



Installation Instructions

1398-SR9P Passive Shunt Module

ULTRA Series drives and controllers can require external power dissipation when large inertial loads are present. To ensure that drive faults due to excessive bus voltage do not occur, loads requiring power dissipation greater than 50 Watts continuous in 1398-DDM-075 and 1398-PDM-75 products and 180 Watts continuous in 1398-DDM-150 products require the use of external shunt resistor(s).

As a motor decelerates, power is returned from the motor to the drive module, causing the bus voltage on the drive to increase. Internal shunt resistors in the ULTRA 200 and Ultra Plus servo amplifier products have circuitry that senses the voltage on the drive's DC bus and dissipates power when needed. When the bus voltage reaches the shunt turn-ON voltage of the Drive, the internal shunt circuitry allows the excessive regenerated power to be dissipated in an external resistor. After the bus voltage is reduced to the turn-OFF voltage level, the shunt transistor turns OFF and no additional power is dissipated by the shunt resistor. Table 1, lists the performance specifications.



ATTENTION: Using this shunt with modules not listed can cause equipment damage or personal injury.

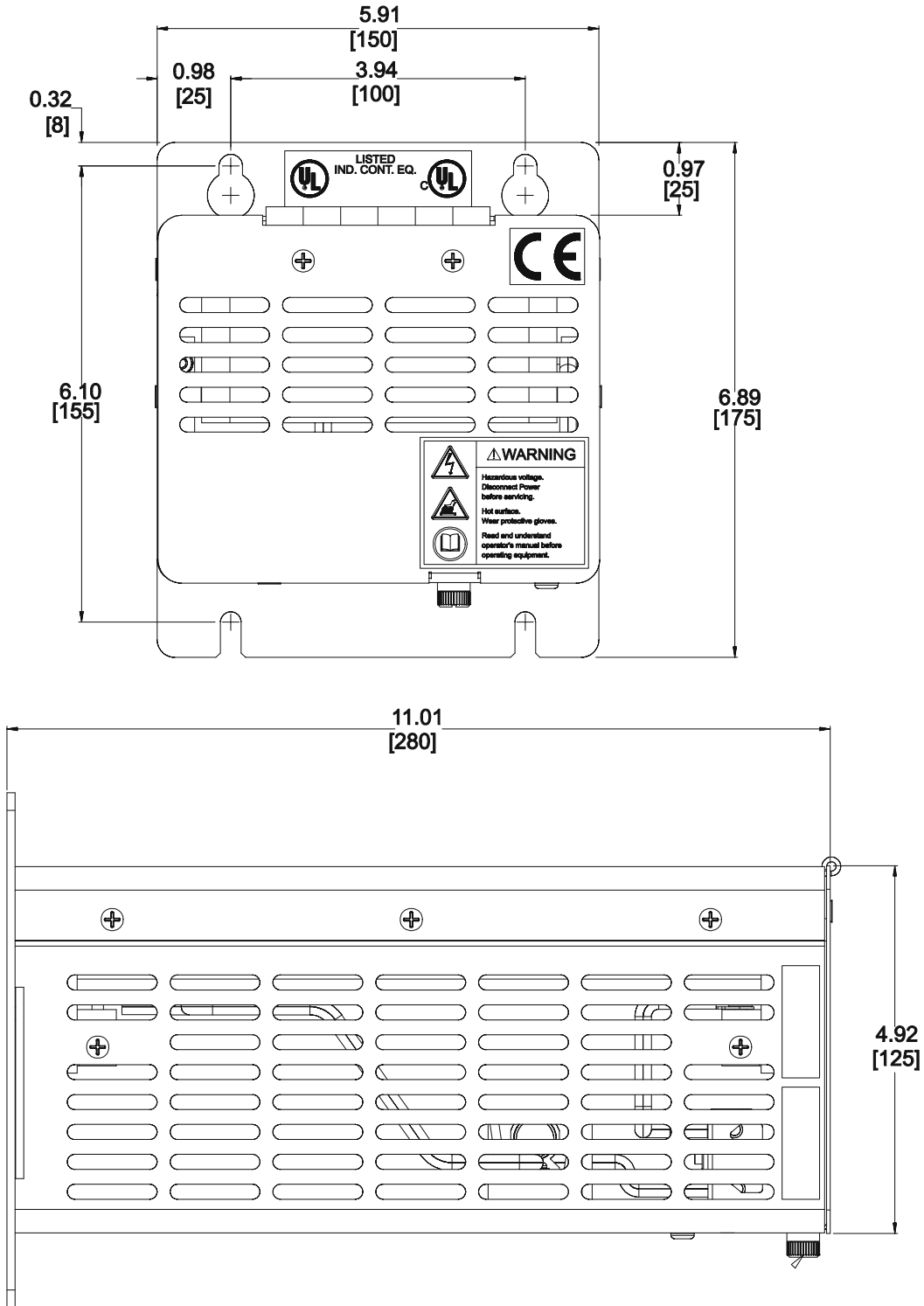
Specifications

Table 1: Performance Specifications

Item	Value
Product Use	1398-DDM-075, 1398-PDM-075, and 1398-DDM-150
Dimensions	175mm x 150mm x 280mm (H 6.89" x W 5.91" x D 11.01") (see also Figure 1 for mounting dimensions)
Weight net shipping	3.31 kg (7 lbs) 4.08 kg (9 lbs)
Mounting Hardware	Hex Cap Screws M6 (1/4"-20)
Resistance	18 Ω \pm 10%
Ambient Temperature	50° C (122° F) Maximum
Power rating peak continuous	10 kW 900 W
Fuse	10 Amp, 700 VDC, fast acting (BUSSMANN FWP10A14F)
Power Wire size	8.4mm ² (8 AWG)
Shunt Terminal Block Torque	4.0 N-m (35 in-lb)

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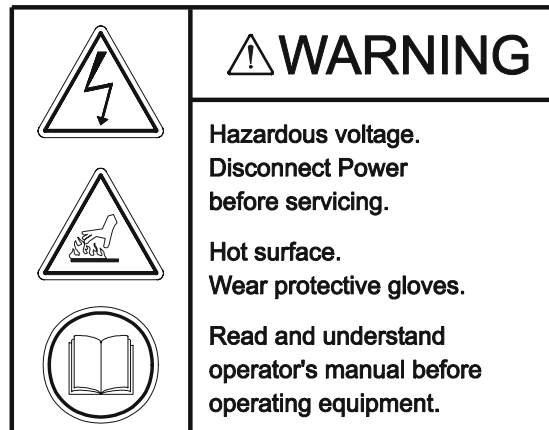
Figure 1: Mounting and Dimensions drawing



Shunt modules are manufactured to inch dimensions. Millimeter dimensions are approximate conversions from inches and are shown in brackets.

Installation Safety

Proper wire sizing and installation procedures are required for electrical power equipment in an industrial environment. Installation must be undertaken by suitably qualified personnel.



Cabinet Requirements

1. Mount the unit in an enclosure providing protection to:

IP54 (protected against dust and splashing water), or

IP65 (dust free and protected against water jets) if the work environment dictates.

Many NEMA (National Electrical Manufacturers Association) Type 4 cabinets provide this level of protection.

2. Minimum surrounding space requirements:

Minimum clearance for airflow 155mm (6.1")

Adequate sizing and ventilation to dissipate heat generated by Allen-Bradley drive/controller products and the Passive Shunt(s).



ATTENTION: Avoid contaminating electronic components.

Provide a quality air source to cabinets; free of debris, oil, corrosives, or electrically conductive contaminants. All cabinets should have scheduled inspections and be cleaned as needed.

Failure to observe these safety procedures could result in breakdown and damage to equipment.

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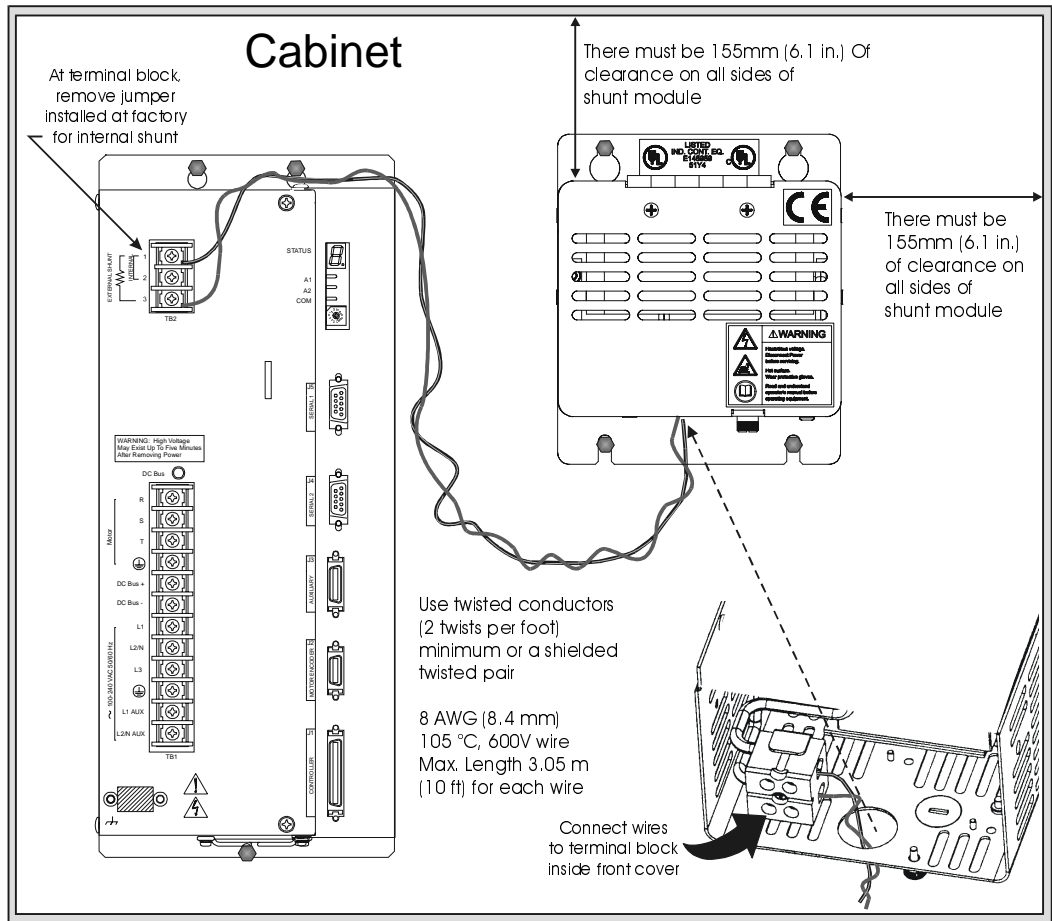
Mounting the Shunt Module

1. Install the top mounting fasteners on the sub panel for the shunt module. See Table 1 on page -1 for fastener, wire, and terminal torque specifications.
2. Mount the Passive External Shunt Module on the top two fasteners.
3. Install the lower fasteners.
4. Tighten all mounting fasteners
5. At the terminal block, remove the jumper installed at the factory for the internal shunt.
6. Use the following Cabinet layout diagrams as guides to wire the shunt(s) to the drive.

900W Continuous Dissipation Cabinet Layout

Figure 2 shows the wiring for a single shunt module with a single ULTRA (DDM 75, PDM 75, or DDM 150) inside a cabinet. Only one shunt module can be used per Ultra 75 Amp product or damage to the drive will result.

Figure 2: Shunt module and conductor routing for 900W continuous dissipation layout



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