PRODUCT DESCRIPTION

Programmable transmitters with RS232 or RS485 serial interface are designed to measure temperature, relative humidity and barometric pressure in exacting interiors in building energy management and HVAC systems.

Digital conception with microprocessor allows to determine the other computed humidity values, like dew point temperature, absolute humidity, specific humidity, mixing ratio and specific enthalpy. Measured and calculated values are displayed on a two-line LCD display. Devices support Modbus RTU protocol, protocol compatible with standard Advantech-ADAM, ARION protocol and communication with HWg-Poseidon devices. For set of all parameters you can use *TSensor* software (can be free downloaded from www.cometsystem.cz).

Transmitters are designed for easy installation on ordinary KU68 wiring boxes with using two enclosed mounting screws.

type *	output	measured values	construction	mounting	galvanic isolated output
T0318	RS232	T	ambient air	wall	no
T0418	RS485	T	ambient air	wall	yes
T3318	RS232	T + RH + CV	ambient air	wall	no
T3418	RS485	T + RH + CV	ambient air	wall	yes
T7318	RS232	T + RH + P + CV	ambient air	wall	no
T7418	RS485	T + RH + P + CV	ambient air	wall	yes

* models marked Txxxx**Z** are custom - specified devices   T…temperature, RH…relative humidity, P…barometric pressure, CV…computed values

INSTALATION AND OPERATION

For correct function there is necessary to find proper device place. It shouldn't be placed at places where it can be affected by sunshine, near radiators, heating elements and other heat sources, air handlers, windows, doors, into racks and shelves and similar places. For buildings with less thermal insulation there is not suitable to place them on external walls of building. If there are communication conductors placed into conduit, there is strongly recommended make it caulk, to restrict air flow around device.

Firstly mount back part of the device onto wiring box with two holding screws. Connect cables to terminals and finally insert front part of device (installation procedure see next page). For transmitters with RS485 interface it is recommended to use shielded twisted cable with a length up to 1200m, for devices with RS232 interface is maximum cable length 15m. All cables should be located as far as possible from potential interference sources.

Devices don´t require special operation and maintenance. We recommend you periodic calibration for measurement accuracy validation.

INFO MODE

The device address can be verified without a use of the computer by pressing button on the left side of the device (see picture). For button pressing use thin instrument (paper clip etc.). At first you open jumper (it is accessible after removing the front part of the device), and than shortly press button. Actual adjusted address of the transmitter is displayed on LCD display at decimal base, for HWg-Poseidon's communication protocol there is shown number corresponding with ASCII address code. Next press of button exits info mode and actual measured values are displayed.
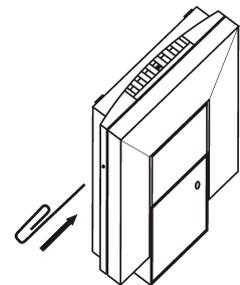
COMMUNICATION PROTOCOLS AND ERROR STATES

Description of communication protocols is available at www.cometsystem.cz (see appropriate transmitter pages). Device setting from the manufacturer is **ModBus RTU**, address **1**, communication speed **9600 Bd** (no parity, 2 stop bits).

Device continuously checks its state during operation and if an error appears, it is displayed relevant code: **Err 1** – measured or calculated value is over the upper limit, **Err 2 –** measured or calculated value is below the lower limit or pressure measurement error occurred, **Err 0, Err 3** and **Err 4** – it is a serious error, please contact distributor of the device.

SAFETY INSTRUCTIONS

- Temperature and humidity sensors have not to be exposed to direct contact with water and other liquids.
- It is not recommended to use the humidity transmitters for long time under condensation conditions.
- Do not use the device in an explosive environment
- Devices are not designed for locations with chemically aggressive environment.
- Installation, electrical connection and commissioning should be performed by qualified personnel only.
- Devices contain electronic components, it needs to liquidate them according to currently valid conditions.
- **To supplement the information** provided in this data sheet, use the manuals and other documentations which are available at www.cometsystem.cz.

Technical specifications

|		T0318	T3318	T7318
RS232				
RS485		T0418	T3418	T7418
Supply voltage / power consumption - RS232 transmitters		9 to 30V / 6mA	9 to 30V / 6mA	9 to 30V / 6mA
Supply voltage / power consumption - RS485 transmitters		9 to 30V / max. 0.5W	9 to 30V / max. 0.5W	9 to 30V / max. 0.5W
Temperature measuring range		-10 to +50°C	-10 to +50°C	-10 to +50°C
Accuracy of temperature measurement		± 0.5°C	± 0.5°C	± 0.5°C
Relative humidity (RH) measuring range		—	5 to 95 %RH	5 to 95 %RH
Accuracy of humidity measurement from 5 to 60 %RH at 23°C		—	± 2.5 %RH	± 2.5 %RH
Accuracy of humidity measurement from 60 to 95 %RH at 23°C		—	± 3.0 %RH	± 3.0 %RH
Barometric pressure measuring range		—	—	600 to 1100 hPa
Accuracy of barometric pressure measurement at 23°C		—	—	±1.3 hPa
Other calculated humidity variable (dew point temperature, ...)		—	yes	yes
Recomended calibration interval		2 years	1 year	1 year
Protection class of the case with elektronics		IP20	IP20	IP20
Temperature operating range of the case with electronics		-10 to +50°C	-10 to +50°C	-10 to +50°C
Humidity operating range		0 to 100%RH	0 to 100%RH	0 to 100%RH
Storage temperature range (0 - 100%RH, no condensation)		-30 to +80°C	-30 to +80°C	-30 to +80°C
Electromagnetic compatibility according to		EN 61326-1	EN 61326-1	EN 61326-1
Weight		150 g	150 g	150 g

Device installation

Device mounting

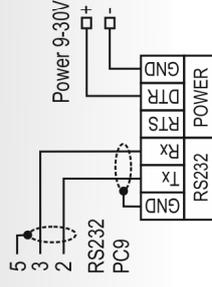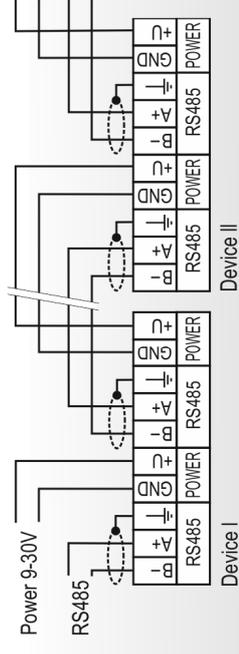### Device demounting

3,5 mm max
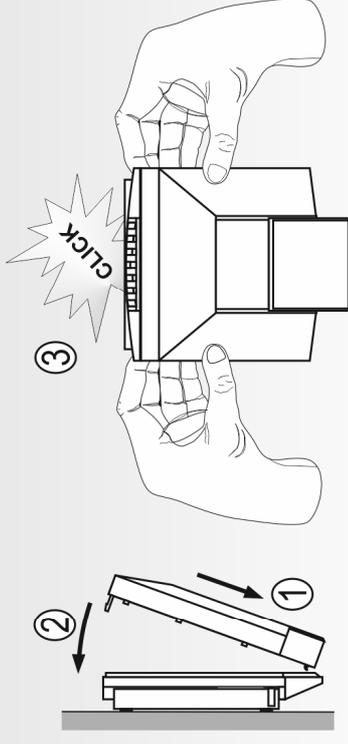
Dimensions

Electrical wiring

Supply from a communication port - RS232
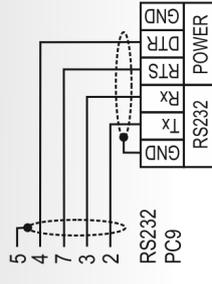
Supply from an external source - RS232

Typical application wiring - RS485