

## MAXIMUM CHARACTERISTICS

### Application:

The APEX IMAX 120T surge protector is a UL Type 2 SPD listed device designed to protect 120Vac split phase (two 120V lines and neutral) power configurations. The surge protector is housed in a UL Type 4 fiberglass composite enclosure. The design is based around a modular approach using robust surge assemblies that each bolt directly across the

AC power bus bars. Each surge element connects to the monitoring board through a card edge connector system and its functional health can be discriminated through the visual and relay alarm connection point features. All visual indication is shown through the front panel window, and the annunciation contacts are located conveniently on the interior main board assembly and multiplexed for easy failure demonstration in the unlikely event of surge component failure. The individual surge elements are constructed inside 94V0 flame rated plastic housings. The APEX Imax utilizes an extraordinarily robust combination of silicon avalanche suppressor diode (SASD) and metal oxide varistor (MOV) technologies to achieve a balance of very low voltage protection levels at high induced surge currents, with effective abnormal over-voltage fault current fail safe mode. The surge elements are constructed using Transtector's ASAT™ patented assembly construction to achieve this premier performance. The surge protector is constructed in such a manner as to effectively couple the surge performance of high endurance SASD and MOV elements with safe, built in disconnect elements. The APEX Imax Series are listed to UL 1449 and are Motorola R56 compliant.

### Mechanical Specifications:

**Enclosure Type:** NEMA/UL Type 4, Screw Access

**Enclosure Material:** Fiberglass Composite

**Enclosure Dimensions:** 12.5"x10.5"x6.25" (31.8cmx26.7cmx15.9cm)

**Weight:** ≤ 14lbs (6.5kg)

### Electrical Specifications:

**Nominal Operating Voltage:** 120V

**Amperage rated at Maximum:** up to 2000A Service

**Frequency Range:** 50 to 400Hz

**Phase:** Split Phase

**Modes:** L-L and L-N

**Remote Status Connection Rating:** 240Vac, 1A

### UL 1449 3rd Edition Type 2 SPD Ratings:

**Maximum Continuous Operating Voltage (MCOV):** 138Vac L-N  
276Vac L-L

**Voltage Protection Rating (VPR):** 700V (peak) L-N  
1000V (peak) L-L

**Nominal Discharge Current (In):** 20kA

**Short Circuit Current Rating (SCCR):** up to 65kA

### Additional Surge Specifications:

**Testing Per ANSI/IEEE C62.45 2002, IEEE C62.41 2002 Wave Shapes Location**  
Category C High and C Low.

**Imax per IEC 61643-1, Class II :** >4kV max @ 160kA

**Long Wave 10/1000 Stress Surge Per IEEE C62.41 2002:** <700V @ 1.5kA

**Combined Suppression (Max. Design Limit):** 160kA

**Primary Suppressor (Max. Design Limit):** SASD 20kA

**Secondary Suppressor (Max. Design Limit):** MOV 160kA

**Response Time (Max.):** 1ns

**Standby Power (Max.):** 1W

### Electrical Connections/Installation Requirements:

**AC Power Input Wire Size:** #4AWG-1/0 (9.3mm max)

**Wire Connectors:** Phase/Neutral Plus Safety Ground

**Isolated Relay Terminals:** 3-Pin connector, #22-14 AWG (2mm max)

**Fault Current Rating:** NEC 285.6 Up to 65kA AIC

### Environmental Specifications:

**Storage/Operating temperature:** -40°C to +75°C

**Relative Humidity:** 100% non-condensing

**Ventilation:** not required, direct sun loading is not recommended

### Installation Instructions:

#### Dedicated Disconnect:

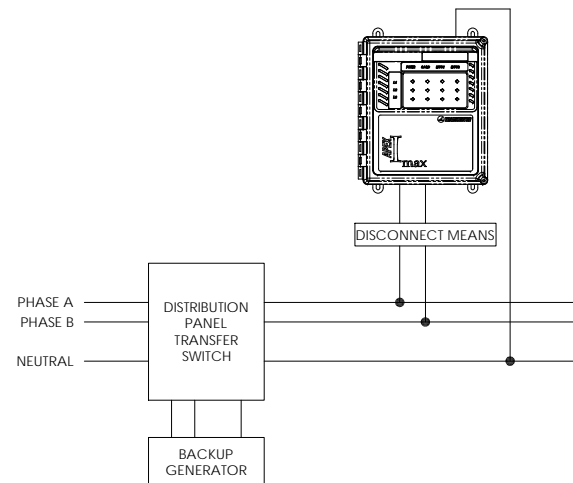
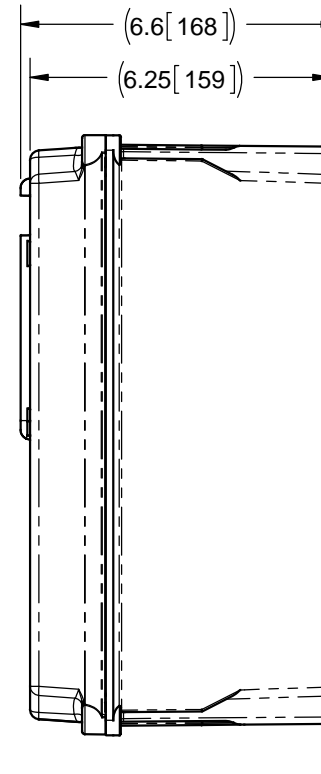
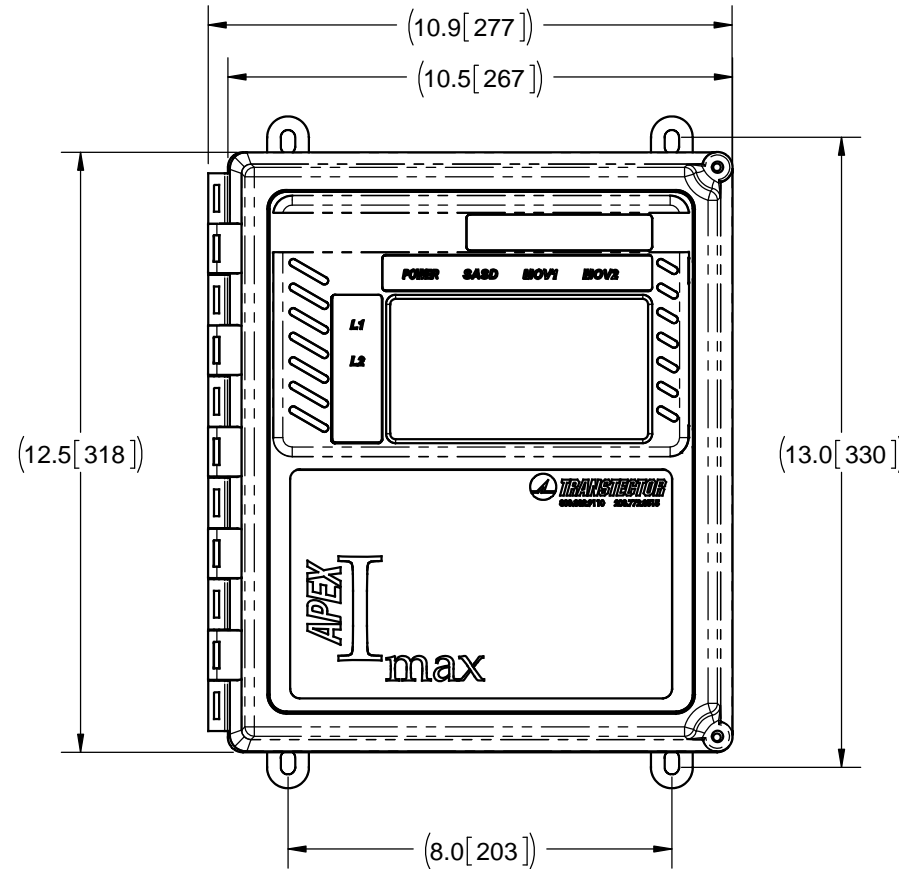
It is recommended that the suppressor be installed off a dedicated disconnect, molded case switch or circuit breaker with a minimum 60 Amp rating. This provides a safe means

for electrical system power up or disconnect. The disconnect means should be sized for use with the appropriate gauge wire for the application and fault current rating of the power distribution system components.

#### Remote Annunciation Program Settings:

The form C isolated relay contacts are factory configured series/parallel with all modules interconnected to a single connector for ease of monitoring the status of the entire Imax suppressor. Relay contact positions are identified in a power applied state with the three terminal positions NO-C-NC.

REVISIONS				
REV.	DESCRIPTION	ECN	DATE	APPROVED
A	PRODUCTION RELEASE	11874	07/25/14	KAD



### WIRING DIAGRAM

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UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [ ] ARE MILLIMETERS		DRAWN DPM		DATE 07/14/14	
TOLERANCES: FRACTIONS=± 1/32 .XX=± .01 ANGLES=± 1° .XXX=± .005		ENG APPD KAD		07/30/2014	
MATERIAL NOTED		PRODUCT MGR MH		08/15/2014	
THIRD-ANGLE PROJECTION		MARKETING APPD LJ		8/20/2014	
NOTICE: THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF TRANSTECTOR SYSTEMS. ALL RIGHTS RESERVED.		PROJECT NO. DD2882		TITLE CUSTOMER PRINT APEX IMAX 120T CUSTOMER SPECIFICATION	
SIZE B	CAGE 30992	PART NUMBER 1101-808-1		REV A	
SCALE 1:4	PROD CAT ACT	DOCUMENT NAME 1101-808-1-C		SHEET 1 OF 1	