

Specifications

Power Supply	24VAC/DC External Power (20-45VDC)
Input	15V, 50V, 150V, 300V and 600V
Output	4–20mA Proportional; capped at 24mA max
Response Time	250 ms (to 90% value)
Accuracy	< 1%
Linearity	< 0.5%
Loading	< 500 ohm
Isolation Voltage	2500 VAC
Frequency Range	DC
Operating Temp.	-20 deg C to 50 deg C
Enclosure	UL94 V0 Rated
Environmental	-4 to 122 deg F (-20 to 50 deg C), 0–95% RH
EMC/Immunity	EN50081-1, EN50082-2
Ripple	< 1% (peak to peak)
Listings	UL/CUL pending CE Pending

Model Number Key

VTD 1 - 420 - 24U - DIN

CASE STYLE:
DIN - DIN rail compatible

POWER SUPPLY:
24U - Nominal 24 VAC/DC

OUTPUT:
420 - 4-20mA

VOLTAGE INPUT RANGE:

1 - 15V
2 - 50V
3 - 150V
4 - 300V
5 - 600V

SENSOR TYPE:

VTD - DC Voltage Transducers

Know Your Power



Other NK Technologies Products Include:

AC & DC Current Transducers
AC & DC Current Operated Switches
1 ϕ & 3 ϕ Power Transducers
Current & Potential Transformers (CTs & PTs)



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INSTRUCTIONS



VTD SERIES

DC Voltage Transducers
Ranges 15, 50, 150, 300 and 600 Volts
4-20mA True RMS Output

Quick “How To” Guide

1. Ensure correct sensor model was chosen for Input Voltage of application.
2. Mount the sensor to a DIN rail using integrated mounting clip on backside of transducer.
3. Connect input voltage -(5) & +(6) and output wiring using up to 14AWG copper wires. Refer to “Output Wiring” section for voltage and impedance recommendations.
4. Connect 24VAC or DC power supply

Description

VTD Series Voltage Transducers are designed to monitor DC voltage and detect conditions where supply voltage is above or below normal. Detecting such conditions helps users to avoid problems commonly associated with voltage irregularities such as motor overheating, brownouts and conductor failure or poor connections.

The VTD is available with a 4-20mA output as standard.

Installation

VTD transducers feature a 35mm wide DIN rail compatible enclosure and are typically located in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures.

To mount on DIN rail: Orient transducer so that line voltage terminals -(5) and +(6) are upright/on top of unit and snap securely onto DIN rail. To remove, insert small screwdriver into depression on top of unit and pry orange mounting tab up until unit dislodges from DIN rail.

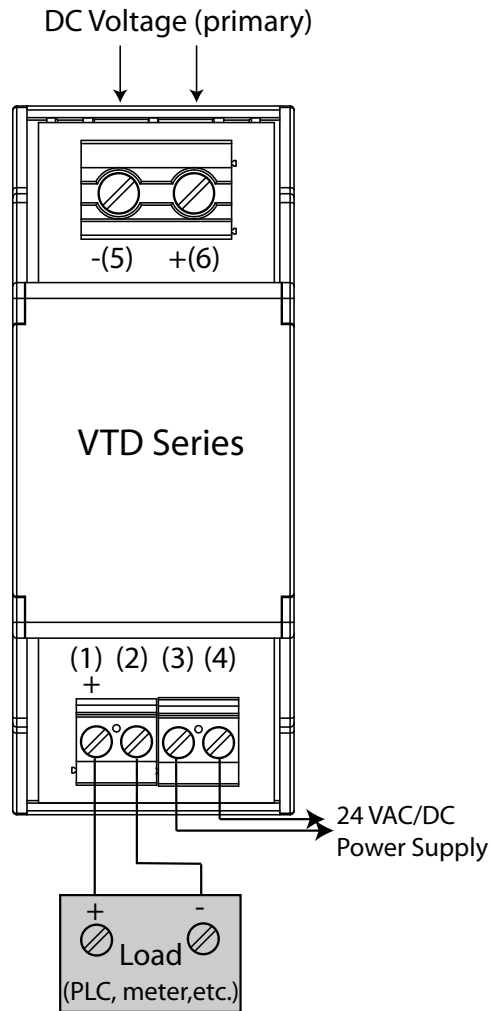
To mount using screws: Insert small screwdriver into depression in top of unit and pry orange mounting tab up to reveal mounting hole. Continue to pry tab up until it extends and snaps into place, about 0.25". Insert screws and mount to back plane or other suitably flat surface.

Line Voltage Wiring Connection

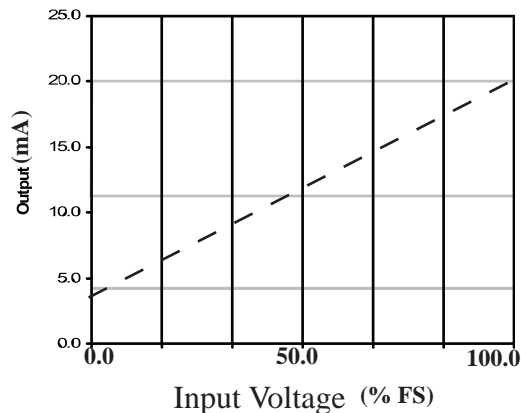
CAUTION: TO AVOID ANY POTENTIAL FOR SHOCK OR SAFETY HAZARD, ENSURE LINE VOLTAGE IS DISCONNECTED AT SOURCE BEFORE WIRING TO UNIT.

Connect input voltage to be monitored to terminals -(5) and +(6) on transducer using up to 10 AWG copper wires and tighten terminals to 7 inch-pounds torque.

Output Wiring



Transducer Output vs. Input Voltage



Troubleshooting Tips

- 1. Transducer has no output**
 - A. Power supply is not properly sized. *Check power supply voltage and output rating. Each transducer requires less than 2VA to operate.*
 - B. Polarity is not properly matched. *Check and correct wiring polarity.*
- 2. Output Signal Too Low or Too High**

Transducer model improperly sized for application. *Determine the normal operating voltage of your monitored circuit and ensure transducer selected is equal to or slightly higher than the normal operating voltage.*
- 3. Sensor is always at 4mA**

Primary circuit is not DC or is not on. *Check that the monitored load is DC and that it is actually on.*
- 4. Sensor is always at 20mA**

Voltage is higher than transducer range. *Select a higher range product.*

Connect control or monitoring wires to the sensor. Use up to 14 AWG copper wire and tighten terminals to 7 inch-pounds torque. Be sure the output load or loop power requirements are met (see diagram on the left).