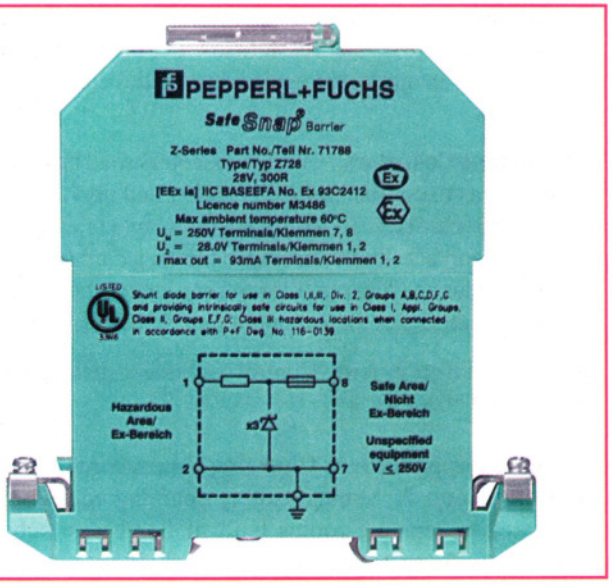

EXHIBIT 504.1 A typical IS barrier that limits the energy available to the hazardous location. *(Courtesy of Pepperl+Fuchs, Inc.)*

504.3 Application of Other Articles. Except as modified by this article, all applicable articles of this *Code* shall apply.

Because IS wiring must be low energy, the wiring itself is most likely to be a Class 2 or a power-limited fire-protective signaling circuit. See Article 725 or 760, as appropriate, for the requirements for such wiring. The installation may also fall under the scope of Article 800. The associated apparatus, on the other hand, may be supplied by ordinary power circuits, in which case other *NEC* requirements may apply.

The associated apparatus is not normally suitable for a hazardous location. Therefore, another protection technique, such as installing the associated apparatus in an explosionproof enclosure, is commonly used if it must be installed in a hazardous location. IS systems are not exempt from the grounding and bonding requirements of 501.30, 502.30, 503.30, and 505.30.

504.4 Equipment. All intrinsically safe apparatus and associated apparatus shall be listed.

Exception: Simple apparatus, as described on the control drawing, shall not be required to be listed.

504.10 Equipment Installation.

(A) Control Drawing. Intrinsically safe apparatus, associated apparatus, and other equipment shall be installed in accordance with the control drawing(s).

A simple apparatus, whether or not shown on the control drawing(s), shall be permitted to be installed provided the simple apparatus does not interconnect intrinsically safe circuits.

An example of the control drawing required to be followed to correctly install an IS system is shown in Exhibit 504.2. This drawing is normally provided by the associated equipment manufacturer. A similar drawing is provided by the IS equipment manufacturer. Compliance with the requirements of both drawings is required to properly install an IS system.

Informational Note No. 1: The control drawing identification is marked on the apparatus.

Informational Note No. 2: Associated apparatus with a marked Um of less than 250 V may require additional overvoltage

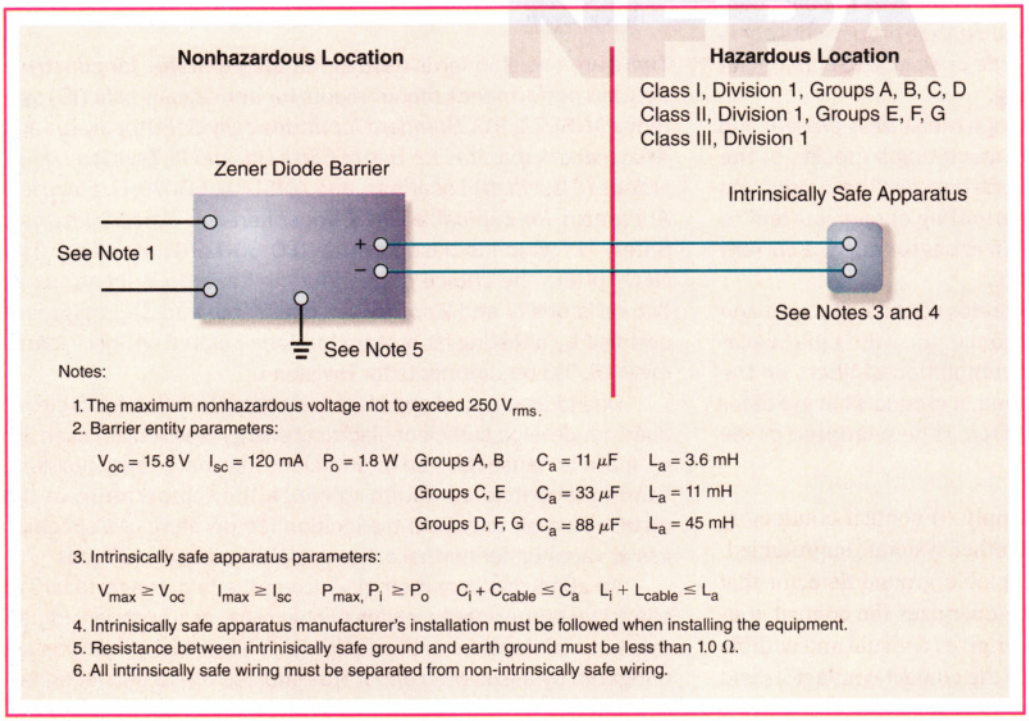

EXHIBIT 504.2 A sample zener carrier control drawing.