

P30P TRANSDUCER OF 1-PHASE POWER NETWORK PARAMETERS

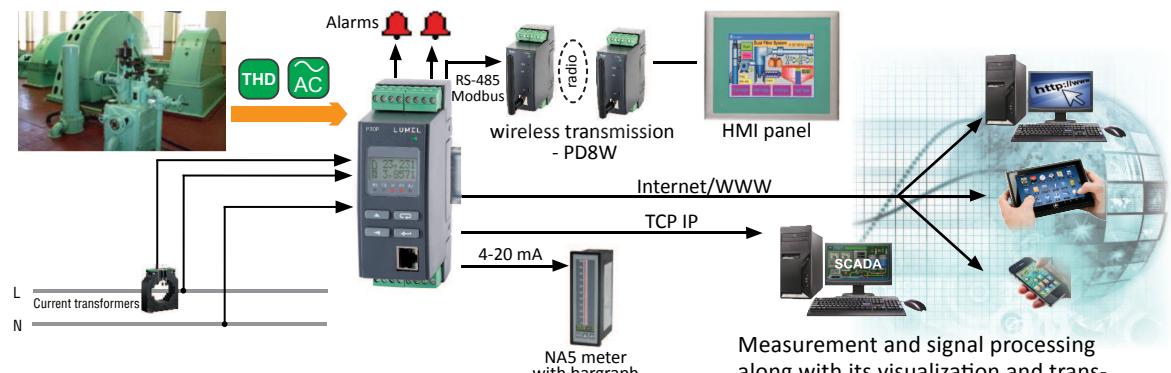
NEW!

FEATURES:



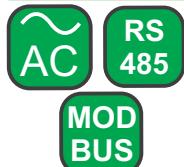
- Measurement of 1-phase power network parameters.
- Conversion of measured value in an output signal on the base of the individual characteristic.
- 1 or 2 alarm relays with NO contact operating in 6 modes.
- Additional supplying output 24 V d.c 30 mA switched-on/switched-off (option).
- Recording of 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

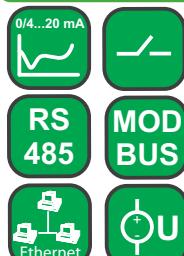


Measurement and signal processing along with its visualization and transmission in analog and digital signal.

INPUT:



OUTPUT:



GALVANIC ISOLATION:



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 \bar{I} A 1 A 5 A	<u>0.01 ... 1</u> ...1.200 A~ <u>0.05 ... 5</u> 6.000 A~	±0.2 %
RMS voltage U V 100 V (dependent on execution code) 230 V	<u>5.5 ... 100</u> ...120 V <u>12.5 ... 230</u> ...300 V	±0.2 %
Frequency f Hz	2... <u>40.0</u> ...60.0...100 Hz	±0.1 %
Active power P W Mean active power \bar{P} W 1 A, 100 V 5 A, 100 V 1 A, 230 V 5 A, 230 V	-144... <u>-100</u> ...100...144 -720... <u>-500</u> ...500...720 -360... <u>-230</u> ...230...360 -1800... <u>-1150</u> ...1150...1800	±0.5 % [W]
Reactive power Q var Apparent power S VA Apparent mean power \bar{S} VA 1 A, 100 V 5 A, 100 V 1 A, 230 V 5 A, 230 V	<u>0 ... 100</u> ...144 VA <u>0 ... 500</u> ...720 VA <u>0 ... 230</u> ...360 VA <u>0 ... 1150</u> ...1800 VA	±1.0 % [var]
Active power factor (P/S) PF Factor $\cos\phi$	-1 .. 0 .. 1	±0.5 %
Tangent $\operatorname{tg}\phi$ (Q/P) $\operatorname{tg}\phi$	-1.2 .. 0 .. 1.2	±1 %
Active input/ output energy $E_{in} \text{ Wh}$ $E_{out} \text{ Wh}$	0 .. 9 999 999.9 kWh	±0.5 %
Reactive inductive/capacitive energy $E_{b} \text{ VArh}$ $E_{c} \text{ VArh}$	0 .. 9 999 999.9 kvarh	±1 %
Apparent energy $E \text{ Vah}$	0 .. 9 999 999.9 VAh	±0.5 %
THD $\text{THD}_U \%$ $\text{THD}_I \%$	0...100%	±5 %
Phase angle U, I	-180°...180°	±1 % (for $\phi \neq < -5^\circ \dots 5^\circ$, $I > 10\% I_N$, $U > 10\% U_N$)

OUTPUTS

Output type	Properties	Remarks
Analog OUT1, OUT2 (1 or 2 outputs - depends on transducer version)	OUT1 current: 0/4...20 mA, load resistance \leq 500 Ω voltage: 0...10 V, load resistance \geq 500 Ω OUT2 current: 0/4...20 mA, load resistance \leq 250 Ω voltage: 0...10 V, load resistance \geq 500 Ω	accuracy class 0.1 accuracy class 0.5
Relay OUT2, OUT3 (1 or 2 outputs - depends on transducer version)	1 or 2 relays; voltageless contacts – NO – maximum 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

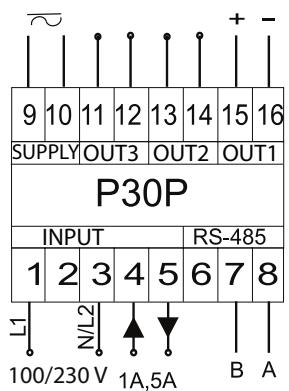
Overall dimensions	45 x 120 x 100 mm	
Weight	< 0.25 kg	
Protection grade	for housing: IP40/ IP30	for terminals: IP20
Readout field	LCD 2 x 8 characters with LED backlight	

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...+55°C	storage: -30...+70°C
Humidity	25...95 %	inadmissible condensation
Working position	any	

SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	noise immunity noise emissions	acc.to EN 61000-6-2 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	
Installation category	III	acc.to EN 61010-1
Maximal phase-to-earth voltage	• for supply and input circuits 300 V • for other circuits 50 V	
Altitude above sea 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

SEE ALSO:


Current
transformers

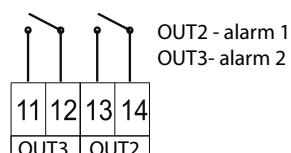


Programmable
digital meter of
temperature,
resistance and
standard signals
N30U.

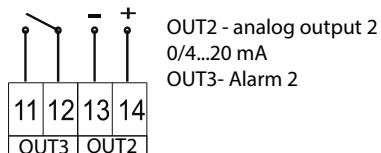


LUMEL - PROCESS
software.

P30P-XXX11XXXXX



P30P-XXX21XXXXX



P30P TRANSNUCER OF 1-PHASE POWER NETWORK PARAMETERS



3-phase power network meter/
analyzer - ND1.



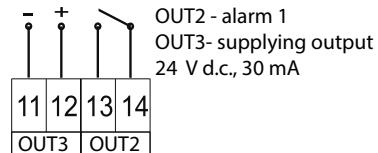
3-phase power network meter
- ND20.



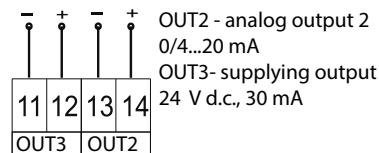
Analog meters

CONNECTION DIAGRAM

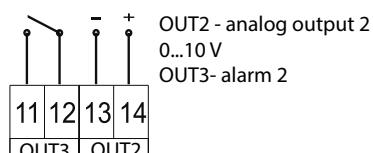
P30P-XXX12XXXXX



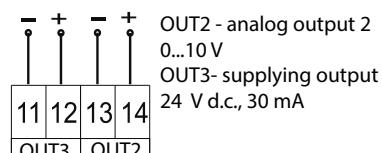
P30P-XXX22XXXXX



P30P-XXX31XXXXX



P30P-XXX32XXXXX



ORDERING

P30P - 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

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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.