

P18, P18D TEMPERATURE AND HUMIDITY TRANSDUCER
P18L TEMPERATURE OR HUMIDITY TRANSDUCER

FEATURES:

- Linear charac.
- LPCConfig Program
- MOD BUS
- RS 485



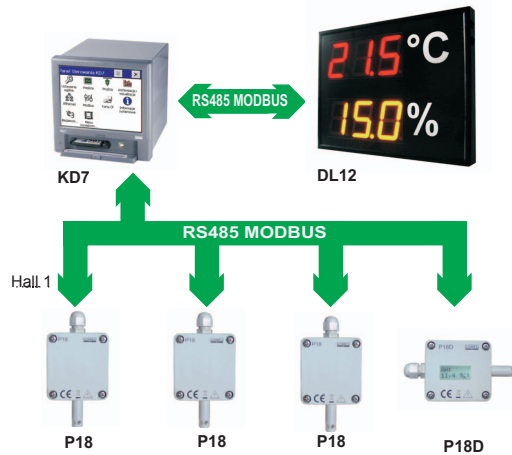
P18, P18D

- 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).

P18L

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

EXAMPLE OF APPLICATION



Measurement and recording of temperature and humidity.

INPUT:



OUTPUTS:

4...20 mA

0..10 V

only P18, P18D

RS 485

only P18, P18D

INPUTS

Input type	Measuring range	Error
Temperature	-30 .. -20 .. 60 .. 80°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	$R_{load} \leq 100 \Omega$	for P18/P18D
	$R_{load} \leq 500 \Omega$	P18L
0 .. 10 V	$R_{load} \geq 1 k\Omega$	only P18/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 × 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)	

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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	
Pollution level	2	
Installation category	III	acc. to EN 61010-1
Maximal phase-to-earth operating voltage	50 V	
Altitude a.s.l.	< 2000 m	

CONNECTION DIAGRAM

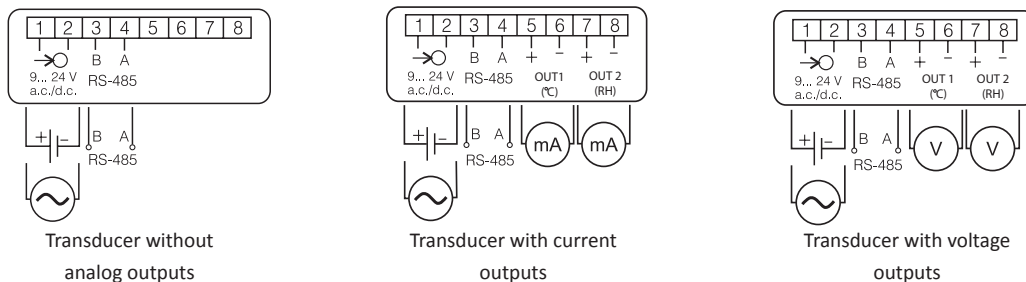


Fig. 1 Connection way of electric signals – P18, P18D.

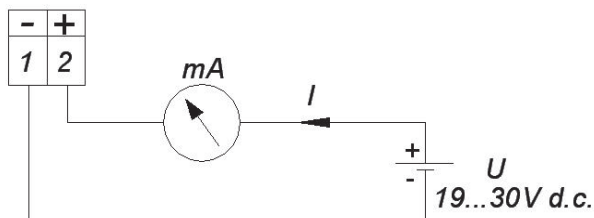


Fig. 2 Connection way of electric signals – P18L

ORDERING

P18 -				X	XX	X	
Analog outputs:							
without analog outputs	0						
current output 4...20 mA	1						
voltage output 0...10 V	2						
Version:							
standard				00			
non standard setting				NS			
custom-made*				XX			
Acceptance tests:							
without extra quality requirements						8	
with an extra quality inspection certificate						7	
according to customer's request *						X	

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

P18L -		XX	X
Version:			
standard			00
custom-made*			XX
Acceptance tests:			
without extra quality requirements			8
with an extra quality inspection certificate			7
according to customer's request*			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.

* - After 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.



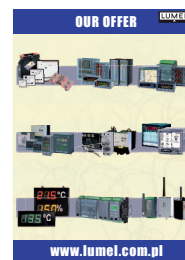
Interface converter USB/RS-485 - PD10.



Tricolour digital display for outdoor application -DL21.



LUMEL-PROCES software.



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