Laternix®

Innovation for sustainable lighting

Sustainable LED solutions

for the energy-efficient modernisation of outdoor lighting

Expertise brochure 2020

CONTENTS

ABOUT US

A family business from the Chiemgau region

Laternix is a family-owned business located in Germany. It was founded in 2013 by industrial engineer Michael Härtl, who previously, as Head of Development at Siteco, decisively advanced the transformation to LED technology. As an acknowledged market and technology expert with numerous inventions and publications, he is a recognised expert within the lighting industry.

At our location in Traunstein (in Chiemgau, in the Upper Bavaria region of Germany) we develop, produce and market innovative LED lighting solutions for the modernisation of existing luminaires, and with a focus on outdoor lighting. Many thousands of our LEDiK-ITs® have been in use for years in various European countries and perform their service reliably and efficiently.

In your function as a municipality, town or city, local authority, energy supplier, installer or specialist planner we offer a range of solutions for the sustainable future design of your lighting systems that is unique on the market. Simultaneously, renowned luminaire manufacturers have high regard for our expertise and the quality of our assemblies.

We are a product manufacturer and also a partner for the joint development and implementation of sophisticated solution concepts that are tailored to your individual requirements.

According to our motto of **“innovation for sustainable lighting”**, our approach goes far beyond the realisation of energy savings. We pursue a holistic approach that has **sustainability** at its core. Our solutions achieve better light for people and the environment, reduce light pollution and contribute to the reutilisation of valuable materials and avoidance of electronic waste.

We have been awarded the Meggle Founder Prize for our business approach geared towards sustainability.

With this brochure we are pleased to give you an insight into our innovative portfolio and our extensive solution expertise.

Let yourself be inspired!

Dr. Petra and Michael Härtl

MEGGLE

FOUNDER AWARD2018

OUR FOCUS

Sustainability at the centre

Germany alone has more than 10 million street luminaires. There are also millions of architectural luminaires, projectors, floodlights, tunnel luminaires and other luminaires in public and private outdoor spaces. Most of these are less than 20 years old and only a few of them are equipped with LED technology.

Converting these light points to LED technology provides a huge energy saving potential that can contribute to the reduction of CO_2 emissions. At the same time, researchers are observing a significant increase in light pollution that is indisputably due to LED lighting, and we have probably all come to notice the decline in insect populations. In order to avoid any negative or rebound effects **a conscious and careful handling of the medium of light** is therefore absolutely necessary.

When upgrading to LED technology, there are basically three possibilities with advantages and disadvantages:

a) Replacing a traditional luminaire with a new LED luminaire

b) Converting an existing luminaire to LED technology, whereby the housing is essentially retained and the “inner parts” are replaced (often referred to as an LED conversion kit)

c) Replacing the traditional light source with an LED replacement light source (often called an LED retrofit)

We are convinced **that it is more sustainable to technically and energetically modernise a well-maintained luminaire by converting it to LED technology**, thus making it usable for a further 20 years, rather than to dispose of it or equip it with an LED replacement lamp as a (in most cases) poor compromise.

With a great deal of passion and persistence we have invested much time, capital and expertise in the realisation of our ideas with the above goal in mind. Our portfolio of LEDiKIT® products, unique on the market, provides compelling solutions for luminaire models of all types and applications of any scale. Thanks to our solutions existing luminaires experience an **‘upgrading’** in every respect, and it’s also the reason why we call them **‘LED Upgrade Kits’**!

Source: NASA VIIRS - photo 2016

OUR PHILOSOPHY

Light according to needs

When used correctly, LED technology opens up major potential for sustainable action. It should follow the principle of “needs-based” lighting. This requires a detailed analysis of the demand situation, precise planning and consistency in implementation.

All too often, residents complain about light dazzle and too much glare following a conversion to LED technology. And legitimately, because high efficiency and a low price are no guarantee for good lighting and definitely not for sustainability.

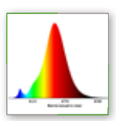
For this reason, our philosophy is

“light as good as possible, as much as is required, in the right place at the right time, highly efficient and durable”

In our product developments, we translate the guiding principle of sustainability into specific technical solutions with which we can implement our philosophy. These solutions are always based on four pillars which are of fundamental importance to us:

Light direction
Our products align the light where it is needed: on the street and pavement but not in front gardens, onto facades or into the night sky. We achieve this by using light directing optics, and we have developed a whole range of these for a broad spectrum of lighting tasks.

Light control
LED solutions from Laternix® consume as little power as possible and the light is only provided in the required quantity and at the right time. We have developed intelligent dimming controls for this purpose.



Light spectrum
The light spectrum, light colour and colour rendering influence the physiological and psychological perception of humans, and insects and other nocturnal animals are influenced by light. It is therefore important to provide an appropriate light spectrum for the respective application.

Conservation of resources
The concept of modernising existing luminaires by converting (upgrading) them to LED technology combines the objective of saving energy with the target of conserving resources. Due to their technical design and quality of materials, our LEDiKITs® are extremely durable and designed so that they can be easily repaired and recycled. As products ‘made in Germany’, we thus meet all environmental and social standards.

OUR APPLICATIONS

A solution for everything

Decorative post top- and suspended luminaires

- with vertical basic structure
- with vertical or suspended lamp position
- for low to medium light point heights (3 to 5m)

Decorative bell and arched luminaires

- bell-like form
- for low light point heights (3 to 5m)
- for higher light point heights (5 to 8m) with specific light distribution curve

Old town luminaires

- handcrafted manufacture
- round or polygonal form

Luminaires for architectural applications

- Secondary reflector luminaires
- Light columns and bollard luminaires
- Ground-recessed luminaires

Functional street luminaires

- with technical design including tunnel luminaires
- with decorative design

Luminaires for planar lighting

- Projectors and floodlights
- High-mast luminaires with several light units

10

5

SMART CITY

10

5

LPH (m) (light point height)

(Light point height) **LPH (m)**

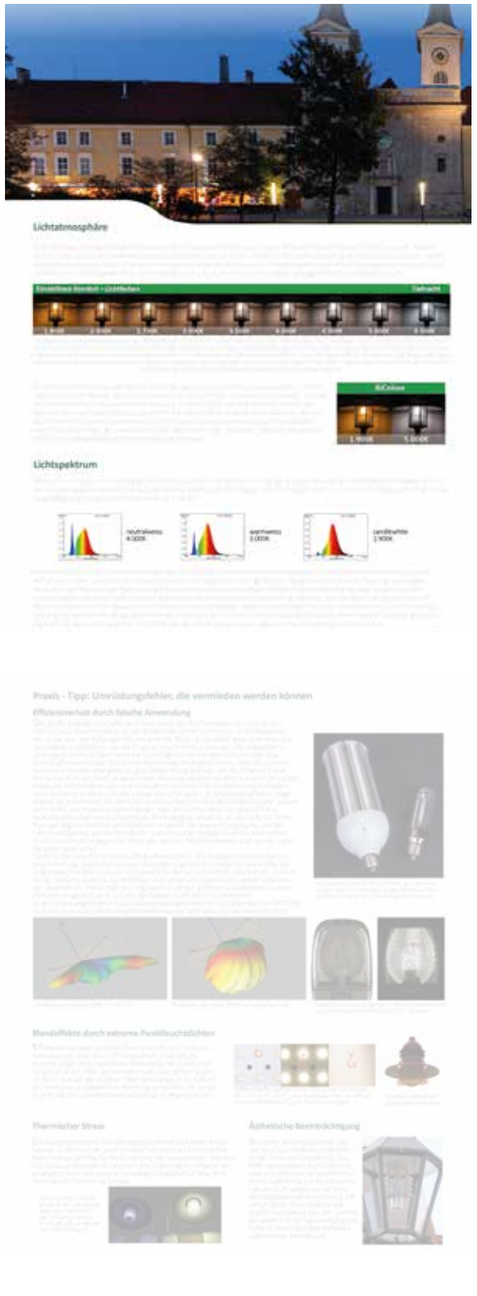
OUR EXPERTISE

From the idea to innovation

Ideas for solutions come from dealing with application problems on the one hand and technology opportunities on the other. In combination with our expertise in the fields of design, lighting technology, electronics (hardware and software) and production technology, we develop products **characterised by their high application benefits and an attractive price-performance ratio.**

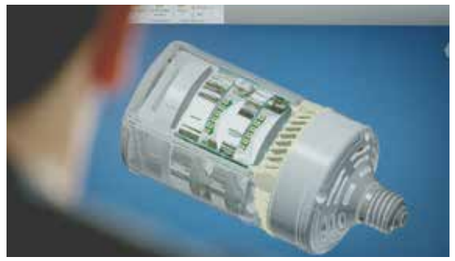
This applies to our standard solutions as well as to our project-specific special solutions developed together with our customers and according to their requirements. **Thanks to our wide range of technology platforms we create sophisticated lighting solutions quickly, flexibly and cost-effectively.** We test the technical properties and quality of our assemblies during development and production in our in-house photometric and luminaire technology laboratory. Product safety is a top priority for us, which is why we comply with relevant product safety standards and guarantee the CE conformity of our products.

APPLICATION KNOW-HOW

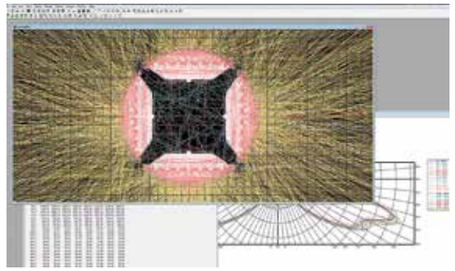


PRODUCT DEVELOPMENT

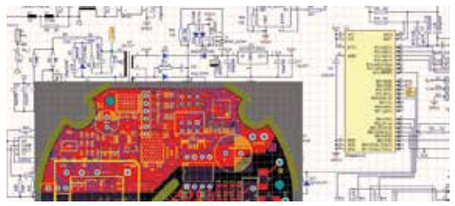
CONSTRUCTION



OPTIC DEVELOPMENT



ELECTRONICS HARD- & SOFTWARE



SYSTEM INTEGRATION LIGHT MANAGEMENT

e.g. e-Save Casambi CityTouch LED

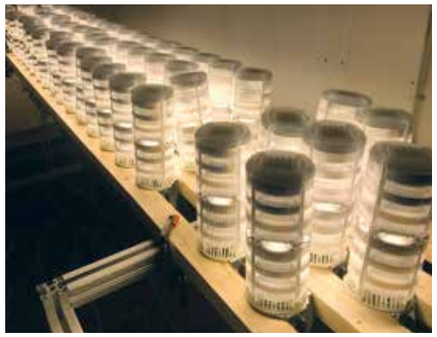
LABORATORY

LIGHTING TECHNOLOGY

LUMINAIRE TECHNOLOGY

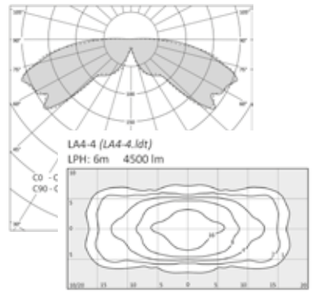
PRODUCTION

MADE IN GERMANY



SERVICE

PLANNING DATA



MOUNTING INSTRUCTIONS & VIDEO

SAMPLING SERVICE

Laternix®

OUR QUALITY PROMISE

You can rely on it

We know what is important and **have extensive technical expertise to design products so that they function safely, reliably and durably.** Whether it concerns the LED replacement for a 20W low voltage tungsten halogen lamp in a compact facade projector or the light units of a high-mast luminaire with lamp power of several thousand watts, we always ensure that our solution meets the relevant product and safety standards.

EN60598

EN62031

EN62560

The heat dissipation (cooling) of the LED light sources and the driver electronics plays a decisive role. We fundamentally design our systems in such a way that a safety margin is always included when operating under normal ambient conditions. Temperature sensors on the LED modules and in the LED drivers ensure that our LEDiKITs® cannot be damaged even under extreme or unintended ambient conditions (e.g. operation of street lighting at midday in midsummer).

P↓ TempSafe

A further stress factor is that the LED upgrade kits are exposed to overvoltages which occur during switching operations in the network or as a result of lightning strikes. Our systems are also well equipped for this. As additional protection we recommend the use of a surge protection element in the cable junction box (type 3, including protection of the PSt control phase) as well as in the sub-distribution.

We provide a standard 5-year guarantee on our LEDiKITs® in accordance with our guarantee conditions.

LEDiKIT® SP.11
in a facade projector
(manufacturer: Projektleuchten GmbH)
Diam: 115mm

6 x LEDiKIT® Streetlight LA.24G
in a Siteco SISTELLAR® Maxi high-mast luminaire, diam: 1500mm

OUR TECHNOLOGY PLATFORMS

The broad basis of our success

LIGHTING TECHNOLOGY

DSR OPTIC

PDG OPTIC

PDR OPTIC

DRO OPTIC

TIR LENS OPTIC

MR OPTIC

SPOT OPTIC (REFLECTOR)

SUPER SPOT OPTIC (ASPHERE)

The photometric system is decisive for the light distribution and the quality of the lighting. It also determines the appearance of the LED upgrade kit and thus also the daytime effect of the luminaire. As well as complying with technical requirements, it is important that the visual integrity of a decorative luminaire is kept following its upgrade. This is why we have also formally matched our optics to the fundamental luminaire shapes.

Practical features

Fixtures with lasered angle scales help adjustment of the light emission of the LEDiKIT® onto the illuminated areas in a reproducible manner if required.

Tidy and well protected

We have developed ‘problem solvers’, e.g. protective housings, for reliable protection against accidental contact and protection of electrical contact surfaces against corrosion. This means that the electrical system is not only cleanly routed but also **complies with the requirements of safety class II.**

A protective cap specifically designed by us protects the sensitive LED module from production of the LEDiKIT® through to final assembly in the luminaire housing to be converted.

OUR LIGHT: DYNAMIC

Intelligent electronic control makes it possible.

Whether design, lighting technology or electronics: thanks to our depth of development we can design every feature and detail of our solutions. This also enables us to control light dynamically.

Connected light

We can equip our LEDiKITs® in such a way that they can be centrally controlled as devices within a higher level control network. We have supplied projects in which LEDiKITs® were equipped with control components from Casambi, Siteco Streetlight Control (SLC) and E-Save, and as a certified CityTouch partner of Signify we supply LEDiKITs® prepared for control in Signify CityTouch control systems.

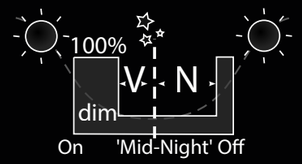
AutomaticDimControl

Whilst connected light is generally associated with complex systems whose maintenance and service involves further investments and running usage fees, we have developed an autonomous control platform for LEDiKITs® that enables us to dynamically shape light, depending on the application, in both its intensity and spectrum. In terms of hardware, this functions both with upgrade kits in the form of 'ONE FOR ONE' replacement gear trays and with flexible-use upgrade kits with 'ONE FOR MANY' E27 interfaces. In this context we differentiate between applications where a dynamic sequence can be factory-programmed according to customer requirements or set by the installer via rotary switch during the commissioning/installation process. Examples of this are:

a) Automatic dimming during deep night hours with continuous transition: AstroDIM (StepDIM) control

b) Decorative coloured light effects for special occasions or for the marking of special locations: BiColour control

c) Insect-friendly progression of light level and spectrum e.g. in areas close to nature: BioDIM* control



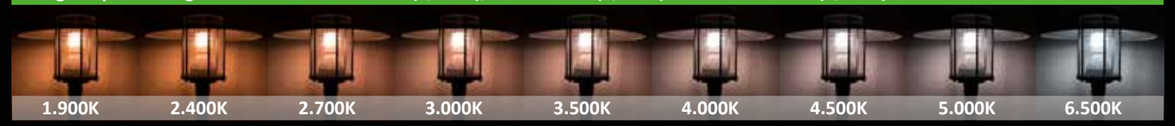
As a convenience feature, we also offer our LEDiKITs® with an interface for individual control via smartphone.

Example of use:

a historic restaurant in the old town bathed in blue light on special occasions (right). In normal operation, the alley is illuminated with warm white light (left)

The historic square luminaire is equipped with LEDiKIT® Streetlight FG27 with BiColour control using the SmartPhone APP

Range of possible light colours. Neutral white (4,000K), warm white (3,000K) and candle white (1,900K) are our standard.

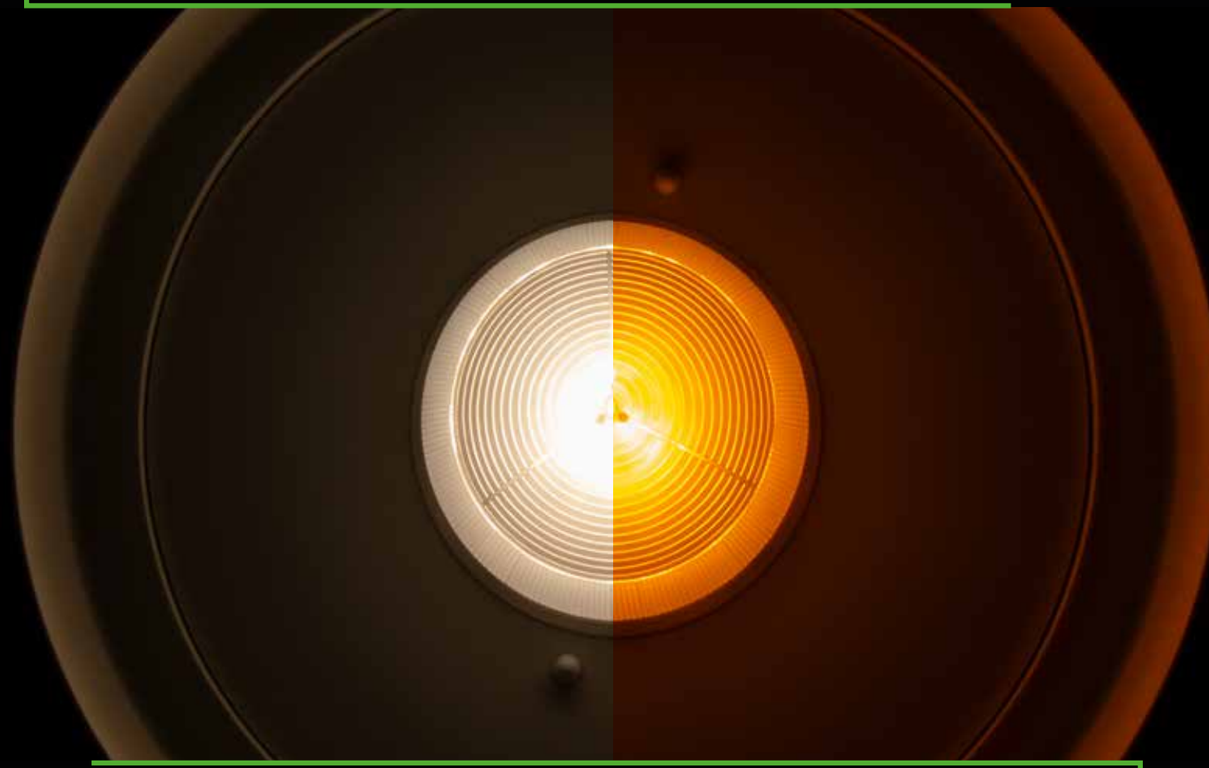


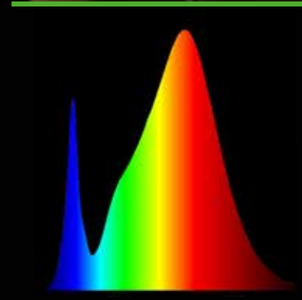
BioDIM*

Dynamic light control for the protection of nocturnal animals and the environment

Artificial light influences people and the environment. It proverbially attracts moths to the light. How strong the attraction on insects is depends on the species, the wavelength (spectrum), the intensity and the spatial position of the light source. Many species have receptors that are particularly sensitive to shorter wavelengths. Unfortunately it is not possible to prevent insects from flying towards light. However, a spectrum with a low-as-possible blue component, lower intensity and avoidance of light radiation into the upper hemisphere can help to attract fewer insects.

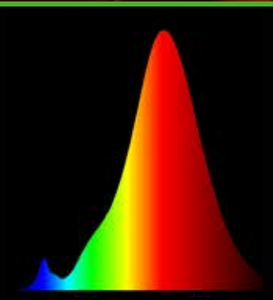
To achieve a **best possible compromise** between the lighting needs of people on the one hand and the negative effects of lighting on the other, we have developed a dynamic control of light spectrum and intensity that we call BioDIM*. LEDiKITs® equipped with this technology illuminate during evening hours in a pleasant, warm white light colour and provide a lighting level that enables good visual conditions. From a settable time onwards, the spectrum switches to an extremely warm white light colour with minimal blue component. The lighting level is simultaneously reduced. Good conditions for orientation outdoors at night is ensured.





Warm white (3,000K) spectrum

Automatic modification of light spectrum and light intensity with settable time profile



Candle white (1,900K) spectrum with drastically reduced blue component

OUR SERVICE

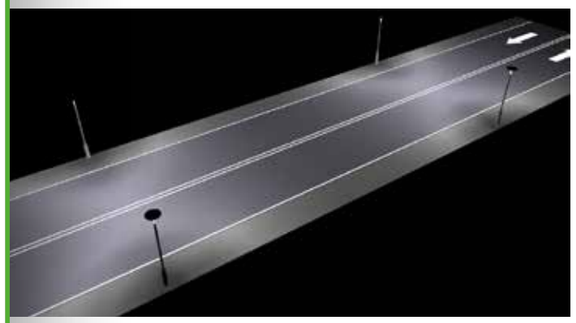
A single partner for all your needs

When it comes to climate protection and saving costs, outdoor lighting is also a major topic. Everyone is talking about the switch to LED technology and this is considered to be politically ‘accepted’. Agreement exists on the question of ‘whether’, but the question of ‘how’ usually requires much explanation. For us it is important to illuminate the issue holistically with regard to the short, medium and long-term time scale.

In more than 25 years of lighting practice we have learnt a lot and gained important experience. We would like to integrate this experience into our work with you, **and also support you in the following:**

- A inventory of the lighting installation, in particular an evaluation of individual luminaires with regard to their lighting task and condition
- Suggestions for possible action alternatives for their energetic refurbishment (replacement of the complete luminaire and possibly mast, or conversion of the luminaire to LED technology)
- Project planning
- Supportive photometric calculations, e.g. with regard to DIN EN 13201
- Support with drawing up economic efficiency calculations and funding applications

Project example:
Energetic renovation of a listed bridge and the lighting masts mounted on it with post-top luminaires model „OSLO“ (manufacturer Rech laterns).
Our project contribution: Consulting, lighting project planning and delivery of LEDiKIT® Streetlight VS.19, specifically tailored to the existing luminaire.



Sampling service

Selecting an LED conversion solution is part of a planning process.

In order to avoid any ‘surprises’ either during or after implementation, we recommend practically testing the solution that is being considered. This also helps to select the right solution from various alternatives.

Testing can help to better evaluate e.g. the following factors:

- the formal daytime appearance of the luminaire
- the light effect at night
- mounting of the module in the luminaire

We would be pleased to help in your selection of suitable solutions **and provide samples free of charge for a duration of 8 weeks.** This also applies to the individual tailoring of a solution to a luminaire model for which we have not yet developed a specific LEDiKIT®.

With regard to acceptance of the lighting following its upgrade to LED, the choice of light colour and light level is elemental. In order to vary these parameters easily on location, we supply our sample LEDiKITs® with the “CASAMBI” control system. Using a smartphone with the CASAMBI app, predefined scenes of different light colours and light levels can be simply set and experienced by everyone.

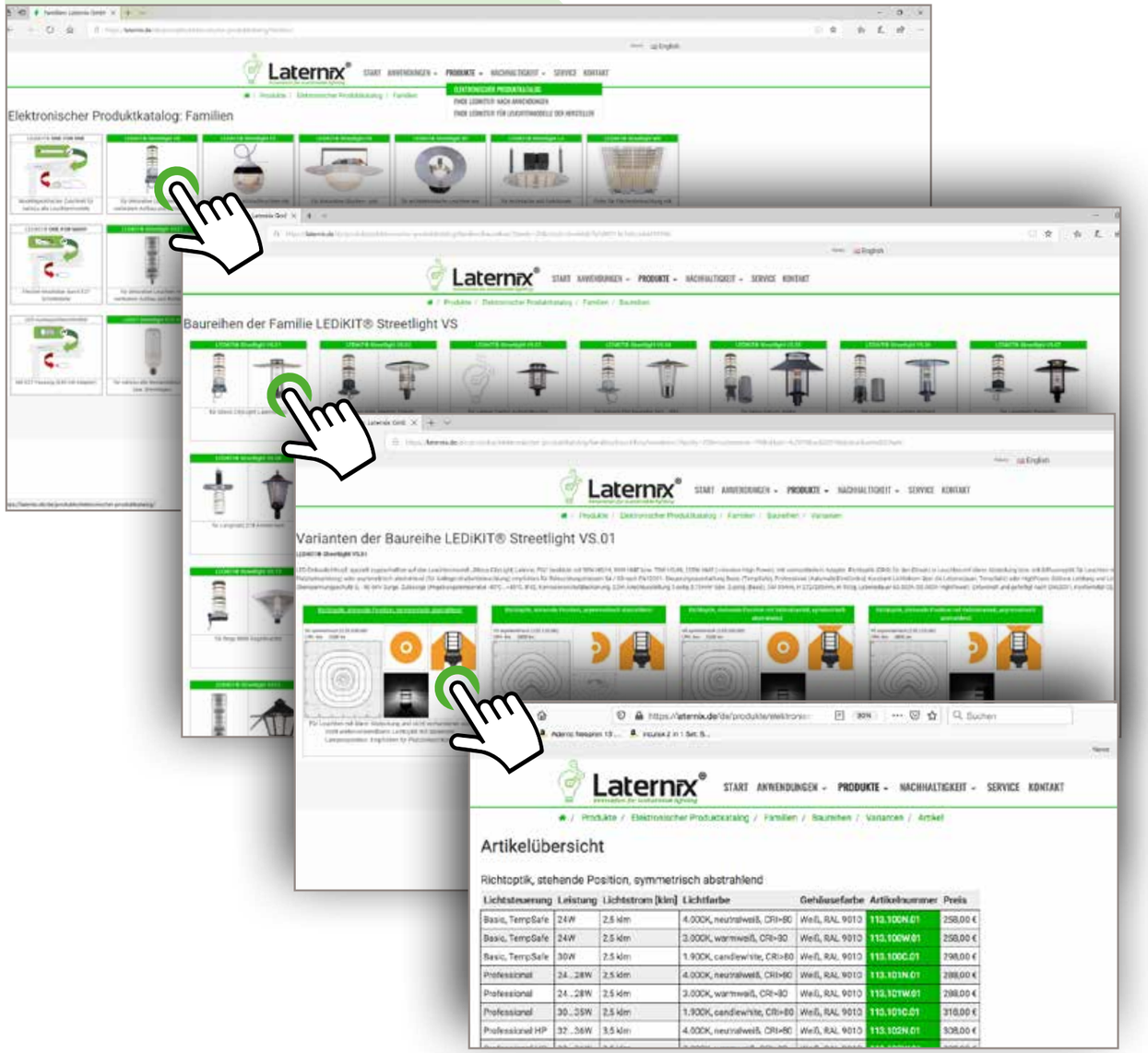
WWW.LATERNIX.DE

All information on our Website (GER + EN)

The variety of models in our portfolio reflects the complexity of the ‘expanse’ of existing outdoor luminaires. For us it is important to provide planners, installers and operators with target-oriented access to the relevant information. This includes specific application and project examples as inspiration and stimulation, a hierarchically structured electronic catalogue with all product information and practical downloads of planning data such as tender texts, EULUMDAT files for lighting calculations, the latest PDF data sheets for project documentation and installation instructions and links to installation videos on our YouTube channel. Our two solution finders, structured according to application or manufacturer luminaire models, are helpful to quickly reach the right product recommendations.

We gladly inform you regularly about new developments, projects and user experiences and would be pleased if you subscribe to our newsletter!

With only 3 CLICKS to the desired article



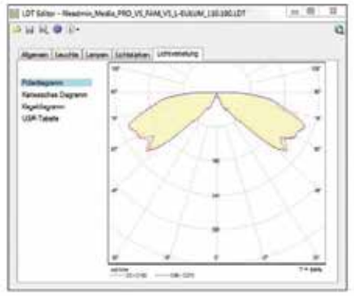
Our navigation help, printed or online, explains how to quickly get to your target!

A navigation aid to our electronic product catalog

All relevant information at a glance

Aktuelles Datenblatt als PDF

Lichttechnische Planungsdaten (EULUMDAT)



Montageanleitung (PDF)

Montagevideo

LED-UPGRADEKITs

The perfect solution for every situation

If you wish to convert an existing luminaire to LED the following aspects are decisive:

- the type, luminous flux and wattage of the light source
- the lamp - holder/base system
- the power density
- mechanical design of the luminaire
- light distribution characteristic of the luminaire
- condition of the luminaire
- intended residual useful life of the luminaire

There are fundamentally two possibilities:

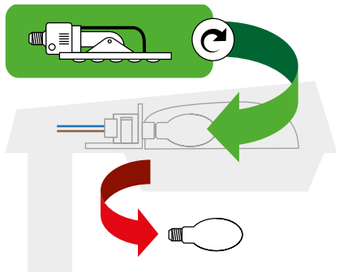
1. Replacement of the existing lamp with an illuminant with LED light sources using the E27 lamp-holder/base system. We call this option **'ONE FOR MANY'.**

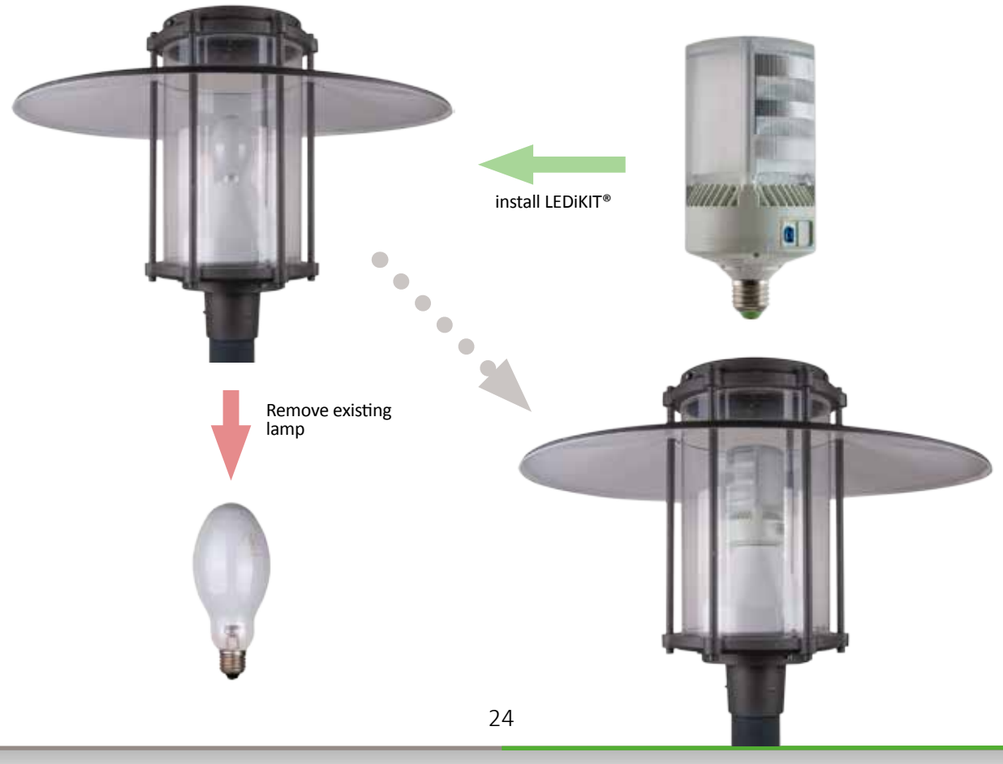
2. Conversion of the luminaire using a replacement module specifically tailored to the respective luminaire model, e.g. as a replacement gear tray. We call this option **'ONE FOR ONE'**.

OPTION 1

Lamp replacement with 'ONE FOR MANY' LEDiKIT®

- Flexible thanks to E27 interface; can be quickly replaced if necessary
- With integrated light alignment and dimming control
- Power package limited to equivalent HSE 100W, the base and wiring must be in good condition

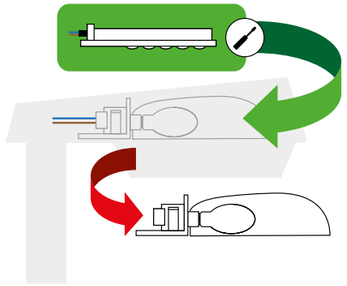


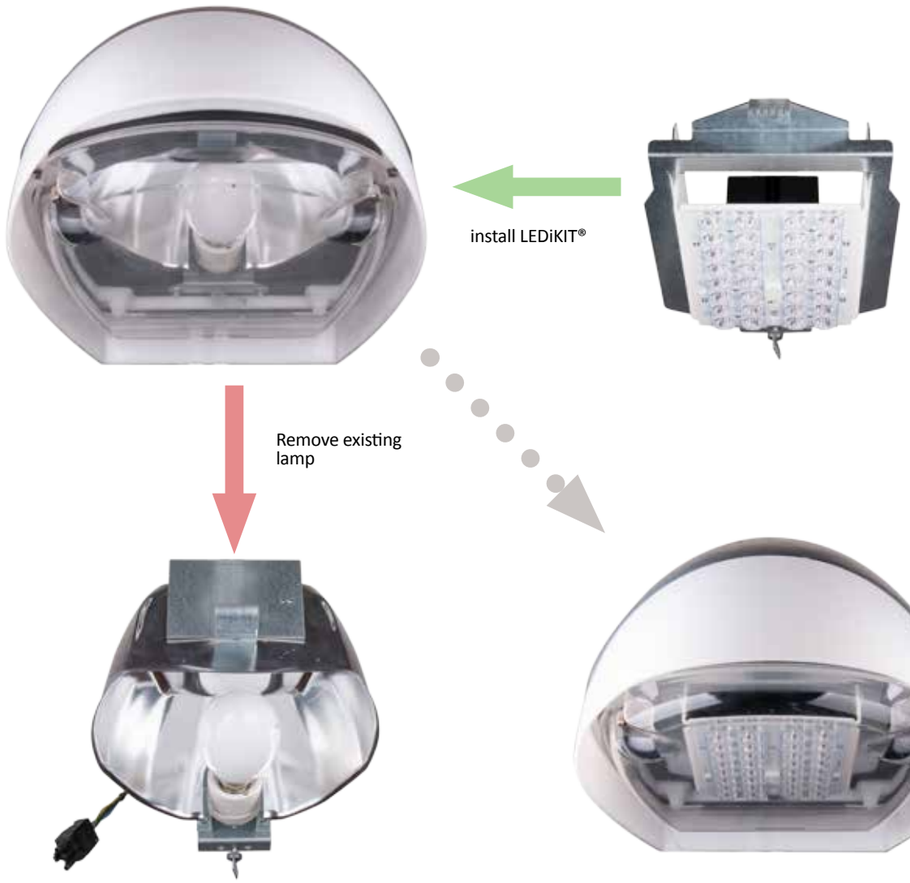


OPTION 2

Gear tray replacement with 'ONE FOR ONE' LEDiKIT®

- Precisely tailored to the existing luminaire
- Robust with high output, replaces the complete inner workings of the luminaire
- Power package possible up to equivalent HSE 600W
- Quick and simple to install

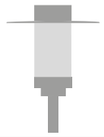
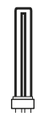
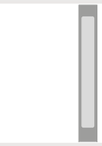
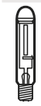
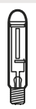




Laternix®

SELECTION OVERVIEW

Decorative and architectural luminaires

	Luminaire designs	Lamps	Recommended LEDiKIT® ranges
Old town luminaires and heritage luminaires		 HME HSE HIE	FG27 HS
Post-top and suspended luminaires with vertical basic design		 HME HSE HIE  TC-L	VS27 VS
Arched and suspended luminaires with bell-like shape		 HME HSE HIE	HS for LPH 3 to 6m LA for LPH 5 to 8m
Secondary reflector systems and secondary luminaires		 HIT  HIT-DE HST-DE	SP
Light columns and bollard luminaires		 HIT	SP
Ground recessed and wall luminaires		 HIT	SP
Mast and catenary luminaires with e.g. suitcase forms		 HST HIT-CE  HME HSE HIE	LA27 Equivalent up to 100W HSE LA
Mast and catenary luminaires with linear design		T26  T28-U	- LED replacement lamp
Projectors and floodlights		 HST HIT-CE	MR
Tunnel luminaires		 HST HIT-CE	MR LA

technically functional luminaires

LEDiKIT® Streetlight

FG27		Page 28
VS27		Page 32
VS		Page 36
HS		Page 40
SP		Page 44
LA27		Page 50
LA		Page 52
MR		Page 58

LEDiKIT®
STREETLIGHT
FG27

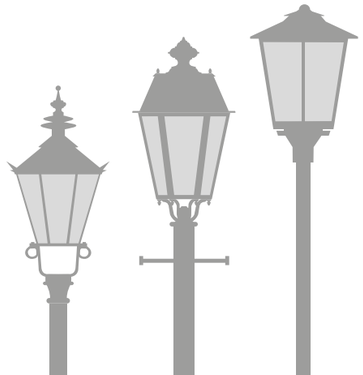
‘ONE FOR MANY’ upgrade kits
FOR HERITAGE AND OLD TOWN LUMINAIRES

Description

We have developed the LEDiKIT® Streetlight FG27 product range especially for decorative old town- and heritage luminaires. Their spherical shape harmonises perfectly with all luminaire housing forms and maintains their original look and impression. FG is short for ‘Flex Globe’ and stands for the concept of implementing different photometric systems within the sphere. The integrated light directing optics and automatic dimming control ensure lighting according to requirements and reduced light pollution.

Advantages

- Gives heritage luminaires precise light distribution
- Reduces light pollution
- Fascinating play of light, attractive daytime effect
- Integrated AstroDim function with selection of 14 profiles, optionally with BioDIM* or CASAMBI control
- High protection rating, suitable for open luminaires
- Full flexibility due to E27
- Alternative mounting forms prepared

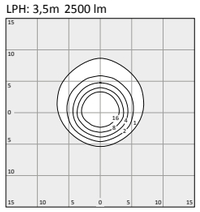


Find all product information in our electronic catalogue from here:

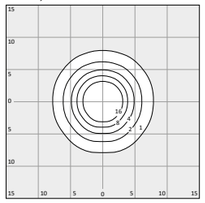
PDR OPTIC

The interaction of a microprismatic structure with specular reflector results in intensive illumination of the spatial depth with simultaneously low glare. The result is a fascinating play of light as an ‘eye-catcher’. During the day though the effect is inconspicuous and almost transparent.
Available with symmetric or asymmetric characteristic.

FG PDR asym
LPH: 3,5m 2500 lm

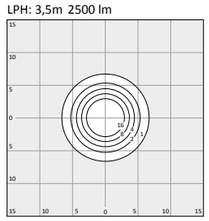


FG PDR sym
LPH: 3,5m 2500 lm



PDG OPTIC

FG PDG sym
LPH: 3,5m 2500 lm

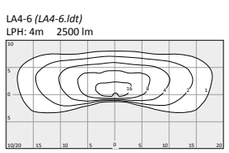


Four imitation incandescent mantles embedded in a microprismatic structure give the module the appearance of gas lighting with a Lambertian distribution pattern. The light components of the microprismatic structure, controlled separately if required, provide low glare illumination of the surroundings.

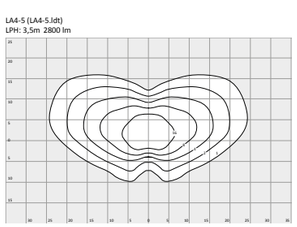
TIR OPTIC

The FG system enables the integration of TIR lens optics for both the suspended and vertical socket position, and thus the implementation of several different light distribution curves. (For further LDCs see the electronic product catalogue)

LA4-6 *(LA4-6.ldt)*
LPH: 4m 2500 lm



LA4-5 (LA4-5.ldt)
LPH: 3,5m 2800 lm




PDR Optic


PDG Optic


TIR Optic

Application

Via the E27 interface, the ‘ONE FOR MANY’ upgrade kit LEDiKIT® Streetlight FG27 replaces existing lamps in vertical or suspended position. Scalable wattage/luminous flux packages up to an equivalent of 70W HS/HI lamps. Light colours candle white (1,900K), warm white (3,000K) are especially interesting for the illumination of historical areas.
As an alternative to the E27 base, the FG light engines can also be integrated e.g. in a carrier plate for fixed installations and combined with additional communication modules for Connected Light.

Laternix®

LEDiKIT®
STREETLIGHT
VS27

'ONE FOR MANY' upgrade kits
FOR VERTICAL ASSEMBLY

Description

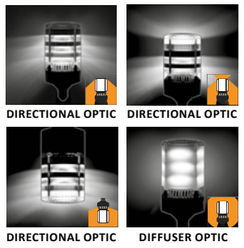
The designation VS stands for 'Vertical Stack' and specifies the structure of the light engine as a vertical reflector stack. This results logically from the basic vertical structure of the luminaires, e.g. cylindrical, mushroom, trapezoidal or globe luminaires for which we have developed the LEDiKIT® Streetlight VS27. Depending on the required wattage/luminous flux package and the formal requirements, a series in "single-length" and "double-length" versions is available for vertical or suspended lampholder position.

Advantages

- Excellent formal fit with all vertically mounted luminaires, housing colours white or graphite
- Integrated Directional Reflector Optic (DRO) for uniform spatial depth illumination replaces existing lighting technology
- Reduces light pollution
- Integrated AstroDim function with selection of 14 profiles, optionally with BioDIM* or CASAMBI control
- Full flexibility due to E27 lampholder/base system

Find all product information in our electronic catalogue from here:

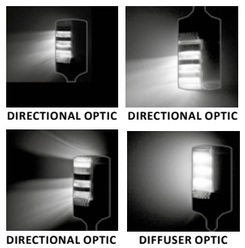
Symmetric light distribution
FOR PLAZA LIGHTING



DRO OPTIC

The **Directional Reflector Optic** consists of vertically stacked reflector segments. The light is scattered in the horizontal by a linear prismatic structure upon emission, and is thus gently distributed onto the illuminated plane. A version with indirect light component is also available for luminaires with a wide, bright canopy. LEDiKIT® Streetlight VS27 is recommended for S and P lighting classes.

Asymmetric light distribution
FOR RESIDENTIAL STREETS LIGHTING



Application

Via the E27 interface, the ‘ONE FOR MANY’ upgrade kit LEDiKIT® Streetlight VS27 replaces existing lamps in vertical or suspended position. Scalable wattage/luminous flux packages up to an equivalent of 70W HS/HI lamps.

With a diameter of 90mm, VS27 is ideal for the LED upgrading of globe luminaires and is very effective in directing the luminous flux to the ground.

Light directing or diffusing elements in the existing luminaire should definitely be removed to enable the LEDiKIT® to be fully effective photometrically.

For many luminaire models, LEDiKIT® VS is available as an individually tailored ‘ONE FOR ONE’ upgrade kit.

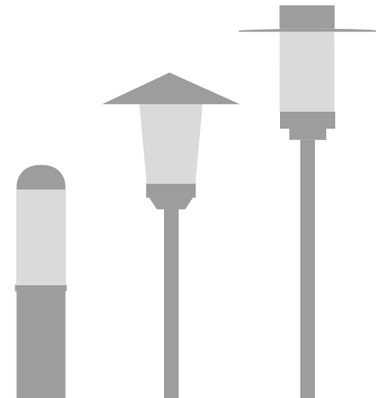
LEDiKIT®
STREETLIGHT VS

‘ONE FOR ONE’ upgrade kits
FOR VERTICAL ASSEMBLY

Find all product information in our electronic catalogue from here:

Description

As an alternative to being equipped with the E27 interface, LEDiKIT® Streetlight VS is also available as a ‘ONE FOR ONE’ upgrade kit individually tailored to specific luminaire models. As a replacement assembly it replaces the inner workings of the luminaire. The luminaire, except for the housing, is thus completely renewed. Due to its mechanical fixation, this solution variant is more robust and is absolutely recommended if the internal wiring as well as the lampholder are already worn out.



Advantages

- Mechanically robust, precisely fitting, with fixed anchorage in the luminaire housing
- Complete renewal of the inner luminaire workings
- Integrated Directional Reflector Optic (DRO) for uniform spatial depth illumination, replaces existing lighting technology
- Reduces light pollution
- Integrated dimming function (AstroDim or control phase), optionally with Bio DIM* or CASAMBI control

Overview of luminaire models

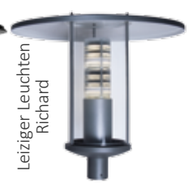
This overview shows some of the luminaire models for which we have already developed ONE FOR ONE upgrade kits. Our range of models is continuously expanding and is regularly updated in the electronic product catalogue on our website.


Abele&Geiger
AlteGasse


Langmatz
Parasolic


Selux
Saturn


GBS
L27

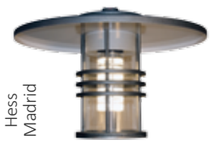

Leiziger Leuchten
Richard


Schuch
Mushroom luminaire


Siteco
Mushroom


Trapp
TM1347


Langmatz
Bavaria


Hess
Madrid


Bega
9898


Langmatz
218 Amsterdam


Trilux
98


Siteco
CityLight

Mounting

This link leads to a YouTube video which exemplarily describes mounting of the ‘ONE FOR ONE’ upgrade kit LEDiKIT® Streetlight VS.01.

LEDiKIT®
STREETLIGHT
HS

‘ONE FOR ONE’ upgrade kits
FOR BELL LUMINAIRES

Find all product information in our electronic catalogue from here:

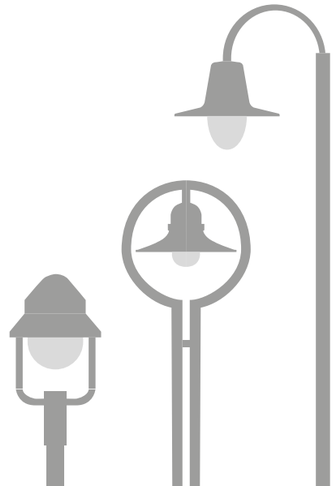
Description

Bell-shaped luminaires are characterised by the body of the luminaire being fixed by an arch from above and the light radiating ‘freely’ downwards. We developed LEDiKIT® Streetlight HS to match these and similar designs. HS stands for ‘Half Sphere’ and refers to the hemisphere shape of the light emitting element. Due to its large light emission surface and the resultant lower luminance, LEDiKIT® Streetlight HS thus has a very low glare effect.

Advantages

- Excellent formal fit with all bell-shaped luminaire designs
- Complete renewal of the inner luminaire workings
- Integrated Dual Soft Range optic (DSR) for uniform spatial depth illumination with especially low glare
- Reduces light pollution
- High protection rating enables operation without luminaire cover.

LEDiKIT® Streetlight HS complies with protection rating IP54 (lower side). This allows operation without the original luminaire cover (see large image). It can also be used together with the original luminaire cover (see left). With many bell luminaire models with compact luminaire covers (e.g. screw-on glass, spherical glass) it replaces these.

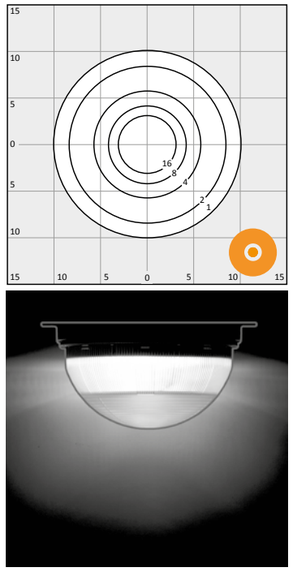


DSR OPTIC

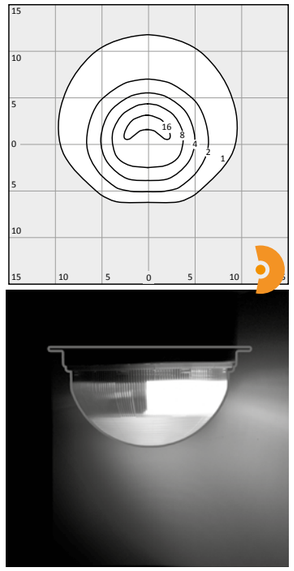
On a concentric LED module two light components are generated. While the central component radiates directly downwards through a diffuser with Fresnel structure, the second component is deflected by a specular reflector. After passing through a prismatic diffuser structure it radiates softly into the spatial depth, thus ensuring high uniformity with low glare.

The **Dual Soft Range optic** is available with symmetric characteristic for plaza lighting or with asymmetric distribution for residential street lighting. LEDiKIT® Streetlight HS is recommended for S and P lighting classes.

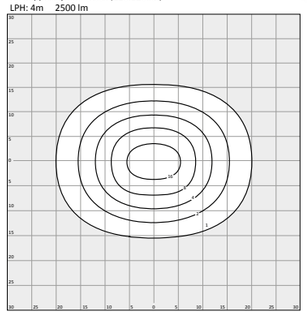
HS symmetrisch *(120.100.ldt)*
LPH: 4m 2500 lm



HS asymmetrisch *(120.110.ldt)*
LPH: 4m 1800 lm



HS doppelasymmetrisch *(120.120.ldt)*
LPH: 4m 2500 lm



Application

As a ‘ONE FOR ONE’ upgrade kit with scalable wattage/luminous flux levels up to an equivalent of 70W HS/HI lamps, LEDiKIT® Streetlight HS is already available for a large number of luminaire models from well-known manufacturers. The adaptation of our technical platform to further specific luminaire models is simple and is offered by us as a free service. Our range of models can only be displayed here exemplarily. It is continuously expanding and is regularly updated in the electronic product catalogue on our website.

Mounting

This link leads to a YouTube video which exemplarily describes mounting of the ‘ONE FOR ONE’ upgrade kit LEDiKIT® Streetlight HS.07.

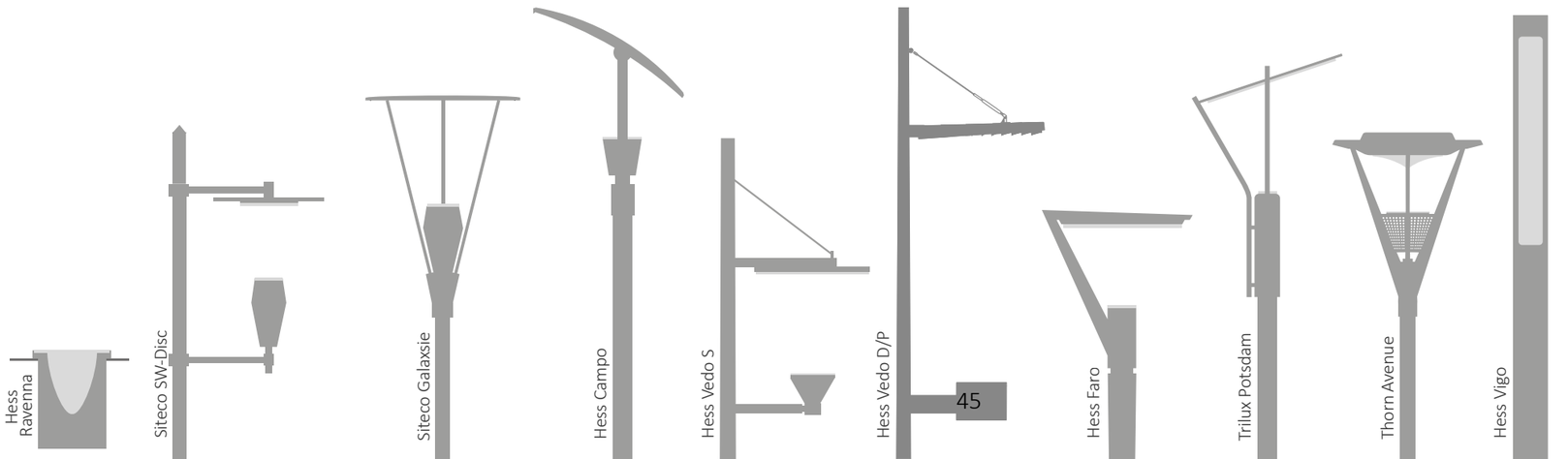
LEDiKIT®
SP

‘**ONE FOR ONE**’ upgrade kits
FOR ARCHITECTURAL LUMINAIRES

Find all product information in our electronic catalogue from here:

Description

The ‘core’ of architectural luminaires such as secondary reflector systems and secondary luminaires is equipped with a projector whose light beam is scattered onto the illuminated area via specular or diffuser elements, and almost completely without glare. Very compact metal halide lamps with extreme power density are used in these luminaires. Converting such systems to LED technology is a major challenge due to the necessary cooling.
With LEDiKIT® SP we have developed a technology for ‘ONE FOR ONE’ upgrade kits which enables luminaires equipped with up to 250W HIT lamps to be ‘ledified’, whilst ensuring safe operation and a long service life. The designation SP stands for ‘Spot Optic’, which forms the photometric core of all series for this application. Our range of models can only be shown here exemplarily. It is continuously expanding and is regularly updated in the electronic product catalogue on our website. In the following we exemplarily present three series.



LEDiKIT®

SP.01

Description

‘ONE FOR ONE’ upgrade kit tailored to luminaire models Siteco Galaxsie, SW Disk, SM300 and all luminaires using the Siteco R1 mini projector (type 5NA724...). Available up to an equivalent of 150W HIT lamps. Integrated dimming function (AstroDim or control phase).

Mounting

This link leads to a YouTube video which exemplarily describes mounting of the ‘ONE FOR ONE upgrade kit LEDiKIT® SP.01.

LEDiKIT®

SP.02

Description

‘ONE FOR ONE’ upgrade kit with two sizes tailored to luminaire models Hess Campo 4500 and 7700. Available up to an equivalent of 250W HIT - DE lamps. Integrated dimming function (AstroDim or control phase).

Mounting

This link leads to a YouTube video which exemplarily describes mounting of the ‘ONE FOR ONE’ upgrade kit LEDiKIT® SP.02.

LEDiKIT®

SP.03

Description

‘ONE FOR ONE’ upgrade kit tailored to luminaire model Hess Vedo for an equivalent of 150W HIT lamps. Integrated dimming function (AstroDim or control phase).

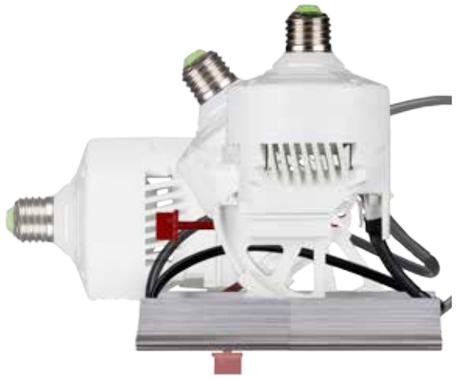
Find all product information in our electronic catalogue from here:

LEDiKIT®

STREETLIGHT LA27

'ONE FOR MANY' upgrade kits
FOR TECHNICAL / FUNCTIONAL LUMINAIRES

with **TIR** LINSENOPTIC



Description

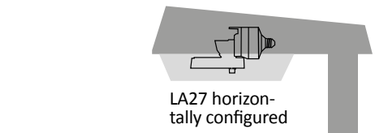
In the case of technical/functional street luminaires a system consisting of a HID lamp and specular reflector ensures a specific light distribution on the effective surface. To optimise this and thus increase efficiency, LEDiKIT® Streetlight LA27 uses precise light control optics. LA stands for 'Lens Array' and refers to the arrangement of many TIR (Total Internal Reflection) lenses which direct the LED light especially precisely and efficiently. As a 'ONE FOR MANY' upgrade kit, LEDiKIT® Streetlight LA27 is equipped with an E27 base and can be installed in a wide range of technical street luminaires thanks to its two-part design. It replaces the existing system of lamp and reflector, whereby in most cases the lamp is fixed horizontally in the reflector.
It can be reconfigured for applications with suspended lampholder position in a few simple steps.
For outstanding lighting results it is essential that the light module can be optimally aligned (in most cases plane-parallel) to the effective area. This is the reason why LEDiKIT® Streetlight LA27 is mechanically adjustable in several axes/dimensions. Three series are available up to an equivalent of 100W HI/HS lamps with nine light distribution characteristics.

Advantages

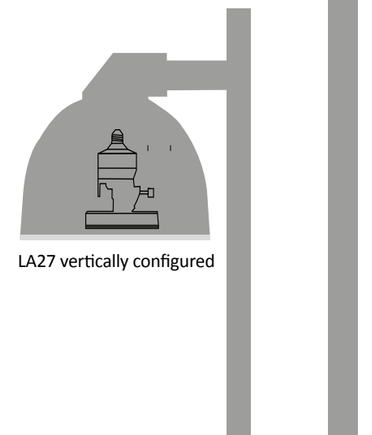
- Combines the application advantages of a modern LED street luminaire with the simplicity of installing a lamp.
- Simple installation with extensive adjustment options
- Available with many different light characteristics (see following pages)
- Reduces light pollution
- Integrated AstroDim function with selection of 14 profiles, optionally with BioDIM* or CASAMBI control

Application note

A minimum distance of 85mm is required from the centre axis of the socket to the top of the luminaire cover. This distance can be less with a combination of T lamp, flat reflector and flat cover glass. For this case we have adapted 'ONE FOR ONE' LEDiKIT® Streetlight LA upgrade kits specifically to the respective luminaire model.



LA27 horizontally configured



LA27 vertically configured

LEDiKIT®

STREETLIGHT LA

'ONE FOR ONE' upgrade kits
FOR TECHNICAL / FUNCTIONAL LUMINAIRES

with **TIR** LINSENOPTIC

Description

Technical street luminaires are often designed in a "suitcase" shape. There is also a wide variety of luminaire shapes with specific light distribution characteristics for illuminating traffic routes (roads, traffic areas, roundabouts, tunnels etc.), at medium to high mounting heights and with appropriately high wattages/large luminous flux packages. To make maintenance of these luminaires as efficient as possible, their constructive design generally complies to a modular concept with easily exchangeable gear trays.

This also forms the mechanical/electrical interface for the 'ONE FOR ONE' LEDiKIT® Streetlight LA upgrade kits which we have designed so that they can replace the existing gear tray 'in next to no time', thus enabling the luminaire to be upgraded to LED technology quickly and reliably. The luminous flux/wattage package of the existing luminaire determines the construction size of the LEDiKIT®, which is available up to an equivalent of 400W HS/HI lamps with nine light distribution curves.

Advantages

- Quick and reliable installation as a replacement gear tray tailored precisely to the luminaire.
- If necessary, the angle of inclination is easily adjusted for optimum illumina tion of the effective area
- Simple installation with extensive adjustment options
- Available with nine different light characteristics
- Reduces light pollution
- Integrated dimming function (Astro-Dim or control phase), optionally with communication modules for Connected Light systems

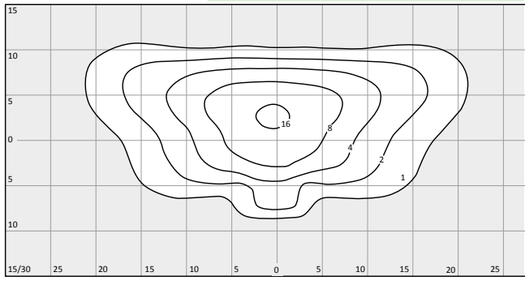
Find all product information in our electronic catalogue from here:

- LIGHT DISTRIBUTION CHARACTERISTICS -

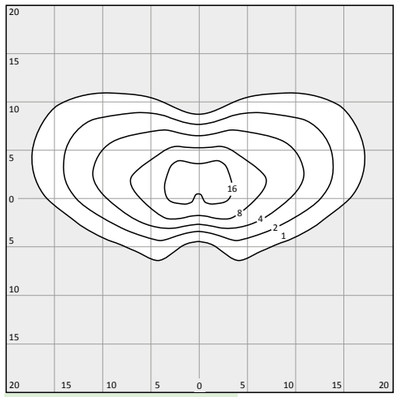
LEDiKIT® Streetlight LA is available with nine different light distribution characteristics. The Isolux diagrams displayed provide preliminary indications of the recommended application. For more detailed planning, further lighting design information in the form of EULUMDAT files is available for downloading in our electronic catalogue. The specific file names can be taken from the labelling of the Isolux diagrams. Other LDC variants are available on request.

LA4-3 *(LA4-3.ldt)*
LPH: 6m 4500 lm

Wider traffic road (ME class)
From lateral mast position



LA4-5 *(LA4-5.ldt)*
LPH: 6m 4500 lm



Road with rear zone
From lateral mast position

LA4-2 *(LA4-2.ldt)*
LPH: 6m 4500 lm

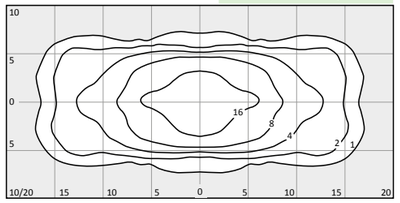
Traffic road (ME class)
From lateral mast position

LA4-6 *(LA4-6.ldt)*
LPH: 4m 2500 lm

Path, narrow road
From lateral mast position

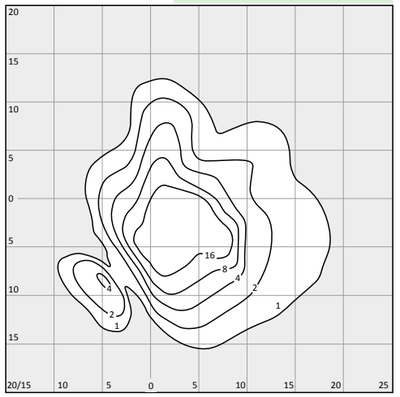
LA4-4 *(LA4-4.ldt)*
LPH: 6m 4500 lm

Traffic road
Catenary luminaire, central



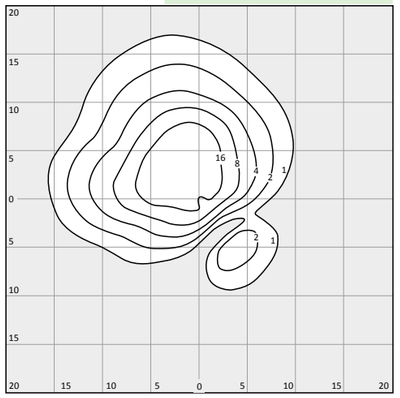
LA4-9 *(LA4-9.ldt)*
LPH: 6m 4500 lm

Pedestrian crossing
From lateral mast position on right

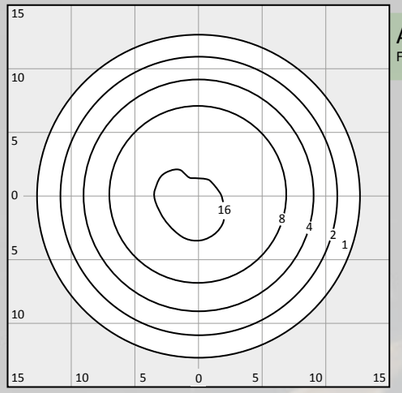


LA4-B *(LA4-B.ldt)*
LPH: 6m 4500 lm

Pedestrian crossing
From lateral mast position on left



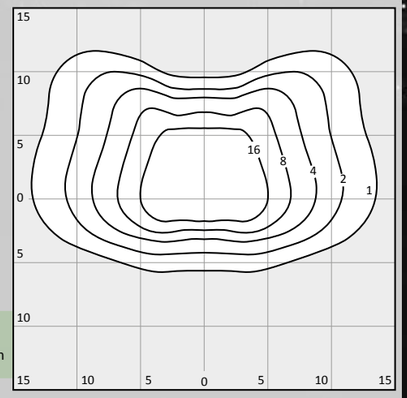
LA4-C *(LA4-C.ldt)*
LPH: 6m 4500 lm



Area
From central mast position

Area
From lateral mast position

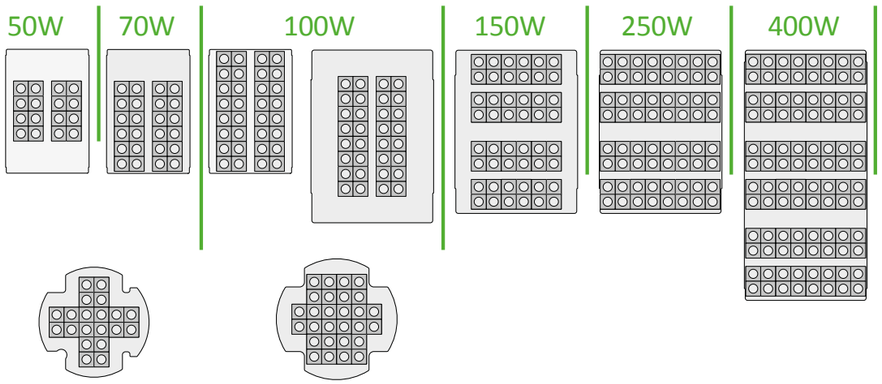
LA4-8 *(LA4-8.ldt)*
LPH: 6m 4500 lm



WATTAGE- AND LUMINOUS FLUX PACKAGES

The modular product concept of LEDiKIT® Streetlight LA is based on a series of LED modules for wattage/luminous flux packages up to an equivalent of 400W HI/HS lamps. The modules are designed so that the heat generated can be dissipated without additional measures (e.g. active cooling) and their operating temperature is monitored by sensors.
The pre-qualified modules are combined with qualitative, robust LED drivers for outdoor luminaire applications (e.g. OSRAM OT4DIMM or PHILIPS XITANIUM XTREME). Mechanical modification to the specific luminaire model is finally carried out simply via a suitably cut sheet metal construction.
Our experience from re-engineering hundreds of luminaire models allows us to quickly and efficiently implement such a specific format either with a sample luminaire or using the original construction plans. We offer this to our customers as a service.

LED MODULE CONFIGURATIONS
with TIR lens optic for HS/HI-equivalent luminous flux packages



Overview of luminaire models

This overview shows some of the luminaire models for which we have already developed ONE FOR ONE upgrade kits. Our model range is continuously expanding and is regularly updated in the electronic product catalogue on our website.


Bega 9998


Bega 8072


Hellux Ellipse


Philips Triangel


Philips City Soul


Hess Canto


Hess Sarius


Hess Sera


Hess Novara


Hess Norfolk


Siteco Belll


Siteco SR


Siteco SQ


Siteco DL500


Trilux Lumega


Hess Residenza


Hess CityElements


Selux Urbi 2


Selux Jessica


Hellux Fritz

LEDiKIT®
MR

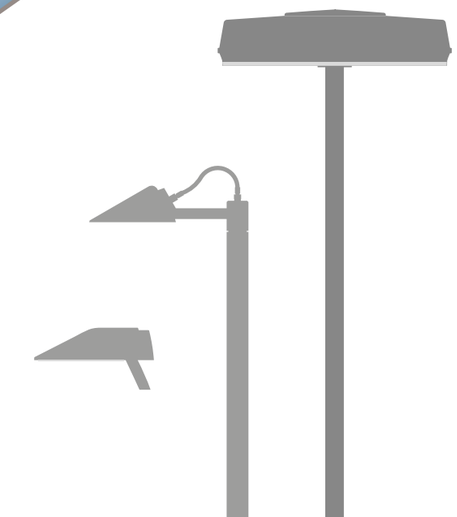
‘ONE FOR ONE’ upgrade kits
FOR FLOODLIGHTS AND PLANAR LIGHTING

Description

Projectors with asymmetric distribution characteristic are frequently used for illuminating storage and logistics areas, parking and rest areas, sports grounds and ski slopes and for facade illumination. Depending on the application and light point height, these are equipped with HS lamps of up to 600W or HI lamps of up to 2000W. For the ‘ledification’ of such luminaires, we have developed our ‘ONE FOR ONE’ LEDiKIT® MR range of upgrade kits. This is based on bulk LED modules, each of which is equipped with over 800 LED chips. A reflector matrix specifically developed for this application provides the highly asymmetric light distribution which is optimised for uniform area or planar illumination from a lateral mast position. By combining two or more reflector matrices in one luminaire, different light characteristics with symmetry to the C0 or C90 plane as well as a rotationally symmetric characteristic can be generated. LEDiKIT® MR is scalable in its luminous flux/wattage package. Its applications range from facade illuminations with an equivalent of 70W HI lamps to high mast applications with 1000W HI lamps. LEDiKIT® MR replaces the complete ‘inner workings’ and is quickly and easily fixed to existing screw points in the previously gutted luminaire housing. Thanks to the control input (PSt), high savings can be achieved with the LED upgrade of an existing lighting system by combining it with presence or motion sensors and by dimming between e.g. 20% and 100%.

Advantages

- Simple installation
- Available with many different light characteristics (see following pages)
- Reduces light pollution
- Integrated dimming function (Astro-Dim or control phase), optionally with communication modules for Connected Light systems



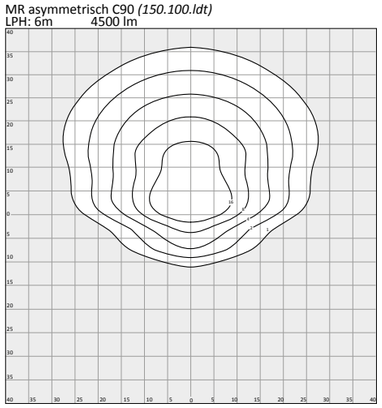
Find all product information in our electronic catalogue from here:

Siteco SiCOMPACT A2 Midi
with LEDiKIT® MR

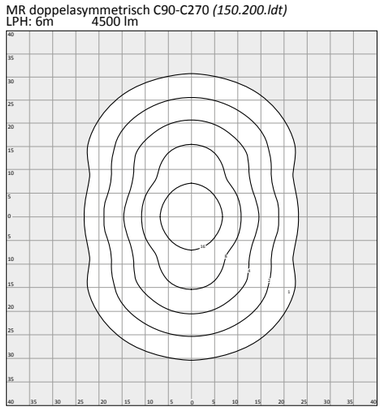
MR OPTIC

The **MatrixReflectorOptic** consists of an array of reflector cells whose photometric contour continuously changes. In this way a distinctly asymmetric light distribution is generated. By superimposing the light of individual modules rotated in 90° steps to each other, further light distributions are created which can be advantageously used.
For very simple lighting tasks, LEDiKIT® MR is also available with open beam distribution.

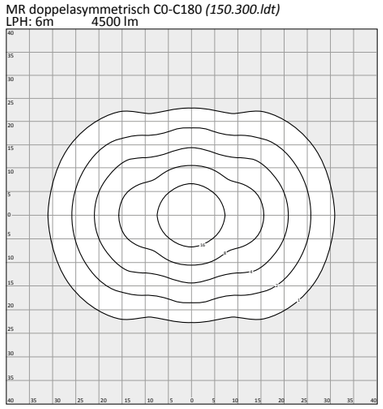
MR asymmetrisch C90 *(150.100.ldt)*
LPH: 6m 4500 lm



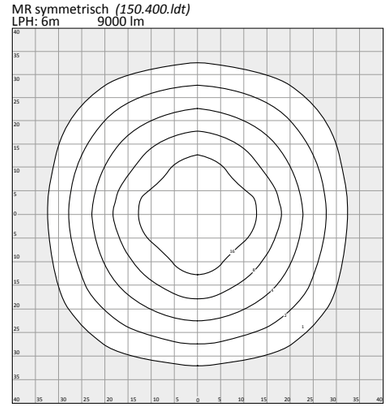
MR doppelasymmetrisch C90-C270 *(150.200.ldt)*
LPH: 6m 4500 lm

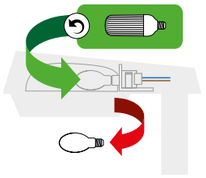


MR doppelasymmetrisch C0-C180 *(150.300.ldt)*
LPH: 6m 4500 lm



MR symmetrisch *(150.400.ldt)*
LPH: 6m 9000 lm





LED27 replacement lamp

STREETLIGHT ECOIII

Shown in original size,
21W version

Description

LEDiKIT® Streetlight installation light heads are aimed at mid- to long-term residual utilisation horizons for existing luminaires, whereas LED replacement lamp are ideal for shorter residual utilisation periods or for very low upgrading budgets. The LED27 Streetlight ECOIII range of products was specifically developed for use in outdoor luminaires equipped with HME80 or HSE 50W lamps.

As with the installation of LEDiKIT installation light heads, the ballast must be bridged and the igniter removed for existing luminaires with high pressure discharge lamps. For detailed information please see the installation instructions.

Advantages

- Highly efficient, third-generation LED replacement lamp (150lm/W) specifically developed for street lighting requirements
- Compact design suitable for almost all existing luminaire types/installation situations or burning positions
- Small diameter (DM 65mm) in combination with specular reflectors positively affects maintenance of the light distribution characteristic
- Extremely low weight: only 130 or 150 grams
- Formally harmonious integration also in designer luminaire models in terms of day and night effect.
- Uniformly illuminating diffuser cover of impact-resistant high-performance polymer with moderate luminance and soft light effect.

Find all product informat
in our electronic catalogu
from here:

COMPARISON OF REPLACEMENT LIGHT SOURCES

Original HME lamp

LED27 Streetlight ECOIII

Corn bulb lamp

General information

The products specified in this publication have been developed and manufactured according to the recognised rules of technology. Despite the simplicity of their installation, they must only be installed by qualified technical personnel with regard to safety regulations. The installation instructions included with supply of the products must be observed.

Depending on the geographical location and individual characteristics of the electrical road lighting network, a potential risk of transient overvoltage exists with outdoor lighting systems due to switching operations, lightning strikes or other disruptions. The products are factory-equipped with switching elements that protect to a certain degree from damage due to exposure to overvoltage. These protective elements may fail and the product may be destroyed if very high voltage levels or sufficiently energy-loaded pulses are applied. For systems known to be or suspected of being exposed to overvoltage, we recommend taking special protective measures before upgrading existing luminaires. More detailed information can be obtained from the manufacturers of overvoltage protection equipment.

Requests, contact persons, product availability

Please note that we manufacture our products exclusively according to order. For this reason, please request the deliverability/availability of these. For the addresses of regional contact persons, please see the Contact section of our website. Alternatively, please send an e-mail to info@laternix.de or telephone +49 861 90992040.

Planning information

Photometric planning information, data sheets, mounting instructions and other information can be downloaded on our website from the electronic product catalogue.

Sampling service

Before carrying out conversion measures, we fundamentally recommend testing the intended product in application. For this purpose we would be glad to provide you with a product sample for free, for a period of 8 weeks. After the sampling process you can decide whether you wish to return the product or purchase it. Please see the Service section on our website for more details.

Guarantee conditions

Our guarantee policy is published in the Service section of our website.

Delivery and payment conditions

Prices published in the electronic product catalogue on our website are net prices plus the applicable legal value added tax. These represent the purchase prices for the installing customer in the sales area Germany. Discounts are possible according to quantity. Delivery and payment conditions of Laternix GmbH & Co. KG apply as published in the Service section of our website. We can send these to you upon request.

Imprint

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