CAROTRON
Driven by Excellence
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Electronic MOP Module

Model MOP250-000

In many industrial applications, a potentiometer is used to provide a reference signal (typically speed) to a machine. Often, it would be advantageous to allow the machine operator to adjust this potentiometer from multiple locations (especially on large machines). However, this is not possible with a standard analog potentiometer.

Initially, this feature was implemented by connecting a motor shaft to a potentiometer. INCREASE and DECREASE buttons could then be used to slowly rotate the motor one direction or the other, thus changing the output signal from the potentiometer.

Multiple buttons could be wired in parallel, allowing INCREASE and DECREASE adjustment in multiple locations. This setup was called a Motor Operated Potentiometer (MOP). **Model MOP250-000** (Electronic Motor Operated Potentiometer Module) provides the MOP function in a small DIN rail mountable electronic package. The module has dedicated inputs for INCREASE and DECREASE pushbuttons. Pressing both inputs simultaneously, serves as the RESET function, causing the output to instantly drop to minimum. Opening the ENABLE input forces the output to ramp down to minimum output. Closing the ENABLE input forces the unit to ramp back up to the previous level.

Additionally, an EXTERNAL REF input allows the MOP to ratio (scale) an external signal if desired. Multiturn potentiometers are provided for adjusting the ACCEL, DECEL, BIAS, and GAIN settings. An internal jumper allows selection of a voltage or current output. Internal EEPROM is used to backup and retain the current MOP output during a power loss.

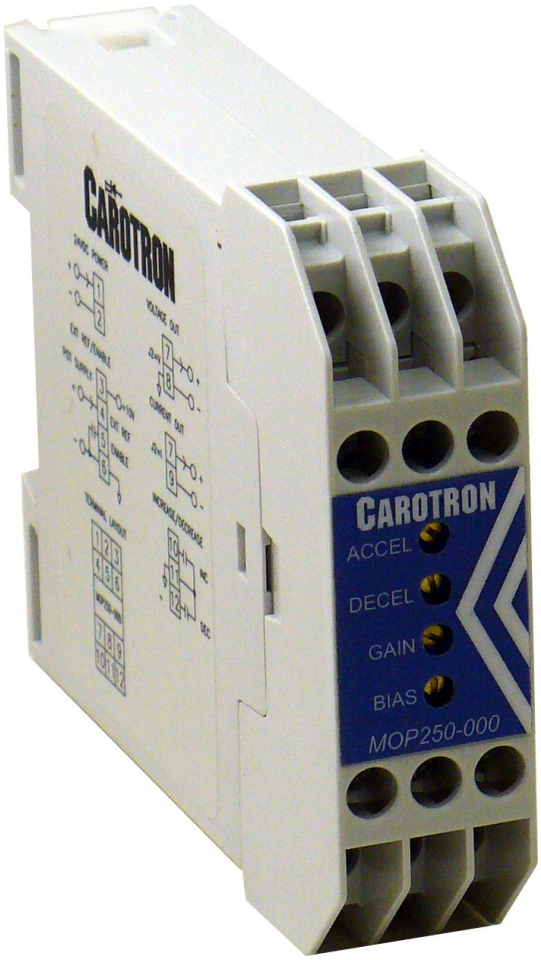
Electrical Specifications

D.C. Power Input

- 24 VDC ±10%, 60mA max, internally fused

+10VDC Reference Output

- 10mA max



External Ref Voltage Input

- Range: 0-10VDC
- Input Impedance: 10^{12} Ω

Potentiometers

- Turns: 15
- Accel Range: 0 to 60s
- Decel Range: 0 to 60s
- Bias Range: 0 to 2.5V or 5mA
- Gain Range: 0 to 10V or 20mA

Accel/Decel

- Linear control adjustable to 60s max

Signal Output

- **Voltage Output**

Selected by position V on J2. This circuit allows the output to source a voltage level of up to +10 VDC into a minimum resistance of 600 Ohms. If resistance is too low, output linearity may be affected.

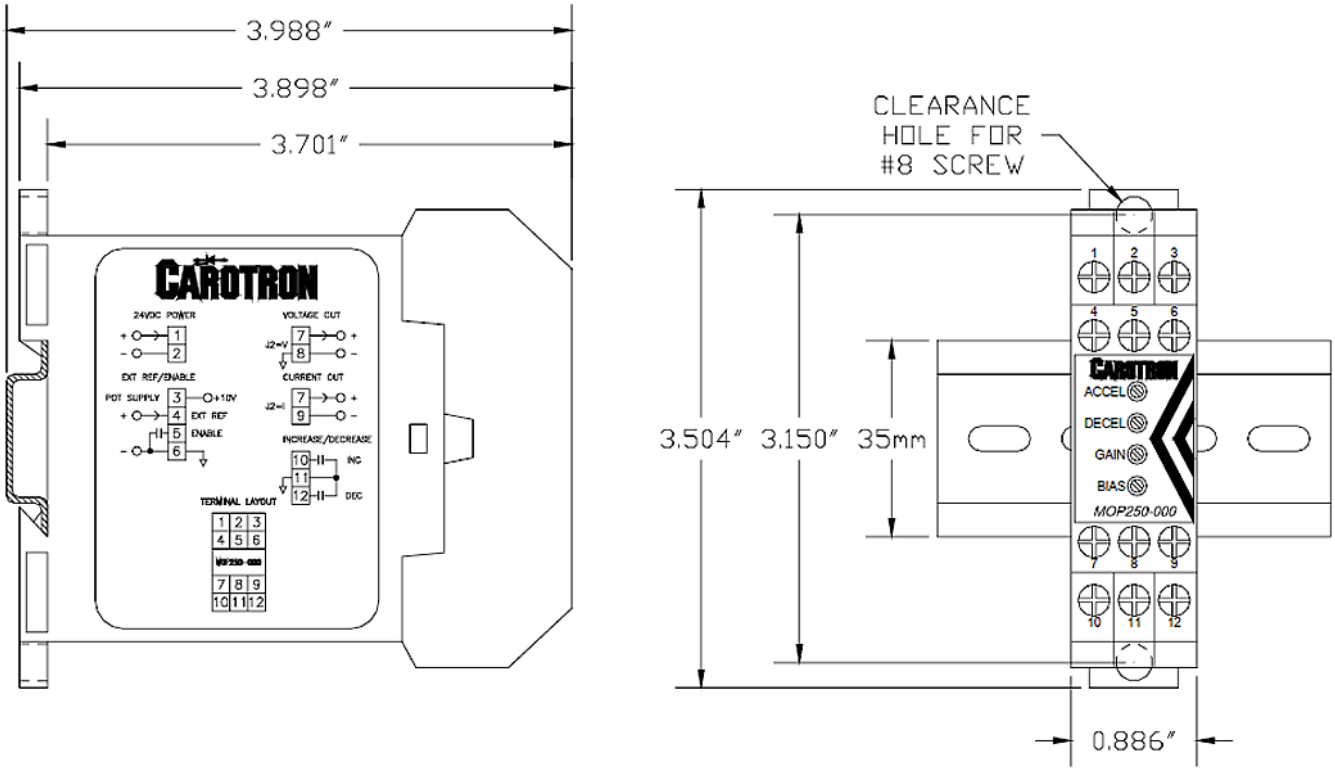
- **Current Output**

Selected by position I on J2. This circuit allows the output to source a regulated current up to 20mA into a maximum resistance of 500 Ohms. Using the BIAS pot, the output can source a 4 to 20mA signal.

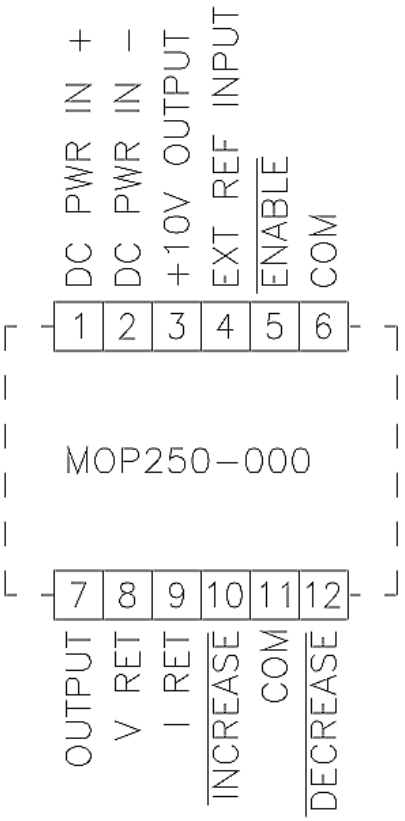
Temperature Range

- 0-55º C

Physical Dimensions



General Connections



Electronic MOP Module MOP250-000

Physical Specifications

3.504” H x 0.886” W x 3.898” D

Shipping Weight: 2 lbs.

View or download the complete Electronic MOP Module Instruction Manual (1057-0A) from www.carotron.com .

CAROTRON
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SOLID STATE STARTERS, SYSTEM INTERFACE
CIRCUITS AND ENGINEERED SYSTEMS

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