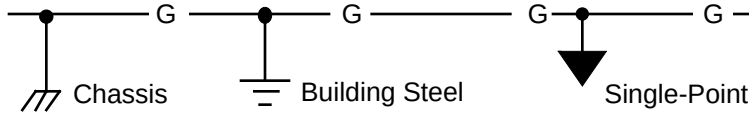
ATTACHMENT A Examples of acceptable Isolation Techniquues for Experimental High Voltage and High Energy Power Supplies

LEGEND

(1) Grounding conductor connection to:



(2) Isolation transformer, rated at 2 x Operating Voltage + 1KV with electrostatic shield. See Chapter 4, paragraph 4.3.6.A.

(3) Transductor with insulation between center conductor and AC winding rated at 2 x Operating Voltage + 1 KV.

(4) Low voltage side (RB) of voltage divider (RA, RB) with parallel resistors such that if one or two resistors open circuit, hazardous voltages are not produced. See Chapter 12.

(5) Reserved For Future Use.

(6) Back-to-back zener diodes that can survive peak energy under fault conditions. See Chapter 4, paragraph 4.3.6.C.

(7) High impedance path to reduce voltages introduced into control area to safe values.

(8) Capacitor in AC control circuit with high enough voltage rating to absorb energy under fault conditions. See Chapter 6.

(9) Vacuum switch having appropriate isolation rated at 2 x Operating Voltage + 1 KV between actuating coil and high-voltage contacts.

(10) Fiber optic, RF, infrared, etc. having a path long enough to make arc-over less than credible. See Chapter 4, paragraph 4.3.6.B.

SYMBOLS

Ⓜ Manual operator, Ⓔ Electrical Operator

[K] Sequential (Kirk-Key) Lock

[E] Emergency Stop (E-Stop) Pushbutton Station

[OR] "Orange" (High Security) Padlock

[LS] Position sensing door-switch