

INTRA-AUTOMATION

MESS- UND REGELINSTRUMENTE / MEASUREMENT AND CONTROL

IA



TÜVRheinland®
CERT
ISO 9001

Digital Panel Meter IntraDigit Series IA-N20Z



Technical Information

02/2011



Accessories

THE EXPERT IN LEVEL AND FLOW

Intra-Automation
Technical Information
02/2011

Technical details subject to be changed without notice.

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info@intra-automation.de

IA-N20Z IntraDigit Digital Panel Meter

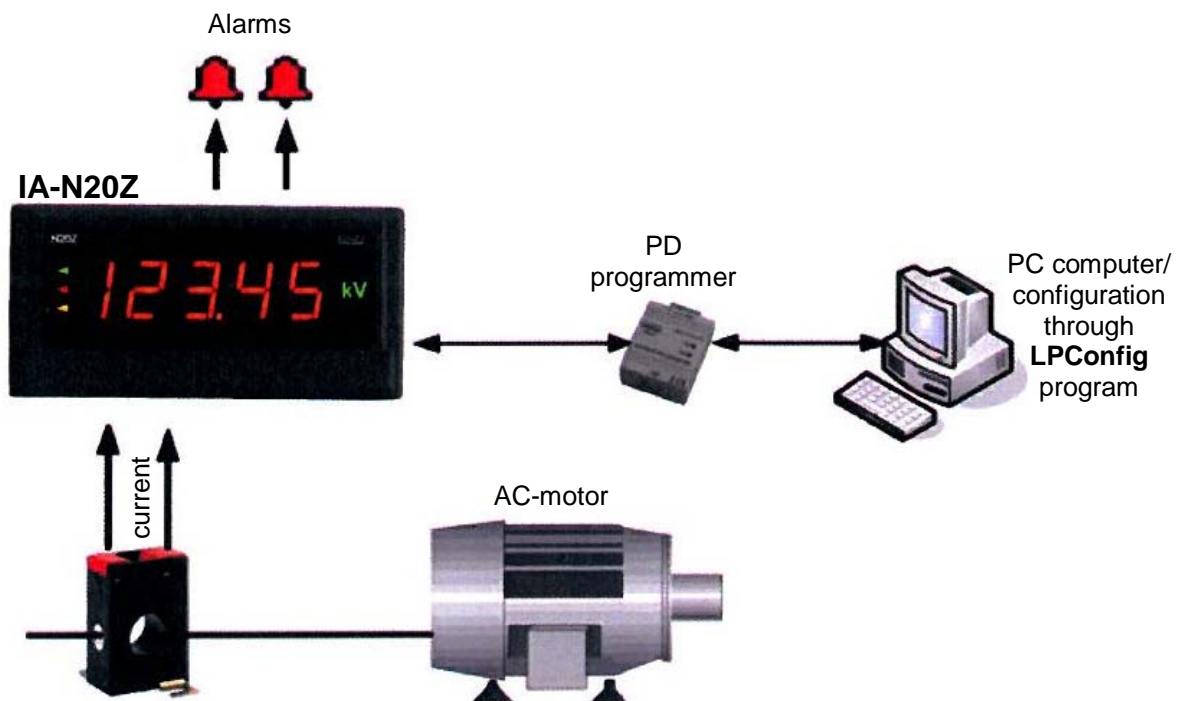
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1 Features

- ◆ Measurement of voltage or DC current and temperature (Pt100, J, K)
- ◆ Three-colour LED display (5 digits, 14 mm high)
- ◆ 2 alarm outputs of OC type
- ◆ Galvanic separation between the supply, measuring inputs and the programmer input
- ◆ Programmable parameters through the PD14 programmer
 - recounting of indications (individual characteristic)
 - two alarms of OC type operating in 6 working models
 - display colour programmable in three intervals
 - thresholds of displayed overflows
 - highlight of the unit
 - automatic or manual compensation: temperature of cold ends (for J, K) or wire resistance (for Pt100)
 - measurement averaging time
- ◆ Supply of object transducers

2 Application example



Measurement and signalling of one –phase motor load current overflows

3 Technical details

| Inputs | | | |
|--|---|--|----------------------------------|
| Kind of input | Measuring range | Parameters | Basic error |
| Voltage input | 1...100...120 V 2,5...250...300 V 4...400...480 V | Input resistance: > 2 M Ω | \pm (0,5 % of range + 1 digit) |
| Current input | 0,01...1...1,2 A 0,05...5...6 A | Input resistance: 50 m Ω \pm 10 % Input resistance: 10 m Ω \pm 10 % | \pm (0,5 % of range + 1 digit) |
| Frequency (in the range of 24...480 V) | 20...500 Hz | Input resistance: > 2 M Ω | \pm (0,2 % of range + 1 digit) |

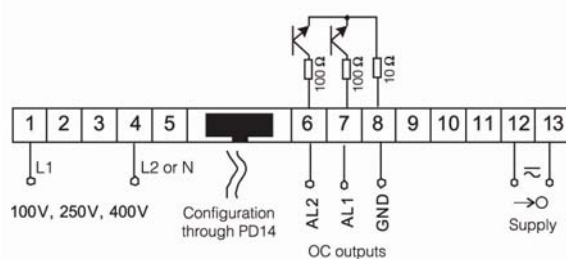
| Outputs | |
|----------------|------------------------------|
| Kind of output | Features |
| Alarm output | ◆ 2 alarm outputs of OC type |

| External features | | |
|--------------------|--|---|
| Read-out field | 5-digit LED display Indication range: -19999...99999 Digit height: 14 mm | Three-colour display (changes of colour depend on the displayed value): red, green, orange |
| Weight | < 0,25 kg | |
| Overall dimensions | 96 x 48 x 64 mm | Panel cut-out: 92 ^{+0,6} x 45 ^{+0,6} mm |
| Protection grade | IP65 (Front side) | IP10 (Terminal side) |

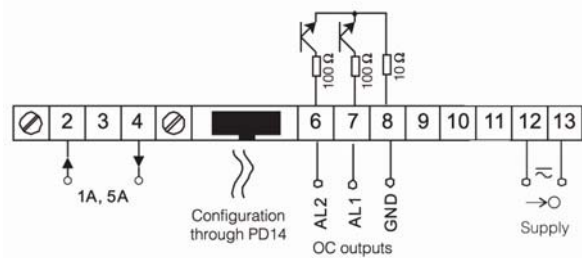
| Rated operating conditions | | |
|----------------------------|---|---------------------------|
| Supply | 85..253 VAC (45...65 Hz) or DC 20..40 VAC (45...65 Hz) or DC | Power consumption < 6VA |
| Temperature | Ambient: -10...23...55 °C | Storage: -25...85 °C |
| Relative Humidity | < 95 % | Condensation inadmissible |
| Operating position | Any | |

| Safety and compatibility conditions | | |
|-------------------------------------|-----------------|----------------------|
| Electromagnetic compatibility | Noise immunity | acc. to EN 61000-6-2 |
| | Noise emissions | acc. to EN 61000-6-4 |
| Safety requirements | | acc. to EN 61010-1 |

4 Connecting diagrams



Electrical connection of the N20Z meter with the measurement of voltage and frequency



Electrical connection of the N20Z meter with the measurement of current

5 Order codes

| Code | Description |
|---------|---|
| IA-N20Z | Digital panel meter |
| | Input |
| 1 | 100 V |
| 2 | 250 V |
| 3 | 400 V |
| 4 | 1 A |
| 5 | 5 A |
| 6 | Frequency: 20...500 Hz |
| | Supply |
| 1 | 85...235 V AC/DC |
| 2 | 20..40 V AC/DC |
| | Unit |
| XX | see table 1 |
| | Version |
| 00 | standard |
| XX | custom-made* |
| 99 | non-standard settings (please see ordering example) |
| | Certification |
| 8 | without additional quality inspection certificate |
| 7 | with additional quality inspection certificate |
| X | on request* |

| | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|
| IA-N20Z | | | | | | | | | |
|---------|--|--|--|--|--|--|--|--|--|

*Please contact manufacturer

Table 1: Unit codes

| Code | Unit | Code | Unit | Code | Unit |
|------|---------|------|------|------|-----------|
| 00 | without | 17 | µm | 34 | bar |
| 01 | V | 18 | mm | 35 | rad |
| 02 | A | 19 | cm | 36 | Ω |
| 03 | mV | 20 | m | 37 | kΩ |
| 04 | kV | 21 | km | 38 | % |
| 05 | MV | 22 | l | 39 | ° |
| 06 | mA | 23 | l/s | 40 | turns |
| 07 | kA | 24 | l/h | 41 | rps |
| 08 | MA | 25 | ms | 42 | rpm |
| 09 | °C | 26 | s | 43 | rph |
| 10 | °F | 27 | h | 44 | m/h |
| 11 | K | 28 | N | 45 | km/h |
| 12 | Hz | 29 | kN | 46 | imp |
| 13 | kHz | 30 | Pa | XX | on order* |
| 14 | Ah | 31 | hPa | | |
| 15 | kAh | 32 | kPa | | |
| 16 | m/s | 33 | MPa | | |

*Please contact manufacturer

Order examples:

Example 1: **N20Z-3-1-01-00-8** means:

N20Z meter with voltage input on 400 V, supply: 85...253 V AC, without extra certification requirements, "V"-unit

Example 2: **N20Z-3-1-03-99-8** + description:

| Parameter | Range/Value |
|---|-------------|
| Displayed colour of the upper measured value | Red |
| Displayed colour of the median measured value | Green |
| Displayed colour of the lower measured value | Orange |
| Upper threshold – KpH | 44.00 |
| Lower threshold – KpL | 40.00 |
| Decimal point | 000.00 |
| Highlight of the measured unit | ON |
| Kind of input | AC |
| Averaging time | 5 s |
| Upper overflow of measurement | 9999 |
| Lower overflow of measurement | -19999 |
| Individual characteristic | ON |
| Parameter a of the individual characteristic | 0.1 |
| Parameter b of the individual characteristic | 0 |
| Kind of the alarm output 1 operation | on |
| Upper value to switch the alarm 1 – Aon | 40.00 |
| Lower value to switch the alarm 1 – Aoff | 0.00 |
| Kind of the alarm output 2 operation | n-on |
| Upper value to switch the alarm 2 – Aon | 44.00 |
| Lower value to switch the alarm 2 – Aoff | 40.00 |

- means: N20Z meter with voltage input on 400 V, supply: 85...253 V AC, executed according to the given detailed description by the user, without extra certificate, "mV"-units

Besides the products covered by this brochure, Intra-Automation GmbH also manufactures other high-quality and high precision instruments for industrial measurement tasks. For more information, please contact us (contact details on the backside of this brochure).

Flow measurement



Itabar®-Flow Sensor



IntraSonic IS210 Ultrasonic Flow Meter

Level measurement



ITA-mag. Level Gauge



MAGLINK Level Indicator

Other Measurement Tasks:



DigiFlow Flow and Level Computers



IntraCon Digital Controllers



IntraDigit Digital Indicators / Meters



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