P30P TRANSDUCER OF 1-PHASE POWER NETWORK PARAMETERS

Features:

MOD BUS Slave · MOD BUS Master · MOD BUS Monitor · eCon Program · SD/ SDHC · Firmware upgrade · RTC · Password protection · Ethernet · WWW ftp

Input:

AC · RS 485 · MOD BUS

Output:

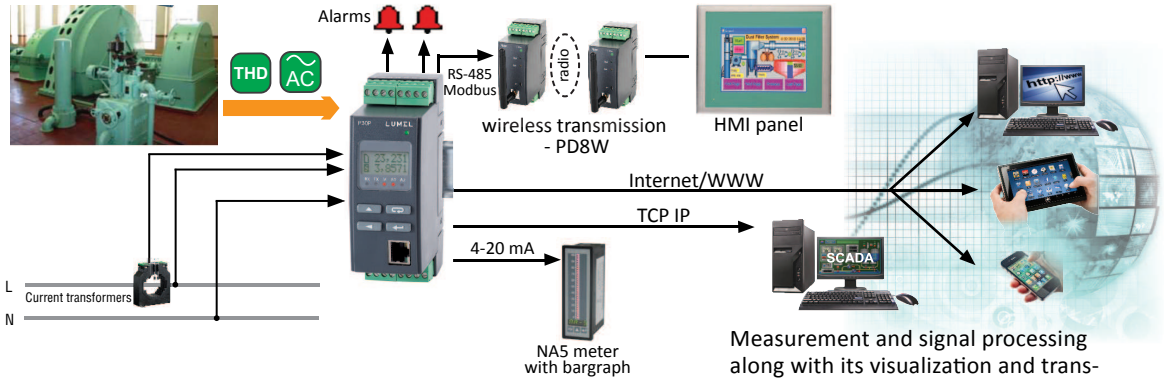
0/4...20 mA · RS 485 · MOD BUS · Ethernet · U

Galvanic isolation:

Supply · RS 485 · Ethernet

- Measurement of 1-phase power network parameters.
- Conversion of measured value in an output signal on the base of the inddivudal characteristic.
- 1 or 2 alarm relays with NO contact operating in 6 modes.
- Additional supplying output 24 V d.c 30 mA switched-on/ switched-off (option).
- Recording of input signals in internal memory, on SD/SDHC card (option) or internal file system memory (option).
- Interface RS-485 Modbus RTU.
- SD/SDHC support (option).
- RS-485 Master mode – possibility to poll 1 device.
- Interface Ethernet 10/100 BASE-T (option).
  - Protocol: Modbus TCP/IP, HTTP, FTP.
  - Services: www server, ftp server, client DHCP.

EXAMPLE OF APPLICATION



Measurement and signal processing along with its visualization and trans-mission in analog and digital signal.

INPUTS AND MEASURING RANGES

Measured value		Nominal range (for direct measurement, for ratios Ki=Ku=1)	Class (for averaging 1s)
RMS current I A, Mean RMS current I_{DM} A 1 A 5 A		 0.01 ...1...1.200 A~ 0.05 ...5... 6.000 A~	±0.2 %
RMS voltage U V 100 V (dependent on execution code) 230 V		 5.5... 100...120 V 12.5 ..230.. 300 V	±0.2 %
Frequency f Hz		2....40.0 .. 60.0 .. 100 Hz	±0.1 %
Active power P W Mean active power $P_Σ$ W Reactive power Q var	1 A, 100 V 5 A, 100 V 1 A, 230 V 5 A, 230 V	-144..-100 ... 100..144 -720..-500 ... 500..720 -360..-230 ... 230..360 -1800..-1150 ... 1150..1800	±0.5 % [W] ±1.0 % [var]
Apparent power S VA Apparent mean power $S_Σ$ VA	1 A, 100 V 5 A, 100 V 1 A, 230 V 5 A, 230 V	0 ... 100..144 VA 0 ... 500..720 VA 0 ... 230..360 VA 0 ... 1150..1800 VA	±0.5 %
Active power factor (P/S) PF Factor cosφ		-1 .. 0 .. 1	±0.5 %
Tangent tgφ (Q/P) tgφ		-1.2 .. 0 .. 1.2	±1 %
Active input/ output energy E_{p+} Wh E_{p-} Wh		0 .. 9 999 999.9 kWh	±0.5 %
Reactive inductive/ capacitive energy E_{qL} varh, E_{qC} varh		0 .. 9 999 999.9 kvarh	±1 %
Apparent energy E_S Vah		0 .. 9 999 999.9 VAh	±0.5 %
THD THD_U % THD_I %		0...100%	±5 %
Phase angle U, I		-180°...180°	±1 % (for φ ≠ < -5°...5°. I > 10% I_N , U >10%U_N)

Export department:
+48 68 45 75 139/ 233/ 321/ 386
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

LUMEL
EVERYTHING COUNTS

P30P TRANSDUCER OF 1-PHASE POWER NETWORK PARAMETERS

OUTPUTS

Output type	Properties	Remarks
Analog OUT1, OUT2 (1 or 2 outputs - depends on transducer version)	OUT1 current: 0/4...20 mA, load resistance ≤ 500 Ω voltage: 0...10 V, load resistance ≥ 500 Ω	accuracy class 0.1
	OUT2 current: 0/4...20 mA, load resistance ≤ 250 Ω voltage: 0...10 V, load resistance ≥ 500 Ω	accuracy class 0.5
Relay OUT2,OUT3 (1 or 2 outputs - depends on transducer version)	1 or 2 relays; voltageless contacts – NO –maximun load 5A 30V d.c., 250V a.c.	
Additional supplying output OUT3	24 V d.c. / 30 mA (option)	

DIGITAL INTERFACE

Interface type	Properties	Remarks
Ethernet 10/100 Baste-T (option)	Modbus TCP/ IP HTTP, FTP	www, ftp server, client DHCP
RS-485	Modbus RTU: 8N2, 8E1, 8O1, 8N1 Address 1...247	baud rate: 4.8, 9.6, 19.2, 38.4, 57.6, 115.2, 230.4, 256 kbit/s

EXTERNAL FEATURES

Overall dimensions	45 × 120 × 100 mm	
Weight	< 0.25 kg	
Protection grade	for housing: IP40/ IP30	for terminals: IP20
Readout field	LCD 2 x 8 characters with LED backlight	

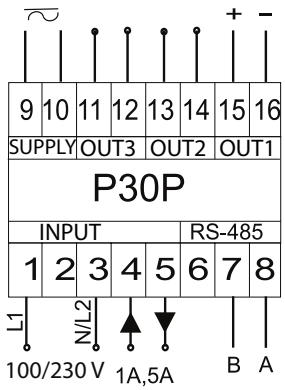
RATED OPERATION CONDITIONS

Supply voltage (depends on execution code)	• 85..253 V a.c., 85...300 V d.c. • 20..40 V a.c. , 20...60 V d.c.	power consumption < 5 VA
Temperature	ambient: -25...23...+55°C	storage: -30...+70°C
Humidity	25...95 %	inadmissible condensation
Working position	any	

SAFETY AND COMPATIBILITY REQUIREMENTS

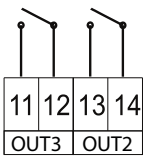
Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Isolation between circuits	reinforced - for input circuits basic - for other circuits	acc. to EN 61010-1
Pollution level	2	acc. to EN 61010-1
Installation category	III	
Maximal phase-to-earth voltage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

CONNECTION DIAGRAM



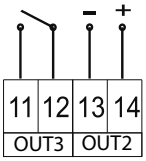
SUPPLY - supply
OUT2 - output no.2 (alarm or analog output)
OUT3 - output no.3 (alarm or supplying output 24V)
OUT1 - main analog output no.1
INPUT - measuring input
RS-485 - interface RS-485

P30P-XXX11XXXXX



OUT2 - alarm 1
OUT3- alarm 2

P30P-XXX21XXXXX



OUT2 - analog output 2
0/4...20 mA
OUT3- Alarm 2

SEE ALSO:

Current transformers

Programmable digital meter of temperature, resistance and standard signals N30U.

LUMEL - PROCESS software.

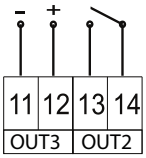
Export department:
+48 68 45 75 139/ 233/ 321/ 386
Fax: +48 68 32 54 091
e-mail: export@lumel.com.pl

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

P30P TRANSDUCER OF 1-PHASE POWER NETWORK PARAMETERS

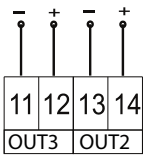
CONNECTION DIAGRAM

P30P-XXX12XXXXX



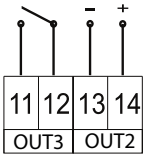
OUT2 - alarm 1
OUT3- supplying output
24 V d.c., 30 mA

P30P-XXX22XXXXX



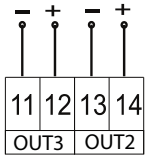
OUT2 - analog output 2
0/4...20 mA
OUT3- supplying output
24 V d.c., 30 mA

P30P-XXX31XXXXX



OUT2 - analog output 2
0...10 V
OUT3- alarm 2

P30P-XXX32XXXXX



OUT2 - analog output 2
0...10 V
OUT3- supplying output
24 V d.c., 30 mA

3-phase power network meter/ analyzer -ND1.

3-phase power network meter - ND20.

Analog meters

For more information about LUMEL products please visit our website:
www.lumel.com.pl

ORDERING

P30P -	X	X	X	X	X	X	XX	X	X
Inputs:									
voltage 100 V, current 1/5 A	1								
voltage 230 V, current 1/5 A	2								
Analog output OUT1:									
current (0/4...20 mA)		1							
voltage (0...10 V)		2							
Additional equipment:									
without			0						
with external SD/SDHC card			1						
with Ethernet interface and archive file system memory			2						
Output OUT2:									
relay A1, 5A 30V d.c., 250V a.c.				1					
analog current output (0/4...20 mA)				2					
analog voltage output (0...10 V)				3					
Output OUT3:									
relay A2, 5A 30V d.c., 250V a.c.					1				
power output 24 V d.c. / 30 mA					2				
Supply:									
85...253 V a.c., 85...300 V d.c.						1			
20...40 V a.c., 20...60 V d.c.						2			
Version:									
standard							00		
custom-made*							XX		
Language:									
Polish								P	
English								E	
other*								X	
Acceptance tests:									
without extra requirements									0
with an extra quality inspection certificate									1
acc. to customer's request*									X

* after agreeing with the manufacturer

Order example:

P30P-11112100E1 means the transducer P30P in standard version with: input range 100 V and 1/5 A with analog current output 0/4...20 mA, external SD/SDHC card, relay and power output 24 V/30 mA, supply 85...235 V a.c./d.c. , user's manual in English and an extra quality inspection certificate.

Export department:
+48 68 45 75 139/ 233/ 321/ 386
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