



Green Solutions:

LED Traffic Lights



Telent Green Solutions Working Group

telent
talent with technology

Traffic signals are a critical part of our road infrastructure

There are estimated to be more than 33,000 traffic signals in the UK, operating day and night to manage the smooth flow of traffic and the safety of vehicles and pedestrians

Telent currently provides traffic signal maintenance services under 27 regional contracts excluding London



Green Solutions: Our Vision



Telent have committed to achieving net-zero GHG emissions by 2050 through the Science Based Targets initiative (SBTi)

This includes emissions created indirectly by our entire value chain, from raw material extraction to customer use of our products and services - providing sustainable whole-life solutions to our customers

In 2023, we set a near-term target to reduce all emissions by an average of **50%**, no later than 2030



Green Solutions: LED Traffic Signals

Our latest generation LED signals have a far smaller carbon footprint and lifetime operating cost

| Features | Sustainable Benefits |
|--|--|
| ✓ Consumes up to 88% less energy* | Reduced operating costs and CO ₂ emissions compared to halogen equivalent through low energy consumption |
| ✓ Higher reliability and service life | Fewer maintenance visits and replacements reduces the emissions from engineer travel and the disposal of end-of-life equipment |
| ✓ No hazardous chemicals such as mercury | Free of any chemical which can be hazardous for the environment or public health, which also reduces disposal costs |

Environment: Assisting authorities to meet their environmental targets



Social: Safer roads through maximum uptime, high visibility and no dangerous chemicals

*Our extra-low voltage (ELV) unit compared to halogen equivalent

Green Solutions: LED Traffic Signals



Telent's Optima Traffic Signal Controller



Low voltage (LV) and extra-low voltage (ELV) available for **all configurations**



Full **connectivity** and **24/7** remote lamp monitoring via Telent's Optima Hub cloud solution



Smart planned maintenance through remote monitoring and ability to replace modules quickly



3,000 signals upgraded and maintained to the latest, **greenest** standards by Telent in London for TfL



Fully modular and **scalable** solution offers a range of **ELV** assets including single aspects, push buttons and vehicle detectors

Green Solutions: LED Traffic Signals

Additional features

- ✓ Used in over 70 countries
- ✓ Excellent optical properties and performance
- ✓ Developed under eco-design principles with minimised weight profile to reduce material usage and maintain optimal strength and stability
- ✓ Modular design for easy maintenance and replacement of individual components and accessories
- ✓ Individual adjustment of signal intensity for maximum operating efficiency
- ✓ Operating hour counter for efficient maintenance planning
- ✓ Compensation of temperature effects on LED brightness
- ✓ Compensation of the LED degradation
- ✓ Configurable LED failure behaviour



Green Solutions: LED Traffic Signals ROI

Annual savings compared to Halogen equivalent

Annual energy cost saving per unit*



Halogen **£125**

LED **£16**



Annual CO₂e reduction per unit**



Halogen **81kg**

LED **10kg**



***Based on the UK Government GHG Conversion Factors for Company Reporting 2022 – UK electricity total kg CO₂e per unit

Green Solutions: LED Traffic Signals ROI

We have replaced more than **7,000** signal heads with our LED technology for customers across the UK

Total annual energy cost savings for our customers*

£763k

Total annual CO₂e reduction for our customers**

497
tonnes

87% reduction in energy costs

The equivalent of taking 249 diesel cars off the road***

*Based on average cost of electricity per kWh (2022)

**Based on the UK Government GHG Conversion Factors for Company Reporting 2022 – UK electricity total kg CO₂e per unit

***Based on an average diesel car emitting 127g/km for 16,093km per year (10,000 miles) = 2 tonnes. Figures rounded

Green Solutions: Data & Technical Specifications

Dimensions (mm)

3 aspect assembly excluding visors:

Without backing boards 1130(h)x350(w)x170(d)

With backing boards 1230(h)x450(w)x170(d)

Mountings with standard brackets are compatible with standard pole positions

Weight

11kg including brackets and hoods

Materials

Body: glass reinforced black UV stabilised polyester

End: Covers & Doors—Black UV stabilised polycarbonate

Light Output

Complies with BS EN 12368 and TSRGD (2002)

Symbols

All standard symbols are available on request

Power Consumption

9w Bright

2.5w Dim nominal

Operating Voltage

140-260V AC, 50Hz (Dim 140—170 Vac)

ELV—48V AC

Standards

In conformance with:

EN 12368

EN 50293

EN 60529

EN60598

TSRGD

IP65

Conforms to EU and UK directives and standards

Operating Temperature

-20 to +70C

Hoods

Hoods are fixed to the module door using plastic rivets supplied in kit form for site or depot assembly

Assumptions

- Non-dimmable Halogen head power consumption 47.7w operating 24 hours per day
- Dimmable LED head operating 24 hours per day (12.5 hours bright at 9w and 11.5 hours dim at 2.5w)
- Average cost of electricity per kWh (2022) £0.30
- UK Government GHG Conversion Factors for Company Reporting 2022 – UK electricity total kg CO₂e per unit 0.19338 kg CO₂e



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