

VCMR-01

Latching Relay Control Module



Key Features

- Microprocessor Programmable Operation
- Transient Tolerant Outputs
- 12 Volt 20 Amp Form C Outputs, Normally Closed (N.C.) and Normally Open (N.O.)
- Unpowered N.C. Relay contact.
- Compact Size with Panel-Mount Bracket
- Dual Inputs (Ground and +12 Volt Actuated)

Ordering Guide

Model	Description
VCMR-01	Alternating latching relay with +12 volt @ 20 amp output and two inputs.

VCMR-01 Alternating Latching Relay Control Module, 12 Volt Output

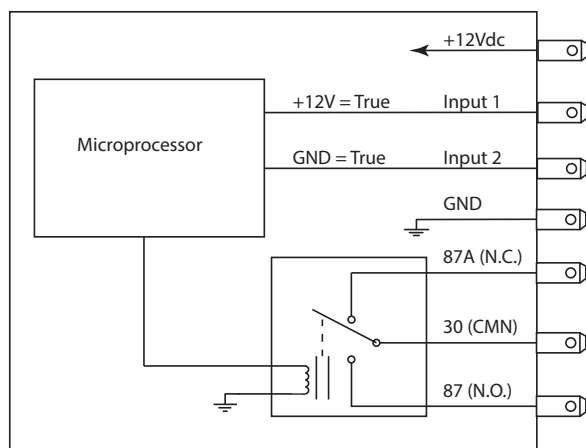
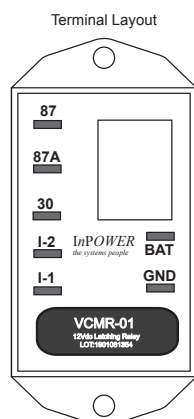
InPower's VCMR Series *Vehicle Control Modules* are a set of tools for the designers of vehicle electrical control systems. These modules, designed to withstand the environments typically found on trucks, emergency vehicles, buses, coaches and speciality vehicles, are available in a variety of standard and custom configurations and functions.

Technical Description

The InPower VCMR-01 is an alternating latching relay with Form C, One Normally Closed Contact (N.C.) and One Normally Open Contact (N.O.) (+12 volt @ 20 amp) configuration along with the common wiper. The module has two inputs, one actuated by a transition to +12 volts (Input A) and one actuated by a transition to ground (Input B). The two inputs operate as a logical "Exclusive OR" so that either input can cause the output to latch (or unlatch).

The output toggles to the opposite state when +12 volts is applied to Input A while Input B is open, or when ground is applied to Input B when Input A is open. Another toggle will not be recognized until both inputs are open. To toggle the module's outputs a control input signal must be applied for at least 250 milliseconds with its counterpart input open. All control inputs must be removed for at least one second before the module will recognize another toggle control input. When +12 volts is first applied to its power terminal the module will initialize in the output off state. The output is rated at +12 volts @ 20 amps should be appropriately fused by the installer.

System Diagram



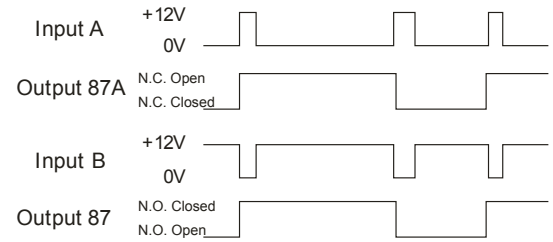
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Latching Relay Control Module

Specifications

Power Input (BAT):	+10 to 16 Vdc
Ground (GND):	Connection to vehicle ground (BatteryNegative)
N.C. (87A)	This is the normally closed contact of the Form-C Relay circuit. Load circuit to be fused by installer at 20 amps or less. When the logic of the VCMR using inputs I-1 and/or I-2 is true this terminal will disconnect from terminal 30.
N.O. (87):	This is the normally open contact of the Form-C Relay circuit. Load circuit to be fused by installer at 20 amps or less. When the logic of the VCMR using inputs I-1 and/or I-2 is true this terminal will connect to terminal 30.
Form C Wiper (30):	This is the common wiper of the Form-C Relay output circuit. Load circuit to be fused by installer at 20 amps or less.
I-1:	This Input is used for the VCMR logic. It is 12Vdc = True like Input A on the standard VCM series of products but custom programs can be written changing this input to ground = true.
I-2 :	This Input is used for the VCMR logic. It is Ground = True like Input B on the standard VCM series of products but custom programs can be written changing this input to 12Vdc = true.
BAT:	This is the +12Vdc power supply to operate the VCMR. Operating Voltage range is 10-16Vdc. Current requirements are 0.010 amps when the relay is off and 0.175 when the relay is on.
GND:	This is the VCMR power supply ground. Current requirements are 0.010 amps when the relay is off and 0.175 when the relay is on.

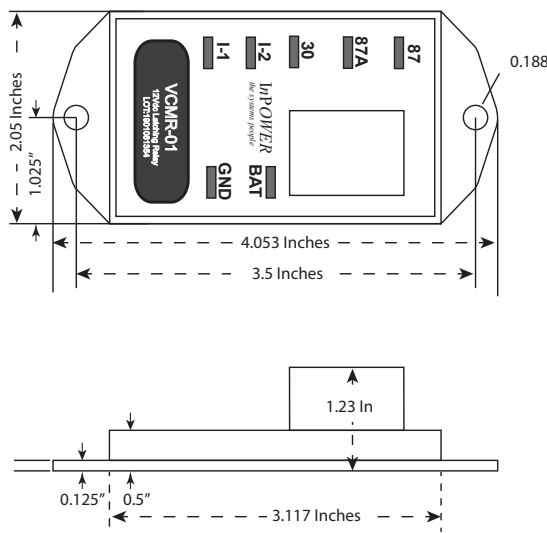
Timing Diagram



Installation

1. We recommend that the module be installed by a person trained and skilled in vehicle electrical systems. The installation should comply with SAE (Society of Automotive Engineers) and the vehicle manufacturer's electrical wiring procedures (e.g. Ford, General Motors, etc.).
2. The module should be installed on the inside of the vehicle in a dry, protected environment.
3. Do not connect loads to the output that will exceed the output current rating of the module.
4. The 12 volt power input must be from a properly fused +12 volt power source.
5. Wiring must be of the proper gage and type to handle the intended load currents.
6. We recommend the use of insulated 1/4 inch female blade terminals that connect to the terminals on the module. Be sure to properly crimp these terminals. **Do not solder wires directly to the module terminals.**
7. If you are experiencing problems with the installation or need troubleshooting assistance, contact InPower Customer Service at 740-548-0965.

Mechanical Drawing



Mechanical

Weight:	0.3 lbs.
Operating Temperature:	-40° C to +85° C
Dimensions:	4.053" L x 2.05" W x 1.23" H

All dimensions in inches.
Do not scale.