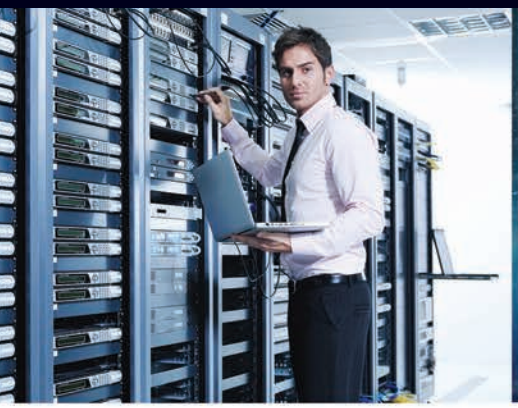
WEB SENSORS

On-line monitoring and alarm indication

Temperature | Humidity | Dewpoint |
Bar. pressure | CO_2 | Current | Events



- A solution for every need and every budget – **economy** and **premium** web sensors
- High quality, accurate and stable sensors
- Internal or external probes on the cable
- Power over Ethernet (PoE)
- Relay outputs in selected models

CALIBRATION CERTIFICATE

EXTENDED 3 YEARS WARRANTY

OMET since 1991

Applications

These days there is a high demand for on-line monitoring and uninterruptable records of different type of values. If the ethernet net has direct connection to the internet, then all data could be sent immediately around the world without the need for any additional costs.

Pharmaceuticals and laboratories

Monitoring of areas and places for storage of drugs at temperatures down to -200 °C.

Technological processes and production

Monitoring of storage conditions and production processes in the temperature range from -200 °C to + 600 °C.

Temperature and humidity sensors

Premium accurate sensors

Collect your data in central database – COMET Database software

Schools and interior spaces

Protect your children`s health with timely control of air quality in buildings. With COMET CO_2 sensors you always see the exact CO_2 concentration.

Food industry

Monitoring of critical variables in relation to HACCP regulations with the possibility of immediate alert to unforeseen events that could lead to the devaluation of goods.

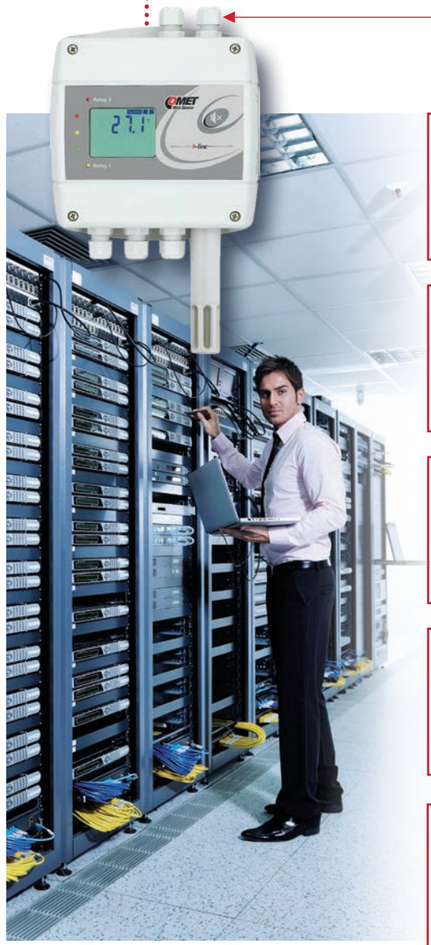
Server rooms

Monitoring of conditions in the data centers and in 19″ racks, including detection of the state of flooding, opening / closing doors (windows), movement and smoke, etc.

relay outputs

two-state intputs

Detecting with two-state inputs and proper detectors.



SD-283ST

smoke detector

LD12

flood detector

SA200A

door contact

JS-20

motion detector

SP008

voltage detector

On-line measurement and monitoring

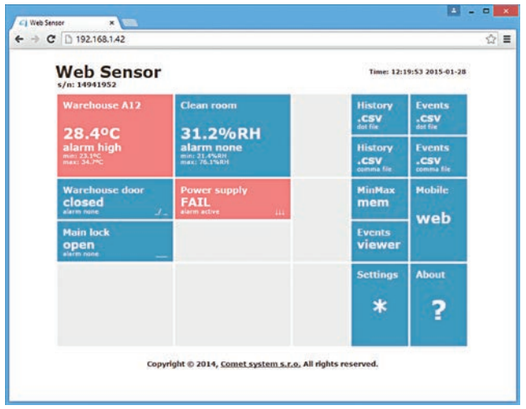
Temperature * Humidity * Dew point * Atm. Pressure * CO_2 * Current * Events

Web server, COMET Cloud or COMET Database software for processing the measured data

Continuous monitoring of critical parameters such as temperature and relative humidity can be very easily done by the help of Web Sensors. This production line consists of sensors for measuring temperature, relative humidity, CO_2 concentration, atmospheric pressure, events and the 4-20mA signal. The last one allows measuring other physical quantities with third party sensors.

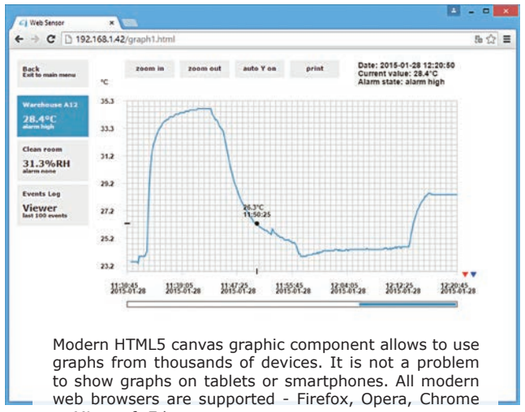
Measured values are accessible via powerful embedded web server or COMET Cloud which are accessible from personal computer or mobile devices like smartphones and tablets. History values can be exported for further processing by the CSV file. CSV file can be processed inside spreadsheet application like Microsoft Excel or OpenOffice Calc. CSV file can be downloaded from web pages or periodically sent as e-mail attachment.

Current measured values are available on-line directly on a web browser from anywhere, all you need to do is enter the IP address or log-in to the COMET Cloud. Alarms are indicated by a red field.



Web server interface

Graphs of actual values can also be displayed through a web browser or in COMET Cloud.



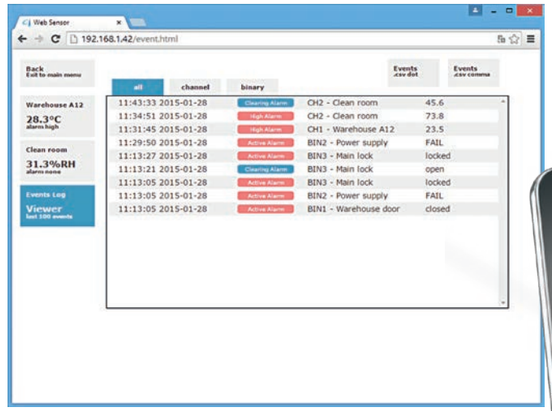
Modern HTML5 canvas graphic component allows to use graphs from thousands of devices. It is not a problem to show graphs on tablets or smartphones. All modern web browsers are supported - Firefox, Opera, Chrome or Microsoft Edge.

Display online or stored values in the COMET Cloud. The user has the option to switch graphic and tabular display, display data in one graph or by measured channels, organize devices into groups and assign user rights to display data.

Alarm Indication

Graphically * Remotely via e-mail * Via texts (with CDB software)

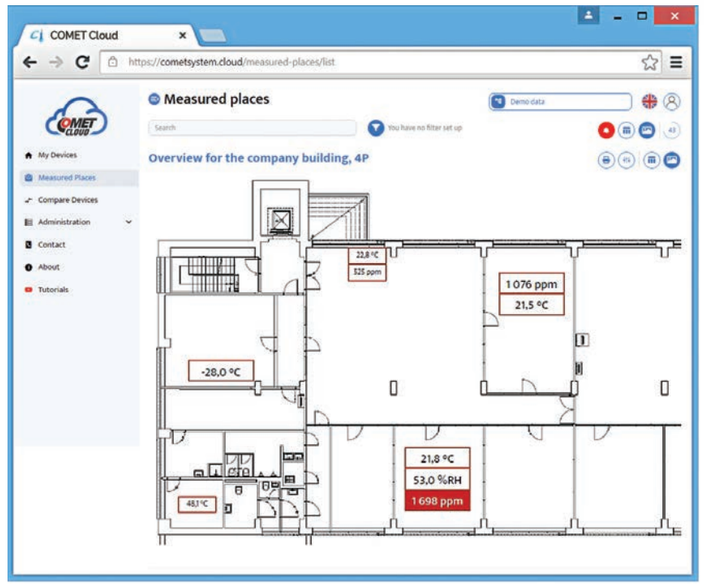
Upper and lower limits can be set for each channel. In case the limits are exceeded these critical situation is indicated remotely. It can be indicated by red field, e-mail or texts if data are transmitted to central COMET Database software. E-mails are also sent when values return back into safe range. SMTP authentication is supported, but SSL not. E-mails with CSV file attachment can be sent at selected intervals.



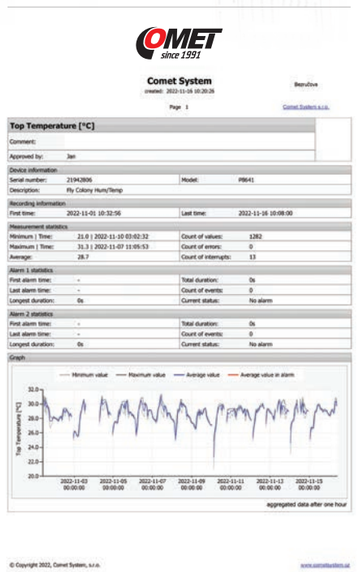
Web server interface

Minimum, maximum and alarm values together with a time stamp are recorded by the Event Log.

Web browser for data displaying



The Measured places function allows you to place the monitored quantities in the embedded image as they are distributed in the monitored space. The critical value in the alarm interval is displayed with a red highlight and accompanied by a sound signal.



A report, i.e. a summary of information about the measured location, can be created manually or automatically.

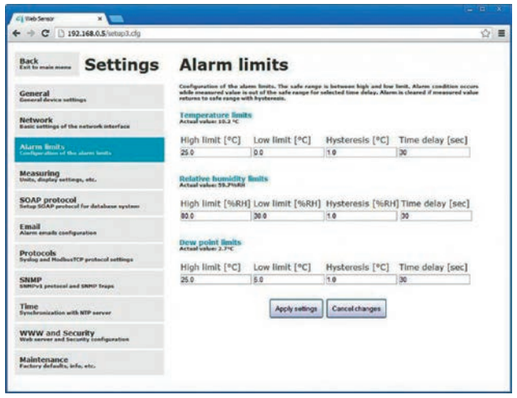
Device settings

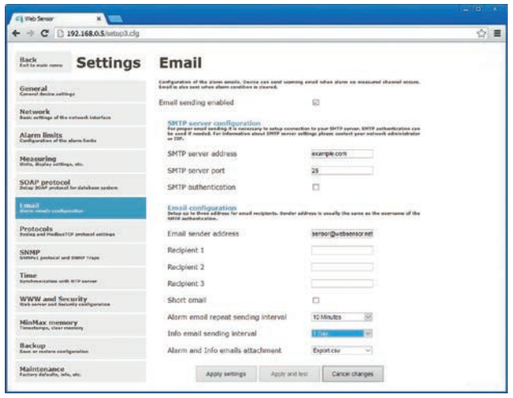
Web browser interface for settings

The device setup can be made by the TSensor software which can be downloaded for free from the manufacturer's website. The advantage of Web Sensors is possibility to providing of settings via web interface.

Sensor settings can also be done directly in a web browser in your PC, smartphone or tablet. All you need to do is enter the IP address of the sensor, open Settings and set up everything from communication to alarm e-mails.

Configuration of the alarm e-mails. Device can send warning e-mail when alarm on measured channel occurs. E-mail is also sent when alarm condition is cleared.





Device communication

Possibility of integration to third party systems

By connecting directly to a computer network the thermometer or humidity meter can be integrated into the control systems of different manufacturers using SNMP, MODBUS TCP, SOAP, syslog. Of course data in many formats is also available, for example XML and so on.

ModbusTCP protocol
Modbus protocol for communication with SCADA systems or third party software. Devices use Modbus TCP protocol version. Two Modbus clients can be connected to the device at one moment.

Actual values via XML
XML protocol for actual measured values reading. This protocol is suitable for Web Sensors integration into 3rd party SCADA systems.

SNMP protocol
SNMP version 1 protocol for IT infrastructure. Using SNMP protocol you can read actual measured values, alarm statuses and alarm parameters. Via SNMP protocol is also possible to get last 1000 measured values from the history table. MIB tables with OID description are available.

SNMP Trap
SNMP Trap for IT infrastructure. Web Sensors allow sending Traps to selected Trap receiver server. Traps are sent in case of alarm on channel or at error states like unable to send e-mail, unable to deliver SOAP message, etc.

SOAP protocol
Web Sensors allow to send currently measured values via SOAP v1.1 protocol. The device sends values in XML format to the web server. The advantage of this protocol is that communication is initialized by the device side. Therefore it is not necessary to use port forwarding.

Syslog protocol
Syslog protocol for IT infrastructure monitoring systems. Web Sensors allow sending text messages to selected Syslog server. Messages are sent in case of alarm on channel or at error states like unable to send e-mail, unable to deliver SOAP message, etc.

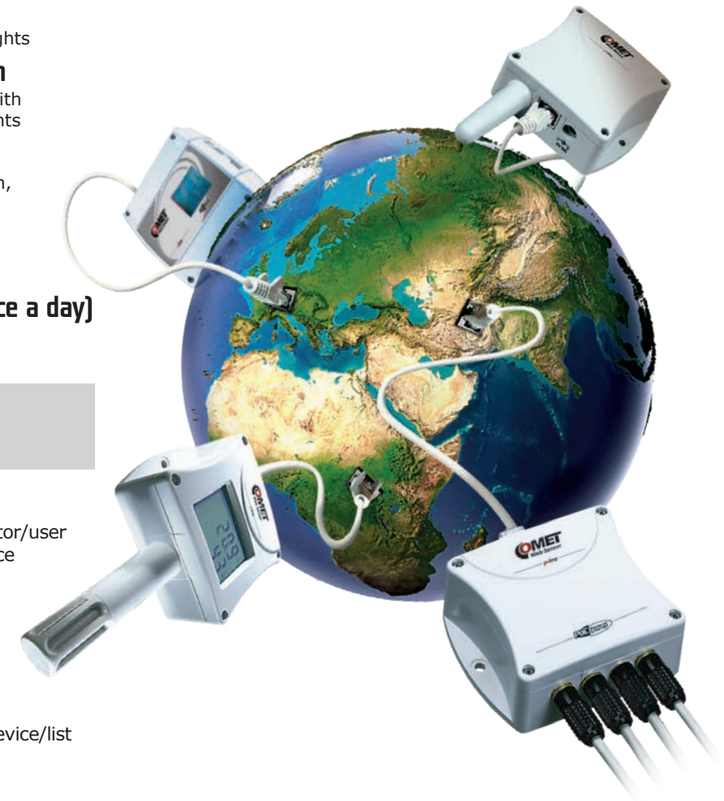
SNTP protocol - time synchronization
Time synchronisation with SNTP server. Actual time is shown at web pages and is necessary for timestamps inside CSV files. Synchronisation interval can be set to one day or to one hour.

COMET Cloud

Measured data where you need

COMET Cloud is the internet storage of data measured by COMET sensors. The data is accessible in the internet and displayed in an internet browser. Every user has the access to his account COMET Cloud protected by password. COMET Cloud enables to add sensors, creates organisational structures such sensor groups and user groups. The different rights can be set up for displaying and administration for each user.

- **unlimited space for data**
- **management and organization of**
  - equipments
  - measured points
  - users and their access rights
- **e-mail alarming when**
  - exceeding alarm limits with the option define recipients according to the level of exceedance
  - a fault occurs (connection, measurement error)
- **easy report creating**
- **device setup from COMET Cloud (only once a day)**



Tutorials

How to create account
How to add device
How to set role – administrator/user
How to create measured place

Try GUEST access at
https://cometsystem.cloud/device/list

Database software

Data storage place for COMET sensors

For users of COMET products exists a solution for data collection to one central place. It is software solution based on MS SQL and installed on customer's server or personal computer.

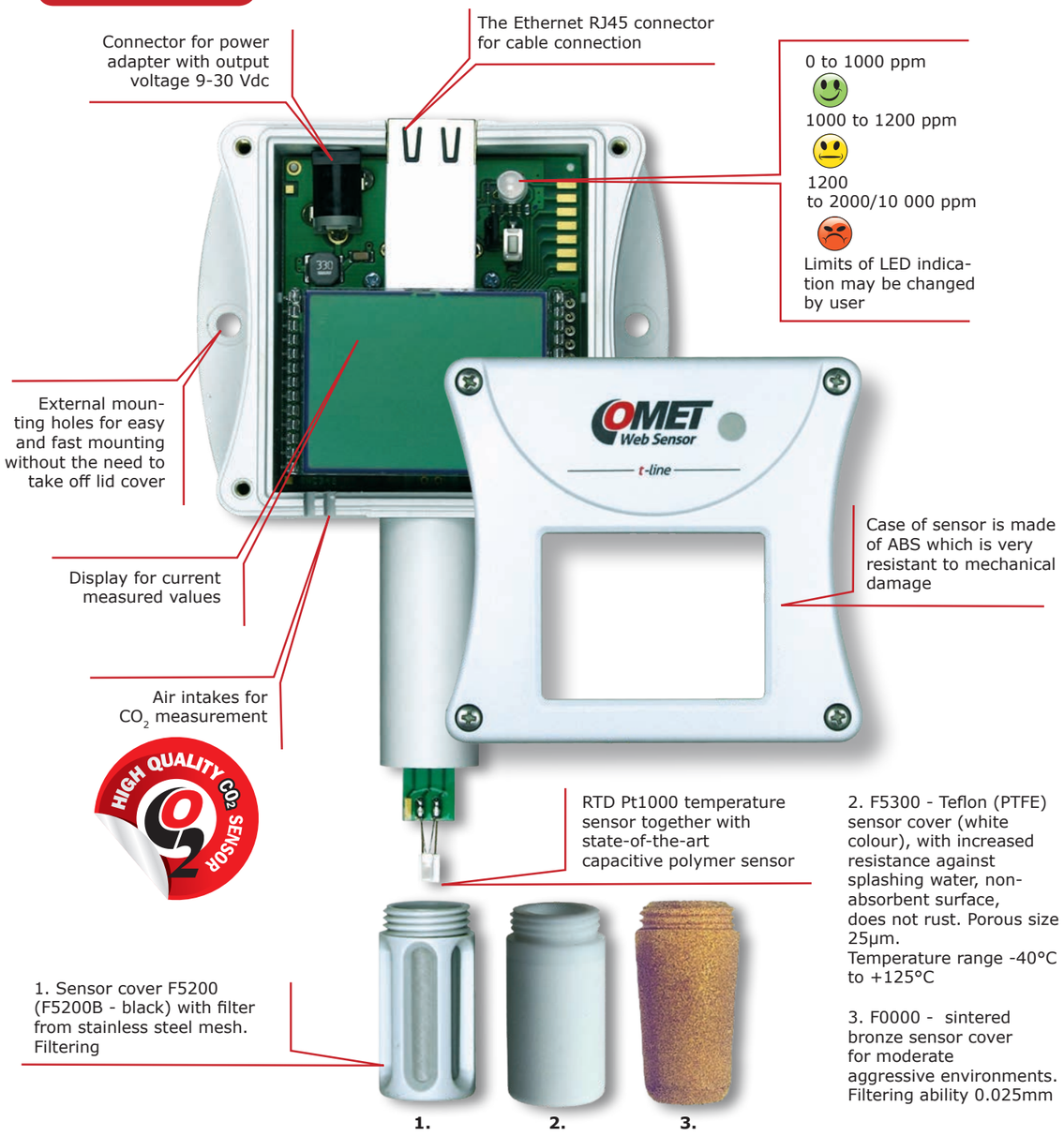
- 24 - hour supervision
- unlimited data storage
- simple and clear access to your measured values
- single repository for all devices COMET
- alarm SMS texts and e-mails
- acoustic and visual signalization of alarms

COMET Database also exists in 30 days trial version. So you can test it without any worries.

Premium Web Sensors

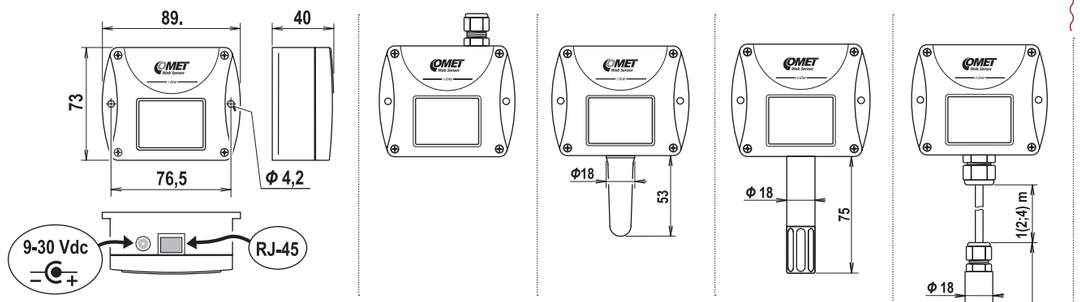
Premium Web Sensors with Ethernet connection are designed for very accurate measurement of **temperature, relative humidity, CO_2 and barometric pressure** of air in non-aggressive environments. Measured values are according to device type. Devices with relative humidity measurement can show one of computed values: dew point temperature, absolute humidity, specific humidity, mixing ratio and specific enthalpy. Temperature units are °C or °F. Premium Web Sensor are equipped with LCD display where current values can be displayed.
Devices with **PoE** (page 10) or **relay outputs** (page 14) are also available.

Without PoE



Sensor protection caps

Measured values		Temperature		Temperature, relative humidity		
SENSOR MODEL		T4511	T0510	T3510	T3511	T3511P
temperature	range	-200 to +600 °C	-30 to +80 °C	-30 to +80 °C	-30 to +105 °C	
	accuracy	±0.2 °C without temp. probe	±0.6 °C	±0.6 °C	±0.4 °C	
relative humidity *	range	-	-	0 to 100 % RH	0 to 100 % RH	
	accuracy	-	-	±2.5 % RH	±2.5 % RH	
computed humidity values		NO	NO	YES	YES	
supply voltage		9-30 V	9-30 V	9-30 V	9-30 V	
recommended calibration interval		two years	two years	one year	one year	
protection class of the case with electronics		IP30	IP30	IP30	IP30	
protection class of the sensor cover		-	-	IP40	IP40	
temperature operating range of the case with electronics		-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	
temperature operating range of the measuring element		-	-	-30 to +80 °C	-30 to +105 °C	
humidity operating range without condensation		0 to 100 % RH	0 to 100 % RH	0 to 100 % RH	0 to 100 % RH	
barometric pressure operating range		-	-	-	-	to 2,5 MPa



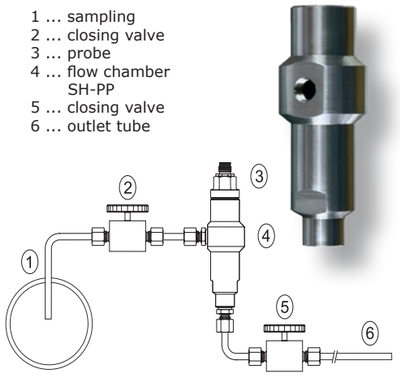
* accuracy of relative humidity in range 5 % to 95 % and of atmospheric pressure at 23 °C

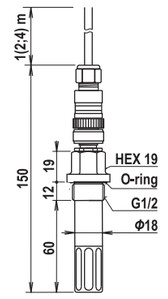
Solution for compressed air measurements

SH-PP - Flow chamber (see number 4 at picture) for compressed air measurement up to 25 bars - stainless steel DIN 1.4301 inlet and outlet connection - G1/8 thread humidity probe connection - G1/2 thread screw-coupling not included.

The probe for measuring the moisture of compressed air should be placed directly on the pressure pipelines to achieve higher measurement accuracy and faster response times. But there are cases where such placement is not possible. The reason is the high air speed, high temperature, high pollution, small diameter pipes, etc. Such situation can be solved by placing the probe into the flow measuring chamber.
The picture shows the basic layout of the sampling system with chamber SH- PP.

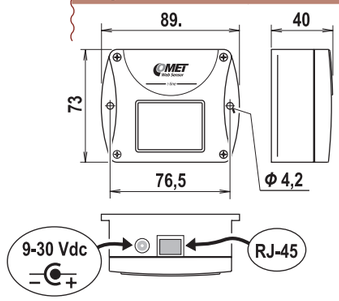
1 ... sampling
2 ... closing valve
3 ... probe
4 ... flow chamber SH-PP
5 ... closing valve
6 ... outlet tube

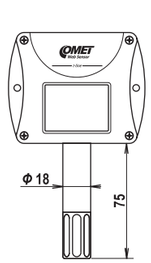


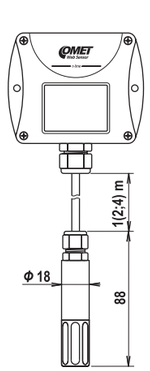


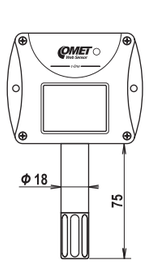
Probe for compressed air

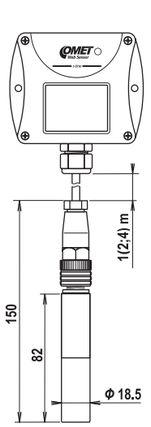
Measured values		Temperature, relative humidity, atm. pressure		Atm. pressure	Temperature, relative humidity, CO_2	CO_2		
SENSOR MODEL		T7510	T7511	T2514	T6540	T5540	T5541	T5545
temperature	range	-30 to +80 °C	-30 to +105 °C	-	-30 to +80 °C	-	-	-
	accuracy	±0.6 °C	±0.4 °C	-	±0.6 °C	-	-	-
relative humidity **	range	0 to 100 % RH	0 to 100 % RH	-	0 to 100 % RH	-	-	-
	accuracy	±2.5 % RH	±2.5 % RH	-	±2.5 % RH	-	-	-
atm. pressure **	range	600 to 1100 hPa	600 to 1100 hPa	600 to 1100 hPa	-	-	-	-
	accuracy	±1.3 hPa	±1.3 hPa	±1.3 hPa	-	-	-	-
CO_2 ***	range	-	-	-	0 to 2000 ppm*	0 to 2000 ppm*	0 to 10000 ppm	0 to 2000 ppm*
	accuracy	-	-	-	± (50 ppm+2 % of measured value)	± (50 ppm+2 % of measured value)	± (110 ppm+5 % of measured value)	± (50 ppm+2 % of measured value)
computed humidity values		YES	YES	NO	YES	NO	NO	NO
supply voltage		9-30 V	9-30 V	9-30 V	9-30 V	9-30 V	9-30 V	9-30 V
recommended calibration interval		one year	one year	one year	one year	five years	five years	five years
protection class of the case with electronics		IP30	IP30	IP30	IP30	IP30	IP30	IP30
protection class of the sensor cover		IP40	IP40	-	IP40	-	IP 65	IP20
temperature operating range of the case with electronics		-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +60 °C	-30 to +60 °C	-30 to +80 °C	-30 to +60 °C
temperature operating range of the measuring element		-30 to +80 °C	-30 to +105 °C	-	-30 to +80 °C	-	-40 to +60 °C	-
humidity operating range without condensation		0 to 100 % RH	0 to 100 % RH	0 to 100 %RH	5 to 95 % RH	5 to 95 % RH	0 to 100 % RH	5 to 95 % RH
barometric pressure operating range		-	-	-	850 to 1100 hPa	850 to 1100 hPa	850 to 1100 hPa	850 to 1100 hPa

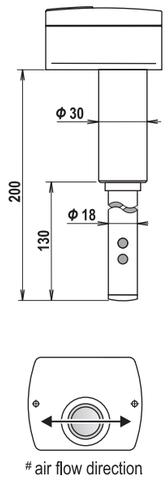












* custom range 10000 ppm for an extra fee
** accuracy of relative humidity in range 5 % to 95 % and of atmospheric pressure at 23 °C
*** accuracy of CO_2 concetration of measurement at 25 °C and 1013 hPa

Computed values

Specific humidity
Accuracy: ±2.1 g/kg at ambient temperature T < 35 °C
Range: 0 to 550 g/kg

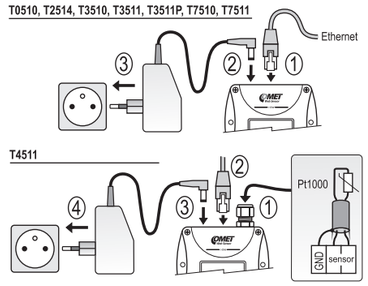
Dew point temperature
Accuracy: ±1.5 °C at ambient temperature T<25 °C and relative humidity RH >30 %, for more details see manual
Range: -60 to +80 °C
(-76 to 176 °F)

Mixing ratio
Accuracy: ±2.2 g/kg at ambient temperature T < 35 °C
Range: 0 to 995 g/kg

Absolute humidity
Accuracy: ±3 g/m3 at ambient temperature T < 25 °C
for more details see manual
Range: 0 to 400 g/m3

Specific enthalpy
Accuracy: ± 4 kJ/kg at ambient temperature T < 25 °C
Range: 0 to 995 kJ/kg

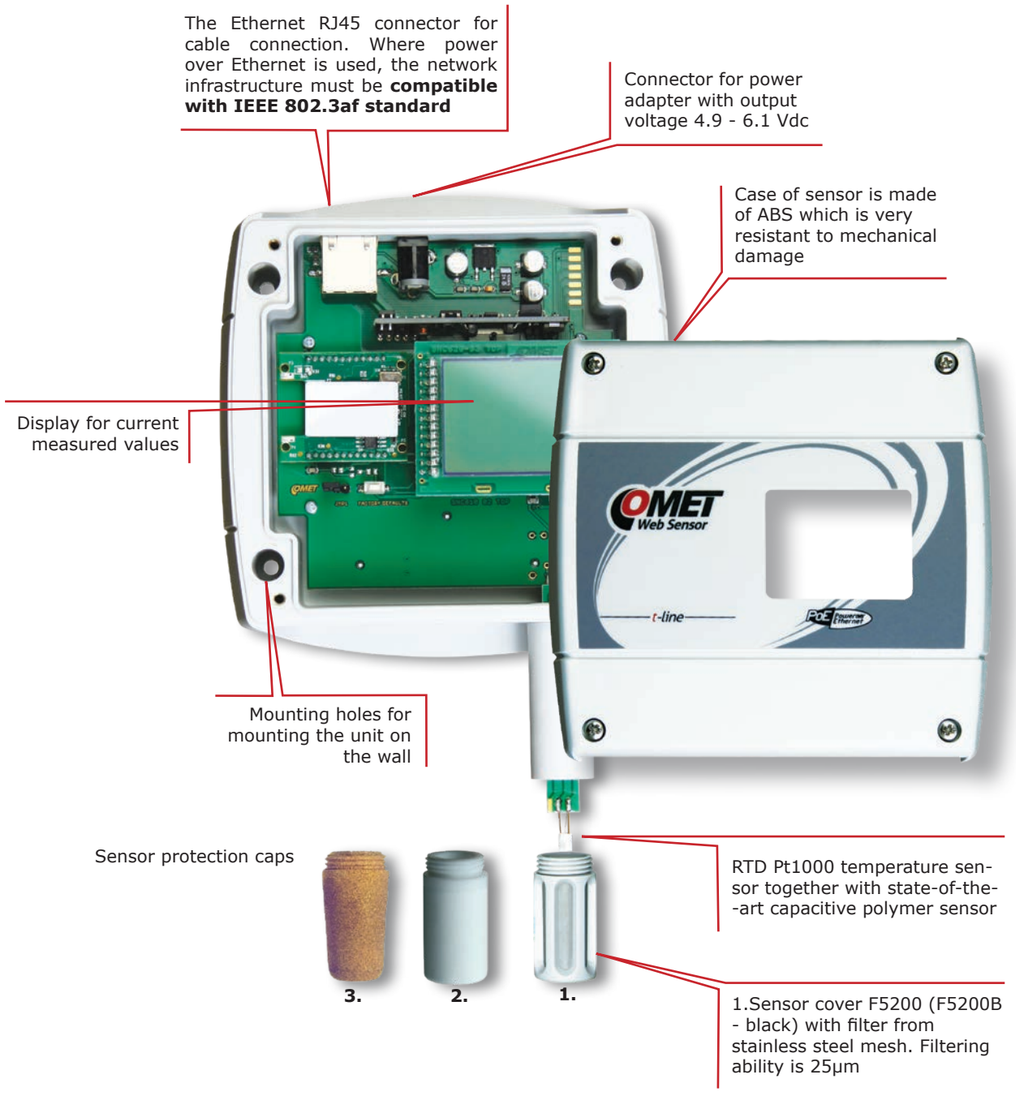
Device without PoE - connection procedure



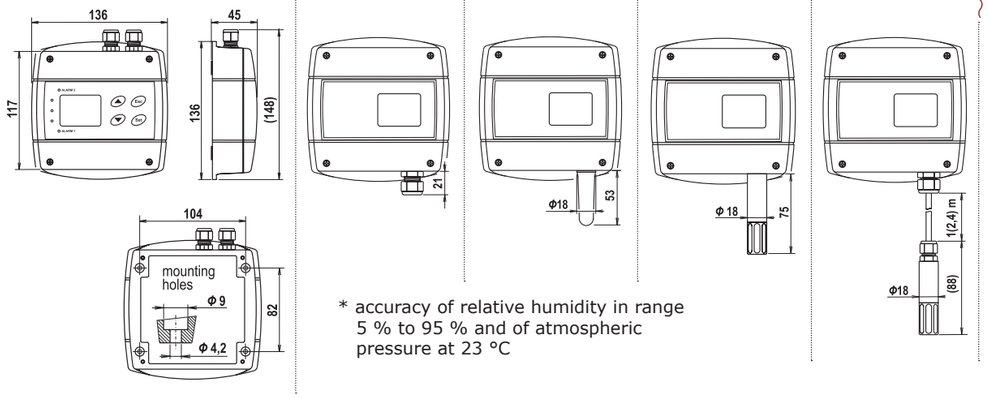
A1515
Switching power supply unit for Ethernet transmitters Tx5xx, Hx5xx.

Premium Web Sensors

With PoE



Measured values		Temperature		Temperature, relative humidity	
SENSOR MODEL		T4611	T0610	T3610	T3611
temperature	range	-200 to +600 °C	-20 to +60 °C	-20 to +60 °C	-30 to +105 °C
	accuracy	±0.2 °C without temperature probe	±0.6 °C	±0.6 °C	±0.4 °C
relative humidity*	range	-	-	0 to 100 % RH	0 to 100 % RH
	accuracy	-	-	±2.5 %RH	±2.5 % RH
atm. pressure*	range	-	-	-	-
	accuracy	-	-	-	-
computed humidity values		NO	NO	YES	YES
supply voltage		4.9 - 6.1 V	4.9 - 6.1 V	4.9 - 6.1 V	4.9 - 6.1 V
Power over Ethernet (PoE) according to IEEE 802.3af		YES	YES	YES	YES
recommended calibration interval		two years	two years	one year	one year
protection class of the case with electronics		IP30	IP30	IP30	IP30
protection class of the sensor cover		-	-	IP40	IP40
temperature operating range of the case with electronics		-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C
temperature operating range of the measuring element		-	-	-20 to +60 °C	-30 to +105 °C
humidity operating range without condensation		0 to 100 % RH	0 to 100 % RH	0 to 100 % RH	0 to 100 % RH

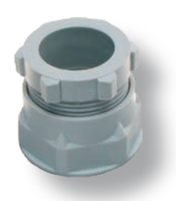


* accuracy of relative humidity in range 5 % to 95 % and of atmospheric pressure at 23 °C

Mounting accessories for sensors with stem or external probe

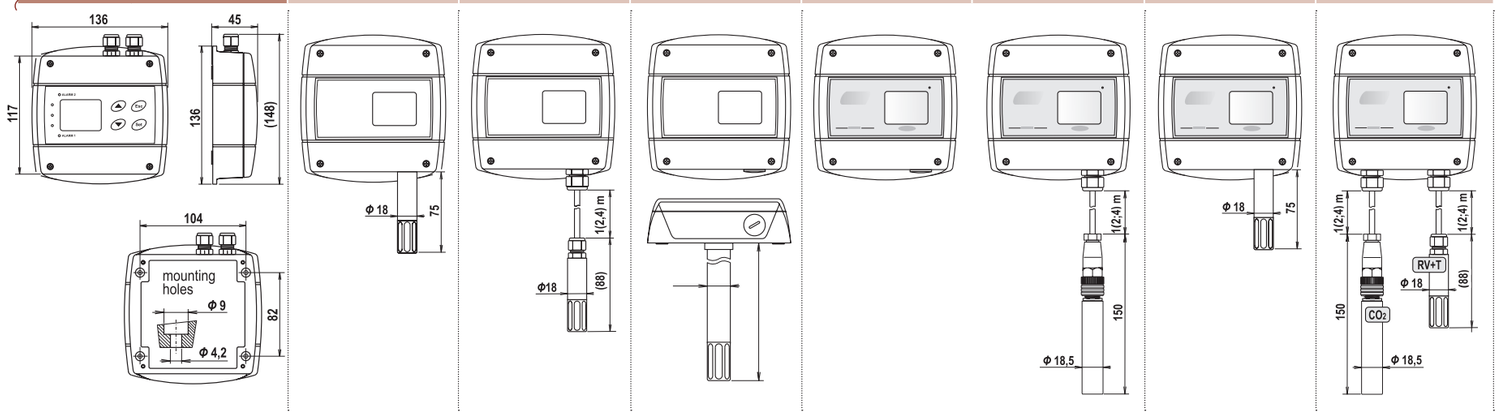
PP90 – Right-angled stainless steel flange.

PP4 – plastic flat circular flange



SP004 - Plastic gland for direct mounting of the humidity probe to a 29 mm diameter hole.

Measured values		Temperature, relative humidity, atm. pressure			CO_2		Temperature relative humidity, CO_2	
SENSOR MODEL		T7610	T7611	T7613D	T5640	T5641	T6640	T6641
temperature	range	-20 to +60 °C	-30 to +105 °C	-30 to +105 °C			-20 to +60 °C	-30 to +105 °C
	accuracy	±0.6 °C	±0.4 °C	±0.6 °C			±0.6 °C	±0.4 °C
relative humidity*	range	0 to 100 % RH	0 to 100 % RH	0 to 100 % RH			0 to 100 % RH	0 to 100 % RH
	accuracy	±2.5 % RH	±2.5 % RH	±2.5 % RH			±2.5 % RH	±2.5 % RH
atm. pressure*	range	600 to 1100 hPa	600 to 1100 hPa	600 to 1100 hPa			850 to 1100 hPa	850 to 1100 hPa
	accuracy	±1.3 hPa	±1.3 hPa	±1.3 hPa			±1.3 hPa	±1.3 hPa
CO_2	range				± (50 ppm+2 % of measured value)	± (100 ppm+5 % of measured value)	± (50 ppm+2 % of measured value)	± (100 ppm+5 % of measured value)
	accuracy				2000 ppm	10000 ppm	2000 ppm	10000 ppm
computed humidity values		YES	YES	YES			YES	YES
supply voltage		4.9 - 6.1 V	4.9 - 6.1 V	4.9 - 6.1 V	5.0 - 6.1 V	5.0 - 6.1 V	5.0 - 6.1 V	5.0 - 6.1 V
Power over Ethernet (PoE) according to IEEE 802.3af		YES	YES	YES	YES	YES	YES	YES
recommended calibration interval		one year	one year	one year	five years	five years	one year	one year
protection class of the case with electronics		IP30	IP30	IP30	IP30	IP30	IP30	IP30
protection class of the sensor cover		IP40	IP40	IP40		IP65	IP40	IP40
temperature operating range of the case with electronics		-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-20 to +60 °C	-30 to +80 °C	-20 to +60 °C	-30 to +80 °C
temperature operating range of the RH sensor		-20 to +60 °C	-30 to +105 °C	-30 to +105 °C			-20 to +60 °C	-30 to +105 °C
humidity operating range without condensation		0 to 100 % RH	0 to 100 % RH	0 to 100 % RH	0 to 95 % RH	0 to 100 % RH	0 to 95 % RH	0 to100 % RH



* accuracy of relative humidity in range 5 % to 95 % and of atmospheric pressure at 23 °C

Computed values

Specific humidity
Accuracy: ±2.1 g/kg at ambient temperature T < 35 °C
Range: 0 to 550 g/kg

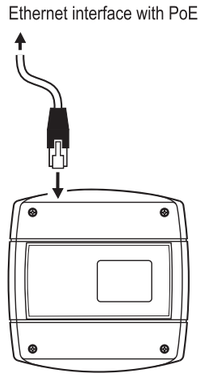
Dew point temperature
Accuracy: ±1.5 °C at ambient temperature T<25 °C and relative humidity RH >30 %, for more details see manual
Range: -60 to +80 °C (-76 to 176 °F)

Absolute humidity
Accuracy: ±3 g/m³ at ambient temperature T < 25 °C
for more details see manual
Range: 0 to 400 g/m3

Mixing ratio
Accuracy: ±2.2 g/kg at ambient temperature T < 35 °C
Range: 0 to 995 g/kg

Specific enthalpy
Accuracy: ± 4kJ/kg at ambient temperature T < 25 °C
Range: 0 to 995 kJ/kg

Device with PoE - connection procedure



Universal holder for probes

MP047
Universal holder for probes for easy mounting to rack 19”.

Premium Web Sensors

With relays & three two-states inputs

Ethernet RJ45 connector for cable connection

Glands for the cable to the output relay

Mounting holes for mounting the unit on the wall

Connector for power adapter with output voltage 9-30 Vdc

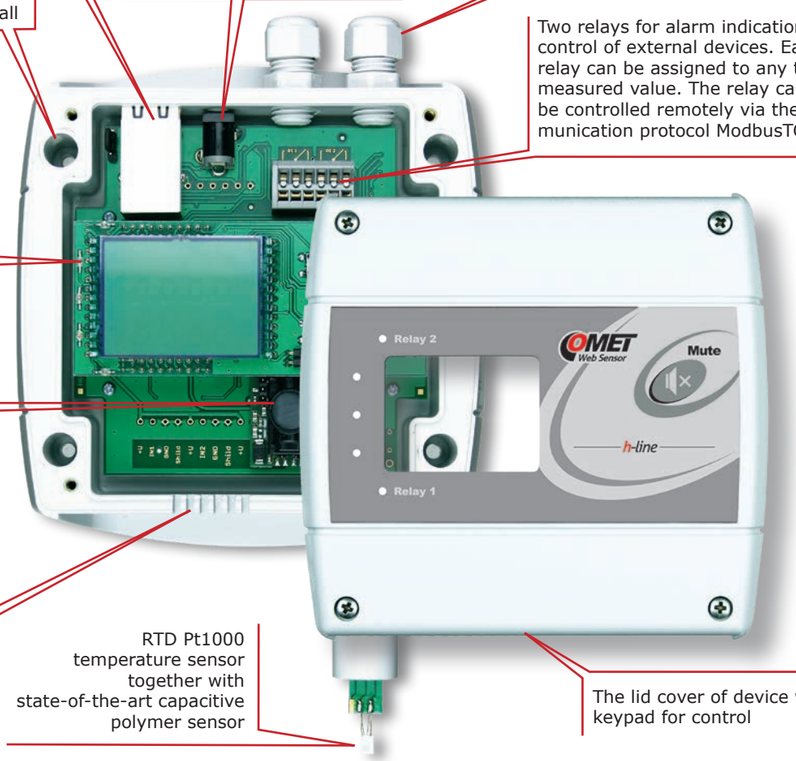
Two relays for alarm indication or control of external devices. Each relay can be assigned to any the measured value. The relay can also be controlled remotely via the communication protocol ModbusTCP

0 to 1000 ppm

1000 to 1200 ppm

1200 to 2000/10 000 ppm

Limits of LED indication may be changed by user



CO_2 module

Air intakes for CO_2 measurement. **Three two-state inputs** with devices without CO_2 measurement

RTD Pt1000 temperature sensor together with state-of-the-art capacitive polymer sensor

The lid cover of device with keypad for control

Sensor protection caps

3. 2. 1.

1. Sensor cover with filter from stainless steel mesh. Filtering ability is 25µm

2. F5300 - Teflon (PTFE) sensor cover (white colour), with increased resistance against splashing water, non-absorbent surface, does not rust. Porous size 25µm.
Temperature range -40°C to +125°C

3. F0000 - sintered bronze sensor cover for moderate aggressive environments. Filtering ability 25µm

designed for 19“ rack mounting

Visualization of two - state inputs is done by three LED diodes. Each relay status is indicated with other two LED diodes described as ALARM1 and ALARM2 shown also on LCD

Display with keypad for setting

Mounting brackets to rack 19”

RTD Pt1000 temperature sensor together with state-of-the-art capacitive polymer sensor

Glands for cables

Connector for power adapter with output voltage 9-30 Vdc

Ethernet RJ45 connector for cable connection

Terminals for input and output signal

Two-state detectors

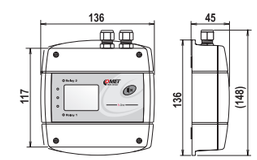
SD-283ST	LD12	SA200A	JS-20	SP008
				
smoke detector	flood detector	door contact	motion detector	voltage detector

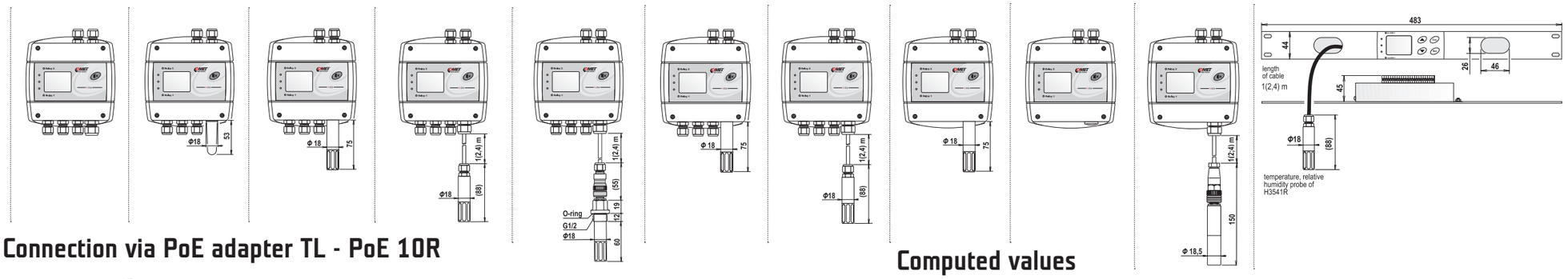
Measured values		Temperature		Temperature, relative humidity			Temperature, relative humidity, atm. pressure		Temperature, relative humidity, CO_2	CO_2		Temperature	Temperature, relative humidity
SENSOR MODEL		**H4531**	**H0530**	**H3530**	**H3531**	**H3531P**	**H7530**	**H7531**	**H6520**	**H5524**	**H5521**	**H4531R**	**H3531R**
temperature	range	-200 to +600 °C	-30 to +80 °C	-30 to +80 °C	-30 to +105 °C		-30 to +80 °C	-30 to +105 °C	-30 to +80 °C	-	-	-200 to +600 °C	-30 to +105 °C
	accuracy	±0.2 °C without temp. probe	±0.4 °C	±0.4 °C	±0.4 °C		±0.4 °C	±0.4 °C	±0.4 °C	-	-	±0,2 °C without temperature probe	±0.4 °C
relative humidity**	range	-	-	0 to 100 % RH	0 to 100 % RH		0 to 100 % RH	0 to 100 % RH	0 to 100 % RH	-	-	-	0 to 100 % RH
	accuracy	-	-	±2.5 % RH	±2.5 % RH		±2.5 % RH	±2.5 % RH	±2.5 % RH	-	-	-	±2.5 % RH
atmospheric pressure**	range	-	-	-	-		600 to 1100 hPa	600 to 1100 hPa	-	-	-	-	-
	accuracy	-	-	-	-		±1.3 hPa	±1.3 hPa	-	-	-	-	-
CO_2 ***	range	-	-	-	-		-	-	0 to 2000 ppm*	0 to 2000 ppm*	0 to 10 000 ppm	-	-
	accuracy	-	-	-	-		-	-	± (50 ppm+2 % of measured value)		± (110 ppm +5 % of measured value)	-	-
relay output max. switching voltage, current, power		50 V, 2 A, 60 VA	50 V, 2 A, 60 VA	50 V, 2 A, 60 VA	50 V, 2 A, 60 VA		50 V, 2 A, 60 VA	50 V, 2 A, 60 VA	50 V, 2 A, 60 VA	50 V, 2 A, 60 VA	50 V, 2 A, 60 VA	50 V, 2 A, 60 VA	50 V, 2 A, 60 VA
computed humidity values		NO	NO	YES	YES		YES	YES	YES	NO	NO	NO	YES
supply voltage		9-30 V	9-30 V	9-30 V	9-30 V		9-30 V	9-30 V	9-30 V	9-30 V	9-30 V	9-30 V	9-30 V
recommended calibration interval		two years	two years	one year	one year		one year	one year	one year	five years	five years	two years	one year
protection class of the case with electronics		IP40	IP40	IP40	IP40		IP40	IP40	IP30	IP30	IP30	IP30	IP30
protection class of the sensor cover		-	-	IP40	IP40		IP40	IP40	IP40	-	IP65	-	IP40
temperature operating range of the case with electronics		-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C		-30 to +80 °C	-30 to +80 °C	-30 to +60 °C	-30 to +60 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C
temperature operating range of the measuring element		-	-	-30 to +80°C	-30 to +105°C		-30 to +80 °C	-30 to +105 °C	-30 to +80 °C	-	-40 to +60 °C	-	-30 to +10 5°C
humidity operating range without condensation		0 to 100 % RH	0 to 100 % RH	0 to 100 % RH	0 až 100 % RH		0 to 100 % RH	0 to 100 % RH	0 to 95 % RH	5 to 95 % RH	0 to 100 % RH	0 to 100 % RH	0 to 100 % RH
barometric pressure operating range		-	-	-	-	up to 2.5 MPa	-	-	850 to 1100 hPa	850 to 1100 hPa	850 to 1100 hPa	-	-

* Custom range 10000 ppm for an extra fee

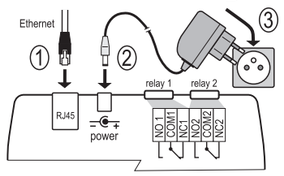
** accuracy of relative humidity in range 5 % to 95 % and of atmospheric pressure at 23 °C

*** accuracy of CO_2 concetration of measurement at 25 °C and 1013 hPa

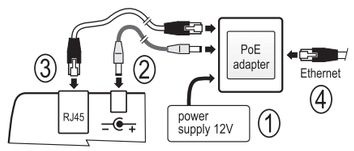




Electrical wiring



Connection via PoE adapter TL - PoE 10R



Computed values

Specific humidity
Accuracy: ±2.1 g/kg at ambient temperature T < 35 °C
Range: 0 to 550 g/kg

Dew point temperature
Accuracy: ±1.5°C at ambient temperature T<25 °C and relative humidity RH >30 %, for more details see manual
Range: -60 to +80 °C
(-76 to 176 °F)

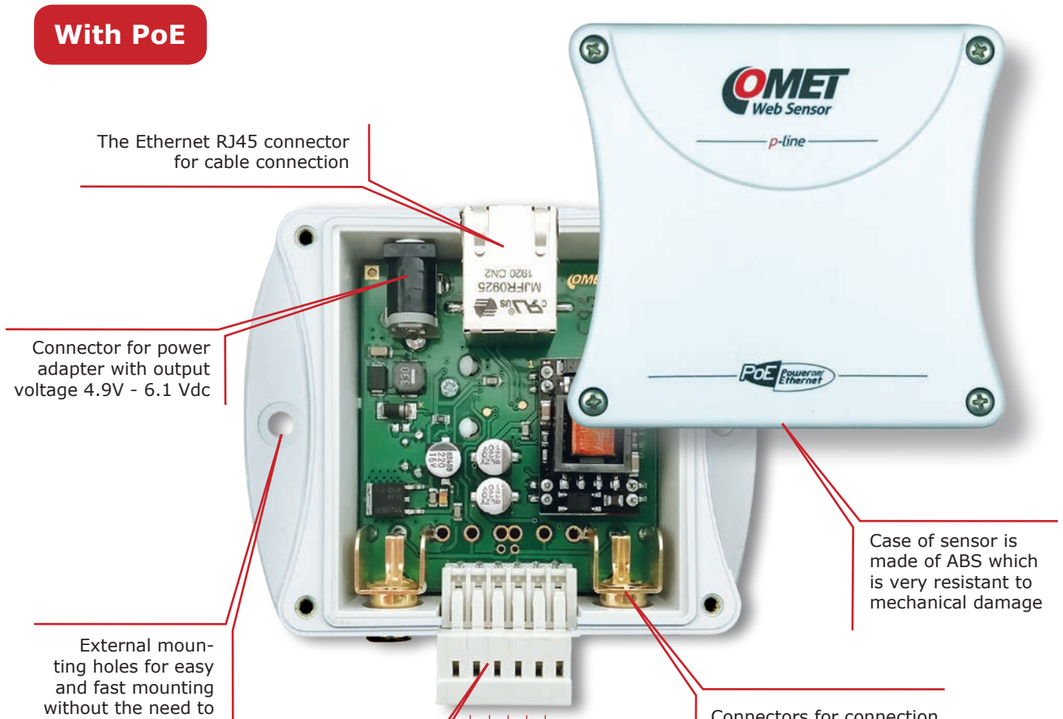
Absolute humidity
Accuracy: ±1.5 g/m³ at ambient temperature T < 25 °C
for more details see manual
Range: 0 to 400 g/m³

Mixing ratio
Accuracy: ±2 g/kg at ambient temperature T < 35 °C
Range: 0 to 995 g/kg

Specific enthalpy
Accuracy: ± 3 kJ/kg at ambient temperature T < 25 °C
Range: 0 to 995 kJ/kg

Economy Web Sensors

With PoE



SD-283ST

smoke detector

LD12

flood detector

SA200A

door contact

JS-20

motion detector

SP008

voltage detector

Sensor models:

MEASURED VALUES	without PoE**	with PoE**
temperature	P8510	P8610
temperature + relative humidity*	P8511, P8541	P8641, P8611
temperature + relative humidity* + two - state inputs	P8552	P8652
0-20mA (4-20 mA)	P2520	

* With the attached temperature and humidity probe - type DSRH (max. length 10 metres)

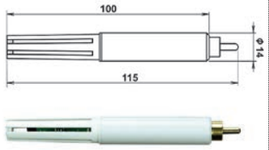
** Please see page 20 - 21 for sensor specification

External digital temperature probes

Temperature probes on the cable are designed to measure the temperature in specific applications. Probes are supplied in lengths of 1, 2, 5 and 10 meters (15 and 20 meters for DSTR162/C). The maximum sum of the lengths of all probes is 40m which can be connected to one device.

Fast response air probe with without protection against moisture.

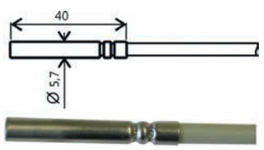
DST/C



range (0°C to +50°C)
accuracy ±0.5°C

Multi-purpose watertight probe with IP67.

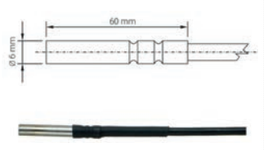
DSTGL40/C



range (-30°C to +80°C
accuracy ±0.5°C from -10°C to +80°C;
otherwise ±2°C

Universal temperature watertight probe for monitoring higher temperature.

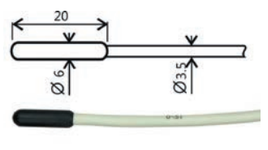
DSTG8/C



range (-50°C to +125°C
accuracy ±0.5°C from -10°C to +80°C;
otherwise ±2°C

Inexpensive probe with plastic housing, slow response and with IP67.

DSTR162/C

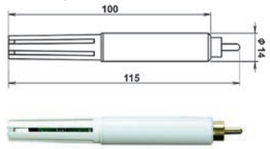


range (-30°C to +80°C
accuracy ±0.5°C from -10°C to +80°C;
otherwise ±2°C

External temperature probes

Fast response probe without protection against moisture.

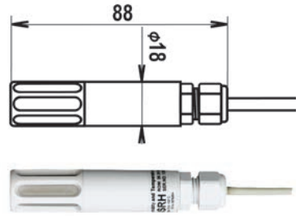
DSRH/C



temperature
range (0°C to +50°C)
accuracy ±0.5°C
humidity
range (0 to 100 % RH)
accuracy ±3.5 % RH

The external probe with cable lenght 1,2,5 and 10 meters. The probe with interchangeable sensor covers.

External temperature and humidity



DSRH
temperature
range (0°C to +50°C)
accuracy ±2°C
humidity
range (0 to 100 % RH)
accuracy ±3.5 % RH

DSRH+
temperature
range (0°C to +50°C)
accuracy ±0,5°C
humidity
range (0 to 100 % RH)
accuracy ±3.5 % RH

F5300 - Teflon (PTFE) sensor cover (white colour), with increased resistance against splashing water, non-absorbent surface, does not rust. Porous size 25µm.

F0000 - sintered bronze sensor cover for moderate aggressive environments.
Filtering ability 25µm.

F5200 - sensor cover with filter from stainless steel mesh, suitable for moderately dusty environment.

Measured values		Temperature	Temperature, relative humidity			Current - mA
SENSOR MODEL		P8510/ P8610	P8511/P8611	P8541/P8641	P8552/P8652	P2520
temperature	range	-30 to +80 °C/ -20 to +60 °C	according to the used probe*	according to the used probe*	according to the used probe*	-
	accuracy	±0.8 °C (> -10 °C) ±2 °C (< -10 °C)	according to the used probe*	according to the used probe*	according to the used probe*	-
relative humidity	range	-	according to the used probe*	according to the used probe*	according to the used probe*	-
	accuracy	-	according to the used probe*	according to the used probe*	according to the used probe*	-
two - state input, no galvanic isolation		-	-	-	3	-
configuration Dry contact/ Voltage input		-	-	-	YES	-
current measuring range		-	-	-	-	0-25mA(max.30mA)
accuracy of current measurement		-	-	-	-	±0.1 % FS from (0 °C do +50 °C) ±0.3 % FS from (-30 °C do+80 °C)
resolution		-	-	-	-	1uA
input impedance		-	-	-	-	20Ω
supply voltage		9-30 V / 4,9 - 6,1V	9-30 V / 4,9 - 6,1V	9-30 V / 4,9 - 6,1V	4,9 - 6,1V	9-30 V
power over Ethernet (PoE) according to IEEE 802.3af		- / YES	- / YES	- / YES	- / YES	-
recommended calibration interval		two years	according to the used probe*	according to the used probe*	according to the used probe*	two years
protection class of the case with electronics		IP30	IP30	IP30	IP30	IP30
temperature operating rangeof the case with electronics		-30 to +80 °C / -20 to +60 °C	-30 to +80 °C / -20 to +60 °C	-30 to +80 °C / -20 to +60 °C	-20 to +60 °C	-30 to +80 °C
humidity operating range without condensation		0 do 100 % RV	0 do 100 % RV	0 do 100 % RV	0 do 100 % RV	0 do 100 % RV

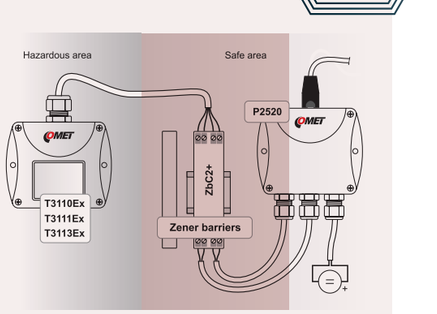
Solution for third party sensors

P2520 two channel current loop converter is designed to connect sensors with output 4-20mA / 0-20 mA into Ethernet network. The current signal can be recalculated to physical values measured by the connected sensors. Sensors can be powered directly from the P2520 converter.

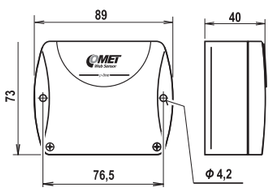
- Measured values can be read by means of Ethernet connection.
- The instrument may also send a warning message if the measured value exceeds adjusted limit.
- The device setup can be made by the www interface.

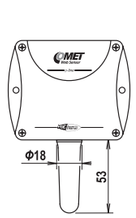
P2520

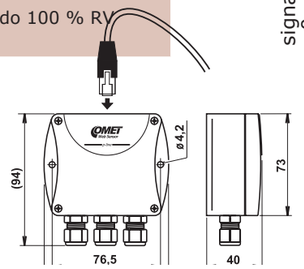
Installation of temperature and humidity sensors for explosive (Ex)



Sample of connection of an analog sensor to Ethernet network.



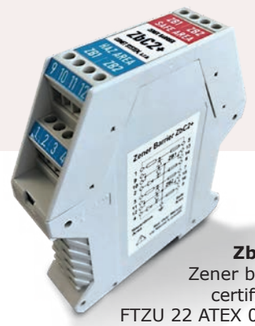




MP047
Universal holder for probes for easy mounting to rack 19".

A1825
Switching power supply unit for Web Sensors P8xxx and Tx6xx.

MP046
Universal holder for P8xxx and Tx5xx Web Sensors for easy mounting to rack 19".



ZbC2 +
Zener barrier certificate: FTZU 22 ATEX 0018X

WEB SENSORS

On-line monitoring and alarm indication

Temperature | Humidity | Dewpoint |
Bar. pressure | CO_2 | Current | Events

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