ISOLATED POWER SYSTEMS EQUIPMENT

1 APPLICABLE STANDARDS

These requirements cover accessories for **I**solated **P**ower **S**ystems. The **M**aster **G**round **M**odule shall consist of bus bars of a type and configuration as per contact documents.

The equipment must satisfy the requirements imposed, but are not necessarily limited to the following:

Article 300 - Wiring Methods of the National Electric Code, NFPA 70
Standard for Cabinets and Boxes, UL 50
Standard for Wire Connectors and Soldering Lugs for Use with Copper Conductors, UL 486A
Standard for Attachment Plugs and Receptacles, UL 498
Standard for Metallic Outlet Boxes, UL 514A
Standard for Nonmetallic Outlet Boxes, Flush Device Boxes, and Covers, UL 14C
Standard for Terminal Blocks, UL 1059

These Codes and Standards identify the requirements for UL Recognized components, provide the guidelines for adequate wire bending space, enclosure, strength, rigidity and minimum thickness and identify constraints such as those that pertain to the installation of conductors with other systems.

2 PRODUCT

This section imposes additional constraints on the product addressing such topics as construction details, size, operator interface, and component performance.

2.1 ENCLOSURE

2.1.1 Backbox

Shall be flush or surface mounted as indicated on the contract documents. Flush mounted units shall be fabricated from 16GA galvanized sheet steel. Surface mounted units shall be 16GA galvanized sheet steel and shall have a finish coat of hospital ivory, epoxy enamel. The dimensions of the backbox shall be 8"W x 8"H x 4"D or 12"W x 8"H x 4"D or 18"W x 8"H x 4"D.

2.1.2 Face Plate

Shall be fabricated from 14GA Type 304 Stainless Steel, with #4 brushed finish. The face plate for flush mounted units extends 1" on all sides of the backbox. For surface mounted units, the face plate shall exactly match the dimensions of the backbox. The face plate shall be attached to the backbox by means of four (4)#10-32 x 1" Stainless Steel Truss Head Phillips machine screws.

ISOLATED POWER SYSTEMS EQUIPMENT (Continued)

2.2 COMPONENTS

2.2.1 Ground Bus

Shall contain a minimum of nineteen (19) #14-4 screw connections for the attachment of grounding conductors. It shall have at least one (1) #4-2/0 lug for the system grounding conductor. A Chicago style bus assembly constructed from 1/4" thick copper shall be available as an option.

3 INSTALLATION

Type XHHW wire with crosslinked polyethylene insulation and a dielectric constant of 3.5 or less shall be used.

As necessary, special instructions shall be provided for field assembly, mounting and wiring of the equipment. They shall be part of a documentation package which includes three (3) sets of Operation and Maintenance manuals. These manuals shall include written instructions on the care and maintenance of the system, spare parts lists and certified “as built” drawings for the material furnished to the facility. Included will be an electrical schematic, an interconnection diagram, an overall outline dimensional drawing, and a LIM User Manual.

3.1 Installation Areas

3.1.1 Install the Master Ground Module as shown on the contract drawings.

3.1.2 Use stranded green insulated copper wires for the grounding conductors and size them as indicated on the contract drawings.

3.1.3 Install grounding conductor in a conduit from the Master Ground Module to the reference ground bus in the Isolated Power Panel.

3.1.4 Install grounding conductors in a conduit from each Recptacle Module, Receptacle Ground Module, and Patient Ground Module to the ground bus in the Master Ground Module. Run each grounding conductor directly back to the ground bus in a radial arrangement; do not daisy chain conductors from module to module.

3.1.5 Install the grounding conductors in a conduit to the ground bus in the Master Ground Module from the following locations:

- nurse call stations
- physiological monitor outlet
- elapsed time clock and control station
- code blue station
- medical gas piping at outlets
- hemodialysis water outlets
- any other metal objects which may become electrified, either accidentally or intentionally, and then come in contact with the patient or hospital staff.

ISOLATED POWER SYSTEMS EQUIPMENT (Continued)

4 TESTING & CERTIFICATION

In conjunction with being sold and installed as part of a complete Isolated Power System, an engineer or senior technician shall be provided by the manufacturer for final testing and acceptance of the Isolated Power System. Consult factory for complete testing and certification procedures.

5 TRAINING

In conjuntion with being sold and installed as part of a complete Isolated Power System and as required, training shall be provided for the hospital maintenance and medical staff covering the correct operation and routine testing of the Isolated Power System. Consult factory for complete training procedures.

6 ACCEPTABLE MANUFACTURERS

The equipment shall be provided by ISOTROL or other approved supplier. Other suppliers seeking approval shall submit proof of their ability to comply with the requirements set forth in this specification.

7 APPROVAL SUBMITTALS

As part of the approval process, potential suppliers shall submit pertinent descriptive catalog literature. The following shop drawings shall also be submitted: a) Dimensional data, b) Transformer data, c) Line Isolation Monitor (LIM) details and performance data, d) Product specifications from the manufacturer, and e) Load center construction details including method of mounting, type of circuit breaker, current capacity, etc.

8 ADDRESS OF MANUFACTURER

BENDER / ISOTROL
Medical Division of Bender Inc.
700 Fox Chase
Coatesville, PA 19320 USA

From USA, Canada and Mexico:
Phone: 800-833-6834

All other countries:
Phone: 610-383-9655
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Notes: