

VTR SERIES

AC Voltage Transducers

VTR Series AC Voltage Transducers are high-performance True RMS transducers for sensing voltage in single- and three-phase installations. Applicable on circuits of 120 V, 240 V, 480 V and 600 V, the VTR Series voltage transducers provide a fully isolated, 4–20 mA output proportional to rated voltage in sinusoidal situations. Housed in a slim, compact, easy-to-install DIN rail mounted case, the VTR Series comes in a variety of voltage ranges and with four-wire terminal block connection.

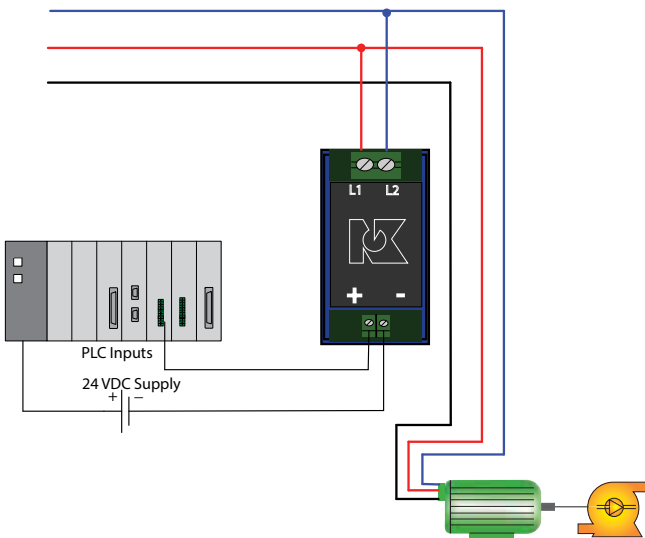


Voltage Transducer Applications

True RMS Voltage Monitoring

- Detect below normal or “brown out” voltage conditions; protect against possible motor overheating.
- Identify phase loss conditions by detecting voltage reduction in one or more phase of three-phase motor.
- Monitor over voltage conditions associated with regenerative voltage to help in diagnosing/avoiding motor drive issues.
- Detect voltage conditions which may cause stress in or damage to soft starter components (SCRs).

Phase Loss Protection



For additional Application Examples, go to www.nktechnologies.com/applications

Voltage Transducer Features

True RMS Output

- Allows for use in situations where power supplied is poor power quality or other electrically harsh/challenging environments.

Standard 4–20 mA Loop-powered Output

- Industry standard output makes use with existing controllers, data loggers and SCADA equipment easy and reliable.

Input/Output Isolation

- Input and output circuitry electrically isolated for improved safety of use.

Compact DIN Rail Mounted Case*

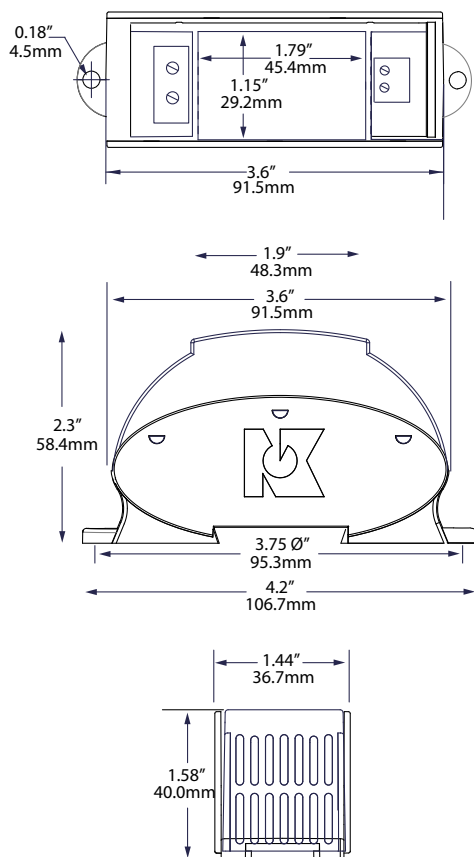
- Space saving 35 mm wide enclosure mounts quickly for an attractive installation.

UL/cUL and CE Approved

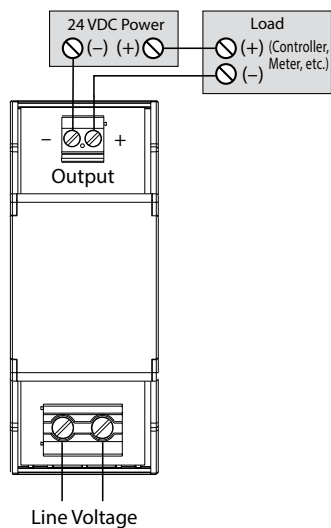
- Accepted worldwide.

*For information on the DIN rail accessories kit, see page 140.

Voltage Transducer Dimensions



Voltage Transducer Connections



Voltage Transducer Specifications



| | |
|--------------------------|--|
| Power Supply | 24 VDC loop-powered (12–40 VDC) |
| Input Range | 120 V, 150 V, 240 V, 480 V, 500 V, 600 V |
| Output | 4–20 mA proportional |
| Output Limit | 24 mA |
| Output Loading | 500 Ω |
| Input Maximum | 130% of range |
| Response Time | 250 ms (to 90% value) |
| Accuracy | 1.0% FS (10–100% of range) (1% at 60 Hz, 2.5% at 50 Hz) |
| Isolation Voltage | UL listed to 1270 VAC, tested to 5 kV |
| Frequency Range | 40–100 Hz |
| Case | UL94 V-0 Flammability Rated |
| Environmental | -4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing |
| Listings | UL/cUL, CE |

Voltage Transducer Ordering Information

Sample Model Number: VTR1-420-24L-DIN
True RMS voltage transducer with 120 V voltage range, standard 4–20 mA proportional output; 24 V loop-powered with a DIN rail compatible case.



(1) Voltage Range

| | |
|---|-------|
| 1 | 120 V |
| 2 | 150 V |
| 3 | 240 V |
| 4 | 480 V |
| 5 | 500 V |
| 6 | 600 V |

(2) Output Type

| | |
|-----|---------|
| 420 | 4–20 mA |
|-----|---------|

(3) Supply Voltage

| | |
|-----|-------------------|
| 24L | 24 V loop-powered |
|-----|-------------------|

(4) Mounting

| | |
|-----|---------------------|
| DIN | DIN rail compatible |
|-----|---------------------|



Test & Evaluation Units for OEMs

Free program expedites evaluation process. See page 3 for details.

