

Specifications	
Power Supply	120VAC (+/- 10%) 50/60 Hz
Power Consumption	< 9VA 4-20 mA output
Input Range	Line-Line: 0-150, 0-300, 0-600 VAC Line-Neutral: 0-150, 0-300 VAC
Input Impedance	400KΩ
Output Signals	4-20 mA (capped at 20mA max)
Output Loading	4-20 mA: <500Ω
Phase Loss Threshold	0-150 VAC, Phase loss @ 90VAC 0-300 VAC, Phase loss @ 180VAC 0-600 VAC, Phase loss @ 360VAC
Phase Loss Detection	SPST Form A (NO) relay contact 0.5 A @ 125VAC, 1A @ 30VDC
Response Time	200ms (to 90% step change)
Accuracy	1% Full scale
Isolation Volages	1250VAC
Enclosure	UL94 V-0 Flammability rated thermoplastic
Case Dimension	2.59"H x 7.43"W x 4.36"D (65.8 x 188.7 x 110.7 mm)
Environmental	-4 to 140°F (-20 to 60°C) 0-95% RH Non-condensing Pollution Degree 2 Altitude to 6561ft (2000 meters)
Listings	UL/cUL (E222847), CE certified



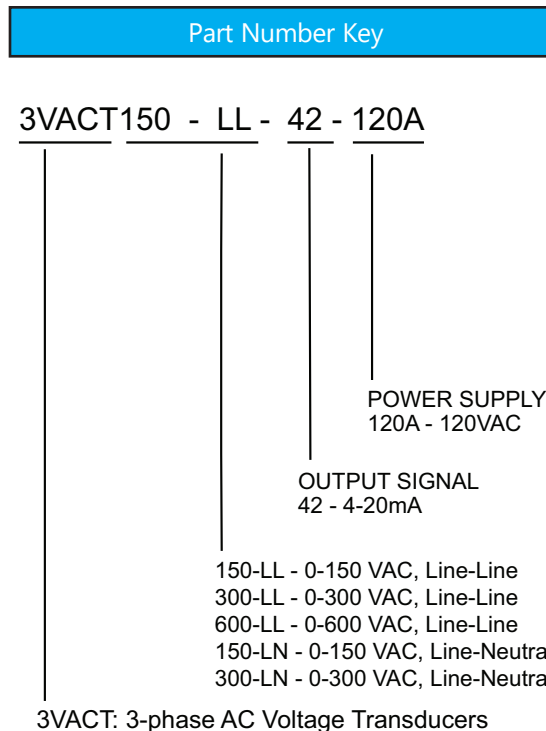
### Warning! Risk of hazardous voltage

When operating the transducer, certain parts may carry hazardous live voltage (e.g., primary conductor, secondary terminals). The transducer should not be put into service if the installation is not complete.



### Warning! Risk of electric shock or personal injury

Safe operation can only be guaranteed if the transducer is used for the purpose for which it was designed and within the limits of the technical specifications. When this symbol is used, it means you should consult all documentation to understand the nature of potential hazards and the action required to avoid them.



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## 3VACT SERIES 120VAC Power Supply INSTALLATION INSTRUCTIONS

3-Phase AC Voltage Transducers  
120, 240 and 480 Volts Nominal Input  
4-20 mA Output



### Quick Start 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 or secure using the tabs in each corner.
3. Connect monitored 3-phase line voltages, A/B/C (and N if used) using 30-10 AWG copper wires insulated to 75°C minimum and tighten to 5-7 in-lbs torques to terminals 1 to 4. Refer to "Specifications" section for voltage and impedance recommendations.
4. Connect 120VAC power supply using 30-10 AWG copper wiring rated 75°C minimum and tighten to 5-7 in-lbs torques to terminals 5 and 6 (N-L).
5. Connect outputs to the load using terminals 9, 11, 13 and 15 for the positive signal, and terminals 10, 12, 14 and 16 to common or ground. Use 22-12 AWG copper wires insulated to 75°C minimum and tighten to 6 in-lbs torques.
6. Connect the phase loss monitor wires using 22-12 AWG copper wires insulated to 75°C minimum and tighten to 6 in-lbs torques to terminals 7-8. No polarity requirement on relay contacts.
7. Energize primary circuit and sensor power.

## Description

3VACT Series 3-Phase Voltage Transducers are designed to monitor AC 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.

## Installation

3VACT transducers feature a 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 A/B/C and N (if used) are upright/on top of unit and snap securely onto DIN rail. To remove, insert small screwdriver into the slots in the lower corners and pry the two mounting springs down until unit dislodges from DIN rail.

To mount using screws: Insert screws in the tabs in each corner and mount to back plane or other suitably flat surface.

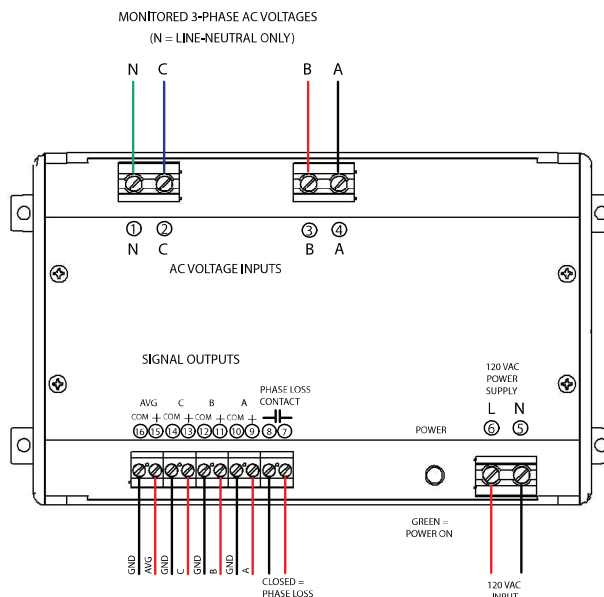
## Monitored Voltage Wiring Connection

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

Connect voltage to be monitored to terminals A/B/C and N (if used) on transducer using up to 30-10 AWG copper wires and tighten terminals to 5-7 in-lbs torque.

## Output Wiring

Connect output signal wires A, B, C, AVG to the sensor as shown below. Use 22-12 AWG copper wires insulated to 75°C minimum and tighten terminals 6 inch-pounds torque.



Connect the phase loss relay contact wires to terminals 7-8. Use 22-12 AWG copper wires insulated to 75°C minimum and tighten to 6 in-lbs torques. The contact is normally open and changes to closed when the line voltage is less than the phase loss threshold.

## Troubleshooting

### 1. Transducer has no output

- A. Power supply is not properly sized. Check power supply voltage and output rating. Each transducer requires less than 9VA to operate.
- B. Green LED should be on when the power supply is energized.

### 2. Output Signal Too Low or Too High

- A. 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.
- B. Output load impedance is higher than needed. Check the settings of the controller or meter.

### 3. Sensor is always at 4mA

Monitored circuit is not on. Check that the monitored circuit is actually switched on, and that any fuses used are intact.

### 4. Sensor is always at 20mA

Monitored voltage is higher than transducer range. Select a higher range product.

## Transducer Output vs. Monitored Voltage

