated current:	20 mA (at 27V DC), from BUS

Connection

Terminals:	0.5 - 1 mm²

Operating conditions

Operating temperature:	0 .. +50 °C
Protection degree:	IP20
Overvoltage category:	II.
Pollution degree:	2
Operation position:	vertical, downward with BUS terminal
Installation:	into installation box

Dimensions and weight

Dimensions - plastic:	85.6 x 85.6 x 50 mm
- metal, glass, wood, granite:	94 x 94 x 50 mm
Weight:	76 g (without frame)

Warning

Before the device is installed and operated, read this instruction manual carefully and with full understanding and Installation Guide System iNELS3. The instruction manual is designated for mounting the device and for the user of such device. It has to be attached to electro-installation documentation. The instruction manual can be also found on a web site www.inels.com. Attention, danger of injury by electrical current! Mounting and connection can be done only by a professional with an adequate electrical qualification, and all has to be done while observing valid regulations. Do not touch parts of the device that are energized. Danger of life-threat! While mounting, servicing, executing any changes, and repairing it is essential to observe safety regulations, norms, directives and special regulations for working with electrical equipment. Before you start working with the device, it is essential to have all wires, connected parts, and terminals de-energized. This instruction manual contains only general directions which need to be applied in a particular installation. In the course of inspections and maintenance, always check (while de-energized) if terminals are tightened.