

JUMO hydroTRANS S40

Humidity and temperature transmitter with optional CO₂ module, rod version

Description

The humidity and temperature transmitter monitors outside air that enters into buildings and production processes.

The device is suitable for mounting in weather-proofed ventilation ducts and lines.

Measurands

- Relative humidity
- Temperature
- Optional: carbon dioxide (CO₂)

Interfaces

- RS485

Areas of application

- Building automation, home automation, smart home
- Climate monitoring
- Ventilation systems
- Freight forwardings, storage

Special features

- Ease of assembly
- Robustness
- Multisensor
- Plastic sinter filter (optional)



Type 907044

Approval marks and certificates



Certificates for approved device versions are available for download on the manufacturer's website.

Technical data

Electrical safety

Requirements	DIN EN 61010-1 The device must be equipped with an electrical circuit that meets the requirements for "Limited-energy circuits".
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Electrical data

Voltage supply	DC 24 V SELV, PELV
Analog output	
0 to 10 V	DC 24 V, -33 %/+33 %
4 to 20 mA	DC 24 V, -54 %/+33 %
RS485 interface	DC 24 V, -58 %/+33 %
Power consumption	≤ 2.4 W
Protection rating	DIN EN 61140, Class III (protective low voltage)
Electrical connection	
Connection elements	M12 plug connection
Connecting cable	
Temperature resistance	≥ 80 °C

Inputs

Measurands

Relative humidity

Measuring range	0 to 100 % RH
With CO ₂ module	0 to 95 % RH
Accuracy	
Typical	±2.0 % RH
Max.	±2.5 % RH
Reference conditions	
Humidity	≥ 30 % RH
Sampling rate	1 s

Temperature

Measuring range	-40 to +80 °C
With CO ₂ module	-10 to +60 °C
Accuracy	
Typical	±0.2 °C
Max.	±0.4 °C
Sampling rate	1 s

Carbon dioxide (CO₂)

Measuring range	400 to 10 000 ppm
Accuracy	±(50 ppm + 5 % of the measured value)
Reference conditions	
Ambient temperature	25 °C
Air pressure	1013 hPa
Humidity	50 % RH
Measuring range	400 to 1000 ppm
Sampling rate	30 s

Outputs

Device version with analog output

Current output	
Signal range	4 to 20 mA
Output signal limits	0 to 22 mA
Accuracy	≤ ±0.1 % in relation to the end of the signal range (20 mA)
Temperature influence	±50 ppm/K
Burden influence	≤ ±0.02 % per 100 Ω
Burden	≤ 500 Ω
Voltage output	
Signal range	0 to 10 V
Output signal limits	0 to 11 V
Accuracy	≤ ±0.1 % in relation to the end of the signal range (10 V)
Temperature influence	50 ppm/K
Load influence	≤ ±15 mV
Load	≥ 10 kΩ

Interfaces

RS485

Function	Transfer of process data, configuration data, and device information
Data transmission	Serial
Data format	8-1-none ^a 8-1-odd 8-1-even 8-2-none
Transmission protocol	Modbus RTU
Transfer rate	9600 baud 19200 baud 38400 baud ^a 57600 baud 115200 baud

^a Default setting

Environmental influences

Admissible ambient temperature	-40 to +80 °C
With CO ₂ module	-10 to +60 °C
Admissible storage temperature	-40 to +80 °C
With CO ₂ module	-30 to +70 °C
Protection type	DIN EN 60529 IP65 (with connected M12 plug connector)
Max. site altitude.	5300 m above sea level
Climatic conditions	DIN EN IEC 60721-3-3
Climate class	3K24
Relative humidity	≤ 100 % (95 % with CO ₂ module), non-condensing
Electromagnetic compatibility (EMC)	DIN EN 61326-1:2022
Interference emission	Class B ^a
Interference immunity	Industrial requirement
Oscillation ^b	DIN EN 60068-2-6
Amplitude	0.15 mm at 10 to 58.1 Hz
Acceleration	20 m/s ² at 58.1 to 150 Hz
Shock ^b	DIN EN 60068-2-27
Peak acceleration	150 m/s ²
Shock duration	11 ms

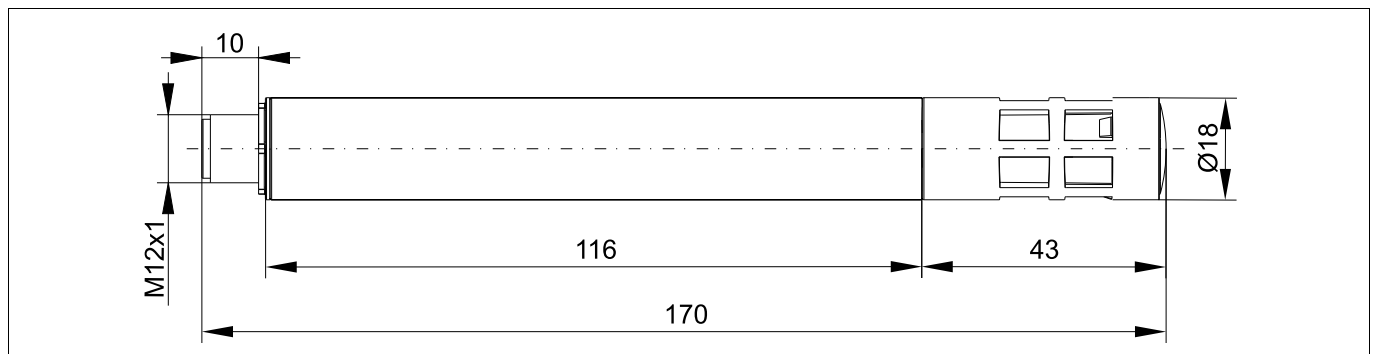
^a The product is suitable for industrial use as well as for households and small businesses.

^b The CO₂ module is sensitive to vibrations. In the event of vibrations, the measurement results could change on account of the design.

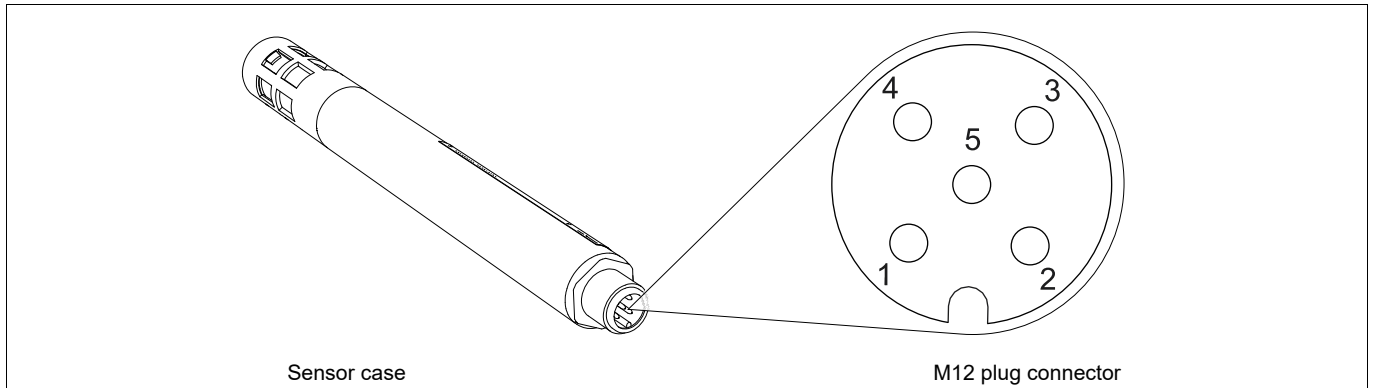
Mechanical features

Materials	
Case	PC
M12 plug connector	CuZn
Weight	Approx. 40 g

Dimensions



Connection elements



Terminal assignment

M12 plug connector

Designation	Description	Assignment
Analog output	DC 24 V	1 BN (Brown)
	Relative humidity	2 WH (White)
	GND	3 BU (Blue)
	Temperature	4 BK (Black)
	Carbon dioxide (CO ₂)	5 GN/YE (Green/Yellow)
RS485 interface	NC	1 BN (Brown)
	DC 24 V	2 WH (White)
	GND	3 BU (Blue)
	B-RS485 (Data -)	4 BK (Black)
	A-RS485 (Data +)	5 GN/YE (Green/Yellow)

Order details

(1)	Basic type
907044	JUMO hydroTRANS S40 – Humidity and temperature transmitter with optional CO ₂ module, rod version
(2)	Basic type extension
11	RH - T
12	RH - T - CO ₂
(3)	Version
0	Standard
(4)	Measuring range(s)
15	0 to 100 % RH/-40 to +80 °C
17	0 to 95 % RH/-10 to +60 °C/10000 ppm
(5)	Output
005	4 to 20 mA
065	0 to 10 V
530	RS485
(6)	Extra codes
000	None
062	DNV approval ^a
775	DAkkS (DKD) calibration (service), please state desired test points in plain text
950	Railway application

^a Not in conjunction with CO₂ or 4 to 20 mA.

Order code (1) (2) (3) (4) (5) (6)
 Order example 907044 / 12 - 0 - 17 - 005 / 950 , ...^a

^a List extra codes in sequence and separate using commas.

Stock versions

Order code	Part no.
907044/11-0-15-530/000	30049003
907044/11-0-15-065/000	30049004
907044/12-0-17-530/000	30049016
907044/12-0-17-005/000	30049019

Accessories

Designation	Part no.
Plastic sinter filter (Ø = 18 mm)	00754581
Plastic membrane filter (Ø = 18 mm)	30048149
JUMO hydroTRANS setup program	00775170
M12 digiLine master connection cable, 5-pin, 1.5 m	00638333
M12 digiLine master connection cable, 5-pin, 5 m	00638337
M12 digiLine master connection cable, 5-pin, 10 m	00638341
M12 connection cable, 5-pin, 0.5 m	00638312
M12 connection cable, 5-pin, 1.5 m	00638313
M12 connection cable, 5-pin, 5 m	00638315
M12 connection cable, 5-pin, 10 m	00638322
M12 connection cable, 5-pin, 15 m	00638324
M12 connection cable, 5-pin, 25 m	00720063
Y-splitter, 5-pin	00638327
JUMO digiLine hub	00646871
Pipe-mounted kit JUMO digiLine hub	00648759
Terminating resistor for CAN-Bus/digiLine, M12 × 1	00461591