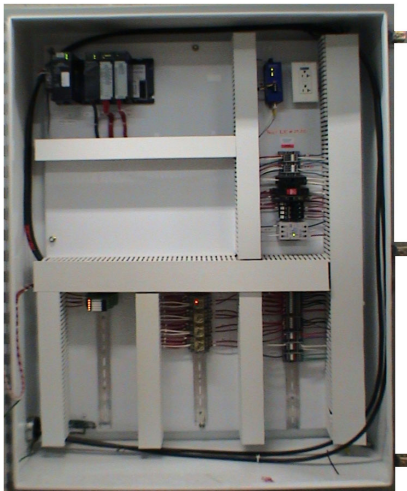


T54-2 SYSTEM

**REDUNDANT
Tunnel Lighting Control System**

APPLICATIONS

- Long Tunnel
- Bidirectional
- Unidirectional



PROJECT	
LOCATION	

FEATURES

- Primary and Secondary Controllers
- 12 Output Channels 1 night and 5 daytime levels per direction
- Instant switch out if primary controller fails.
- 4-20mA signal input MAS, TMAS and TLUM sensors
- Hand/Off/Auto Selector switch for each contactor
- 20-400A multi-pole lighting contactors
- Graphic Display with Keypad Touch Screen
- Configure Setpoints, Timing, and Sensor Calibration
- Control Outputs, Operating Mode
- Monitor light sensor, control output, contactor status

DESCRIPTION

PLCTransportation's T54-2 system provides tunnel lighting control for long unidirectional and bidirectional lighting applications. The T54-2 redundant system is based on an industrial microprocessor lighting controller, and is packaged with a lighting contactors in a NEMA rated enclosure.

The purpose of tunnel lighting controls is two fold. Safety, by providing vehicle drivers with sufficient visibility, so that they can avoid roadway hazards, especially in tunnel thresholds. Energy control, by illuminating the tunnel interior to an appropriate lighting level proportional to sensed exterior light. The T54-2 controller can measure light at each portal with one of three PLC-Transportation 4-20mA sensors. Illuminance is detected by the MAS or TMAS, while luminance is sensed by the TLUM.

The system is cost-effective and easily-configurable. 12 output channels can be programmed for night lighting control as well as five daytime light levels.

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 T54-2 system can 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 T57-2 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.

Two controllers constantly communicate with each other and monitor heartbeats. If the primary processor immediately fails, the secondary processor immediately takes over control of the I/O.

TECHNICAL DATA - T54-2 SYSTEM

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

Controller: T54 Redundant Controller
Power Failure Backup: Flash Memory
Program Update: EZ-Store
Input Controller Power: 24VDC
Adjustment Interface: Keypad Touch Screen
Operator Display: Graphic 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

Illuminance Sensor: PLC-Multipoint MAS or TMAS (separate datasheet)
Luminance Sensor: PLC-Multipoint TLUM sensor (separate datasheet)
Signal Input: 4-20mA with 24VDC compliance
Sensor Calibration: Zero & Span configuration
Heater: Thermostatically controlled with fan
Front Door Operators: Local Hand - Off - Auto switch with LED pilot light

Enclosure: NEMA - 3R, 4X and 12 Surface Mount Enclosure
Temperature Range: 32° to 140°F (0° to 40°C)

Communications: Included TCPIP

