# ASC/2S Series NEMA TS2 Actuated Controllers

## Description

In 1992 the *ASC/2* Series was the first NEMA TS2 Type-1 or Type-2 controller offered to the marketplace. In 1998, the industry standard was raised once more with the introduction of the next member of the *ASC/2* family - the *ASC/2S*.

The *ASC/2S* provides all of the features of the *ASC/2* family of controllers with an updated hardware design that allows the *ASC/2S* to serve as a platform for future traffic management applications. This includes being NTCIP compliant and compatible with all Econolite systems.

The *ASC/2S* is designed using the latest in surface mount technology. This offers the end user a controller that is more reliable, easier to maintain, and less costly than earlier generation controllers. The *ASC/2S*, utilizes the same software, plus telemetry and data modules of the field-proven *ASC/2* family of controllers.

The majority of the electronic components of the *ASC/2S* are contained on one easy to replace module. All software in the *ASC/2S* is stored in flash EPROMs. This allows quick and easy software updates in the field without changing PROMs. *ASC/2S* software is easily updated using either a laptop computer or optional software installation module (SIM). A complete software update can be accomplished in minutes.

The *ASC/2S* uses the industries largest LCD display module (16 line x 40 character alphanumeric) module to simplify the user interface. This display provides improved viewing in all lighting conditions. In addition, an optional display heater is available to enhance display performance in environments with extended periods of below 0° F.

## Controller Models

The *ASC/2S* is available in two models. All models share a common enclosure, power supply, data, telemetry, and processor/input/output modules:

* *ASC/2S-1000*: TS2 Type-1
* A*SC/2S-2100*: TS2 Type-2/TS1

## Features

* Exceeds NEMA TS2 and TS1 requirements
* NTCIP compliant (optional)
* Advanced Transit Signal Priority (TSP) functions (optional)
* Surface-mount technology provides increased reliability
* Flash EPROM simplifies software installation
* Optional 1 MB memory for custom applications
* Windows-based remote user interface program (optional)
* Rechargeable lithium battery eliminates disposal problems
* 16 x 40 LCD display with automated contrast adjustment
* Optional display heater for extended periods below 0° F
* Enhanced electrostatic discharge and line transient protection
* Multi-system protocol support

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## ASC/2S-1000: TS2 Type-1

The first version, the *ASC/2S-1000* meets and exceeds the 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 to simplify cabinet wiring. This bus is also interfaced directly to a TS2 Malfunction Management Unit (MMU) for enhanced malfunction monitoring.

## ASC/2S-2100: TS2 Type-2/ TS1

The second version of the ASC/2S family, the ASC/2S-2100, provides all of the capabilities of the previous two models, plus I/O expansion for compatibility with Econolite's ASC-8000 controller. This adds an I/O expansion "D" connector and a 25-pin telemetry connector which match those of the ASC-8000. This allows the ASC/2S-2100 to be used as a replacement for an ASC-8000 or other TS1 controller.

## Control features

- 12 phases, 8 concurrent groups, 2 timing rings
- All standard NEMA TS1 and TS2 timing functions
- Up to 16 overlaps can be created
- 12 pedestrian phases
- Exclusive pedestrian operation
- Pedestrian overlaps
- Soft recall
- Phase re-service
- Dynamic max operation

## Coordinator features

- 64 coordination patterns, each with its own cycle, offset, and split set
- Three interconnect methods: Plan, TS2, standard
- Offset and split entries are available in percent or in seconds
- Automatic permissive periods
- Fixed or floating force-off

## Preemptor features

- 6 priority and 4 bus preemption sequences
- Optional TSP control

## Time-of-Day features

- Separate control for NIC® (non-interconnected coordination and Time-of-Day (TOD) functions
- 16 day programs
- 10 week programs
- Year program with 53 weeks
- 36 holiday programs, fixed or floating
- 200 NIC program steps
- 100 TOD program steps

## Status display features

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

## Detector features

- 64 vehicle detectors
- 16 system or speed detectors
- 9 detector types
- Detectors individually assignable to phase and functions
- Lock/non-lock function by detector

## Logging features

- Separate buffers for detector logging, 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

## Telemetry features

- Compatible with KMC-10,000 or ASC/2M-1000 zone masters
- 1200 bps FSK 2/4 wire telemetry or 1200-19,200 bps RS-232 telemetry
- RS-232 modem port
- Multi-protocol support

## Available Option Models

- *ASC/2S-1000* TS2 Type-1
- *ASC/2S-2100* TS2 Type-2

## Telemetry

- 1200 bps FSK 2/4 wire
- RS-232 1200 - 19.2K bps

## Protocols

- ECPIP (Standard)
- AB3418 (Standard)
- AB3418+ (Optional)
- NTCIP (Optional)
- Protocol 90™ (Optional)

## Other features

- Display Heater
- Overlap Card & Connector
- Shelf-mounted