

Data Bulletin

Replaces 3110DB0401R0909 11/2009

Direct Current and Photovoltaic Systems

Applying Heavy Duty Safety Switches (Fusible and Non-Fusible) on dc and Photovoltaic Systems

Retain for future use.

General dc and Photovoltaic Systems, UL® Listed, CSA® Certified (Files E2875 and E154282)

NOTE: Heavy duty safety switches may be used on photovoltaic systems with a grounded feed. Refer to Figures 1B, 1D, 1F and 2 (negative grounding shown; positive grounded systems are similarly allowed). For ungrounded systems, see National Electrical Code® (NEC®) 690.35 (NEC 2008, NFPA 70).

All heavy duty safety switches with dc ratings (2-, 3- and 4-pole fusible and non-fusible) are Underwriters Laboratories® (UL®) Listed and CSA® Certified for use on dc applications when wired as shown in Figure 1 (A, B, C, D, E, and F). Additionally:

- Heavy duty safety switches are rated for 600 Vdc maximum open circuit voltage.
- Non-fusible safety switches may carry 100 percent of the nameplate current rating.
- Fusible safety switches may carry 80 percent of nameplate current rating (continuous use).
- Heavy duty safety switches are dc horsepower rated as indicated on the safety switch wiring diagram.
- Heavy duty safety switches have a 10,000 ampere dc short-circuit rating at 600 Vdc unless otherwise stated on the switch wiring diagram. Consult factory for short circuit current ratings at 250 Vdc.
- Refer to current Square D® Digest for lug wire range of heavy duty safety switches.
- Photovoltaic systems using ungrounded arrays must use two poles of the disconnect as shown in Figure 1 (A, C, and E) where one pole is placed in each of the two ungrounded conductors.
- Applications 1A, 1C, and 1E (see Figure 1) are for ungrounded photovoltaic arrays only.

Figure 1: General dc and Photovoltaic Systems, Fusible and Non-Fusible Wiring Diagram

