

**PHILIPS**

SunStay Pro

Solar lighting



Discover the  
all-in-one connected  
**SunStay Pro**





# Global trends

## Carbon-neutral goals are more important than ever

With current policies to reduce CO<sub>2</sub> emissions, it is more important than ever to reduce the carbon footprint of urban and rural areas.

## Energy is expensive

The looming energy crisis has made it expensive to run municipal street lights, so it is essential to research solutions for creating energy efficiencies.

## Misconception that solar street lights are impractical

City planners might believe that solar street lights are expensive to install, run and upgrade. And that they need year-round sunshine to go solar. But this isn't true!

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# SunStay Pro

The all-in-one connected solar street light.

SunStay's elegant all-in-one solution helps you meet long-term sustainability goals while delivering immediate cost and energy savings. It helps create efficiency across the entire value chain — from installation and use to maintenance upgrades. And SunStay Pro Solar helps ensure community safety and security with its always-on feature.

Even better, you don't need year-round sun to go solar! Our hybrid solution offers the best of both worlds — either plug into the grid (while sustaining solar energy savings) or go totally off-grid.

SunStay Pro Solar offers a unique opportunity to take small, certain steps to create a more sustainable, cost- and energy-efficient environment.







# Product benefits



## Easy Installation

All-in-one integrated design (PV panel, battery, CCC, BLE, OLC, sensor etc) for easy installation and maintenance.



## Cost Saving

Off-grid option lowers TCO with no cabling or trenching. ZERO energy consumption from the grid.



## Year-round use

Hybrid charger allows it to work off-grid during sunny days and draw partial power from the grid on cloudy days.



## Easy upgrade

Top-up vertical PV panel (off-grid), add sensors, add OLC (remote connectivity) as future upgrades without replacing solar street light.

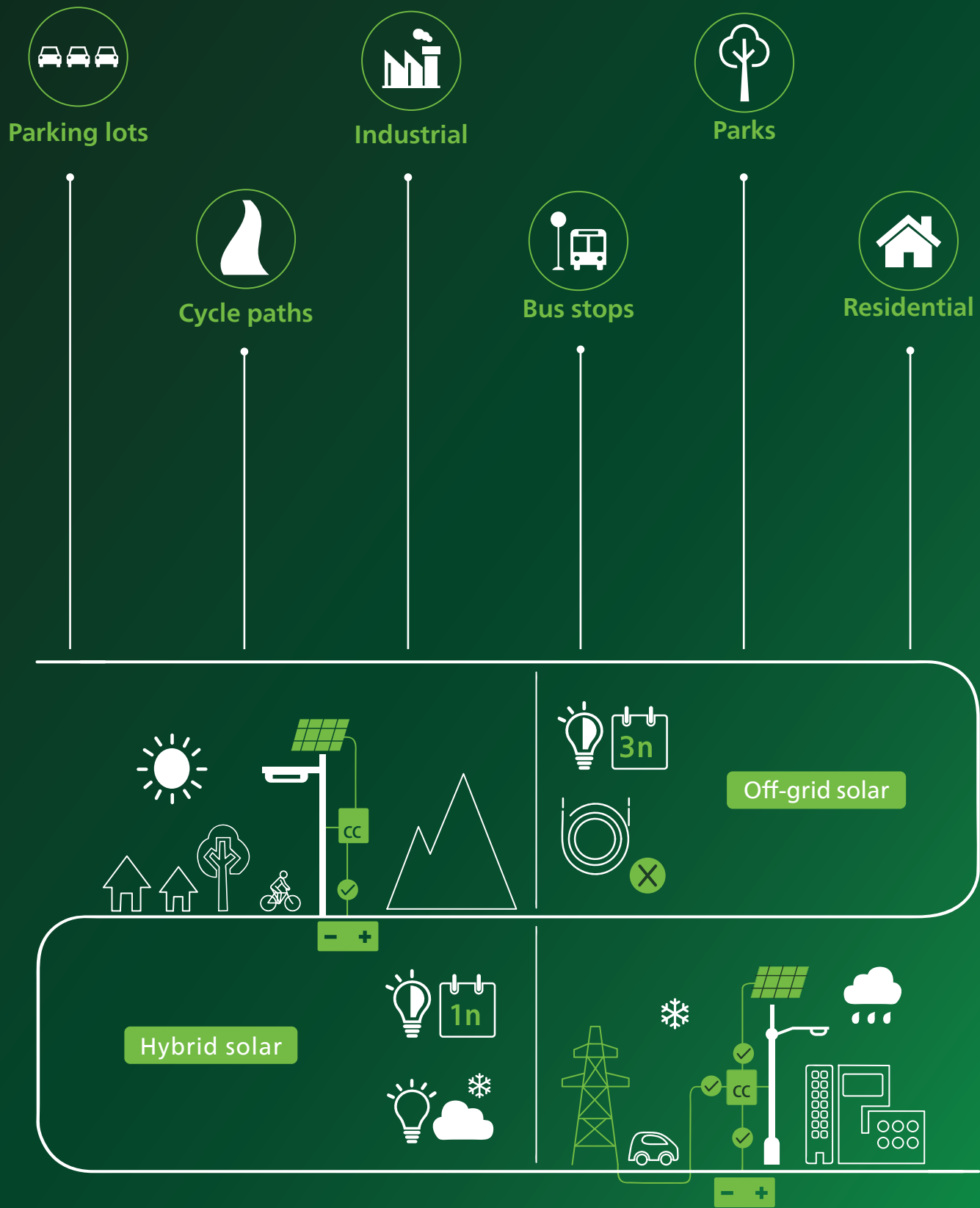


## Easy Maintenance

Access to battery and other components via CLIPS, top opening housing and spare parts.



# Application areas







# Driving differentiation



## Meet carbon-neutral goals

- Solar street lighting is one of the fastest and cheapest ways to reduce CO2 emissions
- Offers both off-grid and hybrid power solutions
- Off-grid consumes ZERO energy from grid, hence no electrical infrastructure required
- When combined with Managed Services, lighting system offers increased cost and energy savings



## Cost- and energy-efficient

- Saves cost of installation with no cabling trenching and distribution switchgear in off-grid version
- Choice of battery size to optimize cost and energy backup
- Broader range of optical choices offers better pole spacing, lower energy consumption at application level and better TCO



## Always-on feature for street security

- Run Time Extension: RTE function (off-grid only) to enable adaptive lighting level
- Fully compliant with European street lighting standards
- Hybrid option runs on grid in absence of sun
- Increased autonomy with the light on-demand feature (multi-sensor on external socket to enable adaptive lighting level based on residual power in battery during low or no sun days)

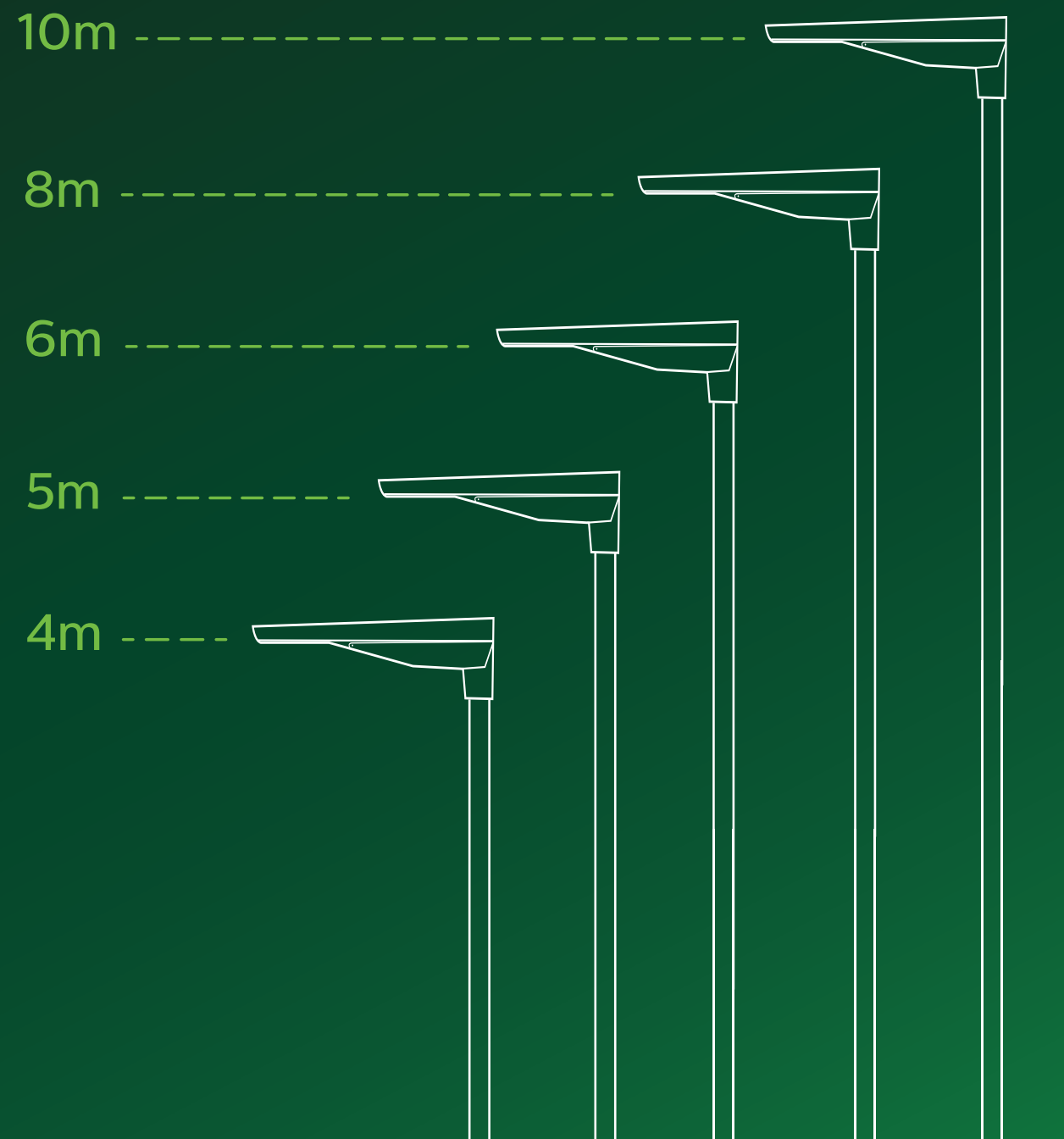


## Easy to install, upgrade and maintain

- All integrated design makes it easy to install, configure, use and upgrade
- Saves time of installation with no cabling, trenching and distribution switchgear in off-grid version
- Top-up vertical PV panel to increase power without replacing whole unit
- Upgrade option to Interact remote monitoring system via external socket without replacing the whole unit



# Application coverage



## Key benefits



1. Easy access and replaceable spare parts for maintenance via Service tag
2. Housing with integrated PV panel
3. Eyebolt to connect safety chain
4. One spigot, two mounting options post top and side entry
5. Clips for easy opening of top housing
6. Integrated outdoor luminaire controller (OLC) for Interact remote connectivity
7. Adjustable dimming profile, and monitoring via BLE connectivity
8. Optional top-up vertical PV panel (off-grid) on pole for additional solar energy
9. Philips Outdoor Multi-sensor offers better autonomy, with light on-demand and forward triggering feature
10. All-in-one design for easy installation, maintenance and upgrades

# Product overview





# Designed for serviceability

Easy to service thanks to the Service tag, a unique QR-based identification system that appears on individual luminaires and their packaging.

## Service tag:

- Simplifies installation and servicing
- Provides 24/7 access to luminaire and spare parts information
- Allows on-the-spot driver reprogramming

SunStay Pro is system-ready, which means it can be paired with existing and upcoming control and lighting management solutions such as Interact.

“

The greatest value of the Service tag is that it enables us to **save precious time and avoid human errors.**”



# Why Service tag?



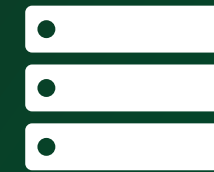
## Easy access to relevant information

Improves installation process by providing easy access to product configuration information



## More effective maintenance

Enables more effective maintenance operations by identifying spare parts



## Digital maintenance

Allows you to pre-program spare parts to factory settings

## Instant access to procedures, spare parts lists and programming

Service tag features a QR-based identification system that gives you instant access to critical information during unpacking, installation, diagnostics, fault reporting and programming. Simply scan the tag with a smartphone or tablet running the Philips Service tag app, and you can access information about the contents of the box and troubleshooting details specific to the luminaire. Service tag also allows you to source spare parts and restore factory settings in the field. It's that simple.





# Designed for a circular economy

Our purpose is to unlock light's extraordinary potential for a brighter future and a better world. Helping to further develop the circular economy is a good place to start.

Our Lighting for Circularity products, services and systems can help to reduce the environmental impact and enhance store experience at the same time.

## Products

Luminaires and components use renewable materials, offer high energy efficiency and long lifetime, are easy to maintain, repair, upgrade, and replace

## Services

Include everything from design and build, to operation and maintenance to ensure sustainable investments and operations.

## Systems (Interact)

Smart lighting systems can have a great impact on the environmental performance of your lighting, e. g. remote monitoring of lighting asset.





# SunStay Pro meets the five criteria of Lighting for Circularity

## Energy efficiency & lifetime

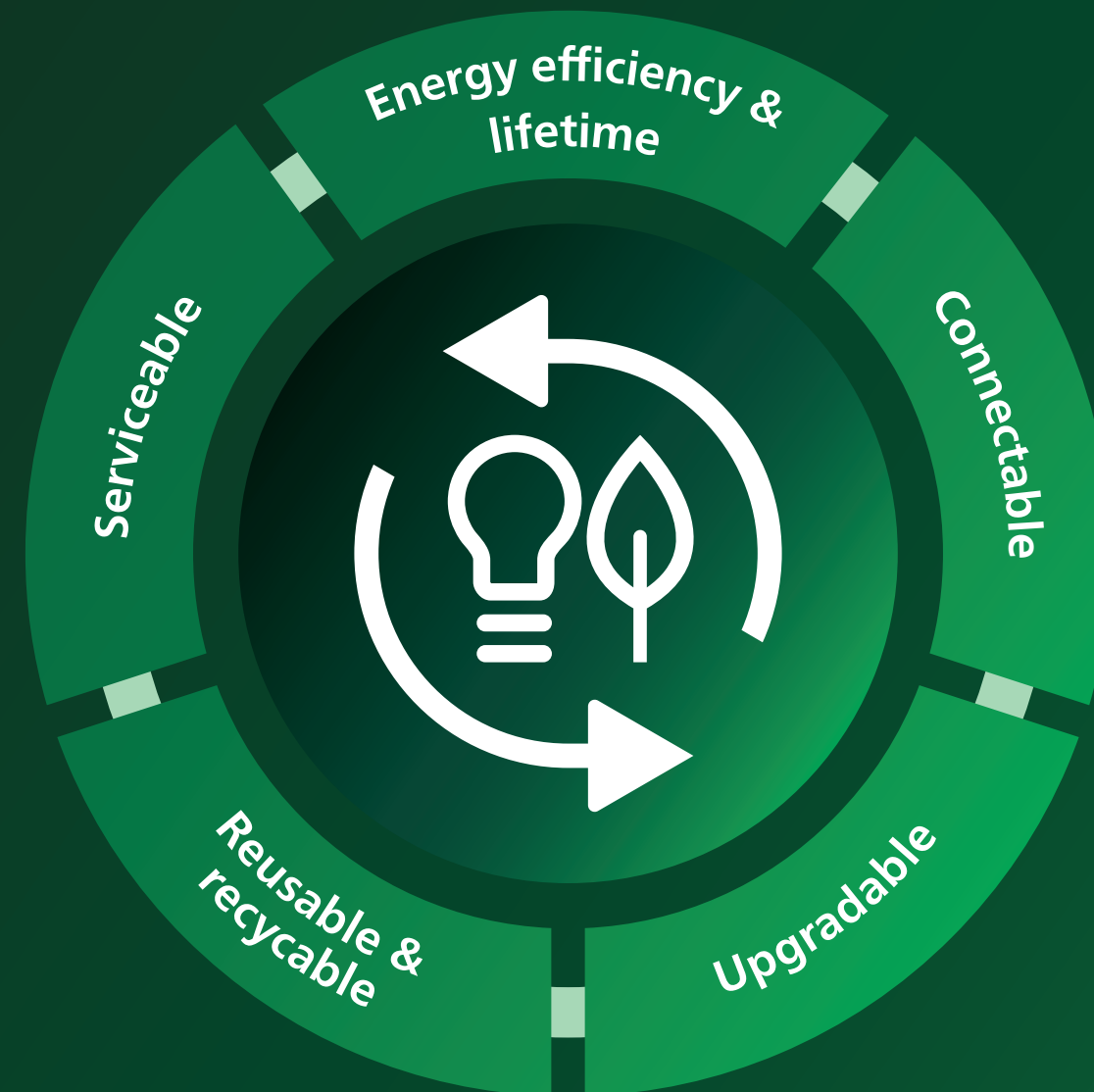
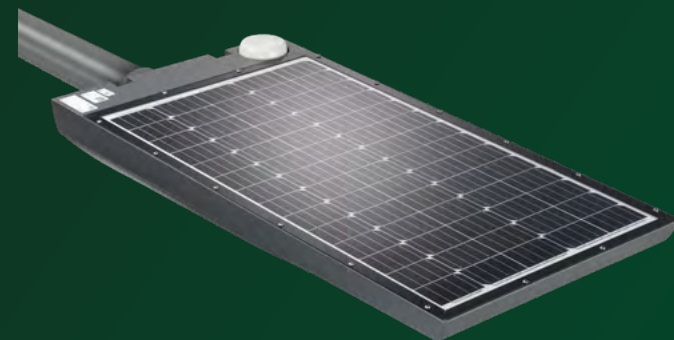
- SunStay Pro range offers off-grid and hybrid options with very high luminous efficacy up to 180 lm/W.
- It has a range of tailored-made optics that support optimized lighting design in road and street applications, for even greater energy savings.
- LED Lifetime of 100k hours with very high lumen efficacy up to L97.

## Serviceable

- SunStay Pro range is easy to service, repair and replace thanks to the Signify Service tag, QR-based identification system, which makes each luminaire and its components uniquely identifiable. Components are modular in design and leverage platform building blocks to maximize reuse in the portfolio.

## Reusable and recyclable

- The aluminum housing is fully recyclable and can be used to renew die-casted aluminum.
- The other parts can be dismantled and recycled in a responsible manner.



## Connectable

- SunStay Pro range can be connected via Bluetooth mobile application to monitor, configure and has presence sensor for increased energy saving and/or connect to Interact city for configuring, scheduling and asset management.

## Upgradable

- SunStay Pro range is upgradeable. LED boards, drivers and other electrical components are easily accessible and exchangeable.





# The right solution for outdoor applications

## LEDGINE

Our latest generation LEDGINE Flex light engine offers the flexibility to further optimize your preferences for luminaire efficacy and cost aspects. The LEDGINE Flex light engine covers a wide range of standard fluxes and a full range of standard optics is available to cover a wide range of applications. Moreover, where needed we can support you to tune and optimize your project solutions as to fluxes and light distributions further with our exclusive tools. The three pillars that characterize the light engines are standardized optics, standard engines and tailor-made solutions.



### Luminaire efficacy optimization:

## LEDGINE Flex

### LED count and glass options optimizing system lm/W supporting high energy savings

High flux per area enabling use of compact lower cost luminaire sizes



### Standardized optics

A perfect application fit  
A wide range of light distributions ensure a perfect fit for many applications.

The optics offer flexibility, enabling standardization over applications with a good performance across a wide range of geometries – as well as design parameters such as tilt and overhang. The optics comply with national and European road lighting standards.



### Standard engine

High performance across portfolios.

Using a standard engine across different luminaire ranges means you can optimally benefit from the latest LED upgrades without changing light distributions, so design continuity is assured. Standard flux packages are pre-defined across product ranges. Flux and thereby energy minimization is achieved by using best possible lumen maintenance (up to L98 or CLO solutions). The LEDGINE Flex engine benefits from more LEDs per area contributing to more compact and cost effective solutions. Standard engines minimize spare components which are easy to configure by using our Service tag application.



### Tailor-made solutions

Tuning to project preferences.

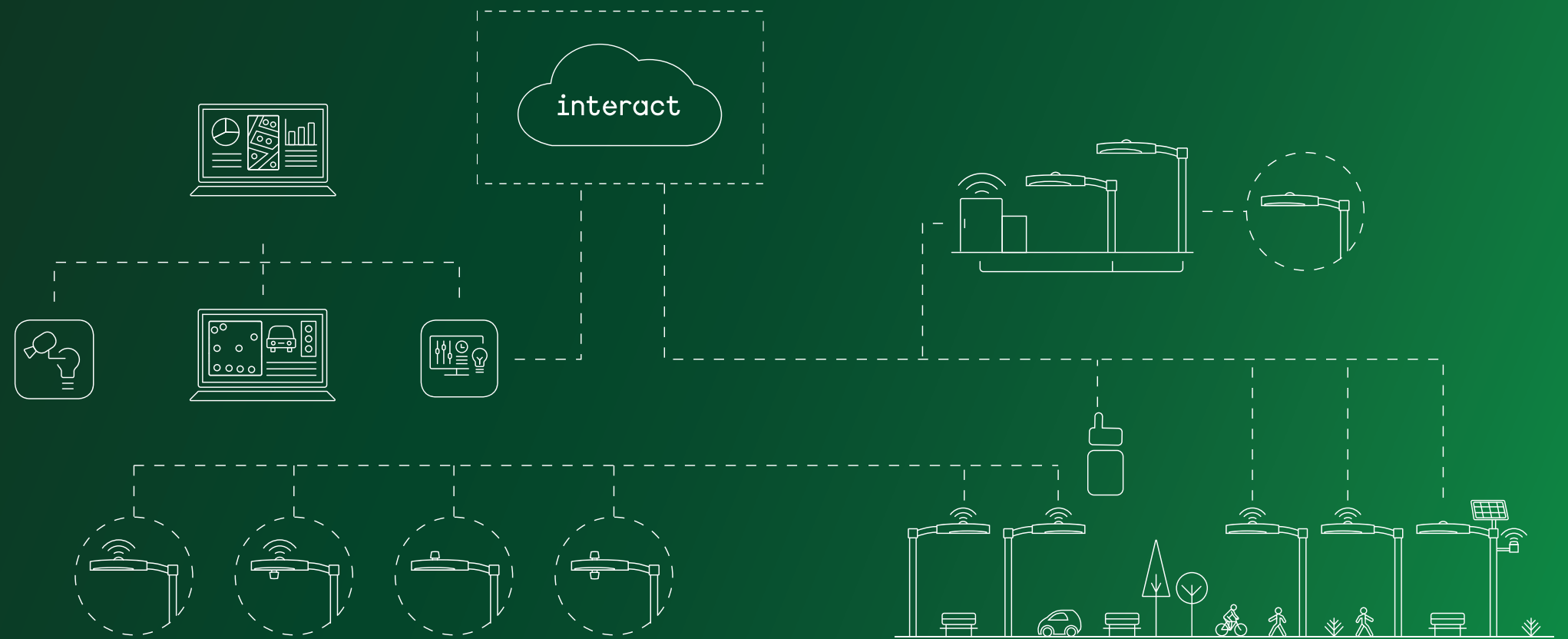
We can support you with our exclusive Lucia tool to customize solutions which of course can become your standard! Using a **variety of LED counts it enables to build the exact required flux** in a perfect balance between energy consumption, luminaire cost/type and operational life. Based on project parameters the best optical fit can be selected and when required **light distributions can be customized for best application fit** and to maximize energy savings.





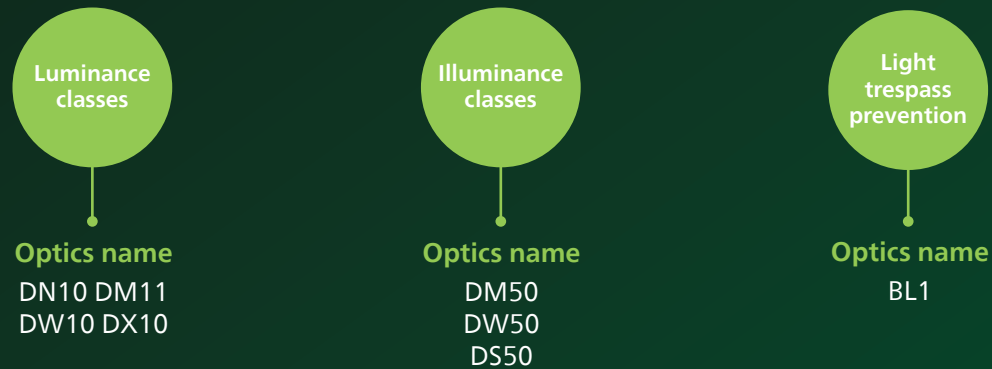
# Connect to Interact

Interact turns your street lighting into a connected network capable of hosting sensors and other IoT-enabled devices. It allows you to tap into a wide range of lighting and non-lighting benefits such as scheduling, presence detection, noise monitoring, and incident detection.





# Clearstar: Colored optics to preserve night time



Uncontrolled lights can create light pollution, producing too much brightening of the night sky. This prevents people enjoying the night sky and the stars, and it also wastes energy and money.

Light spectrum composition with significant blue light has a negative impact on the work of astronomers. Some governments are therefore limiting blue light spectrum in light sources.

The use of efficient white LED boards with the dedicated **LEDGINE O** colored optical plates for night preservation is an ideal solution for the safety and comfort of inhabitants, astronomers research and compliance to regulations.

Two solutions are proposed for the night preservation, based on colored optics. It ensures a higher efficiency than standard optic plate with Amber LED.



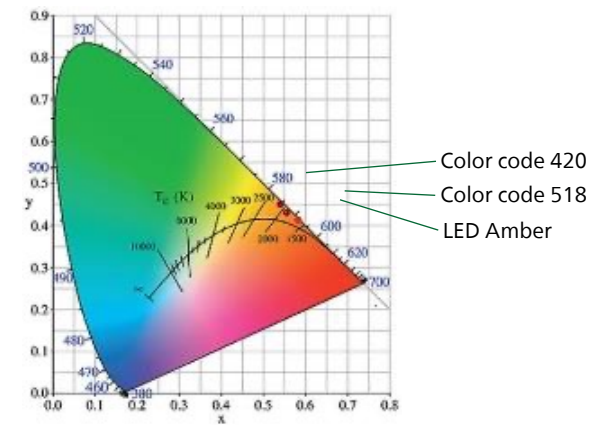
Standard optical plate



Optical plate for night time preservation

The colored optics can be combined with neutral white or warm-white LED board, providing two different CCT and CRI. They allow the LEDGINE O lighting distributions remain unchanged thanks to standard transparent optical plate.

The colored optics can be combined with neutral white or warm-white LED board, providing two different CCT and CRI. They allow the **LEDGINE O** lighting distributions remain unchanged thanks to standard transparent optical plate. The solutions, using standard LED and optical platforms, allow easy maintenance and repair.



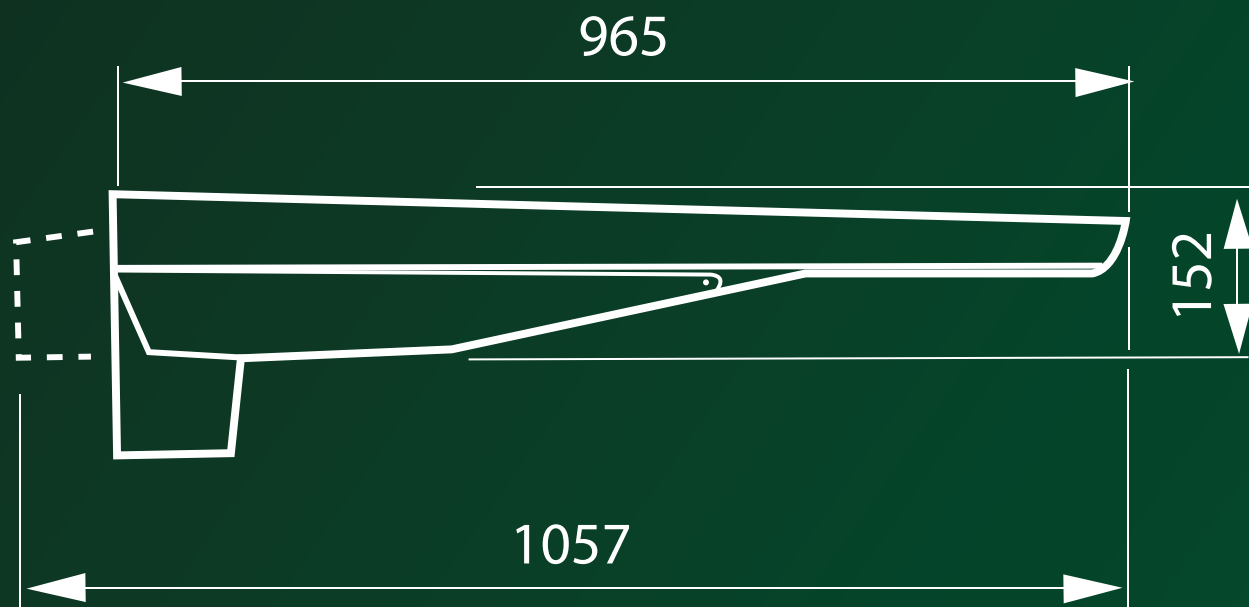
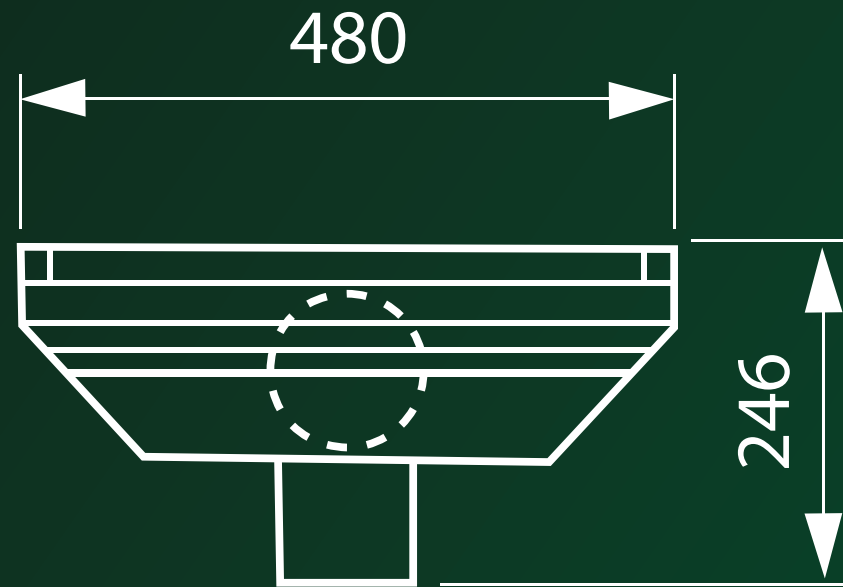
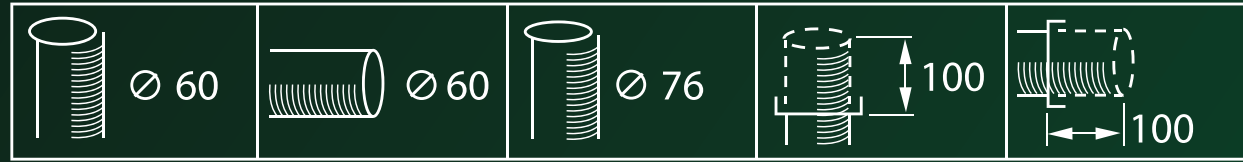
Type	X*	Y*	CRI	CCT
LED Amber	0.567	0.422	37	1700 K
420	0.551	0.446	36	2000 K
518	0.568	0.43	48	1800 K

\* CIE chromatic diagram coordinates @400 mA





# Dimensional drawings



# Data sheet

<b>Product designation</b>	VGP725
<b>Product versions</b>	Off-Grid (BLE-OG) Hybrid (BLE-Hy)
<b>Driver</b>	Combo Charge controller Hybrid power supply unit
<b>Luminous flux ranges</b> (Source light flux (Ta dependent)) Tolerances on light flux: +/- 7%	600 Up to 4,000 lm (32 LED version) 4,500 Up to 10,000 lm (64 LED version)
<b>System Power</b> (tolerances on system power: +/- 10%)	3 to 70W Max 180W when charging the battery in hybrid version
<b>Luminaire Efficiency</b>	Up to 180 lm/W (depends on version CCT and CRI)
<b>Correlated Color Temperature</b>	Warm White (WW) 3000 K (tolerances on CCT: +/-120 K) Neutral White (NW) 4000 K (tolerances on CCT: +/- 180 K)
<b>Color Rendering Index</b>	typical: 80 (830) and 70 (740 / 730) Tolerances of CRI +/- 2
<b>SDCM</b>	< 5
<b>Light distributions / optics</b>	DM10/DM12/DM31/DM32/DM50/DM65/DN09/DN10/DN11/DN25/DRM1/ DRXN1/DX10
<b>Operating temperature range</b>	-20°C up to +40°C (Battery Charging 0 Deg C to +60Deg C / Discharging -20 Deg C to +60Deg C)
<b>Electrical insulation class</b>	Class I / Class II (Hybrid)   Class III (Off-Grid)
<b>Degree of Ingress Protection</b>	IP66
<b>Luminaire dimensions (LxWxH)</b>	1057 x 480 x 152 mm
<b>Luminaire weight / Battery Ah combination</b>	Off Grid : 24.2kg (12Ah) / 25.5kg (18Ah) / 28kg (30Ah) Hybrid : 25.5kg (12 Ah) / 27.5kg (18Ah)
<b>Luminaire windage area (SCx)</b>	Zero Tilt : 0.106 m2 / 15 Deg tilt : 0.168 m2
<b>Material / Finishing</b>	PDC LM6 Aluminium housing. Glass over PC optics
<b>Supply mains input</b>	Hybrid : 220-240V/50Hz (tolerances: -/+ 10%) Off-Grid : Internal battery 25.6V
<b>Inrush current (Hybrid)</b>	10.8 A during 328 μs at 230 V mains measured at 50% peak



# Data sheet

<b>PV Panel</b>	Horizontal Panel: 65Wp / 38.17V fixed on the housing Optional Vertical Panel : 190Wp / 36V x 3 mounted on the pole for Off-Grid version only
<b>Self-Diagnostics Visual Indications</b> (2 LEDs – GREEN / RED)	Battery Charging: GREEN LED Blinking 1sec On/Off Battery Recovery: GREEN LED Blinking 0.5sec On/Off Battery under voltage Cut off: RED LED ON for 800mSec and OFF for 5 sec Any other Fault in system: BOTH LED's GREEN and RED Blinking @ 1Sec internal
<b>Power factor (Hybrid)</b>	> 0.90 at full power
<b>Surge protection</b>	10 kV standard (Differential mode / common mode)
<b>Life-time / Lumen maintenance</b>	L97B50*: up to 100000 hours (* As per Lighting Europe guidance paper "Evaluating performance of LED based luminaires - January 2018" : Statistically there is no relevant difference in lumen maintenance between B50 and for example B10. Therefore, the median useful life (B50) value also represent the B10 Value)
<b>Charge controller lifetime</b>	50000 hours
<b>Failure rate charge controller</b>	0.5 per 5000 hours
<b>Luminaire installation</b>	Outdoor: Side entry and Pole top mounting on pole height of 4-10mts Should NOT be installed under shadow of trees / buildings / poles / Snowing regions etc. (Refer mounting instruction sheet for full information / limitations)
<b>Luminaire accessories</b>	Vertical PV panel (Optional)
<b>Optional versions</b>	Marine salt protected (MSP), Internal spill-light control louvre, OLC, OSB sensor
<b>Certification / Listing</b>	CE, ENEC, ENEC+
<b>Inbuilt system protection</b>	Battery Reverse polarity Panel Reverse polarity Battery Over voltage Load short circuit Load Disconnect Panel over voltage protection (>52V) Charger over temperature and low temperature protection
<b>Packaging content</b>	1 pcs per box without accessories



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