

JUMO hydroTRANS S10

Humidity and temperature transmitter with optional CO₂ module, indoor version

Areas of application

- Facility management
- Climate monitoring
- Public indoor spaces
- Office rooms

Special features

- Ease of assembly
- Robustness
- Multisensor

Description

The device monitors the quality of the ambient air using the measurands of relative humidity, temperature, and carbon dioxide (CO₂) as an optional extra. The device is suitable for wall mounting in indoor spaces.

The device communicates with the JUMO setup program via USB. An RS485 interface is also available.

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



Type 907045 with display



Type 907045 without display

Technical data

Electrical data

Voltage supply	SELV, PELV
Analog output	DC 24 V, -33 %/+33 %
RS-485 interface	DC 24 V, -58 %/+33 %
Power consumption	≤ 2.4 W
Protection rating	DIN EN 61140, Class III (protective low voltage)
Electrical connection	Screw terminal
Conductor cross section	0,08 to 2,5mm ² (AWG 28 to AWG 14)
Stripping length	≥ 6 mm
Electrical safety	
Requirements	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
With CO ₂ module	0 to 95 % RH
Accuracy	
Typical	±2.0 % RH
Max.	±2.5 % RH
Sampling rate	1 s

Temperature

Measuring range	-5 to +55 °C
Accuracy	±0.4 °C
Sampling rate	1 s

Carbon dioxide (CO₂)

Measuring range	400 to 5000 ppm
Accuracy	±(50 ppm + 5 % of the measured value)
Reference conditions	
Ambient temperature	25 °C
Air pressure	1013 hPa
Humidity	50 % RH
Measuring range	0 to 2000 ppm
Sampling rate	30 s

Outputs

Analog outputs

Current output

Signal range	4 to 20 mA
Output signal limits	0 to 22 mA
Accuracy	$\leq \pm 0.05$ % in relation to the end of the signal range (20 mA)
Temperature influence	± 50 ppm/K
Burden influence	$\leq \pm 0.02$ %/100 Ω
Burden	≤ 500 Ω

Voltage output

Signal range	0 to 10 V
Output signal limits	0 to 11 V
Accuracy	$\leq \pm 0.05$ % in relation to the end of the signal range (10 V)
Temperature influence	50 ppm/K
Load influence	$\leq \pm 15$ mV
Load	≥ 10 k Ω

Interfaces

RS485

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
Data 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

USB

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

Display

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

Environmental influences

Admissible ambient temperature	-5 to +55 °C
Admissible storage temperature	-25 to +60 °C
Protection type	DIN EN 60529 IP20 (front)
Climatic conditions	DIN EN IEC 60721-3-3
Climate class	3K22
Relative humidity	≤ 90 % without condensation, 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
Shock ^b	DIN EN 60068-2-27
Peak acceleration	150 m/s
Shock duration	11 ms

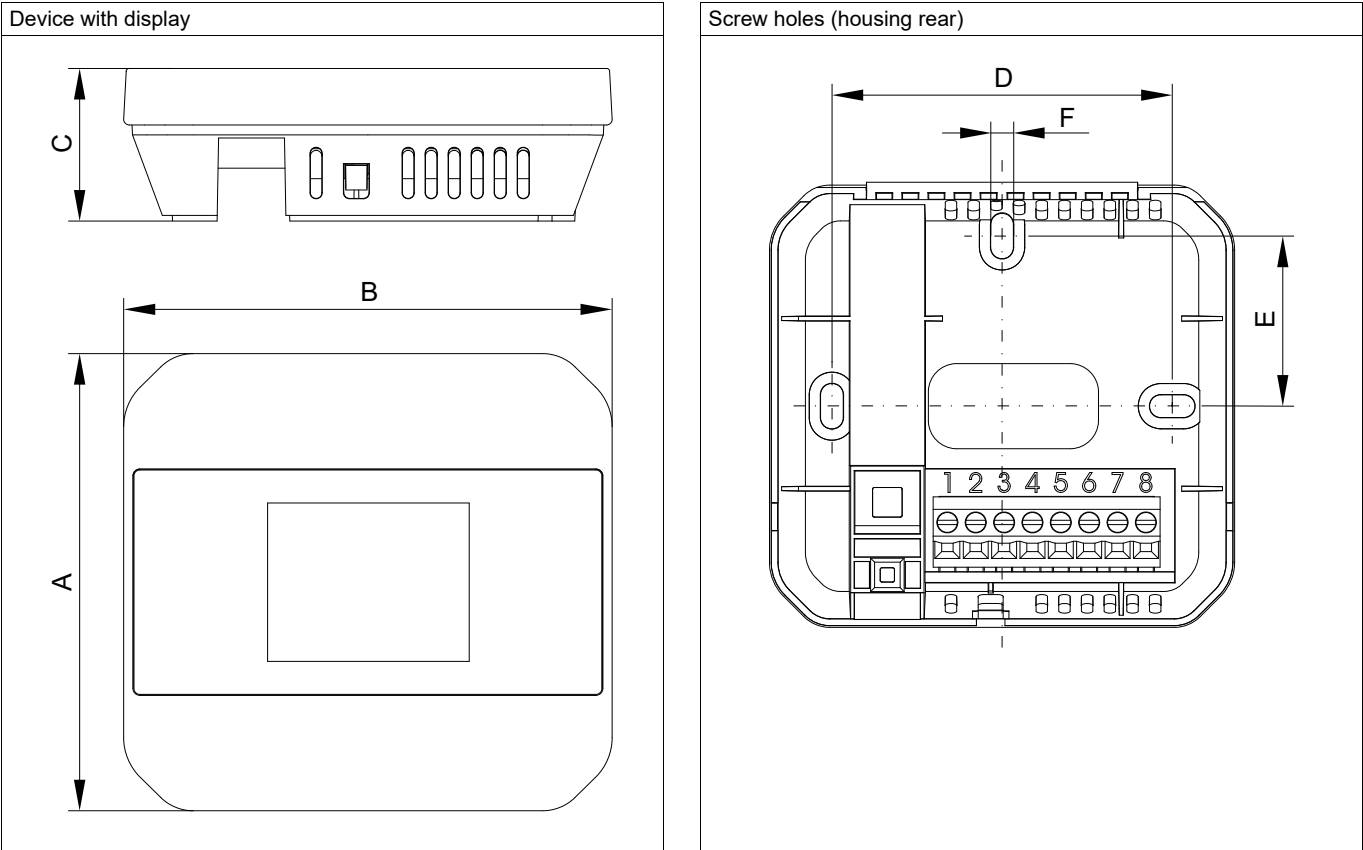
^a The product is suitable for industrial use as well as for households and small businesses.

^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

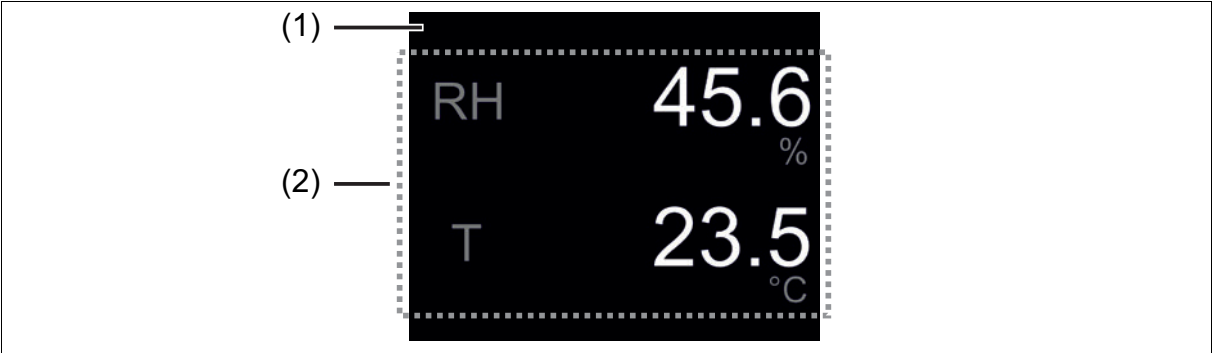
Materials	
Housing	Plastic (PC)
Display cover	Plastic (PMMA)
Weight	Approx. 81 g

Dimensions



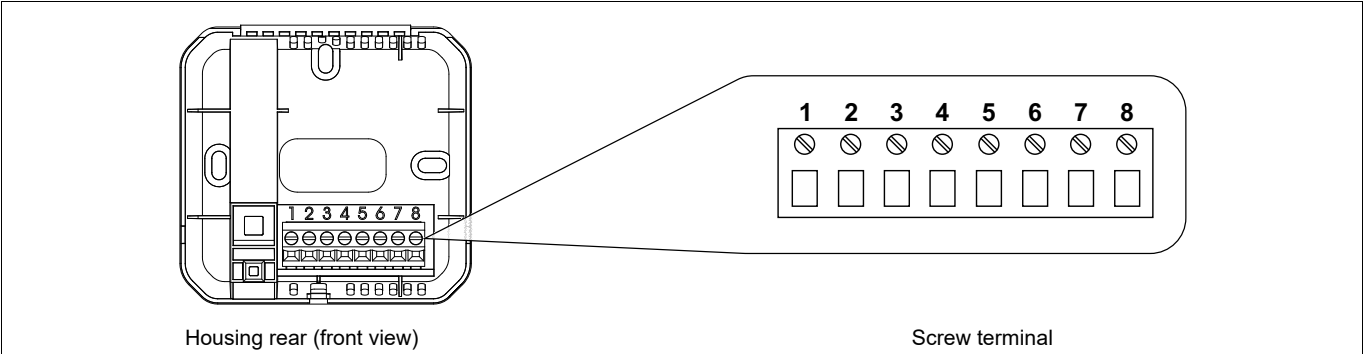
Device version	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
Device without display	81	85	25	60	30	4
Device with display			27			

Display elements



Pos.	Designation	Description
1	Process display	Shows the following values and messages: - Up to three process values - Error messages
2	Process value display	Shows the following values: - The formula symbol - The process value (measured or calculated value) - The system unit

Connection elements



Terminal assignment

Screw terminal

Designation	Description	Assignment
Analog output	–	1
	–	2
	Analog output 3 ^a	3
	Analog output 2 ^a	4
	Analog output 1 ^a	5
	Analog output GND	6
	GND	7
	DC 24 V	8

^a Standard

^b Optional extra

Designation	Description	Assignment
RS485	RS485 A (D+)	1
	RS485 B (D-)	2
	RS485 GND ^b	3
	RS485 A (D+)	4
	RS485 B (D-)	5
	RS485 GND ^b	6
	GND	7
	DC 24 V	8

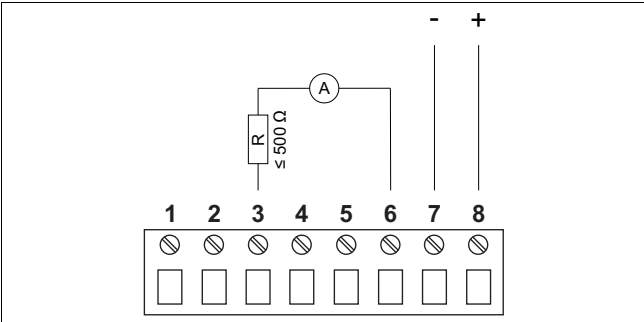
Connection diagram

The connection diagram in the data sheet provides information on product selection.
 For the electrical connection, only use the installation instructions or the operating manual.

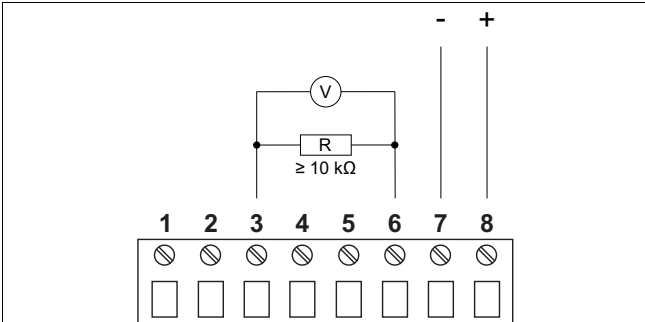
Analog outputs

The connection examples for analog output 3 also apply to analog outputs 1 and 2.

Current output



Voltage output



Order details

(1)	Basic type
907045	JUMO hydroTRANS S10 – Humidity and temperature transmitter with optional CO ₂ module, indoor version
(2)	Basic type extension
11	RH - T
12	RH - T - CO ₂
(3)	Version
0	Standard
(4)	Measuring ranges
18	0 to 95 % RH/-5 to +55 °C/5000 ppm
33	0 to 95 % RH/-5 to +55 °C
(5)	Outputs
009	4 to 20 mA/0 to 10 V combination output configurable
530	RS-485 Modbus
(6)	Extra codes
775	DAkKS (DKD) calibration (service), please state desired test points in plain text
994	Integrated display

Order code	(1)	/	(2)	-	(3)	-	(4)	-	(5)	/	(6)
Order example	907045	/	12	-	0	-	18	-	009	/	994