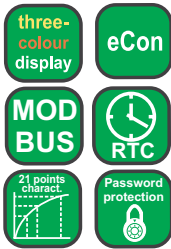


# N30H DIGITAL PANEL METER

## FEATURES:

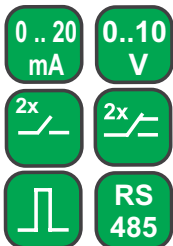


IP65

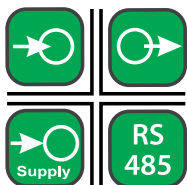
## INPUTS:



## OUTPUTS:

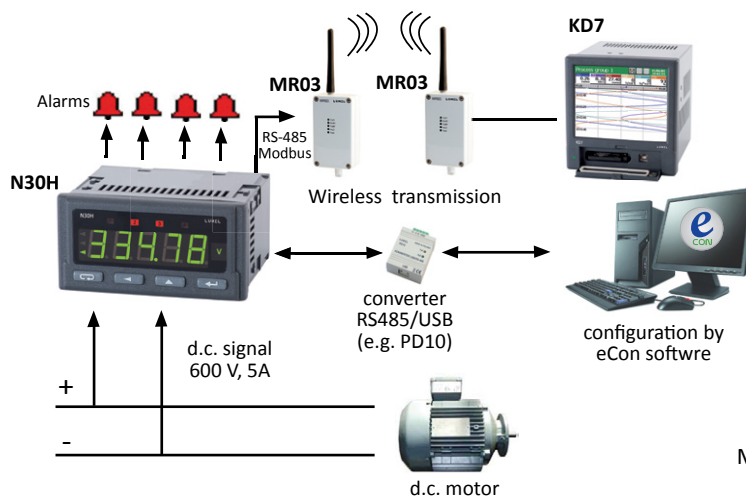


## GALVANIC ISOLATION:



- Measurement: current and d.c. voltage up to 5 A and 600 V.
- Three-colour display (14 mm high), programmed in three intervals of the measured value.
- Meter programming from the keyboard or through the RS-485 interface by means of the free delivered eCon software.
- Four alarm outputs with signalling by LED diodes, operating in 6 different modes.
- Conversion of any measured value into a 0/4...20 mA, or 0...10 V analog signal.
- Storage of minimal and maximal values for all measured quantities.
- 21-point individual characteristic for the measured value.

## EXAMPLE OF APPLICATION



Measurement and recording of d.c. motor voltage and current. Measured data are transmitted to the recorder via radio modules.

## INPUTS

| Input kind     | Maximal measuring range | Class           |
|----------------|-------------------------|-----------------|
| +/- 500 V d.c. | -600...600 V d.c.       | 0.1             |
| +/- 100 V d.c. | -130...130 V d.c.       | 0.1             |
| +/- 5 A d.c.   | -6...6 A d.c.           | 0.1             |
| +/- 1 A d.c.   | -2...2 A d.c.           | 0.1             |
| Current time   | 00.00..23.59            | 0.5 second/24 h |

## OUTPUTS

| Output kind   | Properties   | Remarks  |
|---------------|--|--|
| Relay output  | <ul style="list-style-type: none"> <li>• 2 x relays, voltageless NO contacts, load-carrying capacity 250 V a.c./ 0.5 A a.c.</li> <li>• 2 x relays, voltageless switched contacts, load-carrying capacity 250 V a.c./ 0.5 A a.c.</li> </ul> |  |
| Analog output | <ul style="list-style-type: none"> <li>• current programmable 0/4...20 mA, load resistance ≤ 500 Ω</li> <li>• voltage programmable 0...10 V, load resistance ≥ 500 Ω</li> <li>• Error of output: 0.2% of the set range</li> </ul>          | Additional error from temperature changes: <b>50% of class/10K</b> |
| OC output     | • OC type, passive npn, 30 V d.c./30 mA  | voltage output   |

## DIGITAL INTERFACES

| 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-colour display (colour changes depending on displayed value): red, green, orange |
| Weight                              | < 0.2 kg  |  |
| Overall dimensions                  | 96 × 48 × 93 mm   | Panel cut-out: 92 <sup>+0,6</sup> × 45 <sup>+0,6</sup> mm                              |
| Protection grade (acc. to EN 60529) | from frontal side: IP65   | from terminal side: IP 10  |

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## RATED OPERATING CONDITIONS

|                         |  |                           |
|-------------------------|--|---------------------------|
| Supply voltage          | 85...253 V a.c. (40...400 Hz) or d.c.,<br>20...40 V a.c. (40...400 Hz) or 20...60 V d.c. |                           |
| Temperature             | ambient: -25...23...55°C   | storage: -33...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 working voltage | for the supply circuit: 300 V  |                      |
|  | for the measuring input 600 V for analog input signals - cat. II<br>(300 V - cat. III) |                      |
|  | for remaining circuit: 50 V  |                      |
| Altitude above sea level               | < 2000 m   |                      |

## CONNECTION DIAGRAMS

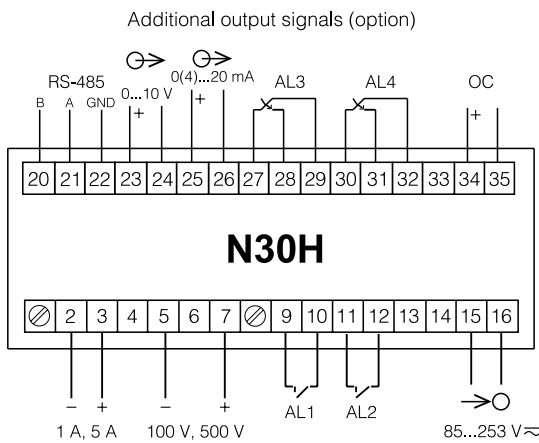


Fig. 1. Description of signals on connection terminals.

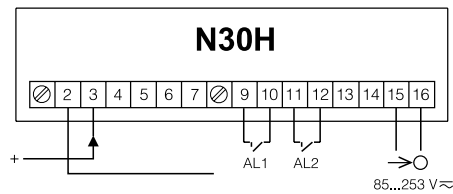


Fig. 2. Meter connection in the configuration for current measurement

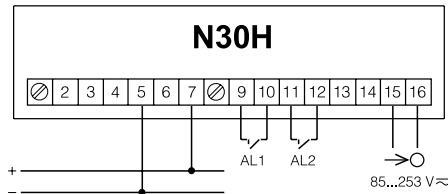


Fig. 3. Meter connection in the configuration for voltage measurement.

## ORDERING

TABLE 1. ORDERING CODES:

|  | N30H - | X | X | XX | XX | X  | X |
|--|--------|---|---|----|----|----|---|
| <b>Supply:</b>   |        |   |   |    |    |    |   |
| 85...253 V a.c. (40...400 Hz) or d.c.                            |        | 1 |   |    |    |    |   |
| 20...40 V a.c. (40...400 Hz) or 20...60 V d.c.                   |        | 2 |   |    |    |    |   |
| <b>Additional outputs:</b>                                       |        |   |   |    |    |    |   |
| lack   |        |   | 0 |    |    |    |   |
| OC output, RS-485, analog outputs                                |        |   | 1 |    |    |    |   |
| OC output, RS-485, analog outputs<br>switched-over relay outputs |        |   | 2 |    |    |    |   |
| <b>Unit:</b>   |        |   |   |    |    |    |   |
| unit code acc. to the table 2                                    |        |   |   | XX |    |    |   |
| <b>Version:</b>  |        |   |   |    |    |    |   |
| standard   |        |   |   |    |    | 00 |   |
| custom-made*   |        |   |   |    |    | XX |   |
| <b>Language:</b>   |        |   |   |    |    |    |   |
| Polish   |        |   |   |    |    |    | P |
| English  |        |   |   |    |    |    | E |
| other*   |        |   |   |    |    |    | X |
| <b>Acceptance tests:</b>   |        |   |   |    |    |    |   |
| without extra requirements                                       |        |   |   |    |    |    | 0 |
| with an extra quality inspection certificate                     |        |   |   |    |    |    | 1 |
| acc. to customer's request*                                      |        |   |   |    |    |    | X |

**Order example:**

The code **N30H - 1 0 01 00 E 0** means

- N30H** - programmable N30H panel digital meter
- 1** - supply: 85...253 V a.c. (40...400 Hz) or d.c.
- 0** - lack of additional outputs
- 01** - unit "V" acc. to the table 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   | obr/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   | sz./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   | obr  |      |           |

\* - after agreeing with the manufacturer

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