

P18D TEMPERATURE AND HUMIDITY TRANSDUCER TEMPERATURE OR HUMIDITY TRANSDUCER

Features



LPConfig
Program

MOD
BUS

RS
485



P18, P18D

- Built-in temperature and humidity sensor.
- Calculation of selected physical quantities (dew-point temperature, absolute humidity)
- 2 analog outputs 0/4...20 mA or 0...10 V
- Standard d.c. current or d.c. voltage output signal
- Storage of measured and calculated maximum and minimum values
- Visualisation of measured value on a LCD display (only P18D).

Input



Outputs

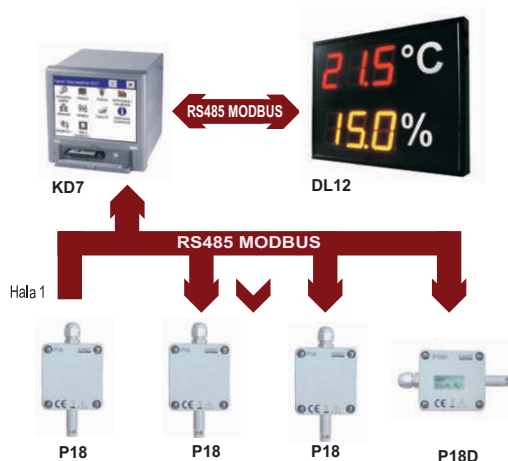
4...20
mA

0..10
V

P18D

RS
485

P18D



Measurement and recording
of temperature and humidity.

Inputs

Input type	Measuring range	Error
Temperature	P18D: -40 .. -20 .. 60 .. 85 °C	+/- 0.5%
Relative humidity	0 .. 100%	+/- 2% for RH = 10 .. 90% +/- 3% for RH in the remaining range

Outputs

Output type	Admissible load resistance	Remarks
4 .. 20 mA	$R_{load} \leq 100 \Omega$	P18D
0 .. 10 V	$R_{load} \geq k \Omega$	P18D

Digital interface (only P18/P18D)

Interface type	Transmission mode	Baud rate
RS-485 Modbus RTU	8N1, 8N2, 8E1, 8O1	4,8; 9,6; 19,2; 38,4; 57,6; 115,2 kbit/s

External features

Overall dimensions	38 x 58 x 118 mm
Weight	125 g
Protection grade	ensured by the casing: IP65
Fixing	on a wall

Rated operating conditions

Supply voltage	P18D	9 .. 24 V d.c./a.c	input power < 0.5 VA
Temperature		ambient: -20...23...60 °C	
Humidity		< 95%	inadmissible condensation
Operating position		any	in application not exposed to water contact
		sensor chamber towards the earth	in application exposed to water contact
Preheating time		15 minutes	
Air flow rate		≥ 0.5 m/s (P18/ P18D) ≥ 2 m/s (P18L)	



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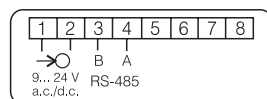
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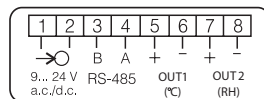
Safety and compatibility requirements

Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Isolation between circuits	basic	acc. to EN 61010-1
Pollution level	2	
Installation category	III	
Maximal phase-to-earth operating voltage	50 V	
Altitude a.s.l.	< 2000 m	

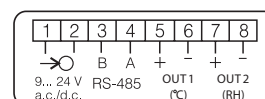
Connection diagram



Transducer without
analog outputs



Transducer with current
outputs



Transducer with voltage
outputs

Fig. 1 Connection way of electric signals – P18D.

Ordering

P18D -	X	XX	X	X
Analog outputs:				
without outputs	0			
current 4...20 mA	1			
voltage 0...10 V	2			
Version:				
standard	00			
custom-made*	XX			
Language:				
Polish			P	
English			E	
other*			X	
Acceptance tests:				
without extra quality requirements				0
with an extra quality inspection certificate				1
acc. to customer's requirements*				X

ORDER EXAMPLE:

The code: **P18 - 1 - 00 - 8** means: temperature and humidity transducer of P18 type, with a current analog output: 4...20 mA, standard version, without extra quality requirements. If required, one must additionally order a sensor protection shield acc. to the table 1, eg. shield 08744-490-014 means a filter made of sintered bronze.

* - A?er agreeing with the manufacturer.

Table 1

Order code	Design	Name	Construction	Features	Typical application
0874-490-016		Membrane filter	Casing made of PCV, membrane of teflon. laminated by a film. Pore size: 1 µm	Mean filtration effect. Maximal temp.: up to 80 °C Response time: t10/90:15 s	Building automation. In rooms with low pollution.
0874-490-015		Filter made of teflon	Sintered teflon. Pore size: 50 µm	High chemical resistance Maximal temp.: up to 180 °C Response time: t10/90:14 s	Drying process in chemical applications.
0874-490-014		Filter made of sintered bronze	Sintered bronze. Pore size: 60 µm	High mechanical resistance. To co-operate in high pollution environments. Applied at small air humidity Response time: t10/90:10 s	Agricultural applications.

See also



KD7 recorder.



Interface converter
USB/RS-485 - PD10.



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