

Family of IoT devices provide affordable and easy to implement method to enhance your system with distributed measurement network solution. It consists of various sensors and gateways supporting industry standard protocols for communication with higher tier systems.

Communication between sensors and gateway is based on LoRa radio technology. It is using free frequency range 869.4 – 869.65 MHz – it does not require license to use it. Practical range of communication is up to 300m with low demand of power.

Sensor visibility and strength of each sensor signal can be tested by IOT-TST-01 – radio communication tester. This device provides on its screen information about signal strength of all visible compatible IoT sensors thus allowing to position sensors and gateways in places providing best signal propagation.



## IoT Sensors

### IOT-RT-01

Battery powered internal temperature sensor. Up to 5 years of operation on one battery.

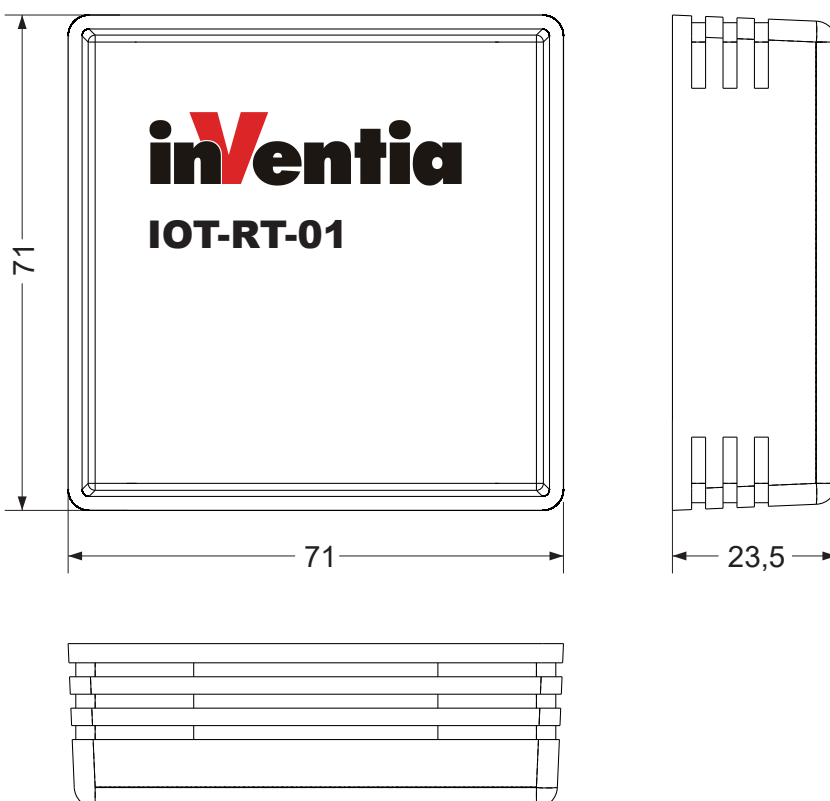
Can be used to wirelessly monitor air temperature in remote rooms and chambers like server rooms, storage rooms, district city heat chambers, machine rooms and other.

Sensors are equipped with QR tags. It is possible to equip them with RFID tags as well.



Temperature measurement	
Range	-20.0 °C – 60.0 °C
Accuracy	±1 °C
Measurement sending period	15 min
LoRa radio	
Communication frequency	869,40 – 869,65 MHz (other bands on demand)
Power	25 mW
Antenna	Internal
Power supply	
Power supply voltage	3.6 VDC (AA lithium battery)
Max current	50 mA
Min current	15 µA
General	
Ingres protection	IP30
Operating temperature range	-20.0 °C – 60.0 °C
Dimensions (WxHxD)	71mm x 71mm x 27mm
Weight	65 g
Mounting	Velcro tape

#### Drawings and dimensions (in millimeters)



**IOT-RTH-01**

Battery powered internal temperature and humidity sensor. Up to 5 years of operation on one battery.

Can be used to wirelessly monitor air temperature and humidity in remote rooms and chambers like server rooms, storage rooms, district city heat chambers, machine rooms and other.

Sensors are equipped with QR tags. It is possible to equip them with RFID tags as well.

**Temperature measurement**

Range	-20.0 °C – 60.0 °C
Accuracy	±1 °C
Measurement sending period	15 min

**Humidity measurement**

Range	0.0 – 100.0 %
Accuracy	±1 %
Measurement sending period	15 min

**LoRa radio**

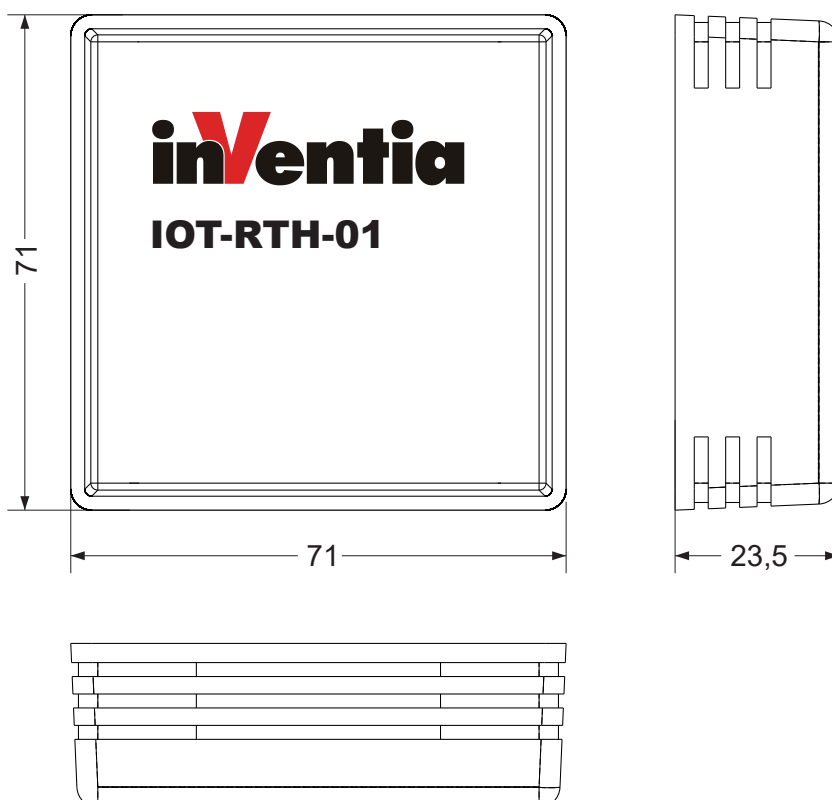
Communication frequency	869,40 – 869,65 MHz (other bands on demand)
Power	25 mW
Antenna	Internal

**Power supply**

Power supply voltage	3,6 VDC (AA lithium battery)
Max current	50 mA
Min current	15 µA

**General**

Ingres protection	IP30
Operating temperature range	-20,0 °C – 60,0 °C
Dimensions (WxHxD)	71mm x 71mm x 27mm
Weight	65 g
Mounting	Velcro tape

**Drawings and dimensions (in millimeters)**

## IoT gateways

### IOT-RG-01

RS-232 Modbus RTU gateway allowing to read out remote sensors. Can be used with any device with Modbus RTU Master functionality and RS-232 port like PLCs, GPRS telemetry modules, routers, HMI panels, PCs.



### RS-232

Default port settings	115200 8-N-1
Protocol	Modbus RTU

### LoRa radio

Communication frequency	869,40 – 869,65 MHz (other bands on demand)
Power	25 mW
Antenna	Internal

### Power supply

Power supply voltage	5 – 30 VDC
Maximum current	22 mA
Mean current	11 mA

### General

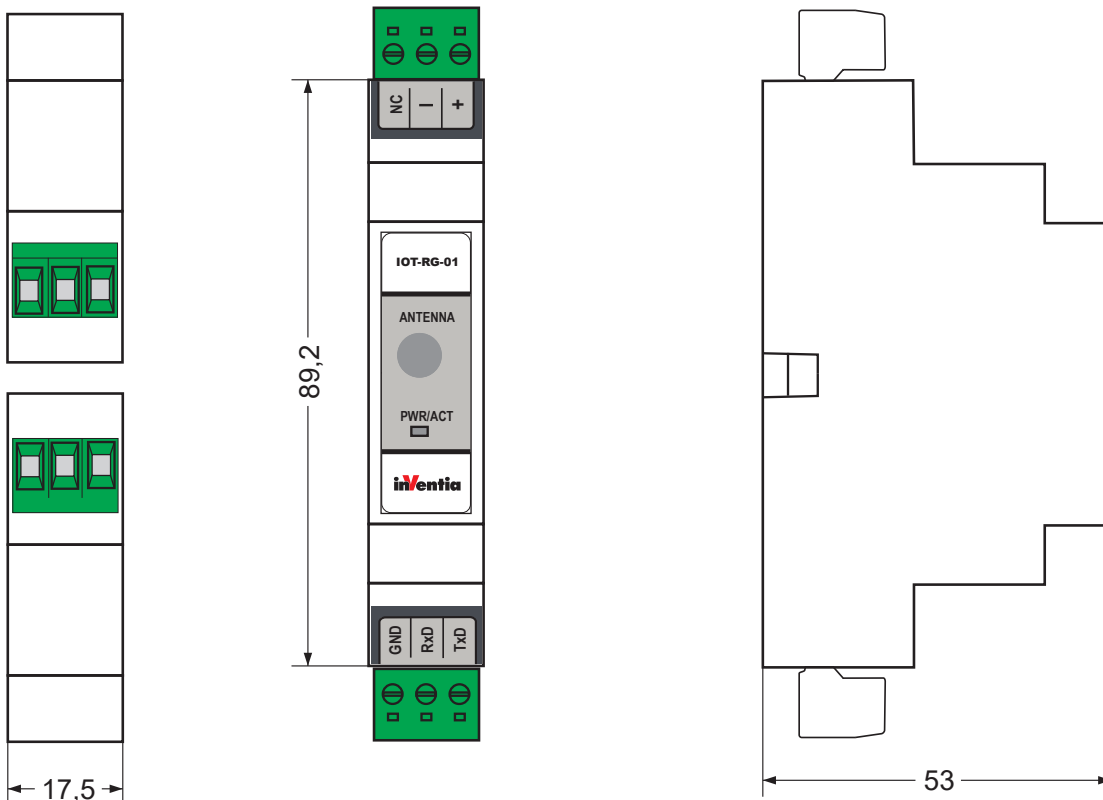
Ingres protection	IP30
Operating temperature range	-20,0 °C – 60,0 °C
Dimensions (WxHxD)	18 mm x 90mm x 58 mm
Weight	60 g including antenna
Mounting	35mm DIN rail



DIN RAIL

RS-232

### Drawings and dimensions (in millimeters)





DIN RAIL

RS-485

**IOT-RG-02**

RS-485 Modbus RTU gateway allowing to read out remote sensors. Can be used with any device with Modbus RTU Master functionality and RS-485 port like PLCs, GPRS telemetry modules, routers, HMI panels, PCs.

**RS-485**

Default port settings	9600 8-N-1
Protocol	Modbus RTU

**LoRa radio**

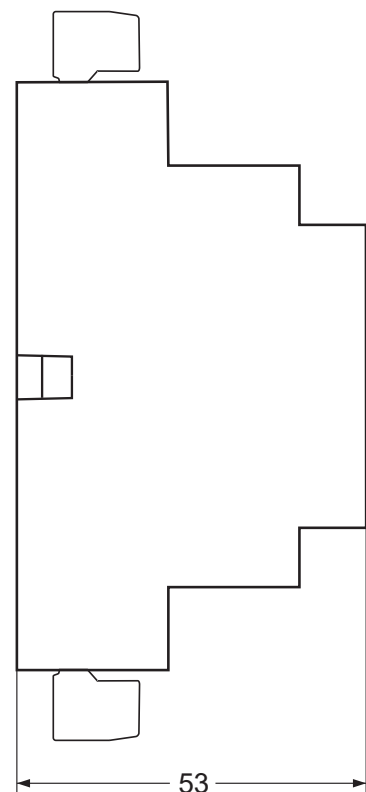
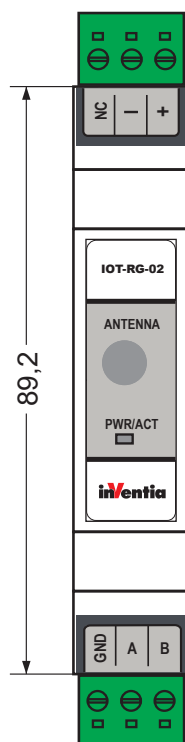
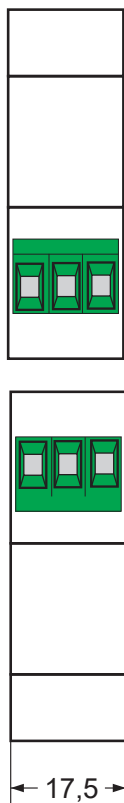
Communication frequency	869,40 – 869,65 MHz (other bands on demand)
Power	25 mW
Antenna	Internal

**Power supply**

Power supply voltage	5 – 30 VDC
Maximum current	22 mA
Mean current	11 mA

**General**

Ingres protection	IP30
Operating temperature range	-20,0 °C – 60,0 °C
Dimensions (WxHxD)	18 mm x 90mm x 58 mm
Weight	60 g including antenna
Mounting	35mm DIN rail

**Drawings and dimensions** (in millimeters)

## Tester IoT

### Tester IoT

Radio communication tester providing on its screen information about signal strength of all visible compatible IoT sensors. It facilitates installation of other IoT devices in places providing best signal propagation.



Display	
Size	1,6"
Resolution	102 x 64 pxl
LoRa radio	
Communication frequency	869,40 – 869,65 MHz (other bands on demand)
Power	25 mW
Antenna	Internal
Power supply	
Power supply	internal Li-Ion battery
Charging	5 V miniUSB port
Max. operating time without charging	18 h
General	
Ingres protection	IP30
Operating temperature range	-20,0 °C – 60,0 °C
Dimensions (WxHxD)	65 mm x 130 mm x 25 mm
Weight	155 g
Mounting	handheld device