

## MMU 1600

# What, exactly, is a MMU?

MMU, or Malfunction Management Unit, is used to detect and respond to conflicting or malfunctioning signals and operating voltages. The MMU manages any malfunction affecting traffic signal operations of the traffic cabinet. It is designed to display the real-time status of the intersection, ensuring safe traffic control operations.

## Why do agencies use a MMU?

Econolite's family of MMUs meet or exceed all specifications, including NEMA, 170/179, and MMU2 where applicable. We have an MMU for virtually any traffic cabinet and controller application, and intersection type. Traffic cabinet monitoring, including event logs and full intersection displays are available.

# How does a MMU benefit the driving public?

Econolite's MMU offerings monitor up to 16 traffic signal channels, helping ensure proper traffic signal operations, which enhance intersection safety.



## **Event Logging**

When using the MMU-1600 in conjunction with RaeComM software, the MMU functions not only as a Malfunction Management Unit, but also as an event logging system. Six different event logs provide detailed date and time stamped documentation of events that occur in the cabinet. This data is useful in troubleshooting and provides an accurate historical record of cabinet operation. The six event logs are:

- Time change log 50 most recent time changes
- MMU reset log 20 most recent resets
- Configuration log 10 most recent configuration changes
- Prior faults log 20 most recent faults
- AC line log 50 most recent changes in AC line status including alarms
- Signal sequence log
- Event mode: 60 most recent events preceding the failure
- Time mode: Two seconds preceding the failure

#### Flashing "Don't Walk" Monitor

This feature allows the user to ensure that flashing "Don't Walk" displays do not conflict with other Greens, Yellows, or Walks.

#### Audible Buzzer

The MMU-1600 is equipped with an audible buzzer. This buzzer is used to bring important events to the attention of the user. The buzzer can be disabled for all features except for critical failures.

## **Basic Specifications**

- 12 VDC Monitoring
  - This feature converts the +24V monitor II to a +12V monitor. It can be very useful in TS2 cabinets with 12 VDC supplies. The MMU-1600 can now monitor a +12 VDC supply as well as a +24 VDC supply. The operation of the input is the same as if it were the +24V monitor II, except that the voltage levels are changed.
- Type-16 Only Mode
  - This feature is useful in instances when the user is retrofitting a TS2 monitor into a TS1 cabinet and wants to use the Type-16 mode, but the existing connector A harness does not have a wire for Pin HH (Type Select), Activating this feature forces the MMU-1600 to operate in Type-16 mode regardless of the logic level on the Type Select input.

## **Configuration Monitoring**

The MMU-1600 checks all configuration settings for changes once per second. If a change is found, an audible signal (buzzer) will begin to sound to indicate that a configuration setting has changed. No configuration changes are implemented until the front panel RESET switch or external RESET input is activated (pending changes are not implemented when power to the MMU is cycled.)

#### Built-in Memory on Program Card

Program cards have an integral serial EEPROM. These program cards are interchangeable with other manufacturer's program cards for the programming of all standard features. The serial EEPROM has a way of storing programming settings for some of the extended NEMA features of our MMU-1600.

