P30U TRANSDUCER OF TEMPER ATURE AND STANDARD SIGNALS

LUMEL

FEATURES:

MOD BUS Slave | MOD BUS Master | MOD BUS Monitor | LPConfig Program | SD/ SDHC | Firmware upgrade | 21 points charact. | RTC | Password protection

INPUT:

°C | Ω | DC

OUTPUT:

RS 485

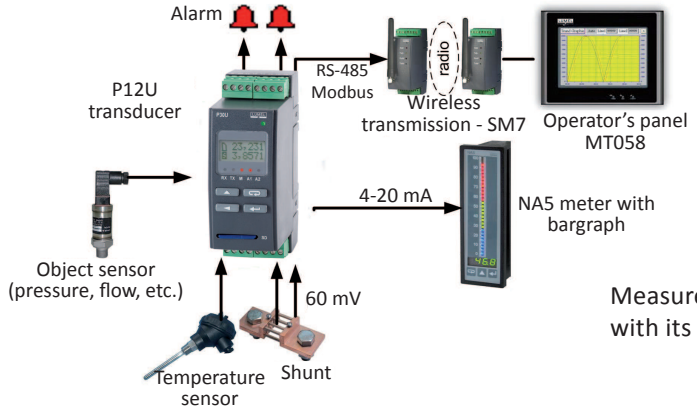
GALVANIC ISOLATION:

Supply | RS 485

CE

- Universal measuring input.
- Mathematical functions.
- Individual characteristic (up to 21 points).
- 1 or 2 (option) alarm output.
- Built-in power supply of object transducers 24V d.c. (option).
- RS485 interface Modbus RTU Slave, RTU Master or Monitor.
- Possibility to define the unit by the user.
- Data recording in internal memory, up to 4MB or 4GB in SD/SDHC card.
- Transducer configuration using buttons or RS485 interface and LPConfig software.
- Firmware upgradeable by the user.

EXAMPLE OF APPLICATION:



Measurement and signal conversion with its visualization and retransmission.

INPUT

Input type	Nominal measuring range Z	Coefficiant k *	Input type	Range	Minimal sub-range with class preservation
Voltage 10 V	-10...10 V	5	Thermocouple J type	0...400 °C	1
Voltage 24 V	-24...24 V	10		-200...1200 °C	2
Current	-20...20 mA	10	Thermocouple K type	0...400 °C	1
Resistance 400	0...400 Ω	4		-200...1370 °C	2
Resistance 2000	0...2000 Ω	2	Thermocouple S type	0...1760 °C	2
Resistance 5500	0...5500 Ω	2	Thermocouple N type	-20...420 °C	1
Pt100	-200...850 °C	5		-200...1300 °C	1
Pt250	-200...600 °C	4	Thermocouple E type	-40...260 °C	1
	-200...850 °C	3		-200...1000 °C	2
Pt500	-200...180 °C	3	Thermocouple R type	0...1760 °C	2
	-200...850 °C	3	Thermocouple T type	-200...400 °C	1
Pt1000	-200...250 °C	4	Thermocouple B type	400...1800 °C	1
	-200...850 °C	2	RS485 Master		
Ni100	-60...180 °C	1			
Ni1000	-60...150 °C	2			
Ni100-LG	-60...180 °C	1			
Ni1000-LG	-60...180 °C	2			
Cu100	-50...180 °C	1	RS485 monitor		
Voltage mV	-5...20 mV	1			
	-75...75 mV	4			
	-200...200 mV	4			

Accuracy class = 0.1 with the exception of S, R and B thermocouples, where accuracy class = 0.5

k* coefficiant of narrowing the measuring range with keeping the accuracy class.

NOTE: Minimal sub-range with keeping the accuracy class is z/k (it is freely programmable).

Example: 10 Z = -10...10V;
k = 10
Z/k = 2 V, so the minimal sub-range can be e.g. -1...1 V; 0...2 V; 5...7 V

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OUTPUT

Output type	Properties	Remarks
Analog	Current: 0/4...20 mA, load resistance ≤ 500 Ω Voltage: 0...10 V, load resistance ≥ 500 Ω	accuracy class: 0,1
Relay	1 or 2 relays; voltageless contacts – NO – maximum load 5A 30V d.c., 250V a.c.	
Supplying output	24 V d.c. / 30 mA (option)	

DIGITAL INTERFACE

Interface type	Protocol	Baud rate
RS-485	Modbus RTU: 8N2, 8E1, 8O1, 8N1 Address 1...247	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	for terminals: IP10
Readout field	LCD 2 x 8	

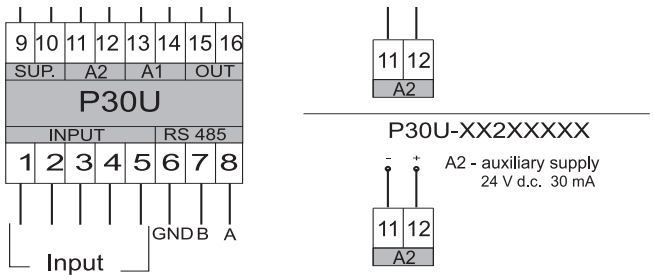
RATED OPERATION CONDITIONS

Supply voltage	• 85..253 V d.c. / a.c. (40..400 Hz) • 20..40 V a.c. (40..400 Hz) or 20...60 V d.c.	Power consumption < 5 VA
Temperature	ambient: -25...23...+55°C	storage: -30...+70°C
Relative humidity	25...95 %	inadmissible condensation
Working position	any	

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	acc. EN 61010-1
Installation category	III	
Maximal phase-to-earth voltage	• for supply circuits 300 V • for other circuits 50 V	
Altitude above see level	< 2000 m	

CONNECTION DIAGRAM



ORDERING

P30U -	X	XX	X	X	XX	X	X
Analog output:							
current (range 0...4...20 mA)	1						
voltage (0...10 V)	2						
SD/SDHC card:							
without slot for SC card		0					
with slot for SD card		1					
Addition output:							
NO relay, 5 A 30 V d.c., 250 V a.c.			1				
supply 24 V d.c. / 30 mA			2				
Supply:							
85...253 V a.c./d.c.				1			
20...40 V a.c., 20...50 d.c.				2			
Version:							
standard					00		
custom-made*					XX		
Language version:							
Polish						P	
English						E	
Acceptance tests:							
without extra requirements							0
with an extra quality inspection certificate							1
according to customer's request*							X

Order example:

Code P30U-111100P0 means transducer execution with current output, SD slot for SD card, with 2 alarm relays, 85..253 V a.c. / d.c. (40...400 Hz) power supply, standard version, Polish language, without extra requirements.

* after agreeing with the manufacturer.

SEE ALSO:

Temperature sensors

N30U meter

LUMEL - PROCESS software