



# High Idle Relay 3050510-03



The Innovative Controls Inc. model 3050510-03 High Idle Relay is used to monitor the vehicle battery voltage and energize a relay when a low voltage condition is detected. The relay is typically used to increase the engine idle speed so that the alternator can recover the battery voltage. The High Idle Relay is a fully potted module that is suitable for automotive applications.

When the High Idle Relay senses the battery voltage is less than 12.5 VDC for more than 15 seconds the relay is energized and the red LED is illuminated. The relay remains energized for 5 minutes after a low voltage condition is detected. The relay will deenergize after 5 minutes if the battery voltage has increased above 13.4 VDC and the green LED is illuminated. If the battery voltage is still below 13.4 VDC after 5 minutes it will remain energized until the voltage reaches 13.4 VDC.

The High Idle Relay includes a low side active output that can be used to operate an indicator to show when the relay is energized. A control switch input can be used to override the relay state. Connecting the control switch input to +12 VDC causes the relay to energize. Connecting the control switch input to ground causes the relay to deenergize. If the control switch input is left open it will have no effect on the relay.

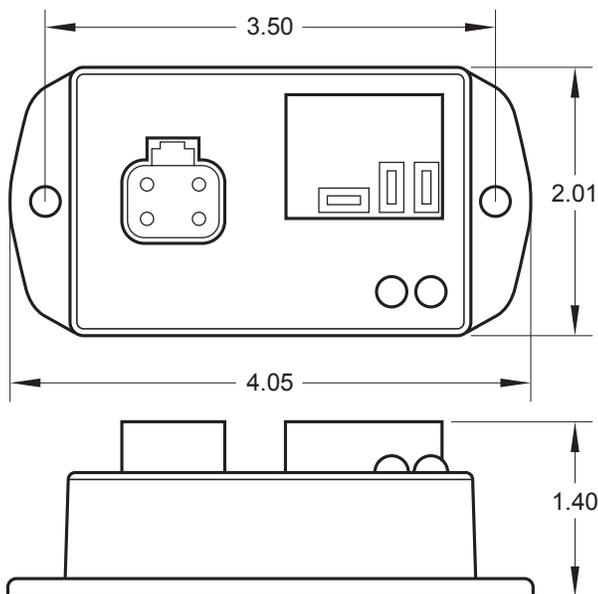
The battery voltage input to the High Idle Relay should be as physically close to the battery as possible to avoid inaccurate readings due to voltage drops. If possible the High Idle Relay should have its own connection to the battery.

**⚠** The High Idle Relay contains no interlocks. The installer must include the appropriate interlocks to ensure that the High Idle Relay does not increase the engine speed inappropriately for their application. Interlocks can be placed between the battery voltage and the High Idle Relay, between the High Idle Relay and the engine control, or both.

## FEATURES

- Battery voltage sensing SPDT Power Relay with 40A N.O. and 30A N.C. Contacts
- Voltage sensing accuracy of +/- 1%
- Sealed Deutsch 4 Pin Control Connector
- Relay with Integral Quick Connect Terminals
- LED Indicators for Relay Status
- -40C to +105C (-40F to +220F) AEC-Q100 Level 2 Operating Temperature
- Potted Module for Dust and Water Ingress Protection

## DIMENSIONS

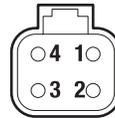
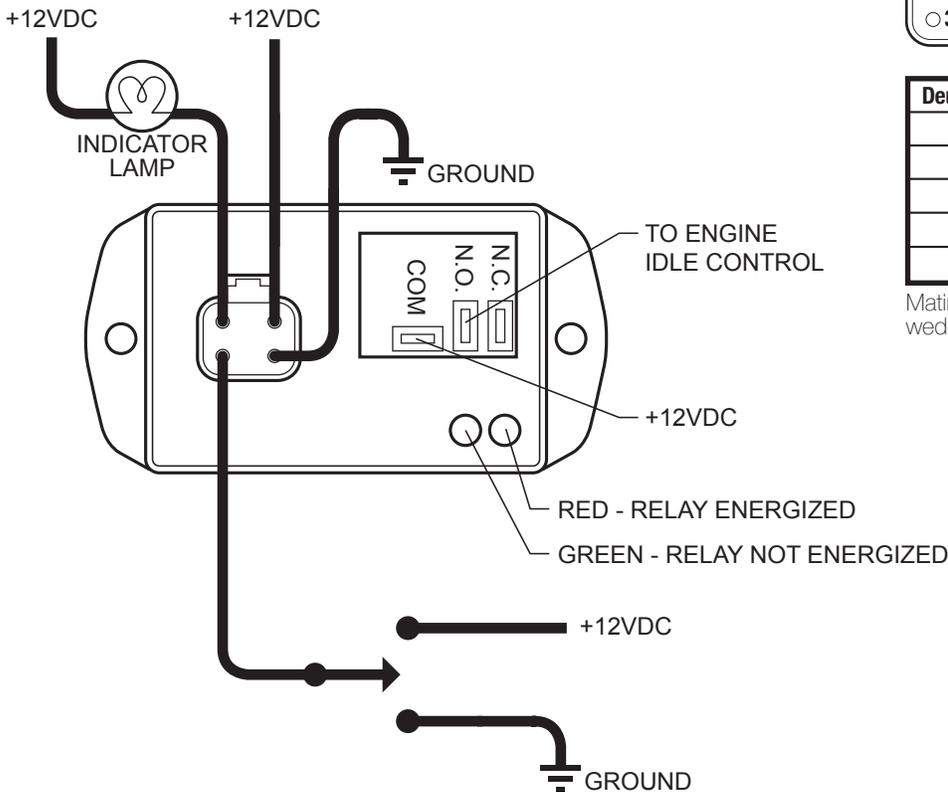


# TECHNICAL SPECIFICATIONS

<b>Operating Voltage</b>	7 to 32VDC
<b>Power Consumption with relay deenergized at 13.8 VDC</b>	15mA
<b>Power Consumption with relay energized at 13.8 VDC</b>	130mA
<b>Operating Temperature Range</b>	-40°C to +105°C (-40°F to +220°F)
<b>Storage Temperature Range</b>	-40°C to +105°C (-40°F to +220°F)
<b>Ingress Protection</b>	IP67
<b>Electrical Protection</b>	Reverse voltage polarity protection on all connections ESD protected to J1113-13 specifications Transient voltage protected to J1113-11 and J1113-42 Indicator output is protected from reverse polarity, over-current, over-voltage, and voltage transients Power input is protected from reverse polarity, over-current, over-voltage, and voltage transients
<b>Indicator Output Current Max</b>	Low side polarity 700mA max
<b>Dimensions</b>	4.05" wide x 1.40" high x 2.10" deep
<b>Weight</b>	136 grams (0.3 pounds)

# WIRING

## 3050510-03 High Idle Relay 4 Pin Connector Wiring



Deutsch DTP15-4P Connector	
Terminal	Description
1	+12VDC Power
2	Ground
3	Control Switches
4	Low Side Indicator Output

Mating connector is Deutsch DTP06-4S with W4S wedgelock and 0462-201-16141 sockets

