P18, P18L, P18D

- TEMPERATURE AND HUMIDITY TRANSDUCER

P18, P18D

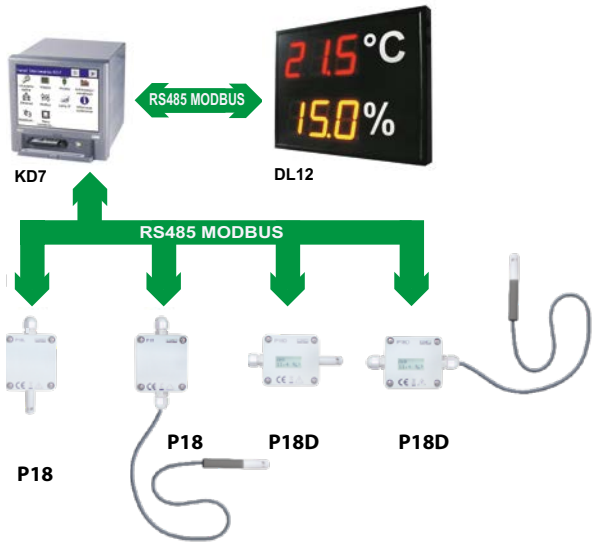
- Built-in temperature and humidity sensor or with probe on 0.5 m wire.
- Calculation of selected physical quantities (dew-point temperature, absolute humidity).
- Interface RS-485 Modbus.
- 2 analog outputs 0/4...20 mA or 0...10 V (option).
- Standard d.c. current or d.c. voltage output signal
- Storage of measured and calculated maximum and minimum values
- Visualisation of measured value on a LCD display (only P18D).

P18L

- Built-in temperature and humidity sensor.
- Supply from current loop
- 1 analog output 4 ... 20 mA.

CE

EXAMPLE OF APPLICATION



Measurement and recording of temperature and humidity.

CONNECTION DIAGRAM

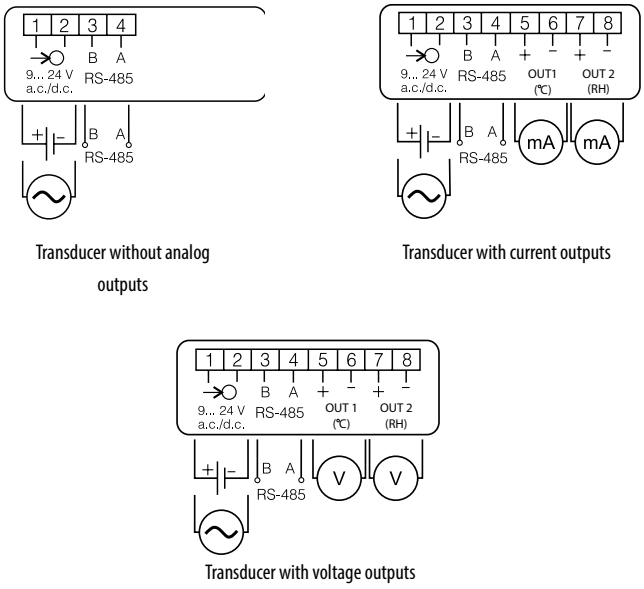


Fig. 1 Connection way of electric signals – P18, P18D.

FEATURES

Linear chrtcs.

LPConfig Program

MOD BUS

RS 485

OUTPUTS

4...20 mA

0..10 V

RS 485

only P18, P18D

INPUT

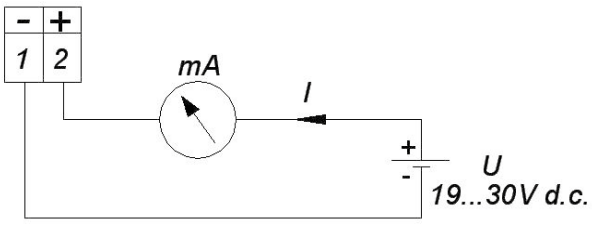


Fig. 2 Connection way of electric signals – P18L

P18, P18L, P18D

- TEMPERATURE AND HUMIDITY TRANSDUCER

TECHNICAL DATA

INPUTS

Input type	Measuring range	Error
Temperature	P18, P18D: -40 .. -20 .. 60 .. 85°C P18L: -30 .. -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	$R_{load} \leq 100$ W	for P18/P18D
	$R_{load} \leq 500$ W	P18L
0 .. 10 V	$R_{load} \geq 1$ kW	only P18/P18D

DIGITAL INTERFACE (ONLY P18/P18D)

Interface type	Transmission mode	Baud rate
RS-485 Modbus RTU	8N1, 8N2, 8E1, 801	4,8; 9,6; 19,2; 38,4; 57,6; 115,2 kbit/s

EXTERNAL FEATURES

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

RATED OPERATING CONDITIONS

Supply voltage	P18, P18D	9 .. 24 V d.c./a.c	input power < 0.5 VA
	P18L	19 .. 30 V d.c.	input power < 1 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)	

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	

P18, P18L, P18D

- TEMPERATURE AND HUMIDITY TRANSDUCER

ORDERING CODE

P18(D) -	X	XX	E	X
Analog outputs - sensor:				
without outputs, sensor on the housing	0			
current 4...20 mA, sensor on the housing	1			
voltage 0...10V, sensor on the housing	2			
without outputs, probe on the wire 0,5 m	3			
current 4...20 mA, probe on the wire 0,5 m	4			
voltage 0...10V, probe on the wire 0,5 m	5			
Version:				
standard		00		
custom-made*		XX		
Language:				
English			E	
Acceptance tests:				
without extra quality requirements				0
with quality inspection certificate				1
acc. to customer's request*				X

P18L -	XX	X
Version:		
standard	00	
custom-made*	XX	
Acceptance tests:		
without extra quality requirements		0
with an extra quality inspection certificate		1
according to customer's request*		X

ORDER EXAMPLE:

The code: **P18 - 100E0** means: temperature and humidity transducer of P18 type, with a current analog output: 4 . . . 20 mA, standard version, user's manual in English, 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.

Order code	Design	Name	Construction	Features	Typical application
20-015-00-00011		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.
20-015-00-00007		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.
20-015-00-00003		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.

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DS-P18_18L_18D_EN_20190321

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