EXCEL TECHNOLOGY Group

An innovator in the development of intelligent vehicle highway solutions.

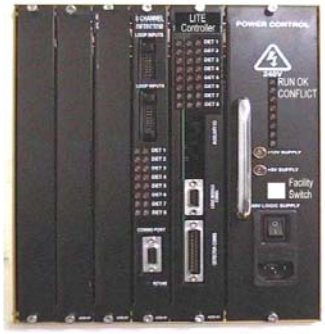
# LITE-8 Traffic Controller

(PRELIMINARY INFORMATION)

The LITE–8 Traffic Controller has been designed for simple 4 and 8 group traffic intersection or pedestrian crossing installations where a low cost reliable traffic controller incorporating industry standard safety functions is required.

The traffic controller CPU and all associated logic elements are industry standard high speed low power consumption and high electrical noise immunity CMOS. The firmware based control software is enhanced by the user uploading an individual intersection personality (description) created on a simple easy to use PC based utility. The intersection personality describes all traffic groups, timers, sequence control, detector allocation and control functions.

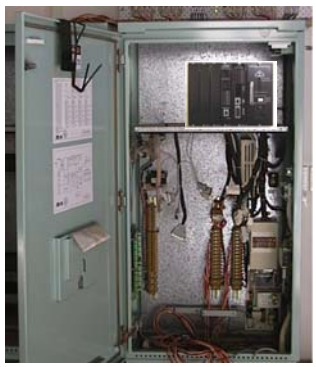
The LITE controller user interface provides basic LED operational status and control functions on the front panel however a laptop PC may be connected to provide a more user friendly control interface including simplified text messages. The LAPTOP or equivalent device such as a HP iPAQ may be used to upload a new intersection personality or modify operational parameters.




The controller incorporates familiar R&TA TSC3 safety functions and operational integrity attributes associated with lamp operation, conflict monitor operation, site configuration – site address confirmation, and safety fallback response.

## Features

- 4 or 8 Group traffic signal control – option for more groups
- 4 Group plug-in lamp control cards with phase dimming control
- Lamp output card incorporates a dual conflict monitor and operational integrity verification. Power control incorporates LEDs for system integrity, facility switch and signal feed status
- Front panel LED status indicates conflict monitor status and related group status PLUS simplified text messaging – last 10 messages
- LAST RED OUT detection and safety fallback response
- Wide area traffic control network compatible via high speed USB based data link – Public Domain interface protocol
- Integrated loop based vehicle and pedestrian detection technology
- Radio transceiver interface for intersection synchronisation
- Conventional Cabinet Based signal switching
  - An integrated solid state switching module provides traditional ELV (<48V) and 240VAC switched outputs with full function dimming control.
- Ergonomic cabinet design with user friendly storage and use features including door hold, storage pocket and optional light.
  Weather resistant with all doors and openings incorporating a durable and resilient weatherproof EMI seal
- Conventional hardware based Site ID module and facility switch module connected to controller via CANBUS



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## LITE-8 Traffic Controller – Traffic Management Functions

- User configurable Intersection personality (or description)
- Fixed cycle, Cyclic Synchronisation, VA or Network coordinated operation
- Lamp state and cable operation current and voltage monitoring for failsafe operation
- Traffic Engineering features and functions include:
  - Flexible sequence determination (next phase selection)
  - Configurable main street resting phase
  - Minimum GREEN timer
  - Maximum GREEN timer
  - Vehicle extension timer
  - Phase YELLOW timer
  - Phase ALL RED timer

## LITE-8 Traffic Controller – Technical Specification Overview

### Controller Chassis

- The LITE-8 traffic controllers comprise a modular plugin chassis format
- Rugged 'CANBUS' based backplane for card interconnection
- Fabricated aluminium chassis with plastic PCB rail guides for typically 5 cards
- PCB backplane utilising DIN 41612 style Euro-connectors for module connection
- 4 Group Installation comprises power supply, controller card and option detector card

### Power Control Module

- Third party supplied CE-Ctick approved switching regulator power supply
- Provides Lamp Supply control functions with separate RED/GREEN and YELLOW supply bus
- Control of Safety YELLOW changeover contacts to FLASH YELLOW BUS
- Integrity monitoring of controller OK and facility switch

### Dual Conflict Modules

- Incorporates a primary hardware conflict monitoring function and software monitor.
- The circuit card includes LED indication of current operational status.
- The circuit card has an USB connector for diagnostic analysis.
- The control card module comprises a microprocessor for overall operation, lamp switching for 4 group signal switching and circuitry for monitoring all active groups. The conflict table is CRC and checksum validated
- Independent software conflict firmware located on control card

### Lamp Switching and Electrical Specification

- 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
- 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
- Red/Green Relay – contact rating 30 Amp 250 VAC
- Yellow relay – contact 30 Amp 250 VAC
- Temperature rating -48deg C to +65deg C