

LUMEL

P20H TRANSDUCER OF DC CURRENT OR VOLTAGE

FEATURES:

PD14
compatible

LPCConfig
compatible

MOD BUS

RS 485

$Y=a*x+b$
Individual characteristic



- ✓ Continuous conversion of high current or high voltage signals
- ✓ Standard d.c. current or d.c. voltage output
- ✓ RS-485 interface with MODBUS protocol
- ✓ Small dimensions
- ✓ 0,2 accuracy class
- ✓ Fully programmable parameters:
 - ✓ measurement averaging time,
 - ✓ conversion characteristic,
 - ✓ preservation of the output signal,
 - ✓ narrowing of the output signal,
 - ✓ RS485 transmission parameters,

INPUTS:



OUTPUTS:

0..10 V

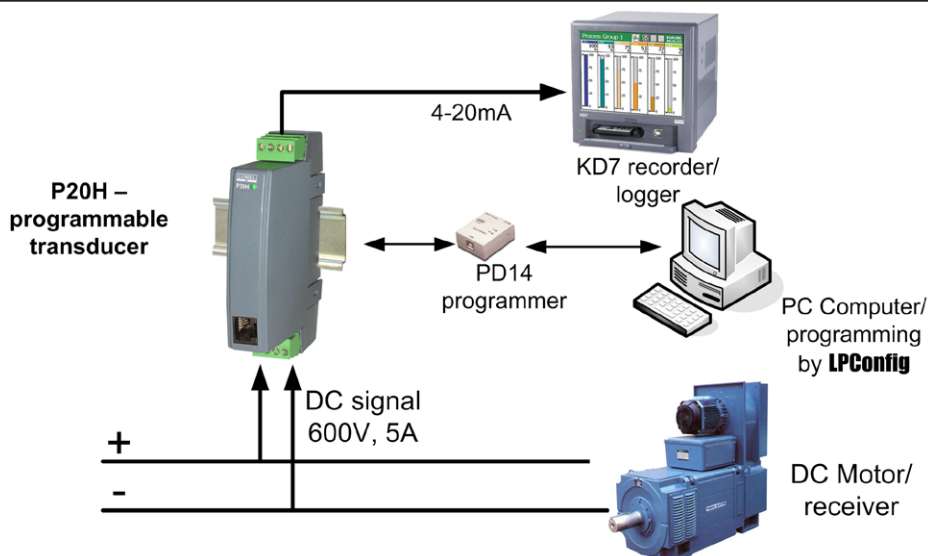
0..20 mA

4..20 mA

GALVANIC ISOLATION:



EXAMPLE OF APPLICATION



Measurement and archivization of the DC motor current/voltage parameters. Measured data is transmitted to the recorder/data logger.

INPUTS

Measuring ranges	Parameters	Overloads	Error
-1..100..110 V d.c.	input resistance > 2MΩ	Short duration overload (3s): 2 Un (<1000V) Sustained overload 10%	Basic error (at manufacturer's settings): ±(0,2% of range) Additional error from ambient temperature changes: ±(0,1% of the range/10K)
-2..250..275 V d.c.			
-5..400..440 V d.c.			
-120..-100..100..120 V d.c.			
-300..-250..250..300 V d.c.			
-480..-400..400..480 V d.c.	input resistance 50mΩ ±10%	Short duration overload (3s): 10 In Sustained overload 10%	
-0,1..1..1,1 A d.c.			
-1,2..-1..1..1,2 A d.c.			
-0,1..5..5,5 A d.c.	input resistance 10mΩ ±10%		
-6..-5..5..6 A d.c.			

OUTPUTS

Output kind	Properties	Remarks
0..20 mA	$R_{load} \leq 500 \Omega$	Resolution: 0.01% of the range
4..20 mA		
0..10 V	$R_{load} \geq 500 \Omega$	

DIGITAL INTERFACE

Interface type	transmission protocol	modes	baud rates
RS-485	MODBUS RTU	8N2, 8E1, 8O1, 8N1	4.8, 9.6, 19.2, 38.4 kbit/s

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EXTERNAL FEATURES

Weight	<0,125 kg	
Dimensions	22,5 x 120 x 100 mm	
Protection level(acc. to EN 60529)	ensured by the housing: IP40	from the terminal side: IP20
Fitting	on a 35 mm rail	acc. to EN 60715

RATED OPERATING CONDITIONS

Supply voltage	85..253 V a.c./d.c. or 20..40 V a.c./d.c.	power consumption: <6 VA
Temperature	ambient: -10..23..55 °C	storage: -25..85 °C
Relative humidity	≤ 95%	condensation inadmissible
Working position	any	
Transducer preheating time	15 min	
Avarging time	≥ 0,5	1 second set by default

SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	Noise immunity	acc. to EN 61000-6-2
	Noise emission	acc. to EN 61000-6-4
Insulation between circuits	basic	acc. to EN 61010-1
Pollution degree	2	
Installation category	III (for the 400V option - category II)	
Altitude above sea level	<2000 m	
Maximal phase-to-earth working voltage	for the supply circuit: 300V	
	for the measuring input: 600V - category II (300 V cat. II)	
	for the programming input: 50V	

CONNECTION DIAGRAMS

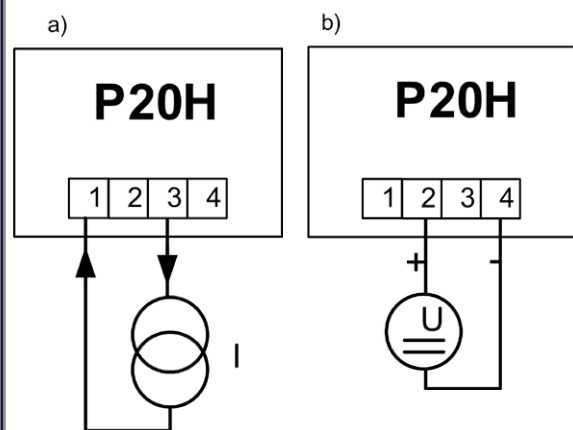


Fig. 1. Electrical connections of P20H transducer inputs.
a) voltage, b) current

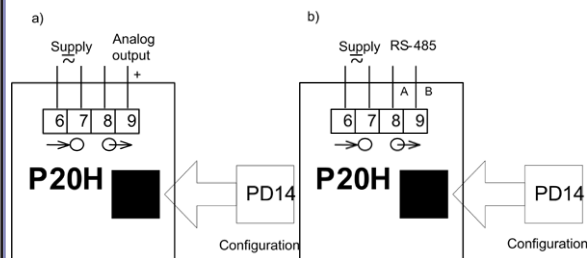


Fig. 2. Electrical connections of the P20H transducer supply and output:
a) with analog output, b) with RS-485

ORDERING

ORDERING CODES:		P20H -	X	X	X	XX	X
Input signal:							
+/- 10 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				
Output:							
0..20 mA						1	
4..20 mA						2	
0..10 V						3	
RS-485						4	
Supply voltage							
85..253 V a.c./d.c.							1
20..40 V a.c./d.c.							2
Execution							
Standard PL							PL
Standard EN (user's manual in English)							EN
custom-made*							XX
after agreeing with the manufacturer							99
Acceptance tests:							
without extra quality inspection requirements							8
with an extra quality inspection certificate							7
acc. to customer's agreements							X

* - the code will be established by the manufacturer

Order example:

The code **P20H - 6 1 1 EN 8** means
P20Z - transducer of constant current or voltage signals
6 - input signal 0..100 V DC
3 - output signal 0..20mA
1 - supply voltage: 85..253 V a.c./d.c.
EN - standard execution (with all instructions in English)
8 - without extra quality inspection requirements

SEE ALSO:



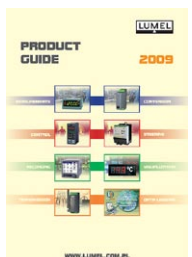
Free LPConfig software for easy programming of LUMEL's products. Available on our website



PD14 programmer - unit for programming LUMEL's products, with USB connection, LPCon compatible. For more details check DIGITAL METERS catalogue or our website.



Check our offer of different transducers in MEASURING TRANSDUCERS catalogue or on our website.



For more information about products check Product Guide 2009 catalogue or visit our website.

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