

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

**FEATURES:**

Linear charts. **eCon**  
**MOD BUS** **RS 485**

**INPUT:**



**OUTPUTS:**

4...20 mA

0..10 V

only P18, P18D

**RS 485**

only P18, P18D

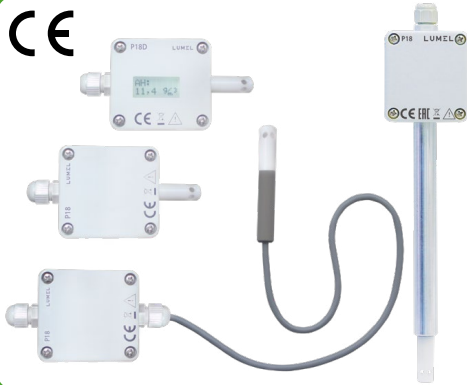
**GALVANIC ISOLATION:**



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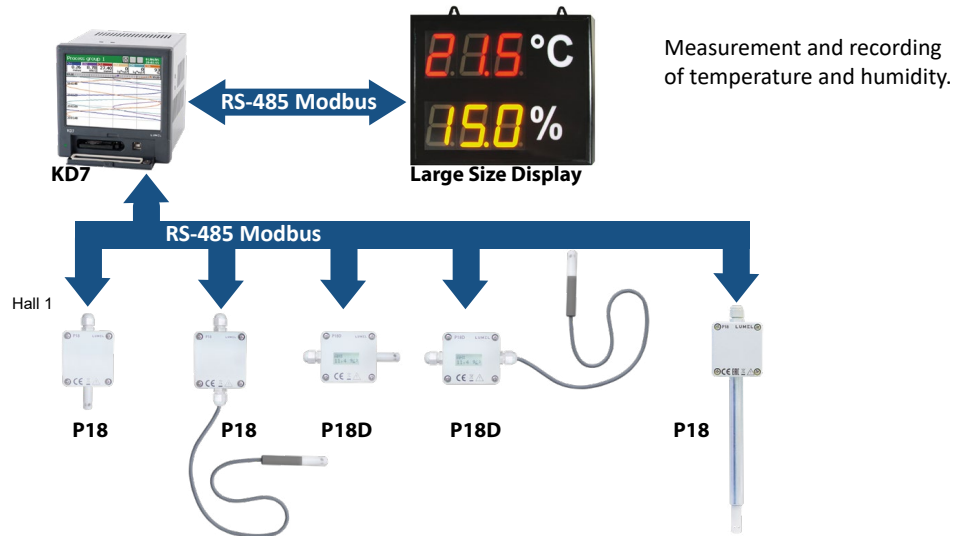
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**P18, P18D**

- Built-in temperature and humidity sensor or with probe on 0.5 m wire or with an extended sensor.
  - 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).
  - Galvanic isolation for analog outputs**
- P18L**
- Built-in temperature and humidity sensor.
  - Supply from current loop
  - 1 analog output 4 ... 20 mA.

**EXAMPLE OF APPLICATION**



**INPUTS**

Input type	Measuring range	Error
Temperature	P18, P18D: -30 .. -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	$R_{load} \leq 100 \Omega$	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	38 × 58 × 265 mm - version with extended sensor
Weight	125 g	270 g - version with extended sensor
Protection grade	ensured by the casing: IP65	
Fixing	on a wall	

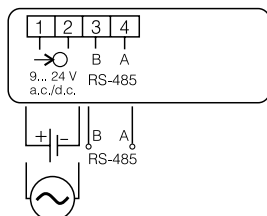
**RATED OPERATING CONDITIONS**

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	$\geq 0.5$ m/s (P18/ P18D)		
	$\geq 2$ m/s (P18L)		

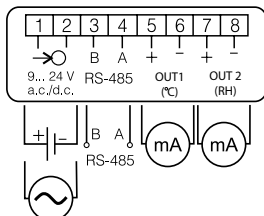
**SAFETY AND COMPATIBILITY REQUIREMENTS**

Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Isolation between circuits	basic	
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	

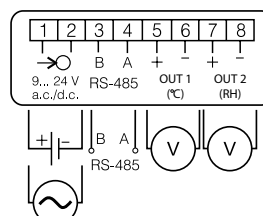
**CONNECTION DIAGRAM**



Transducer without analog outputs

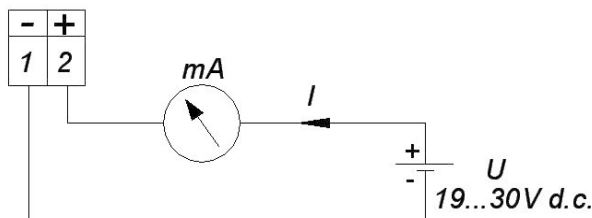


Transducer with current outputs

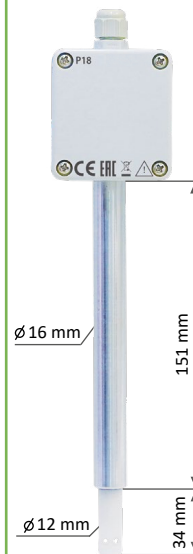


Transducer with voltage outputs

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



**Fig. 2 Connection way of electric signals – P18L**



Code	Description
<b>P18 000M0</b>	Temperature and humidity transducer P18 without analog outputs; sensor on the housing; documentation and descriptions in Polish and English version, without any extra requirements
<b>P18 100M0</b>	Temperature and humidity transducer P18 2x analog output 4-20mA; sensor on the housing; documentation and descriptions in Polish and English version, without any extra requirements
<b>P18 200M0</b>	Temperature and humidity transducer P18 2x analog output 2x 0-10V; sensor on the housing; documentation and descriptions in Polish and English version, without any extra requirements
<b>P18D 000M0</b>	Temperature and humidity transducer P18D with LCD display, without analog outputs; sensor on the housing; documentation and descriptions in Polish and English version, without any extra requirements

Code	Description
<b>P18D 100M0</b>	Temperature and humidity transducer P18D with LCD display, 2x analog output 4-20mA; sensor on the housing; documentation and descriptions in Polish and English version, without any extra requirements
<b>P18D 200M0</b>	Temperature and humidity transducer P18D with LCD display, 2x analog output 0-10V; sensor on the housing; documentation and descriptions in Polish and English version, without any extra requirements
<b>P18L 000</b>	Temperature and humidity transducer P18L, built-in temperature and humidity sensor, supplied from a current loop, 1 x analog output 4 ... 20 mA; without any extra requirements

Table 1

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.

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