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DATA SHEET

HDH-Passive

Produal

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HDH-Passive CO_2 transmitter/controller with passive temperature measurement



The HDH-Passive transmitters with passive temperature measurement can measure and control carbon dioxide concentration and temperature in room spaces. The -RH models also measure and control relative humidity. You can use the measurement data for demand-based ventilation control.

The transmitter measures temperature with a passive sensor and an active sensor. It has a resistance output for the passive sensor data and a voltage output for the active sensor data. In addition, the transmitter has one scalable voltage output for CO_2 measurement data. The -RH models also have a scalable voltage output for relative humidity.

The transmitter has one control output. The controller can control the output according to one measurement value or according to the maximum selection of all values. You can change the controller settings with the ML-SER tool.

The -N models have a display. The measurement values scroll on the display. You can also lock the display to show one of the values.

The transmitters can be equipped with the following options:

- HD-P: Passive potentiometer
- HD-PU: Active 0…10 V potentiometer. You can direct the potentiometer information to an output (Y3 or Y4) or use it to adjust the internal controller setpoint.
- HD-AL3: three indicator lights (red, yellow and green) give a visual indication of the carbon dioxide concentration in the room.

Technical specifications

Property	Value
Supply	24 Vac/dc (22…28 V) < 2 VA
Time constant	< 2 min
CO_2 measurement	
Range	0…2000 ppm
Accuracy (25 °C)	typ. ±40 ppm + 3 % from reading
Active temperature measurement	
Range	0...50 °C
Accuracy (25 °C)	±0.5 °C
Control setpoint	18...26 °C

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Property	Value
Passive temperature measurement	
Sensor (PT 1000 model)	Pt1000 EN 60751B
Sensor (NTC 1.8 model)	1.8 kΩ NTC element
Sensor (NTC 10 model)	10 kΩ NTC element
Sensor (NTC 20 model)	20 kΩ NTC element
Accuracy (18...24 °C)	±0.5 °C **Important:** Because of the self-heating, the passive temperature measurement is corrected with a built-in resistor. The accurate measurement range is 18...24 °C. Temperatures outside the range are not accurate.
Humidity measurement (-RH models)	
Range	0...100 %rH
Accuracy (25 °C)	typ. ±2 % rH (20...80 % rH), max. ±3 %rH
Outputs	4 x 0...10 Vdc / 2...10 Vdc, < 2 mA
PT 1000 model	1 x Pt1000
NTC 1.8 model	1 x NTC 1.8
NTC 10 model	1 x NTC 10
NTC 20 model	1 x NTC 20
Appliance class (IEC 60664-1)	III
Commissioning tool	ML-SER
Operating conditions	
Temperature	0...50 °C
Humidity	0...85 %rH (non-condensing)
Protection class	IP20
Wiring terminals	tilted screw terminals
Wire	0.2...1.5 mm^2 (24...16 AWG)
Mounting	On the wall surface or on a flush mounting box (60 mm hole distance)
Materials	ABS plastic (housing)
Dimensions (w x h x d)	87 x 86 x 30 mm
CE UKCA	Refer to the EU Declaration of Conformity or the UK Declaration of Conformity for compliance information. You can find the declarations on this product's page at www.produal.com.

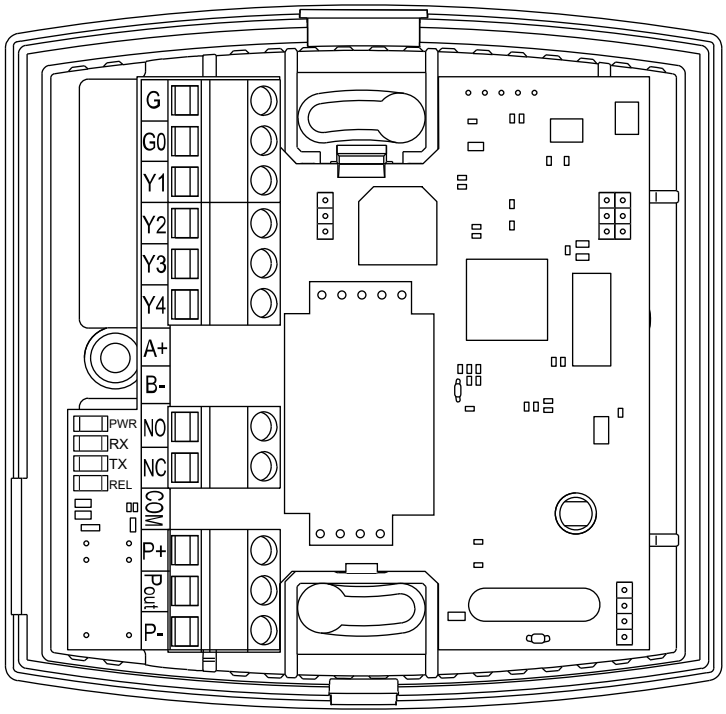
Wiring

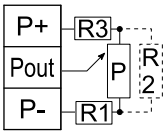
WARNING: Device wiring and commissioning can only be carried out by qualified professionals. Always make the device wirings in de-energised electricity network.

WARNING: This product is appliance class III product according to IEC 60664-1. The product may only be connected to SELV (separated extra low voltage) electricity network.

CAUTION: The product may only be connected to overvoltage category I, II or III electricity network according to IEC 60664-1.

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G	24 Vac/dc, 2 VA supply	
G0	0 V	
Y1	CO_2 output, 0...10 Vdc / 2...10 Vdc, < 2 mA	
Y2	Temperature output, 0...10 Vdc / 2...10 Vdc, < 2 mA	
Y3	Humidity output / active potentiometer output, 0...10 Vdc / 2...10 Vdc, < 2 mA	
Y4	Control output / active potentiometer output, 0...10 Vdc / 2...10 Vdc, < 2 mA	
NO *NC*	Passive sensor output.	
P+ *Pout* *P-*		Passive potentiometer output.

Ordering information

	Type	Product number	Description
	HDH-PT 1000	1135280	Room transmitter / controller, CO_2 and temperature measurement, PT 1000 sensor
	HDH-PT 1000-N	1135281	Room transmitter / controller with display, CO_2 and temperature measurement, PT 1000 sensor
	HDH-NTC 1.8	1135650	Room transmitter / controller, CO_2 and temperature measurement, NTC 1.8 sensor

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	Type	Product number	Description
	HDH-NTC 1.8-N	1135651	Room transmitter / controller with display, CO_2 and temperature measurement, NTC 1.8 sensor
	HDH-NTC 10	1135180	Room transmitter / controller, CO_2 and temperature measurement, NTC 10 sensor
	HDH-NTC 10-RH	1135182	Room transmitter / controller, CO_2, temperature and humidity measurement, NTC 10 sensor
	HDH-NTC 20	2200041	Room transmitter / controller, CO_2 and temperature measurement, NTC 20 sensor
	HDH-NTC 20-RH	2200043	Room transmitter / controller, CO_2, temperature and humidity measurement, NTC 20 sensor
	HDH-NTC 20-N	2200045	Room transmitter / controller with display, CO_2 and temperature measurement, NTC 20 sensor
	HD-P	1135001	Passive potentiometer option
	HD-PU	1135002	Active potentiometer (0...10 Vdc) option
	HD-AL3	1135048	Indicator lights option, (3 pcs: red, yellow, green)
	ML-SER	1139010	Transmitter commissioning tool

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Dimensions

All dimensions are in millimeters (mm).

