IPThermo205G

Offline/online data collector, SMS alarm sender, watchdog terminal for IPThermo Pro network

IPThermo 205G is the central data handling terminal of the IPThermo Pro measurement network. This module combines Online Bridge, data collector and SMS sender unit and establishes offline / online data communication. It may be used instead of IPThermo200-E4 unit. The device can be operated in standalone mode, although using IPThermo for Windows software significantly widens its function set.

Functions

1. **Data transmission - Online Bridge**: online transmission of data measured by sensors to the PC
2. **Data storage – Offline datastore**: the device records the measured data in its circular buffer (if the buffer is full, the oldest data is overwritten). As the PC data connection is established, this data is ready to downloaded immediately. It is possible to store 100,000 measured data.
3. **Alarm:** The device sends SMS message to the preset phone number(s) when the values of sensors connected to IPThermo Professional network exceed their preset thresholds. Threshold values can be defined separately for each sensor.
4. **Sending of information SMS:** query of measured values by ringing up the device or periodical transmission (e.g.: every 24h)
5. **Sending of commands:** remote intervention (cooling, heating, humidification, control of doors and windows using a relay board). This function requires PC connection.
6. **Watchdog - indication of state and system failure**: notifies the user about the errors and the actual state of temperature measurement system by sending SMS messages via GSM system. SMS alarm in case of computer freeze (if, for some reason, there is no response - this is actually the watchdog function) and breakage or failure of measuring probe.
7. **HTTP protocol:** Web browser based query
8. **SNMP protocol:** SNMP v2 protocol based query

Parameters can be set using IPThermo for Windows program.

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Application example:

IPThermo 205G is able to send SMS alarm messages and can be applied for event control. For example, exceeding the threshold value of the sensor activates the related event in IP Thermo for Windows software. For example, it powers off socket No. 2 of the remote controlled IPStecker socket assembly where the heating unit is connected, and hence switches off the heating. The user receives SMS notification on the predefined phone number.

Sample SMS messages:

- *„Actual value of sensor No. 14: -6 °C."* – Information SMS message
- *„Sensor No. 14 exceeded the threshold value! Actual value: -11 °C."* – Alarm SMS message
- *„Sensor No. 4 exceeded the threshold value! Actual value: 41 °C. Related command has been activated"* – e.g. the system has switched off the connected heating unit. - Action SMS message

Features:

- Adjustable threshold values for each sensor
- Via Ethernet interface, the device can be connected to IPThermo Pro network (RS485 connection via CAT5 cable) and to PC that runs IPThermo for Windows program
- Measurement value monitoring for all sensors connected to the IPThermo bus
- **SMS sender unit**
  - to GSM network
  - is able to implement event control
  - SIM card required (shipped w/o SIM card, SIM card of any GSM provider can be used)
- Related parameters that can be set in IPThermo for Windows software**:**
  - Phone number(s) where the SMS messages need to be sent to
  - Threshold values (2 lower and 2 higher limits for each sensor)
  - Information SMS
    - Sending / not sending
    - After alarm, when the value goes back in the normal range
    - Time interval
    - From which sensor
  - Event related to the given threshold value of the particular sensor
  - Alarm SMS message
    - Sending / not sending
    - From which sensor

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   o Action SMS message
     ■ Sending / not sending

- User interface: IPThermo for Windows operating program
- Interface: RS485, Ethernet, GPRS
- ABS plastic case in RAL 9002 color
- Dimensions: 189 x 134 x 40 mm
- Wall mount or desktop construction, user is allowed to modify the case
- Power consumption during signaling: 600mA max.
- Supply voltage: DC12V
- Temperature range for operation: -10 ... +50 °C
- Temperature range for storage: -40 ... +60 °C
- Relative humidity for operation: 80% max.
- Relative humidity for storage: 90% max.
- Casing for indoor use

The IP Thermo Pro base network

IP Thermo Pro servers and the probes connected to them constitute a temperature measurement system. The sensors forward the measured values to the IP Thermo device(s), whose data can be read out via Ethernet network.

IP Thermo Pro server and the attached maximum of 240 sensors form a network that makes it possible to monitor the temperature, humidity, pressure, wind speed of remote objects independent from their distance, via Internet. Using the IP Thermo Pro server, measured values can be read out via Ethernet network and then can be published on a webpage, logged, displayed as graphs and also used in applications developed by the user.

Ambient temperature of measuring probes can be queried by a computer connected to the Internet or a local IP network. By using the optional IPThermo for Windows software, user can easily manage temperature alarms and other actions (e.g. starting of cooling fans and heater filaments at the required temperature.) The temperature of the measuring probe may be sampled in the predefined time interval. Samples may be published on a webpage, logged and displayed as a graph at the same time. User can monitor the change of the temperature using an Internet browser. By using API calls and a Windows dll (routine library), data of the measuring probe can also be queried from any optional user developed Windows program. Please let us know if you would like to use the API library.

Fields of application

- Temperature monitoring of computers
- Temperature monitoring of server rooms
- Temperature alarm for radio transmitters and GSM towers
- Emergency stop of other appliances before overheating
- Web thermometer
- Protection of uninterruptable power supplies
- Meteorological application
- Other environmental monitoring applications

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- Coolers
- Protection of cold storages against overheating
- Frost protection for systems that use water
- Publication of swimming pool water temperature data on the Internet
- Medical applications
- Laboratory applications
- Temperature control for homes (remote controlled intelligent home: the system provides the preset temperature by the time the user gets home.)

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IPThermo205G commissioning

Package content:

- o IPThermo205G
- o Supply adapter
- o User manual

Commissioning

1. Remove the cover of the device by unscrewing the two retaining screws located on the front plate, under the silver molding.

2. Insert the SIM card into the SIM card holder situated in the middle of the device (slide the cover towards the connectors to open, insert the SIM card and close back the cover).

3. Connect the battery supplied with the device (pay attention to the right polarity).

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After replacing the cover the device is ready to use.

The default IP address of the device is: 192.168.0.250
The address can be changed by the software 'DS Manager', using Change IP button.

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