



ASC/3 RackMount Actuated Controllers



The *ASC/3 RackMount (RM)* combines the features of Caltrans C1 platform (33x style RackMount cabinets) and NTCIP, with the familiar software features of the *ASC/3-1000* and *ASC/3-2100*, it allows a lower cost of ownership and expanded adaptability for developing traffic management strategies.

Description

The *ASC/3 RM* is the latest in a series of Advanced System Controllers, now offered by Safetran. It builds on the proven software, design flexibility, and unique feature set of the popular *ASC/3* family of controllers.

The *ASC/3 RM* provides an updated rack mount hardware design that allows it to serve as the traffic control platform for present and future traffic management environments. This is accomplished through Caltrans C1 platform (33x type cabinet compatibility) and is NTCIP compliant.

The *ASC/3 RM* was designed using the latest technology which offers the user a controller that is more reliable, easier to maintain, and interchangeable with the Caltrans C1 platform (170/2070) type, while continuing to offer a competitive price. In addition, the design, manufacturing, and testing of the *ASC/3 RM* uses processes controlled by the latest ISO quality standards.

All firmware in the *ASC/3 RM* is stored in flash memory. This allows for quick and easy software updates in the field without changing hardware. The *ASC/3 RM* firmware is easily updated in the background while the intersection remains in operation. Once updated, the controller only needs to be power-cycled to allow the new firmware to take control. The majority of the electronic components of the *ASC/3 RM* are contained on one easy-to-replace module.

The *ASC/3 RM* uses the largest Liquid Crystal Display (LCD) module (16 lines x 40 characters) in the industry to simplify the user interface. This display provides improved viewing in all lighting conditions. In addition, a display heater enhances the display performance in temperatures below 0° F (-18° C).

Controller Models

The *ASC/3 RM* supports the Caltrans C1/C11 cabinet interface and Synchronous Data Link Communications (SDLC) Port 1 cabinet interface with a TS2 type 1 MS A connector. The *ASC/3 RM* comes standard with an Ethernet port and Data Key socket (keys optional). An optional card can be provided for twisted-pair copper (FSK) or serial (RS232) system interconnect.

Features

- State-of-the-art manufacturing and design for reliability, maintainability, and cost-effectiveness
- Windows-based remote user interface (optional)
- Advanced controller, coordinator, and preemptor features
- Ethernet support for 100 Base T networks
- Optional Transit Signal Priority (TSP) software module
- Optional Intersection Monitor (IM) software module
- Optional ACS/Lite software module
- 16 x 40 LCD display with adjustable contrast
- Enhanced transient and environmental protection
- Software support for *Centrac*®, *icons*®, *Aries*®, and any NTCIP 1202 compliant applications
- Software, database, and upgrades can be easily downloaded from a laptop
- User-programmable default database
- Database and logs uploadable to a laptop
- Data key backup and restore capabilities





ASC/3 RM: C1 Operation

The ASC/3 RM provides compatibility to all standard Caltrans 332/336 configurations, but can also be configured for any Caltrans 33x (ie. 303, 330, etc.) controller cabinets using the ASC/3 I/O Configurator (Mapper Utility). The Caltrans specified C11 connector is also mapped to provide

8 phase red outputs and 20 vehicle detector inputs. The ASC/3 RM works with any standard 2010 Conflict Monitor.

ASC/3 RM: I/O Interface Operation

The ASC/3 RM also provides an I/O mode for controlling all inputs and

outputs over a high-speed SDLC Serial Bus (Port 1) with digital addressing that simplifies cabinet wiring. This bus also interfaces directly to a TS2 Malfunction Management Unit (MMU) for enhanced intersection monitoring.

Control features

- Standard NTCIP functions
- 16 phases, 8 configurable concurrent groups in 4 timing rings
- 16 timed vehicle overlaps
- 16 pedestrian phases that can be configured as pedestrian overlaps
- Exclusive pedestrian operation
- Soft vehicle recall
- Conditional service
- Dynamic max operation
- Bike minimum green, second walk, and pedestrian clear times, plus a walk and pedestrian clearance maximum
- Advanced walk
- Pedestrian clear protect
- Red maximum
- Vehicle extension 2
- Guaranteed minimum green, walk, ped clear, yellow, red, red revert, and overlap green
- Redundant monitoring of the MMU status to enhance intersection monitoring
- 4 timing plans selectable on TOD or coordination plan basis or for one cycle following preemption
- Powerful logic processor

Coordinator features

- 120 coordination patterns, each with its own cycle, offsets and split plan selection
- 120 split plans, each with its own coordinated phases, vehicle and pedestrian recall and phase omits
- Offset and split entries when entered are displayed in percent or seconds
- Automatic permissive periods
- Fixed or floating force-off
- Crossing arterial coordination
- Quick-sync feature

Preemptor features

- Ten preemption sequences-each may be configured as priority, first-come-first-serve, or bus preemption operation
- Interlock to provide added monitoring safety

Time Base features

- 200 schedule programs, configurable for any combination of months, days of the week, and days of the month
- 36 fixed or floating exception day programs that override the day plan event on a specific day
- 50 day plan events that can use any of the 100 action plans
- 100 action plans that can be used by any of the 50 day plans

Status display feature

- Keyboard selection of detailed dynamic status displays for each of the main controller unit functions including: controller, coordinator, preemptor, time base, detectors, and MMU

Detector features

- 64 vehicle detectors
- 16 system or speed detectors
- Unique detector types and operation
- Individually assignable to phase and functions
- Lock/non-lock function by detector
- 4 detector plans
- 4 detector diagnostics plans
- Logging of volume and/or occupancy assignable by detector
- 4 pedestrian diagnostic plans

Logging features

- Separate buffers for detector activity, detector failures, controller events, and MMU events
- Logged data can be viewed on front panel, retrieved via RS-232 terminal port, or transferred via telemetry to a traffic management center

Telemetry features

- Can be configured to be compatible with KMC-10,000 or ASC/2M-1000 zone masters and **icons** or **Aries** systems
- 1200/9.6K bps FSK 2/4 wire telemetry module (optional)
- Multiple RS-232 1200-115.2 Kbps serial ports
- Multi-protocol support: ECPIP (Standard), AB3418 (Standard), NTCIP (Standard)
- Standard 100Mbps Ethernet port

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