

The Advanced EPAC300

EPAC300 TS-1 and TS-2

Genesis™ Traffic Control Equipment

The EPAC300 Series Controller Unit is a fully actuated controller unit with a full complement of operational, programming, and diagnostics capabilities.

The EPAC300 Series Controller Unit EXCEEDS both NEMA TS 1-1989 and TS 2-1998 Actuated Controller Unit Standards.

The EPAC300 Series Controller Unit has an LCD alpha-numeric backlit display (8-line – 40 char/line).

Programming is easy and error free using English Language Menus. Within a menu, each parameter can be viewed and a cursor moved to that parameter for changes.

Related parameters are visible simultaneously, making verification an easy matter. The screen provides both programming area identification and editing prompts.



SPECIFICATIONS

| | | |
|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Power Requirements: Voltage: 89 to 135 VAC Frequency: 57 to 63 Hz Consumption: 25 Watts | Temperature Range: -30 F to +165 F (-34 C to +74 C) | Physical Dimensions: 9"H X 15"W X 8"D (229mm H x 381mm W x 203mm D) Weight: 14 Pounds (31 Kg) |
|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|

Highlights

• EPAC300 TS-1 and TS-2

Exceeds NEMA TS-1 and TS-2 standards for traffic controllers
Front Panel multi-line alphanumeric backlit display for all operational parameters and states
Fully prompted, menu driven programmability
EEPROM technology is used to retain All timing and control parameters even during power outages. No batteries are required for retention of traffic parameters.

• Six Modes of Coordination

Permissive Mode
Yield Mode
Permissive Yield Mode
Permissive Omit Mode
Sequential Omit Mode
Full Actuated Mode

• Adaptive Traffic Control

16 Vehicle Phases
16 Pedestrian Phases
4 Timing Rings
16 Overlaps
80 Detectors
Adaptive Maximum Routines
Adaptive Protected/Permissive Routines
Coordination Virtual Split Routine

• Reports

Date and Time of Occurrence
Local Alarm Log
Comm Fault Log
Detector Fault Log
System Detector Log
MOE Log
Speed Log
Volume Count Log
Cycle MOE Log
MMU Fault Log

• Preemption/Priority

6 Preempt Routines
6 Priority Routines

• Diagnostics

Monitor Compatibility Diagnostics
Monitor Field Status Diagnostics
Cycling Diagnostics
Detector Diagnostics
Port 1 Message Display
Port 2 Comm Status Display
Port 3 Comm Status Display
Hardware I/O Status Display
MMU Status Display

• Time Base Control

250 Events
99 Day Programs
10 Week Programs

EAGLE Traffic Control Systems

A Business Unit of Siemens Energy & Automation, Inc.

A look at the advanced EPAC300...

Six Modes of Coordination

Permissive Mode provides non-actuated coord phase, vehicle and pedestrian, with permissive windows opened phase by phase to the non-coord phases.

Yield Mode provides non-actuated coord phase vehicle and pedestrian, with a single permissive window for all non-coord phases.

Permissive Yield Mode provides for actuated coord phase vehicle and pedestrian, with permissive windows opened phase by phase to the non-coord phases. Additionally, the coord phase vehicle may extend its green time at the beginning of the first permissive window.

Permissive Omit Mode provides operation similar to Permissive Yield except that the coord phase, once terminated, is prevented from occurring prior to the end of the last permissive.

Sequential Omit Mode provides operation similar to Permissive Yield except the permissive is a phase by phase sliding window (only one phase in a ring will be allowed service at any time).

Full Actuated Mode provides operation similar to Permissive Yield except that any phase may be serviced and reserviced in the standard sequence following the first permissive and through the last permissive.

Controller Types

TS 2 Type 1 Actuated Controller Unit is a performance oriented controller unit using a high speed data channel between all major components within the Terminal and Facilities.

TS 2 Type 2 Actuated Controller Unit includes all the features of the Type 1 and adds the following:

1. MSA, MSB, and MSC connectors for data exchange with the Terminals & Facilities. This provides a degree of downward compatibility with NEMA TS 1 counterparts.
2. 37 pin "D" connector for backward compatibility with TS 1 counterpart.

Adaptive Traffic Control

Simple or highly complex control including:

- 16 Vehicle Phases
- 16 Overlaps
- 16 Pedestrian Phases
- 80 Detectors
- 4 Timing Rings

- Adaptive Maximum Routines which are enabled via Time Base offer three separate Step values to cause the running maximum to increase or decrease smoothly based on current traffic conditions. Separate Dynamic Maximum parameters are available for each Step value.
- Adaptive Protected / Permissive Routines measure the volume of left turn vehicle traffic and available gap windows in the conflicting through-vehicle traffic to determine whether the Left Turn should operate protected or permissive.
- Coordination Virtual Split Routine provides for actuated coord phase vehicle and pedestrian modes. This control provides for a period of time of each cycle which is distributed to the Coord Phase(s) or non-coord phases, based on Coord Phase vehicle traffic activity.
- Coordination Adaptive Split Routines which are enabled via Time Base to adjust split times smoothly based on current traffic conditions.

TS 2 Advantages

Controller assemblies with TS 2 Detector Racks provide increased capability, consume less power and provide additional diagnostic data to the Controller Unit via the SDLC port. The Controller Unit can take corrective action much earlier than it could based on internal diagnostics.

Controller assemblies with TS2 Monitors provide additional diagnostic data to the Controller Unit via the SDLC port.

Time Base Control

Internal Time Base Control is a highly flexible routine operating within the EPAC300 Series Controller Unit.

Included are:

- 250 Events for the control of Pattern Selection, Free, Flash, Dimming, Detector Diagnostic Parameters, System Detector Logging, 3 Auxiliary Functions, 8 Special Function, 16 Traffic Functions
- 99 Day Programs
- 10 Week Programs



Diagnostics

A resident diagnostic program is standard in the EPAC300 Series Controller Unit. In addition to the extensive displays to aid in intersection setup, monitoring, and operation, the resident diagnostic program enhances the maintenance and troubleshooting of the controller assembly.

- Monitor Compatibility Diagnostics
- Monitor Field Status Diagnostics
- Cycling Diagnostics
- Detector Diagnostics
- Port 1 Message Display
- Port 2 Comm Status Display
- Port 3 Comm Status Display
- Hardware I/O Status Display
- MMU Status Display

Reports

The EPAC300 Series Controller Unit provides an extensive report capability. Each report entry includes the Date and Time of occurrence.

- Local Alarm Log with the capacity to store 120 events
- Comm Fault Log with the capacity to store 60 events
- Detector Fault Log with the capacity to store 60 events
- System Detector Log with the capacity to store 96 events
- MOE Log with the capacity to store 24 events
- Speed Log with the capacity to store 24 events
- Volume Count Log with the capacity to store 72 events
- Cycle MOE Log with the capacity to store 60 events
- MMU Fault Log with capacity to store 10 events

Preemption/Priority

Internal Preemption is a highly flexible routine operating within the EPAC300 Series Controller Unit.

Included are:

- 6 Preempt Routines providing complete signal control
- 6 Priority Routines providing complete phase control and in sync return to coordination

Preempt activity can be monitored on a Preempt Status display which denotes:

- Preempt In Control, Interval Timing, & Interval Countdown
- Individual Preempt Status & Timing
- Individual Priority Status & Timing

Hardware Design

The EPAC300 Series Controller Unit is designed for efficient operation and ease of maintenance. The chassis is of metal and is designed for easy access to the boards for testing without disassembly.

To insure the accuracy of traffic control parameters, even during power outages, EEPROM technology is used to retain all timing and control parameters. No batteries are required for retention of traffic parameters. Event logging and Time Base clock utilize RAM memory for those functions with battery support.

Security

The EPAC300 Series Controller Unit provides for a user specified security code entry before data may be altered. This security code entry is not required to view any parameter. The EPAC300 Series Controller Unit also can disable security code requirements for perpetual access.

Future Features

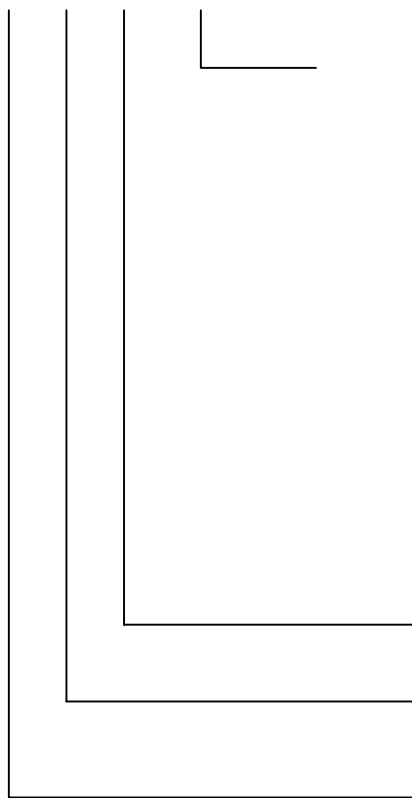
For advanced future features and/or more information on EAGLE products call (512) 837-8310 or fax (512) 837-0196 or call your local dealer.

Models

EPAC3 1 0 8 M40

Actuated Controller

Add: "C" = Capacitor Backup
"S" = IC Sockets



M40
TS 1 (16 MHz Unit)

Includes: Port 2 RS 232 (25P) +
Port 3 RS 232 (25P) +
Port 3 "D" Conn (37 P)

M41
TS 2 Type 1 (16 MHz)

Includes: Port 1 (SDLC 15P) +
Port 2 RS 232 (25P) +
Port 3 RS 232 (9 Pin) +
Port 3 RS 232 (25 Pin) +
Port 3 (FSK 9P)

M42
TS 2 Type 2 (16 MHz)

Includes: Same as TS 2 Type 1+
MSA, MSB, & MSC Connectors
Port 3 "D" Conn (37 P)

Number of Phases
8 = 8/16 Phases

Option B
0 = None

Option A (Port 3 options)
1 = Standard
4 = Port 3 FSK 4 wire
6 = Port 3 FSK 2 wire
7 = Port 3 Fiber Modem (single Mode)
8 = Port 3 Fiber Modem (multi Mode)

Intelligent Transportation Management

EAGLE's system products reflect the latest in computer and software technologies. A leader in the traffic management and control industry, we are capable of supplying and entire system from software to signal heads

EAGLE Traffic Control Systems

A Business Unit of Siemens Energy & Automation, Inc.

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Printed in U.S.A. Revised 06/00