allow (for a few cycles) parallel operation of the generation equipment with the normal source upon load transfer from generator to normal source. This load transfer can occur with minimal disturbance or effect on the load. Transfer switches that employ this type of paralleling must comply with Article 705.

Exception: Temporary connection of a portable generator without transfer equipment shall be permitted where conditions of maintenance and supervision ensure that only qualified persons service the installation and where the normal supply is physically isolated by a lockable disconnecting means or by disconnection of the normal supply conductors.

The exception provides requirements for the connection of loads to a generator without the use of a transfer switch. Supervision by qualified personnel is critical to ensuring that power produced by the generator is not fed back onto the utility distribution lines through the loads, potentially creating a dangerous electrical shock hazard to line workers.

Δ **(B) Meter-Mounted Transfer Switches.** Transfer switches installed between the utility meter and the meter enclosure shall be listed meter-mounted transfer switches and shall be approved.

Informational Note No. 1: See UL 1008M, *Transfer Switch Equipment, Meter Mounted*, for more information.

Informational Note No. 2: Manual and nonautomatic transfer equipment use human intervention.

Because most meters and their associated enclosures are under the control of the serving electric utility, their approval is necessary in order to install a meter-mounted transfer switch. In addition to this requirement in Article 702, the permission to install a meter-mounted transfer switch, such as the type shown in Exhibit 702.2, ahead of service equipment is specified in 230.82(11). The meter-mounted transfer switch is required to be marked indicating that it is not service equipment. However, the fact that it is not service equipment does not preclude making a grounding electrode conductor connection to the grounded (neutral) service conductor in the meter enclosure as long as it is accessible, as required by 250.68(A). Additionally, the meter-mounted transfer switch is not suitable for use as the emergency disconnect required by 230.85 for one- and two-family dwellings.

EXHIBIT 702.2 A meter-mounted transfer switch suitable for use in optional standby systems. *(Courtesy of Global Power Products, Inc.)*

(C) Documentation. In other than dwelling units, the short-circuit current rating of the transfer equipment, based on the specific overcurrent protective device type and settings protecting the transfer equipment, shall be field marked on the exterior of the transfer equipment.

Product standards require transfer equipment to be marked with the short-circuit withstand/closing or short-time current rating (short-circuit current rating). Typically, a transfer switch is marked by the manufacturer with several options, resulting in many short-circuit current rating values. Those values can vary based upon the overcurrent protective device (OCPD) type, ampere rating, and setting. For a specific installation, the short-circuit current rating of the transfer switch is based on the overcurrent protection provided. The field marking required by this section documents the specifics of the protection scheme and verifies compliance with 110.3(B) and 110.10.

(D) Parallel Installation. Systems installed to permit operation in parallel with the normal source shall also meet Part I or Part II of Article 705.

702.6 Signals. Audible and visual signal devices shall be provided, where practicable, for the following purposes specified in 702.6(A) and (B).

(A) Malfunction. To indicate malfunction of the optional standby source.

(B) Carrying Load. To indicate that the optional standby source is carrying load.

Exception: Signals shall not be required for portable standby power sources.

702.7 Signs.

Δ **(A) Standby.** A sign shall be placed at the service equipment for other than one- and two-family dwellings that indicates the type and location of each on-site optional standby power source. For one- and two-family dwelling units, a sign shall be placed at the disconnecting means required in 230.85 that indicates the location of each permanently installed on-site optional standby power source disconnect or means to shut down the prime mover as required in 445.19(C).

Δ **(B) Grounding.** Where removal of a grounding or bonding connection in normal power source equipment interrupts the grounding electrode conductor connection to the alternate power