

P41 PROGRAMMABLE TRANSDUCER OF 1-PHASE POWER NETWORK PARAMETERS

LUMEL

FEATURES:

Ep | Ep+
Eq | EqC

LPConfig
Program

MEM
9000rec

RTC

MOD
BUS

INPUT:



OUTPUT:

-20...20 mA

RS
485



GALVANIC ISOLATION:



- Measurement of 1-phase network parameters
 $U, I, f, P, Q, S, PF, tg \varphi, \varphi, Ep, Eq$
- 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
Current 1/5A (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 $K_i=K_u=1$. Current ratio K_i programmable in the range 1...10 000. Voltage ratio K_u 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

Export department:
English: +48 68 32 95
302 / 321 / 276 / 386 / 233
German: +48 68 32 95 305
Russian: +48 68 32 95 321
Fax: +48 68 32 54 091
e-mail: export@lumel.com.pl

LUMEL S.A.
ul. Sulechowska 1
65-022 Zielona Góra
POLAND
WWW.LUMEL.COM.PL

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

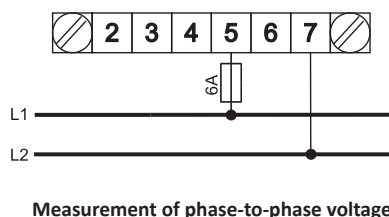
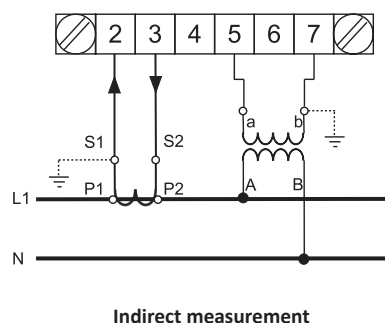
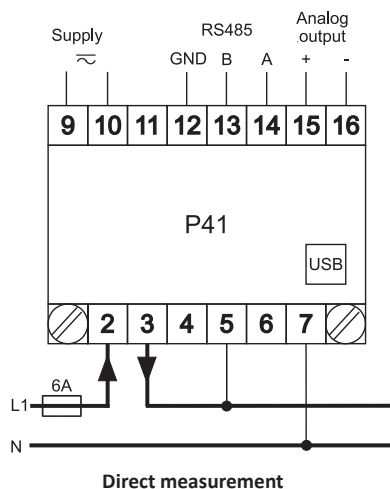
RATED OPERATING CONDITIONS

Power supply	85..253 V a.c. 40..400 Hz; / 90..300 V d.c. 20..40 V a.c. 40..400 Hz; / 20..60 V d.c.	Power consumption: in supply circuit ≤ 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 U_N	voltage: 1,2 I_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



ORDERING

P41 -	X	XX	X	X
Supply:				
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			
Version:				
standard		00		
custom-made*		XX		
Language version:				
Polish			P	
English			E	
Acceptance tests:				
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.



LUMEL - PROCESS
SOFTWARE

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English: +48 68 32 95
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German: +48 68 32 95 305
Russian: +48 68 32 95 321
Fax: +48 68 32 54 091
e-mail: export@lumel.com.pl

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ul. Sulechowska 1
65-022 Zielona Góra
POLAND

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