

SWARCO

# McCain 2070EN1 NEMA CONTROLLER



The McCain 2070EN1 NEMA Controller has an open architecture and modular design, bringing together the best of the Model 2070 and NEMA worlds. The 2070EN1 controller is the industry-standard 2070E controller adapted for NEMA TS 1 and NEMA TS 2 Type 2 applications; offering users a means of upgrading existing intersection controllers without replacing cabinet hardware.



## KEY BENEFITS

- NEMA TS 1 and NEMA TS 2 Type 2 compatible
- NEMA and Caltrans compliant
- Easily upgrades installations that may otherwise require cabinet replacement
- Open architecture ensures compatibility with off-the-shelf products
- OS-9 real-time operating system is compatible with third-party firmware

## PRODUCT DESCRIPTION

The McCain 2070EN1 NEMA Controller is designed in full compliance with Caltrans Transportation Electrical Equipment Specifications (TEES) 2009 and NEMA TS 2 2003 standards.

The controller's OS-9 real-time operating system affords a robust, flexible, and expandable platform that is compatible with third-party control software. McCain offers a variety of compatible software programs to easily integrate the 2070EN1 into an overall Intelligent Transportation System (ITS).

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## STANDARD FEATURES

### Operating System

- Microware OS-9 real-time operating system (RTOS)

### Modules

- 2070-IE CPU module
- 2070-2B field I/O module
- 2070-3B LCD front panel module
- 2070-4A power supply
- 2070-8 NEMA adaptor

### Microprocessors

- CPU Module: Freescale MC68EN360, 32 Bit, 24.576 MHz microprocessor
- I/O Module: Freescale microprocessor, running at 24 MHz

### Memory

- 8MB Flash memory
- 32MB PSRAM
- 2MB non-volatile SRAM

### Backup Real-Time Clock

### Applicable Standards

- Caltrans TEES 2009
- NEMA TS 2 2003

## GENERAL SPECIFICATIONS

Dimensions <sup>1</sup> :	19"W x 12"H x 12"D
Form Factor:	EIA rack mount compatible
Power:	95 VAC to 135 VAC, 60 Hz (± 3 Hz) +5VDC 1.0A 10.0A +12VDC Serial 0.1A 0.5A -12VDC Serial 0.1A 0.5A +12VDC ISO 0.1A 1.0A
Environment:	Operating Temperature: -37° C to +74° C Humidity: 0 to 95% (non-condensing)
Weight:	17 lbs

<sup>1</sup>Dimensions rounded to the nearest inch

<sup>2</sup>See separate data sheet for more information

## INTERFACES

### Communication Interfaces

- SDLC ports (2)
- ACIA ports (5)
- 10/100 Mb Ethernet (4), 4 LEDs
- Datakey removable storage device, 8Mbits, (blue color)

### Front Panel Interface

- Display: 8 lines x 40 characters
- Keyboards: 3 x 4 navigation and 4 x 4 data entry keypads
- C50J connector

### Cabinet Interfaces

- Rear connector C12S
- NEMA connectors A, B, and C
- D connector with standard TEES pinout

## SOFTWARE

Compatible with McCain's 2033 intersection control firmware<sup>2</sup>

## OPTIONS

### Available Modules

- 2070 ATC CPU module
- 2070-3A large 4 x 40 character display
- 2070-4A-220 international voltage: 190VAC to 253VAC, 50 Hz (± 3 Hz)
- 2070-6A dual 1200 baud modem
- 2070-6B dual 9600 baud modem
- 2070-7A dual RS232 serial ports
- 2070-7B dual RS485 serial ports