

# P20H PROGRAMMABLE TRANSDUCER OF DC CURRENT OR VOLTAGE

## FEATURES:

PD14  
Programmer

LPConfig  
program

MOD  
BUS

Linear char.



- Continuous conversion of high current or high voltage signals.
- Standard d.c. current or d.c. voltage output signal.
- Small dimensions.
- 0.2 accuracy class.
- Fully programmable parameters:
  - measurement averaging time,
  - conversion characteristic,
  - preservation of the output signal at overflows,
  - RS-485 transmission parameters.

## INPUTS:



## OUTPUTS:

-10...10  
V

-20...20  
mA

4...20  
mA

RS  
485

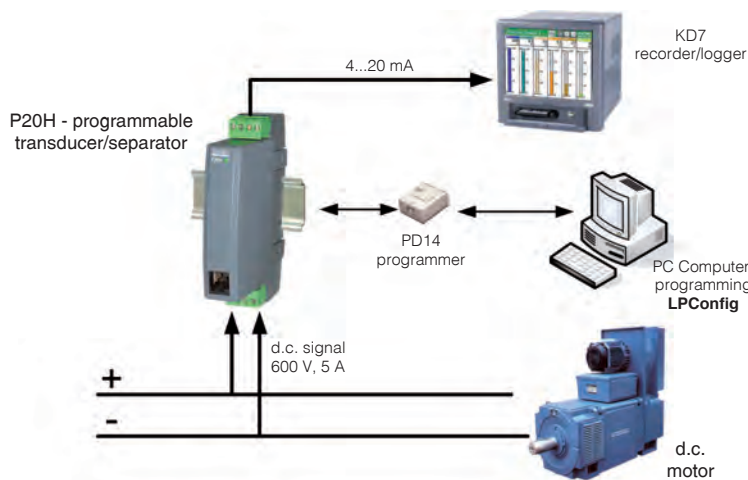
## GALVANIC ISOLATION:

PD14  
interface

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## EXAMPLE OF APPLICATION



Measurement and archiving of d.c. motor current/voltage work parameters. Measured data are transmitted to the recorder/data logger.

## INPUTS

Measuring ranges	Parameters	Overloads	Error
-1...100...110 V d.c.	input resistance > 2 MΩ	Short duration overload (1s): 2 Un (< 1000V), 10 In  Sustained overload: 150% Un (only for Un = 400 V and ±400 V), 120% Un (for other Un), 120% In	<b>Basic error</b> (at manufacturer's settings): ± <b>(0.2% of range)</b>  <b>Additional error</b> from ambient temperature changes: ± <b>(50% of the basic error/10K)</b>
-2...250...275 V d.c.			
-5...400...600 V d.c.			
-120...-100...100...120 V d.c.			
-300...-250...250...300 V d.c.			
-600...-400...400...600 V d.c.			
-1.2...-1...1...1.2 A d.c.	input resistance 10 mΩ ±10%		
-6...-5...5...6 A d.c.	input resistance 2 mΩ ±10%		

## OUTPUTS

Output kind	Properties	Remarks
0...20...22 mA	R <sub>load</sub> ≤ 500 Ω	Resolution: 0.01% of the range
4...20...22 mA		
0...10...11 V	R <sub>load</sub> ≥ 500 Ω	

## DIGITAL INTERFACE

Interface type	Transmission protocol	Modes	Baud rates
RS-485	MODBUS RTU	8N2, 8E1, 8O1, 8N1	4.8, 9.6, 19.2 kbit/s

### EXTERNAL FEATURES

Weight	< 0.125 kg	
Dimensions	22.5 x 120 x 100 mm	
Protection grade (acc. to EN 60529)	ensured by the housing: IP 40	from the terminal side: IP 20
Fixing	on a 35 mm rail	acc. to EN 60715

### RATED OPERATING CONDITIONS

Supply	85...253 V a.c. (45...65Hz) or d.c. 20...40 V a.c. (45...65 Hz) or d.c.	power consumption: < 3 VA
Temperature	ambient: -20...23...60°C	storage: -25...85°C
Relative humidity	< 95%	inadmissible vapour condensation
Operating position	any	
Preheating time	15 min	
Averaging time of the measurement	≥ 0.1 s	1 second set by default

### 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 grade	2	
Installation category	III (for the 400 V option - category II)	
Maximal phase-to-earth operating voltage	for the supply circuit: 300 V	acc. to EN 61010-1
	for the measuring input: 600 V cat. II (300 V - cat. III)	
	for the programming input: 50 V	
Altitude above sea level	< 2000 m	

### CONNECTION DIAGRAMS

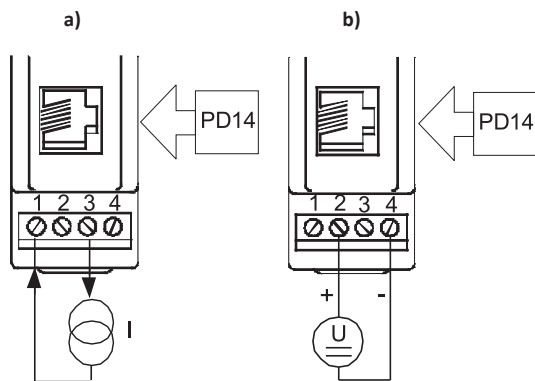


Fig. 1. Electrical connections of P20H transducer inputs.  
a) current, b) voltage

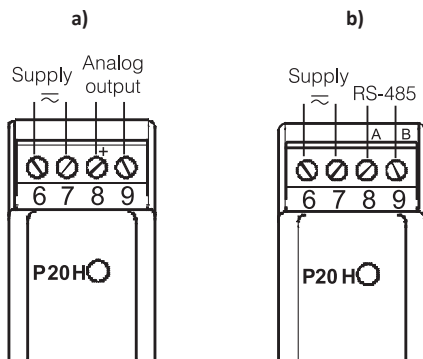


Fig. 2. Electrical connections of the P20H transducer supply and output.  
a) with analog output, b) with RS-485 interface.

### ORDERING

#### ORDERING CODES:

	P20H -	X	X	X	XX	X	X
<b>Input signal:</b>							
+/- 100 V		1					
+/- 250 V		2					
+/- 400 V		3					
+/- 1 A		4					
+/- 5 A		5					
0...100 V		6					
0...250 V		7					
0...400 V		8					
<b>Output:</b>							
0...20 mA			1				
4...20 mA			2				
0...10 V			3				
RS-485			4				
<b>Supply:</b>							
85...253 V a.c./d.c.					1		
20...40 V a.c./d.c.					2		
<b>Version:</b>							
standard						00	
non-standard settings						NS	
custom-made*						XX	
<b>Language:</b>							
Polish							P
English							E
other*							X
<b>Acceptance tests:</b>							
without extra quality inspection requirements							0
with an extra quality inspection certificate							1
acc. to customer's request							X

\* - after agreeing with the manufacturer

#### Order example:

The code **P20H - 6 1 1 00 E 0** means:

- P20H** - transducer of d.c. current or d.c. voltage signals
- 6** - input signal: 0...100 V d.c.
- 1** - output signal: 0...20 mA
- 1** - supply voltage: 85...253 V a.c./d.c.
- 00** - standard version
- E** - English language
- 0** - without extra quality inspection requirements

### SEE ALSO:



Free LPConfig software for easy programming of LUMEL's products. Available on our website



PD14 programmer - unit for programming LUMEL's products, with USB connection, LPCon compatible.



Programmable digital meter of d.c. current and d.c. voltage N30H.



For more information about LUMEL's products please visit our website: [www.lumel.com.pl](http://www.lumel.com.pl)

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