

JUMO hydroTRANS S30

Humidity and temperature transmitter with optional CO₂ module, duct 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.

Measurands

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

Interfaces

- USB
- RS485

Areas of application

- Building automation, home automation, smart home
- Climate monitoring
- Ventilation systems
- Freight forwardings, storage
- Railway applications, according to DIN EN 50155

Special features

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



Type 907043 with display



Type 907043 without display



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 IEC 61010-1:2020 The device must be equipped with an electrical circuit that meets the requirements for "Limited-energy circuits".
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Electrical data

Device version with analog output

Voltage supply	DC 24 V, -33 %/+33 %, SELV, PELV
Power consumption	≤ 2.4 W
Overvoltage category	II
Pollution degree	2
Protection rating	DIN EN 61140, class III (protective low voltage)
Electrical connection	
Connection elements	Spring-cage terminal
Connecting cable	
Conductor cross section	AWG 28 to AWG 14
Without ferrule	0.2 to 1.5 mm ²
With ferrule	0.25 to 1.5 mm ²
Stripping length	
Without ferrule	8 mm
With ferrule	10 mm
Temperature resistance	≥ 80 °C

Device version with RS485

Voltage supply	DC 24 V, -58 %/+33 %, SELV, PELV
Power consumption	≤ 2.4 W
Overvoltage category	II
Pollution degree	2
Protection rating	DIN EN 61140, class III (protective low voltage)
Electrical connection	
Connection elements	Spring-cage terminal
Connecting cable	
Conductor cross section	AWG 28 to AWG 14
Without ferrule	0.2 to 1.5 mm ²
With ferrule	0.25 to 1.5 mm ²
Stripping length	
Without ferrule	8 mm
With ferrule	10 mm
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 10000 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

USB

Function	Transfer of configuration data and device information
Communication	Via end device and setup software
Transmission standard	USB 2.0
Connector type	Micro-B
Power requirement	≤ 500 mA
Cable length	≤ 5 m

RS485

Function	Transfer of process data, configuration data, and device information
Communication	Via Modbus master
Galvanic isolation	Functional
Data transmission	Serial
Transmission protocol	Modbus RTU
Data format	8-1-none ^a 8-1-odd 8-1-even 8-2-none
Data transfer rate	9600 baud 19200 baud 38400 baud ^a 57600 baud 115200 baud
Minimum response time	0 to 500 ms
Device address	1 to 254

^a Default setting

Display

Type	TFT display
Size	
Display range	35.04 mm × 28.03 mm
Screen size (diagonal)	1.77"
Resolution	128 × 160 RGB
Brightness	11 levels (configurable)

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
Max. site altitude	5,300 m above sea level
Climatic conditions	DIN EN 60721-3-3
Climate class	3K24
Air temperature	-25 to +55 °C
Relative humidity	≤ 100 % (95 % with CO ₂ module), non-condensing
Electromagnetic compatibility (EMC)	DIN EN IEC 61326-2-3:2022
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.

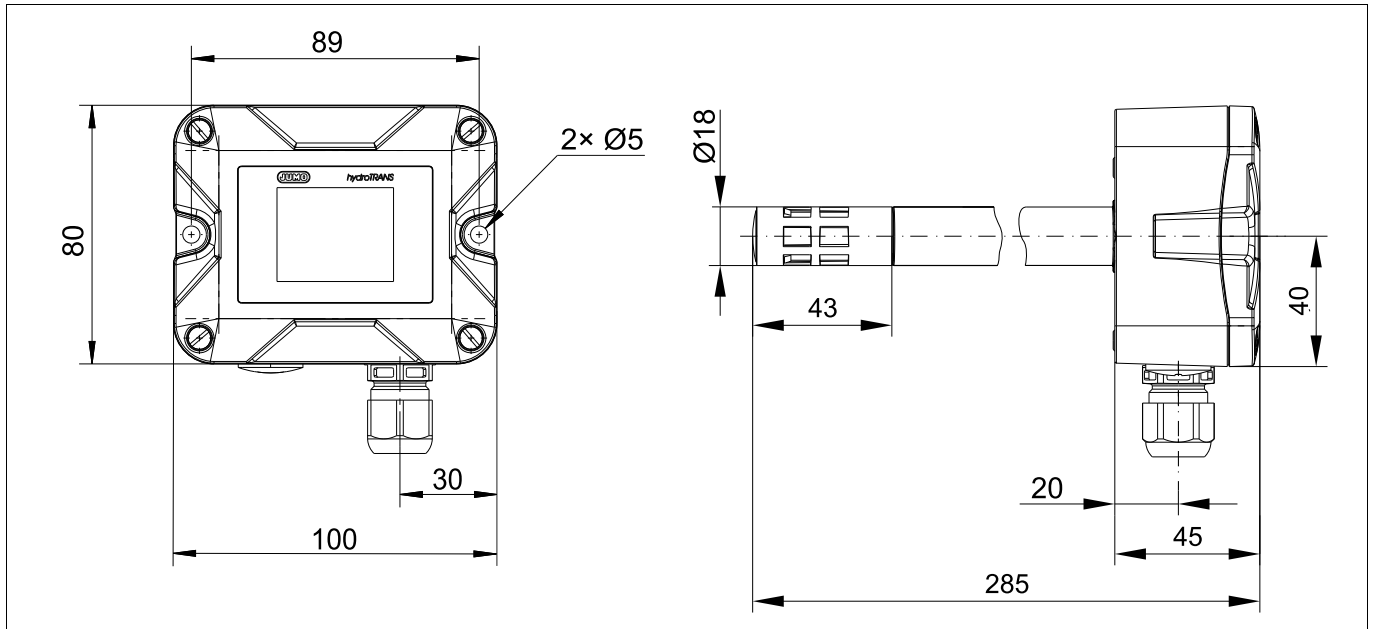
^b The CO₂ module is sensitive to vibrations. In the event of vibrations, the measurement results could change on account of the design.

Mechanical features

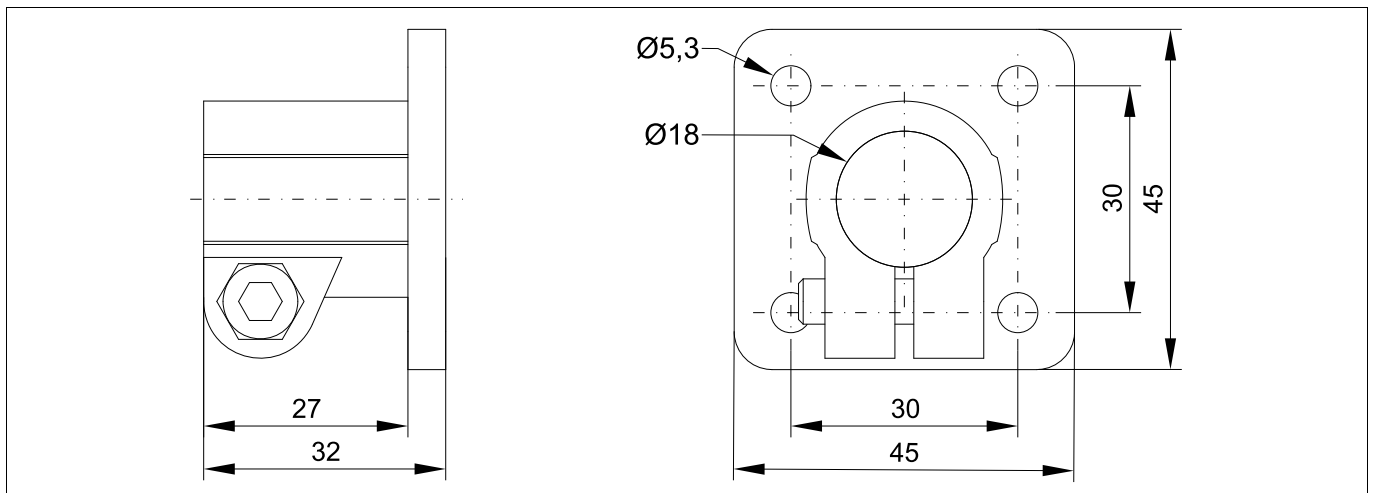
Materials	
Housing	PC
Display cover	PMMA
Weight	Approx. 260 g

Dimensions

Device



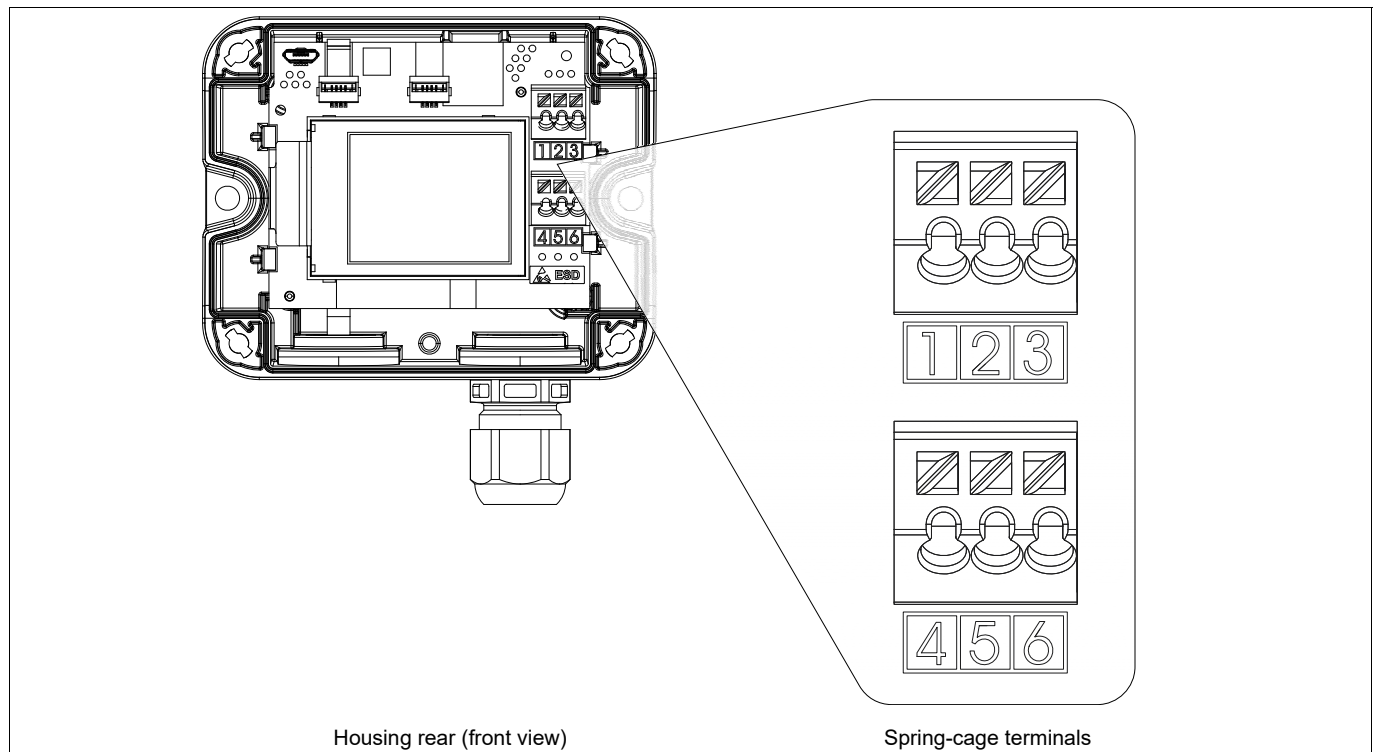
Connecting flange



Connection elements

The connection elements in the data sheet provide information on product selection.

For the electrical connection, only use the installation instructions or the operating manual.



Terminal assignment

Spring-cage terminals

Designation	Description	Assignment
Analog output	Relative humidity ^a	1
	Temperature ^a	2
	CO ₂ ^a	3
	Analog output GND	4
	DC 24 V	5
	GND	6

^a Standard

^b Optional extra

Designation	Description	Assignment
RS485	RS485 A (D+)	1
	RS485 GND ^b	2
	RS485 B (D-)	3
	-	4
	DC 24 V	5
	GND	6

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 (per default)/0 to 10 V combination output, configurable
530	RS485 Modbus
	(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
951	DAkKS calibration (DKD), 3 test points: 20 %RH/50 %RH/80 %RH @23 °C
952	DAkKS calibration (DKD), 2 test points: 33 %RH/73 %RH @23 °C
994	Integrated display

^a Not in conjunction with CO₂.

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.

Stock versions

Order code	Part no.
907043/11-0-15-009/000	30049451
907043/11-0-15-530/000	30049468
907043/12-0-17-009/000	30049482
907043/12-0-17-530/000	30049485

Accessories

Designation	Part no.
USB cable, A to Micro-B	00616250
Plastic sinter filter (Ø = 18 mm)	00754581
Plastic membrane filter (Ø = 18 mm)	30048149
JUMO hydroTRANS setup program	00775170

Scope of delivery

Device in the ordered version
Brief instructions
Cable fitting
Thread sealing ring
2 Fastening screws (socket button self-tapping screw 4.8 × 38)
Connecting flange
Seal