

[Manuals.plus](#) /

› [Bussmann](#) /

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Bussmann SC-30 Fuse Instruction Manual

Brand: Bussmann | Model: SC-30

1. PRODUCT OVERVIEW

The Bussmann SC-30 is a high-performance, time-delay, current-limiting cartridge fuse designed for superior circuit protection. Rated at 30 Amperes and 480 Volts, this Class G fuse is engineered to safely interrupt overcurrents and short circuits, protecting electrical equipment and ensuring system integrity. Its time-delay characteristic allows it to withstand temporary overloads, such as motor starting currents, without nuisance tripping, while still providing rapid protection against severe faults.



Image 1.1: The Bussmann SC-30 fuse, a cylindrical cartridge fuse with a green label indicating 'BUSS', 'Class G Fuse', 'Type Ampere SC-30', and 'Time-Delay'.

2. SAFETY INFORMATION

WARNING: Risk of electric shock or burn. Always disconnect power before installing or replacing fuses.

- Ensure all power to the circuit is disconnected at the main breaker or switch before handling fuses.
- Only use fuses with the correct voltage, amperage, and interrupting rating for the application. Using an incorrect fuse can lead to equipment damage, fire, or personal injury.
- Do not bypass or tamper with fuses.
- Consult a qualified electrician if you are unsure about the correct fuse selection or installation procedure.
- Wear appropriate personal protective equipment (PPE), such as insulated gloves and safety glasses, when working with electrical circuits.

3. PRODUCT FEATURES

- **Ampere Rating:** 30 Amps
- **Voltage Rating:** 480 Volts AC

- **Fuse Class:** Class G
- **Characteristic:** Time-Delay for motor and transformer protection
- **Interrupting Rating:** 100,000 Amperes (100kA IR)
- **Construction Material:** Ceramic, Copper, Plastic
- **Mounting Type:** Surface Mount (for compatible fuse holders)

4. INSTALLATION GUIDE

Follow these steps for safe and proper installation of the Bussmann SC-30 fuse:

1. **Power Disconnection:** Locate the main power source for the circuit where the fuse is to be installed or replaced. Turn off the circuit breaker or pull the disconnect switch to completely de-energize the circuit. Verify with a voltage tester that no power is present.
2. **Access Fuse Holder:** Open the electrical panel or fuse box to gain access to the fuse holder.
3. **Remove Old Fuse (if applicable):** If replacing an existing fuse, carefully remove the old fuse from its holder. Use a fuse puller if available to ensure safety.
4. **Verify Fuse Specifications:** Before installing, confirm that the new Bussmann SC-30 fuse matches the required specifications for your application (30 Amps, 480 Volts, Class G, Time-Delay). Mismatched fuses can lead to hazards.
5. **Insert New Fuse:** Insert the Bussmann SC-30 fuse firmly into the fuse holder. Ensure it is seated correctly and makes good contact.
6. **Secure Panel:** Close and secure the electrical panel or fuse box cover.
7. **Restore Power:** Restore power to the circuit by turning on the circuit breaker or closing the disconnect switch.

5. OPERATION

The Bussmann SC-30 fuse operates as a sacrificial device designed to protect electrical circuits from overcurrent conditions. When the current flowing through the circuit exceeds the fuse's 30 Ampere rating for a sustained period, the internal metallic element of the fuse melts due to the heat generated by the excessive current. This action creates an open circuit, interrupting the flow of electricity and preventing damage to downstream equipment, wiring, and reducing the risk of fire.

As a *time-delay* fuse, the SC-30 is specifically engineered to tolerate temporary current surges that are common during the startup of motors, transformers, or other inductive loads. It will not open immediately on these momentary overloads but will still provide quick protection against short circuits and prolonged overcurrents that could cause harm.

6. MAINTENANCE

Fuses are generally maintenance-free components. However, periodic visual inspection is recommended to ensure optimal performance and safety:

- **Visual Inspection:** During routine electrical system checks, visually inspect the SC-30 fuse and its holder for any signs of physical damage, discoloration, corrosion, or loose connections.
- **Replacement:** A fuse that has opened (blown) must be replaced. Do not attempt to repair a blown fuse. Always replace it with an identical Bussmann SC-30 fuse to maintain the intended circuit protection characteristics.
- **Cleaning:** Ensure the fuse holder contacts are clean and free from debris to maintain good electrical conductivity.

If a fuse repeatedly blows, it indicates an underlying electrical problem in the circuit that needs to be investigated and resolved by a qualified professional, rather than simply replacing the fuse.

7. TROUBLESHOOTING

If a circuit protected by the Bussmann SC-30 fuse is not functioning, follow these troubleshooting steps:

- No Power to Device/Circuit:**
 - Check Fuse:** With power disconnected, carefully remove the SC-30 fuse from its holder.
 - Inspect Fuse:** Look for any visible signs of a blown fuse, such as a broken filament or darkened glass (if applicable). For non-indicating fuses like the SC-30, use a multimeter set to continuity mode to test the fuse. A good fuse will show continuity (a beep or near-zero resistance), while a blown fuse will show no continuity (open circuit).
 - Replace Fuse:** If the fuse is blown, replace it with a new, identical Bussmann SC-30 fuse.
- New Fuse Blows Immediately:**
 - This indicates a persistent short circuit or severe overload in the electrical system.
 - Do NOT** continue to replace fuses without addressing the underlying issue.
 - Identify Fault:** Disconnect all loads from the circuit and try replacing the fuse again. If it still blows, the fault is in the wiring. If it holds, reconnect loads one by one to identify the faulty device.
 - Seek Professional Help:** If you cannot identify or safely resolve the fault, contact a qualified electrician.
- Intermittent Power:**
 - Check for loose connections at the fuse holder or in the circuit wiring.
 - Inspect the fuse for signs of overheating or poor contact.

8. SPECIFICATIONS

Attribute	Value
Brand	Bussmann
Model Number	SC-30 (Part Number), CECOMINOD005549 (Item Model Number)
AC Adapter Current	30 Amps
Voltage	480 Volts
Material	Ceramic, Copper, Plastic
Mounting Type	Surface Mount
Item Weight	0.01 ounces
Package Dimensions	3.23 x 2.95 x 1.14 inches
UPC	610395594581, 799471523988
National Stock Number	5920-01-433-1040
Date First Available	June 14, 2012

9. WARRANTY AND SUPPORT

Specific warranty information for the Bussmann SC-30 fuse is not provided in the product details. For warranty claims or technical support, please refer to the official Bussmann website or contact their customer service directly. It is recommended to retain your purchase receipt for any warranty inquiries.