

T57-6 SYSTEM

**LED DRIVERS - DISTRIBUTED I/O NETWORK
Tunnel Lighting Control System**

APPLICATIONS

- Long Tunnels
- Bidirectional
- Unidirectional



PROJECT	
LOCATION	

FEATURES

- 12 Output Channels 1 night and 5 daytime levels per direction
- 0-10V LED dimming control
- Networked Remote Dimming Control
- 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 Screen
- Configure Setpoints, Timing, and Sensor Calibration
- Control Outputs, Operating Mode
- Monitor light sensor, control output, contactor status
- Optional Alternation sequence and time clock schedule

DESCRIPTION

PLC Transportation's T57-6 system provides tunnel lighting control for long unidirectional and bidirectional lighting applications. The T57-6 can provide three ways of getting dimming signals from the tunnel lighting controller NEMA rated enclosure to a 0-10VDC LED dimming driver. One way is by Remote Dimming Enclosure. The second way is by Remote Network Enclosure. Third way is by Remote Fiber Optic Enclosure. 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.

The RDE Remote Dimming Enclosure receives a 4-20mA signal and converted to 0-10VDC. Each signal can drive up to 200 dimming drivers. The RDE can be mounted 500ft apart. The RNE Remote Network Enclosure can communicate via copper Ethernet. A remote IO card provides a local 0-10VDC signal and can also drive up to 200 dimming drivers. The RNE can be mounted 300ft apart. The RFE Remote Fiber Optic Enclosure communicates via fiber optic cable with a 0-10VDC signal and can drive 200 dimming drivers at 500 ft apart.

The T57-6 system can handle controlling LED fixtures. The T57-6 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.

The purpose of tunnel lighting controls is twofold. 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 T57-6 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.

TECHNICAL DATA - T57-6 SYSTEM

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

Controller: T57 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

Hil/Low Voltage Trim: 0-100
Hil/Low Output Trim: 0-100%
Hil/Low Setpoint Value: 0-xx Footcandle
Fade/Rise Time: 0-60 seconds

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

3 DIMMING SIGNAL METHODS

RDE Remote Dimming Enclosures

Input Voltage: 120 VAC
Input Signal: 4-20mA (Convert from 4-20mA to 0-10VDC)
Dimmer Drivers Capacity: 200
Mounting Distance: 500ft

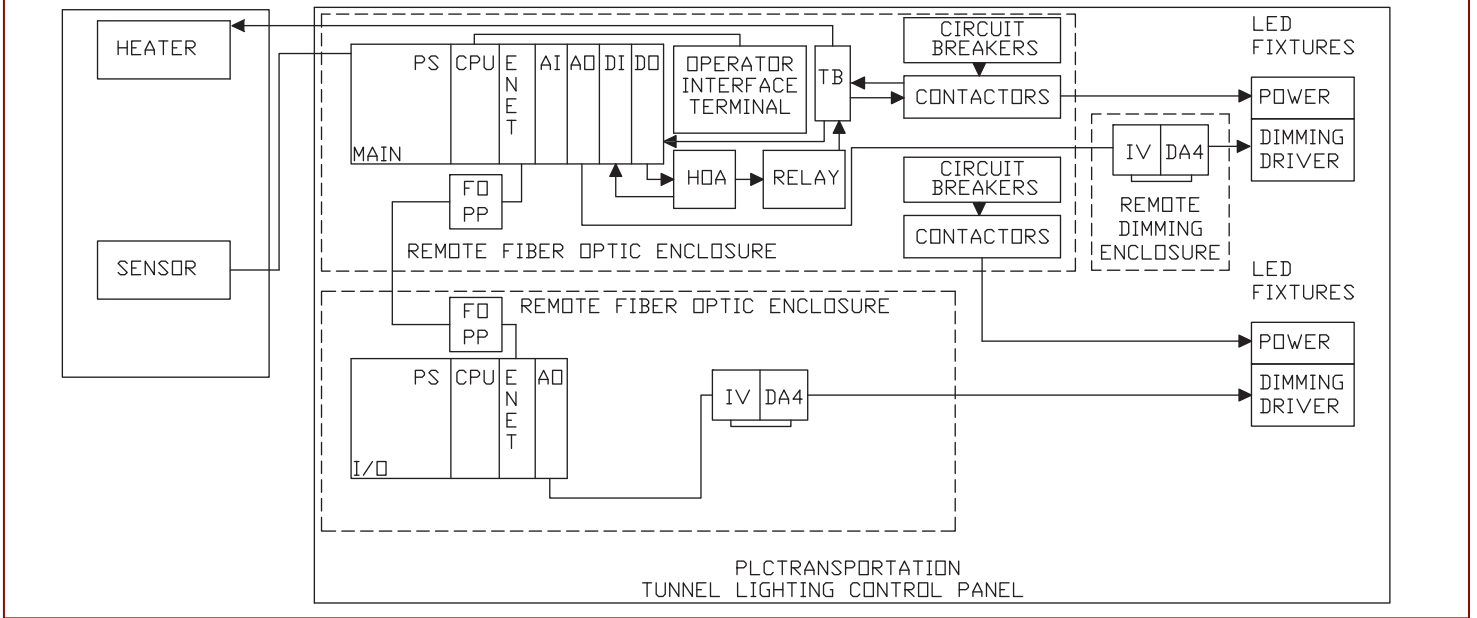
RNE Remote Network Enclosures

Input Voltage: 120 VAC
Input/Output Card Signal: 0-10VDC
Dimmer Drivers Capacity: 200
Mounting Distance: 300ft

RFE Remote Fiber Optic Enclosures

Input Voltage: 120 VAC
Communication: Fiber Optic Cable
Dimmer Drivers Capacity: 200
Mounting Distance: 500ft

ONE-LINE BLOCK DIAGRAM



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