

Alpha 16 Traffic Controller



The Alpha 16 Traffic Controller is based on the ubiquitous and highly developed 'PC' chipset platform. Logic elements are industry standard high speed low power consumption and high electrical noise immunity CMOS. The operating system platform is a multi-tasking real time kernel which facilitates easy integration of specialised software.

The real-time geometric LCD panel display provides the user with a combination of traffic display states, detector states, communication status and operation display states. Maintenance options allow the user to verify lamp, triac, detector, communication and diagnostic functions.

Features

- 8 – 24 Traffic signal group operation
- 8 Group plug-in lamp control cards with 'phase' dimming control
- Full signal group monitoring current, voltage and last RED out
- Dual conflict monitoring: Hardware and Software control
- Conflict Monitoring card incorporates continual self checking and LED display for operational status
- TSC3 Compatible with full TRAFF personality configuration
- Wide area traffic control network compatible SCATS, STREAMS, BLISS - other wide area traffic network emulation's available
- Integrated loop based vehicle detection and AVI technology
- Real time geometric display which facilitates monitoring of all states and functions in simplified ICON form
- Full function descriptive message logging, sorting and display including fault and operational status in simple text presentation
- Statistical data collection and display for improved traffic management
- Conventional Cabinet Based signal switching
 - An integrated solid state switching module provides traditional 110VAC and 240VAC switched outputs for traffic signal display via multicore cable
 - Weather resistance
 - All doors and openings are provided with a durable and resilient weatherproof and EMI seal
- Ergonomic cabinet design with user friendly features
 - Storage pocket
 - A pocket is provided on the inside of the access door to store service cards and small circuit diagrams
 - Door opening security and internal light facility



Alpha 16 Traffic Controller – Traffic Management Functions

- Fixed cycle, Flexi-link, VA or Network coordinated operation
- Lamp state and cable operation current and voltage monitoring for failsafe operation
- Traffic Engineering features and functions include:
 - Minimum initial GREEN timer
 - Initial increment timer
 - Maximum initial timer
 - Extension timer
 - Headway timer
 - Waste timer
 - Maximum timer

Alpha 16 Traffic Controller – Technical Specification Overview

Controller Chassis

- The ALPHA 16/32 traffic controllers comprise a modular chassis format
- Fabricated aluminium chassis with plastic PCB rail guides
- PCB backplane utilising DIN 41612 style Euro-connectors for module connection
- Connector rating: Siemens XAJ9081 per pin: 2.0 Amp @ 250 VAC/85°C
- Current capacity determined per pin ie 9 pins current typically 18 Amp @ 250 VAC/85°C

Power Control Module

- This module provides Lamp Supply control functions
- Transformer XFMR1 (6VA) – 6VA Lamp Relay supply voltage
- Transformer XFMR3 (25VA) – Unregulated supply to back plane
- Connector for controller module DC supply – MILSPEC 13 Amp @ 700 VDC
- Red/Green Relay – contact rating 30 Amp 250 VAC
- Yellow relay – contact 30 Amp 250 VAC

Dual Conflict Modules

- This module provides a primary hardware conflict monitoring function
- The circuit card includes LED indication of current operational status
- The circuit card has an external DB connector for diagnostic analysis
- The circuit module comprises a microprocessor for each 8 group module and a control microprocessor for monitoring all active groups. The conflict table is CRC and checksum validated. Conflicting signal patterns are introduced every 10 milliseconds to verify operational status of the conflict module.
- Software conflict firmware located on PC control card

Lamp Switching Module

- The backplane Euro connectors provide AC Lamp Supply (refer section chassis for rating)
- The AMP ‘Mate-enlok’ connectors provide lamp feeds to field terminals rating 12 Amp/pin @ 260 VAC
- Internal connectors are ‘plug-in-PCB-Style’ rating: 12Amp @ 260 VAC
- All opto-isolators (240 VAC isolation) are full wave PC814 series components 5000 V RMS isolation
- All 240 VAC capacitors are rated are 630 VAC
- All lamp circuits are individually fused – rating 5amp
- All LAMP Switching Triacs are 8 Amp /600 VAC typical
- Mains monitoring includes; zero crossing detection, AC supply level, lamp current and half-wave detection