



Programmable Sensors

with industrial design

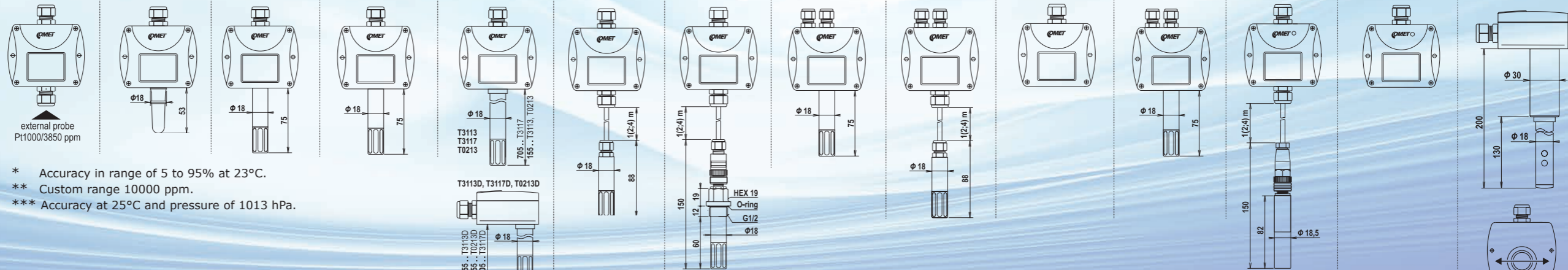
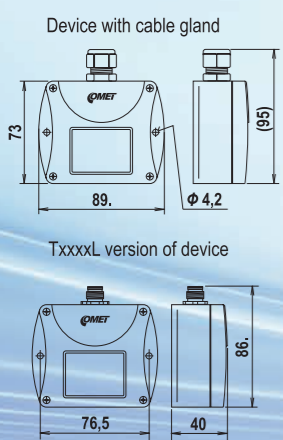
Outputs 4 - 20 mA, 0 - 10 V, RS232, RS485



- Accurate measurement of:
 - Temperature
 - Humidity
 - Dew point
 - Atmospheric pressure
 - CO₂
- Industrial design with protection up to IP65
 - Integrated sensors
 - With external probe
 - Duct mount design
- Programmable sensors allows you to:
 - Set the desired range of the analog output
 - Assign the measured value to output
 - Select and assign the computed value
 - Make a user adjustment of the sensor
 - Turn the display off



| MEASURED VALUES | | Temperature | | Relative humidity | Temperature + relative humidity | | | | Temperature + relative humidity + atm. pressure | | Atm. pressure | Temperature + relative humidity + CO ₂ | CO ₂ | | |
|---|-----------|--|---------------|-------------------|---------------------------------|--------------------|----------------|----------------|---|-----------------|-----------------|---|-----------------------|--------------------|--------------------|
| Output | 4 - 20 mA | T4111 | T0110 | T1110 | T3110 | T3113(D), T3117(D) | T3111 | T3111P | | | T2114 | - | T5141 | T5140 | T5145 |
| | 0 - 10 V | T4211 | - | - | T0210 | T0213(D) | T0211 | T0211P | | | T2214 | - | T5241 | T5240 | T5245 |
| | RS485 | T4411 | T0410 | - | T3411 | T3413(D), T3417(D) | T3419 | T3419P | T7410 | T7411 | T2414 | T6440 | T5441 | T5440 | - |
| | RS232 | T4311 | T0310 | - | T3311 | T3313 | T3319 | T3319P | T7310 | T7311 | T2314 | T6340 | T5341 | T5340 | - |
| temperature | range | ±(0,15 +0,1 %TMR)°C | -30 to +80 °C | - | -30 to +80 °C | -30 to +125 °C | -30 to +105 °C | -30 to +105 °C | -30 to +80 °C | -30 to +105 °C | - | -30 to +80 °C | - | - | - |
| | accuracy | accuracy of current output (device without probe) TMR ... temperature measuring range | ±0,4 °C | - | ±0,4 °C | ±0,4 °C | ±0,4 °C | ±0,4 °C | ±0,4 °C | ±0,4 °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 | 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 | ±2,5 %RH | ±2,5 %RH | - | ±2,5 %RH | - | - | - |
| barometric 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 10000 ppm | 0 to 2000 ppm** | 0 to 2000 ppm** |
| | accuracy | - | - | - | - | - | - | - | - | - | - | ±(50 ppm+2% of MV) | ±(110 ppm +2 % of MV) | ±(50 ppm+2% of MV) | ±(50 ppm+2% of MV) |
| computed values | | NO | NO | NO | YES | YES | YES | YES | YES | YES | NO | YES | NO | NO | NO |
| protection class of the case with electronics | | IP65 / - | IP65 / 65 | IP65 / 40 | IP65 / 40 | IP65 / 40 | IP65 / 40 | IP65 / 40 | IP54 / 40 / 0 | IP54 / 40 / 0 | IP54 / - | IP30 / 40 / 30 | IP65 / 65 | IP30 / - | IP65 / IP20 |



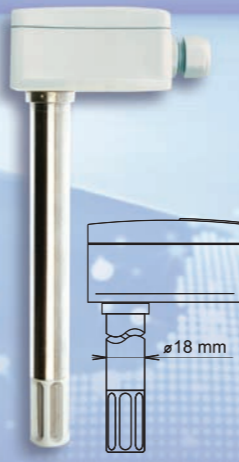
* Accuracy in range of 5 to 95% at 23°C.
 ** Custom range 10000 ppm.
 *** Accuracy at 25°C and pressure of 1013 hPa.

- Absolute humidity
- Dew point temperature
- Mixing ratio
- Specific humidity
- Specific enthalpy

The number of cable glands and their location may vary depending on the model. Stems longer than 75 mm are made of stainless steel.

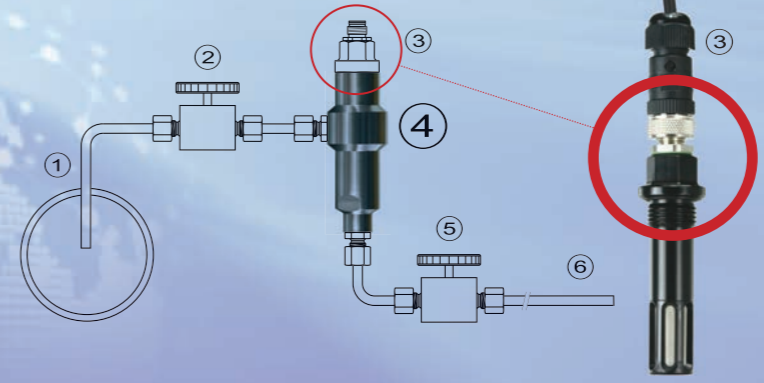
Sensor with a display placed perpendicular to the axis of the measuring stem - version TxxxxD.

This construction is suitable for installation in air ducts.



Humidity measurement in compressed air

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. However, there are cases where such placement is not possible due to factors such as high air speed, high temperature, high pollution, small diameter pipes, etc. This situation can be resolved by placing the probe into the flow measuring chamber. The picture shows the basic layout of the sampling system with chamber SH-PP.

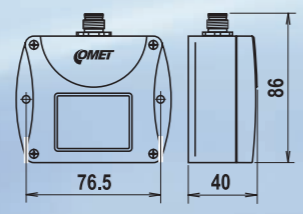


- 1 ... sampling
- 2 ... closing valve
- 3 ... probe
- 4 ... flow chamber
- 5 ... closing valve
- 6 ... outlet tube

SH-PP - Flow chamber 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.

Easy connection of the output cable

Transmitter version with watertight male connector TxxxL. Waterproof connector for easy connection and disconnection of the output cable (connector Lumberg RSFM4 IP67). Please specify your order with letter L behind model code (e.g. TxxxL).



K1427 - Female connector ELKA for TxxxL transmitters with male connector Lumberg, enabling easy connection/disconnection of the output. IP67 protection is provided.



Sensors are available with integrated sensors, with sensors on the cable, and with probes for pressure environments.

The sensor case is made of ABS, which is very resistant to mechanical damage.

The terminals for the output signal and power supply.

All transmitter settings can be done by PC.

External mounting holes allow for easy and fast installation without the need to remove the lid cover.

Sealing lid protects electronics from dust and splashing water.

An RTD Pt1000 temperature sensor, combined with a state-of-the-art capacitive polymer sensor, ensures excellent calibration, long-term stability, and resistance to water and condensation.

Protection of sensors

1. Sensor cover F5200 (F5200B - black) with a stainless steel mesh filter. Filtering ability: 0.025mm.

2. F5300 - Teflon (PTFE) sensor cover (white color), featuring increased resistance against splashing water, a non-absorbent surface, and rust-free properties. Porous size: 25µm. Temperature range: -40°C to +125°C.

3. F0000 - Sintered bronze sensor cover for moderately aggressive environments. Filtering ability: 0.025mm.

