



SIEMENS

SEPAC Local Controller Software

Effective traffic controller software

usa.siemens.com/intelligenttraffic

At a glance

SEPAC offers exciting state-of-the-art traffic control features, including support for connected vehicles, priority for multimodal transportation and the latest peer-to-peer communications technology

The software is user-friendly, accommodating a large variety of traffic control requirements by providing extensive configuration flexibility and full compatibility with Siemens m60 and CalTrans 2070 style traffic controllers.



User-friendly, 16-line menu-driven software with parameters viewable from menu screens.

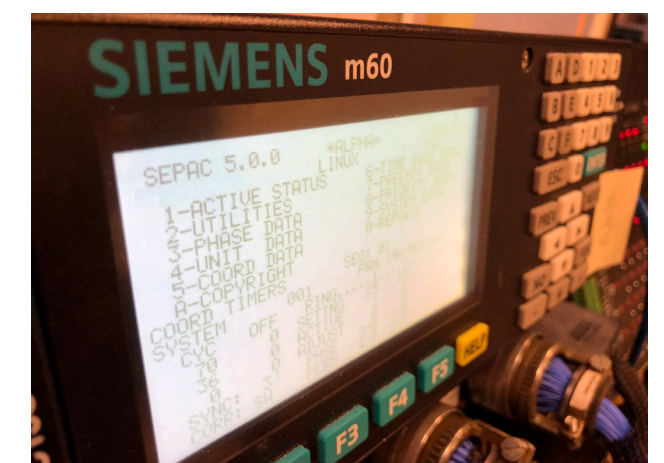
Support for Vehicle-to-Infrastructure (V2I) Signal Phase and Timing (SPaT) data for DSRC-enabled connected vehicles.

Peer-to-peer communications, linking multiple intersections to create a local adaptive green wave that enhances traffic flow.

Logically laid out keysets with simple setup and startup using standard traffic nomenclature throughout the system.

Rich sets of logging, diagnostics and reporting capabilities available for troubleshooting and data analysis.

Ability to export/import intersection configuration and remotely upload software using the Siemens TACTICS™ 5 Advanced Traffic Management System.



The latest peer-to-peer traffic communications technology

Engineers can use the peer-to-peer communications module of SEPAC and existing on-street detection to identify platoons of vehicles traveling through a network of interconnected signalized intersections. Combine this with the industry-leading priority routines within SEPAC and the identified platoon can be prioritized by applying phase reductions or green time extensions to generate a green wave for the platoon to traverse multiple intersections.

Using the powerful tools available within SEPAC the engineer can improve traffic flow, increase efficiency by removing unnecessary vehicle braking or acceleration and reduce congestion that improves air quality.

Traffic priority to encourage multimodal transportation

Giving high priority to public transportation without interrupting the general traffic flow has been a major challenge for conventional traffic control software in the past. The Siemens SEPAC software has a powerful traffic signal priority mechanism that enables mobility, safety and a better environment to improve the quality of life in cities by enhancing performance of traffic signal control for a number of transportation channels such as Light Rail Transit (LRT) and Bus Rapid Transit (BRT) with minimal impact on pedestrian and vehicle traffic.

Modes of operation

SEPAC's traffic capabilities include five modes of operation that allow for Time of Day (TOD) operations, week plans, time of year or holiday plans which include coordination, free and flash functions. Available SEPAC modes include:

Standalone	SEPAC can be controlled manually to run specific coordination routines when set to manual, including free operation With time updates available through GPS syncs to keep its internal TOD clock accurate
Master	In conjunction with a Marc master controller, SEPAC can work within a closed loop system SEPAC was developed to be used in combination with SEMARC, in the same controller, without the need for extra cabinets
System	SEPAC has the ability to communicate with the Siemens TACTICS™ system for central management and control of intersections
Adaptive	SEPAC can be integrated to SCOOT adaptive traffic control systems, helping to manage unforeseen traffic condition and incidents with truly adaptive solutions. It also supports powerful peer-to-peer functions for local adaptive solutions.

Phases

- 16 vehicle phases
- 8 pedestrian phases
- 4 phase timing banks
- 4 timing rings
- 15 alternate sequences
- 16 overlaps

Coordination

- 6 modes of coordination
- Locally based traffic responsive routines
- 253 unique signal timing patterns
- 255 actions for mapping patterns (including FREE and FLASH)
- 255 actions to day plans maps
- 255 day plan to schedules maps
- 8 special function maps
- 16 phase function maps
- 3 diagnostic auxiliary functions

Detection

- 64 vehicle detectors
- 8 pedestrian detectors¹⁾
- 8 system detectors¹⁾
- Interface for Sensys Network's Ethernet Access Points for magnetometers
- Interface to Iteris Vantage Vector™ video and radar detectors
- Interface to traffic priority detectors such as Opticom's GTT, EMTRAC and E-Views

Communications and Interfaces

- Supports Siemens SCOOT Communication Server interface via Ethernet
- IP, serial and FSK communications to TACTICS™
- IP standard on "m60" and 2070 series controllers 1-B, 1-C and 1-E cards (2009 TEES)

Peer-to-Peer

- Peer-to-peer communications
- Dual support of ECOM and NTCIP communications within a single software instance
- USB memory sticks and DataKey interfaces
- 16 IP configured peer addresses
- 34 source functions from connected peers
- 18 input functions for storing peer information

Pre-emption

- 12 pre-empts
- Return to coordination after pre-empt
- Safe flashing yellow arrow operation with pre-empt eliminating yellow trap conditions

Priority

- 6 priority routines for buses and light rail
- 4 priority banks with unique timing
- Allows for:
 - 19 vehicles tracked simultaneously
 - Tracks vehicles at any distance from intersection using up to 6 inbound detectors and one exit detector

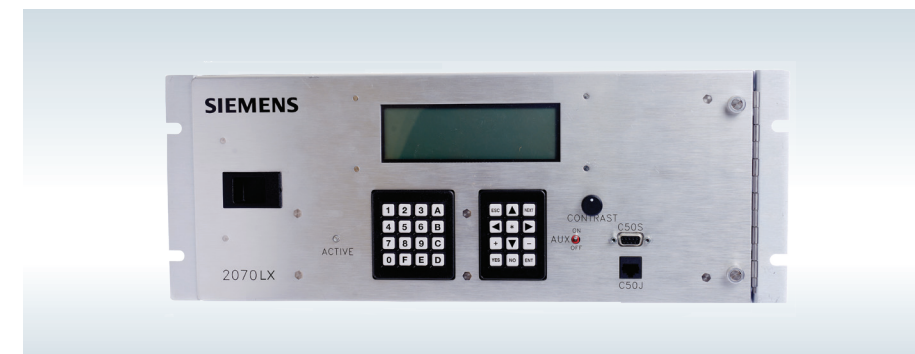
- Allows for seamless operation between transit and vehicle traffic coordination
- Adjusts splits, skips phases when necessary, and adjusts lead/lag in order to make the transitions between normal operation and priority service more fluid

Miscellaneous

- 4 system data banks for traffic responsive data
- Bicycle minimum green and passage timing
- Advanced and delayed WALK operations
- Advance warning flasher functions
- 16 SPaT IP addresses for Vehicle-to-Infrastructure operations
- Logging and diagnostics, including cycling, coordination, pre-emption, detection, outputs, alarms and communications information
- Anti-backup (yellow trap avoidance)
- Password protection
- Collision avoidance routines (Red Protect)
- External back-up facilities using USB or DataKey for use with TACTICS™ 5
- Help screens
- Illinois Rail Road security available
- International timing
- Extensive reporting capabilities

Hardware

- Linux operating system
- Meets NEMA or CalTrans specifications
- Meets NTCIP specifications for traffic signal control
- Supported cabinet types include ATC, TS-1, TS-2 Type 1, TS-2 Type 2, CalTrans 332 style, ITS and CBD



1) = 80 total detectors defaulted to listed configuration, but can be programmed as different types if necessary.



Siemens Mobility, Inc.

9225 Bee Cave Road
Building B, Suite 101
Austin, TX 78733

1.512.837.8300

Subject to change without prior notice

Printed in USA

© 2018 Siemens Mobility, Inc.

The technical data presented in this document is based on an actual case or on as-designed parameters, and therefore should not be relied upon for any specific application and does not constitute a performance guarantee for any projects. Actual results are dependent on variable conditions. Accordingly, Siemens does not make representations, warranties, or assurances as to the accuracy, currency or completeness of the content contained herein. If requested, we will provide specific technical data or specifications with respect to any customer's particular applications. Our company is constantly involved in engineering and development. For that reason, we reserve the right to modify, at any time, the technology and product specifications contained herein.