

VOLTMETERS

Z-TRAUQ INC.

EVM / EVM-R Series



EVM-35



EVM-3C-96



EVM-3S-48



EVM-R3C



Product Code

| Model | Functionality | 3-phase / Selectable | 3 ~ Voltage | 1 ~ Voltage | Max. Value | Min. Value | Output Contact | 24-250V AC/DC | Flush Mount | Rail Mount |
|-----------|--|----------------------|-------------|-------------|------------|------------|----------------|---------------|-------------|------------|
| EVM-3-48 | Voltmeter | | | | | | | | | |
| EVM-3-72 | Voltmeter | | | | | | | | | |
| EVM-3-96 | Voltmeter | | | | | | | | | |
| EVM-3C-48 | Voltmeter (with Output Contact) | | | | | | | | | |
| EVM-3C-72 | Voltmeter (with Output Contact) | | | | | | | | | |
| EVM-3C-96 | Voltmeter (with Output Contact) | | | | | | | | | |
| EVM-3S-48 | 3-phase Selectable Voltmeter | ● | | | | | | | | |
| EVM-3S-72 | 3-phase Selectable Voltmeter | ● | | | | | | | | |
| EVM-3S-96 | 3-phase Selectable Voltmeter | ● | | | | | | | | |
| EVM-R3 | Voltmeter (Rail Mount) | | | | ● | ● | | | | ● |
| EVM-R3C | Voltmeter with Output Contact (Rail Mount) | | | | ● | ● | ● | | | ● |
| EVM-R3S | 3-phase Selectable Voltmeter (Rail Mount) | ● | | | | | | | | ● |
| EVM-15-96 | 1-phase Voltmeter | | | | ● | | | | ● | ● |
| EVM-35-96 | 3-phase Voltmeter | ● | | | | | | | ● | ● |

- 24-240V AC/DC
- Range 1-40 kV
- Class 0,5
- IP54

- True RMS Measurement
- Non-flammable enclosure
- Double Insulation (□),
- Measurement Category III

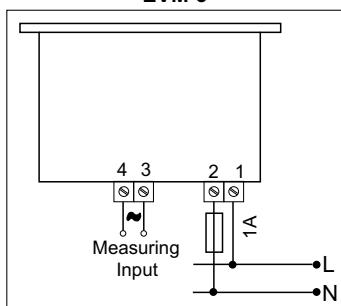
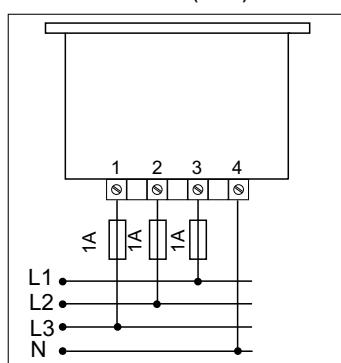
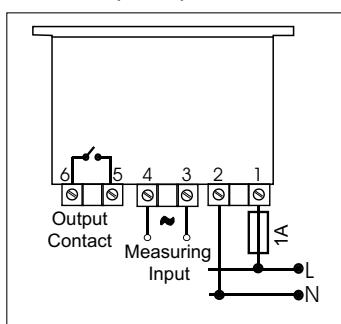
- Terminal Connection
- Flush mounting with rear terminals

- Ambient Operating Temperature : -5°C, +50°C
- IEC 61000-6-2, IEC 61000-6-4, IEC 61010-1

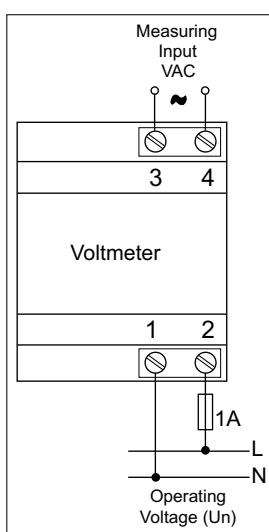
| MODEL | Panel-Mount | | | | Rail-Mount | | |
|---------------------------|--|----------------------------------|--------------------------------|----------------------|--------------------|----------------------------------|---------|
| SPECIFICATIONS | EVM-3 | EVM-3C | EVM-3S | EVM-35 | EVM-R3 | EVM-R3C | EVM-R3S |
| HOUSING | | | | | | | |
| Dimensions | 48X96mm(PR20),72X72(PR18),slim 96(PR25) | | 96X96mm(PR19) | | DIN3(PK20) | | |
| Weight | 0,28kg/16pcs(PR18), 0,30kg/12 pcs(PR25), 0,25kg/20 pcs(PR20) | | 0,3kg/package:12 pcs | | 0,25kg/16pcs(PR20) | | |
| MEASUREMENTS | | | | | | | |
| Voltage | | | | | | | |
| Measurement Range | 10-600VAC | 10-300VAC(L-N) 10-500VAC(L-L) | 1-300VAC(L-N) 2-500VAC(L-L) | | 10-600VAC | 10-300VAC(L-N) 10-500VAC(L-L) | |
| Accuracy | %1±1 digit | | | %0,5±1 digit | | %1±1 digit | |
| Burden | | | | <1VA | | | |
| SUPPLY | | | | | | | |
| Operating Voltage | 110VAC/230VAC ±%10 | | 24-250VAC/DC | | 110VAC/230VAC ±%10 | | |
| Power Consumption | | | <4VA | | | | |
| Operating Frequency | | | 45-65Hz | | | | |
| OUTPUT | | | | | | | |
| Delay Time | 0-99,9 seconds | | | | 0-99,9 seconds | | |
| Contact Output | 1NO,5A 1250VA | | | | 1NO,5A 1250VA | | |
| STANDARDS | | | | | | | |
| Security Standards | | | | EN 61010 | | | |
| EMC Standards | | | | EN 61000 | | | |
| Mechanical Endurance | | | | EN 60529 | | | |
| AMBIENT CONDITIONS | | | | | | | |
| Ambient Temperature | -5;+50°C | | -5;+70°C | | -5;+50°C | | |
| Overvoltage Category | | | | III | | | |
| CONNECTIONS | | | | | | | |
| Installation | Flush mount | | Rail mount | | | | |
| Connection Terminals | Sockets with screws | | With DIN3 screws | | | | |
| Connection Types | Single phase 2 wires | 3 phase 4 wires-Star | Single phase 2 Wires | 3 phase 4 wires-Star | | | |

**Connection Diagram
(PR19- 96x96mm)**

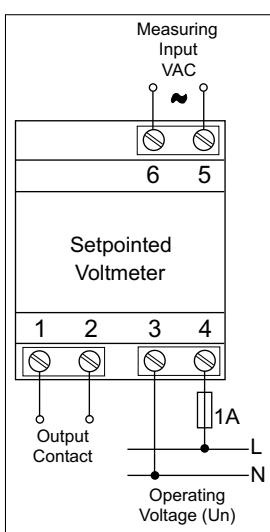
EVM-3

EVM-3S (72x72)
(48x96)EVM-3C
(48x96)

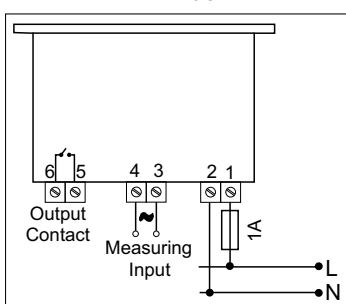
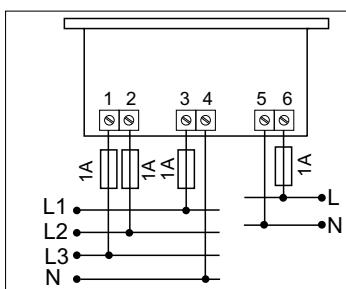
EVM-R3



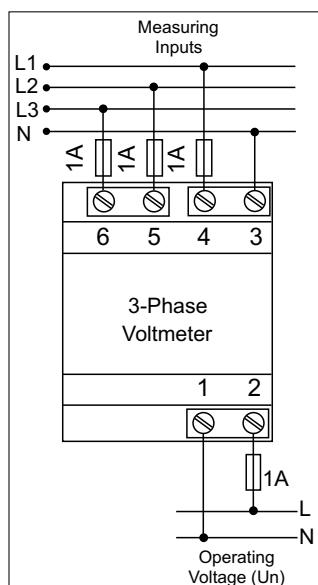
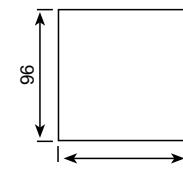
EVM-R3C



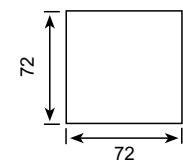
EVM-3C

EVM-3S
Slim-96

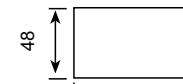
EVM-R3S


Dimensions


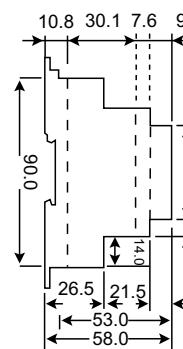
TYPE PR 19 (96x96)



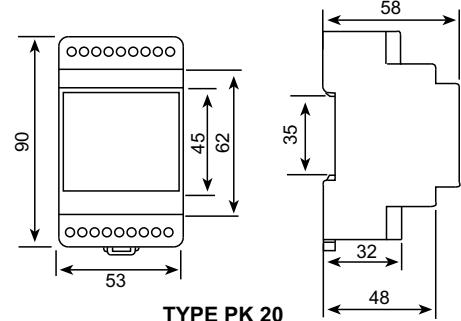
TYPE PR 18 (72x72)



TYPE PR 20 (48x96)

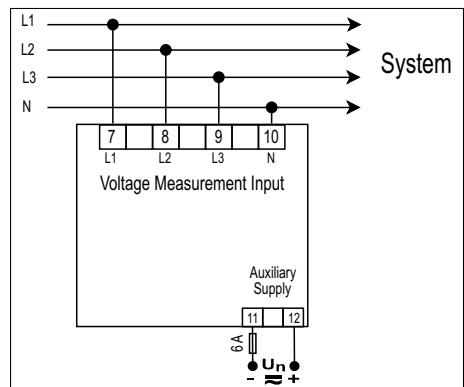


TYPE DIN / PK 26



TYPE PK 20

EVM-35



Connection diagrams are given for reference. Please always check the latest user manual.

FEATURESPD14
Programmer

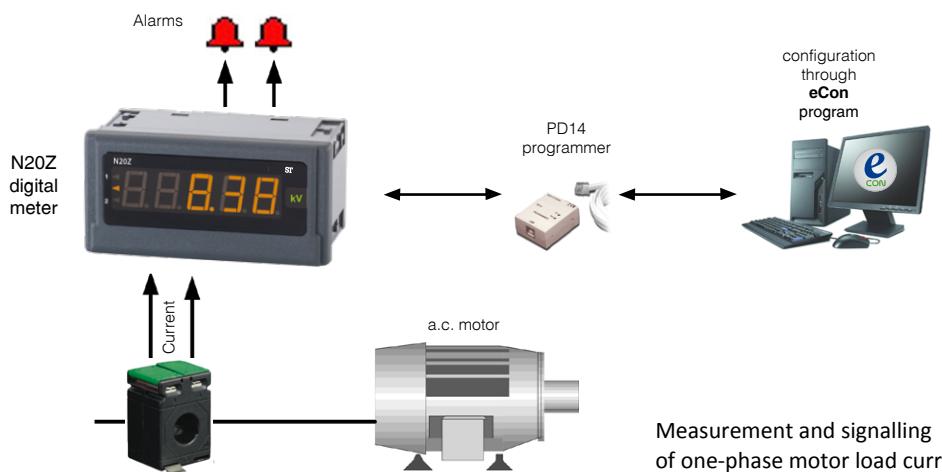
eCon

IP65

Linear char.

3-color
display

- Measurement of voltage, a.c. current or frequency,
- Three-colour LED display (5 digits, 14 mm high).
- Two alarm outputs of OC type.
- Programmable parameters through the PD14 programmer:
 - recounting of indications (individual characteristic),
 - two alarms of OC type operating in 6 working modes,
 - kind of measured signal: a.c. or a.c. + d.c. (True RMS),
 - display colour programmable in three intervals,
 - precision of displayed results (decimal point),
 - thresholds of displayed overflows,
 - highlight of the unit,
 - measurement averaging time.

INPUTS**OUTPUTS****GALVANIC ISOLATION**PD14
Programmer**EXAMPLE OF APPLICATION****INPUTS**

| Kind of input | Measuring range | Parameters | Basic error |
|--|--|--|------------------------------|
| Voltage input | <u>1...100...120 V</u> <u>2.5...250...300 V</u> <u>4...400...480 V</u> | Input resistance: > 2 MΩ | ± (0.5% of range + 1 digit) |
| Current input | <u>0.01...1...1.2 A</u> <u>0.05...5...6 A</u> | Input resistance: 50 mΩ ± 10% Input resistance: 10 mΩ ± 10% | ± (0.5% of range + 1 digit) |
| Frequency (in the range of voltages: 24...480 V) | 20...500 Hz | Input resistance: > 2 MΩ | ± (0.02% of range + 1 digit) |

OUTPUTS

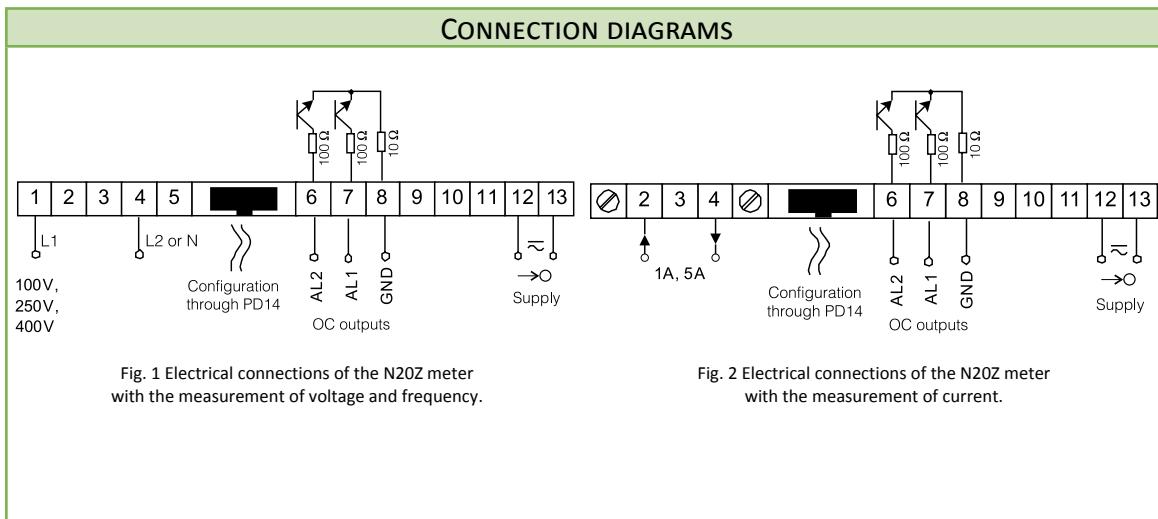
| Kind of input | Features |
|---------------|------------------------------|
| Alarm outputs | • 2 alarm outputs of OC type |

EXTERNAL FEATURES

| | | |
|-------------------------------------|---|---|
| Readout field | 5 digital LED displays. 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 × 48 × 64 mm | Panel cut-out: 92 ^{+0.6} × 45 ^{+0.6} mm |
| Protection grade (acc. to EN 60529) | From frontal side: IP65 | From terminal side: IP10 |

| RATED OPERATING CONDITIONS | | |
|----------------------------|--|---------------------------|
| Supply | 85...253 V a.c. (45...65 Hz) or d.c., 20...40 V a.c. (45...65 Hz) or d.c. | Power consumption < 6 VA |
| Temperature | Ambient: -10...23...55°C | Storage: -25...85°C |
| Relative humidity | < 95% | Condensation inadmissible |
| Operating position | any | |

| SAFETY AND COMPATIBILITY REQUIREMENTS | | |
|---------------------------------------|-----------------|----------------------|
| 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 |



ORDERING

TABLE 1. ORDERING CODES:

| N20Z - | X | X | XX | XX | X |
|--|----|----|----|----|---|
| Input: | | | | | |
| 100 V | 1 | | | | |
| 250 V | 2 | | | | |
| 400 V | 3 | | | | |
| 1 A | 4 | | | | |
| 5 A | 5 | | | | |
| Frequency: 20...500 Hz | 6 | | | | |
| Supply: | | | | | |
| 85...253 V a.c./d.c. | 1 | | | | |
| 20...40 V a.c./d.c. | 2 | | | | |
| Unit: | | | | | |
| unit code number acc. to table 2 | | XX | | | |
| Version: | | | | | |
| standard | 00 | | | | |
| custom-made* | XX | | | | |
| non standard settings | 99 | | | | |
| Acceptance tests: | | | | | |
| without extra requirements | 8 | | | | |
| with an extra quality inspection certificate | 7 | | | | |
| acc. to customer's request* | X | | | | |

* - after agreeing with the manufacturer

TABLE 2. CODES OF HIGHLIGHTED UNIT:

| Code | Unit | Code | Unit | Code | Unit |
|------|--------------|------|------|------|------------------------|
| 00 | without unit | 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 | | |
| 14 | Ah | 31 | hPa | | |
| 15 | kAh | 32 | kPa | | |
| 16 | m/s | 33 | MPa | XX | on order ¹⁾ |

1) - after agreeing with the manufacturer

| | |
|---|--------|
| Highlight of the measured unit | ON |
| Kind of input | AC |
| Averaging time | 5 s |
| Upper overflow of measurement | 99999 |
| 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 |

ORDER EXAMPLES

Example 1

The code **N20Z - 3 1 01 00 8** - means: N20 meter with voltage input on 400 V, supply: 85...253 V a.c., without extra quality requirements, „V” unit

Example 2

The code **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 |

- means: N20Z meter with voltage input on 400 V, supply: 85...253 V a.c., executed acc. to given detailed parameter description by the user, without extra quality requirements („mV” unit - acc. to table 2).