Mersen GTL15

Mersen GTL15 Time Delay UL Plug Fuse Instruction Manual

Model: GTL15

1. Introduction

The Mersen GTL15 Time Delay UL Plug Fuse is designed to provide reliable overcurrent protection for both industrial and residential electrical applications. Its time-delay characteristic is particularly beneficial for circuits with motor loads, allowing for temporary inrush currents without nuisance tripping, while still ensuring protection against sustained overloads and short circuits.

This manual provides essential information regarding the features, specifications, installation, operation, maintenance, and safety precautions for the Mersen GTL15 fuse. Please read it thoroughly before installation or use.

2. Product Features

- **Time Delay UL Plug Fuse:** Designed to handle temporary overcurrents, ideal for motor starting.
- **Versatile Application:** Suitable for both industrial and residential electrical systems.
- **Motor Load Compatibility:** Specifically useful for protecting circuits with inductive loads like motors.
- **Certified Safety:** UL listed and CSA certified, ensuring compliance with safety standards.
- **Electrical Ratings:** Rated for 125VAC, with an interrupt rating of 10kA AC, and a current rating of 15 Ampere.

3. Specifications

Model Number	GTL15
Voltage Rating	125VAC
Current Rating	15 Ampere
Interrupt Rating	10kA AC

Material	Copper
Certifications	UL Listed, CSA Certified
Package Dimensions	2.9 x 2.3 x 1.5 inches
Weight	0.96 ounces

4. Safety Information

WARNING: Electrical work can be dangerous. Always follow local electrical codes and safety guidelines. If you are not confident in performing electrical work, consult a qualified electrician.

- **Disconnect Power:** Before inspecting, installing, or replacing any fuse, always ensure the power supply to the circuit is completely disconnected at the main breaker or fuse box. Verify with a voltage tester.
- **Proper Rating:** Always replace a blown fuse with a new fuse of the exact same type and rating (voltage, current, and time-delay characteristic). Using an incorrect fuse can lead to fire, electrical shock, or damage to equipment.
- **Inspect Fuse Holder:** Before inserting a new fuse, inspect the fuse holder for any signs of damage, corrosion, or loose connections.
- **Avoid Overloading:** Fuses are designed to protect against overcurrents. Do not attempt to bypass or "fix" a blown fuse, as this indicates an underlying electrical issue that needs to be addressed.
- **Personal Protective Equipment (PPE):** Wear appropriate PPE, such as insulated gloves and safety glasses, when working with electrical circuits.

5. Setup and Installation

The Mersen GTL15 is a plug fuse designed for use in compatible fuse holders found in older residential fuse boxes or specific industrial control panels. Installation is generally straightforward, but adherence to safety protocols is paramount.

1. **Identify the Circuit:** Determine which circuit requires fuse installation or replacement.
2. **Turn Off Power:** Locate the main service panel and turn off the main breaker or pull the main disconnect to completely de-energize the entire electrical system. Alternatively, turn off the specific circuit breaker feeding the fuse panel if it's a sub-panel and you are certain it isolates the circuit.
3. **Verify Power Off:** Use a non-contact voltage tester to confirm that no power is present at the fuse holder.
4. **Remove Old Fuse (if applicable):** If replacing a blown fuse, carefully unscrew the old fuse from its holder.
5. **Insert New Fuse:** Screw the Mersen GTL15 fuse into the appropriate fuse holder. Ensure it is securely tightened but do not overtighten.
6. **Restore Power:** Once the fuse is securely installed and all safety checks are complete, restore power at the main service panel.
7. **Test Circuit:** Verify that the circuit is now functioning correctly.

Figure 1: Mersen GTL15 Time Delay UL Plug Fuse. This image shows the clear glass body of the fuse with its brass screw-in base, typical of a plug fuse. The internal fuse element is visible through the glass.

6. Operating Instructions

The Mersen GTL15 fuse operates passively to protect electrical circuits. It is a "time-delay" fuse, meaning it is designed to withstand temporary overcurrents (like the brief surge when a motor starts) without blowing immediately. However, if an overcurrent condition persists or a short circuit occurs, the fuse element will melt, opening the circuit and preventing damage to wiring or equipment.

- **Automatic Protection:** The fuse automatically interrupts the circuit when an overcurrent or short circuit condition exceeds its rating for a specified duration.

- **Visual Indication:** Many plug fuses, including this type, have a clear window that allows for visual inspection of the fuse element. A blown fuse will typically show a broken or discolored element.

7. Maintenance

Fuses are generally maintenance-free components. Their primary function is to act as a sacrificial device to protect the circuit. Once a fuse has blown, it must be replaced.

- **Replacement Only:** A blown fuse cannot be repaired and must be replaced with a new fuse of the identical type and rating.
- **Periodic Inspection:** While not strictly required, it is good practice to periodically inspect fuse holders for cleanliness, corrosion, or loose connections, especially in industrial environments. Always disconnect power before inspection.

8. Troubleshooting

The most common "troubleshooting" scenario with a fuse is when it blows, indicating a problem in the circuit it protects.

- **Fuse Blows Immediately After Replacement:** This indicates a persistent short circuit or severe overload on the circuit. **Do not replace the fuse again without investigating the cause.** This could be due to faulty wiring, a defective appliance, or an overloaded circuit.
- **Fuse Blows Intermittently:** This might suggest an intermittent short, a fluctuating overload, or a motor that is struggling to start.
- **No Power to Circuit:** If a circuit loses power, first check the fuse. If it's blown, replace it. If it blows again, refer to the point above.

Important: A fuse blowing is a symptom, not the problem itself. Always identify and rectify the underlying cause of the overcurrent before replacing the fuse to prevent further damage or hazards.

9. Warranty and Support

Mersen products are manufactured to high-quality standards. For specific warranty information regarding the GTL15 fuse, please refer to the official Mersen website or contact Mersen customer support directly. As a consumable safety device, fuses typically have limited or no warranty once installed, as their function is to sacrifice themselves to protect the circuit.
For technical assistance or further inquiries, please visit the Mersen official website or contact their customer service department.