

T51-3 SYSTEM

**CONTACTOR BASED
Tunnel Lighting Control System**

APPLICATIONS

- Long Tunnels
- Bidirectional
- Unidirectional



PROJECT	
LOCATION	

FEATURES

- Six Output Channels per direction for one night level and 5 day time levels
- Hand/Off/Auto Selector switch for each contactor
- 20 - 200A multi-pole lighting contactors
- Accumulated run time hours are logged
- Zero and Span for sensor calibration using the built-in text Graphic Display
- Front operator Hand - Off - Auto selector switch that controls the operation
- 4-20mA signal for PLC-Multipoint's MAS, TMAS and TLUM sensors
- 20 - 30A interposing relays for external contactor panels
- Programmable Configuration for optional Alternation sequence and time clock schedule

DESCRIPTION

The T51-3 tunnel lighting control system is designed for long unidirectional and bidirectional tunnel lighting applications. The T51-3 contactor based system has a T51 microprocessor lighting controller used for night and contrast lighting control for LED dimming fixtures.

The T51-3 system helps provide safety by applying the most effective and efficient way of controlling the light fixtures resulting to visibility at vehicular tunnel approaches and interiors. The T51 controller has an option of using three PLC-Multipoint's sensors that send a 4-20mA signal, such sensors are our MAS, TMAS and TLUM sensors.

The system is cost-effective and easily-configurable with programming and accessories. The system has six output channels per direction providing a night function as well as five daytime light levels according to the sensors input set points for accuracy.

Each channel has an adjustable ascending and descending

input time delay (0-99 min) to filter lightning strikes and fast moving clouds.. Hold-On timer (0-240 min) to keep the output on for a minimum time to [prevent short cycling of HID fixtures Hold-Off timer (0-99 min) to allow fixtures to cool off before restriking. Optional alternation sequence of lights and night and day crossover method can be configure providing a long life span on any tunnel fixtures. The controller has a built-in input time delay and hold-on time eliminating any sudden surge in the fixtures of the tunnel.

The T51-3 system switch any light sources such as Fluorescent (FL), Low Pressure Sodium (LPS), High Pressure Sodium (HPS), Metal Halide (MH) and Light Emitting Diode (LED). The T54-3 architecture assembly is very simple; it is housed in a NEMA 3R, 4X or 12 enclosure depending on the location. The system is pre-wired and tested to UL508A requirements for industrial control equipment. Incoming 120 VAC powers the system. Other source of power can be converted down by providing an additional transformer inside the system.

TECHNICAL DATA - T51-3 SYSTEM

Input Voltage: 120 VAC, (Additional Transformer needed if 277 VAC or 480 VAC incoming)
Output Switching: 20 - 400 Amp Electrically Held Relay
Hardware Failsafe: Software, Hardware

Controller: T51 Controller
Power Failure Backup: Flash Memory
Program Update: EZ-Store
Input Controller Power: 24VDC
Adjustment Interface: Text membrane keypad
Operator Display: 2 line LCD text display
Set points Adjustment: High and Low with adjustable deadband
Output Level Control: Manual On, Off or Auto
Auto Control Modes: RUN: Photo, timing, crossover, alternation or combinations:
 TEST: Photo setpoint control with no timing
 PROGRAM: Data Entry of setpoints, timing and operational values

Input Delay Timer: 0-99 minutes ascending and descending
Hold-ON-Timer: 0-240 minutes interval
Hold-OFF-Timer: 0-99 minutes cool down
Day & Night Crossover: 0-10 minutes
Simulator: Force Constant using keypad

Sensor: PLC-Multipoint MAS sensor
Illuminance: PLC-Multipoint TMAS sensor (See TMAS datasheet)
Luminance: PLC-Multipoint TLUM sensor (See TLUM datasheet)
Signal: 4-20mA signal
Sensor Calibration: Zero & Span calibration method
Heater: Included inside sensor housing

Front Operators: Local Hand/Off/Auto switch with pilot light indicator
Enclosure Dimensions: NEMA 3R, 4X and 12 Surface Mount Enclosure
Temperature Range: 32 to 140 F (0 to 40 C)

ONE-LINE BLOCK DIAGRAM

