VTR SERIES
AC Voltage Transducers

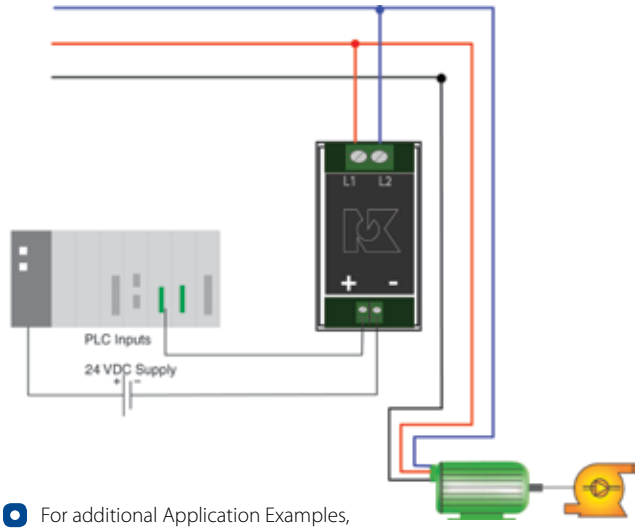
VTR Series AC Voltage Transducers are high-performance True RMS transducers for sensing voltage in single- and three-phase installations. Applicable on circuits of 120 V, 240 V, 480 V and 600 V, the VTR Series voltage transducers provide a fully isolated, 4–20 mA output proportional to rated voltage in both sinusoidal and non-sinusoidal (variable frequency) situations. Housed in a slim, compact, easy-to-install DIN rail mount 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 non-sinusoidal such as VFD applications, poor power quality installations 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 Mount Case*

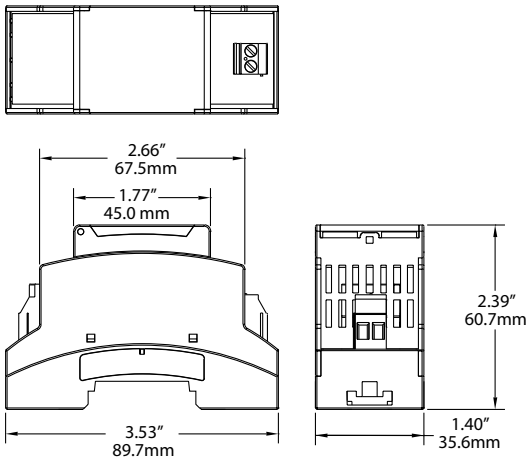
- Space saving 35 mm wide enclosure mounts quickly for an attractive installation.

*For information on the DIN rail accessories kit, see page 111.

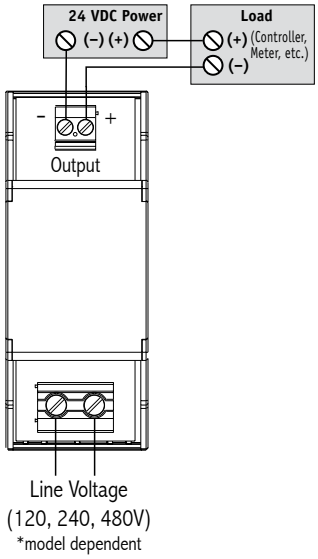
OEMs **Test & Evaluation Units for OEMs**
Free program expedites evaluation process. See page 1 for details.

NK Technologies
3511 Charter Park Drive • San Jose, CA 95136
800.959.4014 • www.nktechnologies.com • sales@nktechnologies.com

Voltage Transducer Dimensions



Voltage Transducer Connections



Voltage Transducer Specifications

Power Supply	24 VDC Loop-powered (12–40 VDC)
Input	120 V, 150 V, 240 V, 480 V, 500 V, 600 V
Output	4–20 mA proportional; capped at 24 mA max.
Response Time	250 ms (to 90% value)
Accuracy	1.0% FS (10–100% of range)
Linearity	<0.5%
Loading	<500 Ω
Isolation Voltage	UL listed to 2500 VAC, tested to 5 KV
Frequency Range	40–100 Hz
Mounting	DIN rail compatible
Case	UL94 V0 Flammability Rated; noncorrosive thermoplastic
Environmental	-22 to 140°F (-30 to 60°C) 0–95% RH, non-condensing
EMC/Immunity	EN50081-1, EN50082-2
Ripple	<1% (peak to peak)
Listings	UL 508 Industrial Control Equipment (USA & Canada), 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-compatible case.

	(1)		(2)			(3)			(4)		
VTR		–	**4**	**2**	**0**	–	**2**	**4**	**L**	–	**D**	**I**	**N**

(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