

COMPACT TEMPERATURE, HUMIDITY, ATMOSPHERIC PRESSURE CO₂ TRANSMITTERS with Ethernet interface

temperature*barometric pressure*relative humidity*dew point temperature* absolute humidity*specific humidity*mixing ratio*specific enthalpy*CO₂



APPLICATIONS

- server rooms
- telecommunications
- warehouses
- glasshouses
- manufacturers
- museums, archives, galleries
- air-conditioned rooms



Ethernet sensor is designed for measurement of temperature, atmospheric pressure, relative humidity CO₂ concentration. Large dual line LCD

for simultaneous display of measured or calculated values is an advantage. 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 Ethernet transmitters can be easily built by means of Comet software Database Sensor Monitor.

NEW The CO₂ - carbon dioxide level is recently regarded as an important parameter that substantially determines the quality of the interior climate. Especially in buildings where many people gather, such meeting rooms, hospitals, schools, cinemas, theatres and care centres. With the help of CO₂ sensor engineers, technical advisors, environmental experts and health specialists can optimize the ventilation for creation of a healthy interior climate.

The CO₂ measurement is based on a 2-source, 2-beam process. CO₂ measurement with long-term stability is guaranteed thanks to the proven non-dispersive infrared (NDIR) CO₂ measurement cell.

The unique patented auto-calibration procedure compensates for aging of the infrared source and guarantees high reliability, long term stability and eliminates the need of periodical recalibration in the field.

MODES OF COMMUNICATION

ModBus TCP:	Modbus TCP protocol enables to read measured values, set alarm limits, adjust the probe.
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 protocol. Transmitter can send measured values in XML with selected period to selected www server.

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 SNTP via Internet.

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:	±1,5 °C at ambient temperature T < 25°C and RH>30%, range -60 to +80 °C
Accuracy of absolute humidity measurement:	±3g/m3 at ambient temperature T < 40°C, range 0 to 400 g/m3
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 ₂ O, PSI, oz/in ²
Accuracy of CO ₂ concentration measurement:	±(50ppm +2% from reading) 0 to 2000ppm at 25°C and 1013hPa NEW
Operating temperature range:	-30 to +80°C, -30 to +60°C for CO ₂ transmitters T5540, T6540
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:	all temperature range
Filtering ability of the humidity sensor cover:	0.025mm
Protection:	case with electronics IP30, T+RH probe, I ₁ -40
LAN connector:	connector RJ-45, 10Base-T or 100Base-TX
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	Thermometer with built-in temperature sensor for measurement of ambient temperature
T3510	temperature humidity	Thermometer-hygrometer. 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	Thermometer-hygrometer-barometer. Reading and pressure output in these units: hPa, kPa, mbar, mmHg, inHg, inH ₂ O, PSI, oz/in ² Barometer enables to measure sea level pressure by setting of correction to altitude above sea level.
T5540	CO ₂	CO₂ concentration transmitter - built-in sensor. NEW
T6540	T+H+CO ₂	Temperature humidity CO ₂ transmitter - built-in sensors. NEW

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.

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.

Optional accessories:

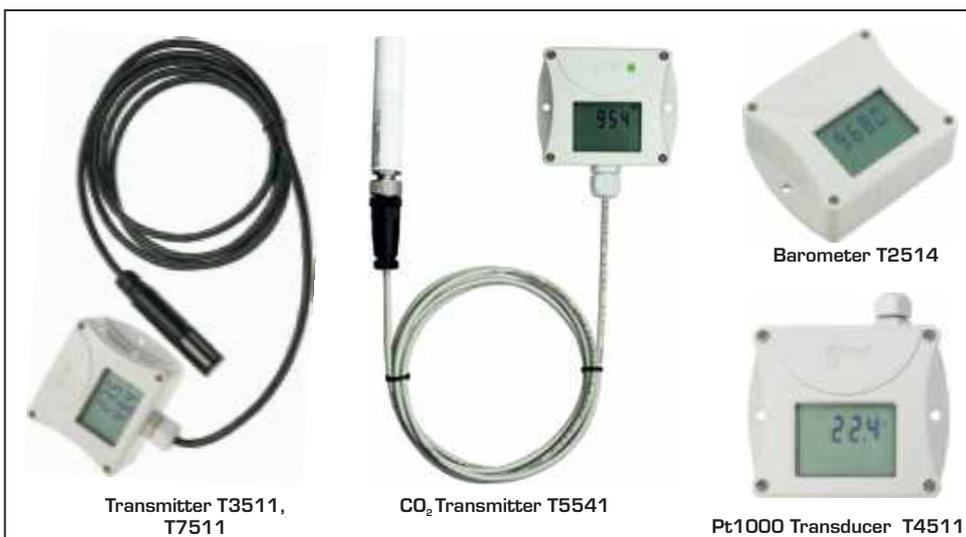
DBS Sensor Monitor - database program for online data acquisition and analysis from Comet sensors.

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

See further in catalog.

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MODES OF COMMUNICATION

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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 °C
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
Accuracy and range of barometric pressure:	±1.3hPa at 23°C, range 600 to 1100hPa
Supported pressure units:	hPa, kPa, mbar, mmHg, inHg, inH ₂ O, PSI, oz/in ²
Accuracy of CO ₂ concentration measurement:	±(100ppm +5% from reading) 0 to 10000ppm at 25°C and 1013hPa NEW
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:	all temperature range
Filtering ability of the humidity sensor cover:	0.025mm
Protection:	case with electronics IP30, T+RH probe IP40
LAN connector:	RJ-45 connector, 10Base-T or 100Base-TX
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 ₂ O, 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.
T7511	temperature humidity barometric pressure	-30 to +105°C* probe including the cable Pressure: 600 to 1100hPa accuracy: ±1,3hPa at 23°C	Thermometer-hygrometer-barometer. 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 ₂ O, PSI, oz/in ² Barometer enables to measure sea level pressure by setting of correction to altitude above sea level.
T5541	CO ₂	0 to 10000ppm CO ₂ -30 to +60°C	CO₂ concentration transmitter , probe with 1 m cable, diameter 18.5mm. Available also with cable lengths 2m or 4m. NEW

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

Pxxxx Txxxx

www.Detektor.no

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



Pxxxx, Txxxx

Included accessories:

Traceable calibration certificate from the manufacturer 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.

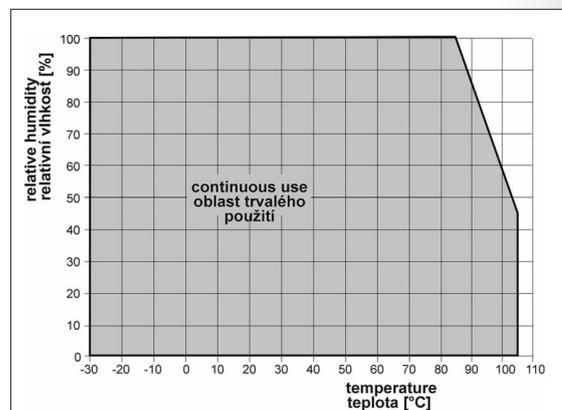
Free program SensorReader for logging values from one thermometer to a PC disk file is ready to download. Recorded values in CSV format are easy to process in e.g. Excel.

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.



	<p>DBS</p>	<p>DBS Sensor Monitor - - database program</p> <ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> *software for server computer: *SOAP server for data acquisition *Administration program database *Microsoft SQL or MySQL database server (third party freeware) *one licence of DBV Database Viewer. <p>More information further in catalog.</p>
	<p>MP046</p>	<p>Universal holder for Tx5xx, P8xxx transmitters for easy mounting to rack 19".</p>
	<p>MP047</p>	<p>Universal holder for probes for easy mounting to rack 19" (probes not included).</p>
	<p>Pt1000 probes</p>	<p>Temperature probes for Tx5xx 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.</p>
	<p>TL-POE</p>	<p>TL-POE10R Power over Ethernet (PoE) adapter from company TP-Link. The adapter is supposed to be connected to Ethernet switch supporting PoE. Only for models without PoE function.</p>
	<p>TP-LINK-TL</p>	<p>TP-LINK TL-WA5110G wifi adapter for wireless connection of transmitter or data logger to Ethernet network. Including replaceable antenna and power adapter. Long term proved operation.</p>
	<p>A1515</p>	<p>AC/DC adapter 230V-50Hz/12V for transmitter range Tx5xx.</p>