

AIR HUMIDITY MEASURING TECHNOLOGY

Hygro-Thermo-Baro Transmitter Compact

Part number: 1.1006.54.xxx

This sensor is above all intended for use at meteorological measuring stations for connection to data logger systems. Thanks to its universal interface the sensor can also be used as a single solution in every application suitable for the purpose.

The interface to the device is digital and consists of an RS485 interface in half duplex mode. In conjunction with ID-based communication the interface enables operation of the sensors in a bus system.

Two data protocols are available:

- ASCII (THIES format)
- Binary (MODBUS-RTU)

In addition to the digital interface, the transmitters with article numbers 1.1006.54.x4x and 1.1006.54.x6x have 3 analogue outputs which can be configured as a current or voltage output. The digital output can be used simultaneously with the analogue outputs.

The sensor is equipped with a integrated pressure sensor, as well as a replaceable hygro-thermo module for the capture of air temperature and relative humidity. The replaceable hygro-thermo-module and the pressure sensor are factory adjusted and cali-brated. The sensor is supplied without a filter cap. The hygro-module is protected with its own white membrane. The sensor thus offers excellent dynamic behaviour. PT1000 measuring element is used for temperature measurement.

For outdoor installation we recommend the use of the weather- and thermal radiation shield.

Order no.: 1.1025.55 xxx or a forced ventilation weather and radiation protection with the order no. 1.1025.80.101.



Specification

Part number: 1.1006.54.xxx

Temperature

Measuring range	-40 ... +85 °C
Accuracy	± 0.1°C @ -40 ... +85 °C @ moved air > 2 m/s

Rel. Humidity

Measuring range	0 ... 100 % rel. Humidity
Accuracy	Typ. ± 1,5 % r. H. @ 25 °C and 80 % r. H. 1,5 % r. H. over the complete measuring range

Air pressure

Measuring range	300 ... 1200 hPa
Accuracy	± 0.25 hPa @ -20 ... +80°C @ 800 ... 1100 hPa ± 0.50 hPa @ -20 ... +80°C @ 600 ... 800 hPa
Interface	
Type	RS 485 HD
Output	RS 485 HD; 0 ... 1 V; 0 ... 10 V; 4 ... 20 mA
Data format	8N1
Baud rate	2400 ... 57600 Baud
Operating voltage	
Battery connection	6 ... 30 V DC - type dependent
General	
Ambient conditions	-40 ... +85 °C 0 ... 100 rel. humidity, including condensation
Current load	type dependent
Housing	Stainless steel
Protection	IP 67 (applies to the total sensor)
Dimension	Ø 20 x 166 ... 200 mm - type dependent
Weight	aprox. 0.45 kg

Versions

As per 1.1006.54.xxx, but:

Product number 1.1006.54.080

Data output digital

Electr. output	THIES ASCII
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Operating voltage

Electronic	6 ... 30 V DC
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General

Electr. connection	5m - Cable
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Product number 1.1006.54.081

Data output digital

Electr. output	MODBUS RTU
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Operating voltage

Electronic	6 ... 30 V DC
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General

Electr. connection	5m - Cable
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Product number 1.1006.54.141
Data output digital

Electr. output	THIES ASCII
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Data output analog

Chanel	3
Type	4 ... 20 mA

Operating voltage

Electronic	15 ... 30 V DC
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General

Electr. connection	5m - Cable
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Product number 1.1006.54.160
Data output digital

Electr. output	THIES ASCII
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Data output analog

Chanel	3
Type	0 ... 1 V

Operating voltage

Electronic	6 ... 30 V DC
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General

Electr. connection	5m - Cable
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Product number 1.1006.54.161
Data output digital

Electr. output	THIES ASCII
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Data output analog

Chanel	3
Type	0 ... 10 V

Operating voltage

Electronic	15 ... 30 V DC
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General

Electr. connection	5m - Cable
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Product number 1.1006.54.741

Data output digital

Electr. output	THIES ASCII
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Data output analog

Chanel	3
Type	4 ... 20 mA

Operating voltage

Electronic	15 ... 30 V DC
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General

Electr. connection	Plug
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Product number 1.1006.54.760

Data output digital

Electr. output	THIES ASCII
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Data output analog

Chanel	3
Type	0 ... 1 V

Operating voltage

Electronic	6 ... 30 V DC
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General

Electr. connection	Plug
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Product number 1.1006.54.761

Data output digital

Electr. output	THIES ASCII
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Data output analog

Chanel	3
Type	0 ... 10 V

Operating voltage

Electronic	15 ... 30 V DC
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General

Electr. connection	Plug
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Product number 1.1006.54.780

Data output digital

Electr. output	THIES ASCII
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Operating voltage

Electronic	6 ... 30 V DC
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General

Electr. connection	Plug
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Product number 1.1006.54.781

Data output digital

Electr. output	MODBUS RTU
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Operating voltage

Electronic	6 ... 30 V DC
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General

Electr. connection	Plug
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Product number 1.1006.54.087

Data output digital

Electr. output	MODBUS RTU
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Operating voltage

Electronic	6 ... 30 V DC
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General

Electr. connection	0,3m - Cable with plug
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Accessories

Product	Product name	Brief description
	Wall Holder 1.1005.54.903	for mounting the temperature (2.1280.xx.xxx) or hygrothermo Sensor (1.1005..xx.xxx) onto a wall, radiation- and precipitationprotected use (for ex. indoor)
		General
	Clamping range	Ø 20 mm
	Mounting	plate with with drillings 3 x Ø 6,5 mm
	Material	plastic, grey flange
	Dimension	96 mm lang
	Weight	0.075 kg



Weather and Thermal Radiation Shield, compact
1.1025.55.000

Protective case for the temperature and humidity sensors (2.1280.xx.xxx and 1.1005.54.xxx) sensor compact for outdoor installation without artificial ventilation.

Material

Laminations plastic, white

Mast holder stainless stell

General

Mounting at tube Ø 35 ... 50 mm

Dimension Ø 120 x 275 mm

Weight 0.8 kg



Weather and Thermal Radiation Shield, compact
1.1025.80.101

Protective case for the temperature and humidity sensors (2.1280.xx.xxx, 1.1005.54.xxx and 1.1006.54.xxx) sensor compact for outdoor installation without artificial ventilation.

Operating voltage

Electronic 12 ... 30VDC / 2W

Material

Laminations plastic, white

Mast holder stainless stell

General

Mounting at tube Ø 35 ... 50 mm

Dimension Ø 120 x 316 mm

Weight 0.8 kg

Calibration hose connection adapter HTB-Transmitter
510025

Calibration hose connection adapter HTB-Transmitter Compact

Replacement hygro-thermo measuring element
510307

Calibrated replacement measuring element for exchange

Sinter-filter-Cap 510314	The filter serves for protecting the sensor elements of the Hy-gro-thermo transmitter against dust in case of field application
Protective cap 510448	The protective cap is used to protect the measuring elements of the Hygro-Thermo-BaroSensor from damage.

