

MAN180



OPERATING MANUAL

12815

Model CI-30





Supporting the Cathodic Protection Industry Since 1945

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Description:

The interrupter consists of a heavy-duty latching relay controlled by a solid-state electronic timing circuit powered by five 1.5 volt type "AA" cells. A dual range DC ammeter, 0-3 and 0-30 amps DC is provided. Both the "ON" and "OFF" positions of the timing cycle are individually adjustable throughout a range of approximately 1 to 120 seconds.

Note: The internal batteries supply power ONLY for the electronic timing device and the relay operation and they cannot be used to supply the external circuit. A separate source of current is needed as shown in the typical connections and uses sketches.

Use:

The interrupter is designed to periodically interrupt AC up to 30 amperes at 125 volts AC or DC up to 30 amperes at 24 volts DC. Where the DC potential is higher than 24 volts, the maximum current must be reduced proportionally.

Operation:

- 1) Connect DC positive lead to "+" terminal. If load is AC, either lead may be connected to the "+" terminal.
- 2) Connect the other test lead to the "-30 Amp" terminal. If the lead is DC and is less than 3 amperes, connect the negative lead to the "-3 Amp" terminal.
- 3) Turn both the "ON" and "OFF" timing cycle knobs to the one second position.
- 4) Turn toggle switch to the "ON" position and wait a few seconds to make sure that the ammeter is not over-ranging.
- 5) Adjust both the "ON" and "OFF" timing cycle knobs to the desired values.

MAINTENANCE

Batteries

Check batteries from time to time to make sure they are 6 volts or above. Throw the toggle switch to the "Battery Test" position with the interrupter turned "ON". One set of five 1.5 volt "AA" batteries will run the interrupter for about 800 hours at average temperatures.

Relay Contacts

Relay contacts are readily accessible for inspection by removing the four panel screws and lifting the panel assembly from the case. If the contacts appear to be excessively worn from extensive use or have become fused together by gross overload, they may be burnished lightly with a fine burnishing tool and rinsed off with a spray-type contact cleaner.

If the interrupter has not been used for several months, cleaning the relay contacts as suggested may be advisable, especially if the interrupter is to be used first in a low-potential circuit such as a galvanic anode installation.

Relay

The relay has two sets of double-break contacts. Only one set is used. The relay contacts are silver-cadmium oxide. If the contacts become burned, pitted, or otherwise unusable, and cannot be restored by cleaning and burnishing, the other set of contacts can be used. In order to use the other relay contacts the relay must be removed. Turn to 180 degrees and remount to panel. The heavy wires pushed on the terminals must be taken off and relocated to the new contacts. The orange wire and jumper to the positive relay coils may be left in place, but the negative relay coil wires (blue & gray) must be reversed in order to keep the "ON" and "OFF" timers in proper sequence.

NOTE: If the blue and gray wires are not reversed, the timer function control of the "ON" and "OFF" timer will work in reverse operation.

Capacitor

The 2200 ufd 16-volt electrolytic capacitor is essential to the proper operation of the relay and must therefore be in good condition. If a replacement becomes necessary, a high-grade capacitor should be used.

Temperature

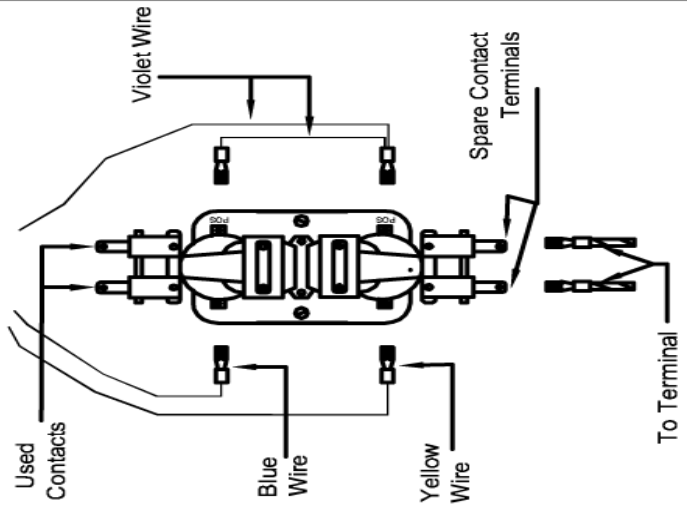
The interrupter is designed to operate within a temperature range of about 0 to 120 degrees Fahrenheit, if the battery voltage is 6 volts or above.

The electronic timing device may not function below 0 degrees Fahrenheit. The current used by the timing device is so small (about 10 ma), that internal heating while in use is negligible and it will not supply sufficient heat to offset low ambient temperature.

Leveling Not Required

This current interrupter will operate in any position.

Diagram B



The relay used Part # 12902 is designed with two sets of contacts. Only one set is used at a time. Therefore, if one set becomes damaged or wears out, it is possible to reverse the relay to utilize the second set.

The following instructions describe the procedure for replacing a relay and for reversing one to make use of the spare contact set

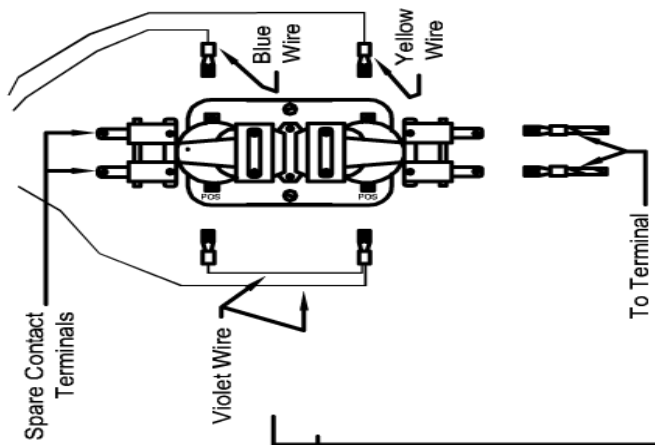
To Replace RELAY (See Diagram A)

1. Carefully remove all wire connectors from relay;
 2. Remove the two mounting screws and lift out relay;
 3. Install the new relay in accordance with the diagram.
- Be certain to position the relay so that the letters "POS" that is stamped on the frame is located as shown on the diagram.

To Reverse RELAY (See Diagram B)

1. Carefully remove all wire connectors from relay;
2. Remove the two mounting screws and lift out relay;
3. Rotate the relay 180 degrees. Be sure the spare contacts are located next to the terminal connectors

Diagram A



BY	DESCRIPTION	DATE	REV

REVISIONS

Material:

X = +/- .030
 .XX = +/- .015
 .XXX = +/- .005

Title:

JR-1, CI-30 Relay Replacement

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REV.

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