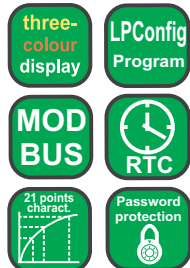


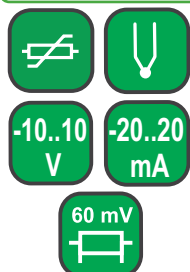
N30U DIGITAL PANEL METER

FEATURES:



IP65

INPUTS:

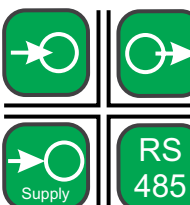


OUTPUTS:



RS 485

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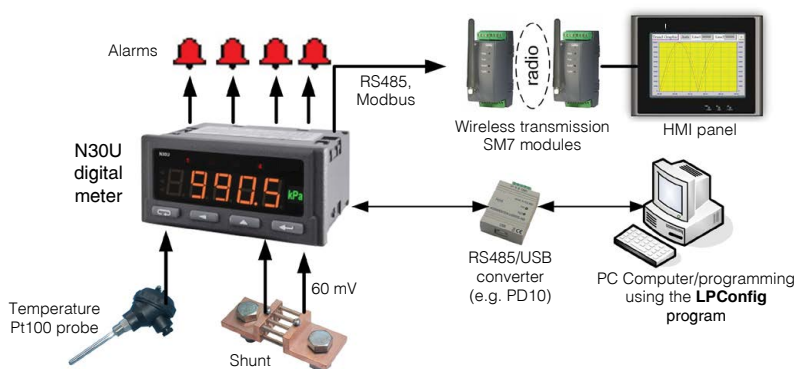
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- Measurement: temperature, resistance, standard signals.
- 3-colour display (14 mm high), programmable in 3 ranges of the measured value.
- Meter programming from keyboard or through the RS-485 interface by means of the free LPConfig program.
- 4 alarm outputs with signalling on LED diodes, working in 6 different modes.
- Conversion of any measured value into an analog signal 0/4...20 mA or 0...10 V.
- Storage of minimal and maximal values for all measured quantities.
- Supply of object transducers (ver. N30U-1XXXXXXX).
- 21-point individual characteristic for the measured value.

EXAMPLE OF APPLICATION



Measurement and visualization of analog standard signals: Pt100, TC, 20 mA, 60 mV, 10 V. Measured parameters are transmitted to the HMI operator panel through radio modules.

INPUT

| Input kind | Maximal measuring range | Class | Additional error |
|------------------------|--|--|--|
| Pt100 | -205...855°C (-200...850°C) | 0.1 | - due to automatic compensation of the reference junction temperature $\leq 1^\circ\text{C}$ |
| Pt500 | | | |
| Pt1000 | | | |
| 400 Ω | 0...410 Ω (0...400 Ω) | | - due to automatic compensation of the cable resistance for thermoresistors $\leq 0,5^\circ\text{C}$ |
| 4000 Ω | 0...4010 Ω (0...4000 Ω) | | |
| Thermocouple of J type | -200...1200 °C (-100...1200 °C) | | - due to automatic compensation of the cables for resistance measurement $\leq 0,2\Omega$ |
| Thermocouple of K type | -200...1370 °C (-100...1370 °C) | | |
| Thermocouple of N type | -200...1300 °C (-100...1300 °C) | | |
| Thermocouple of E type | -200...1000 °C (-100...1000 °C) | | |
| Thermocouple of R type | -50...1768 °C (-50...1760 °C) | | |
| Thermocouple of S type | -50...1768 °C (-50...1760 °C) | | |
| Voltage input 0...10 V | -13...13 V (-10...10 V) | - from temperature changes 100 % of the class / 10 K | |
| Current input | -24...24 mA (-20...20 mA) | | |
| Voltage input | -10...63 mV (0...60 mV) | 0.5 sec./ 24h | |
| Current time | 00.00...23.59 | | |

OUTPUTS

| Output kind | Properties | Remarks |
|------------------|---|--|
| Relay output | <ul style="list-style-type: none"> • 2 x relays, voltageless NOC contacts load-carrying capacity 250 V a.c./ 0.5 A a.c. • 2 x relays, voltageless switched contacts load-carrying capacity 250 V a.c./ 0.5 A a.c. | |
| Analog output | <ul style="list-style-type: none"> • current programmable 0/4...20mA, load resistance $\leq 500 \Omega$ • voltage programmable 0...10 V load resistance $\geq 500 \Omega$ | Error of analog output: 0.2% of the set range Additional error from temperature changes: 50% of the class/10K |
| OC output | • typu OC, passive npn, 30 V d.c./30 mA | Voltageless output |
| Auxiliary supply | • 24 V d.c./ 30mA | only for meter version: N30U-1XXXXXXX |

DIGITAL INTERFACE

| Interface type | transmission protocol | modes | baud rates |
|----------------|-----------------------|--------------------|--|
| RS-485 | MODBUS RTU | 8N2, 8E1, 8O1, 8N1 | 4.8, 9.6, 19.2, 38.4, 57.6, 115.2 kbit/s |

EXTERNAL FEATURES

| | | |
|-------------------------------------|--|---|
| Readout field | 5 digit LED display - indication range -19999..99999 digit height: 14 mm | three-color display (colour changes depending on displayed value): red, green, orange |
| Weight | < 0.2 kg | |
| Dimensions | 96 × 48 × 93 mm | Panel cut-out: 92 ^{+0,6} × 45 ^{+0,6} mm |
| Protection grade (acc. to EN 60529) | from frontal side: IP65 | from rear side: IP 10 |

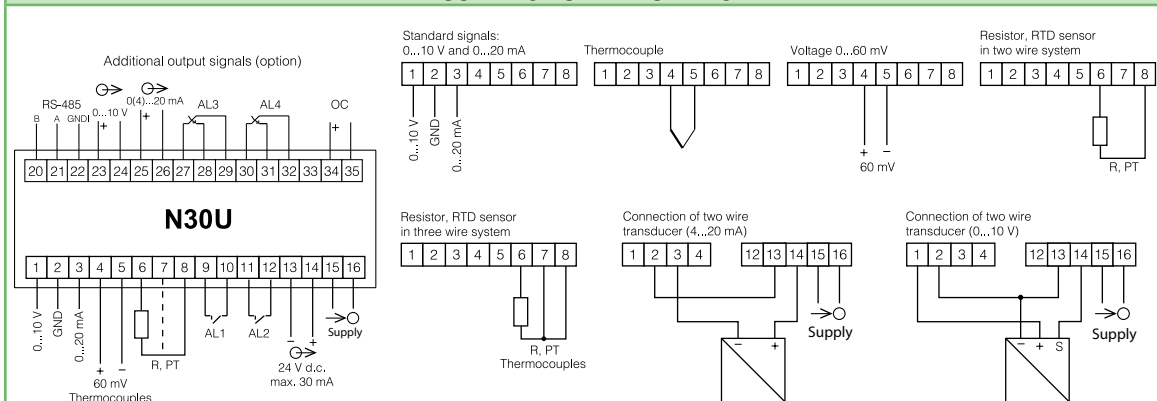
RATED OPERATING CONDITIONS

| | | |
|-------------------------|---|---------------------------|
| Supply voltage | 85...253 V a.c. (40...400 Hz) or d.c., 20...40 V a.c. (40...400 Hz), 20...60 V d.c. | power consumption < 6 VA |
| Temperature | ambient: -25...23...55°C | storage: -30...70°C |
| Relative humidity | 25...95% | condensation inadmissible |
| Operating position | any | |
| External magnetic field | 0...400 A/m | |

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 | basic | acc. to EN 61010-1 |
| Pollution grade | 2 | |
| Installation category | III | |
| Maximal phase-to-earth operating voltage | for the supply circuit: 300 V for remaining circuits: 50 V | |
| Altitude above sea level | < 2000 m | |

CONNECTION DIAGRAMS



SEE ALSO:



Free LPConfig software for easy programming of products.



KD7 recorder with MODBUS master protocol for recording data measured by N30U.



Shunts for measurement DC current from 5A up to 15 kA.

ORDERING

TABLE 1. ORDERING CODES:

| | N30U - | X | X | XX | XX | X | X |
|--|--------|---|----|----|----|---|---|
| Supply: | | | | | | | |
| 85...253 V a.c./d.c. | | 1 | | | | | |
| 20...40 V a.c., 20...60 V d.c. | | 2 | | | | | |
| Additional outputs: | | | | | | | |
| lack | | 0 | | | | | |
| OC output, RS-485, analog outputs | | 1 | | | | | |
| OC output, RS-485, analog outputs switched-over relay outputs | | 2 | | | | | |
| Unit: | | | | | | | |
| unit code acc. to the table 2 | | | XX | | | | |
| 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 | |

Order example: The code **N30U - 1 0 26 00 E 0** means
N30U - programmable N30U digital panel meter
1 - supply: 85...253 V a.c./d.c.
0 - lack of additional outputs
26 - unit "°C" acc. to tabel 2
00 - standard option
E - English language
0 - without extra requirements

TABLE 2. CODES OF HIGHLIGHTED UNIT:

| Code | Unit | Code | Unit | Code | Unit |
|------|--------------|------|--------|------|------------|
| 00 | lack of unit | 20 | kVAh | 40 | sz. |
| 01 | V | 21 | MVAh | 41 | imp |
| 02 | A | 22 | Hz | 42 | rps |
| 03 | mV | 23 | kHz | 43 | m/s |
| 04 | kV | 24 | Ω | 44 | l/s |
| 05 | mA | 25 | kΩ | 45 | obroty/min |
| 06 | kA | 26 | °C | 46 | rpm |
| 07 | W | 27 | °F | 47 | mm/min |
| 08 | kW | 28 | K | 48 | m/min |
| 09 | MW | 29 | % | 49 | l/min |
| 10 | var | 30 | %RH | 50 | m³/min |
| 11 | kvar | 31 | pH | 51 | pcs/h |
| 12 | Mvar | 32 | kg | 52 | m/h |
| 13 | VA | 33 | bar | 53 | km/h |
| 14 | kVA | 34 | m | 54 | m³/h |
| 15 | MVA | 35 | l | 55 | kg/h |
| 16 | kWh | 36 | s | 56 | l/h |
| 17 | MWh | 37 | h | | |
| 18 | kvarh | 38 | m³ | XX | on order* |
| 19 | Mvarh | 39 | obroty | | |

* - after agreeing with the manufacturer

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