Witonics W-A-034n

Witonics T2AL250V Cartridge Glass Fuses (5x20mm) Instruction Manual

Model: W-A-034n

Introduction

This manual provides essential information for the safe and effective use of Witonics T2AL250V Cartridge Glass Fuses. These fuses are designed to protect electrical circuits from overcurrent conditions, preventing damage to equipment and ensuring safety. Please read this manual thoroughly before installation and use.

Safety Information

- Always disconnect power to the circuit before inspecting, removing, or installing fuses.
- Ensure the replacement fuse matches the original fuse's voltage, current rating, and type (e.g., fast-acting, slow-blow). Using an incorrect fuse can lead to fire, electrical shock, or equipment damage.
- Do not bypass or attempt to repair a blown fuse. Replace it with a new, correctly rated fuse.
- If you are unsure about fuse replacement, consult a qualified electrician.
- Keep fuses out of reach of children.

Product Overview

The Witonics T2AL250V Cartridge Glass Fuses are designed for overcurrent protection in various electronic and electrical applications. They feature a glass body, allowing for visual inspection of the fuse element, and metal end caps for electrical connection.

Image: A single Witonics T2AL250V Cartridge Glass Fuse. This fuse is cylindrical with a clear glass body, allowing the internal wire filament to be visible. Both ends are capped with silver-colored metal terminals. The fuse is designed for through-hole mounting in appropriate fuse holders.

Key Features:

- **Type:** Cartridge Glass Fuse
- **Rating:** T2AL250V (2 Amp, Low Breaking Capacity, 250 Volts)
- **Dimensions:** 5x20mm (approximately 3/16" x 3/4")
- **Material:** Glass body, metal end caps
- **Function:** Overcurrent protection

Setup and Installation

1. **Identify the Blown Fuse:** Locate the fuse that needs replacement. Often, a blown fuse will have a visibly broken filament inside the glass tube.
2. **Disconnect Power:** Before touching any electrical components, ensure the power supply to the device or circuit is completely disconnected. This may involve unplugging the device or turning off the circuit breaker.
3. **Remove the Old Fuse:** Carefully remove the blown fuse from its holder. This may require a fuse puller tool or gentle prying, depending on the fuse holder type.
4. **Verify Replacement Fuse:** Confirm that the new Witonics T2AL250V fuse matches the specifications of the original fuse (e.g., 2A, 250V, 5x20mm, slow-blow/time-delay if applicable).
5. **Insert the New Fuse:** Insert the new fuse into the fuse holder. Ensure it is seated firmly and correctly. Do not force the fuse into the holder.
6. **Restore Power:** Once the new fuse is securely in place, restore power to the circuit or device.
7. **Test Functionality:** Verify that the device or circuit now operates correctly.

Note: These fuses are designed for through-hole mounting in compatible fuse clips or fuse holders. Ensure the fuse holder is rated for the fuse's voltage and current.

Operating Principles

Witonics T2AL250V fuses operate on the principle of a sacrificial component. When the current flowing through the circuit exceeds the fuse's rated amperage (2 Amps in this case) for a specified duration, the metallic filament inside the glass tube melts and breaks, opening the circuit. This interruption prevents excessive current from damaging sensitive components or causing hazards like overheating or fire. The "T" in T2AL250V indicates a time-delay (slow-blow) characteristic, meaning it can withstand temporary overcurrents (like motor startup surges) without blowing immediately, but will open on sustained overloads.

Maintenance

Fuses are generally maintenance-free components. Their primary function is to fail safely when an overcurrent occurs. Regular maintenance involves:

- **Periodic Inspection:** In critical applications, periodically inspect fuse holders and fuses for signs of corrosion, loose connections, or physical damage.
- **Replacement:** Replace any fuse that has blown. Do not attempt to repair a blown fuse.
- **Proper Storage:** Store spare fuses in a dry, cool environment, away from direct sunlight and extreme temperatures, to ensure their integrity.

Troubleshooting

Symptom: Device or circuit is not functioning after fuse replacement.

- **Check Power Supply:** Ensure the device is plugged in and the main power supply (e.g., wall outlet, circuit breaker) is active.
- **Verify Fuse Installation:** Confirm the new fuse is correctly seated in its holder and making proper contact.
- **Inspect New Fuse:** Visually check the new fuse for a broken filament. It's possible a new fuse could be faulty or blown immediately due to an underlying issue.
- **Identify Root Cause:** If the fuse blows immediately or repeatedly, there is likely an underlying electrical fault (e.g., short circuit, overloaded component) in the device or circuit. In such cases, discontinue use and consult a qualified technician.
- **Correct Fuse Type:** Double-check that the replacement fuse is the correct type and rating (T2AL250V, 5x20mm) for the application.

Symptom: Fuse blows frequently.

- Frequent fuse blowing indicates a persistent overcurrent condition. This is not a fuse defect but a symptom of a problem within the protected circuit.
- **Overload:** The circuit may be drawing more current than it is designed for. Reduce the load on the circuit.
- **Short Circuit:** A short circuit can cause a sudden, large surge of current. This requires immediate professional inspection.
- **Component Failure:** A faulty component within the device can cause excessive current draw.
- **Incorrect Fuse Rating:** Ensure the fuse rating is appropriate for the circuit's normal operating current and inrush currents. Never use a fuse with a higher amperage rating than specified.

Specifications

Attribute	Detail
Model Number	W-A-034n
Fuse Type	Cartridge Glass Fuse
Current Rating	2 Amps (T2A)
Voltage Rating	250 Volts (also compatible with 125 Volts applications)

Attribute	Detail
Dimensions (L x Dia)	5x20mm (approximately 0.79 x 0.2 inches)
Material	Glass
Mounting Type	Through-Hole Mount
Manufacturer	Bussmann/Schurter/Littlelfuse (as per product listing)

Warranty and Support

Witonics fuses are consumable components designed to protect your equipment. As such, they do not typically carry a long-term warranty against failure, as failure indicates proper operation in protecting a circuit. However, they are warranted against manufacturing defects upon receipt.

For questions regarding product specifications, compatibility, or to report a manufacturing defect, please contact your retailer or the Witonics support channel through their official website or the platform where the product was purchased. Please have your purchase details and the product model number (W-A-034n) available when contacting support.