

SECTION 678-10

TWO-CHANNEL DC ISOLATOR (MODEL 242)

678-10.1 General Requirements:

- (a) The Model 242 Two-Channel DC Isolator shall contain two (2) isolation channels which provide isolation between electrical contacts external to the module and the controller unit input. The method of isolation shall be based upon a design which shall provide reliable operation.
- (b) Each isolation channel shall have a front panel-mounted test switch to simulate valid input. The test switch shall be a single pole-double throw, three (3) position CONTROL test switch.

The position assignments shall be:

UP	- constant ON
MIDDLE	- OFF
DOWN	- momentary ON

- (c) The isolator shall have an internal power supply which shall supply 20 +4 VDC to the field input side of the isolation channels. The Isolator shall not draw more than 2.5 watts of AC power. No current shall be drawn from the cabinet power supply.
- (d) A channel contact closure input of 5 ms or less shall not cause an output (ground true) to the controller. An input of 25 ms or greater shall cause an output to the controller. An input of duration between 5 and 25 ms may or may not cause an output to the controller. The channel circuitry shall be able to react to a new input closure within 25 ms of an input opening.
- (e) Each isolation channel field input shall be turned on (true) when a contact closure causes an input voltage of less than 8 VDC, and shall be turned off (false) when the contact opening causes the input voltage to exceed 12 VDC. Each input shall deliver no less than 15 ma nor more than 40 ma to an electrical contact closure or short from the power supply.
- (f) The minimum isolation shall be 1,000 megohms and 2,500 VDC measured between the input and output of the same channel.
- (g) Lightning protection shall be installed inside the Isolator. The protection shall enable the isolator to withstand the discharge of a 10 microfarad capacitor charged to +1,000 volts directly across the input pins with no load present.

The protection shall enable the isolator to withstand the discharge of a 10 microfarad capacitor charged to +2,000 volts directly across either the input pins or from either side of the input pins to equipment ground. The input pins shall have a dummy resistive load attached equal to 5.0 ohms.

678-10.2 Physical Dimension Requirements:

The physical dimensions of the Isolator are provided in Figure 678-27.

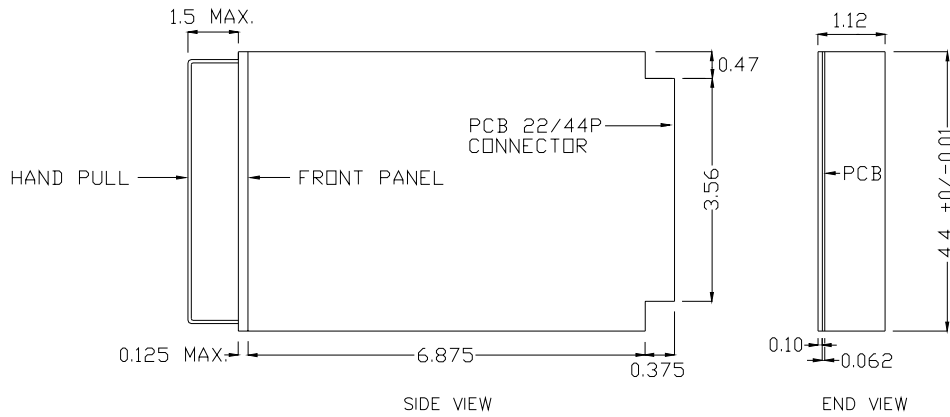


Figure 678-27: AC AND DC ISOLATOR PHYSICAL DIMENSIONS