



**Medium Voltage ST-SHLA**

**320 kA / Phase**

The Sinetamer Industrial Grade, Medium Voltage Secondary Arrester TVSS models are specifically designed for heavy duty applications including: Chemical & Pharmaceutical Plants, Waste & H<sub>2</sub>O Treatment Facilities, Mining, Petroleum & Oil Refineries as well as other Large Scale, Automated, Heavy Commercial or Industrial Production Lines.



Medium Voltage AC Power Panel Units / Secondary Arrester

**General**

<b>Protected Modes:</b>	Directly connected*/ Bidirectional, True, ALL-Mode (Normal & Common Mode) suppression componentry
<b>Technology:</b>	Thermally fused, Multi-parallelized, All solid-state, Bipolar, Auto-restoring, MOV suppression arrays
<b>Withstand:</b>	High Energy Exposure ANSI/IEEE C62.41.1 & .2-2002 "C3" (20 kV x 10 kA) Location/Category Rating
<b>Connection Means:</b>	5 ft (60 in) of #6 AWG, 5 kV cable, 4 conductors: L <sub>A</sub> , L <sub>B</sub> , L <sub>C</sub> & Ground
<b>Mechanical Interface:</b>	2" diameter threaded Meyers hub & external mounting flanges
<b>Environmental:</b>	NEMA 12, 4, 4X, Steel & Stainless (XS) enclosures
<b>Standard Size:</b>	14" x 16" x 6", (L x W x H) typical
<b>Weight:</b>	66 lbs (typical)

**Key Features**

- Discrete "All Mode" Circuitry: Directly Connected Protection Elements in "All Modes" (6 modes for 3 phase, 4 wire Delta circuits) as recommend by IEEE Std. 1100-2005
- 5 Year Free Replacement Warranty
- Circuit Encapsulation
- Multistage, Optimal Response Circuitry
- Variety of enclosure types
- Individual Thermally Fused Components
- ISO 9001 Manufactured Quality
- Remote LED option available

**Design & Performance**

<b>Peak Surge Capacity:</b>	160 kA/Mode (L-L) & (L-G) (L-N), (320 kA/ Phase PSC)
<b>Protection Ranges:</b>	1 kV to 4.2 kV in seven model voltage ranges
<b>Frequency:</b>	47 – 420 Hz. (60 Hz. typical.)
<b>Interrupt Means:</b>	30 A. Ferraz A055F1D0R0-30E line fusing required; (see model Installation Instructions)
<b>Applications:</b>	Multiple ANSI/IEEE C62.41.2 Location (Category A, B & C) & high energy suppression uses
<b>Thermal Integrity:</b>	Expansion tolerant arrays
<b>Temperature Range:</b>	-40° C to +80° C; (-40° F to +176° F)
<b>% RH :</b>	0 – 100% (non-condensing)

**Quality & Safety**

<b>Manufacturer &amp; Product Qualifications:</b>	ISO-9001 NQA QMS
<b>Compliance:</b>	ANSI/IEEE C62.11
<b>Assurance:</b>	All models electrically quality checked at factory
<b>Life Safety:</b>	Safety Warning Labeling



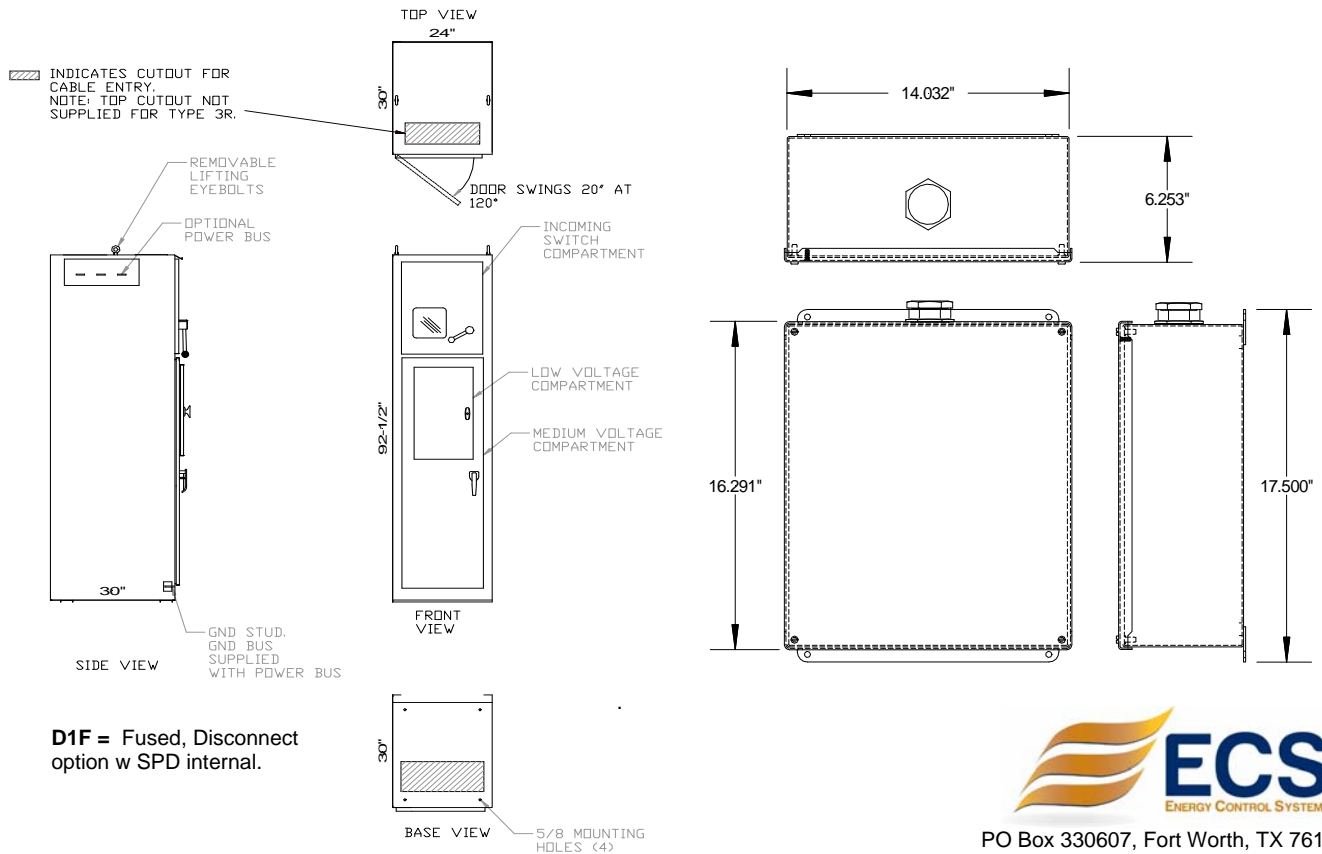
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## LET-THROUGH VOLTAGE PERFORMANCE DATA

Model Number	Nominal Operating Voltages	Maximum Continuous Operating Voltage	ANSI/IEEE C62.41 Test Environment C62.11 Let-through Voltage Test Results: (tested w/12” lead length external to the enclosure)	
			Test Mode	10 kA Impulse Wave @ 90° Phase Angle
ST-SHLA3N1000	Up to 1,000 Vrms	1,300 Vrms	L-L L-G	4700 5200
ST-SHLA3N1500	Up to 1,500 Vrms	1,850 Vrms	L-L L-G	6200 6500
ST-SHLA3N2000	Up to 2,000 Vrms	2,550 Vrms	L-L L-G	8700 8600
ST-SHLA3N2500	Up to 2,500 Vrms	3,000 Vrms	L-L L-G	9300 10000
ST-SHLA3N3000	Up to 3,000 Vrms	3,750 Vrms	L-L L-G	11200 11100
ST-SHLA3N3500	Up to 3,500 Vrms	4,550 Vrms	L-L L-G	11700 12300
ST-SHLA3Y2400	2500/4300 L-N/L-L	3000/5440 L-N/L-L	L-N L-L L-G	9500 17000 17000
ST-SHLA3N4160	Up to 4,160 Vrms	5,200 Vrms	L-L L-G	17000 17000

**Let-through Voltage Test Parameters:** Positive Polarity, All voltages are peak ( $\pm 10\%$ ). All tests are static. Let-through voltages on static tests calculated by subtracting sinewave peak from let-through measured from zero. (Scope Settings: Time Base = 10 microseconds, Sampling Rate = 250 Megasamples/sec. These settings assure Let-through voltages test results are accurate).

**Surge Current Testing:** Single pulse surge current capacities of 200,000 amps or less are determined by testing all suppression components within each mode as a group. Present industry test equipment limitations require testing of individual suppression components or sub-assemblies within a mode for single-pulse surge capacities over 200,000 amps.



PO Box 330607, Fort Worth, TX 76163  
www.sinetamer.com