



UniDrive® 110547

27.5V, 6A, 10 Watt Shunt Regulator

The 110547 Shunt Regulator is designed to limit the DC bus voltage of the ACG 110546 motor control when the motor control implements regenerative braking.

When regenerative braking is implemented, the control's internal DC bus voltage rises and, therefore the external 24VDC power supply voltage rises. The Shunt Regulator dissipates this regenerative braking energy as heat in the Shunt Regulator's internal resistor and thereby keeps the external power supply from shutting down on an over-voltage condition and the motor control from activating dynamic braking.

For correct operation, the overvoltage shutdown protection setting of the external 24VDC power supply must be 30VDC or higher.

To ensure smooth braking of a large load on a decline or smooth deceleration of a heavy vertical load the use of a shunt regulator may be needed. Verify the need for a shunt regulator by operating the motor control by itself under the expected worst case braking condition. If the motor control activates dynamic braking or shuts down due to an overvoltage fault, a shunt regulator may be necessary.

- 1) Output Header - Connections to the Control (plug included)
 - Pin 1 RUN Signal from the Input Header
 - Pin 2 REVERSE Signal from the Input Header
 - Pin 3 ANALOG Signal from the Input Header

- Pin 4 Shunt Regulator Connected Signal
- Pin 5 0VDC Power
- Pin 6 +24VDC Power (fused)

2) Input Header - Connections from the User's Wiring (plug included)

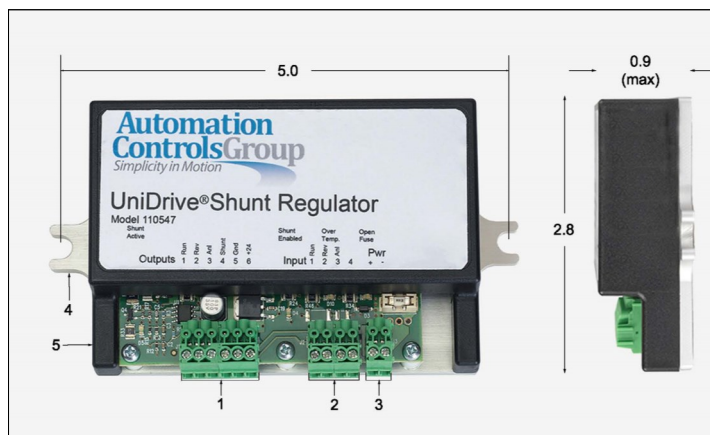
- Pin 1 RUN Signal
- Pin 2 REVERSE Signal
- Pin 3 ANALOG Signal
- Pin 4 Not Used

3) +24V DC Power Input Header (plug included)

- Pin 1 +24VDC (Pwr +)
- Pin 2 0VDC (Pwr -)

4) Mounting Plate/Heatsink

5) Cover



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Specifications

Electrical Specifications:

Input Voltage when the Shunt Regulator becomes Active: 27.5VDC +/-0.8VDC

Maximum Load Current when the Shunt Regulator is Active: 6 Amps

Shunt Regulator Continuous Power Rating: 10 Watts

Shunt Regulator Peak Power Rating: 160 Watts

CAUTION: the mounting plate can be hot to the touch.

Inputs:

24VDC: From the external DC Input Power Supply (Pwr +)

0VDC: From the external DC Input Power Supply (Pwr -)

The RUN, REVERSE and ANALOG input signals pass through directly through to the Output Header.

Note: Their use is optional.

Outputs:

Shunt Connected Signal: PNP signal used to indicate to the Motor Control that a Shunt Regulator is connected (use is optional).

0V (GND): Can be used to connect the DC Input Power Supply to the Motor Control.

+24V: Can be used to connect the DC Input Power Supply to the Motor Control.

Note: This output is fused with an on-board 4A fuse.

The RUN, REVERSE and ANALOG output signals are available if connected to the Input Header.

Note: Their use is optional.

Environmental Specifications:

Temperature Limits: Minimum is -4°F (-20°C) Maximum is 104°F (40°C)

Storage Temperature: Minimum is -40°F (-40°C) Maximum is 158°F (70°C)

Humidity (non-condensing): Minimum is 20% Maximum is 90%

LED Functions:

1. **Shunt Enabled GREEN LED:** ON continuously when the Shunt Regulator is connected to the external 24Vdc power supply. This LED turns OFF if the Shunt Regulator is at its maximum temperature limit.
2. **Shunt Active YELLOW LED:** Flashing or ON steady when the Shunt Regulator is active.
3. **Over Temp RED LED:** Turns ON if the Shunt Regulator has reached its maximum temperature and has shut down to protect itself. When this occurs the Shunt Connected signal will go low to indicate to the motor control that the Shunt Regulator is not operating. After the Shunt Regulator's temperature has returned to within its safe operating range it will resume operation and this LED will turn OFF.
4. **Open Fuse RED LED:** Turns ON if the Shunt Regulator's internal 4A fuse has opened.

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