

## SCR Dimming Module — MDS8RW101-201

### Overview

The Vantage SCR Dimming Module uses easy Plug In/Unplug installation without removing any screws or wires; note, never Plug In/Unplug while module is powered. SCR dimming technology is for most dimming applications, i.e., incandescent, magnetic low voltage. The Vantage SCR Dimming Module provides **forward-phase** dimming that these devices require.

### Features

The MDS8RW101 is an update to the SD4008A-120 and the MDS8RW201 is an update to the SD9008A-277 modules. This new version has the following new features.

- The module has a built-in 5W switching mode power supply. The module remains powered and retains the last level for each load if the Master Controller is off line. **The Primary Line feed (Line A) must be connected for correct module operation.**
- Line input fuses for each side of the module protect the SCR circuits from damage if the module is short circuited. A spare fuse is also provided in the fuse cover holder on the back of the module. A 250Vac, 20A Littelfuse type 314-020, ceramic very fast acting fuse should be used for replacement.
- Line input relays automatically switch OFF when all loads on that side of the module are OFF, and switches on whenever any load is ON. These relays also provide a 2000V air gap isolation between Line and Load when the relay is open.
- The manual override load levels can be programmed to any dim level including off. The load is now forced off when the override dip switch is off and the manual override is on.
- Linear slew rate control can be programmed to control the ramp time to avoid nuisance tripping of arc fault circuit breakers.

### Specifications

Description	Specification	
	MDS8RW101	MDS8RW201
Dimensions, HWD	7.62" x 6.9" x 3" 194mm x 175mm x 76mm	
Weight	4.6 lbs -or- 2 kg	
Voltage	120V ~ 60/50Hz	*220-277V ~ 60/50Hz
Maximum Amperage per Module	32A (3840W@120V)	32A (7680W@240V) 32A (8864W@277V)
Maximum Individual Load Amperage	16A (1920W @ 120V)	16A(3840W@240V) 16A(4432W@277V)
Maximum Transformer Load	8.3A(1000W@120V)	8.3A(2000W@240V) 8.3A(2308W@277V)
Minimum Load	7W@120V	
Maximum Line Feeds	2 @ 20A (Maximum) breakers	
Loads	8	
Built-in Protection	MOV surge, thermal shutdown, short circuit	
Chokes	8 EMI Suppression	
Lightning / Surge Protection	High Voltage meets IEEE C62.41 (6000V & 3000A) Low Voltage meets ITU-T K.20	
Ambient Operating Temperature/Humidity	32 - 104°F -or- 0 - 40°C 5 - 95% non-condensing	
Cooling	Convection, 36" front clearance required	
Status Indicators	Line Power, Fuse Status, Load Power, Over Temperature, Microprocessor Status, Manual Control	
Load Types	Incandescent, Magnetic Low voltage, Neon, Cold Cathode (Ipf), Variable-Speed Motors, Fluorescent (relay mode only), constant-Speed Motors (relay mode only)	
Manual Override	Load by Load selectable	
UL and CUL Listed	Yes	

### Installation

Installation of Vantage products should be performed or supervised by a *Certified Vantage Installer*.

**CAUTION:** Turn Breakers OFF and Check that no Power is on the AC Terminal Boards when working in the enclosure or working on lighting fixtures connected to the Module's Loads. Make sure that "clipped" wire pieces do not fall behind any components in the cabinet enclosure. Small pieces of copper wire can become lodged behind AC Terminal Boards, behind Control Terminal Boards or through vent holes in the tops of Modules. When the Power is restored damage may occur voiding the warranty.

### Before Module is Plugged In

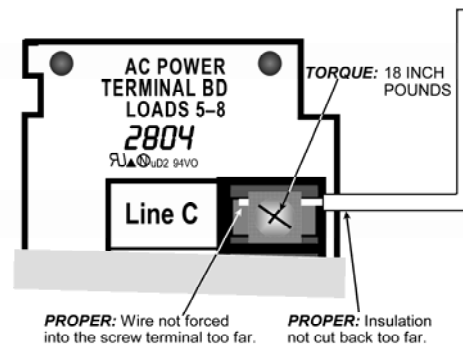
All AC wiring must be terminated into AC screw terminal connectors. This feature allows the Dimmer Modules to be installed after construction is finished, eliminating any potential damage that may occur during construction.

**Torque:** It is very important to have the proper torque on all AC connections. If the screws are too loose, *electrical arcing* can occur causing damage to wiring and components and eventual failure. If the screws are too tight, damage to the AC Terminal Board may occur.

### PROPER TORQUE:

CONNECTOR	TORQUE	WIRE RANGE
LINE/LOAD WIRING	18 INCH POUNDS	14-10 AWG*
GROUND BARS	35 INCH POUNDS	14-10 AWG*
ENCLOSURE POWER	18 INCH POUNDS	14-12 AWG*

\*MUST MATCH BREAKER WIRE GAUGE



### Testing

Vantage's Q-JUMPER board should be used to test all loads for shorts **before** modules are plugged in. *It is important to have the jumper board switch in the correct position for the type of module to be used.* Dimmer Modules should not have Line feeds for "Line B" and "Line D". Remember to *turn the breakers OFF* and check that no power is present when wiring or plugging any devices into the AC Terminal Boards.

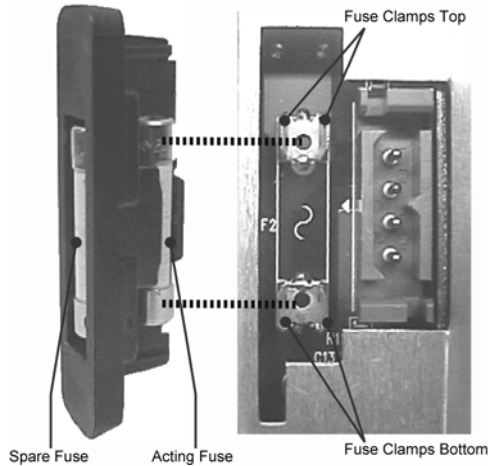
### Fuse Replacement

**Caution** must be followed, see next page. Carefully pull the black fuse holder on the back of the module and replace the bad fuse with the replacement fuse. Fuse LED indicator is ON when the fuse is working.



**CAUTION:** Procedure must be followed for Fuse replacement

1. Place new fuse in black plastic fuse holder
2. Make sure fuse is secure and centered
3. Make sure fuse clamps in module are not bent
4. If fuse clamps are loose **DO NOT PLUG MODULE IN**
  - a. Remove fuse holder with new fuse
  - b. Carefully squeeze fuse clamps closer together so fuse holds tight. **Do not over squeeze**
5. The metal fuse ends **must** fully line up with the fuse clamps for **maximum** surface contact between clamps and fuse ends.



**Module Operation**

The Dimmer Module has a large heat sink on the front for heat dissipation. National Electrical Code requires that a minimum of 36 inches of clearance be kept in front of the Dimmer Module. The Vantage Enclosures are designed to work without cooling fans, even with four Dimmer Modules at maximum capacity. The cover of the enclosure is perforated to help with convection cooling. Never obstruct the cover.

This Dimmer Module features "Over Temperature" protection. If the module temperature reaches 90° C (194° F), the Module shuts down, and will not turn back on until the temperature has dropped to 80° C (176° F). If a module shuts down due to an Overtemp condition, it could be due to the following:

- a.) The enclosure is blocked from allowing air to move through it.
- b.) The total wattage on one or both of the line feeds exceed the maximum allowed, which would potentially overheat the module.
- c.) The ambient room temperature is too high.

**Wiring For MDS8RW101 or MDS8RW201 SCR Dimming Module**

