

JUMO GmbH & Co. KG
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JUMO Instrument Co. Ltd.
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JUMO Process Control, Inc.
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JUMO hydroTRANS S30

Humidity and temperature transmitter with optional CO₂ module, duct version

Areas of application

- Facility management
- Climate monitoring
- Ventilation systems
- Storage rooms
- Railway applications, according to EN 50155

Special features

- Ease of assembly
- Robustness
- Multisensor

Description

The device is for monitoring the ambient air that gets into buildings and production processes and can be used in a temperature range of -40° to +80° C.

The process values of the measurands can be displayed on the optional display and issued to a higher-level system via the outputs.

The device is designed for use in ventilation ducts and lines.

Measurands

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

Interfaces

- RS-485 Modbus
- Analog outputs



Type 907043 with display



Type 907043 without display



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Approvals

	Designation Test facility Certificate no. Inspection basis Valid for	DNV DNV In preparation Class Guidelines CG 0339 Type 907043/...
	Designation Test facility Certificate no. Inspection basis Valid for	Railway application RST Rail System Testing, JUMO (declaration of manufacturer) In preparation DIN EN 45545-2, DIN EN 50155, DIN EN 50121-3-2, DIN EN 61373 Type 907043/... without display, with extra code 950

Technical data

Electrical data

Voltage supply DIN EN 50155 DNV-CG-0339 Analog output RS-485 interface Power consumption Protection rating	DC 24 V SELV, PELV 24 V -30 % +25 % 24 V -25 % +30 % 16 to 32 V 10 to 32 V ≤ 2.4 W DIN EN 61140, Class III (protective low voltage)
Electrical safety	The device must be equipped with an electrical circuit that meets the requirements of EN 61010-1 with regard to "Limited-energy circuits".

Inputs

Relative humidity

Measuring range	0 to 100 % RH
Accuracy (at 25 °C and 1013 mbar)	Typical ±2 % RH Max. ±2.5 % RH
Sampling rate	1 s

Temperature

Measuring range	-40 to +80 °C
Accuracy (at 25 °C and 1013 mbar)	Typical ±0.2 °C Max. ±0.4 °C
Sampling rate	1 s

Carbon dioxide (CO₂)

Measuring range	400 to 10000 ppm
Accuracy (at 25 °C and 1013 mbar)	±(50 ppm + 5 % of reading) (to 2000 ppm)
Sampling rate	30 s

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Outputs

Analog outputs

Current output

Signal range	4 to 20 mA
Output signal limits	0 to 22 mA
Accuracy	±0.05 % based on measuring range (20 mA)
Temperature influence	50 ppm/K
Burden influence	±0.02 %/100 Ω
Burden	≤ 500 Ω
Minimum burden	
Voltage supply	
DC 11 to 25 V	0 Ω
DC 25 to 32 V	(U _V - 25 V) ÷ 0.02 A
Maximum burden	(U _V - 2.4 V) ÷ 0.0215 A

Voltage output

Signal range	0 to 10 V
Output signal limits	0 to 11 V
Accuracy	±0.05 % based on measuring range (20 mA)
Temperature influence	50 ppm/K
Burden influence	±15 mV
Burden	≥ 10 kΩ

Interfaces

RS-485

Galvanic isolation	Functional
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
Function	Transfer of process data, configuration data and device information

^a Default setting

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Environmental influences

Admissible ambient temperature	-40 to +80 °C
With CO ₂ module	-10 to +60 °C
With display	-20 to +60 °C
Admissible storage temperature	-40 to +80 °C
With CO ₂ module	-30 to +70 °C
With display	-30 to +60 °C
Protection type	DIN EN 60529 IP65
Climatic conditions	DIN EN IEC 60721-3-3
Climate class	3K24
Relative humidity	≤ 100 % (95 % with CO ₂), non-condensing
Electromagnetic compatibility (EMC)	DIN EN 61326-1:2022
Interference emission	Class B ^a
Interference immunity	Industrial requirement
Vibration ^b	DIN EN 60068-2-6
Amplitude	0.15 mm from 10 to 58.1 Hz
Acceleration	20 m/s ² from 58.1 to 150 Hz
Railway application	Category 1B Max. acceleration: 5.72 m/s ² Frequency range: 5 to 150 Hz
Shock ^b	DIN EN 60068-2-27
Peak acceleration	150 m/s ²
Shock duration	11 ms
Railway application	Category 1B Peak acceleration: 50 m/s ² Shock duration: 30 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	
Housing	Plastic (PC)
Display cover	Plastic (PMMA)
Weight	Approx. 260 g
Cable fitting	M16 × 1.5
Cable diameter	4.5 to 10 mm

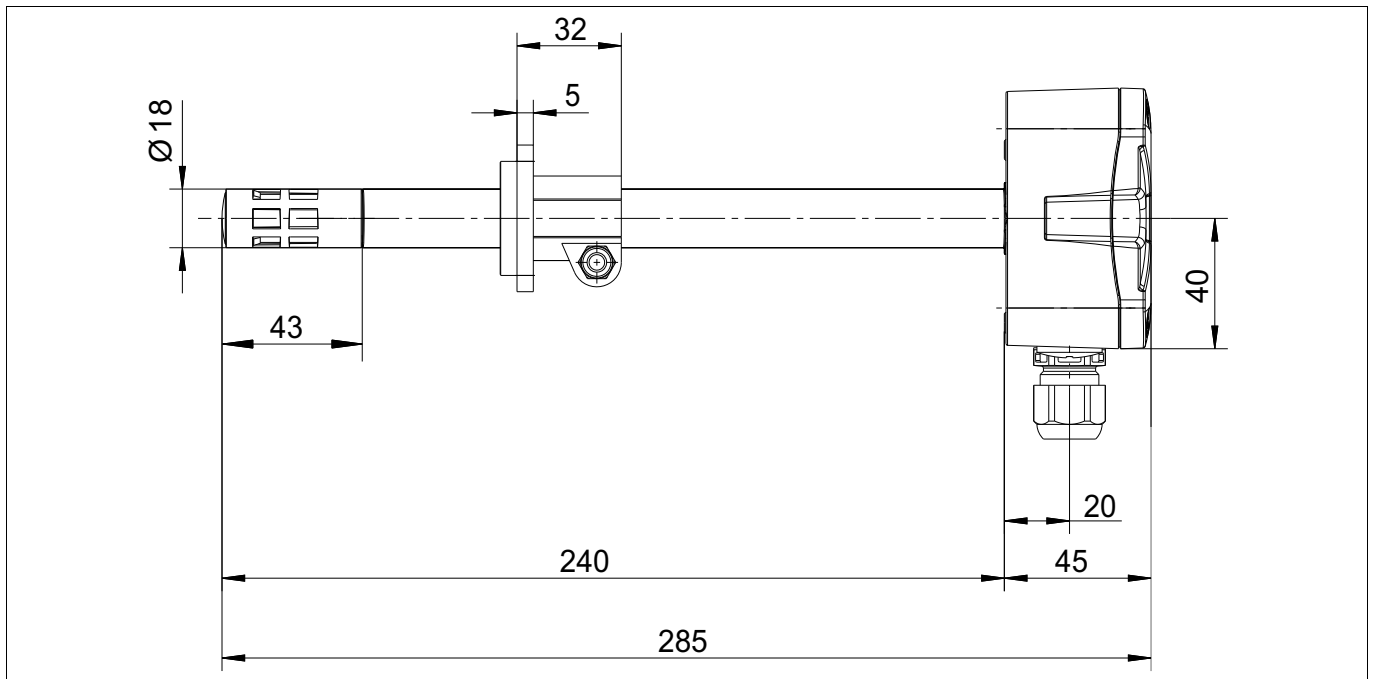
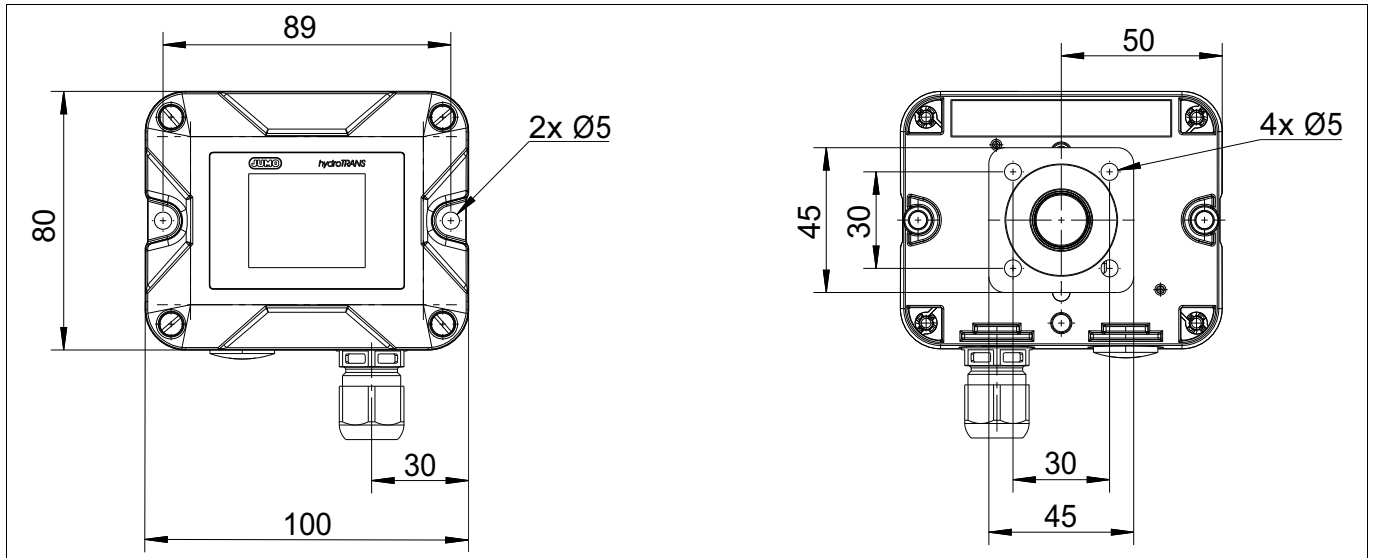
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Dimensions



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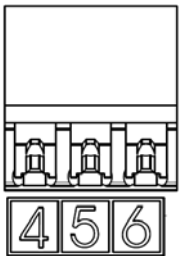
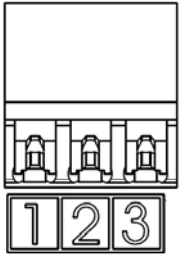
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Connection diagram

Terminal assignment



Analog output

Connection	Terminal assignment
1	Analog output 1 (standard: relative humidity)
2	Analog output 2 (standard: temperature)
3	Analog output 3 (standard: carbon dioxide [CO ₂])
4	AGND analog outputs
5	24 V
6	GND

RS-485 interface

Connection	Terminal assignment
1	RS-485 A (D+)
2	RS-485 GND (optional)
3	RS-485 B (D-)
4	–
5	24 V
6	GND

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Order details

	(1) Basic type
907043	JUMO hydroTRANS S30 – Humidity and temperature transmitter with optional CO ₂ module, duct 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
009	4 to 20 mA/0 to 10 V combination output configured
530	RS-485 Modbus
	(6) Extra codes
000	None
775	DAkkS (DKD) calibration (service), please state desired test points in plain text
950	Railway application
994	Integrated display

Order code **(1)** **(2)** **(3)** **(4)** **(5)** **(6)** , ...^a
 Order example 907043 / 12 - 0 - 17 - 009 / 994

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