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# Surge Protection

## for Cable Broadband Equipment



LA-P-120T



LA-P+



ISA-120/240



COAX Protectors



VSS 120/VSS 240

- UL 1449 3<sup>rd</sup> Edition approved
- Critical protection from voltage transients
- Plug-in or hardwired solution utilizing Metal Oxide Varistor (MOV) protection
- VSS 120/VSS 240 Series provides downed power line protection

**Alpha® surge protection devices provide reliable protection of power supplies and related equipment from the damaging powerline disturbances common to cable TV and broadband applications.**

The LA and ISA Series incorporate Metal Oxide Varistors (MOVs) that effectively limit voltage surges and absorb excessive energy levels. Housed in durable polymer casings with standard electrical plugs, the LA Series plugs directly into any electrical outlet, while the ISA is factory wired into the service entrance.

# Surge Protection Specifications

Operating Voltage	120V Models				120/240V Models	240V Models	
Models Selection	Good	Better	Best	Best	Best	Good	Best
<b>Series Model:</b>	LA-P+ 120	LA-P-120T	VSS 120-152	VSS-120-20 <sup>2</sup>	ISA 120/240 <sup>1</sup>	LA-P+240	VSS240 <sup>2</sup>
<b>Outlet Type / Pass Thru:</b>	Ⓢ / No	Ⓢ / Yes	Ⓢ / Yes	Ⓢ / Yes	Hardwired / NA	Ⓢ / No	Ⓢ / Yes
<b>Protection:</b>	L / N / G	L / N / G	L / N / G	L / N / G	L / N / G	L1 / L2 / G	L1 / L2 / G
<b>Operating Temperature:</b>	−40 to 55°C / −40 to 131°F	−40 to 55°C / −40 to 131°F	−40 to 55°C / −40 to 131°F	−40 to 55°C / −40 to 131°F	−40 to 55°C / −40 to 131°F	−40 to 55°C / −40 to 131°F	−40 to 55°C / −40 to 131°F
<b>LED Indicator:</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>UL 1449 3rd Edition Specifications</b>							
<b>Voltage Let Through Protection Rating:</b>	700Vp	500Vp	500Vp	500Vp	700Vp / 1200Vp	1200Vp	500Vp
<b>Nominal Discharge Current Rating:</b>	3kA	3kA	20kA	20kA	10kA	3kA	20kA
<b>Maximum Continuous Operating Voltage (MCOV):</b>	150VAC	130VAC	275VAC	275VAC	150VAC / 300VAC	320VAC	275VAC

Notes: <sup>1</sup> The ISA surge protection devices are factory-wired on the load side of the service entrance and available for field replacement. These arrestors should only be installed by a licensed electrician. <sup>2</sup> UL1449 3<sup>rd</sup> edition not required

## COAX Protectors

Ideally suited to protect costly status-monitoring transponders, digital set top boxes, cable modems and satellite receivers in the headend as well as high-end HDTV sets from potentially damaging surges. The patented proprietary coaxial gas tube surge protector is equipped with an integral failshort mechanism for a power-cross condition which shunts both the coaxial cable's center conductor and sheath for a common path to ground. The DC breakdown voltage of the protector provides superior protection against transient surges, yet is compatible with network powered applications. The protection element is designed to reset after each over voltage event.

- Patented in-line coaxial gas tube surge protection
- Provide lightning and surge protection for distribution, customer premises and headend equipment
- Improves broadband network reliability and reduces service outages
- Power passing
- Listed to UL 497C, CSA<sup>®</sup> certified and complies with 1999 NEC<sup>®</sup> article 380

Part Number	Description
<b>162-029-10</b>	Female/female connector configuration, "F" type connector
<b>162-027-10</b>	Male/female connector configuration, "F" type connector
<b>162-028-10</b>	Female/female connector configuration, "F" type connector with integral ground block

<b>COAX Protector Specifications (Part Numbers: 162-029-10 / 162-027-10 / 162-028-10)</b>	
<b>RF Performance</b>	
<b>Frequency Range:</b>	DC – 1.5GHz
<b>Characteristic Impedance:</b>	75 Ohms
<b>Insertion Loss (Includes Flatness):</b>	<0.3dB / 0.2dB typical
<b>Return Loss:</b>	>30dB
<b>Protection</b>	
<b>DC Breakdown @ 2000V/s:</b>	150 to 300V
<b>Impulse Breakdown @ 100V/μs:</b>	<450V
<b>Insulation Resistance:</b>	>100 MegOhms
<b>Surge Life *</b>	
<b>10A, 10/1000μs:</b>	>1500 surges
<b>100A, 10/1000μs:</b>	>100 surges
<b>300A, 10/1000μs:</b>	>10 surges
<b>5000A, 8/20μs:</b>	>10 surges
<b>AC Life</b>	
<b>5A, 1000VAC, 1 Sec:</b>	>5 operations
<b>1A, 1000VAC, 1 Sec:</b>	>60 operations
<b>Failshort</b>	
<b>30A, 1000VAC:</b>	>15 minutes
<b>Operating Temperature:</b>	−40 to 65°C / −40 to 149°F

\* All specifications for service life only NEC<sup>®</sup> is the registered trademark of National Fire Protection Association, Inc. CSA<sup>®</sup> is the registered trademark of Canadian Standards Association



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01/2022