

# T54-3 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 T54-3 tunnel lighting control system is designed for long unidirectional and bidirectional tunnel lighting applications. The T54-3 contactor based system has a T54 microprocessor lighting controller used for night and contrast lighting control for LED dimming fixtures.

The T54-3 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 T54 controller has an option of using three PLC-Multipoint's sensors that receives 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 T54-3 system can handle controlling any light sources such as Fluorescent (FL), Low Pressure Sodium (LPS), High Pressure Sodium (HPS), Metal Halide (MH) and LED fixtures. 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 - T54-3 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:** T54 Controller  
**Power Failure Backup:** Flash Memory  
**Program Update:** Editor  
**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

**Timer Function:** Astronomical Clock and Automatic Daylight Savings Time Function  
**Input Delay:** Photo sensor: 0-99 minutes (setup mode override)  
**Hold-ON-Timer:** Time clock: 0-240 minutes (setup mode override)  
**Day & Night Crossover:** Internal timer 0-10 minutes (optional timing methods)  
**Simulator:** Force Constant

**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

