

# COMPACT TEMPERATURE, HUMIDITY, BAROMETRIC PRESSURE TRANSMITTERS with Ethernet interface

temperature \* barometric pressure \* relative humidity \* dew point temperature \* absolute humidity \* specific humidity \* mixing ratio \* specific enthalpy



Transmitter T0510



Transmitter T3510, T7510

- APPLICATIONS
- server rooms
- telecommunication devices
- warehouses
- glasshouses
- manufacturers
- museums, archives, galleries
- air-conditioned rooms

Ethernet sensor is designed for measurement of temperature, barometric pressure, relative humidity, dew point temperature, absolute humidity, specific humidity, mixing ratio or specific enthalpy. Degrees Celsius and Fahrenheit are user selectable. Large dual line LCD for simultaneous display of temperature, pressure or relative humidity or other calculated humidity interpretation is an advantage. Display is possible to switch off. State-of-the-art capacitive polymer sensor ensures excellent calibration long term stability, inertia against water and condensation. Transmitter is designed for use in non-aggressive environment.

Online data acquisition system from transmitters connected to Ethernet/Internet can be easily built by means of Comet software package **Database Sensor Monitor**.

## MODES OF COMMUNICATION

ModBus TCP:	Modbus TCP protocol enables to read measured values, set alarm limits, adjust the probe, read firmware version.
Telnet:	Port 9999 enables to set alarm limits (lower and upper limits for T, RH, Tdp, hysteresis and time delay), e-mail addresses, SNMP addresses, probe description, refresh of www pages (10s to 65535s), select type of www pages, set storing interval to history (10s to 65535s), enable each communication channel. Capacity of the history memory is 100 sets of measured temperature, humidity, pressure-computed value. Password protection of this port is enabled. Automatic IP address assignment from DHCP server is also enabled.
www pages:	User selectable design of www pages enabling to display curves of measurement history. User can design the look of www pages and select values to display.
SNMP:	It is possible to read actual values and alarm limits. In case of alarm creation warning message (trap) is sent to IP addresses defined by the user (maximum three addresses).
SOAP:	Transmitter enables to send actual measured data in the format of SOAP message to selected web server in preset interval 10-65535 s. In case message is not received by the server till next message is sent, warning trap 1/2 is sent.

In case of exceeding adjusted limits of measured values warning message can be sent to selected addresses.

## ALARM OPTIONS

E-mail:	In case of alarm creation warning e-mail message is sent to addresses defined by the user (maximum three addresses). Basic SMTP authentication is supported.
www pages:	In case of exceeding adjusted limits of measured values active alarm is displayed at www page.
SNMP:	In case of alarm creation warning message (trap) is sent to IP addresses defined by the user (maximum three addresses).
syslog:	Transmitter enables to send text messages to selected syslog server after different events appear. E.g. after transmitter restart, alarm activation, communication error with SNMP, write to transmitter via mdb, snmp, after firmware change, after alarm termination, after communication error with SOAP server.

Synchronizing of time and record to www table and temperature history is enabled by SNMP via Internet.

Pxxxx Txxxx

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### TECHNICAL PARAMETERS

Accuracy and range of temperature:	±0.6 °C, range -30 to +80 °C
Supported temperature units:	degrees Celsius, degrees Fahrenheit
Measuring range of relative humidity:	0 to 100%
Accuracy of relative humidity measurement:	±2.5% relative humidity from 5 to 95% at 23 °C
Accuracy and range of dew-point temperature:	±1,8 °C at ambient temperature T < 25 °C and RH>30%, range -60 to +80
Accuracy of absolute humidity measurement:	±3g/m <sup>3</sup> at ambient temperature T < 40 °C, range 0 to 400 g/m <sup>3</sup>
Accuracy of specific humidity measurement:	±2,1g/kg at ambient temperature T < 35 °C, range 0 to 550 g/kg
Accuracy of mixing ratio measurement:	±2,2g/kg at ambient temperature T < 35 °C, range 0 to 995 g/kg
Accuracy of specific enthalpy measurement:	± 4kJ/kg at ambient temperature T < 25 °C, range: 0 to 995 kJ/kg
Accuracy and range of barometric pressure:	±1.3hPa at ambient temperature 23 °C, range 600 to 1100hPa
Supported pressure units:	hPa, kPa, mbar, mmHg, inHg, inH <sub>2</sub> O, PSI, oz/in <sup>2</sup>
Operating temperature range:	-30 to +80 °C
Operating temperature range of LCD display:	readable to +70 °C, it is recommended to switch OFF the LCD over +70 °C
Range of temper. compensation of RH sensor:	-30 to +80 °C
Filtering ability of sensor cover:	0.025mm
Protection:	case with electronics IP30, T+RH probe IP40
LAN connector:	connector RJ-45
Power:	9-30Vdc, maximum consumption about 1W.
Power over Ethernet:	for power over Ethernet any PoE splitter is necessary - e.g. D-Link DWL-P50
Power connector:	axial, diameter 5.5 x 2.1 mm
Mechanical dimensions T0510:	89 x 126 x 39.5 mm (W x H x D)
Mechanical dimensions T3510, T7510:	89 x 148 x 39.5 mm (W x H x D)

### AVAILABLE MODELS:

MODEL	MEASURED VALUES	DESCRIPTION
T0510	temperature	<b>Thermometer</b> with built-in temperature sensor for measurement of ambient temperature
T3510	temperature humidity	<b>Thermometer-hygrometer.</b> Measured values are also converted to other humidity interpretation - dew point temperature, absolute humidity, specific humidity, mixing ratio or specific enthalpy.
T7510	temperature humidity barometric pressure	<b>Thermometer-hygrometer-barometer.</b>  Reading and pressure output in these units: hPa, kPa, mbar, mmHg, inHg, inH <sub>2</sub> O, PSI, oz/in <sup>2</sup> Barometer enables to measure sea level pressure by setting of correction to altitude above sea level.

### Included accessories:

**Traceable calibration certificate** from the manufacturer with declared metrological traceability of etalons is based on requirements of EN ISO/IEC 17025 standard.

Free program TSensor for configuring of the transmitter is ready to download from [www.cometsystem.cz](http://www.cometsystem.cz).

Free program SensorReader for logging values from one thermometer to a PC disk file is ready to download.

Recorded values in CSV format are easy to process in e.g. Excel.

For acquiring values from several transmitters, third party software is possible to use. Tested functionality is with programs LabVIEW from National Instruments, TIRS.NET, ControlWeb, EasyView. For record of values to graphs via web interface, project Cacti is available.

### Optional accessories:

**SWR009** - Program package Database Sensor Monitor for online data acquisition and analysis from Comet sensors.

It contains all necessary components for monitoring of sensors, including one licence of Database Viewer.

See further in catalog.