PRODUCT DESCRIPTION

Thermometers and hygrometers with Ethernet connection are designed to measure temperature and relative humidity of air. Devices are available either with built-in sensor for temperature measurement in place of installation or with CINCH connectors for external temperature or relative humidity 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*) or www interface.

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

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

INSTALLATION AND OPERATION

The devices are designed for wall mounting with two screws or bolts. The external probes you place into the 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. The device can obtain this address automatically from a DHCP server or you can use the static IP address, which you can get from your network administrator.

According to the "Device connection procedure" (see next page) you connect Ethernet cable, power adapter or PoE splitter and external probes. Then you run the web browser and insert IP address of the device into address bar. After that you set ("*settings*") new IP address and configure the device in accordance with your requirements (alarm conditions, sending of e-mail, traps …).

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 value 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 measured value drops below the upper limit minus hysteresis, the alarm will be cancelled. If the measured value drops below the lower limit, alarm is causes similar.

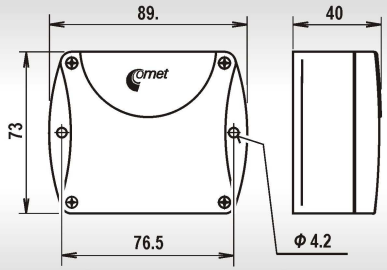
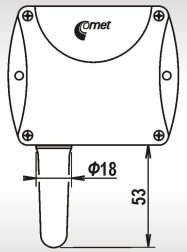
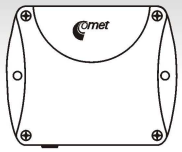
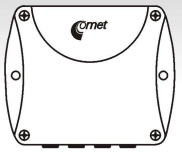
Alarm message is sent when new alarm occurs. You can set re-sending of warning e-mails too. In case of power failure or reset the device (e.g. changing the configuration) will new alarm state evaluated and new alarm message will be sent.

Device continuously checks its state during operation and if an error appears, it is displayed **Error** instead measured value. The detailed description of the error messages is given in the user manual.

SAFETY INSTRUCTIONS

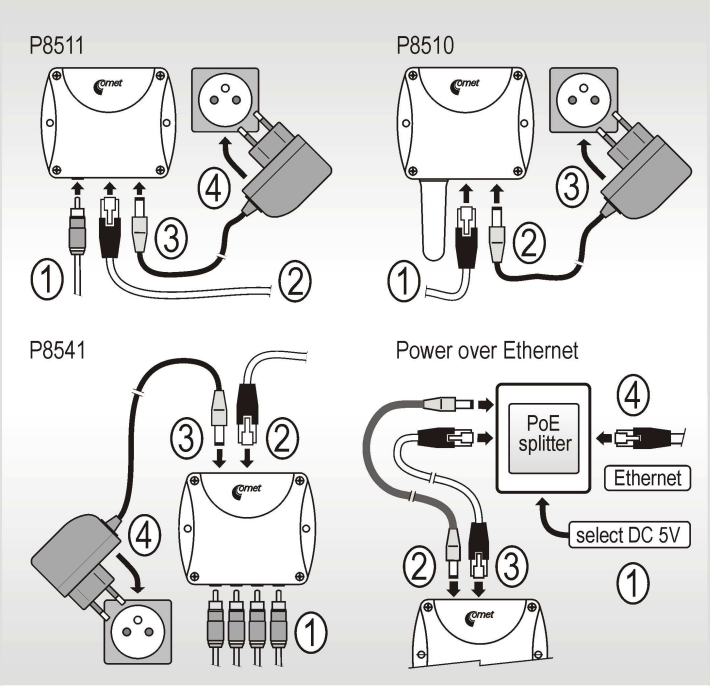
- Don't use and don't store the relative humidity probe without a sensor cover.
- It is not recommended to use the relative humidity probe for long time under condensation conditions.
- Don't connect or disconnect thermometers while power supply voltage is on.
- Don't use the device without the cover.
- 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.
- If it is necessary connect the device to the Internet, properly configured firewall must be used.
- The device should not be used for applications, where malfunction could cause to injury or damage to property.
- Devices contain electronic components, it needs to liquidate them according to legal requirements.
- 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 to 6.1 Vdc
Power consumption	max. 1W	max. 1W	max. 1W
Temperature measuring range	-30 to +80°C	according the probe *	according the probe *
Accuracy of temperature measurement	± 0.8°C (-10 to +80°C) ± 2.0°C (below -10°C)	according the probe *	according the probe *
Relative humidity measuring range	—	according the probe *	according the probe *
Accuracy of relative humidity measurement	—	according the probe *	according the probe *
Temperature operating range (humidity 0 to 100%RH, no condensation)	-30 to +80°C	-30 to +80°C	-30 to +80°C
Protection class	IP30	IP30	IP30
Recomended calibration interval	2 years	according the probe *	according the probe *
Electromagnetic compatibility according to	EN 61326-1	EN 61326-1	EN 61326-1
Mounting position	sensor cover downwards	any position	any position
Weight	130 g	125 g	135 g
Dimensions [mm]				

* see the specification of external probes

Device connection procedure



External probes

the sensor is fixed to the cable that is terminated by CINCH connector for connecting the probe to the device

Probe type	DSTG8/C	DSTGL40/C	DSTR162/C	DSRH
Temperature measuring range	-50 to +80°C	-30 to +80°C	-30 to +80°C	0 to +50°C
Accuracy of temperature measurement	± 0,5°C (-10 to +80°C) ± 2,0°C (below -10°C)	± 0.5°C (-10 to +80°C) ± 2.0°C (below -10°C)	± 0.5°C (-10 to +80°C) ± 2.0°C (below -10°C)	± 2°C
Relative humidity measuring range	—	—	—	10 to 90 %RH **
Accuracy of humidity measurement	—	—	—	± 3.5 %RH ***
Temperature operating range	-50 to +125°C	-30 to +80°C	-30 to +80°C	-30 to +80°C
Humidity operating range (no condensation)	0 to 100 %RH	0 to 100 %RH	0 to 100 %RH	0 to 100 %RH
Protection class	IP67	IP67	IP67	IP40
Recomended calibration interval	2 years	2 years	2 years	1 year
Cable length	1, 2, 5, 10 m	1, 2, 5, 10 m	1, 2, 5, 10 m	1, 2, 5 m
Mounting position	any position	any postion	any position	any position
Dimensions of the sensor [mm]	5.7 x 40 mm	5.7 x 40 mm	10 x 25 mm	Ø18 x 90

** The relative humidity measuring range is limited at temperatures below 0°C and above 50°C, see manual for probe.
*** from 10 to 90%RH at temperature 25°C