

## Surge Protective Device

## Technical Documentation



Utilizing bipolar Silicon Avalanche Diode (SAD) technology, **ASCO Model 238** features a two-stage design that provides superior protection for sensitive equipment and for ANSI/IEEE C62.41 Location Category A applications. Model 238 can be incorporated into larger power protection or used as point-of-application protection. Hardwired into a single 15 or 20 amp AC circuit, Model 238 places protection at, or near, the critical load. The field-tested design ensures continuous protection in the most demanding environments, with configurations available for 120 and 240 VAC, single-phase applications.

## Key Specs

- **Voltage:** 120 VAC or 240 VAC
- **Current:** N/A - Parallel
- **Connection:** Wire Leads
- **Mounting:** Flange

\*See Ordering Information for model number selection

## General Technical Specifications

Model	238240LS...	238120NS...
Operating Voltage	240 VAC	120 VAC
Max. Continuous Line Voltage	264 Vrms	132 Vrms
Clamping Voltage	424 Vpk	216 Vpk
Peak Pulse Energy Dissipation	L-N: 560 J L-G: 140 J N-G: 140 J	L-N: 300 J L-G: 75 J N-G: 75 J
Modes of Protection	L-N, L-G, N-G	
Peak Surge Current (8 x 20)	L-N: 32 kA, L-G: 8 kA, N-G: 8 kA	
Enclosure Type	Extruded Aluminum	
Connection Type	Hardwire	
SPD Technology	Silicon Avalanche Diode (SAD)	
Operating Temperature	-40°C to +50°C	
Operating Frequency	50/60 HZ	
Response Time	< 5 ns	
EM/RFI Noise Attenuation	-13dB maximum, 150 kHz-200 MHz	
Status Indication	RJ-11 Jack/Form C Dry Contact	
Dimensions (in/mm)	4.0"H x 4.0"L x 2.5"D [101.6 x 101.6 x 63.5 mm]	
Weight (lbs/kg)	1.24 lbs [0.56 kg]	
Certifications	ANS/IEEE C62.41-1991	
Warranty	5 year	

## Features

- Provides superior, nondegrading protection using bipolar SAD technology
- Provides independent secondary stage for maximum continued protection
- Includes remote status indication via RJ-11 jack
- Withstands demanding environments with its rugged metal enclosure
- Protects individual circuits
- Installs easily

## Certifications

- ANS/IEEE C62.41-1991

## DANGER!

Only qualified personnel should install or service this system. Electrical safety pre-cautions must be followed when installing or servicing this equipment. To prevent risk of electrical shock, turn off and lock out all power sources to the unit before making electrical connections or servicing.

Seulement le personnel qualifié doit installer ou maintenir ce système. Des précautions de sécurité en électricité doivent être suivies lors de l'installation ou de la maintenance de cet équipement. Pour éviter tout risque de choc électrique, débranchez et verrouillez toutes les sources d'alimentation de cet équipement avant de.

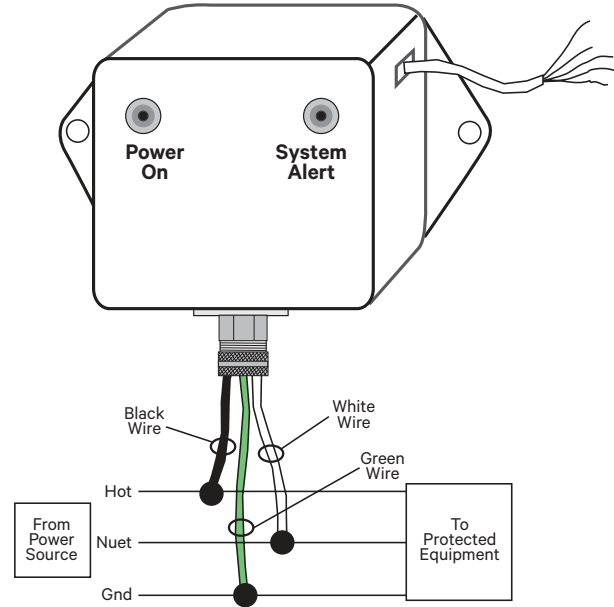
## Installation Instructions

### Important Notice

Check service voltage to verify compatibility between electrical service and Model 238. All installations should adhere to policies from the National Electric Code (NEC) and/or any other local approval agencies.

### Installation:

1. Turn the branch circuit off.
2. Unscrew and pull the compression cap away from the wire harness.
3. Unscrew the cord connector base and pull away from 1/2 inch threaded pipe nipple.
4. Install the Model 238 device into the receiving system's enclosure or approved junction box.
5. Secure the Model 238 device by screwing the cord connector base to the 1/2 inch threaded nipple.
6. Secure the wire harness by screwing the compression cap back on to the cord connector base. Ensure the bushing and white ring is in the compression cap for tension relief.
7. Verify the model being installed (238120NS40KAWLNO or 238240LS40KAWLNO) before connecting wire leads.
8. Connect wires using wire nuts or solder for Model 238 device as noted in the wiring instructions (on back page).
9. Upon completion of installation, turn the branch circuit breaker back on.
10. The green "Power On" indicator should illuminate showing the Model 238 Series device has been energized.
11. Connect the RJ-11 line to the remote failure indicator jack.  
NOTE: RJ-11 connection is for failure indication only. It is not a telephone link.
  - Pin 1 or 2 is Normally Closed (blue/yellow)
  - Pin 3 or 4 is Common (green/red)
  - Pin 5 or 6 is Normally Open (white/black)
12. If the red System Alert Indicator light should illuminate, the primary protection mode has failed. DO NOT REMOVE SUPPRESSOR, as the secondary mode is still protecting your equipment. Notify ASCO immediately for assistance.



## Ordering Information

### MODEL

Former Model Name

### APPLICATION

**238120NS40KAWLNO**

Edco TCS-HWR

120 VAC (2W+G)

**238240LS40KAWLNO**

Edco TCS-HWD

240 VAC (2W+G)

## Wiring Instructions

### 238240LS40KAWLNO

White wire to the neutral wire.  
Black wire to the hot wire.  
Green wire to the ground wire.

### 238120NS40KAWLNO

White wire to the neutral wire.  
Black wire to the hot wire.  
Green wire to the ground wire.