PRECISE 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
T3511, T7511

Barometer T2514

Transducer T4511

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.

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.

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 autentization 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 SNTP, write to transmitter via mdb, sntp, after firmware change, after alarm termination, after communication error with SOAP server.

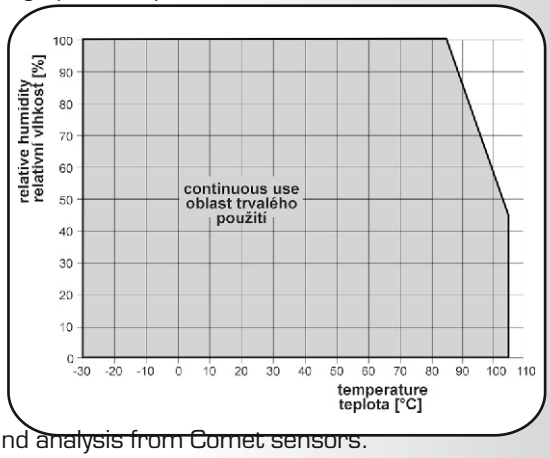
TECHNICAL PARAMETERS	
Accuracy of temperature measurement:	±0.4 °C, accuracy of temperature transducer T4511 is ±0.2 °C
Supported temperature units:	degrees Celsius, degrees Fahrenheit
Range and accuracy of relative humidity:	0 to 100%, accuracy ±2.5% relative humidity from 5 to 95% at 23 °C
Accuracy and range of dew-point temperature:	±1,5 °C at ambient temperature T < 25 °C and RH>30%, rozsah -60 až +80
Accuracy of absolute humidity measurement:	±3g/m3 at ambient temperature T < 40 °C, range 0 to 400 g/m3
Accuracy of specific humidity measurement:	±2g/kg at ambient temperature T < 35 °C, range 0 to 550 g/kg
Accuracy of mixing ratio measurement:	±2g/kg at ambient temperature T < 35 °C, range 0 to 995 g/kg
Accuracy of specific enthalpy measurement:	± 3kJ/kg at ambient temperature T < 25 °C, range: 0 to 995 kJ/kg

TECHNICAL PARAMETERS - continuance	
Accuracy and range of barometric pressure:	±1.3hPa at 23˚C, range 600 to 1100hPa
Supported pressure units:	hPa, kPa, mbar, mmHg, inHg, inH_2O, PSI, oz/in^2
Operating temperature range of the case:	-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 +105˚C
Filtering ability of sensor cover:	0.025mm
Protection:	case with electronics IP30, T+RH probe IP40
LAN connector:	RJ-45 connector
Power:	9-30Vdc, maximum consumption 1W
Power over Ethernet:	for power over Ethernet any PoE splitter is necessary - e.g. D-Link DWL-P50
Power connector:	co-axial, diameter 5.5 x 2.1 mm
Mechanical dimensions of the case (W x H x D):	89 x 73 x 39.5 mm

AVAILABLE MODELS:

TYPE	MEASURED VALUE	MAXIMUM MEASURING RANGE OF TEMP.,PRESSURE	DESCRIPTION
T4511	temperature	-200 to +600˚C	**Temperature transducer** for external probes with Pt1000/3850ppm sensor (not included), accuracy of the input ±0.2˚C
T2514	barometric pressure	600 to 1100hPa accuracy: ±1,3hPa at 23˚C	**Barometer** - Reading and pressure output in these units: hPa, kPa, mbar, mmHg, inHg, inH_2O, PSI, oz/in^2 Barometer enables to measure sea level pressure by setting of correction to altitude above sea level.
T3511	temperature humidity	-30 to +105˚C* probe including the cable	**Thermometer-hygrometer.** T+RH probe with 1m cable. Cable lengths 2m or 4m available optionally. Measured values are also converted to other humidity interpretation - dew point temperature, absolute humidity, specific humidity, mixing ratio or specific enthalpy. **Thermometer-hygrometer-barometer.**
T7511	temperature humidity barometric pressure	-30 to +105˚C* probe including the cable Pressure: 600 to 1100hPa accuracy: ±1,3hPa at 23˚C	T+RH probe with 1m cable. Cable lengths 2m or 4m available optionally. Pressure sensor is located in the control unit with display. Reading and pressure output in these units: hPa, kPa, mbar, mmHg, inHg, inH_2O, PSI, oz/in^2 Barometer enables to measure sea level pressure by setting of correction to altitude above sea level.

Relative humidity at temperature over +85˚C is limited in accordance with the graph. Near plastic case with electronics maximum temperature is +80˚C.



Included accessories:

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

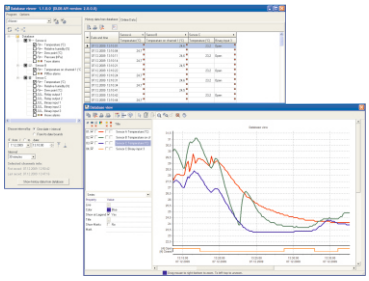
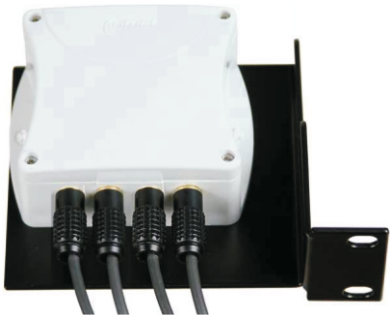
Free program TSensor for configuring of the transmitter is ready to be downloaded from www.cometsystem.cz.

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.

Optional accessories:

DBS Sensor Monitor - database program for online data acquisition and analysis from Comet sensors.
It contains all necessary components for monitoring of sensors, including one licence of DBV Database Viewer.
See further in catalog.

	**DBS**	**DBS Sensor Monitor** - - database program - enables online data acquisition and analysis of actually measured and stored values from unlimited number of Comet sensors connected to Ethernet - it is a data acquisition system of client-server type - it contains: *software for server computer: *SOAP server for data acquisition *Administration program database *MySQL or Microsoft SQL database server (third party freeware) *one licence of DBV Database Viewer. More information at page 72.
	**MP046**	Universal holder for Tx51x, P85xx transmitters for easy mounting to rack 19".
	MP047	Universal holder for probes for easy mounting to rack 19" (probes not included).
	Pt1000 probes	Temperature probes for **Tx51x transmitters** with Pt1000 RTD sensor without connector - there is a symbol /0 behind probe name. Recommended is watertight probe Pt1000TR160/0 on the shielded PVC cable 2 x 0.14mm2. Specify required cable length 1, 2, 5, 10, 15 or 20 meters. Enclosure diameter 6mm, length 20mm. Diameter of the cable 3.5mm.
	DWLP50	DWL-P50 Power over Ethernet (PoE) adapter from company D-Link. The adapter is supposed to be connected to Ethernet switch supporting PoE.
	A1515	AC/DC adapter 230V-50Hz/12V **for transmitter range Tx51x**.