

P12P TRANSDUCER OF SINGLE-PHASE NETWORK

FEATURES:

MOD BUS LCD Display

Linear charac. RTC

PD14 PD11
Programmer program



INPUT:



OUTPUTS:

Analog outp.

RS 485

GALVANIC ISOLATION:

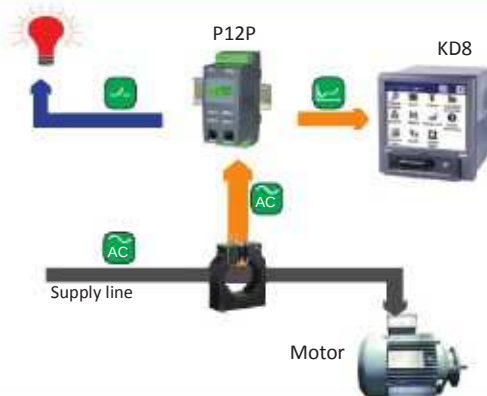


Supply RS 485



- Measurement and conversion of single-phase network parameters.
- Configurable analog and alarm outputs.
- Parameters programmable by using the RS-485 interface or PD14 programmer using the PD11 program.
- Outputs:
 - 2 relay outputs,
 - 1 analog output,
 - digital output RS-485 (MODBUS).
- Signalling of alarms on the display.s
- Recording of any quantity in programmed time segments or recording of events (750 samples).
- Memory of watt-hour meter states at supply decays.
- Memory of maximal and minimal values.

Example of Application



Conversion and recording of the motor load current.

Inputs

Kind of input	Indication range**	Intrinsic error (% of range)
Rms voltage range 400 V	4 V...99 999 MV	0.2 %
Rms voltage range 100 V	1 V...99 999 MV	0.2 %
Rms current range 1A	0.01 A...99 999 MA	0.2 %
Rms current range 5A	0.05 A...99 999 MA	0.2 %
Frequency	20...500 Hz	0.1 %
Active power*	-99 999...99 999 GW	0.5 %
Reactive power*	-99 999...99 999 Gvar	0.5 %
Apparent power*	0...99 999 GVA	0.5 %
Balanced 3-phase active power*	-99 999...99 999 GW	0.5 %
Balanced 3-phase reactive power*	-99 999...99 999 Gvar	0.5 %
Balanced 3-phase apparent power*	0...99 999 GVA	1%
Active power factor*	-1...1	1%
Reactive/active power factor*	-100...100	1%
Phase shift angle*	0...359.9°	0.5 %
Active energy*	-99 999...99 999 GWh	0.5 %
Reactive energy*	-99 999...99 999 Gvarh	0.5 %
Apparent energy*	0...99 999 GVAh	0.5 %
Balanced 3-phase active energy*	-99 999...99 999 GWh	0.5 %
Balanced 3-phase reactive energy*	-99 999...99 999 Gvarh	0.5 %
Balanced 3-phase apparent energy*	0...99 999 GVA	0.5 %

* the transducer preserves its class over 10% of the current and voltage range, ** ratios have been taken into consideration in indication ranges

Outputs

Output type	Properties	Remarks
Analog	- 0..20 mA, 4 ..20 mA (Rload= 0.500 □) - 0..5 mA (Rload= 0..2000 □) - 0..10 V (Rload □ 500 □)	- stabilization time of output signal (0/90%) □ 0,3s - limitation of output current: 28 mA □ 10%
Relay	2 relays, voltageless, NO contacts	Load capacity: - voltage 250 V a.c., 150 V d.c., - 5 A 250 V a.c., 5 A 30 V d.c. - resistant load 250 VA, 150 W

PARAMETERS

Digital Interface

Interface type	Properties	Remarks
RS-485 Modbus	ASCII mode (8N1, 7E1, 7O1) and RTU (8N2, 8E1, 8O1, 8N1)	transmission bauds: 2.4, 4.8, 9.6 kbit/s maximal response time: 300 ms
RS-232	RJ-11 socket for PD14 programmer	rate 9.6 kbit/s; RTU-8N1

External Features

Readout field	LCD display 2 x 8	
Overall dimensions	45 □ 100 □ 120 mm	
Weight	0.3 kg	
Protection grade	for casing: IP40	for terminals: IP20

Rated Operating Conditions

Supply voltage	85 .. 253 V d.c./a.c. (40 .. 50 .. 400 Hz) or 20 .. 24 .. 50 V d.c./a.c. (40 .. 50 .. 400 Hz)	input power: □ 5 VA
Temperature	ambient: -20...23...55°C	storage: -25...85°C
Relative humidity	0 .. 95%	inadmissible condensation
Additional error	for ambient temperature changes: □ 0.1% of range / 10 k any	k - index of accuracy class
Operating positions		
Conversion time	min 600 ms	(sampling time: min 500 ms + response time of output: 100 ms)
Preheating time	10 min.	
Short duration overload (1s)	voltage input: 2 Un (< 1000 V)	current input: 10 In
Sustained overload	voltage input: 1.2 Un	current input: 1.2 In

Safety and Compatibility Requirements

Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Isolation ensured by the casing	double	
Isolation between circuits	basic	
Pollution level	2	
Installation category	III	acc. to EN 61010-1
Maximal phase-to-earth working voltage	600 V	

Ordering

P12P - X X X X X	X	X X X X
Kind of transducer:		
without display1		
with display2		
Input range:		
100 V, 1 A1		
100 V, 5 A2		
400 V, 1 A3		
400 V, 5 A4		
as per order2)X		
Programmed converted parameter1):		
with the code from table 1XX		
Output signal:		
voltage: 0...10 V1		
current: 0...20 mA2		
current: 4...20 mA3		
current: 0...5 mA4		
Supply:		
85...253 V d.c./a.c.	1	
20...50 V d.c./a.c.	2	
Kind of terminals:		
socket-screw plug		0
Version:		00
standard		XX
custom-made2)		
Acceptance tests:		8
without extra quality requirements		7
with an extra quality inspection certificate		X

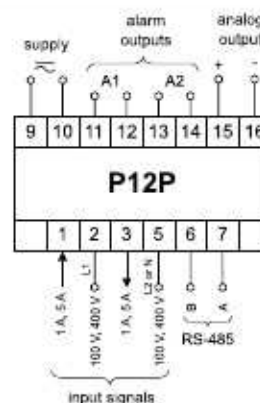
1) - The change of the converted parameters is possible from the keyboard (P12P-2)

through PD14 or RS-485. One must give in the order, the code of converted parameter which has to be programmed.
2) - After agreeing with the manufacturer.

Table 1.

Programmed converted parameter:	Code
voltage	00
current	01
frequency	02
active power	03
reactive power	04
apparent power	05
3-phase active power	06
3-phase reactive power	07
3-phase apparent power	08
cos □	09
tg □	10
□	11
active energy	12
reactive energy	13
apparent energy	14
3-phase active energy	15
3-phase reactive energy	16
3-phase apparent energy	17
as per order2)	XX

Connection diagram



Example of order:

the code: **P12P-2-1-03-3-1-0-00-8** means: P12P transducer with a display, for basic range: 1 A, 100 V, programmed for the active power conversion into a current output signal: 4 .. 20 mA, supply voltage: 85 .. 253 V d.c./a.c., socket-screw plug terminals, standard version, without extra quality requirements.

SEE ALSO:



PD14 programmer.



Current transformers.



Transducer of network parameters P43.



Analyser of network parameters ND1.



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