



# PATTON & COOKE GROUND WIRE MONITORING RELAY



FIG. 1 - RELAY CATALOGUE #2A31-1C-A (50 Hz or 60 Hz)

## APPLICATION:

A special relay for checking ground wire continuity in trailing cables. Detects faulted or open circuited conductors used in conjunction with terminating module CAT. #2A31-2A-IHDS or 2A31-3PE.

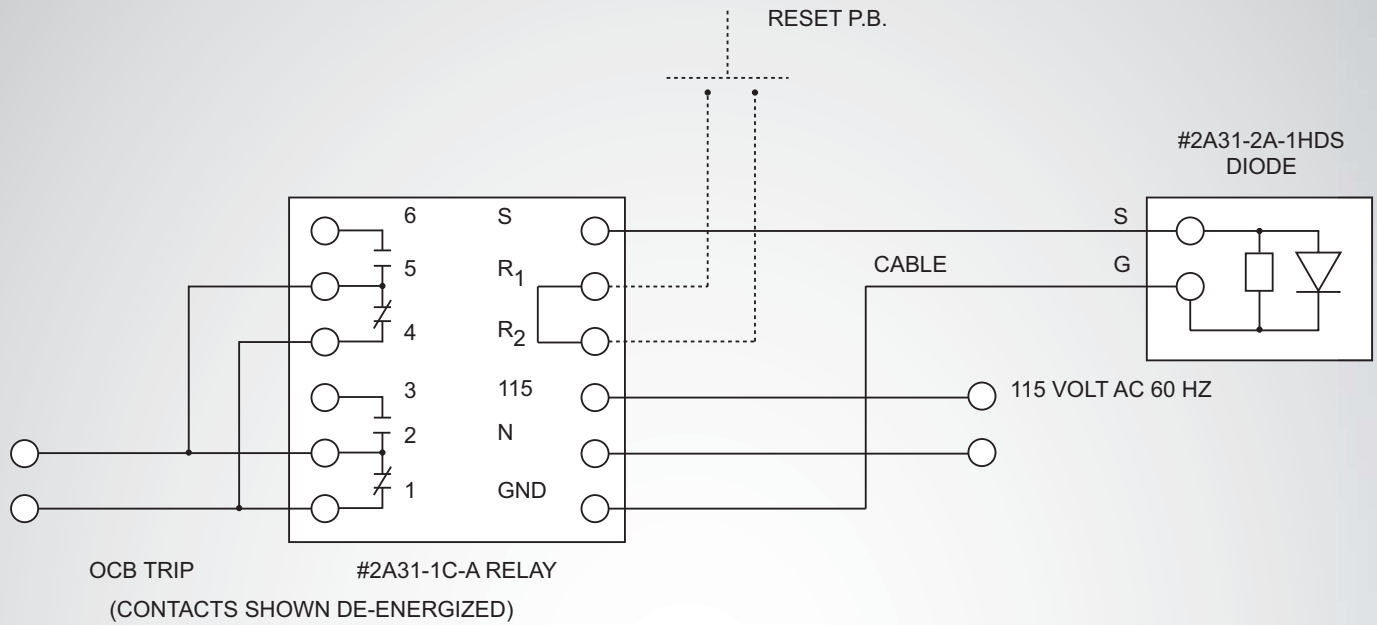
## FEATURES:

1. Terminal strip output, connections 1 to 6 consisting of two single pole double throw contacts 10A 50 or 60 Hz (non-inductive). 1-2 & 4-5 closed when de-energized or in alarm position. 2-3 & 5-6 closed when relay energized and pilot-to-ground loop in intact.
2. Indicating light shows relay has operated (in fault or prior to reset).
3. Fuse protects against internal faults in relay, (but does not function during alarm condition).
4. As supplied, relay is fitted with jumper across  $R_1$  and  $R_2$ . With jumper wire in place, the relay will reset automatically, after fault has been cleared.



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## STANDARD CIRCUIT

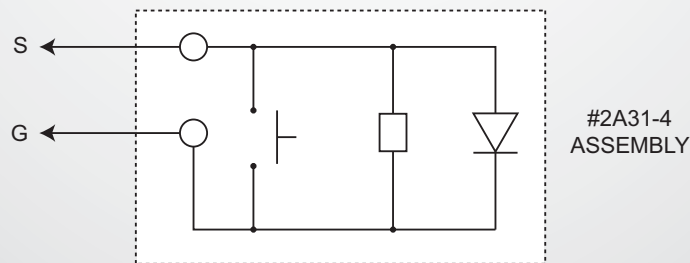


Apply 115 V AC to terminals N-115. When the end of line device is installed across terminal S & G, the contacts 1-2 & 4-5 will open, contacts 2-3 & 5-6 will close.

If pilot wire breaks, or ground is open circuited, a trip signal is provided by contact 2-3 & 5-6 (in parallel) i.e. signal sent to capacitive trip device.

Relay resets once trouble has been cleared. It is recommended that jumper factory installed on contacts R<sub>1</sub> - R<sub>2</sub> be removed and a momentary PB (N.O. contacts) be used and marked "Ground Wire Monitor Relay Reset".

## GROUND MONITOR TEST



Dotted portion shows combination PB and diode for shorting pilot to ground.

CAT. #2A31-4. With this feature the jumper R<sub>1</sub>-R<sub>2</sub> must be removed from relay 2A31-1C-A to prevent automatic reset.

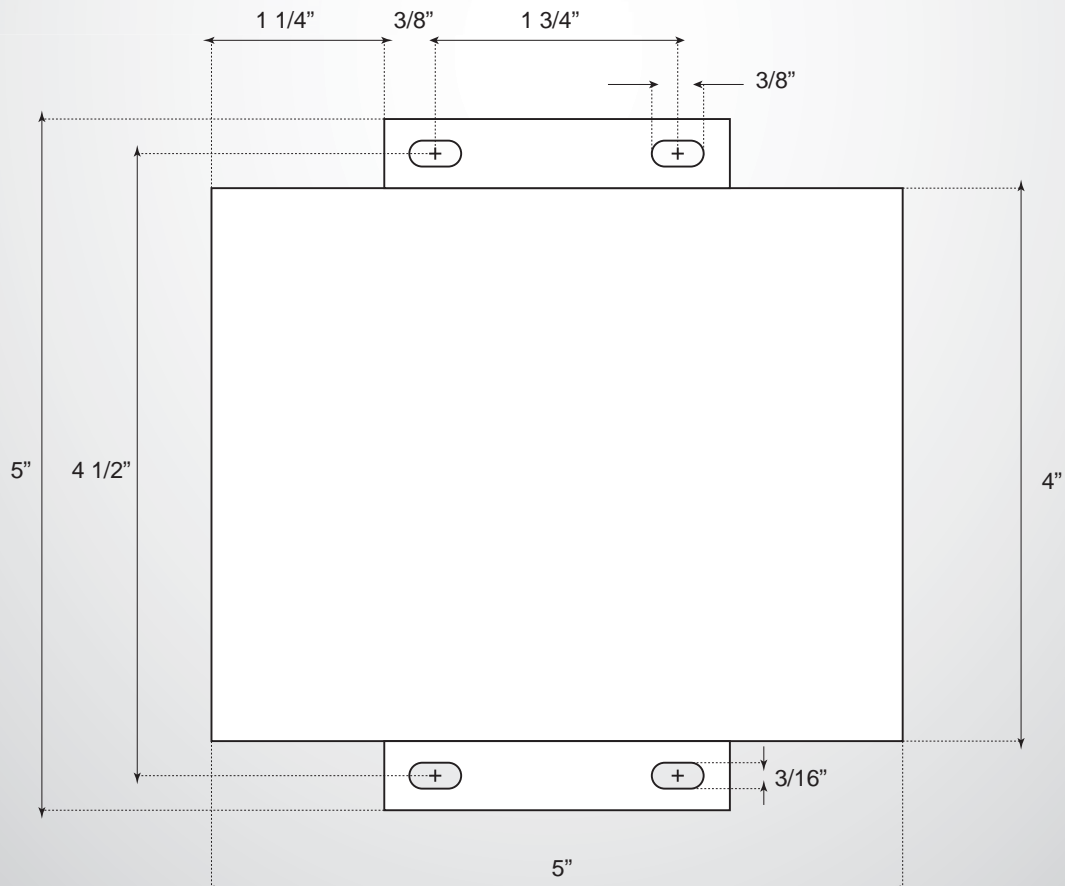


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Terminal Strip input;  
**GND:** Ground connection of cable  
**N:** Neutral of 115 AC source  
**115:** Nominal 115V

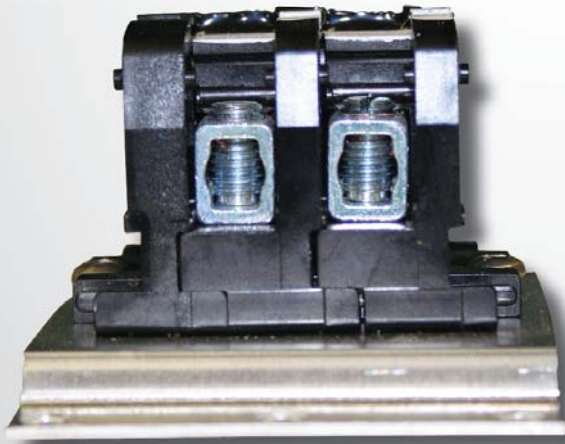
**R<sub>1</sub>R<sub>2</sub>:** Jumper normally supplied, remove and attach push-button (normally open, momentary contact for remote electrical reset).  
**S:** Signal terminal for connection to pilot wire.





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FIG. 2 - TERMINATING MODULE CAT. #2A31-2A-1HDS



2A31-3PE

## OPERATION:

This element is placed at the end of cable run near load. Pilot wire is connected to "S" and ground conductors to "G". An end of line device is required to be in place to energize the Ground Wire Monitor.