Bussmann SL-20

Bussmann SL-20 20 Amp Time Delay Plug Fuse User Manual

Brand: Bussmann | Model: SL-20

1. Introduction and Product Overview

The Bussmann SL-20 is a 20 Amp, 125V time-delay plug fuse designed for residential motor circuits. This fuse is specifically engineered to protect electrical systems in areas such as kitchens, workshops, garages, and utility rooms, particularly for circuits powering motors, relays, or solenoids. Its time-delay feature allows for temporary inrush currents common with motor startup without blowing prematurely, while still providing essential overcurrent protection. The SL-20 features a rejection base, which is a critical safety mechanism preventing the installation of a fuse with a higher amperage rating into a circuit designed for a lower one, ensuring proper circuit protection.



Image: A Bussmann SL-20 20 Amp Time Delay Plug Fuse. The fuse is white with a red label indicating "Bussmann", "UL LISTED PLUG FUSE", "SL 20 AMP", "Time Delay S", and "Assembled in Mexico". The transparent window shows the internal fuse element.

2. Product Features

- **Amperage:** 20 Amps
- **Voltage Rating:** 125V AC
- **Type:** Time Delay (Type S) - Ideal for motor circuits to prevent nuisance blowing during startup.
- **Base Type:** Rejection Base (porcelain threads) - Prevents overfusing by ensuring only the correct amperage fuse can be installed. Not interchangeable with Edison Base (brass threads) type.
- **UL Listed:** Certified to UL 248-11 Guide Jefv, File E12112, ensuring safety and performance standards are met.
- **Interrupt Rating:** 10kA at 125VAC.
- **Body Material:** Ceramic.
- **Application:** Suitable for residential and industrial branch circuit and motor protection.
- **Functionally Equal To:** Mersen/Ferraz Shawmut GSL.

3. Safety Information

WARNING: Risk of Electric Shock or Fire.

- Always disconnect power at the main service panel or circuit breaker before inspecting, removing, or installing fuses.
- Never bypass a fuse or replace it with a fuse of a higher amperage rating than specified for the circuit. The rejection base design of the SL-20 fuse helps prevent this, but always verify the correct rating.
- Ensure your hands are dry and you are not standing in water when working with electrical components.
- If you are unsure about any electrical work, consult a qualified electrician.
- Fuses are designed to protect wiring and equipment from overcurrents. A blown fuse indicates an electrical problem that should be investigated.

4. Setup and Installation

The Bussmann SL-20 plug fuse is designed for easy installation in compatible fuse receptacles. Follow these steps for safe replacement:

1. **Identify the Blown Fuse:** In many fuse panels, a blown plug fuse will have a visible indicator (e.g., a darkened window or a popped element).
2. **Disconnect Power:** Locate the main service panel for your home or the specific circuit breaker controlling the affected circuit. Turn off the power completely to that circuit. Verify power is off using a voltage tester.
3. **Remove Old Fuse:** Carefully unscrew the blown fuse from its receptacle.
4. **Verify Replacement Fuse:** Ensure the new Bussmann SL-20 fuse has the correct amperage (20 Amps) and voltage (125V) rating for the circuit. The rejection base of the SL-20 will prevent it from being installed in a receptacle designed for a different amperage, adding a layer of safety.
5. **Install New Fuse:** Screw the new SL-20 fuse firmly into the receptacle. Do not overtighten.
6. **Restore Power:** Once the new fuse is securely in place, restore power at the main service panel or circuit breaker.
7. **Test Circuit:** Verify that power has been restored to the affected circuit and that the connected appliances or lights are functioning correctly.

Note: These fuses thread into fuse receptacles. The SL-20 uses a Rejection Base (porcelain threads) type and is not interchangeable with Edison Base (brass threads) type fuses.

5. Operating Principles

The Bussmann SL-20 is a **time-delay** fuse. This means it is designed to allow a temporary, harmless overcurrent (like the inrush current when a motor starts) to pass without blowing, but will open the circuit quickly if a sustained overload or short circuit occurs. This characteristic makes it particularly suitable for protecting circuits with inductive loads such as:

- Furnace blower motors
- Pumps
- Power tools
- Garage door openers
- Other motor-driven appliances

When an overcurrent condition exceeds the fuse's rating for a specified duration, the internal element melts, creating an open circuit and interrupting the flow of electricity, thereby protecting the wiring and connected equipment from damage.

6. Maintenance

Bussmann SL-20 fuses are maintenance-free components. Their primary function is to act as a sacrificial device to protect your electrical system. The only maintenance required is replacement when a fuse blows. Regular inspection of your fuse panel for any signs of wear, corrosion, or loose connections is recommended as part of general electrical system upkeep.

If a fuse blows, it indicates an overcurrent condition. While replacing the fuse will restore power, it is crucial to identify and rectify the cause of the overcurrent to prevent repeated fuse blowing and potential damage to your electrical system or appliances.

7. Troubleshooting

If you experience a loss of power to a specific circuit or appliance, follow these troubleshooting steps:

1. **Check the Fuse Panel:** Go to your fuse panel and visually inspect the plug fuses. A blown SL-20 fuse will typically show a darkened window or a broken internal element.
2. **Confirm Power Off:** Before touching any fuses, ensure the main power to the affected circuit is turned off at the service panel.
3. **Replace Blown Fuse:** Replace the blown fuse with a new Bussmann SL-20 (20 Amp, 125V) fuse, ensuring it is the correct type and rating. Refer to the "Setup and Installation" section for detailed steps.
4. **Identify the Cause:** If the new fuse blows immediately or shortly after replacement, there is likely a persistent overload or a short circuit in the wiring or the connected appliance.
    - Unplug all appliances from the affected circuit and try replacing the fuse again. If it holds, plug in appliances one by one to identify the faulty device.
    - If the fuse still blows with no appliances connected, there may be a wiring issue. In this case, it is strongly recommended to contact a qualified electrician.
5. **Avoid Overloading:** Ensure that the total current draw of all devices on a circuit does not exceed the circuit's amperage rating.

8. Specifications

Specification	Value
Brand	Bussmann
Model Number	SL-20
AC Adapter Current	20 Amps
Voltage	125 Volts
Item Dimensions (L x W x H)	1.3 x 1.3 x 1.3 inches
Item Weight	1.6 ounces
Material	Ceramic (Body)
Specification Met	UL 248-11 Guide Jefv
Mounting Type	Screw-In (Type S, Rejection Base)
UPC	051712101523
Manufacturer	Bussmann
Color	Red (Label)
Number Of Pieces (in pack)	4

Specification	Value
Country of Manufacture	Mexico

9. Warranty and Support

The Bussmann SL-20 plug fuses come with a **Manufacturer Warranty**. For specific details regarding the warranty period, coverage, and claims process, please refer to the documentation provided with your purchase or visit the official Bussmann website.

For technical support, product inquiries, or assistance with troubleshooting beyond the scope of this manual, please contact Bussmann customer service directly. Contact information can typically be found on the manufacturer's website or product packaging.

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