

Regulators

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



- Accurate measurement of:
 - Temperature
 - Humidity
 - Dew point
 - Atmospheric pressure
 - Two-state events
 - CO₂
- Industrial design with protection up to IP65
 - Integrated sensors
 - With external probe
- Relays output 250Vac / 8A or 50 V on selected models



product catalog
for digital
sensors

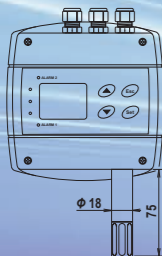
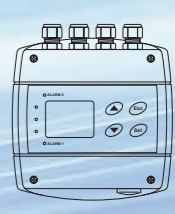
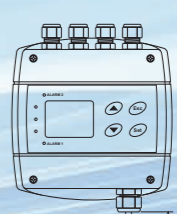
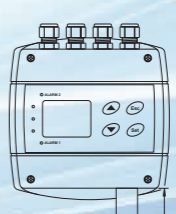
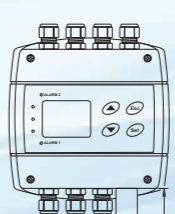
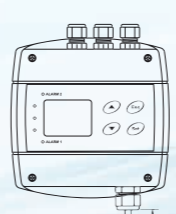
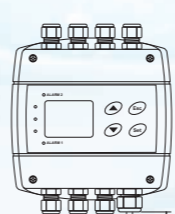
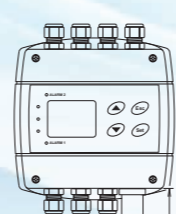
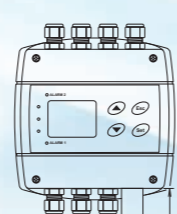
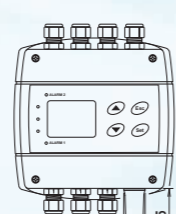
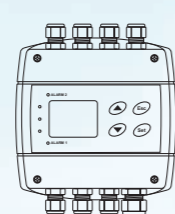
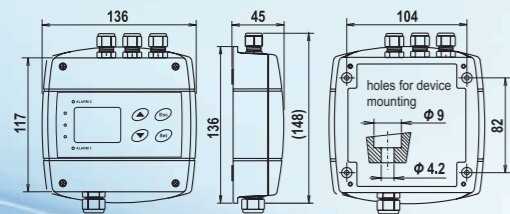


| | | | MEASURED VALUES | | | | | | | | | |
|--|--|--------|----------------------------|---------------|---------------------------------|----------------|----------------|----------------|---|---|-----------------------------------|----------------------------------|
| | Relay | Output | Temperature | | Temperature + relative humidity | | | | Temperature + relative humidity + atm. pressure | Temperature + relative humidity + CO ₂ | CO ₂ | |
| SENSOR MODEL | 2 x Relay 50 V / 2 A | - | | | H3020 | H3023 | H3021 | H3021P | - | H6020 | - | - |
| | 2 x Relay 250 Vac/8 A | - | | | H3060 | - | H3061 | H3061P | - | - | - | - |
| | 2 x Relay 50 V / 2 A | RS485 | H4431 | H0430 | H3430 | H3433 | H3431 | - | H7430 | H6420 | H5421 | H5424 |
| | 2 x Relay 50 V / 2 A | RS232 | H4331 | - | - | - | H3331 | - | - | H6320 | H5321 | H5324 |
| temperature | range | | -200 to +600 °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 +80 °C | - | - |
| | accuracy | | ±0,2 °C (without probe) | ±0,4 °C | ±0,4 °C | ±0,4 °C | ±0,4 °C | ±0,4 °C | ±0,4 °C | ±0,4 °C | - | - |
| relative humidity | range (without condensation) | | - | - | 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 in range of 5 to 95 % at 23 °C | | - | - | ±2,5 % RH | ±2,5 % RH | ±2,5 % RH | ±2,5 % RH | ±2,5 % RH | ±2,5 % RH | - | - |
| atm. pressure | range | | - | - | - | - | - | - | 600 to 1100 hPa | - | - | - |
| | accuracy | | - | - | - | - | - | - | ±1,3 hPa | - | - | - |
| CO ₂ | range | | - | - | - | - | - | - | - | 0 to 2000 ppm** | 0 to 10000 ppm | 0 to 2000 ppm** |
| | accuracy at 25 °C and pressure of 1013 hPa | | - | - | - | - | - | - | - | ± (50 ppm+2 % of measured value) | ± (100 ppm+5 % of measured value) | ± (50 ppm+2 % of measured value) |
| two-state inputs | | | YES | YES | YES* | YES* | YES* | NO | YES | NO | NO | NO |
| computed humidity values | | | NO | NO | YES | YES | YES | YES | YES | YES | NO | NO |
| protection class of the case with electronics / RH | | | IP65 / - | IP65 / - | IP65 / 40 | IP65 / 40 | IP65 / 40 | IP65 / 40 | IP54 / 40 | IP30 / 40 | IP65 / 0 | IP30 / - |

* Excluded sensors without digital output such H3020, H3060, H3023, H3021, H3061.

** Custom range 10000 ppm.

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

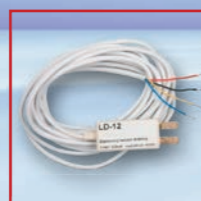


The sensors without RS232/485 output do not have two-state inputs.

Detectors



smoke detector
SD-280



flood detector
LD-12



door contact
SA200A



motion detector
JS-20



AC voltage presence
SP008

Computed humidity 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)

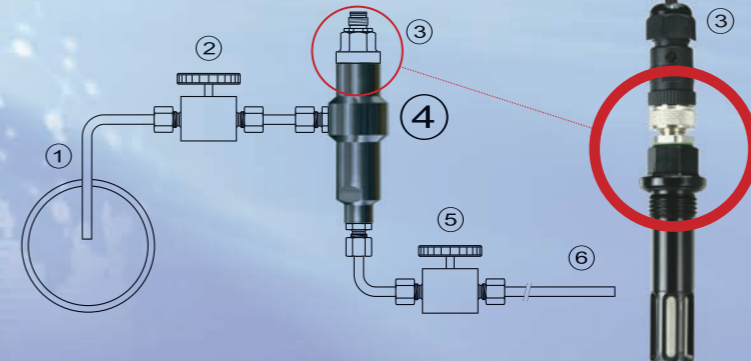
Absolute humidity
Accuracy: ±1,5 g/m³
at ambient temperature
T < 25°C for more
details see manual.
Range: 0 to 400 g/m³

Mixing ratio
Accuracy: ±2,2 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

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

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.

- 5 ... closing valve
- 6 ... outlet tube





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.



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



F5200B - Grey sensor cover with filter made from stainless steel mesh, filtering ability 0.025mm.

F5200B - Black sensor cover with filter made from stainless steel mesh, filtering ability 0.025mm.

Sensor covers for improved protection for external probes

Relay - The device is equipped with two relay outputs for alarming or controlling external devices. It is possible to assign any input value to each relay, set comparing limits, delays, hysteresis, acoustic alarms, or change their status using the Modbus communication protocol.

Terminal for power and signal RS485/RS232.

Keypad - Two output relays can be configured via the keypad. This allows assigning any input value, setting comparing limits, hysteresis, delay, or audible alarms.

Acoustic alarm - A triggered alarm can be deactivated by pressing „ESC“. This feature can be disabled, keeping the acoustic alarm active for the duration of the alarm condition.

LED signalization - Visualization of binary inputs is achieved through three LED diodes. Additionally, two diodes labeled as ALARM 1 and 2 indicate alarm states and relay statuses.

Three binary inputs - are not galvanically isolated. The connection terminals labeled ,+U' are internally connected to the device's power supply. This means that the ,+U' terminals supply the same voltage level as the power supply itself.

Design - allows for measuring elements to be integrated either directly into the body of the device or placed on a cable, which can be up to four meters in length. Additionally, an external probe can be designed to withstand pressures of up to 25 bar.

The transmitter's circuitry is galvanically isolated from the power circuitry to avoid collisions in the RS485 network.

However, the serial output RS232 is not galvanically isolated.

The transmitter is compatible with both the ModBus RTU communication protocol and the Advantech ADAM protocol, and the user can select the desired protocol. The serial connection allows for the reading of current measurements and modifications to the transmitter's configuration. The instrument is always in slave mode, meaning it only responds to queries from a master device. mode, i.e. responds only to master device.

