

# P41 PROGRAMMABLE TRANSDUCER OF 1-PHASE POWER NETWORK PARAMETERS

## FEATURES:

- Ep-|Ep+  
EqL|EqC** **LPConfig  
Program**
- MEM  
9000rec** **RTC**
- MOD  
BUS**

## INPUT:



## OUTPUT:

- 20...20 mA** **RS  
485**
- USB**

## GALVANIC ISOLATION:

- 
- 
- Supply** **RS  
485**



- Measurement of 1-phase network parameters  
U, I, f, P, Q, S, PF, tg φ, φ, Ep, Eq
- Universal input 1 A or 5 A, 100 V or 400 V
- Programmable analog output -20 mA...+20 mA
- RS485 Modbus RTU Slave interface
- Logging of a selected measured value (9000 samples)
- Programmable current and voltage transformer ratios.
- Transducer configuration using USB and LPConfig software.

## EXAMPLE OF APPLICATION



Conversion and recording of current engine load and energy consumption.  
Monitoring of single-phase network parameters.

## MEASURED VALUES AND RANGES

Measured value	Range	Basic error
Current1/5A (I)	0,02...6 A ~ *	±0,2%
Voltage L-N (U)	1...480 V ~ *	±0,2%
Frequency (f)	45,0...66,0...100 Hz	±0,2%
Active power (P)	-2,88 kW... 1,40 W...2,88 kW*	±0,5%
Reactive power (Q)	-2,88 kvar... 1,40 var...2,88 kvar*	±0,5%
Apparent power (S)	1,40 VA...2,88 kVA*	±0,5%
PF	-1...0...1	±0,5%
Tangens φ	-1,2...0...1,2	±1%
φ	0...359	±1%
Active energy (Ep)	0 .. 99 999 999,9 kWh	±0,5%
Reactive energy (Eq)	0 .. 99 999 999,9 kvarh	±0,5%

\* - for ratio Ki=Ku=1. Current ratio Ki programmable in the range 1...10 000. Voltage ratio Ku programmable in the range 0.1...4000.0

## OUTPUT

Output type	Properties
Analog	-20...0...20 mA, Load resistance = 0...250 Ω

## DIGITAL INTERFACE

Interface type	Transmission protocol	Mode	Baud rate
RS-485	MODBUS RTU Address 1...247	8N2, 8E1, 8O1, 8N1	4,8; 9,6; 19,2; 38,4 kbit/s
USB 1.1/ 2.0	MODBUS RTU Address 1	8N2	9,6 kbit/s

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## EXTERNAL FEATURES

Overall dimensions	45 x 120 x 100 mm	DIN rail 35mm
Weight	0.2 kg	
Protection grade	for housing: IP40	for terminals: IP10

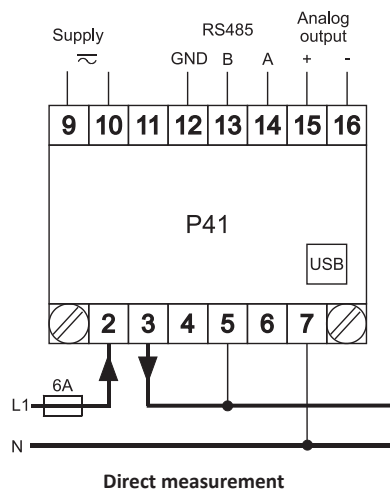
## RATED OPERATING CONDITIONS

Power supply	<ul style="list-style-type: none"> <li>• 85..253 V a.c. 40..400 Hz; / 90..300 V d.c.</li> <li>• 20..40 V a.c. 40..400 Hz; / 20..60 V d.c.</li> </ul>	Power consumption: in supply circuit $\leq 3$ VA in voltage circuit $\leq 0,05$ VA in current circuit $\leq 0,05$ VA
Temperature	ambient: -10...23...55°C	storage: -30...70°C
Relative humidity	25 .. 95%	inadmissible condensation
Working position	any	
Standard conversion time	1.2 s	
Maximal conversion time	2.2 s	
Preheating time	5 min	
External magnetic field	0...40... 400 A/m	
Short duration overload (5 s)	voltage input: $2 U_N$ (max. 1000 V)	current input: $10 I_N$
Sustained overload	current: $1,2 I_N$	voltage: $1,2 U_N$

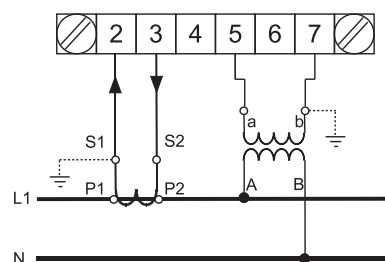
## SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	noise immunity	acc. EN 61000-6-2
	noise emissions	acc. EN 61000-6-4
Isolation between circuits	basic	acc. EN 61010-1
Pollution level	2	
Installation category	III	
Maximal phase-to-earth working voltage	- for supply and measuring circuits 300V - for other circuits 50 V	
Altitude above sea level	< 2000 m	

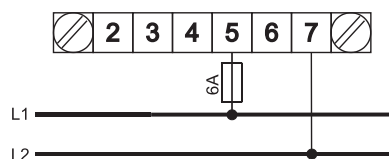
## CONNECTION DIAGRAM



Direct measurement



Indirect measurement



Measurement of phase-to-phase voltage

## ORDERING

P41 -	X	XX	X	X
<b>Supply:</b>				
85..253 V a.c. 40..400 Hz; / 90..300 V d.c.	1			
20..40 V a.c. 40..400 Hz; / 20..60 V d.c.	2			
<b>Version:</b>				
standard		00		
custom-made*		XX		
<b>Language version:</b>				
Polish			P	
English				E
<b>Acceptance tests:</b>				
without an extra requirements				0
with an extra inspection certificate				1

\* after agreeing with the manufacturer

### Example of order:

Code: **P41 - 1 00 P 0** means:

- P41** - P41 transducer
- 1** - supply 85..253 V a.c. / 90..300 V d.c.
- 00** - standard version
- P** - Language: Polish
- 0** - without an extra quality inspection certificate.

## SEE ALSO:



Current transducers LCT type.

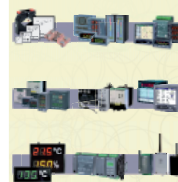


Digital meter N30P.



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