

- .2 Noise attenuation ≥ 45 dB @ 100 kHz.

2.4 Panelboard Component (Integrated TVSS Panel)

- .1 Main Bus: The device shall have a copper, tin plated main bus.
- .2 Circuit Breakers: Are to be of the over center toggle mechanism type which use bolt-on connectors to line side panelboard connectors.
- .3 Panelboard Enclosure: The panelboard shall be provided in an EEMAC 1 enclosure. The TVSS/filter status indicators shall be visible without the need to open the panelboard door. A lockable door shall be provided to limit access to authorized personnel only. Trim assembly shall be tamper proof. The trim (doors) shall be finished in grey ASA61 paint.
- .4 Neutral Bus: The unit shall be equipped with a copper 200% rated neutral bus suitable for use with non-linear loads, which shall include a sufficient quantity at solderless type lugs to service the total unit circuit capacity.
- .5 Wiring Gutters: The integrated TVSS filtering panel shall be equipped with a complete perimeter wiring gutter with a cross-sectional dimensions of not less than 12,200 mm².
- .6 Safety and Insulated/Isolated Ground Bus: The integrated filter panel shall have a safety and insulated/isolated ground bus equipped with solderless type lugs of quantity to sufficiently service the circuit loads.

2.5 General Features

- .1 The integrated TVSS panel shall be factory installed and connected to the bus bar.
- .2 Connectors: Terminals shall be provided for all the necessary input and output power and ground connections on the TVSS.
- .3 Enclosure: The specified system shall be provided in a heavy duty NEMA 12 dust tight enclosure with no ventilation openings for maintenance and branch panel applications. Indication of surge current module status shall be visible without opening the door.
- .4 Internal Connections: All surge current diversion connections shall be by way of low impedance wiring. Surge current diversion components shall be wired for reliable low impedance connections. No plug-in component modules, quick disconnect terminals or printed circuit boards shall be used in surge suppression paths.
- .5 Unit Status Indicators: Red status indicators shall be provided on the hinged front cover to indicate unit phase status. The absence of the red light shall reliably indicate that one or more surge current diversion phases have failed and that service is needed to restore full operation.
- .6 Fuses: The unit shall utilize internal fuses rated with a minimum interrupting capability of 200,000 A or greater.

- .7 Identification: The unit shall include manufacturer's nameplate, UL rating, and a CSA approval on the exterior enclosure.
- .8 Warranty:: The manufacturer shall provide a five-year warranty on the TVSS filter, a one year warranty on the panelboard and circuit breakers, and a one-year warranty on individual equipment plug-in units. These warranties shall commence from date of shipment.
- .9 Testing: Testing at each unit shall include assurance checks, "Hi-Pot" test at two times rated voltage plus 1000 volts per UL requirements, and operation and calibration tests.

2.6 Approved Manufacturers

- .1 IT Inovative Technology Inc.
 - .1 Main panel application PTE 300
 - .2 Branch panel application PTE 300
- .2 Cutler Hammer
 - .1 Main panel applications Model Visor Series
 - .2 Branch panel application Model Visor Series
- .3 Tycor International Corporation
 - .1 Main and branch panel applications Model PTY-HE

3. EXECUTION

3.1 Installation

- .1 Install with manufacturer's recommended conductors tapped from the electrical service switchboard conductor system. Conductors are to be as short and straight as possible. Input conductors to the TVSS shall be twisted together to reduce impedance during high frequency filtering.
- .2 An appropriately sized manual safety disconnect shall be installed before and in line with the TVSS from the electrical service for the purpose of electrically isolating the device from the system should service be required without interrupting the main service. Coordinate required disconnect ampacity with TVSS manufacturer.
- .3 The TVSS should be following the manufacturer's recommended practices as outlined in the manufacturer's installation and Maintenance Manual and in compliance with all applicable electrical codes.
- .4 Individual equipment protection devices shall be installed at the same voltage rating as the intended protected equipment and as close as possible to the intended protected equipment.

END OF SECTION