



# PDS»

SCANLIGHT ECO+  
ROAD TUNNEL AND UNDERPASS  
LIGHTING CONTROL



## Applications


Scanlight Eco+ is a next generation Dimmable Addressable lighting control system developed specifically for Road Tunnel and Underpass Applications. It is the culmination of over 15 years of engineering experience in providing Tunnel lighting solutions.

Deploying the latest in lighting technologies to support LED, SON or fluorescent luminaires, Scanlight Eco+ provides a cost optimised solution which delivers optimum lighting conditions best matching the Luminance Reduction Curve. Its performance far exceeds conventional or switched stage systems, with substantially lower capital and running costs.

Scanlight can be configured for any application where efficient delivery of optimum lighting is required to provide enhanced safety and operational cost savings. Scalable variants are available to enhance system resilience and optimise maintenance schedules.





Up to 60% Savings 







# Features

## INTRODUCTION

The system includes facilities to aid both operating and maintenance optimisation, including information on lamp failures and overall operating statistics. These facilities are outlined below with a standard set of features available in the entry level system and options to add further capabilities to meet all technical and budget requirements.

## STANDARD FEATURES

- » Highly robust photometer for ambient luminance measurement, specially designed for tunnel applications, with integrated wash-wipe feature
- » High-integrity Lighting Management Unit (LMU) offering
  - » New Engineering terminal consisting of a HMI with intuitive user interface to display detailed system status and allow control overrides
  - » Manual control override of lighting output
  - » Alarm and event manager
  - » Historical alarm and event recording, viewing and exporting tools
  - » Monitoring of DALI Gateway (DG) and photometer communication status
  - » Configuration via software parameters, allowing the user to fine-tune the system to their requirements
  - » Maintenance Factor Correction (user configurable)
  - » Demand monitoring
  - » Robust industrial enclosure
  - » Industry standard serial data bus interface
  - » Temperature Range: -5°C to 60°C

## OPTIONAL ENHANCED FEATURES

- » Dual-redundant LMUs, operating in a master/standby configuration
- » Dual network data bus, for added network resilience
- » Option to use IP communications for the data bus
- » Dual photometers - the two photometer values provide an overall average tunnel luminance
- » Intelligent Maintenance Factor Correction (IMFC) – illuminance devices installed within the tunnel measures the real output from the luminaires. The system automatically adjusts the output to compensate for dirty, ageing or failed luminaires to potentially further reduce costs by 10-15% over LED savings
- » Safety Integrity Level 2 support
- » Remote system access available via Tablet, Phone or Web browser
- » External Interface – allows integration with a 3rd party system such as a Tunnel or Facilities Management System, for status monitoring and control overrides
- » Status monitoring – the system reads the fault status of each lighting driver and notifies alarms to the user. Can be used to detect luminaire faults
- » Power monitoring – the system reads live data (e.g. from switchgear load monitors) and calculates an overall power usage figure for a given time period (configurable)
- » Software is fully customisable and can be adapted to meet customer requirements

Lighting Management  
Unit Enclosure





- » Industry standard control hardware and communications protocols specifically designed for lighting applications
- » Photometers to constantly monitor external approach luminance
- » Lighting Management Unit/s (LMUs) which process the photometer data and automatically control/monitor lighting status
- » Local and external (e.g. SCADA) manual over-rides
- » Primary redundant data buses for communication between LMUs and Dali Gateways (DGs)
- » DGs interface between the primary data bus and the local DALI data bus
- » Segregated local DALI data buses, each controlling up to 64 lighting drivers within 300m
- » DALI lighting drivers for each Luminaire providing relay-free lamp switching/control/status and feedback, independent of mains supply



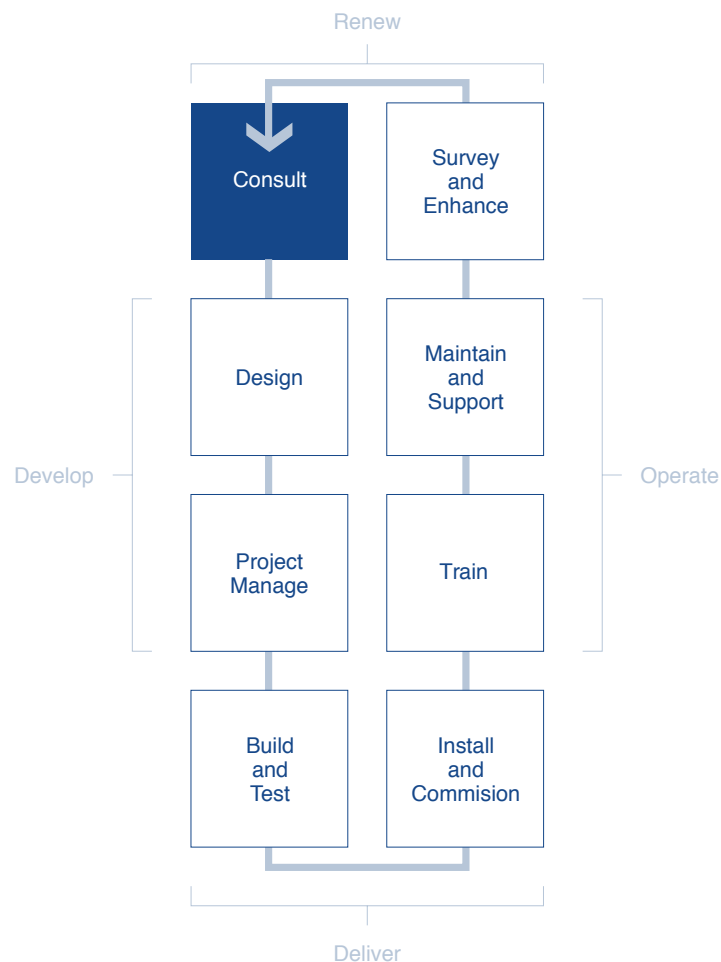
## Support and Service

### UNRIVALLED SERVICE 24/7, 365 DAYS A YEAR

PDS understands the challenges of maintaining a complex and ever evolving systems infrastructure. We pride ourselves on providing a “one stop shop” approach with support and services available throughout your complete asset lifecycle.

With over 30 years’ experience of specialising in control system delivery and support, we have a long history of success in maintenance contracts across varied infrastructure markets.

We provide a consultative approach and can assist throughout the complete product lifecycle including design, supply, installation, commissioning, and maintenance as well as our unrivalled 24/7/365 call out service and support packages.





## REDUCED INSTALLATION TIME

- » No mains switching – saves the cost of switchgear
- » Commissioning time (Less than 2 days) is greatly reduced by pre-configuration and testing of all hardware, to provide a plug-and-play style delivery to site

## SCALABLE

- » Broad range of options to support any installation ranging from a low speed single bore underpass to a high speed multiple bore motorway

## LUMINAIRE INDEPENDENT

- » Supports LED, SON or Fluorescent luminaires

## HIGH SYSTEM INTEGRITY

- » Redundant architecture options for additional resilience and fault tolerance
- » PLC based architecture providing high reliability and reduce maintenance costs
- » Pre-programmed lighting output level in the event of an overall communications failure
- » Designed to minimise Cybersecurity risks

## TECHNICAL & AFTER SALES SUPPORT

- » In house support available direct from original system designers.
- » Commissioning, service and maintenance through PDS Systems Support Department

## HIGH COMFORT LIGHTING

- » Dimming avoids step changes to lighting uniformity normally associated with conventional stage switching

## SIGNIFICANT ENERGY COST SAVINGS

- » Lamp dimming enables close fit to Luminance Reduction Curve saving Energy
- » Up to 60% savings in running costs due to energy reductions from using LED fittings, optimal light control and reduced maintenance costs.

## SIMPLIFIED MAINTENANCE / LOWER OPERATIONAL COST

- » Commercial Of The Shelf (COTS) hardware and industry standard protocols avoids vendor lock-in and guarantees future component availability/compatibility
- » Diagnostic fault finding including hardware location
- » Support for any industrial DALI gateway
- » Historical operational data collection
- » Can be fully integrated into tunnel or facility management systems (PDS or others), with remote dial in control







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