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Voltage Sensitive Switch

Model: 701-MDVS
701-MDVS-24V

Operation and Installation
Instructions



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1. Introduction: The 701-MDVS (VSS) performs an automated paralleling function during charging which allows two separate batteries to be charged as one. (Typically House and Start.) The VSS operates under preset parameters that apply to the charging source currently active, eg. engine charging source or any other charging source. The VSS is able to determine which charging source is operating and applies the appropriate cut in, and cut out voltage settings. It is necessary to ensure the correct model is ordered to suit your system. i.e. 12 or 24V. The following voltage parameters are shown for both 12 and 24 Volt units (12V/24V)

2. Auto Engagement of VSS: Regardless of the charging source the VSS will engage when the voltage on the start battery is higher than 13.7V/27.4V for more than 5 seconds, or if the house battery is higher than 13.7V/27.4V for more than 5 minutes.

3. Auto Disengagement of VSS: Will occur under the following circumstances.

a. Engine Charging Source: If the batteries drop below12.2V/24.4V the LED will begin to flash 1 sec. on and 1 off (Mid Flash), and after 5 min if the batteries continue to be under 12.2V/24.4V, the VSS will disengage.

b. Non Engine Charging Sources: If the batteries drop below 13.0V/26.0V for more than 5 seconds the LED will turn off and after 3 seconds the VSS will disengage.

c. No Charging Source: If the batteries drop below 13.0V/26.0V for more than 5 seconds the LED will turn off and after 3 seconds the VSS will disengage.

4. Emergency Parallel Function: The VSS Emergency Parallel Function can be operated through a remotely mounted momentary switch or button. The VSS will remain in parallel mode for 10 minutes. If after 10 minutes the voltage on either has not reached 13.0V/26V the VSS will disengage. If the voltage reaches 13.0V/26V on either battery the VSS will remain engaged and both batteries will continue to be charged. At any time depressing and holding the momentary switch or button for 5 seconds will disengage the VSS.

5. Manual Override:The automatic operation of the VSS can be overridden at anytime by depressing the control knob and turning clockwise towards the "Manual On" position or anti clockwise towards the "Manual Off" position. Once the VSS attempts an automated function whilst in manual override, it determines it is in manual override (On or Off) and the LED will start flashing rapidly.

6. LED Indications:

a. Auto Mode:
ON: VSS is engaged
OFF: VSS is disengaged
Flash: *On 1 Sec & Off 1 Sec;* VSS is in low voltage disconnect mode. Voltage on both batteries is less than 12.2V/24.4V. LED flashes for 5 minutes prior to disengagement.
Rapid Flash: *On 0.1 Sec & Off 0.1 Sec;* The voltage is out side specification. i.e. Lower than 8V/15V or higher than 15V/30V

b.Manual Mode:
Rapid Flash: *On 0.1 Sec & Off 0.1 Sec;* VSS is in manual override

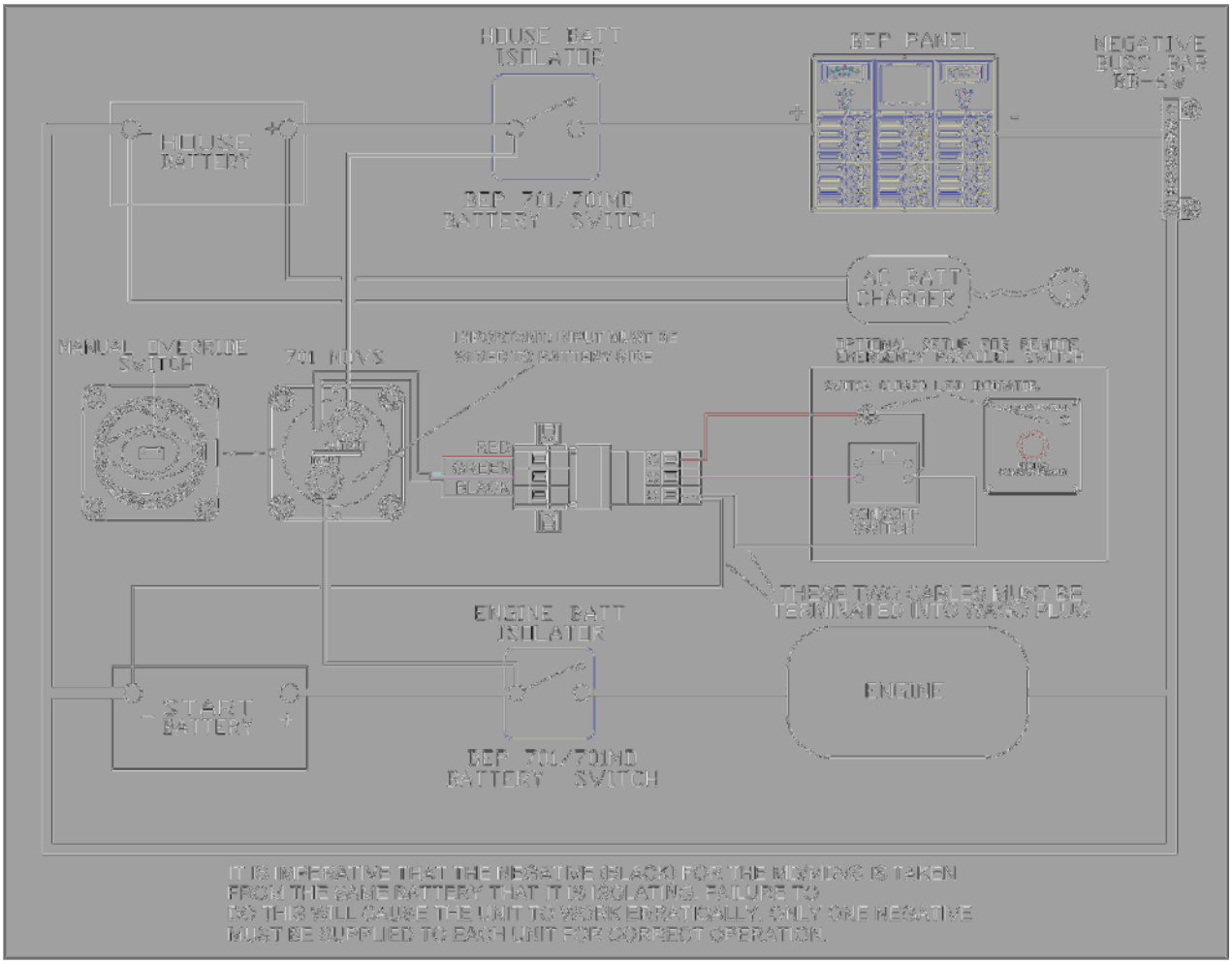
c. Emergency Parallel Mode:
Long Flash: *On 5 Secs & Off 0.5 Secs;* Engaged in emergency parallel mode.

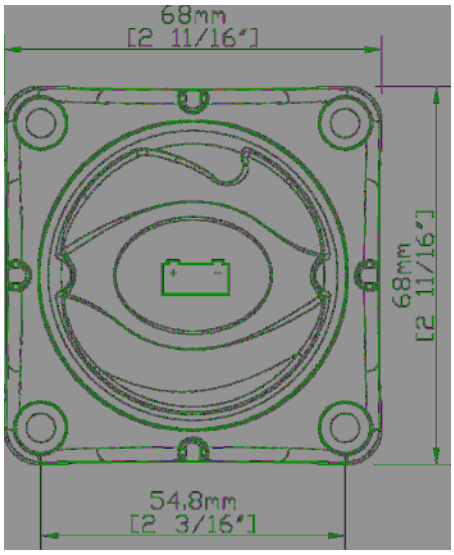
7. Specifications:

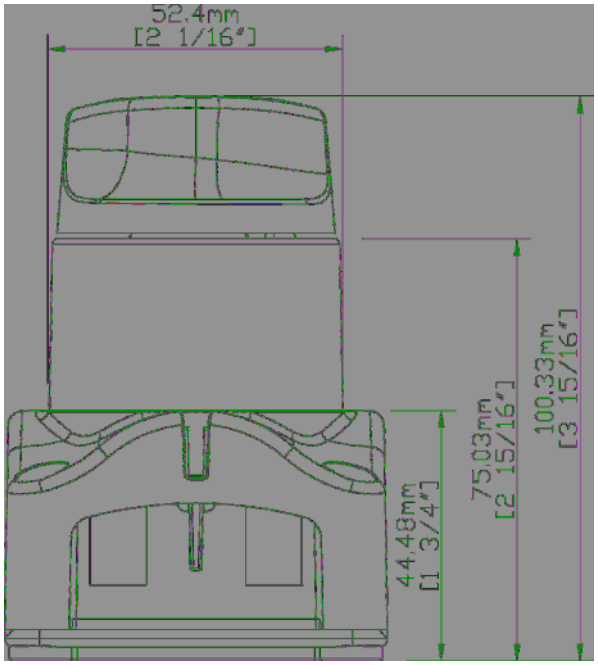
- **Continuous rating:** 275 Amps DC
- **Intermittent rating:** 455 Amps DC
- **Cranking rating:** 1250 Amps DC
- **Auto Operating Range:**
  701-MDVS: 8 to 15 Volts DC
  701-MDVS-24V: 15 to 30 Volts DC

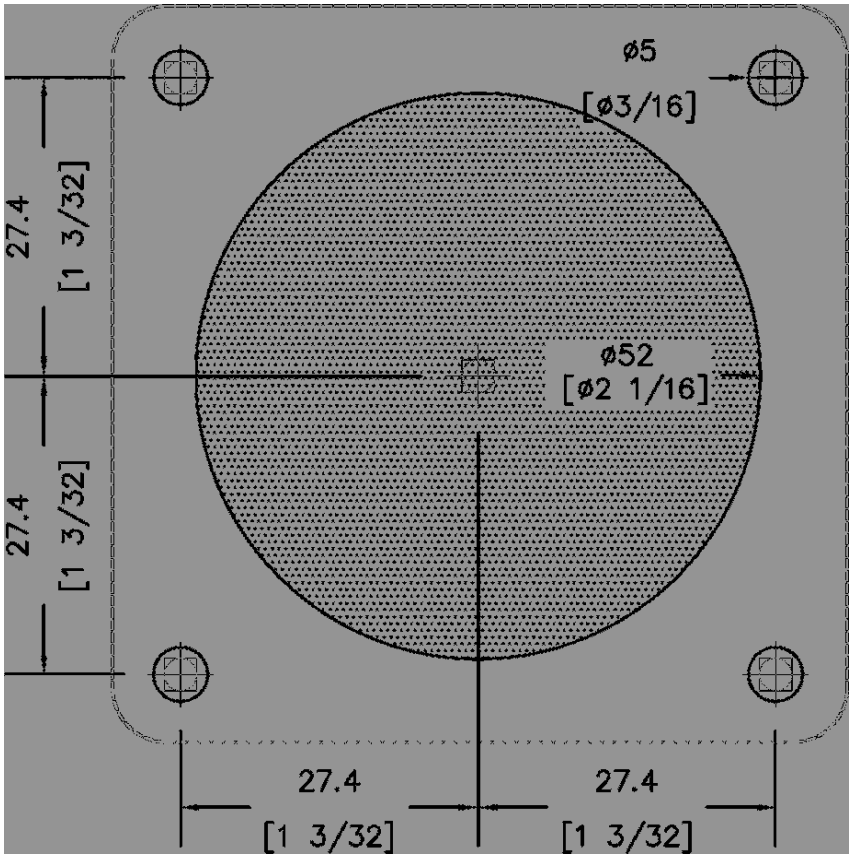
- **Operation:** Manual On/Off
  Motorised On/Off
- **Mounting:** Recessed or surface
- **Maximum Voltage:** 32V DC
- **Recommended Maximum Cable Size:** 50mm.
  If fitting cable in excess of 50mm the cable must be strain relieved with an absolute maximum of 00 or 70mm.

- **Ignition protected**
- **Stud Size:** 2 x 10mm(3/8")
- **Tin plated copper studs and nuts**
- **Power draw:**
  Switch in off position: 15mA









Cut Out Template