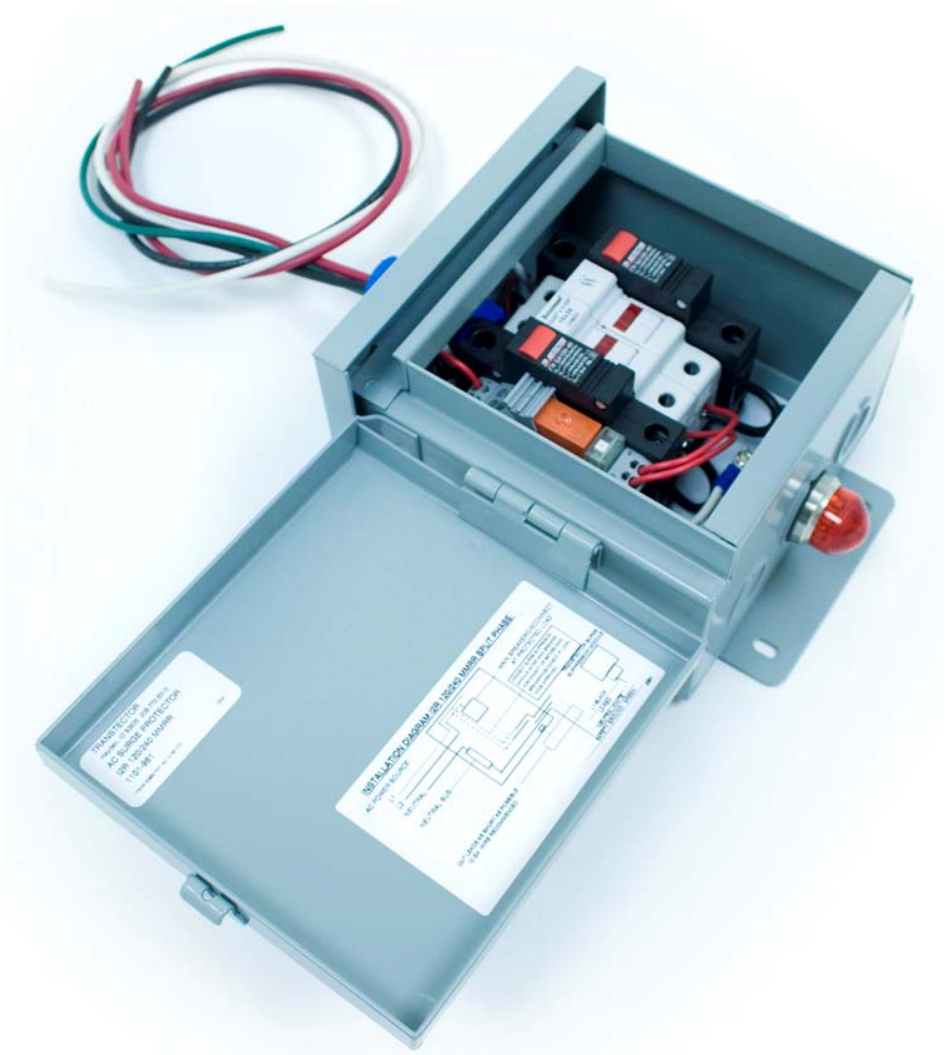
REVISIONS

LTR	DESCRIPTION	ECN	DATE	APPROVED
A	PRODUCTION RELEASE	DD39218	12/09/09	MPD



DRAWN: DAW	DATE: 12/9/09	Transtector Systems, Inc. 10701 Airport Road, Hayden, ID 83835 800.882.9110 208.772.8515 www.transtector.com
CHECKED: DPM	12/15/09	
ENGRG APPD: SEH	12/15/09	TITLE: Specification I2R 120/240 MMRR 120V AC Split Phase Surge Protector
PROJ APPD: MPD	12/15/09	
APPROVED		

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GENERAL MODEL DESCRIPTION

I2R 120/240 MMRR AC Power Surge Protector

The I2R 120/240 MMRR surge protection device was designed to safely protect service panels and equipment. The I2R 120/240 MMRR utilizes metal oxide varistor (MOV) technologies to achieve voltage protection levels at high induced surge currents. The surge protector is constructed in such a manner as to effectively provide primary protection of sensitive electronic equipment with high endurance MOV elements.
Protection is maintained using touch safe surge rated fusing for direct buss connection. Direct buss connection allows the suppression device to be installed without a circuit breaker that can limit the suppression device (see AREMA paper “Cause & Effect of AC Breaker Tripping Investigation”).The surge rated fusing elements are capable of passing high current transients, providing superior surge suppression, but still provide safe & reliable protection under fault conditions. The fusing elements are held in a touch safe replaceable housing with visual status/indicators. The design is modular based using DIN mounted surge assemblies protected against overload by easily replaceable touch safe surge rated and thermal fusing. Visual status indicators are easily inspected by opening the hinged front panel. In addition to the visual status indicators a high intensity red LED located at the bottom of the enclosure will turn on and signal failure of the suppression elements.

1.0 SPECIFICATION/PERFORMANCE:

1.1. Continuous Operating Electrical Specifications:

1.1.1. Nominal Operating Voltage: 120/240V
1.1.2. Frequency Range: ..... 50/60 Hz
1.1.3. Phases: ..... Split Phase
1.1.4. Wire Configuration: ..... L-N, L1-L2-N
1.1.5. Maximum Continuous Operating Voltage (MCOV): ..... 145VAC L-N
1.1.6. Contact Isolation: 3750VAC

1.2. Enclosure Mechanical Specifications:

1.2.1. Enclosure Type: ..... 3R Outdoor/Indoor
1.2.2. Enclosure Material: ..... 16 GA Galvanized Steel
1.2.3. Enclosure Dimensions: ..... 6.00” x 6.00” x 4.00” (152mmx152mmx102mm)
1.2.4. Weight, Split Phase, Fully Configured: ..... 6 lb (2.7kg)

1.3. Surge Specifications:

1.3.1. Surge Protection Rating: ..... 590V @ 3kA 8/20µs
1.3.2. Testing Per ANSI/IEEE C62.45 1992,IEEE C62.41 2002 Wave Shapes Location Category C High and C Low.
1.3.3. Suppressor (Max. Design Limit Per Phase): 40kA
1.3.4. Response Time (Max.): 1ns
1.3.5. Standby Power (Max.): 1W

1.4. Electrical Connections/Installation Requirements:

1.4.1. AC Power Wire Size:..... 10AWG (2.59mm)
1.4.2. Wire Connection Length:…… 18 inches (45 cm) Maximum
1.4.3. Wire Connections:.....Phase/Neutral

2.0 ENVIRONMENTAL:

2.1. Operating Temperature:.....-40C to +85C
2.2. Storage Temperature:.....-40C to +85C
2.3. Relative Humidity:.....100% non condensing
2.4. Ventilation:..... Not Required

3.0 STATUS INDICATOR:

3.1. The red indicator on the top surface of each module indicates suppressor status. This indicator will protrude from the top of the module .34” [8.6mm] when the module has failed (See Fig. 3). Should the module fail, contact Transtector at (1-800-882-9110) or a certified Transtector distributor immediately.

Warning: Do not perform any maintenance, make any adjustments, or replace any components inside the enclosure other than the surge rated fusing with the power supply turned on. Maintenance and /or testing must be done by qualified electrical personnel. To avoid injury, always turn the main power supply off before performing maintenance and/or testing.

4.0 INSTALLATION INSTRUCTIONS

Mechanical mounting requirements for wall space are shown in Figure 2. Enclosure can be mounted and supported by the rigid conduit or secured by attaching the enclosure to a flat surface. To mount to a flat surface use four fasteners, one at each of the four mounting locations found on the enclosure mounting brackets. Enclosure must be mounted with conduit in the up orientation to maintain the NEMA 3R rating. Recommend #10 self tapping screws (not included). Connect black wire from suppressor to Ø1 phase then connect the red wire to the Ø2 phase. Connect white suppressor wire to the panel neutral connection and connect green safety ground to ground bar ensuring all wires are as short as possible. (Reference Fig 1 for Wiring Diagram)

Confirm all connections are routed as short and as smoothly as possible with no extra wire looped inside the enclosure.

Wiring Diagram:

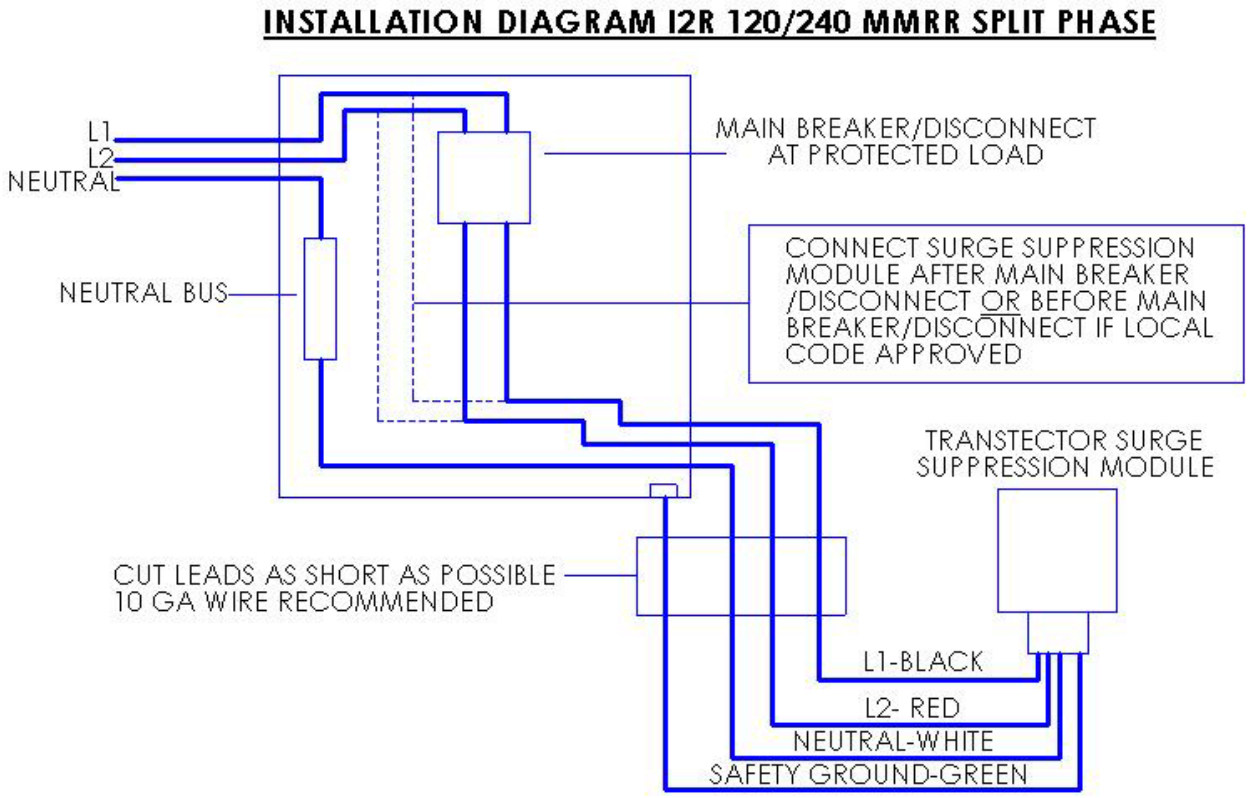


Fig 1. Wiring Diagram

Mechanical Outline:

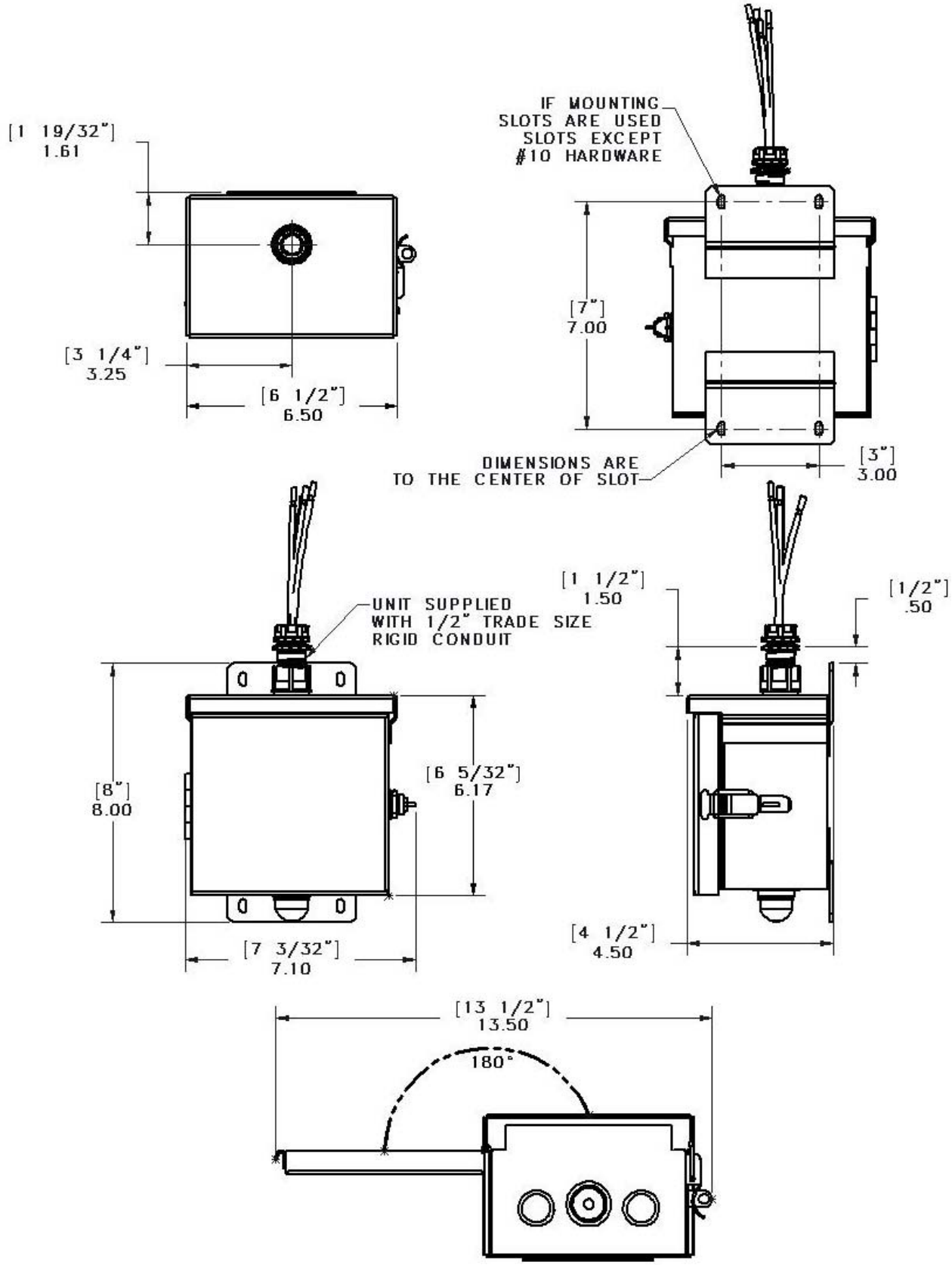
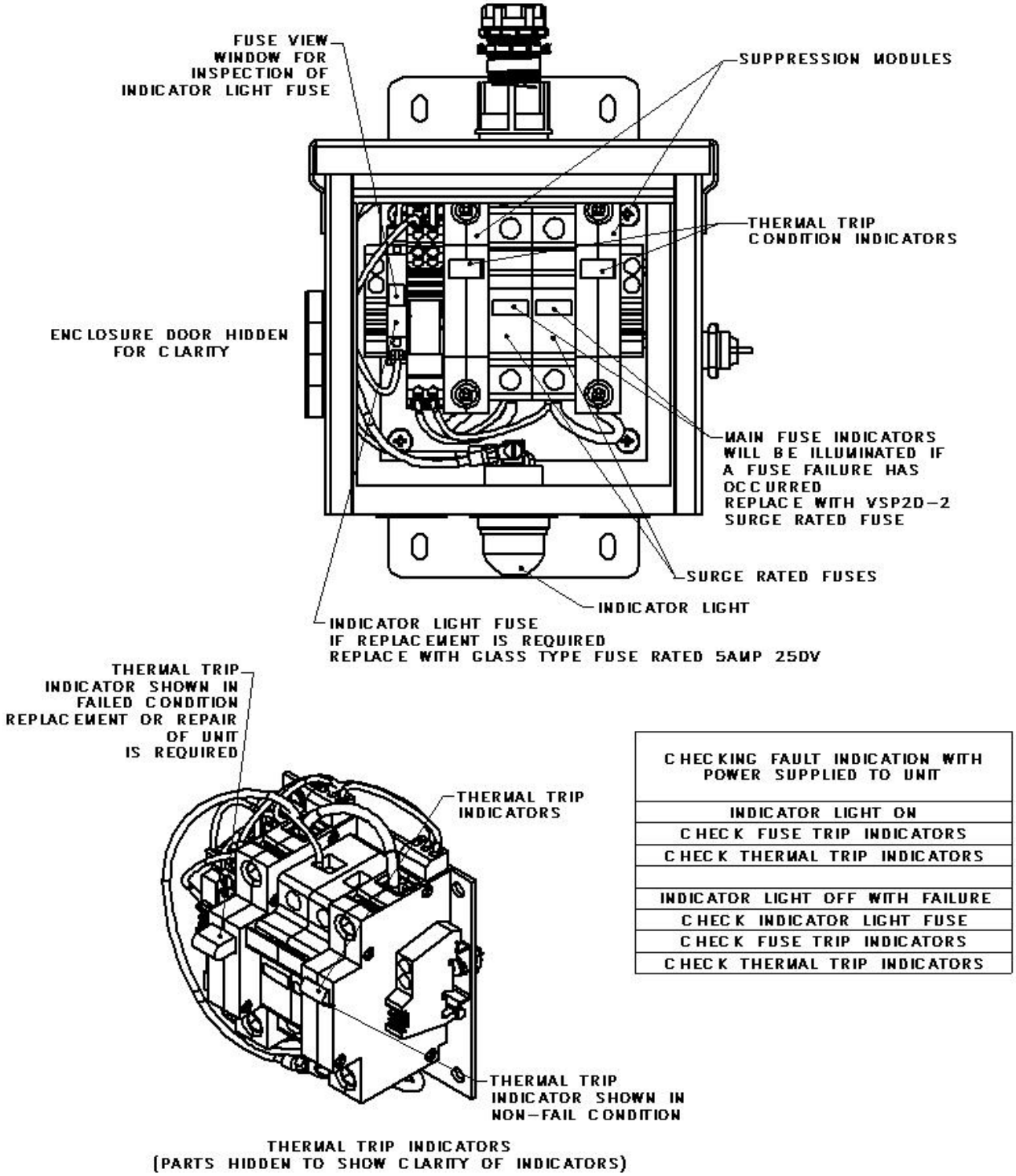


Fig 2. Mechanical Outline:

FUSE/ THERMAL TRIP INSPECTION:



CHECKING FAULT INDICATION WITH POWER SUPPLIED TO UNIT
INDICATOR LIGHT ON
CHECK FUSE TRIP INDICATORS
CHECK THERMAL TRIP INDICATORS
INDICATOR LIGHT OFF WITH FAILURE
CHECK INDICATOR LIGHT FUSE
CHECK FUSE TRIP INDICATORS
CHECK THERMAL TRIP INDICATORS

Fig 3. Fuse/Thermal location & Trip Indicators

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