



## Traffic Adaptive Controller

The Model 980 NEMA Traffic Signal Controller is designed using state of the art electronics to ensure reliability, a long life, and superb performance in all signal control applications. The advanced architecture and NTCIP compliance provides the traffic engineer with a flexible platform for the future.

The Model 980 Controller meets and exceeds NEMA TS2 specifications, and includes advanced functionality for complex phasing, detector processing, coordination, preemption, communications, adaptive timing, as well as full systems operation in a closed-loop, hybrid, or centralized configuration.

The advanced LCD display and menu-driven software provides a user-friendly approach to programming and access, and built-in diagnostics permit rapid evaluation of operational status. The use of Flash Memory allows software upgrades without PROM replacement. The Ethernet-enabled controller allows communication across an TCP/IP network.



# Product Features & Specifications

FEATURES	
Flash PROMS	The Model 980 Controller is easily configured to various firmware versions by the utilization of FLASH PROMS, which eliminate the need for obsolete EPROM technology. A complete firmware update requires only ten minutes, and does not require hardware changes or EPROM replacements.
Display	A backlit, 4-line by 40-character supertwist LCD display provides full-menu screens for ease of data entry. The display maintains an optimum contrast and brightness over the entire NEMA specified temperature range, using special temperaturecompensating circuitry. The menu-driven format and context sensitive help screens eliminate need for programming instructions or look-up codes.
Easily Serviced	The Model 980 Controller consists of only two printed circuit boards (three with optional modem) and an open frame power supply. The main/display board and the I/O board utilize machine-tooled sockets for integrated circuits for easy maintenance. An identification silkscreen on each circuit board clearly labels all components. No special tools or extender cards are needed for troubleshooting.
Real-Time Clock	The real-time clock maintains accurate timing by utilizing a "super capacitor" which allows for 0.005% accuracy during a 24-hour time period. Retention time during power failures for the real-time clock is extendible to 30 consecutive days.
NTCIP Objects	The Trafficware 980 Controller incorporates the NTCIP Standard Objects and many additional objects that allow for enhancements to standard NEMA operating features as well as entirely new ones. Sixteen phases, sixteen overlaps, ten compatible phases per phase, alternative programming by time-of-day, and many other features provide extreme flexibility to handle the most challenging traffic control situations.
Keyboard	A 20-position keyboard containing four (4) red function keys, six (6) gray cursor movement keys, and ten (10) white digit keys with built-in audio/tactile feedback provides user-friendly enhanced data entry.
Diagnostics	Built-in diagnostics provide for improved maintenance and easier repairs. Internal diagnostics allow operator tests on all input and output signals, RAM devices, and memory. A built-in EEPROM eraser allows for a "clear-all" memory function, or restore a factory default program.
Communications	Two RS-232 ports and an optional FSK modem port are available with each secondary unit. These ports are keyboard programmable with selectable baud rates from 600 to 57.6K with full and half duplex options. Various communication configurations allow the user multiple interfaces to other cabinet devices: conflict monitor, preemption equipment, detectors, GPS, modems, notebooks, printers, etc. A RS-485 SDLC Bus Interface Port is provided for all TS2 applications. The NTCIP protocol is fully supported.

HARDWARE SPECIFICATIONS	
Voltage	89 to 135 VAC 60 HZ
Frequency	30 Watts Maximum
Temperature	-30° F to 165° F
Humidity	95% max, non-condensing
Dimensions	10.50"H x 14.75"W x 8.20"D