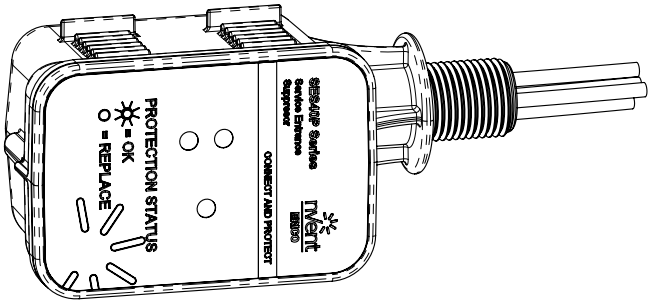
SES40P SERIES
SURGE PROTECTIVE DEVICE

The **SES40P** Series of Surge Protective Devices (SPD) are UL 1449 Ed. 4 Type 1 devices designed to provide protection to service panels, load centers or where the SPD is directly connected to the electrical device requiring protection. The **SES40P** Series SPD is UL Type 4X rated, and is supplied with wiring leads for a direct hardwired connection. Maximum protection will only be achieved if the SPD is properly installed. Please carefully read and follow the installation instructions.



DANGER DANGER: Electrical shock or burn hazard. Installation of this SPD should only be made by qualified personnel. Failure to lockout electrical power during installation or maintenance can result in fatal electrocution or severe burns.

CAUTION CAUTION: Check to make sure system voltages do not exceed the SPD voltage requirement and ratings and that the correct SPD voltage/model has been selected.

CAUTION CAUTION: This unit must be installed in accordance with the National Electrical Code (ANSI/NFPA-70) and all other applicable codes.

CAUTION CAUTION: Ungrounded power systems are inherently unstable and can produce excessively high line-to-ground voltages during certain fault conditions. During these fault conditions any electrical equipment, including an SPD, may be subjected to voltages which exceed their designed ratings. This information is being provided to the user so that an informed decision can be made before installing any electrical equipment on an ungrounded power system.

NOTE: Do not cut wires until the SPD is mounted and minimum wire lengths have been verified. All connection leads should be cut to minimum possible length; never coil or push aside excess length.

NOTE: For outdoor installations, include drip loop as additional precaution.

INSTALLATION INSTRUCTIONS

1. **Verify system voltage.** Confirm that the SPD is correctly rated for the system to which it is to be connected by comparing measured voltages to the SPD voltage ratings shown on the product rating label. The measured voltage should match the nominal operating voltage of the product, the maximum continuous operating voltage (MCOV) specifications must not be exceeded.

2. **Identify proper location for the SPD.** Locate the unit as close as possible to the panel being protected to minimize lead lengths. If possible, avoid sharp bends in wires. The SES40P is supplied with an integral ½" threaded nipple and conduit locknut. The SES40P can be mounted directly into the panel, and secured with the locknut. If required, use appropriate watertight conduit hubs to maintain the SPD/panel UL enclosure rating.

3. **Connect ground.** With power off, attach the grounding conductor to the panel's ground bus. Wire length should be minimized to improve performance. There is no minimum wire length requirement.

   Note 1: The SES40120/240SP does not have a grounding conductor, it utilizes a grounded (neutral) conductor for operation.

   Note 2: For isolated ground systems, bond the grounding conductor from the SES40P unit to the non-isolated equipment ground, not the isolated equipment ground.

4. **AC Rated Units: Connect neutral and phase conductors.** The SES40P SPDs are supplied with 12AWG leads for a direct hardwired connection. With the POWER OFF, connect the neutral conductor of the SPD to the neutral lug in the panel. Connect each black lead (phasing is not critical to the operation). Wire lengths should be minimized to improve performance. There is no minimum wire length requirement. The SES40P Series of SPDs are rated as a UL 1449 Ed. 4 Type 1 device and therefore no overcurrent protection is required. However, if overcurrent protection is desired, then a 20A fuse or circuit breaker is recommended.

DANGER:
ELECTRICAL SHOCK OR BURN HAZARD. HAZARDOUS VOLTAGES EXIST INTERNAL TO THE SES40P. THIS UNIT SHOULD BE INSTALLED AND SERVICED ONLY BY QUALIFIED PERSONNEL IN CONFORMANCE WITH ALL GOVERNING CODES AND INSTRUCTIONS. FAILURE TO LOCKOUT ELECTRICAL POWER DURING INSTALLATION OR MAINTENANCE CAN RESULT IN FATAL ELECTROCUTION, SEVERE BURNS, OR OTHER INJURIES. BEFORE WORKING WITH OR MAKING ANY CONNECTIONS TO THIS DEVICE, BE SURE THAT POWER HAS BEEN REMOVED FROM ALL ASSOCIATED WIRING, ELECTRICAL PANELS, AND OTHER ELECTRICAL EQUIPMENT.

1. The power supply to the SES40P should always be turned (and locked) OFF before the unit is accessed for any reason.
2. Prior to installation, ensure that the SES40P is of the correct voltage, current, phasing, and frequency for the applicable rating of the power distribution system.
3. This unit may be installed on the load side or the line side of the main over-current protection provided that it is not installed on services with more than 200kA fault current capability.
4. Diagrams are for reference only. Schematics are representative of typical applications and are only to be used for reference.

WARNING:
1. nVent products shall be installed and used only as indicated in nVent product instruction sheets and training materials. Instruction sheets are available at www.nVent.com and from your nVent customer service representative.
2. nVent products must never be used for a purpose other than the purpose for which they were designed or in a manner that exceeds specified load ratings.
3. All instructions must be completely followed to ensure proper and safe installation and performance.
4. Improper installation, misuse, misapplication or other failure to completely follow nVent's instructions and warnings may cause product malfunction, property damage, serious bodily injury and/or death, and void your warranty.

SAFETY INSTRUCTIONS:
All governing codes and regulations and those required by the job site must be observed.
Always use appropriate safety equipment such as eye protection, hard hat, and gloves as appropriate to the application.

The AC rated SES40P Series is suitable for use on a circuit capable of delivering not more than 200kA(rms).

DC Rated Units: Connect line conductors (For Use In Photovoltaic Systems Only). With the POWER OFF, connect white to (–) and red to (+). [The SES40P Series of SPDs are rated as a UL 1449 Ed. 4 Type 1 device and therefore no overcurrent protection is required. However, if overcurrent protection is desired, then a 20A DC rated fuse is recommended].

The DC rated SES40P Series is suitable for use on a circuit capable of delivering not more than 100kA.

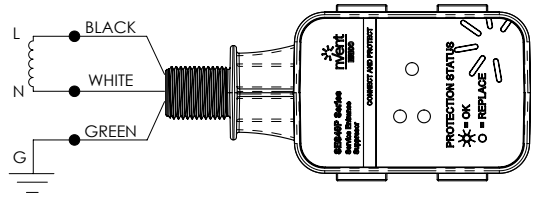
5. **Connector and Lugs.** Pressure terminals or pressure splicing connectors and soldering lugs used in the installation of the SES40P unit shall be identified as being suitable for use with the conductors. Conductors of dissimilar metals shall not be intermixed in a terminal or splicing connector where physical contact ocurs between dissimilar conductors unless the device is identified for the purpose and conditions of use.

6. **Activate Unit.** When the power is applied, the blue LED diagnostic light(s) will indicate that the unit is operational and protection is being provided. If any LED's do not illuminate, recheck all connections.

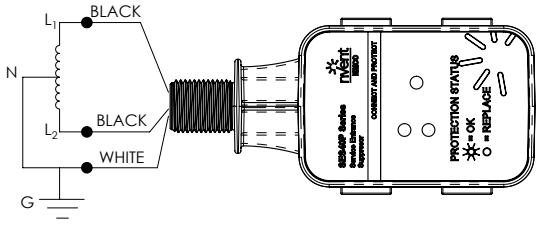
7. **Flush Mount Accessory.** For installations requiring a supplemental mounting bracket, order part SES40PFP and follow the supplied instructions.

8. **LED Diagnostics.** The blue LED diagnostic light(s) are illuminated when the unit is providing protection. If one or more blue LED light(s) extinguish, check the power connections (and overcurrent protection device if present). If power is being correctly supplied, and one or more of the LEDs are not illuminated, the unit requires prompt replacement. Contact your local ERICO representative.

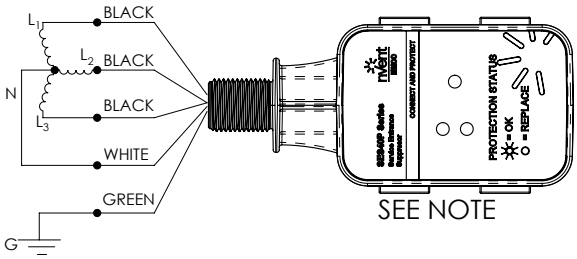
Wiring Diagrams



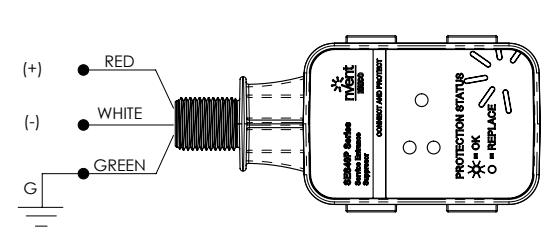
SES40P1201P, SES40P2401P, & SES40P4801P



SES40P120/240SP



SES40P2083P & SES40P4803P



SES40P300DC & SES40P600DC

NOTE:
For 3-Phase, 4-Wire 480V WYE (no neutral) systems or 3-Phase 240V and 480V DELTA systems, cut neutral wire and cap.

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