



APPLIED® INFORMATION

AI-500-085-02

Field Monitoring Unit (FMU)
Fire and Emergency Medical Services (EMS)

OVERVIEW

The AI-500-085-02 FMU controller provides a cost-effective, easy-to-integrate solution for delivering preemption, secure remote communications, and advanced intersection visibility. As a proven, high-volume product, the FMU enables modernization of traffic cabinets while supporting both current operational needs and future connected vehicle initiatives. Designed as a long-term solution that grows with evolving technology, the FMU includes cellular modem upgrades and a full hardware warranty under an active Connectivity, Support, and Warranty Plan (CSW).

The FMU supports Emergency Vehicle Preemption (EVP) for fire and EMS vehicles, with flexible integration to traffic signal controllers. Preemption operations can be configured and managed remotely, reducing on-site setup and ongoing maintenance. The unit features a built-in high-speed LTE cellular modem with secure VPN connectivity, integrated GPS, and a 900 MHz radio, delivering reliable field-to-cloud communications and accurate location-based functionality. Standard and reduced wiring harnesses are available to simplify cabinet wiring according to customer requirements. Engineered for continuous operation in demanding roadside conditions, the FMU maintains reliable performance across temperature extremes and high-humidity environments.

In addition to preemption, the FMU serves as a secure communications and control hub, supporting on-demand video streaming over cellular networks to enhance real-time situational awareness during incidents. When paired with the Glance® Platform, the FMU enables remote monitoring and management of cabinet devices, provides real-time system visibility, and delivers immediate fault alerts that help agencies respond faster and operate more efficiently.

FEATURES AND BENEFITS

- ✔NEMA TS2 certification
- ✔Low-cost internet connectivity solution
- ✔19-inch rack mount, 1U high
- ✔4-port Ethernet switch
- ✔Remotely switchable outlets
- ✔Integrated battery backup for power failure
- ✔Redundant communications supporting both 900 MHz radio and cellular communication
- ✔Alarm alerts sent via text or email
- ✔GPS-enabled for self-locating

HARDWARE SPECIFICATION

AI-500-085-02	
Connectivity	
Cell Modem (LTE)	Yes
Connected Vehicles (Cellular and C-V2X ready)	Yes
900 MHz Radio	Yes
4 Ethernet Ports	Yes
GPS	Yes

Industrial I/O	
Digital Outputs	10 (2 as NO/NC relays, 8 as 24 V DC active-low)
Digital Inputs	8 (4 as 120 V AC/12–28 V DC selectable, 4 as 12–28 V DC)
Analog Inputs	8 (4 as 120 V AC/12–28 V DC selectable, 4 as 12–28 V DC)

Power	
Outlets	NEMA 5-15 (2 × 120 V, remotely switchable, rated 15 Amp total)
Power Consumption	12.5 W

Miscellaneous	
Operating Systems	µC/OS-II and Linux
Manual Preempt Selector	Yes
Operating Temperature	-40°C to 80°C
Humidity	5–95% non-condensing
Dimensions	17.5” W × 1.75” H × 7.5” D
Input Voltage	120 V AC
Real-Time Clock	Yes
Flash Disk	Yes
Battery-Backed Memory	Yes

Features and Applications Supported	
• EVP	• Traffic controller and UPS integration
• Police Preemption	• Connects to TravelSafely smartphone alerts
• NTCIP 1202 (controller data)	• Secure VPN-based remote communications
• On-demand wireless video streaming	• NTCIP time synchronization for traffic controllers
• Remote front panel functionality for the controller and other cabinet devices, such as cameras and UPS	• Real-time traffic information (RTTI) support

WORKS WITH glance™



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