

**START HERE**

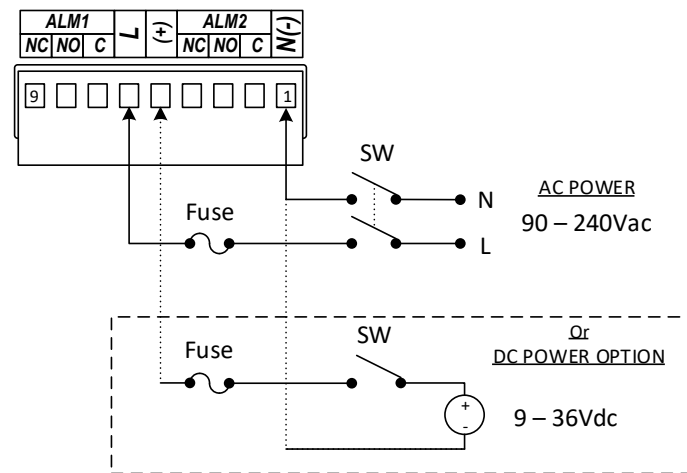
**1**

**Required Tool and Equipment**

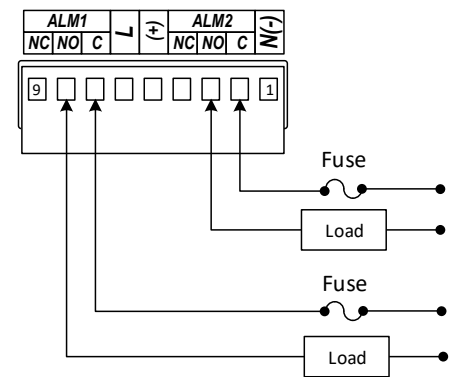
Before Installing the CN616A make sure you have the following Items:

- Suitable Panel with 92x92mm cutout
- Philips and Flathead Screwdriver
- Appropriate wiring and fuses for your installation
- Sensors (TC, RTD, or Process)

**Wiring the Device**



**Figure 1 – Main Power Wiring**



**Figure 2 – Alarm Relay Wiring**

**Table 1 – Fuse Values**

Input Power	Input Fuse	Alarm Fuse
115Vac	25mA	5A
230Vac	25mA	5A
9-36VDC	300mA	3A

**Using This Quick Start Manual**

Use this Quick Start Manual to set up your CN616A Multi Zone Controller. This guide will cover:

- Required Tools and Equipment
- Wiring the device
- Connecting Inputs and Outputs
- Mounting
- Running the Unit
- Changing the Sensor Type
- Available Functions

For complete information on all setup options see the user manual available at [omega.com/manuals](http://omega.com/manuals).

**SAFETY CONSIDERATION**

The instrument is a device protected in accordance with UL 61010:2010 Electrical Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory. The device has no power-on switch. Installations must include a switch or circuit breaker that is compliant to IEC 947-1 and 947-3. It must be suitably located to be easily reached and marked as the disconnecting device for the equipment. Use copper conductors only, minimum 20 AWG, UL Rated, for power connection. Insulation must be rated for at least 85C and 600V.



Do NOT connect AC power to your device until you have completed all input and output connections. This device is a panel mount device protected in accordance with Class I of EN61010 (115/230 AC power connections), Class III for the DC power option (9-36Vdc). It must be installed by a trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury. This device is not designed for use in, and should not be used for, patient-connected applications.

**SAFETY:**

- Do not exceed the voltage rating on the label located on the device housing.
- Always disconnect power before changing signal and power connections.
- Do not use this instrument on a work bench without its case.
- Do not operate this instrument in flammable or explosive atmospheres.
- Do not expose this instrument to rain or moisture.

**EMC:**

- Whenever EMC is an issue use shielded cables.
- Never run signal and power wires in the same conduit.
- Use signal wire connections with twisted-pair cables.
- If EMC problems occur Install Ferrite Bead(s) on signal wires close to the instrument.

**2**

**Connecting Inputs and Outputs**

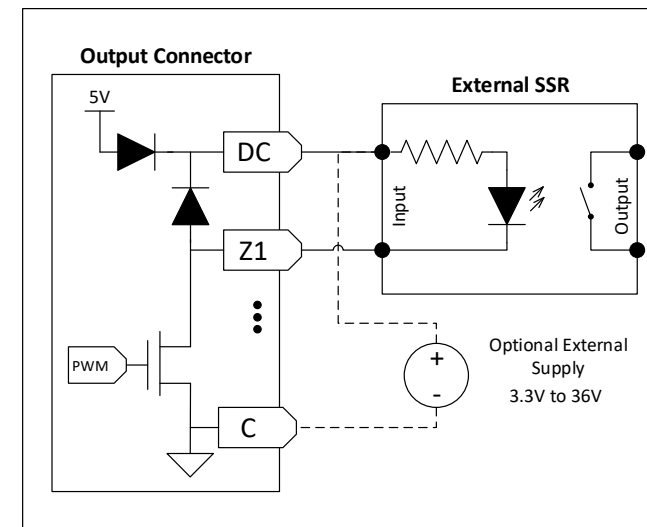
Connect Input sensors to the lower terminals Marked Zone 1 through Zone 6 (Z1 – Z6) on the rear panel.

When connecting sensors follow the polarity indicated on the rear panel. For Thermocouples the Negative wire is Red (NA) or White (IEC 584-3). For Process Inputs the Negative terminal is Return.

**Note:** All input terminals share a common internal Return connection. Ensure that all sensors share a common Return or are fully isolated.

Note: Absolute Maximum 3.3V (Process Voltage) or 30mA (Process Current).

Connect Output drivers to the upper set of terminals. The CN616A has 6 Common Drain outputs intended to drive external SSRs. The outputs are Active Low and require an external pullup. Each output is rated for 3.3Vdc to 36Vdc. An internal 5Vdc supply is available for convenience and is rated for 25mA per channel. Refer to the diagram below for the most common connection options.



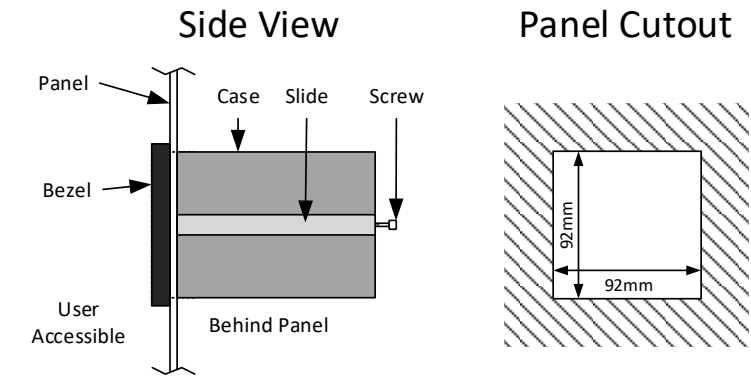
**Figure 3 – Output Wiring**

When using an optional external power supply:

- If the power supply is less than 5V do not connect to the DC terminals of the output connector as this may cause back feeding of the power supply.
- Note that the Common terminals connect to the input ground. Ensure the inputs and the power supply share a common ground or are fully isolated.

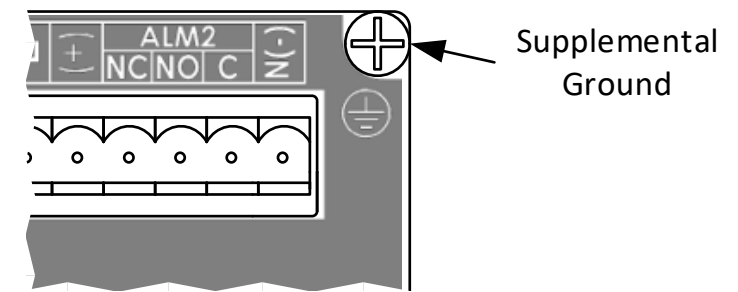
**3**

**Mounting**



**Figure 4 – Panel Mounting**

- Using the dimensions from the panel cutout diagram shown above, cut an opening in the front panel
- Remove the two screws that secure the mounting slides and remove the slides.
- Insert the unit into the cutout from the front side of the panel. Reinstall the two slides and two screws.
- Ensure that the unit is properly grounded to the panel which should be earth grounded.
- Use the supplementary ground point indicated on the rear panel if a good ground connection cannot be maintained from the mounting slides alone. A ring terminal is provided for this purpose.



**Figure 5 – Supplemental Ground Point**

