

# ENVIROsense ETS... series

TEMPERATURE, RELATIVE HUMIDITY &  
BAROMETRIC PRESSURE TRANSMITTER

## INTRODUCTION

ENVIROsense is an environmental temperature, relative humidity and, optionally, barometric pressure transmitter with standard RS485 Modbus-RTU output. Different versions available to fully match the specific requirements of different applications:

- **Meteorology/Renewable energies:** sensor with conformal coating for protection against condensation, contaminants, and salt.
- **HVAC/Indoor:** cost-efficient for general indoor use.
- **Clean Rooms/High performance:** for indoor environments when high reliability and robustness are key factors.

## FEATURES

### Particularly suitable for OEM applications

It can be used in combination with any Modbus-RTU master device via its M12 connector.

### Ready to use

The transmitter is supplied factory-calibrated in multiple points for relative humidity, and it is ready to use.

Low power consumption.

### Protection screen

Optional protection shields from solar radiations for outdoor applications.

## CONFIGURATION & MEASUREMENT

### Additional outputs

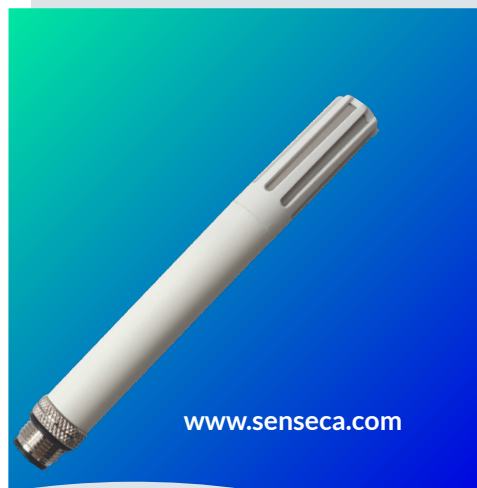
Two optional additional 0...1 V, 0...5 V or 0...10 V (depending on model) analog outputs, with configurable temperature and relative humidity or dew point ranges.

### Calculated quantities

Many calculated humidity quantities available: dew point; wet bulb temperature, absolute humidity, mixing ratio, specific enthalpy, water vapour partial pressure, specific humidity, frost point temperature, saturation vapour pressure above water, saturation vapour pressure above ice.

### Calibration report

The transmitter can be optionally supplied with an ISO/IEC 17025 calibration certificate.



### ACCURATE

Centesimal temperature and humidity resolution  
Multi-point relative humidity calibration  
Optional ISO 17025 Calibration Report available



ACCORDING TO THE STANDARD  
Meets WMO requirements



### GREAT FLEXIBILITY

RS485 Modbus-RTU output and optional additional analog output



### ROBUST AND RELIABLE

Rugged Ø14 mm compact housing in PBT

Measurement specifications

Sensor	RH	Capacitive
	Temperature	Pt100
	Pressure	Piezoresistive
Measuring range	RH	0...100%
	Temperature	-40...+80 °C
	Pressure	300...1100 hPa
Resolution	RH	0.01%
	Temperature	0.01 °C
	Pressure	0.1 hPa
Accuracy	RH	ETS60...: ±1.8% (0...85%) / ±2.5% (85...100%) @ T=15...35 °C (2 + 1.5% of measured value)% @ T= remaining range ETS68...: ±1.2% (0...85%) / ±2% (85...100%) @ T=5...50 °C (1.5 + 1.5% of measured value)% @ T= remaining range ETS80...: ±1.5% (0...90%) / ±2% (90...100%) @ T=15...35 °C (1.5 + 1.5% of measured value)% @ T= remaining range
	Temperature	±0.1 °C ± 0.1% of the measured value
	Pressure	±0.5 hPa typical @ T=25 °C ±1 hPa (500...1100 hPa) @ T= full range
RH response time		10 s (10 -> 80 %RH; air speed=2 m/s @ constant temperature)
Warm-up time		600 ms
Long-term drift	RH	±0.5%RH/year
	Temperature	±0.03 °C/year
	Pressure	< ±1 hPa/year

Operating conditions	-40...+80 °C / 0...100 %RH
Output	RS485 Modbus-RTU or ASCII proprietary protocol 2 optional additional 0...1 V, 0...5 V or 0...10 V (depending on model) analog outputs for temperature and humidity
Power supply	7...30 Vdc (except ETSxxM9x) or 4.5...16 Vdc (only

General specifications

	ETSxxM9x) for RS485 output 10...30 Vdc for 0...1 V and 0...5 V analog outputs 15...30 Vdc for 0...10 V output
Power consumption	1.2 mA @ 24 Vdc (except ETSxxM9x) 3 mA @ 5 Vdc (only ETSxxM9x)
Connection	4-pole M12 (ETSxxM0... / ETSxxM9...) 8-pole M12 (ETSxxMW... / ETSxxMX... / ETSxxMY...)
Weight	30 g approx
Material	PBT

Ordering codes

ETS	M	<div>Barometric pressure 0 = No B = Yes</div>
		<div>Output 0 = RS485 9 = RS485 "Low Voltage" W = RS485 + analog 0...1 V X = RS485 + analog 0...5 V Y = RS485 + analog 0...10 V</div>
		<div>Application 60 = HVAC/Indoor 68 = Clean rooms/High performance 80 = Meteorology/Renewable energies</div>

