PRODUCT DESCRIPTION

Thermometers with Ethernet connection are designed to measure temperature. Thermometers are available either with built-in sensor for temperature measurement in place of installation or with CINCH connectors for external probes connection.

Measured values can be read and then processed through Ethernet connection. The following formats of Ethernet communication are supported: www pages with user-design possibility, Modbus TCP protocol, SNMPv1 protocol and SOAP. The instrument may send a warning message if the measured value gets out of adjusted limits. The reports can be: sent up-to 3 e-mail addresses, sent by SNMP trap up to 3 IP addresses, displayed on the device www page or sent to syslog server.

For set of all parameters including alarm limits you can use *TSensor* software (see *www.cometsystem.cz/software.htm*).

type *	measured value	design	mounting
P8510	temperature	built in temperature sensor	wall
P8511	temperature	1-chanel transducer for external probe using	wall
P8541	temperature	4-chanel transducer for external probe using	wall

* models marked Pxxxx**Z** are custom - specified devices

INSTALLATION AND OPERATION

The thermometers are mounted on a flat surface with two screws or bolts. The external probes with a cable (length up to 10m) are placed into a measured environment. Pay attention to device and sensing probe mounting, because incorrect choice of working position or measuring point could adversely affect accuracy and long-term stability of measured values.

Devices don´t require special operation and maintenance. We recommend you periodic calibration for measurement accuracy validation.

DEVICE CONNECTION AND CONFIGURATION

For network device connection it is necessary to know new suitable IP address (you can get it automatically from DHCP server or from your network administrator) and to have *TSensor* software installed.

According to the "Device connection procedure" (see next page) you connect Ethernet cable, power adapter and external probe. Then you run *TSensor* program, set the new IP address, configure the device in accordance with your requirements (alarm conditions, sending of e-mail, traps …) and finally store the settings.

The IP address of each device is set by the manufacturer to **192.168.1.213**.

ALARM LIMITS AND ERROR STATES

It is possible to set an upper limit, lower limit, time delay (for alarm activation) and hysteresis (for alarm clearing) to each measured channel. If the measured temperature exceeds the upper limit for longer than the set time delay, the alarm occurs and a warning e-mails or traps are send. When the temperature drops below the upper limit minus hysteresis, the alarm will be cancelled. If the temperature drops below the lower limit, alarm is causes similar.

Alarm message is sent when alarm occurs only. In case of power failure or reset the device (e.g. changing the configuration) will new alarm state evaluated and new alarm message will be sent.

Device continuously checks its state during operation and if an error appears, it is displayed relevant code instead measured value:
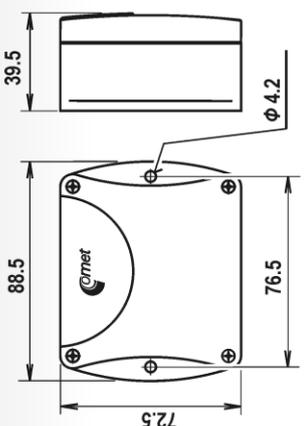**Err 1** - measured temperature is outside the measuring range
- indicates connection of an incorrect probe (probe with digital sensor DS18B20 can be used only)
- indicates a cable or probe short-circuit

SAFETY INSTRUCTIONS

- Don't connect or disconnect thermometers while power supply voltage is on.
- Don't use the device without the cover.
- Installation, electrical connection and commissioning should be performed by qualified personnel only.
- Use the power adapter according to technical specifications and approved according to relevant standards only.
- The external probe cable should be located as far as possible from potential interference sources.
- Devices contain electronic components, it needs to liquidate them according to currently valid conditions.
- For more information, please use detailed manuals and other documentation which are available at
  www.cometsystem.cz/manuals.htm or *www.cometsystem.cz/software.htm*

Technical specifications

Device type	P8510	P8511	P8541
Supply voltage - power coaxial connector, diameter 5.1 x 2.1mm, positive pole in the midle	4.9 to 6.1 Vdc	4.9 to 6.1 Vdc	4.9 až 6.1 Vdc
Power consumption	1W	1W	1W
Temperature measuring range	-30 to +80°C	-55 to 80 °C	-55 to 80 °C
Accuracy of temperature measurement	± 0.8°C	—	—
Recommended probe	—	DSTR161/C DSTGL40/C	DSTR161/C DSTGL40/C
Accuracy of temperature measurement with recommended probe	—	± 0.5°C (-10 to +80°C) ± 2.0°C (-55 to -10°C)	± 0.5°C (-10 to +80°C) ± 2.0°C (-55 to -10°C)
Response time (90%) with DSTR161/C recommended probe	—	190 s	190 s
Response time (90%) with DSTGL40/C recommended probe	—	160 s	160 s
Temperature operating range of the recommended probe	—	-40 to +80°C	-40 to +80°C
Temperature operating range of the case with electronics (humidity 0 to 100%RH, no condensation)	-30 to +80°C	-30 to +80°C	-30 to +80°C
Limits on conditions (the device without a probe)	-40 to +80°C	-40 to +80°C	-40 to +80°C
Protection class of the case with elektronics	IP30	IP30	IP30
Recommended calibration interval	2 years	2 years	2 years
Electromagnetic compatibility according to	EN 61326-1	EN 61326-1	EN 61326-1
Housing material	ABS	ABS	ABS
Mounting position	sensor cover downwards	any position	any position
Weight	130 g	125 g	135 g
Dimensions [mm]			

Device connection procedure