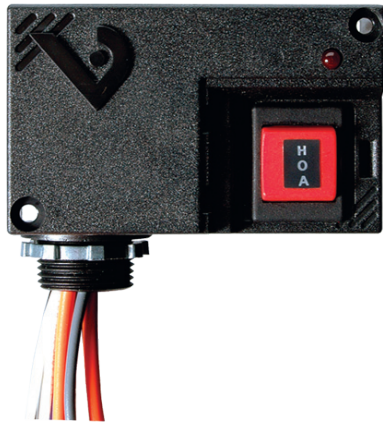


# V102



# V102

## 10A SPST Enclosed Relay With Resistive HOA Switch

### Installer's Specifications

Operating Temperature	-40° to 55°C (-40° to 131°F)
Operating Humidity	10-90% RH, non-condensing
Expected Relay Life	Electrical (@ rated current) 100,000 cycles; Mechanical (unpowered) 10,000,000 cycles
Relay Status	LED ON=energized
<b>Wire Specifications:</b>	
Lead Length	14" (356mm) min.
Gauge	UL1015; Coil: 18AWG; Contacts: 16AWG; HOA monitor wires: 16AWG
Insulation Class	600VAC RMS
<b>Resistive Monitor Maximums:</b>	
Voltage Max.	13.4VAC/DC
Current Max.	4mA AC/DC
Agency Approvals	UL508 enclosed device listing, pollution degree 2

## **⚠ DANGER ⚡**

### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

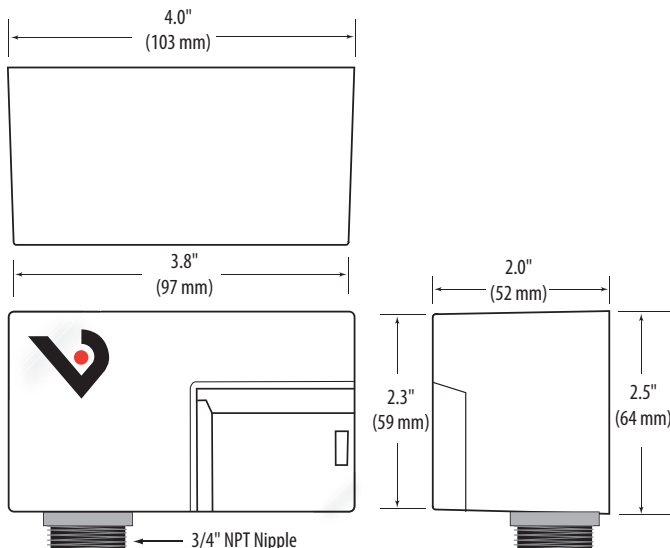
- Follow safe electrical work practices. See NFPA 70E in the USA, or applicable local codes.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Read, understand and follow the instructions before installing this product.
- Turn off all power supplying equipment before working on or inside the equipment.
- Use a properly rated voltage sensing device to confirm power is off.  
**DO NOT DEPEND ON THIS PRODUCT FOR VOLTAGE INDICATION**

**Failure to follow these instructions will result in death or serious injury.**

## NOTICE

- This product is not intended for life or safety applications.
- Do not install this product in hazardous or classified locations.
- The installer is responsible for conformance to all applicable codes.
- Mount this product inside a suitable fire and electrical enclosure.

## DIMENSIONS



## INSTALLATION

**Disconnect and lock out all power sources before beginning the installation.**

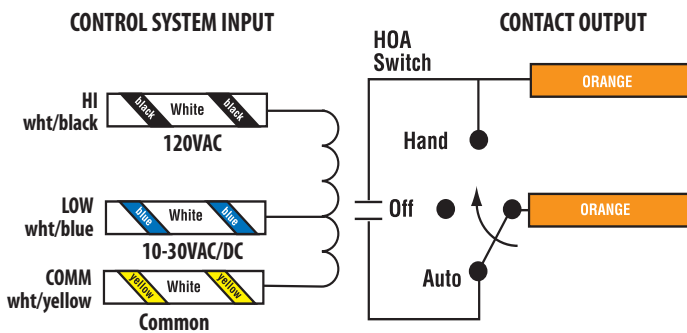
1. Using the threaded nipple, connect the relay to the desired enclosure through a knock out hole.
2. Secure with the conduit nut provided.
3. Connect coil wires:
  - Choose the coil common lead (white with yellow stripe) and connect it to the common (-) source termination point.
  - Choose either the low voltage (10-30VAC/DC, white with blue stripe) or high voltage (120VAC, white with black stripe) lead, depending on the application requirements, and connect it to the (+) source termination point.\*
- NOTE: When connecting the control side of this device (#18 wires) to power line circuits, provide current limiting at 7 amps max.
4. Connect relay contacts:
  - Choose the two solid orange wires (N.O. contact) and connect to the switched load.
5. Connect resistive HOA monitor wires:
  - Choose the two solid grey wires and connect them to a resistive (0-10kΩ) input in the control system.

6. Secure the enclosure and reconnect power.

7. Program the resistive input to the ranges listed.

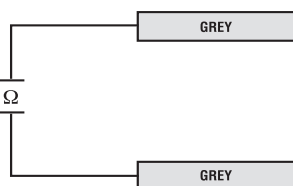
\* Isolate or insulate all non-terminated wires according to local electrical code requirements, i.e. wire nut.

**WIRING COLOR CODES**



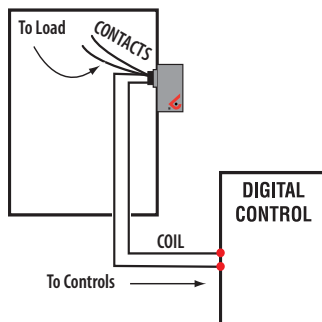
*Resistive HOA Position Monitor*

**Switch Positions:**  
 HAND ~ 1.4KΩ  
 OFF ~ 6.2KΩ  
 AUTO ~ 3.4KΩ  
**CABLE FAULTS:**  
 OPEN = Infinite Ω  
 SHORT ~ 0Ω

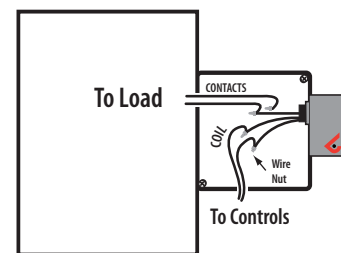


**WIRING EXAMPLE**

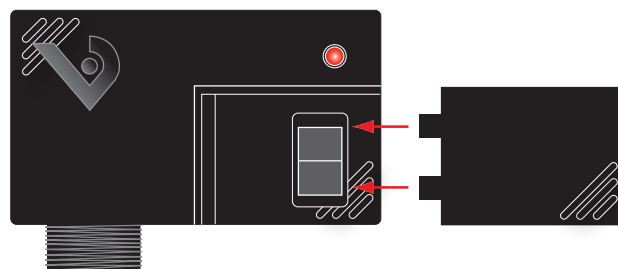
*Nipple mount directly to a panel*



*Nipple mount to a 2x or 4x electrical box*



**HOA POSITIONS**



- HAND** Up position: contacts are closed.
- OFF** Middle position: contacts are open.
- AUTO** Down position: control system actuates the contacts.

**CONTACT AND COIL SPECIFICATIONS**

TYPICAL COIL PERFORMANCE		
<b>Pull in Voltage</b>	AC	DC
10-30V.....	8	9
120V.....	78	
<b>Drop Out Voltage</b>	AC	DC
10-30V.....	2	3
120V.....	18	
<b>Voltage</b>	<b>Coil</b>	<b>Current</b>
	AC	DC
10V.....	25mA	14mA
24V.....	31mA	16mA
30V.....	39mA	18mA
120V.....	22mA	-

CONTACT RATINGS	
Resistive.....	10A@277VAC
Motor.....	1/3HP@120VAC
Gold Flash.....	Yes

**PROGRAMMING THE RESISTIVE MONITOR**

The resistive monitor is a 0-10 kΩ analog output for monitoring the HOA switch position. Please use the following ranges for the DDC scaling.

Condition	Range* (Ω)	Nominal Values without Wire Resistance* (Ω)
Line Open	Greater than 8630	n/a
HOA Off	5290 to 8630	6190
HOA Auto	2880 to 5289	3391
HOA On	1200 to 2879	1406
Line Shorted	Less than 1200	n/a

\* Ranges based on the presence of 0-1000Ω of resistance due to wire. Average # of feet for 1000 Ω by wire AWG listed below.

Wire Type (AWG)†	Distance Allowed (ft.)
26	12,189
22	30,864
18	78,296

† All 2-wire runs