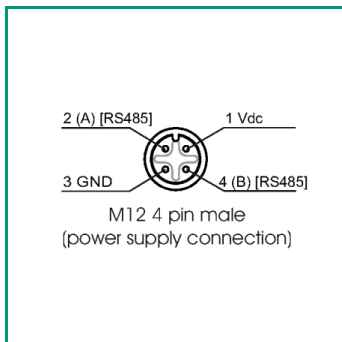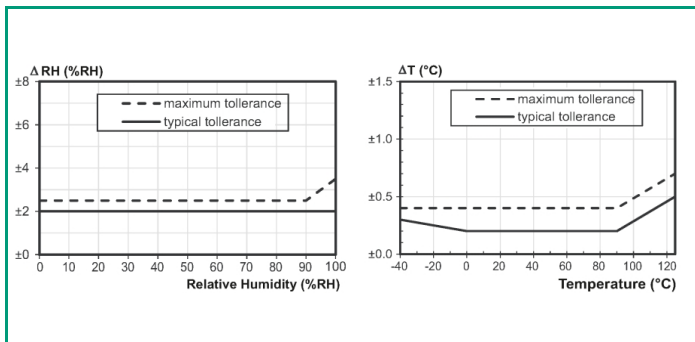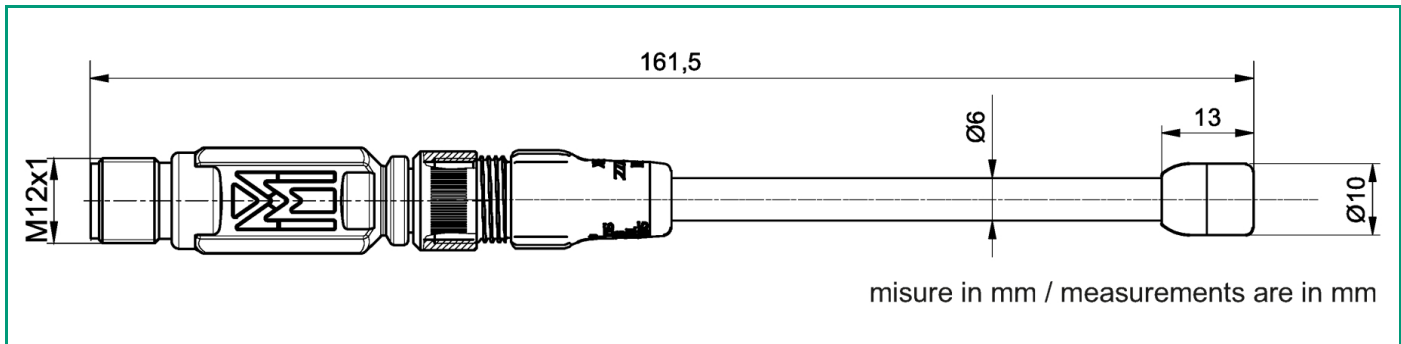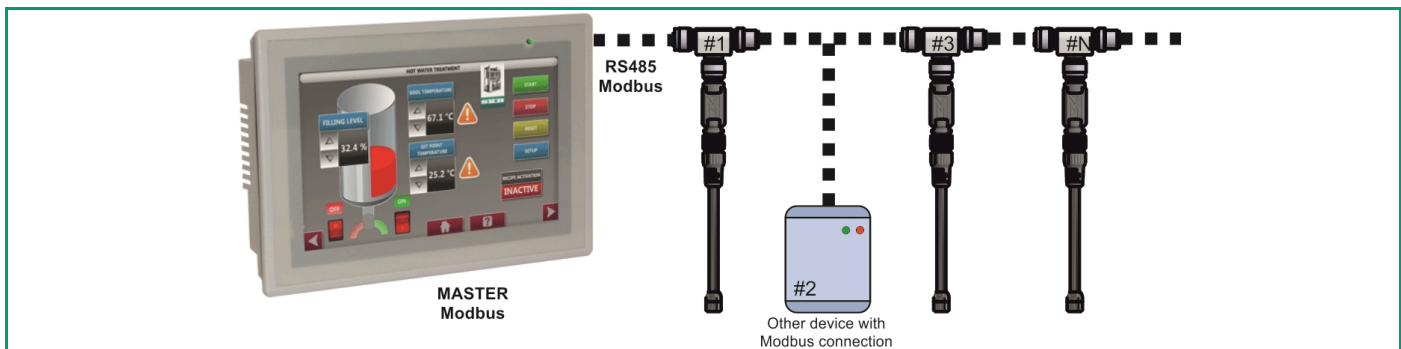# EvominiSER-RH

Temperature and relative humidity transmitter with Modbus RTU digital output (RS485)

By using a single cable, it is possible to build a sensors network which can be directly connected to a PLC or a PC equipped with a supervisory software (SCADA). These devices are equipped with M12 connectors allowing for an easy and quick installation with degree of protection IP67. The temperature and humidity AISI 316L stainless steel sensor is equipped with a PBT (Polybutylene terephthalate) filter against water and dust (0÷100%RH, -40÷125°C); the sensor, equipped with M12 connector, is simply cleaning or replaceable.

MASTER Modbus

RS485 Modbus

#1 #2 #3 #N

Other device with Modbus connection

161,5

Ø6

13

Ø10

M12x1

misure in mm / measurements are in mm

Δ RH (%RH)

— — — maximum tollerance
———— typical tollerance

Relative Humidity (%RH)

ΔT (°C)

— — — maximum tollerance
———— typical tollerance

Temperature (°C)

2 (A) [RS485]   1 Vdc

3 GND   4 (B) [RS485]

M12 4 pin male
(power supply connection)

«T» Distributor

M12 MALE
5 POLE

M12 FEMALE
5 POLE

M12 FEMALE
5 POLE

WE SENSE

TEMPERATURE

TECHNICAL SPECIFICATION

Power supply	9 ÷32 Vdc (polarity protected)
Accuracy	refer to the specific graphs Temp: ± 0.3°C @ -40÷ 90°C RH: 2% @ 0÷100°%
Resolution	Temperature: 0.1°C Relative Humidity: 0.1%
Current consumption	<4mA with RS485 (<10mA at power on for approx. 8mS)
Communication protocol	Modbus RTU (max. baud rate 38.400)
Serial interface	RS-485 (not insulated)
Maximum connection distance	1000 meters, this distance depends on the power supply voltage and the type of cable used to connect the various devices
Maximum devices on network	Maximum 256 nodes (it is recommended to use isolators / repeaters along the serial line)
Input/Output insulation	None
Indicator LED	Blue LED, power supply and device operations indicator Red LED (ERR), sensor error indicator White LEDs (TX and RX), serial transmission and reception indicators
PCB operating temperature	-40 ÷80°C
EMC	According to EN 61326-1:2013
Configuration	By using the EVOPLATFORMSET configuration kit (a PC with Windows OS is required).
Sensing element operating temperature range	-40 ÷125°C
Sensing element humidity operating range	0 ÷100 %
Stem material	AISI 316L
Stem length L	80 mm Other lengths on request (max. 0.5 m)
Sheath diameter d	Ø 6 mm
Type of connector	female 4-pin connector (INPUT SENSOR), 4-pin male connector (OUTPUT), both with M12x1 metal screw lock (in accordance with IEC 61076-2-101)
Material body	Thermoplastic
International protection marking (*) **(*) According to IEC 60529**	IP65/67
Main device design parameters	Temperature °C Relative humidity %RH Dewpoint °C Maximum and minimum temperature and humidity peak measured Temperature and humidity offset for measurement correction Serial communication and power-on watch-dog
Option	"T" distributor Female / Male / Female M12 x 5 poles Extension cables with M12 overmoulded female and male connectors Wall mounting bracket EVOPLATFORMSET configuration kit

ORDER CODE

EVO032	Transmitter
EVO033	Digital sensor

WE SENSE
TEMPERATURE