



ASC/3 Series NEMA TS2/NTCIP Actuated Controllers

Description

The traffic signal controller is one of the most important components of a transportation system. Playing a crucial role in the safety and management of traffic, its importance is undeniable. The controller is also at the heart of any intelligent transportation system (ITS), enhancing transportation efficiency and quality of life.

The ASC/3 is the latest in a series of Advanced System Controllers offered by Econolite. It builds upon the proven software, design flexibility, and unique feature set of the popular ASC/2 family of controllers.

The ASC/3 has been developed to fully comply with NEMA TS2 requirements. In addition, the design, manufacturing, and testing of the ASC/3 have used processes controlled by the latest ISO quality standards.

The ASC/3 provides an updated hardware design that allows it to serve as the traffic control platform for present and future traffic management environments. This includes NEMA TS2 and NTCIP compliance and compatibility with all existing Econolite systems.

The ASC/3 was designed using the latest electronics technology, which offers the user a controller that is more reliable, easier to maintain, and interchangeable with older TS1 and TS2 controllers while continuing to offer a competitive price.

All firmware in the ASC/3 is stored in flash memory. This allows for quick and easy software updates in the field without changing hardware. The ASC/3 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 are contained in one easy-to-replace module.

The ASC/3 uses the largest LCD display 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, an optional display heater is available that enhances the display performance in temperatures below 0° F (-18° C).

Controller Models

The ASC/3 is available in two models. Both share a common enclosure, power supply, processor, keyboard, display and optional data key telemetry and Ethernet modules.

- ASC/3-1000: Dedicated to the TS2 Type-1 environment
- ASC/3-2100: Can operate in any TS1/TS2 Type-1 and TS2 Type-2 environment

Features

- Windows-based remote user interface (optional)
- Advanced controller, coordinator, and preemptor features
- Optional Data Key Module
- Optional Ethernet support for 100 Base T networks
- Optional Transit Signal Priority (TSP) software module
- Optional *ACS Lite*
- Optional Intersection Monitor (IM) software module
- 16 x 40 LCD display with adjustable contrast
- Enhanced transient and environmental protection
- Protocol support for ECPIP, NTCIP, and AB3418
- Software support for *Centracs*®, *icons*®, *Aries*®, and any TS2 NTCIP Level 2 compliant applications
- Software and upgrades can be easily downloaded via laptop
- User-programmable default database
- Database and logs uploadable via laptop
- Data key backup and restore capabilities

ASC/3-1000: NEMA TS2 / Type-1

The ASC/3-1000 meets and exceeds all requirements of the NEMA TS2 Type-1 Standard. Its interface controls all inputs and outputs over a high-speed RS-485 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.

ASC/3-2100: NEMA TS2 Type-2 / TS1

The ASC/3-2100 meets and exceeds all the requirements of the NEMA TS2

Type-2 Standard. It also provides downward compatibility to the Econolite *KMC-8000*, *ASC-8000*, *ASC/2-2100* and *ASC/2S-2100* controllers as well as other NEMA TS1 controllers. An optional 25-pin telemetry connector matches the *KMC-8000* and *ASC-8000*. This allows the *ASC/3-2100* to be used as a direct replacement for older controllers.

Control Features

- 16 phases, 8 configurable concurrent groups in 4 timing rings
- All standard NEMA TS1, TS2 and NTCIP functions
- 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 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
- ECPI 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 *Centracs*, *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)

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