

| Specifications | |
|---------------------|--|
| Power Supply | 24VDC (22VDC-40VDC), Use Class 2 power supply only |
| Voltage Measurement | 150V (for monitoring 120VAC) and 500V (for monitoring 208, 240, 277, 480VAC), not to exceed 600VAC RMS |
| Input Impedance | 150V: 73K Ω , 500V: 300K Ω |
| Output | 4-20mA proportional; loop powered (sink- ing), capped at 24mA max |
| Response Time | 250ms (to 90% value) |
| Accuracy | <1% |
| Linearity | <0.5% |
| Output Loading | 500 Ω maximum |
| Isolation Voltage | 2500 Volts per UL |
| Frequency Range | 40-100Hz |
| Case | UL94V-0 Flammability Rating |
| Environmental | Operating temperature: -4 to 122°F (-20 to 50°C) |
| | Relative humidity: 0-95% RH, Non- condensing |
| | Pollution Degree 2 |
| | Altitude to 2000 meters |
| Agency Approvals | UL/cUL (E222847) Listed, CE |

For products intended for the EU market, the following is applicable to the CE compliance of the product:

The VACT series comply with EN61010-1 CAT III 600Vrms max line-to-neutral measurement category. Use 24V input power and fuse at 5 amps. Power source overvoltage category I as defined per EN 61010-1.



WARNING! RISK OF DANGER:

SAFE OPERATION CAN ONLY BE GUARANTEED IF THE SENSOR IS USED FOR THE PURPOSE FOR WHICH IT HAS BEEN DESIGNED FOR AND WITHIN THE LIMITS OF THE TECHNICAL SPECIFICATIONS. WHEN THIS SYMBOL IS USED, IT MEANS YOU MUST CONSULT ALL DOCUMENTATION TO UNDERSTAND THE NATURE OF POTENTIAL HAZARDS AND THE ACTION REQUIRED TO AVOID THEM.

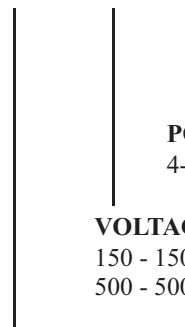


WARNING! RISK OF ELECTRICAL SHOCK:

WHEN OPERATING THE SENSOR CERTAIN PARTS OF THE MODULE MAY CARRY HAZARDOUS VOLTAGE (E.G. PRIMARY CONDUCTOR, POWER SUPPLY). THE SENSOR SHOULD NOT BE PUT INTO OPERATION IF THE INSTALLATION IS NOT COMPLETE.

Part Number Key

VACT 150 - 42L



POWER SUPPLY:
4-20mA Loop Power

VOLTAGE INPUT RANGE:
150 - 150V
500 - 500V

SENSOR TYPE:
VACT - AC Voltage Sensors, True RMS Output



VACT SERIES INSTALLATION INSTRUCTIONS



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 sensor.
3. Connect input voltage to be monitored to terminals L1 & L2 using 30AWG (0.051mm²) up to 10AWG (5.26mm²) copper wires and output wiring (24V + & -) using 24AWG (0.2mm²) up to 14AWG (2.5mm²) copper wires rated 75/90°C. Refer to "Output Wiring" section for loop voltage and impedance recommendations.

Recommend 1/2A, 600V fast acting fuses in the primary circuit.



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Description

VACT Series Voltage Sensors 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, damage to drives due to regeneration, and loss of phase.

The VACT has a 4-20mA “True RMS” output as standard, making them suitable for use in applications where the waveform of the monitored voltage is distorted (e.g., noisy environments, variable speed applications or SCR controlled loads).

Installation

VACT sensors 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 sensor so that line voltage terminals L1 and L2 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



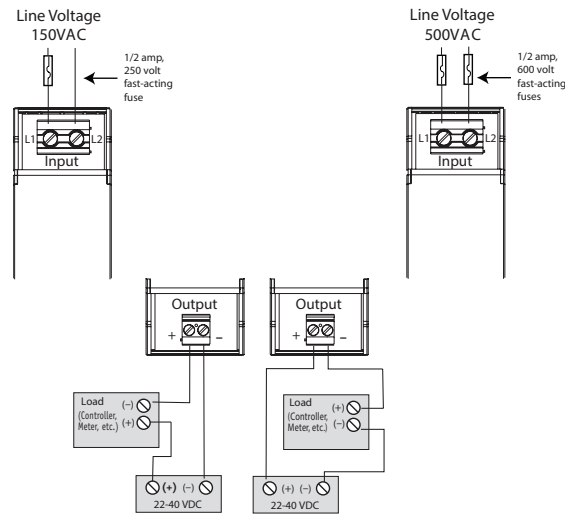
CAUTION: TO AVOID ANY POTENTIAL FOR SHOCK OR SAFETY HAZARD, ENSURE LINE VOLTAGE IS DISCONNECTED AT SOURCE BEFORE WIRING TO UNIT.

Connect input voltage to be monitored to terminals L1 and L2 on sensor using 30AWG (0.051mm²) up to 10AWG (5.26mm²) copper wires and tighten terminals to 7 in lbs (0.8 Nm) torque. For multiple sensor applications on separate phases, ensure all phase relationships between L1 and L2 are consistent.

Fusing of the primary voltage inputs is recommended. Use a 1/2 amp, 600 V rated fast acting fuse.

Output Wiring

Connect output wires to the sensor. Use 24AWG (0.2mm²) up to 14AWG (2.5mm²) copper wire and tighten terminals to 7 in lbs (0.8 Nm) torque. Be sure the output load or loop power requirements are met.



Troubleshooting

1. Sensor has no output
 - A. Power supply is not properly sized.
Check power supply voltage and current rating.
 - B. Polarity is not properly matched.
Check and correct wiring polarity.
2. Output Signal is too low or too high
 - A. Sensor is improperly sized for application.
Determine the normal operating voltage of your monitored circuit and ensure sensor selected is equal to or slightly higher than the normal operating voltage.
3. Sensor is always at 4mA
 - A. Monitored load is not AC or is not on.
Check that the monitored load is AC and that it is actually on.

Sensor Output vs. Input Voltage

