



OPERATION & MAINTENANCE GUIDE – 24 Volt Latching Relay Module, 12V Control



HOLATRON SYSTEMS, LLC

2800 Woodlawn Dr., Ste 138

Honolulu, HI 96822

(808) 732-5419

www.holatron.com

WARNING

Holatron Systems specializes in the design and manufacture of standard and custom electronic control systems used for the actuation of hazardous devices. As a condition of purchase, the user must acknowledge awareness and agreement that utilization of this product and participation in activities utilizing fireworks, rockets, and explosives is an ultra-hazardous activity carrying implied and explicit risks of injuries and damages to the user and to other participants. The user assumes the risk connected with the utilization of this product and all risks of participation in the activities for which this product is sold. User acknowledges that he/she/it has the necessary and required skill, expertise, training and licensing, as may be applicable or necessary by custom, usage, trade or law, to engage and participate in the ultra-hazardous activities connected with the use, purchase, transportation, or employment of the products sold under this agreement. User acknowledges that Holatron Systems, LLC, has not and will not conduct any investigation into the skill, expertise, training and licensing, as may be applicable or necessary by custom, usage, trade or law, of the user or of user's agents, employees and assigns, to engage and participate in the ultra-hazardous activities connected with the use, purchase, transportation, or employment of this product. User specifically agrees that Holatron Systems, LLC, its officers, employees, and agents shall not be liable for any claim, demand, cause of action of any kind whatsoever for, or on account of death, personal injury, property damage or loss of any kind resulting from or related to user's or user's employees', agents' or assigns' use of this product, and user agrees to indemnify, defend in any action at law, and hold harmless Holatron Systems, LLC, from same, whether brought by the user, user's agent, or assigns, or any third party.

1.0 HARDWARE DESCRIPTION.

The module contains 7 spring terminals, a switch, and an indicator. The two terminals marked "POWER IN" connect to your 24 volt DC supply. Power polarity is not critical, but output polarity will match power polarity, as defined by the red and black terminals. That is, when latched on, power red is connected to output red. Power black is always connected to output black, whether on or off. **DO NOT USE AC POWER**, as that will damage the relays. The two terminals marked "24 VDC OUTPUT" connect to the 24 volt device you wish to actuate. The red indicator lights when 24 volts is present at the output terminals.

--- WARNING ---

THE INPUT POWER SOURCE SHOULD ALWAYS BE CONNECTED BEFORE THE OUTPUT. DO NOT CONNECT A DEVICE TO THE OUTPUT TERMINALS IF THE OUTPUT INDICATOR IS LIGHTED, AS IT WILL BE ACTUATED IMMEDIATELY.

Maximum current capacity of the relays is 5 amps. Operation with devices consuming more than 5 amps, or with shorted output terminals, will damage the relays and void the warranty. Please note that the output is not fused. So be very careful not to connect to a short circuit. Modules with internal automatic resetting fuses are available at a higher price.

2.0 OPERATION.

The three terminals marked "12 VDC CONTROL" connect to outputs on our 12V spread-spectrum receivers. "COM+" connects to any one of the "COM+" (red) terminals on the receiver. "ON" connects to one of the black receiver output terminals. This is the cue that will turn on your 24 VDC device. "OFF" connects to a second receiver output terminal, typically the next cue in sequence after the "ON" cue, resulting in an alternate-action function when firing in semi-automatic mode. Pressing the transmitter button to fire the "ON" cue turns on the 24 VDC device. Pressing the transmitter button a second time fires the next sequential cue which turns off the 24 VDC device.

An **input modification is required to enable it to be used with our SafeFire-12 receiver** 18V outputs if those outputs will be on for durations longer than one second. It may be used without modification if the SafeFire-12 firing outputs will always be shorter than one second. Note that an 18V control input longer than one second may damage an unmodified latching module and void its warranty.

3.0 MODE SELECTION.

The operation described in the preceding paragraph requires that the MODE switch be in the LATCH position. Note that at least 22 VDC is required at the "POWER IN" terminals in order for the module to be able to latch on in LATCH mode.

If the switch is in the MOM. position, the 24 volt output is simply slaved from the 12 volt "ON" terminal. The output switches off as soon as the "ON" terminal switches off, and the 12 volt "OFF" terminal has no effect. In this mode any voltages lower than 24 VDC may be applied to the "POWER IN" terminals and switched by the module, but the indicators will be dimmer.

4.0 SPECIFICATIONS.

Parameter	Minimum	Typical	Maximum
Output Current			5 Amps
Supply Voltage	22 VDC	24 VDC	28 VDC
Control Voltage		12 VDC	
Control Current		30 milliamps	
Control Input Impedance		400 ohm	
Indicator load current		60 milliamps	
Leakage current from power input to control inputs			0 milliamps

If further information or service is required, contact:

Holatron Systems, LLC.
2800 Woodlawn Dr., Ste 138
Honolulu, HI 96822
(808) 732-5419
www.holatron.com