



*The ICM491 is a very low cost, highly accurate, rugged, single-phase voltage monitor designed to protect single-phase devices from the following abnormalities...*

## Protects Against...

- **Low Voltage** • **Power Interruptions**
- **High Voltage** • **Rapid Short-Cycling**



## Features

- **Protects Against:**
  - Over/under voltage
  - Rapid short-cycling
  - Power interruptions
- **Heavy Duty SPDT Relay Output:**
  - 5 amp relay output to operate control circuitry or contactor
- **5-Second Fault Interrogation Period:**
  - Unit trips if power is abnormal for 66% of interrogation time
- **Anti-Short Cycle (ASC) Time Delay:**
  - Delay on Break (.1 to 10 minutes)
- **LED Indicators:**
  - **Green LED On:** Power is valid, relay energized
  - **Red LED Rapid Flash:** Unit currently detects high/low voltage situation
  - **Red LED Blinking:** Power is currently valid; unit is waiting for end of ASC delay
- **Low Cost, Single Phase Equipment Protection**
- **Ordering Information:**
  - ICM Part Number: ICM491

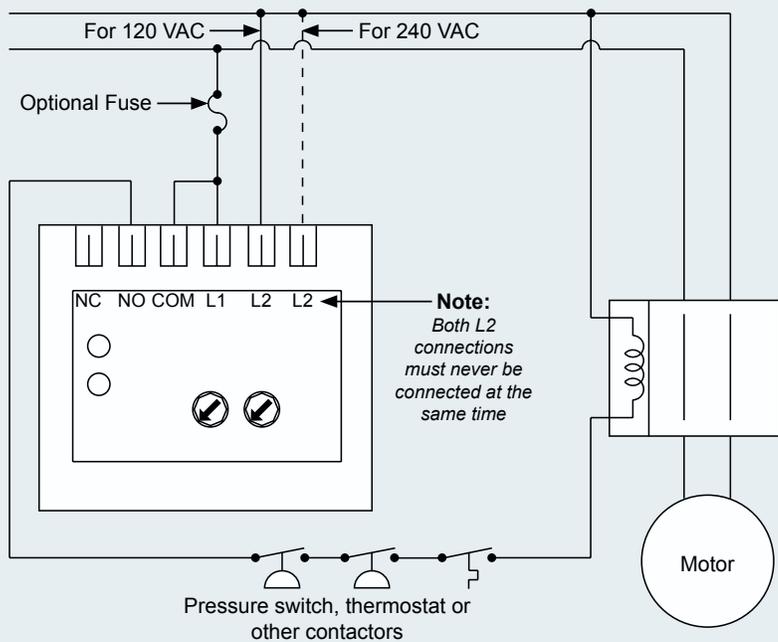
## Mode of Operation

Designed in a small, easy-to-mount case, the ICM491 continuously monitors incoming line voltage for errors. When line power is appropriate, the ICM491 closes a set of N.O. contacts and lights a green LED. When incoming power is outside of user selected parameters, the N.C. contacts will close and a red LED will illuminate, indicating current fault conditions. This unit also interrogates the line during fault conditions to reduce nuisance trips from transients or compressor start ups.

## Specifications

- **Epoxy-Encapsulated:**
  - For use in extreme environmental conditions
- **Connection Terminals:**
  - 0.25" male quick-connect
- **Storage Temperature Range:**
  - -40°C to +85°C
- **Operating Frequency:**
  - 50/60 Hz
- **Power Loss Detection/Trip:**
  - 45 ms maximum
- **Maximum Operating/Storage Relative Humidity:**
  - 95% non-condensing
- **User Selectable Anti-Short Cycle Delay on Break Timer:**
  - .1 to 10 minutes
- **5-Second Fault Interrogation Period:**
  - Unit trips if power is abnormal for 66% of interrogation period
- **User Selectable Voltage Setpoint:**
  - 95 to 135 VAC RMS based on field wiring
  - 190 to 270 VAC RMS based on field wiring
- **High/Low Voltage Cut-In/Out:**
  - High voltage cut-out at setpoint +12%
  - High voltage cut-in at setpoint +8%
  - Low voltage cut-out at setpoint -12%
  - Low voltage cut-in at setpoint -8%
- **Low Temperature Drift:**
  - Voltage read error  $\leq \pm 2$  VAC RMS (-40°C to +75°C)
  - Operating temperature range (-40°C to +75°C)
- **Relay Contact Rating:**
  - **N.C. Contacts:** 5A resistive @ 277 VAC
  - **N.O. Contacts:** 5A resistive @ 277 VAC
- **Low Power Consumption:**
  - **Maximum:** 21 mA @ 140 V @ 25°C
  - **Maximum:** 31 mA @ 280 V @ 25°C
- **Case Dimensions:**
  - 3" L x 3.25" W x 1.5" H

### Wiring Diagram



### System Diagram

