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ETURBEV EOCRSS 0.5-6A

ETURBEV EOCRSS Electronic Overload Relay Motor Protector (0.5-6A)

Instruction Manual

1. Product Overview

The ETURBEV EOCRSS Electronic Overload Relay is designed to protect low voltage electromotors (up to 600V) from various electrical faults. This premium type relay offers reliable protection against overload, phase loss, and locked rotor conditions, ensuring the longevity and safe operation of your motor.

Key features include a compact design, independently adjustable starting trip delay (D-TIME) and operating time (O-TIME), AC/DC power supply compatibility, universal PWR & Trip indication LEDs, and manual/electric reset capabilities. It is based on a Microprocessor Control Unit (MCU) for precise and efficient protection.

Figure 1: ETURBEV EOCRSS Electronic Overload Relay (0.5-6A model)

Features:

- Compact Design
- Overload, Phase Loss, and Locked Rotor Protection
- Independently Adjustable Starting Trip Delay (D-TIME)
- Independently Adjustable Operating Time (O-TIME)
- AC/DC Power Supply Compatibility (Un: 180-460VAC for this model)
- Universal PWR & Trip Indication LEDs
- Manual and Electric Reset Functionality
- MCU (Microprocessor Control Unit) Based Operation
- N-type and R-type Integration (DIP SW selection)
- Low Energy Consumption

2. Installation and Setup

Ensure all power is disconnected before installation. Mount the relay securely in the intended electrical panel. Connect the motor and control wiring according to standard electrical practices and the relay's terminal markings (A1, A2, 95 NC,

96, 97 NO, 98).



Figure 2: Side view of the relay, illustrating mounting features.

Initial Settings:

After installation and wiring are complete, proceed with the following settings using the adjustment knobs:

1. **D-TIME (Delay Time) Knob:** Set this knob to a value two to three seconds longer than the motor's normal starting time. This prevents nuisance tripping during motor startup.
2. **O-TIME (Over-current Run Time) Knob:** Set this knob to a value less than the motor's endurance time under over-current conditions. This determines how long the relay allows an over-current before tripping.
3. **LOAD (Rated Current) Knob:** Adjust this knob to a value slightly above the motor's rated current, typically over 110% of the motor's rated current or under 120% of its operating current. This sets the overload trip threshold.



Figure 3: Adjustment knobs for D-TIME, O-TIME, and LOAD.

3. Operation

Run / Operation Indicators:

- **Green LED (PWR):** Indicates normal operating status and power supply to the relay.
- **Orange LED (TRIP):** Illuminates when the relay has tripped due to a fault condition (over-current, phase loss, or locked rotor).

Manual / Electric Reset:

If the relay trips, the Orange LED will illuminate. To reset the relay:

- **Manual Reset:** Press the **RESET** button located on the front panel.
- **Electric Reset:** Disconnect and then reconnect the control power to the relay.

LED Ammeter Function:

This function allows for approximate measurement of the motor's actual running current:

1. After the motor has started and is running smoothly, slowly turn the **LOAD** (overcurrent setting) knob counter-clockwise.
2. Observe the red indicator light (TRIP LED). When it illuminates, the knob position indicates the actual running current.
3. Then, turn the knob clockwise until the red light just turns off. At this point, the knob indicates approximately 103% of the actual running current value.



Figure 4: Indicator LEDs and control buttons.

4. Testing the Relay

To test the functionality of the overload relay:

- Press and hold down the **TEST** button on the front panel.

- The Orange LED (TRIP) will illuminate.
- The product will trip after the set O-TIME (Over-current Run Time) has elapsed.
- To de-energize the relay after the test, either push the**RESET** button or disconnect the control power.

5. Maintenance

The ETURBEV EOCRSS Electronic Overload Relay is designed for reliable, long-term operation with minimal maintenance. Regular inspection of wiring connections for tightness and signs of wear is recommended. Keep the unit free from dust and moisture. No user-serviceable parts are inside. For any issues beyond basic troubleshooting, contact qualified personnel.

6. Troubleshooting

If the relay is not functioning as expected, consider the following:

- **Relay Trips Unexpectedly:**
  - Check the **LOAD** setting. Ensure it is correctly set above the motor's rated current.
  - Verify the **D-TIME** setting. If too short, it might trip during motor startup.
  - Inspect the motor and load for actual over-current conditions, phase loss, or locked rotor.
  - Ensure proper wiring and connections.
- **Relay Does Not Trip:**
  - Perform the **TEST** function (Section 4) to confirm relay operation.
  - Check the **LOAD** setting. If set too high, it may not detect an overload.
  - Verify control power supply to the relay.
- **LED Indicators Not Functioning:**
  - Ensure the relay is receiving power (Green PWR LED should be on).
  - Check for loose connections or power supply issues.

If issues persist after these checks, it is recommended to consult a qualified electrician or contact ETURBEV customer support.

7. Specifications

Feature	Specification
Model	EOCRSS (0.5-6A variant)
Operating Voltage (Un)	180-460VAC
Current Range	0.5-6A
Protection Functions	Overload, Phase Loss, Locked Rotor
Reset Type	Manual / Electric
Control Unit	MCU (Microprocessor Control Unit) Based

Feature	Specification
Package Dimensions	1.18 x 0.79 x 0.39 inches
Item Weight	1.76 ounces
Manufacturer	ETURBEV
ASIN	B0D9D4MD2Y

8. Warranty and Support

Specific warranty information for the ETURBEV EOCRSS Electronic Overload Relay is not provided in this manual. Please refer to the product packaging or the point of purchase for warranty details. For technical support, inquiries, or service, please contact ETURBEV customer service through their official channels.

Note: Always ensure that installation and maintenance are performed by qualified personnel in accordance with local electrical codes and regulations.

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