

LUMEL

N25 DIGITAL PANEL METER SERIES

FEATURES:

PD14 compatible

LPConfig compatible

IP65

Y=a*x+b
Individual characteristic

INPUTS:

AC DC

Temperature

-20..20 mA

-10..10 V

60 mV

OUTPUTS:

U

GALVANIC ISOLATION:

Sup.

Sup.

Sup.

PD14 interface

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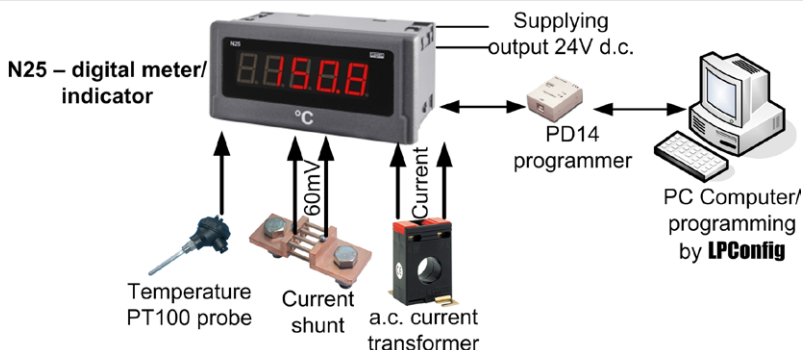
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- ✓ Designed for measurement of d.c. voltage, d.c. current, uni or bipolar, temperature through J, K thermocouples, Pt100 resistance thermometer and for measurement of a.c. voltage and a.c. current
- ✓ 5 digit display with 14mm digit height
- ✓ Parameters programmable by PD14 programmer
 - ✓ thresholds of displayed overflows,
 - ✓ precision of the displayed result (decimal point),
 - ✓ measurement averaging time ,
 - ✓ recounting of indications (individual characteristic),
 - ✓ automatic or manual compensation: cold junction temperature, or wire resistance (only in N25T).

EXAMPLE OF APPLICATION



Measurement and displaying of standard analogue signals like: Pt100, TC, 20mA, 60mV, 10V or high d.c. signals or a.c. current/voltage with configurable CT/VT ratio.

INPUTS

Model	Measuring ranges	Parameters	Overloads	Errors
N25S	-11 mV..-10mV..60mV..66mV	input resistance >1MΩ	Short duration overload (3s): 10 Un Sustained overload:10%	Basic error (at manufacturer's settings): ±(0.2% of range + 1 digit) Additional error from ambient temperature changes: ±(50% of basic error/10K)
	-1V..0V..10V..11V			
	-11V..-10V..10V..11V			
	-1mA..0mA..20mA..22mA	input resistance 10Ω ±1%	Short duration overload (3s): 10 In Sustained overload:10%	
	3.6 mA..4mA..20mA..22mA			
-22mA..-20mA..20mA..22mA	input resistance 5Ω ±1%			
N25T	Pt100	current flowing through the sensor <300 μA Resistance of wires connecting thermometer with meter: 10Ω (per wire)	Short duration overload (3s) (input of sensors): 30V	Basic error (at manufacturer's settings): ±(0.2% of range + 1 digit) Additional errors in rated operating conditions <ul style="list-style-type: none"> • compensation of cold junction temperature changes: ±0.2% of range • from ambient temperature changes: ±(50% of basic error/10K)
	-50°C..150°C			
	-50°C..400°C			
	Thermo-couple J	-50°C..1200°C		
Thermo-couple K	-50°C..1370°C			
N25Z	1..100..120 V a.c.	input resistance > 2MΩ	Short duration overload (3s): 2 Un (<1000V) Sustained overload 20%	Basic error (at manufacturer's settings): <ul style="list-style-type: none"> • voltage and current: ±(0.5% of range + 1 digit) in frequency interval 20..500Hz • frequency: ±(0.02% of range + 1 digit) Additional error from ambient temperature changes: ±(50% of basic error/10K)
	2.5..250..300 V a.c.			
	4..400..600 V a.c.			
	20..500 Hz (in voltage range: 24..480 V)	input resistance 50mΩ ±10%	Short duration overload (3s): 10 In Sustained overload 20%	
	0.01..1..1.2 A a.c.			
0.005..5..6 A a.c.	input resistance 10mΩ ±10%			
N25H	-1..50..55 V d.c.	input resistance > 2MΩ	Short duration overload (3s): 2 Un (<1000V) Sustained overload 10%	Basic error (at manufacturer's settings): ±(0.2% of range + 1 digit) Additional error from ambient temperature changes: ±(50% of basic error/10K)
	-3..200..220 V d.c.			
	-120..-100..100..120 V d.c.			
	-300..-250..250..300 V d.c.	input resistance 50mΩ ±10%	Short duration overload (3s): 10 In Sustained overload 10%	
	-480..-400..400..480 V d.c.			
	-0.1..1..1.1 A d.c.	input resistance 10mΩ ±10%	Short duration overload (3s): 10 In Sustained overload 10%	
	-1.2..-1..1..1.2 A d.c.			
	-0.1..5..5.5 A d.c.	input resistance 10mΩ ±10%	Short duration overload (3s): 10 In Sustained overload 10%	
-6..-5..5..6 A d.c.				

OUTPUTS

For N25S and N25T	Output for supply external transducers	24V ± 5% 30 mA
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EXTERIOR PARAMETERS

Weight	<0,25 kg	
Dimensions	96 x 48 x 64 mm	
Protection level ensured(acc. to EN 60529)	by the housing: IP65	from the terminal side: IP20
Display	5-digit LED display, 14 mm height, red colour	indication range: -19999..99999

RATED OPERATING CONDITIONS

Supply voltage	230 V ± 10% a.c. (45..65 Hz); 110 V ± 10% a.c. (45..65 Hz) 110 V ± 10% a.c. (45..65 Hz); 85..253 V a.c. (45..65 Hz) or d.c.; 20..40 V a.c. (45..65 Hz) or d.c.	input power consumption: 6 VA
Temperature	ambient: -10..23..55 °C	storage: -25..85 °C
Relative humidity	≤ 95%	condensation inadmissible
Working position	any	
Preheating time	30 min	
Avarging time	≥ 0,5 s	1 second set by default

SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	Noise immunity	acc. to EN 61000-6-2
	Noise emission	acc. to EN 61000-6-4
Insulation between circuits	basic	
Pollution degree	2	
Installation category	III (for the 400V option - category II)	
Maximal phase-to-earth working voltage	for the supply circuit: 300V	acc. to EN 61010-1
	for the measuring input: 600V - category II (300 V cat. II)	
	for the programming input: 5V	
Altitude above sea level	<2000 m	

CONNECTION DIAGRAMS

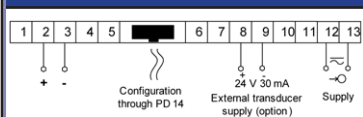


Fig. 1. Electrical connections of the N25S meter

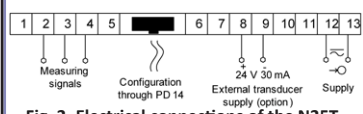


Fig. 2. Electrical connections of the N25T meter

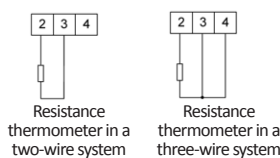


Fig. 3. Connections of N25T measuring inputs

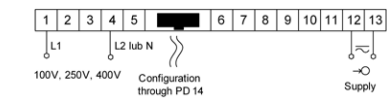


Fig. 4. Electrical connections of N25Z and N25H meters with the measurement of voltage and frequency

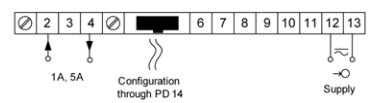


Fig. 5. Electrical connections of N25Z i N25H meters with the current measurement

ORDERING

TABLE 1. ORDERING CODES:

	N25	X	X	X	XX	XX	X
Kind of input signal							
Standard: voltage, current		S					
temperature: thermocouples, resistance thermometers		T					
a.c. signals		Z					
d.c. signals: high voltage and current		H					
Input signal: See table 2			X				
Supply voltage							
230 V a.c.							1
110 V a.c.							2
24 V a.c.							3
85..253 V a.c./d.c. with supply output 24V/30mA*							4
20..40 V a.c./d.c. with supply output 24V/30mA*							5
Unit: See table 3							XX
Kind of execution:							
standard PL							PL
standard EN							EN
after agreeing with the manufacturer							99
custom-made**							XX
Acceptance tests:							
without extra requirements							8
with an extra quality inspection certificate							7
acc. to customer's agreements							X

* - The output is only in N24S and N24T meters
** - the code will be established by the manufacturer

TABLE 2. METER TYPE

No	N25S	N25T	N25Z	N25H
1	0..20 mA	Pt100: -50..150 °C	100 V a.c.	±100 V d.c.
2	4..20 mA	Pt100: -50..400 °C	250 V a.c.	±250 V d.c.
3	0..60 mA	Thermocouple J	400 V a.c.	±400 V d.c.
4	0..10 V	Thermocouple K	1 A a.c.	±1 A d.c.
5	± 60 mV		5 A a.c.	±5 A d.c.
6	± 10 V		20..500 Hz	0..50 V d.c.
7				0..200 V d.c.

TABLE 3. CODES OF HIGHLIGHTED UNIT:

Code	Unit	Code	Unit	Code	Unit
00	lack of unit	06	mA	12	Pa
01	°C	07	kA	13	kPa
02	%	08	kV	14	MPa
03	A	09	turns	15	on order
04	V	10	rpm		
05	mV	11	bar		

Order example1 : The code N24Z-2.1.04.EN.8 means N24Z - digital meter for a.c. signal 2 - input signal: 250 V a.c. 1 - supply voltage: 230 V a.c. 04 - unit: V EN - standard execution with user's manual in English 8 - without extra requirements

Order example2 : The code N24S-6.4.02.99.7 means N24S - digital meter for d.c. signal 6 - input signal: 0..20 mA 4 - supply voltage: 85..253 V a.c. 02 - unit: % and display indications 0.100,0 99 - execution acc. to required customer's settings mentioned in table 4 7 - with an extra quality inspection certificate

TABLE 4. EXAMPLE OF CUSTOMER'S REQUIREMENTS:

Parameter	Range/Value
Decimal point	000,0 for I, U
Avarging time	1 s
Upper measurement overflow	99999
Lower measurement overflow	-19999
Individual characteristic	1
Parameter a of the individual characteristic	5
Parameter b of the individual characteristic	0

SEE ALSO:



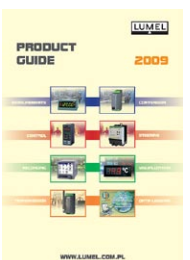
Free LPConfig software for easy programming of LUMEL's products. Available on our website



PD14 programmer - unit for programming LUMEL's products, with USB connection, LPCon compatible. For more details check DIGITAL METERS catalogue or our website.



N30 digital panel meters series with three-colour display. For more details check DIGITAL METERS catalogue or our website.



For more information about products check Product Guide 2009 catalogue or visit our website.

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