

Light is economical Siteco Streetlight 10 LED

The luminaire family for efficient road lighting and good light quality.

Light is OSRAM





Streetlight 10 LED complete range for optimum lighting results

Innovative LED technology, embedded into an equally innovative and sustainable luminaire concept and coupled with a consciousness for both costs and the environment is what sums up Streetlight 10 LED from Siteco. State-of-the-art LED technology meets outstanding photometrics, and a modular concept ensures that luminaires are upgradable and fit for the future as mast and catenary luminaire. Streetlight 10 micro, mini and midi: for the standard-compliant and highly efficient lighting of roads, parking lots and outdoor industrial areas.







Content

A solution for almost all applications	04
Efficiency in a system	06
Modular and fit for the future	08
Technology and efficiency	10
Safety is a priority	12
Outstanding Glare Reduction	14
High Definition Cover (HD-C)	16
Sophisticated thermal management	18
Light according to requirements	20
Convincing savings potential	22
Quality of Light	24
Solution for new constructions and conversions	26
Simple Mounting	28
System Overview	30
Technical data and ordering	32
Accessories	42
Functional packages	46
Maintenance factor	48
System planning	5(

A convincing solution for all mounting scenarios

One solution for all applications, and with only five construction sizes. The micro is optimal for the illumination of residential streets and areas. The luminaire also has a quality appearance in classic, decorative lighting applications, with parking facilities and plazas for example. The Streetlight 10 mini LED has been designed for the standard-compliant lighting of residential and collecting

streets as well as for parking lots and urban areas. The Streetlight 10 midi LED, equipped with two LED modules, illuminates main roads, collecting roads, roundabouts and large squares. The catenary luminaire versions of the Streetlight 10 LED range are the first choice for the efficient and high-quality illumination of traffic routes with mounting points directly over the road.



Lighting classes	S1	S2	S3	S4	S5	S6	ME1	ME2	ME3	ME4	ME5	ME6
Streetlight 10 micro LED				•	•	•						
Streetlight 10 mini LED		•	•	•	•	•				•	•	•
Streetlight 10 midi LED	•	•					•	•	•	•	•	•
Streetlight 10 mini LED catenary luminaire										•	•	•
Streetlight 10 midi LED catenary luminaire							•	•	•	•	•	•

The Streetlight 10 LED complies with the standards of all lighting classes for technical road lighting. Uniform lighting installations are ensured thanks to three construction sizes.



Maximum efficiency in every detail

Efficiency is for some merely a catchword. With the Streetlight 10 LED though it is the fundamental construction principle in all luminaire components, for all applications and over the complete lifespan, and all Streetlight 10 LED components are thus optimised for maximum efficiency.

This has resulted in a luminaire with extremely low energy consumption, which in turn means that investments are rapidly amortised. The highly robust and low-maintenance system and the extremely long-life LED modules reduce maintenance and servicing overheads and the use of personnel.



Efficiency factors

LED quality

Only the latest LED technology with highest quality is sourced from respected manufacturers.

Lighting technology

This optimized lighting technology provides maximum light to the illuminated area, while significantly reducing glare by using optimized reflector technology.

Thermal management

Sophisticated thermal management effectively dissipates the heat of the LEDs, increasing the efficiency of the diodes.

Control options

The intelligent control system enables adaptation of luminous flux according to needs and also cuts operating costs.

Design concept

The modular concept allows further increases in efficiency to be optimally exploited from future LED modules.

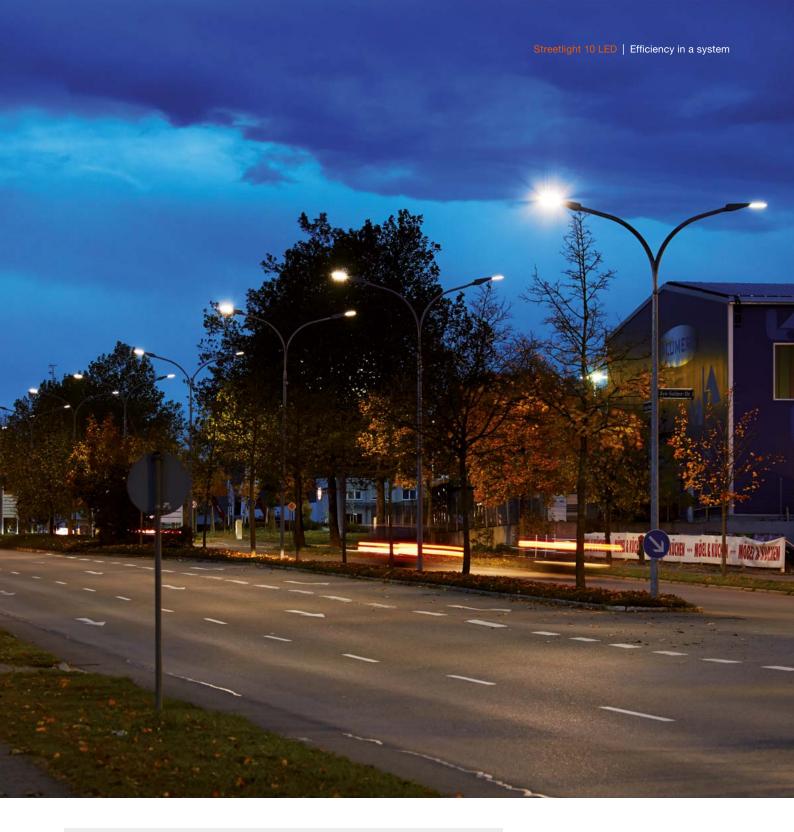
Relative luminous flux



Basis for calculation: static cost comparison, 1 km carriageway, 28 light points, 4,000 operating hours/year, 0.17 euros per kW/h; Old system: HME 125W (137W), 4,000 hrs. with 100 %

New system: Streetlight 10 mini LED, 1,600 hrs. with 100 % = 31 W; 2,400 hrs. reduced mode = 16 W

^{*}Amortization of additional investment costs after approx. 3 years



Rapid amortisation

Clever investments consider costs over the complete life cycle of a product. As well as purchasing costs, energy costs are also decisive for road lighting. The comparative calculation demonstrates that Streetlight 10 LED is already amortised after a good three years, and also with light complying to standards, a requirement that old systems often cannot achieve.

Calculate the amortisation times for your system with the SLEO and the Siteco Cost Efficiency Calculator. More on page 50 or see www.siteco.com/sleo

Pioneering solutions

Particularly efficient, uniform light: Extremely versatile and modular in use: the Streetlight 10 LED family provides almost universal options for modern, standardized street lighting.

A unique, future-fit ecological design

Perfect protection of resources: the Streetlight 10 LED also impresses with material preservation of the luminaire. The housing of high quality diecast aluminium, once mounted, can stay fixed to the mast for decades. The LED modules do not have to be replaced until 100,000 hours operation have elapsed, depending on the operating conditions. This is a decisive advantage compared to many LED luminaires, as most other models cannot be modernised and have to be disposed of in some cases in less than ten years. Other luminaires with replaceable modules are designed so that housing components must be replaced along with the modules, and thus a large part of the luminaire itself. This consumes resources and also energy required for luminaire recycling. Streetlight 10 LED is different, and the value attached to the mast is preserved.

Ecological design standard specifications

The ErP 2009/125/EC guideline sets rules for the ecological design of products. The 244/2009 and 245/2009 directives resulting from this define minimal requirements for the energy efficiency of lamps, luminaires and ballasts.

Energy squanderers are banned.

The most famous example is the banning of incandescent lamps. The manufacture of obsolete fluorescent tubes has also been prohibited since 2010. This will be followed in 2015 with the still popular high pressure mercury vapour lamps for road lighting.





Due to the modular construction, the LED module and control unit can be replaced independently of each other. This makes upgrading to higher performance, future LED modules simple.





90 % Material preservation

If an LED module is replaced, 90 % of the luminaire remains on the mast in the form of housing and gear tray. Material preservation also means outstanding value preservation for operators.



10 % Flexible components

Only 10% of the complete material of the luminaire is replaced when replacing the Streetlight 10 LED module, and replacement of the slender, lightweight module needs just a few manual steps.

High-end technology for a high-end luminaire

The decisive difference between high and low quality LED road luminaires is found in their lighting technology. Streetlight 10 LED sets new standards with its innovative, efficient technical solutions. The LED module with its highly precise optical systems of LED arrays, HD (high definition) reflectors and HD cover guides the light onto the road

surface with a high degree of precision. In contrast to the all-round light distribution of conventional lamps, LEDs radiate light exclusively into the lower hemisphere. Emitted light is guided highly precisely onto the road via the faceted surfaces of each HD reflector. The HD cover enables light to be emitted almost without reflection.

Streetlight 10 LED-Modul

High Power LEDs are thermally coupled to the aluminium housing of the module. The complete module is tightly screw-fastened to the luminaire housing. This gives a large contact surface via which the heat of the LEDs is dissipated with maximum efficiency.

Secure bonding

The high definition cover is completely bonded with the module support all-round. Humidity, dirt particles and insects cannot enter to soil the optics, and the quality of light is permanently ensured.

- Immediate luminous flux

The LED module provides full luminous flux immediately after switching on (and even after repeated switching). This means standard-compliant light from the beginning, without losses from starting up times as with conventional lamps.

Secure mounting

Keyhole suspension means easy replacement of the module: the screws only need to be loosened by a few turns. The screw head still holds the module during mounting.





High Definition Cover (HD-C)

The wave-formed cover of the Streetlight 10 LED is adapted to the beam emission angle of the light rays. The luminaire head features an all-round frame into which the Streetlight 10 LED module flush fits. Light is only emitted into the lower hemisphere, making the Streetlight 10 LED dark-sky compatible to 100 %.

High Definition Reflector (HD-R)

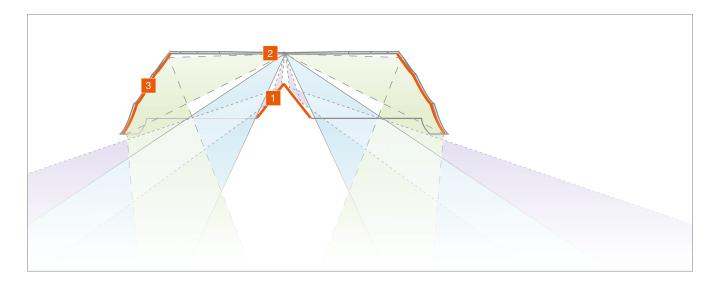
High-precision faceted reflectors split the rays of the high power LEDs into wide-area light. In this way they illuminate roads, paths and plazas with a high level of uniformity. They also prevent glare distracting drivers, pedestrians and residents.



Greater safety with optimal light distribution

The Streetlight 10 LED sets new standards in terms of light distribution, with highly homogeneous illumination along the carriageway even with wide mast distances. This means greater safety in traffic situations, because the vision of drivers need not be adapted to alternating brightness levels, meaning that drivers are able to more rapidly detect sudden obstacles for quicker response

times. Objects and people are even clearly visible behind approaching vehicles with dazzling headlights. The basis for this technological progress is the efficient high definition reflector, a consistent continuation of the world-renowned Siteco radial faceted optics for conventional lamp technologies.



High Definition Reflector: light distribution across three zones

1 Far field:

The central, V-shaped faceted reflector guides most of the emitted light specifically into the far field. Excessive, uncontrolled radiation to the ground below the luminaire is prevented. Direct viewing of the LEDs is not possible from typical observer positions.

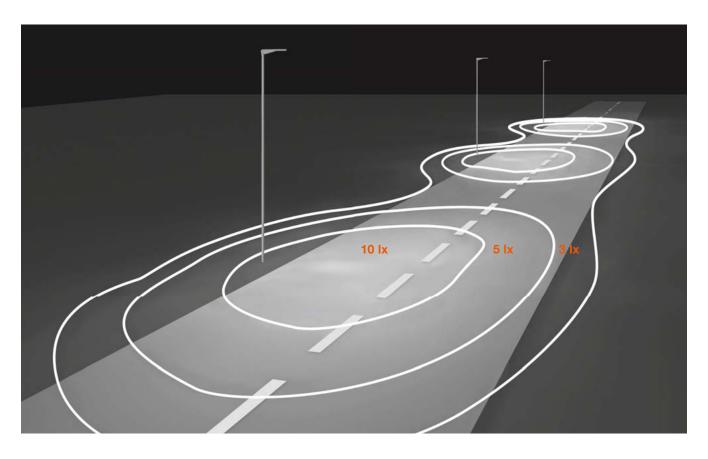
Mid-field:

Light is emitted without deflection and highly efficiently, directly from the luminaire. The position of the LEDs is specified so that the diodes cannot be viewed from the typical observer position, thus avoiding direct glare.

Near field:

The lateral faceted reflector guides the light to the area directly below the luminaire. The light distribution ensures best possible glare restriction.





Perfect visibility

Streetlight 10 LED mini with residential streets achieves perfect visual conditions. The high quality of light with neutral white light supports well-being and a sense of security for residents, and thus improves the quality of life. Optimal contrast and color vision ensure a pleasant atmosphere.





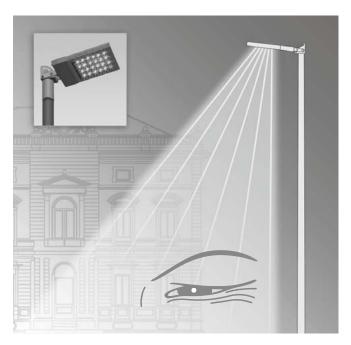
Streetlight 10 midi LED for collecting roads

With collecting roads, uniform lighting supports visual performance.

Maximum visual comfort due to glare reduction

In contrast to LED luminaires with openly positioned diodes or diodes equipped with lenses, the risk of glare with Streetlight 10 LED is minimised. The high definition reflectors distribute the light homogeneously over the light emission surface at the luminaire head. The result is low-glare light that in the functional road lighting sector can hardly find its match. From the typical observer position the luminaire is subjectively not experienced as producing

glare, and glare as evaluated by standards is significantly below stipulated limit values. At the same time, traffic routes are uniformly illuminated. Statistical evaluations prove that these factors in particular significantly reduce risks of accident, and the severity of accidents is tangibly lessened. These are the factors that significantly reduce the risk of accidents and their severity.





Glare and visual comfort with LEDs

A measurement for specifying psychological glare is the threshold increase TI with luminance systems (ME classes). When calculating systems in accordance with lighting classes, limitation of psychological glare can be defined by specifying a luminous intensity class (G1–G6).

The values described above and subjectively perceived glare can however strongly deviate, even with two luminaires with identical light distribution, threshold increase and luminous intensity class.

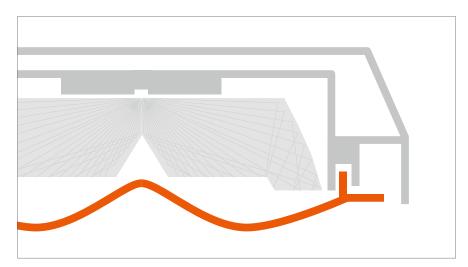
The reason for this is the size of the light emission, perceived as the luminous surface.

High-definition Streetlight 10 LED specular reflectors split the high luminance levels of single diodes into many small, glare-free light points. This means that the luminous surface is usually larger than with luminaires featuring lens systems. In practice, it has been repeatedly proven that precisely this light control principle with LED luminaires is perceived as being especially comfortable.

Light on the road, not in the sky

The high definition cover unites the advantages of both convex and flat luminaire enclosures, and its wave form emits light almost completely without reflection. Efficiency losses are prevented. The almost flat basic construction ensures at the same time that light from the Streetlight 10 LED is only directed onto the road. The luminaire frame

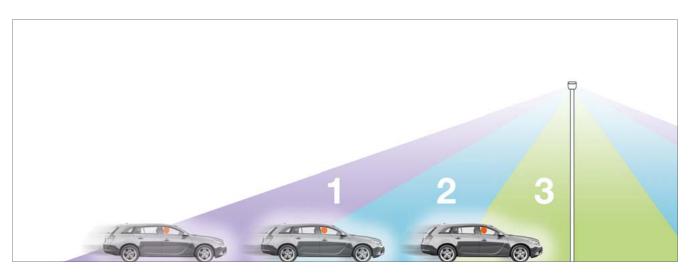
completely prevents light immission into the sky. A further advantage of the construction is the low level of soiling. The cover is mostly removed from the effects of weather and the surface of the high definition cover is of high quality, specially coated PMMA, with a permanently high level of light transparency and minimal tendency for soiling.





Compliance with Dark Sky directives

Light pollution is a growing problem. Luminaires emitting light into the sky hamper star gazing and attract night-active insects. Streetlight 10 LED is different, fulfilling the most stringent dark sky directives, avoiding light pollution and ensuring optimal lighting conditions on the ground, and only on the ground.





Glare-free for drivers

With Streetlight 10 LED the risk of glare from the typical observer situation of a car driver is considerably reduced both in the far, mid and near field.

- 1 Far field
- 2 Mid-field
- 3 Near field



Streetlight 10 mini LED for residential roads

The Streetlight 10 mini LED authentically renders the colors of the surrounding environment, thus ensuring excellent visual comfort. This improves safety and increases well-being, and thus also the quality of life in the vicinity.

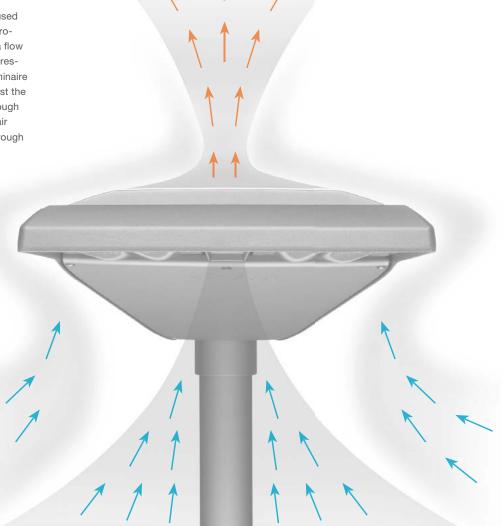
An efficient cooling system for a long service life

The Streetlight 10 family features long-life and low maintenance. A decisive factor in this respect are the highly efficient thermal management systems, defending against the most serious enemy of the luminaire: heat. In all versions the LED modules are screw-fastened to the luminaire housings. The metal support of each module effectively dissipates the heat typical of LEDs over the luminaire housing. With Streetlight 10 micro and mini LED, development of heat is very low. Here cooling via the

slender luminaire housing is sufficient. Streetlight 10 midi LED with its higher light output uses a sophisticated cooling system with special air apertures and cooling ribs. With all modules, a service life of up to 100,000 operating hours at an ambient temperature range of –25 °C to +50 °C is thus ensured. Thermal management also helps to save energy, because the better an LED luminaire is cooled the better is the ratio of luminous efficacy per watt. The better an LED luminaire is cooled, the better the luminous efficacy.

Principle of convection

The physical principle of convection is used to highly effectively dissipate the heat produced by LEDs. Convection describes a flow movement produced by differences in pressure: cool air flows from below to the luminaire housing. A part of the air flow travels past the housing on the sides, the other part through air apertures in the housing. The rising air dissipates the heat and pulls cool air through after it.



Air apertures

The cooling system of the Streetlight 10 midi LED features vertical air apertures that ensure constant dissipation of heat and prevent heat build-up. The individual modules are fixed in the housing and weather-protected.



Cooling ribs

The cooling ribs extend the housing surface and thus improve heat exchange. The rib distance is designed to prevent the catching of falling leaves. The diecast aluminium housing has a flat surface so that dirt particles are washed away with the rain.



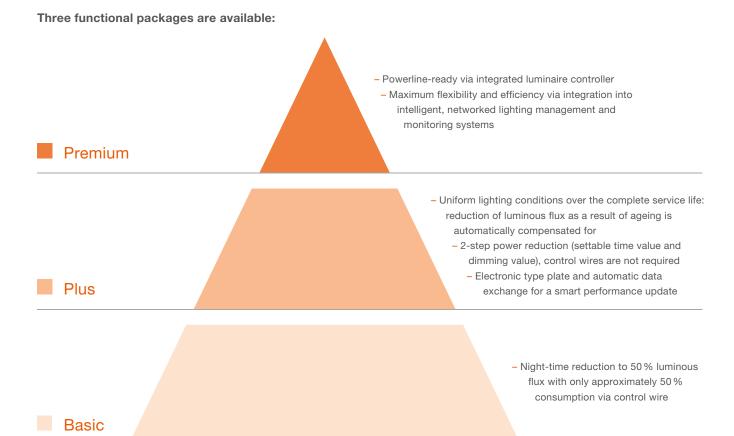
Streetlight 10 micro and mini LED for paths in parks and cycle paths

Streetlight 10 LED with its slender, modern design integrates harmoniously in residential areas with green spaces and parks. Intelligent electronics ensure control of light according to needs.

Energy optimisation via intelligent control

Not every traffic situation, type of weather or time of the day needs the same quantity of light. At the same time, the lighting must always comply with legislative standards, and the maxim is as little as possible and as much as is required. Modern LED technology can be dimmed and

switched steplessly and almost without power loss. Even individual control is possible with supplementary electronic components. In this way the luminaire can be specifically set for its application with high precision and according to needs



Details of fu	nctional pack	(ages*							
	Standard		Efficiency			Communic	ation		
	Overheat protection	Power reduction	Flexible con- figuration of luminous flux	Time- dependent luminous flux control	Constant luminous flux control	Digital communi- cation interface	Street Light Control	Automatic data exchange	Electronic type plate
Premium	•	•	•	•	•		•	•	•
Plus	•	•	•	•	•	•		•	•
Basic	•	•							

^{*} more from page 46

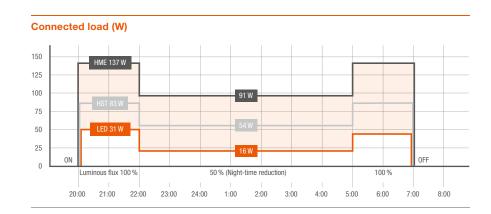
LED – already today the most efficient technology

The mature and intelligent technology of the Streetlight 10 LED, in itself highly efficient, makes the most of savings potential. Its unbeatable advantage is the stepless and loss-free reduced mode. Conventional luminaires of course can also be reduced, although for 50 % luminous flux, 60 % of energy is required even with a modern HST luminaire. In comparison, Streetlight 10 LED achieves 50 % luminous flux with 40 % energy. All light sources lose luminous flux over the years. For this reason, when plan-

ning with conventional lamps the luminous flux is set to exceed the standard-compliant requirement. The disadvantage: more energy is consumed at the start than is needed. Constant luminous flux control with the Streetlight 10 LED Plus is different: its luminous flux is set from the start to the individually required level and this is automatically maintained over the complete service life. Energy waste becomes a thing of the past.

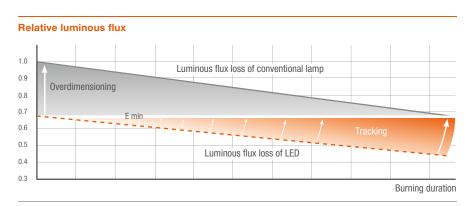
Step 2:

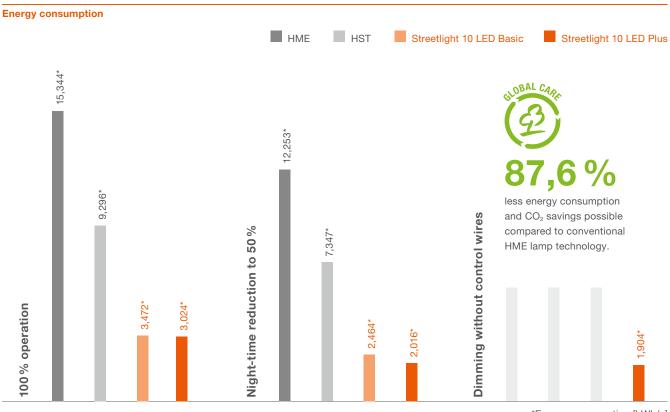
Saving energy via reduced operation: luminous flux reduction to 50 % with HME and HST lamps means significantly less energy savings than with Streetlight 10 LED Basic.



Step 3:

Constant luminous flux control compensates for the reduction of luminous flux resulting from ageing. Over-dimensioning is no longer necessary, achieving minimisation of the power consumption/road surface with constant lighting level. The effect: A further 16 % in savings compared to step 2 and maximisation of the service life.





*Energy consumption [kWh/a]

Save efficiency in three steps

100 % operation

1. Disadvantage for HME and HST: With luminous efficacy and optical efficiency these are inferior to LED technology. Streetlight 10 LED Basic advantage: Achieves best values due to optimal light control of the Siteco LED technology.

Night-time reduction to 50 %

2. Disadvantage for HME and HST: Reduction to 50 % luminous flux saves only 40 % energy. Streetlight 10 LED Basic advantage: The less LEDs are fed with current the more efficiently they function. With a reduction to 50 % luminous flux approximately 60 % of energy is saved.

Streetlight 10 LED Basic advantage:

Power reduction with efficiency bonus

Dimming without control wires

3. Disadvantage for HME and HST: They must be retrofitted with a control unit. Streetlight 10 LED Plus advantage: Luminous flux can be set according to requirements. The setting for maximum operating level and two reduction levels can be freely defined and programmed with the Siteco® Servicebox.

Streetlight 10 LED Basic advantage:

Best values due to optimal light control

Streetlight 10 LED Plus advantage:

A "plus" with intelligent efficiency

Streetlight 10 LED Plus advantage:

Additional savings potential of up to 18 % as a result of constant luminous flux control

Streetlight 10 LED Plus advantage:

Light as required due to intelligent control

Basis for calculation: 1 km road; light points: 28; lighting class: ME 6; mounting height: 6.5 m; mast spacing 36 m; 4,000 operating hours/year; with reduced operation: 1,600 h at 100 % operation, 2,400 h at 50 % operation; CO₂ factor: 0.6 kg CO₂/kWh. All luminaires fulfil the same photometric task. Connected load: HME: 125 W, power consumption 137 W (50 %: 91 W); HST: 70 W, power consumption 83 W (50 %: 54 W); Streetlight 10 LED Basic: power consumption 51 W (50 %: 21 W); Streetlight 10 LED Plus: power consumption 35 W (50 %: 16 W).

Safety, well-being, acceptance

Extensive comparative research by the Darmstadt Technical University in Germany proves the level of acceptance for qualitative LED road luminaires. In their survey, luminaires with HME (high pressure mercury vapour) lamps, HST (high pressure sodium vapour) lamps and LED technology were installed on a 500 metre-long residential street with identical mast distances. Test persons always positively evaluated the LED luminaires whether in terms of road brightness, recognition of pavement edges, impediments and people with warning vests, a personal feeling of safety, color rendition and light color. The responses were almost always significantly better than with comparative luminaires.



Streetlight 10 LED – pleasant neutral white light for realistic color rendering. $R_a\!>\!70$ for 4,000 K and $R_a\!>\!80$ for 3.000 K version

Research documents acceptance*

Positive responses to LED technology: all test groups judged the light quality of LED to be superior by far. The feeling of safety was also highest. Car drivers criticised that the perception of obstacles with HME lighting was insufficient.

Evaluation of the light quality HME HST LED very good sufficient Color very poor very good sufficient Safety very poor very good sufficient Obstructions very poor Pedestrian Resident Driver

^{*} Outdoor Lighting: comparison of road lighting with LEDs and conventional light sources. Analysis based on a scientifically-based test road. Dipl.-Ing. Christoph Schiller, Dipl.-Ing. Thomas Kuhn, Marvin Böll, Prof. Tran Quoc Khanh, Darmstadt. Published in: LICHT 10/2009





 $\label{eq:hstar} \text{HST-road and surroundings have a yellow tinge.}$ Color rendering is poor. $R_a \! < \! \! 40$

HME – road and environs have a blue-green tinge. Color rendering is limited. $R_{\rm a}\,45-60$

Luminaire test road

Scientific surveys are one thing, but personal experience counts for more. Those interested can experience a comparison between LED systems and conventional luminaires on the luminaire test road at the Siteco company premises in Traunreut, Germany. A wide variety of application scenarios can be simulated. Various mounting heights, mast spacing distances and luminaire technologies can be specified to achieve realistic situations. In addition, the effect of the DL® 20 LED on the in-house luminaire park can be experienced.

Interested? Then simply contact your personal sales representative.



Various lighting situations on the test road



Perfect for new systems and modernisation

Technically planned and designed to the last detail for maximum flexibility: Streetlight 10 LED can be used both as a post-top and side entry luminaire, and the inclination of the luminaire head can be adjusted according to needs. In this way Streetlight 10 LED is able to adapt to nearly any lighting situation. With three sizes of mast flange the innovative LED luminaire can also be fixed to all standard masts. A

major advantage with refurbishments is that existing masts can still be used. Costs are saved, and with new systems Streetlight 10 LED has a further major plus: its extremely high performance lighting technology enables wide mast distances and therefore less light points per mile are needed. Streetlight 10 LED constructed with high quality diecast aluminium also supplies quality for decades.



Maximum flexibility

Suitable for various road widths, mounting heights and positions: optimal luminaire alignment is achieved for all lighting needs with just a few twists of the wrist.



Maximum quality throughout



Easy handling of Streetlight 10 mini LED: simply flip the luminaire head upwards. The control gear compartment is exposed, with easy access to all components.



The dependable gear tray technology is equipped with all electrical and electronic components.

Streetlight 10 LED is characterised by a quality that convinces when it comes to practical use. The luminaire head can be simply and quickly mounted and connected with a few turns of the hand, and special tools are not required. Relamping as required with conventional lamps every two or four years is no longer required due to the long service life of the LED modules. Additional maintenance work after connecting the module is not necessary. And the luminaire housing and encapsulated LED module comply with IP66

protection. Streetlight 10 LED has an extremely weather-resistant Siteco metallic grey coating. An additional maintenance advantage of this high quality surface treatment is that the smooth surface reduces the collection of dirt particles. In addition, LED light hardly attracts insects that are often an additional soiling factor for luminaires. The optical enclosure of tough PMMA is flat and embedded into the luminaire housing, meaning that the surface available to the adverse effects of weather is minimised.





Everything easily accessible: The electronic ballast is very easy to connect and can be replaced in just a few steps when required.



Installation sequence Streetlight 10 mini LED download

On the internet at www.streetlight10.com/ mini-mounting or simply read in the QR code with your SmartPhone.



Installation sequence Streetlight 10 micro LED download

On the internet at www.streetlight10.com/ micro-mounting or simply read in the QR code with your SmartPhone.

LED luminaires in permanent operation

Theoretical models are one thing, but proof in practice is something else. This is why Siteco continuously works on the optimisation and further development of LED technology according to the factors of fitness for everyday duty and practical reliability.

As such, the first LED road luminaire from Siteco, the DL® 10 is currently undergoing a long-term test. It has been operating continuously for more than 50,000 h at the company headquarters in Traunreut, Germany. And it's running and running and running...



The right luminaire for any application

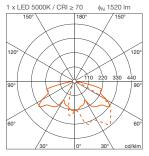
Type of luminaire	Light	ing cla	sses						Optics
Streetlight 10 micro LED - For side streets and pedestrian paths - Mounting heights: 3 to 6 m	S4	\$5	\$6		9				Optics (ST1.2a) for wide roads – wide distribution
 Mast spacing: up to 40 m Light color: 3,000 K, 4,000 K, 5,000 K Variants from 950 lumens to a power variant with 2,354 lumens 									Optics (P1.0a) for standard paths – extremely wide distribution
Streetlight 10 mini LED - For service roads, collecting roads and plazas	S2	S3	S4	S5	S6	ME4	ME5	ME6	Optics (ST1.2a) for wide roads – wide distribution
 For outdoor and logistics areas in industry Mounting heights: 4 to 8 m Mast spacing: up to 40 m Light color: 3,000 K, 4,000 K, 5,000 K Variants from 2,300 lumens to a power variant with 									Optics (P1.0a) for standard paths – extremely wide distribution
6,160 lumens									Optics (ST1.2P1.0) for roads with rear paths
Streetlight 10 midi LED - For main roads, collecting roads, roundabouts and plazas	S1	S2	ME1	ME2	ME3	ME4	ME5	ME6	Optics (ST1.2a) for wide roads – wide distribution
 For outdoor and logistics areas in industry Mounting heights: 6 to 12 m Mast spacing: up to 50 m Light color: 3,000 K, 4,000 K, 5,000 K Variants from 6,100 lumens to a power variant with 		6							Optics (PC-L/PC-R) for pedestrian crossings
13,400 lumens			ı						Optics (ST1.2P1.0) for roads with rear paths
Streetlight 10 LED mini catenary luminaire Streetlight 10 LED midi catenary luminaire	ME4	ME5	ME6		(mini)			Optic (ST1.2s)for wide roads –wide distribution.Mounting in road
 For main roads and collecting roads Mounting heights: 4 to 8 m (mini), 6 to 12 m (midi) Light color: 3,000 K, 4,000 K, 5,000 K Versions from 6,100 lumens to power version with 	ME1	ME2	ME3	ME4	ME5	ME6		₫	center

13,400 lumens (midi), versions from 2,300 lumens to power version with 4,750 lumens (mini)

Application		Light color	ight color					
		Warm white 3,000 K	Neutral white 4,000 K	Daylight white 5,000 K	performance package			
A	LED module for standard- compliant road lighting with high uniformity	Z	20	20	Premium Plus Basic			
	LED module for path lighting with large distances between light points		20	20	Premium Plus Basic			
A	LED module for standard- compliant road lighting with high uniformity	e e e e	6666	6646	Premium Plus Basic			
	LED module for path lighting with large distances between light points	GC CO	6666	6666	Premium Plus Basic			
A	LED module for standard- compliant road lighting with high uniformity	6666	4646	6666	Premium Plus Basic			
A	LED module for standard- compliant road lighting with high uniformity	6666 6666	1666 1666	6666	Premium Plus Basic			
	LED module for pedestrian crossings	-	1666 1666	6666	Premium Plus Basic			
A	LED module for standard- compliant road lighting with high uniformity	6666 6666	4646 4646	বর্তনের	Premium Plus Basic			
A	LED module for standard- compliant road lighting with high uniformity				Plus Basic			
		9999 6666	2222 2222	2000 2007	Plus Basic			

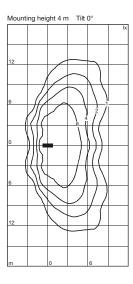


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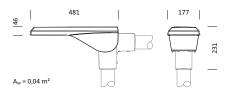


C 90/270 C 0/180

Luminous intensity class according to EN13201-2: G3







Streetlight 10 micro LED for mast post-top or mast side-entry mounting asymmetric distribution

Mast luminaire for post-top or side-entry mounting

- LED with reflectors, for uniform, asymmetric wide light distribution; with flat, formed cover
- microprocessor-controlled LED operating electronics; with control functionality for lighting management and monitoring
- housing and mast flange of diecast aluminium, Siteco® metallic grey (DB 702S); cover of PMMA
- protection rating: IP66

- insulation class: II
- mast spigot with post-top mounting: d_a= 42/60/76 x 100mm
- mast spigot with side-entry mounting: d_a= 42/60 x
- recommended mounting height: MH= 3...6m
- luminaire can be mounted via mast spigot at inclination angles of 0°, 5°, 10° or 15°

- Function

 All versions: with temperature monitoring for protection of LEDs from thermal overload

 All versions: with pewer reduction via 230V control voltage | no luminous flux constancy

 Basic version: with puminous flux constancy over complete service |fe| with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for max. operation and for both reduction levels | all parameters settable via Service Box | on request: can be integrated via SDI into existing digital control systems and controlled from a central control point | alternative luminous flux reduction via 230V control voltage

 Premium version: functional range as with Plus version, but for individual monitoring and control of the luminaire from a central control point from any distance via LON-PowerLine without supplementary control wire (instead of SDI)



K	Ra	lm	W_{start}	W_{end}	W_{red}	Kg	Order No. Order No. OSRAM Siteco
Basic							
3000	> 80	1230	17	17	9	3.4	4050737541075 5XA5903E1A08
3000	> 80	1770	28	28	13	3.4	4050737697000 5XA5903E1A08P
4000	> 70	1350	14	14	8	3.4	4050737541136 5XA5903K1A08
4000	> 70	2360	28	28	13	3.4	4050737697062 5XA5903K1A08P
5000	> 70	1520	16	16	9	3.4	4050737541013 5XA5903A1A08
5000	> 70	2360	28	28	13	3.4	4050737696942 5XA5903A1A08P
lus							
3000	> 80	950	13	17	7	3.4	4050737541099 5XA5903E1B08
3000	> 80	1420	21	28	10	3.4	4050737697024 5XA5903E1B08P
4000	> 70	1040	11	14	6	3.4	4050737541150 5XA5903K1B08
4000	> 70	1890	21	28	10	3.4	4050737697086 5XA5903K1B08P
5000	> 70	1180	12	16	7	3.4	4050737541037 5XA5903A1B08
5000	> 70	1890	21	28	10	3.4	4050737696973 5XA5903A1B08P
remium, with	n luminaire co	ntroller					
3000	> 80	950	16	20	10	3.8	4050737541112 5XA5903E1C08
3000	> 80	1420	24	31	13	3.8	4050737697048 5XA5903E1C08P
4000	> 70	1040	14	17	9	3.8	4050737541174 5XA5903K1C08
4000	> 70	1890	24	31	13	3.8	4050737697109 5XA5903K1C08P
5000	> 70	1180	15	19	10	3.8	4050737541051 5XA5903A1C08
5000	> 70	1890	24	31	13	3.8	4050737696980 5XA5903A1C08P
	assic 3000 3000 4000 4000 5000 5000 3000 4000 4	Assic 3000 > 80 3000 > 80 4000 > 70 4000 > 70 5000 > 70 5000 > 70 Aus 3000 > 80 4000 > 70 5000 > 70 Aus 3000 > 80 4000 > 70 5000 > 70 Aus 4000 > 70 Aus Aus Aus Aus Aus Aus Aus Au	Assic 3000 > 80 1230 3000 > 80 1770 4000 > 70 1350 4000 > 70 2360 5000 > 70 1520 5000 > 70 2360 Aus 3000 > 80 950 3000 > 80 1420 4000 > 70 1890 Aremium, with luminaire controller 3000 > 80 950 Aremium, with luminaire controller 3000 > 80 950 3000 > 70 1180 Aremium, with luminaire controller 3000 > 80 950 3000 > 70 1890 Aremium, with luminaire controller 3000 > 80 950 3000 > 80 950 3000 > 80 950 3000 > 80 950 3000 > 80 950 3000 > 80 950 3000 > 80 950 3000 > 70 1040 4000 > 70 1040 4000 > 70 1040 4000 > 70 1890 5000 > 70 1180	Assic 3000 > 80 1230 17 3000 > 80 1770 28 4000 > 70 1350 14 4000 > 70 2360 28 5000 > 70 1520 16 5000 > 70 2360 28 Aus 3000 > 80 950 13 3000 > 80 950 13 3000 > 80 1420 21 4000 > 70 1890 21 5000 > 70 1890 21 Aremium, with luminaire controller 3000 > 80 950 16 3000 > 80 950 16 3000 > 80 950 16 3000 > 80 950 16 3000 > 80 1420 24 4000 > 70 1040 14 4000 > 70 1040 14 4000 > 70 1040 14 4000 > 70 1040 14 4000 > 70 1040 14	Assic 3000 > 80 1230 17 17 3000 > 80 1770 28 28 4000 > 70 1350 14 14 4000 > 70 2360 28 28 5000 > 70 1520 16 16 5000 > 70 2360 28 28 Aus Aus 3000 > 80 950 13 17 3000 > 80 950 13 17 3000 > 70 1890 21 28 5000 > 70 1890 21 28 Fremium, with luminaire controller 3000 > 80 950 16 20 Fremium, with luminaire controller 3000 > 80 950 16 20 3000 > 80 950 16	Assic 3000 > 80 1230 17 17 9 3000 > 80 1770 28 28 13 4000 > 70 1350 14 14 8 4000 > 70 2360 28 28 13 5000 > 70 1520 16 16 9 5000 > 70 2360 28 28 13 Fremium, with luminaire controller 3000 > 80 950 16 20 16 70 5000 > 70 1890 21 28 10 70 5000 > 70 1890 21 28 10 71 5000 > 70 1890 21 28 10 72 5000 > 70 1890 21 28 10 73 5000 > 70 1890 21 28 10 74 5000 > 70 1890 21 28 10 75 5000 > 70 1890 21 28 10 75 5000 > 70 1890 21 28 10 76 77 78 78 78 78 78 78 78 78 78 78 78 78	Agasic 3000 > 80 1230 17 17 9 3.4 3000 > 80 1770 28 28 13 3.4 4000 > 70 1350 14 14 8 3.4 4000 > 70 2360 28 28 13 3.4 5000 > 70 1520 16 16 9 3.4 5000 > 70 2360 28 28 13 3.4 10us 1

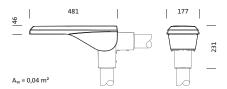
- please order the 'mast cable set' separately for configuration of the Plus version with installed luminaire please order SLC lighting management components for the Premium version separately if required please order mast flange according to spigot diameter separately

Accessories	Kg	Order No. Order No. OSRAM Siteco
mast flange, spigot size: 42mm	0.4	4050737115726 5XA59000XM4
mast flange, spigot size: 60mm	0.5	4050737115702 5XA59000XM2
mast flange, spigot size: 76mm	0.6	4050737101484 5XA59000XM1
cable set, for mast, L= 4m, for Plus version	0.8	4050737028804 5EA6Y00L02
cable set, for mast, L= 5m, for Plus version	0.9	4050737028828 5EA6Y00L03
Siteco® Service Box, for Plus version	1.7	4039806998927 5EA6TEF01

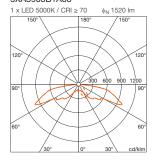








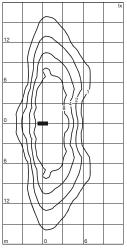
4050737725772 5XA5903B1A08



C 90/270 C 0/180

Luminous intensity class according to EN13201-2: --

Mounting height 4 m



Streetlight 10 micro LED for mast post-top or mast side-entry mounting asymmetric extremely wide distribution, for narrow roads and paths

Mast luminaire for post-top or side-entry mounting

- LED with reflectors, for uniform, asymmetric extremely wide light distribution; with flat, formed cover
- microprocessor-controlled LED operating electronics; with control functionality for lighting management and monitoring
- housing and mast flange of diecast aluminium, Siteco® metallic grey (DB 702S); cover of PMMA
- protection rating: IP66
- insulation class: II
- mast spigot with post-top mounting: d_a= 42/60/76 x 100mm
- mast spigot with side-entry mounting: d_a= 42/60 x 100mm
- recommended mounting height: MH= 3...6m
- luminaire can be mounted via mast spigot at inclination angles of 0°, 5°, 10° or 15°

- Function

 All versions: with temperature monitoring for protection of LEDs from thermal overload

 All versions: with temperature monitoring for protection of LEDs from thermal overload

 Basic version: with power reduction via 230V control voltage | no luminous flux constancy

 Plus version: with luminous flux constancy over complete service life (with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for max. operation and for both reduction levels | all parameters settable via Service Box | on request: can be integrated via SDI into existing digital control systems and controlled from a central control point | alternative luminous flux reduction via 230V control voltage

 Premium version: functional range as with Plus version, but for individual monitoring and control of the luminaire from a central control point from any distance via LON-PowerLine without supplementary control wire (instead of SDI)













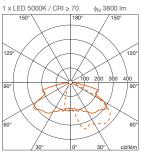
Lamps	K	Ra	lm	W_{start}	W_{end}	W_{red}	Kg	Order No. Order No. OSRAM Siteco
with ECG I	Basic							
LED	3000	> 80	1230	17	17	9	3.4	4050737725833 5XA5903F1A08
LED	4000	> 70	1350	14	14	8	3.4	4050737725895 5XA5903L1A08
LED	5000	> 70	1520	16	16	9	3.4	4050737725772 5XA5903B1A08
with ECG I	Plus 3000	> 80	950	13	17	7	3.4	4050737725857 5XA5903F1B08
LED	4000	> 70	1040	11	14	6	3.4	4050737725918 5XA5903L1B08
LED	5000	> 70	1180	12	16	7	3.4	4050737725796 5XA5903B1B08
with ECG I	Premium, with	n luminaire co	ntroller					
LED	3000	> 80	950	16	20	10	3.8	4050737725871 5XA5903F1C08
LED	4000	> 70	1040	14	17	9	3.8	4050737725932 5XA5903L1C08
LED	5000	> 70	1180	15	19	10	3.8	4050737725819 5XA5903B1C08

- please order the 'mast cable set' separately for configuration of the Plus version with installed luminaire please order SLC lighting management components for the Premium version separately if required please order mast flange according to spigot diameter separately

Accessories	Kg	Order No. Order No.
		OSRAM Siteco
mast flange, spigot size: 42mm	0.4	4050737115726 5XA59000XM4
mast flange, spigot size: 60mm	0.5	4050737115702 5XA59000XM2
mast flange, spigot size: 76mm	0.6	4050737101484 5XA59000XM1
cable set, for mast, L= 4m, for Plus version	0.8	4050737028804 5EA6Y00L02
cable set, for mast, L= 5m, for Plus version	0.9	4050737028828 5EA6Y00L03
Siteco® Service Box, for Plus version	1.7	4039806998927 5EA6TEF01



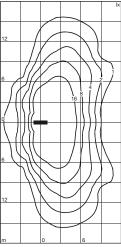
4050737553610 5XA5913A1A08



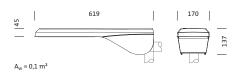
C 90/270 C 0/180

Luminous intensity class according to EN13201-2: G3

Mounting height 4 m







Streetlight 10 mini LED for post-top or side entry mounting asymmetric distribution

Mast luminaire for post-top or side-entry mounting

- LED with reflectors, for uniform, asymmetric wide light distribution; with flat, formed cover
- microprocessor-controlled LED operating electronics; with control functionality for lighting management and monitoring
- housing and mast flange of diecast aluminium, Siteco® metallic grey (DB 702S); cover of PMMA
- protection rating: IP66

- insulation class: II
- mast spigot with post-top mounting: d_a= 60/76 x 100mm
- mast spigot with side-entry mounting: d_a= 42/60 x 100mm
- recommended mounting height: MH= 4...8m
- luminaire can be mounted via mast spigot at inclination angles of 0°, 5°, 10° or 15°

- Function
 All versions: with temperature monitoring for protection of LEDs from thermal overload
 Basic version: with power reduction via 230V control voltage | no luminous flux constancy
 Plus version: with juminous flux constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for many constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for many constancy over settable via Service Box | on request: can be integrated via SDI into existing digital control systems and controlled from a central control point | alternative luminous flux reduction via 230V control voltage
 Premium version: functional range as with Plux version, but for individual monitoring and control of the luminaire from a central control point from any distance via LON-
- PowerLine without supplementary control wire (instead of SDI)



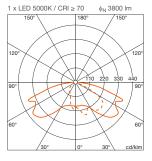
Lamps	K	Ra	lm	W _{start}	Wend	W _{red}	Kg	Order No. Order No. OSRAM Siteco
with ECG	Basic							Octobra Octobra
LED	3000	> 80	2850	37	37	19	4.5	4050737553733 5XA5913E1A08
LED	3000	> 80	4480	66	66	27	4.5	4050737698366 5XA5913E1A08P
LED	4000	> 70	3320	31	31	16	4.5	4050737553788 5XA5913K1A08
LED	4000	> 70	6160	66	66	27	4.5	4050737698632 5XA5913K1A08P
LED	5000	> 70	3800	36	36	18	4.5	4050737553610 5XA5913A1A08
LED	5000	> 70	6160	66	66	27	4.5	4050737698182 5XA5913A1A08P
with ECG	Plus							
LED	3000	> 80	2300	29	37	15	4.5	4050737553757 5XA5913E1B08
LED	3000	> 80	3650	49	66	20	4.5	4050737698489 5XA5913E1B08P
LED	4000	> 70	2610	24	31	12	4.5	4050737553801 5XA5913K1B08
LED	4000	> 70	5010	49	66	20	4.5	4050737698755 5XA5913K1B08P
LED	5000	> 70	3070	29	36	15	4.5	4050737553634 5XA5913A1B08
LED	5000	> 70	5010	49	66	20	4.5	4050737698205 5XA5913A1B08P
with ECG	Premium, wit	h luminaire co	ontroller					
LED	3000	> 80	2300	32	40	18	4.9	4050737554457 5XA5913E1C08
LED	3000	> 80	3650	52	69	24	4.9	4050737698601 5XA5913E1C08P
LED	4000	> 70	2610	27	34	15	4.9	4050737553825 5XA5913K1C08
LED	4000	> 70	5010	52	69	24	4.9	4050737698861 5XA5913K1C08P
LED	5000	> 70	3070	32	39	18	4.9	4050737553658 5XA5913A1C08
LED	5000	> 70	5010	52	69	24	4.9	4050737698229 5XA5913A1C08P

- please order the 'mast cable set' separately for configuration of the Plus version with installed luminaire please order SLC lighting management components for the Premium version separately if required please order mast flange according to spigot diameter separately

Accessories	Kg	Order No. Order No. OSRAM Siteco
mast flange, spigot size: 42mm	0.4	4050737115726 5XA59000XM4
mast flange, spigot size: 60mm	0.5	4050737115702 5XA59000XM2
mast flange, spigot size: 76mm	0.6	4050737101484 5XA59000XM1
cable set, for mast, L= 4m, for Plus version	0.8	4050737028804 5EA6Y00L02
cable set, for mast, L= 5m, for Plus version	0.9	4050737028828 5EA6Y00L03
cable set, for mast, L= 6m, for Plus version	1.0	4050737056098 5EA6Y00L08
Siteco® Service Box, for Plus version	1.7	4039806998927 5EA6TEF01

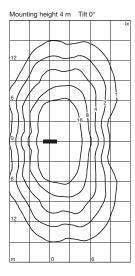


4050737728940 5XA591331A08



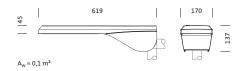
C 90/270 C 0/180

Luminous intensity class according to EN13201-2: G2









Streetlight 10 mini LED for post-top or side entry mounting asymmetric distribution with additional light component for rear paths

Mast luminaire for post-top or side-entry mounting

- LED with reflectors, for uniform, asymmetric wide light distribution on the road and to the rear; with flat, formed cover
- microprocessor-controlled LED operating electronics; with control functionality for lighting management and monitoring
- housing and mast flange of diecast aluminium, Siteco® metallic grey (DB 702S); cover of PMMA
- protection rating: IP66
- insulation class: II
- mast spigot with post-top mounting: d_a= 60/76 x
- mast spigot with side-entry mounting: d_a= 42/60 x
- recommended mounting height: MH= 4...8m
- luminaire can be mounted via mast spigot at inclination angles of 0°, 5°, 10° or 15°

- Function
 All versions: with temperature monitoring for protection of LEDs from thermal overload
 Basic versions: with power reduction via 290V control voltage | no luminous flux constancy
 Plus version: with Juminous flux constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for many constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for many controlled from a central control point | alternative luminous flux reduction via 230V control voltage
 Premium version: functional range as with Plux version, but for individual monitoring and control of the luminaire from a central control point from any distance via LON-



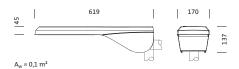
Lamps	K	Ra	lm	W _{start}	Wend	W _{red}	Kg	Order No. Order No. OSRAM Siteco
with ECG I	Basic							OJIAN JILCO
LED	3000	> 80	2850	37	37	19	4.5	4050737728728 5XA591311A08
LED	3000	> 80	4480	66	66	27	4.5	4050737728742 5XA591311A08F
LED	4000	> 70	3320	31	31	16	4.5	4050737728841 5XA591321A08
LED	4000	> 70	6160	66	66	27	4.5	4050737728865 5XA591321A08F
LED	5000	> 70	3800	36	36	18	4.5	4050737728940 5XA591331A08
LED	5000	> 70	6160	66	66	27	4.5	4050737728971 5XA591331A08F
with ECG I	Plus							
LED	3000	> 80	2300	29	37	15	4.5	4050737728766 5XA591311B08
LED	3000	> 80	3650	49	66	20	4.5	4050737728780 5XA591311B08F
LED	4000	> 70	2610	24	31	12	4.5	4050737728261 5XA591321B08
LED	4000	> 70	5010	49	66	20	4.5	4050737728889 5XA591321B08F
LED	5000	> 70	3070	29	36	15	4.5	4050737728988 5XA591331B08
LED	5000	> 70	5010	49	66	20	4.5	4050737729008 5XA591331B08F
with ECG I	Premium, wit	h luminaire co	ontroller					
LED	3000	> 80	2300	32	40	18	4.9	4050737728803 5XA591311C08
LED	3000	> 80	3650	52	69	24	4.9	4050737728834 5XA591311C08F
LED	4000	> 70	2610	27	34	15	4.9	4050737728902 5XA591321C08
LED	4000	> 70	5010	52	69	24	4.9	4050737728926 5XA591321C08F
LED	5000	> 70	3070	32	39	18	4.9	4050737729022 5XA591331C08
LED	5000	> 70	5010	52	69	24	4.9	4050737729046 5XA591331C08F

- please order the 'mast cable set' separately for configuration of the Plus version with installed luminaire please order SLC lighting management components for the Premium version separately if required please order mast flange according to spigot diameter separately

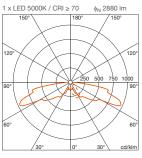
Accessories	Kg	Order No. Order No. OSRAM Siteco
mast flange, spigot size: 42mm	0.4	4050737115726 5XA59000XM4
mast flange, spigot size: 60mm	0.5	4050737115702 5XA59000XM2
mast flange, spigot size: 76mm	0.6	4050737101484 5XA59000XM1
cable set, for mast, L= 4m, for Plus version	0.8	4050737028804 5EA6Y00L02
cable set, for mast, L= 5m, for Plus version	0.9	4050737028828 5EA6Y00L03
cable set, for mast, L= 6m, for Plus version	1.0	4050737056098 5EA6Y00L08
Siteco® Service Box, for Plus version	1.7	4039806998927 5EA6TEF01







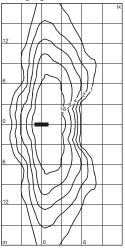
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C 90/270 C 0/180

Luminous intensity class according to EN13201-2: --

Nounting height 4 m



Streetlight 10 mini LED for post-top or side entry mounting asymmetric extremely wide distribution, for narrow roads and paths

Mast luminaire for post-top or side-entry mounting

- LED with reflectors, for uniform, asymmetric extremely wide light distribution; with flat, formed
- microprocessor-controlled LED operating electronics; with control functionality for lighting management and monitoring
- housing and mast flange of diecast aluminium, Siteco® metallic grey (DB 702S); cover of PMMA
- protection rating: IP66
- insulation class: II
- mast spigot with post-top mounting: d_a= 60/76 x
- mast spigot with side-entry mounting: d_a= 42/60 x 100mm
- recommended mounting height: MH= 4...8m
- luminaire can be mounted via mast spigot at inclination angles of 0°, 5°, 10° or 15°

- Function

 All versions: with temperature monitoring for protection of LEDs from thermal overload

 Basic version: with power reduction via 230V control voltage | no luminous flux constancy

 Plus versions: with luminous flux constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for max. operation and for both reduction levels | all parameters settable via Service Box | on request: can be integrated via SDI into existing digital control systems and controlled from a central control point | alternative luminous flux reduction via 230V control voltage

 Premium version: functional range as with Plus version, but for individual monitoring and control of the luminaire from a central control point from any distance via LON-PowerLine without supplementary control wire (instead of SDI)









Lamps	K	Ra	lm	W _{start}	Wend	W _{red}	Kg	Order No. Order No. OSRAM Siteco
with ECG E	Basic .							OSNAW SILECO
LED	3000	> 80	2300	29	29	15	4.5	4050737553771 5XA5913F1A08
-								
LED	4000	> 70	2580	26	26	13	4.5	4050737553849 5XA5913L1A08
LED	5000	> 70	2880	29	29	15	4.5	4050737553672 5XA5913B1A08
with ECG F	Plus							
LED	3000	> 80	1920	24	29	12	4.5	4050737554488 5XA5913F1B08
LED	4000	> 70	2150	21	26	11	4.5	4050737553863 5XA5913L1B08
LED	5000	> 70	2400	24	29	12	4.5	4050737553702 5XA5913B1B08
with ECG Premium, with luminaire controller								
LED	3000	> 80	1920	27	32	15	4.9	4050737554501 5XA5913F1C08
LED	4000	> 70	2150	24	29	14	4.9	4050737553887 5XA5913L1C08
LED	5000	> 70	2400	27	32	15	4.9	4050737553719 5XA5913B1C08

- please order the 'mast cable set' separately for configuration of the Plus version with installed luminaire
 please order SLC lighting management components for the Premium version separately if required
 please order mast flange according to spigot diameter separately

Accessories	Kg	Order No. Order No. OSRAM Siteco
mast flange, spigot size: 42mm	0.4	4050737115726 5XA59000XM4
mast flange, spigot size: 60mm	0.5	4050737115702 5XA59000XM2
mast flange, spigot size: 76mm	0.6	4050737101484 5XA59000XM1
cable set, for mast, L= 4m, for Plus version	0.8	4050737028804 5EA6Y00L02
cable set, for mast, L= 5m, for Plus version	0.9	4050737028828 5EA6Y00L03
cable set, for mast, L= 6m, for Plus version	1.0	4050737056098 5EA6Y00L08
Siteco® Service Box, for Plus version	1.7	4039806998927 5EA6TEF01



4050737513140 5XA5823A1A08

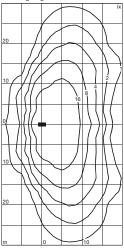


Luminous intensity class according to EN13201-2: G3

C 0/180

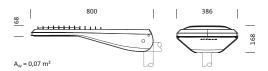
C 90/270

Mounting height 8 m









Streetlight 10 midi LED for post-top or side entry mounting asymmetric distribution

Mast luminaire for post-top or side-entry mounting

- LED with reflectors, for uniform, asymmetric wide light distribution; with flat, formed cover
- microprocessor-controlled LED operating electronics; with control functionality for lighting management and monitoring
- housing and mast flange of diecast aluminium, Siteco® metallic grey (DB 702S); cover of PMMA
- protection rating: IP66

- insulation class: II
- mast spigot with post-top mounting: d_a= 60/76 x
- mast spigot with side-entry mounting: d_a= 42/60 x 100mm
- recommended mounting height: MH= 6...12m
- luminaire can be mounted via mast spigot at inclination angles of 0°, 5°, 10° or 15°

Function

- Function
 All versions: with temperature monitoring for protection of LEDs from thermal overload

 Basic version: with power reduction via 230V control voltage | no luminous flux constancy

 Plus version: with luminous flux constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for max. operation and for both reduction levels | all parameters settable via Service Box | on request: can be integrated via SDI into existing digital control systems and controlled from a central control point | alternative luminous flux reduction via 230V control voltage

 Premium version: functional range as with Plus version, but for individual monitoring and control of the luminaire from a central control point from any distance via LON-PowerLine without supplementary control wire (instead of SDI)

Luminaire can be operated with factory pre-setting. The pre-setting with the Plus and Premium versions can be modified with the mounted and dismantled luminaire



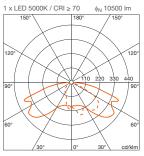
Lamps	K	Ra	lm	W _{start}	Wend	W _{red}	Kg	Order No. OSRAM	Order No.
with ECG E	Basic							USNAW	Sileco
LED	3000	> 80	7670	103	103	48	11.4	4050737513201	5XA5823E1A08
LED	3000	> 80	9900	150	150	65	11.4	4050737700366	5XA5823E1A08P
LED	4000	> 70	9000	89	89	46	11.4	4050737513263	5XA5823K1A08
LED	4000	> 70	13400	150	150	65	11.4	4050737700427	5XA5823K1A08P
LED	5000	> 70	10500	107	107	50	11.4	4050737513140	5XA5823A1A08
LED	5000	> 70	13400	150	150	65	11.4	4050737700182	5XA5823A1A08P
with ECG F	Plus								
LED	3000	> 80	6100	78	103	37	11.4	4050737513225	5XA5823E1B08
LED	3000	> 80	8050	111	150	48	11.4	4050737700380	5XA5823E1B08P
LED	4000	> 70	7300	71	89	37	11.4	4050737513287	5XA5823K1B08
LED	4000	> 70	10800	111	150	48	11.4	4050737700441	5XA5823K1B08P
LED	5000	> 70	8450	83	107	39	11.4	4050737513164	5XA5823A1B08
LED	5000	> 70	10800	111	150	48	11.4	4050737700205	5XA5823A1B08P
with ECG F	Premium, with	n luminaire co	ontroller						
LED	3000	> 80	6100	81	106	40	11.8	4050737513249	5XA5823E1C08
LED	3000	> 80	8050	114	153	52	11.8	4050737700410	5XA5823E1C08P
LED	4000	> 70	7300	74	92	37	11.8	4050737513300	5XA5823K1C08
LED	4000	> 70	10800	114	153	52	11.8	4050737700465	5XA5823K1C08P
LED	5000	> 70	8450	86	110	42	11.8	4050737513188	5XA5823A1C08
LED	5000	> 70	10800	114	153	52	11.8	4050737700229	5XA5823A1C08P

- please order the 'mast cable set' separately for configuration of the Plus version with installed luminaire please order SLC lighting management components for the Premium version separately if required please order mast flange according to spigot diameter separately

Accessories	Kg	Order No. Order No. OSRAM Siteco
mast flange, spigot size: 42mm	1.5	4050737035482 5XA58100XM4
mast flange, spigot size: 60mm	1.4	4050737035468 5XA58100XM2
mast flange, spigot size: 76mm	1.5	4050737035444 5XA58100XM1
cable set, for mast, L= 6m, for Plus version	1.0	4050737056098 5EA6Y00L08
cable set, for mast, L= 7m, for Plus version	1.1	4050737037745 5EA6Y00L07
cable set, for mast, L= 8m, for Plus version	1.3	4050737056111 5EA6Y00L09
cable set, for mast, L= 10m, for Plus version	1.4	4050737071305 5EA6Y00L10
Siteco® Service Box, for Plus version	1.7	4039806998927 5EA6TEF01



4050737725659 5XA582331A08

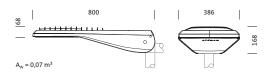


C 90/270 C 0/180

Luminous intensity class according to EN13201-2: G2

Mounting height 8 m





Streetlight 10 midi LED for post-top or side entry mounting asymmetric distribution with additional light component for rear paths

Mast luminaire for post-top or side-entry mounting

- LED with reflectors, for uniform, asymmetric wide light distribution on the road and to the rear; with flat, formed cover
- microprocessor-controlled LED operating electronics; with control functionality for lighting management and monitoring
- housing and mast flange of diecast aluminium, Siteco® metallic grey (DB 702S); cover of PMMA
- protection rating: IP66
- insulation class: II
- mast spigot with post-top mounting: $d_a = 60/76 x$
- mast spigot with side-entry mounting: d_a= 42/60 x
- recommended mounting height: MH= 6...12m
- luminaire can be mounted via mast spigot at inclination angles of 0°, 5°, 10° or 15°

- Function
 All versions: with temperature monitoring for protection of LEDs from thermal overload
 Basic version: with power reduction via 230V control voltage | no luminous flux constancy
 Plus version: with juminous flux constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for many constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for many constancy over settable via Service Box | on request: can be integrated via SDI into existing digital control systems and controlled from a central control point | alternative luminous flux reduction via 230V control voltage
 Premium version: functional range as with Plux version, but for individual monitoring and control of the luminaire from a central control point from any distance via LON-
- PowerLine without supplementary control wire (instead of SDI)

Luminaire can be operated with factory pre-setting. The pre-setting with the Plus and Premium versions can be modified with the mounted and dismantled luminaire



Lamps	K	Ra	Im	\\\\	\\\	\\\	2	Order No. Order No.
	_ r	na	lm	W _{start}	Wend	W_{red}	Kg	OSRAM Siteco
with ECG E	Basic							
LED	3000	> 80	7670	103	103	48	11.4	4050737725413 5XA582311A08
LED	3000	> 80	9900	150	150	65	11.4	4050737725437 5XA582311A08P
LED	4000	> 70	9000	89	89	46	11.4	4050737725536 5XA582321A08
LED	4000	> 70	13400	150	150	65	11.4	4050737725550 5XA582321A08P
LED	5000	> 70	10500	107	107	50	11.4	4050737725659 5XA582331A08
LED	5000	> 70	13400	150	150	65	11.4	4050737725673 5XA582331A08P
with ECG F	Plus							
LED	3000	> 80	6100	78	103	37	11.4	4050737725451 5XA582311B08
LED	3000	> 80	8050	111	150	48	11.4	4050737725475 5XA582311B08P
LED	4000	> 70	7300	71	89	37	11.4	4050737725581 5XA582321B08
LED	4000	> 70	10800	111	150	48	11.4	4050737725598 5XA582321B08P
LED	5000	> 70	8450	83	107	39	11.4	4050737725697 5XA582331B08
LED	5000	> 70	10800	111	150	48	11.4	4050737725710 5XA582331B08P
with ECG F	Premium, with	n luminaire co	ontroller					
LED	3000	> 80	6100	81	106	40	11.8	4050737725499 5XA582311C08
LED	3000	> 80	8050	114	153	52	11.8	4050737725512 5XA582311C08P
LED	4000	> 70	7300	74	92	37	11.8	4050737725611 5XA582321C08
LED	4000	> 70	10800	114	153	52	11.8	4050737725635 5XA582321C08P
LED	5000	> 70	8450	86	110	42	11.8	4050737725734 5XA582331C08
LED	5000	> 70	10800	114	153	52	11.8	4050737725765 5XA582331C08P

- please order the 'mast cable set' separately for configuration of the Plus version with installed luminaire please order SLC lighting management components for the Premium version separately if required please order mast flange according to spigot diameter separately

Accessories	Kg	Order No. Order No. OSRAM Siteco
mast flange, spigot size: 42mm	0.4	4050737115726 5XA59000XM4
mast flange, spigot size: 60mm	0.5	4050737115702 5XA59000XM2
mast flange, spigot size: 76mm	0.6	4050737101484 5XA59000XM1
cable set, for mast, L= 4m, for Plus version	0.8	4050737028804 5EA6Y00L02
cable set, for mast, L= 5m, for Plus version	0.9	4050737028828 5EA6Y00L03
cable set, for mast, L= 6m, for Plus version	1.0	4050737056098 5EA6Y00L08
Siteco® Service Box, for Plus version	1.7	4039806998927 5EA6TEF01



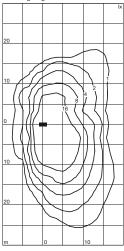
4050737537269 5XA5823D1A08



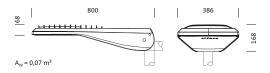
C 90/270 C 0/180

Luminous intensity class according to EN13201-2: G4

Mounting height 8 m







Streetlight 10 midi LED for post-top or side entry mounting single-sided asymmetric distribution, for pedestrian crossings

Mast luminaire for post-top or side-entry mounting

- LED with reflectors, for uniform, asymmetric right or left light distribution; with flat, formed cover
- microprocessor-controlled LED operating electronics; with control functionality for lighting management and monitoring
- housing and mast flange of diecast aluminium, Siteco® metallic grey (DB 702S); cover of PMMA
- protection rating: IP66

- insulation class: II
- mast spigot with post-top mounting: d_a= 60/76 x
- mast spigot with side-entry mounting: d_a= 42/60 x 100mm
- recommended mounting height: MH= 6...12m
- luminaire can be mounted via mast spigot at inclination angles of 0°, 5°, 10° or 15°

Function

- Function
 All versions: with temperature monitoring for protection of LEDs from thermal overload
 All versions: with power reduction via 230V control voltage | no luminous flux constancy
 Plus version: with juminous flux constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux version: with luminous flux reduction and for both reduction levels | all parameters settable via Service Box | on request: can be integrated via SDI into existing digital control systems and controlled from a central control point | alternative luminous flux reduction via 230V control voltage
 Premium version: functional range as with Plus version, but for individual monitoring and control of the luminaire from a central control point from any distance via LON-PowerLine without supplementary control wire (instead of SDI)

Luminaire can be operated with factory pre-setting. The pre-setting with the Plus and Premium versions can be modified with the mounted and dismantled luminaire



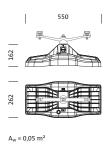
								pedestrian crossing	ng, asymmetric	pedestrian crossin	ng, asymmetric left
Lamps	K	Ra	lm	W _{start}	W_{end}	W _{red}	Kg	Order No.	Order No.	Order No.	Order No.
		''a		V V start	V V end	V V red	Kg	OSRAM	Siteco	OSRAM	Siteco
with ECO	Basic										
LED	4000	> 70	7500	79	79	37	11.4	4050737537382	5XA5823N1A08	4050737537320	5XA5823M1A08
LED	4000	> 70	12450	150	150	65	11.4	4050737700540	5XA5823N1A08P	4050737700489	5XA5823M1A08P
LED	5000	> 70	8740	95	95	45	11.4	4050737537269	5XA5823D1A08	4050737537207	5XA5823C1A08
LED	5000	> 70	12450	150	150	65	11.4	4050737700304	5XA5823D1A08P	4050737700250	5XA5823C1A08P
with ECG	G Plus										
LED	4000	> 70	6300	65	79	31	11.4	4050737537405	5XA5823N1B08	4050737537344	5XA5823M1B08
LED	4000	> 70	9900	111	150	48	11.4	4050737700571	5XA5823N1B08P	4050737700502	5XA5823M1B08P
LED	5000	> 70	7300	77	95	36	11.4	4050737537283	5XA5823D1B08	4050737537221	5XA5823C1B08
LED	5000	> 70	9900	111	150	48	11.4	4050737700328	5XA5823D1B08P	4050737700267	5XA5823C1B08P
with ECG	G Premiu	ım, with	luminaire	controll	er						
LED	4000	> 70	6300	68	83	34	11.8	4050737537429	5XA5823N1C08	4050737537368	5XA5823M1C08
LED	4000	> 70	9900	114	153	52	11.8	4050737700588	5XA5823N1C08P	4050737700526	5XA5823M1C08P
LED	5000	> 70	7300	80	98	39	11.8	4050737537306	5XA5823D1C08	4050737537245	5XA5823C1C08
LED	5000	> 70	9900	114	153	52	11.8	4050737700342	5XA5823D1C08P	4050737700281	5XA5823C1C08P

- please order the 'mast cable set' separately for configuration of the Plus version with installed luminaire please order SLC lighting management components for the Premium version separately if required please order mast flange according to spigot diameter separately

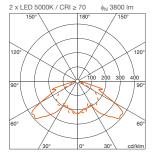
Ad		Onder No. Onder No.
Accessories	Kg	Order No. Order No.
		OSRAM Siteco
mast flange, spigot size: 42mm	1.5	4050737035482 5XA58100XM4
mast flange, spigot size: 60mm	1.4	4050737035468 5XA58100XM2
mast flange, spigot size: 76mm	1.5	4050737035444 5XA58100XM1
cable set, for mast, L= 6m, for Plus version	1.0	4050737056098 5EA6Y00L08
cable set, for mast, L= 7m, for Plus version	1.1	4050737037745 5EA6Y00L07
cable set, for mast, L= 8m, for Plus version	1.3	4050737056111 5EA6Y00L09
cable set, for mast, L= 10m, for Plus version	1.4	4050737071305 5EA6Y00L10
Siteco® Service Box, for Plus version	1.7	4039806998927 5EA6TEF01





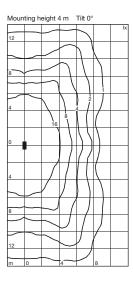


4050737695877 5XA5943A1A08



C 90/270 C 0/180

Luminous intensity class according to EN13201-2: G4



Streetlight 10 mini LED for catenary mounting symmetric wide distribution

Catenary luminaire for wire suspension

- LED with reflectors, for uniform, symmetric wide light distribution; with flat, formed cover
- microprocessor-controlled LED operating electronics; with control functionality for lighting management and monitoring; with mounted connection plug and enclosed socket; luminaire with through-wiring, connection via optional second plug connector
- housing of diecast aluminium, Siteco® metallic grey (DB 702S); cover of PMMA
- protection rating: IP66
- insulation class: II
- recommended mounting height: MH= 4...8m

Function

All versions: with temperature monitoring for protection of LEDs from thermal overload

— Basic version: with power reduction via 230V control voltage | no luminous flux constancy

— Plus version: with luminous flux constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for max. operation and for both reduction levels | all parameters can be set with the Service Box | on request: can be integrated via SDI into existing digital control systems and controlled from a central control point | alternative luminous flux reduction via 230V control voltage

The pre-setting with the Plus version can be modified with the mounted or dismantled luminaire



Lamps	K	Ra	lm	W _{start}	W_{end}	W_{red}	Kg	Order No. Order No. OSRAM Siteco
with ECG E	Basic							
LED	3000	> 80	2850	41	41	19	7.0	4050737707051 5XA5943E1A08
LED	3000	> 80	3540	55	55	24	7.0	4050737707075 5XA5943E1A08P
LED	4000	> 70	3320	35	35	17	7.0	4050737653235 5XA5943K1A08
LED	4000	> 70	4750	55	55	24	7.0	4050737707136 5XA5943K1A08P
LED	5000	> 70	3800	41	41	19	7.0	4050737695877 5XA5943A1A08
LED	5000	> 70	4750	55	55	24	7.0	4050737706993 5XA5943A1A08P
with ECG F	Plus							
LED	3000	> 80	2300	32	41	16	7.0	4050737707099 5XA5943E1B08
LED	3000	> 80	2930	42	55	20	7.0	4050737707112 5XA5943E1B08P
LED	4000	> 70	2610	27	35	13	7.0	4050737707150 5XA5943K1B08
LED	4000	> 70	3850	42	55	20	7.0	4050737707174 5XA5943K1B08P
LED	5000	> 70	3070	32	41	16	7.0	4050737707020 5XA5943A1B08
LED	5000	> 70	3850	42	55	20	7.0	4050737707037 5XA5943A1B08P

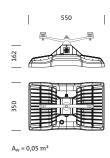
please order wire suspension separately please order second plug comercition for through-wiring additionally if required please order 'adapter cable' for connection of Siteco® Service Box additionally if required

Mandatory accessories	Kg	Order No. Order No. OSRAM Siteco
wire suspension, two swivel axes	0.6	4039806204271 5NY900408
wire suspension, one swivel axis	0.5	4039806084088 5NA18100XA08
Accessories	Kg	Order No. Order No. OSRAM Siteco
plug for through-wiring	0.1	4050737734965 5EA6Y00CST
adapter cable for Service Box	0.2	4050737729947 5EA6Y00C04









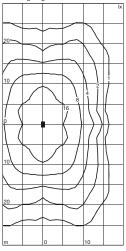
4050737695891 5XA5953A1A08



C 90/270 C 0/180

Luminous intensity class according to EN13201-2: G6

Mounting height 8 m Tilt 0°



Streetlight 10 midi LED for catenary mounting symmetric wide distribution

Catenary luminaire for wire suspension

- LED with reflectors, for uniform, symmetric wide light distribution; with flat, formed cover
- microprocessor-controlled LED operating electronics; with control functionality for lighting management and monitoring; with mounted connection plug and enclosed socket; luminaire with through-wiring, connection via optional second plug connector
- housing of diecast aluminium, Siteco® metallic grey (DB 702S); cover of PMMA
- protection rating: IP66
- insulation class: II
- recommended mounting height: MH= 6...12m

- Function

 All versions: with temperature monitoring for protection of LEDs from thermal overload

 Basic versions: with power reduction via 230V control voltage | no luminous flux constancy

 Plus versions: with luminous flux constancy over complete service life | with integrated, programmable timer for luminous flux reduction at two levels | settable luminous flux for max. operation and for both reduction levels | all parameters can be set with the Service Box | on request: can be integrated via SDI into existing digital control systems and controlled from a central control point | alternative luminous flux reduction via 230V control voltage



Lamps	K	Ra	lm	W _{start}	W_{end}	W_{red}	Kg	Order No. Order No. OSRAM Siteco
with ECG I	Basic							
LED	3000	> 80	7670	103	103	48	10.0	4050737707259 5XA5953E1A08
LED	3000	> 80	9900	150	150	65	10.0	4050737707273 5XA5953E1A08P
LED	4000	> 70	9000	89	89	46	10.0	4050737652306 5XA5953K1A08
LED	4000	> 70	13400	150	150	65	10.0	4050737707334 5XA5953K1A08F
LED	5000	> 70	10500	107	107	50	10.0	4050737695891 5XA5953A1A08
LED	5000	> 70	13400	150	150	65	10.0	4050737707204 5XA5953A1A08F
with ECG I	Plus							
LED	3000	> 80	6100	78	103	37	10.0	4050737707297 5XA5953E1B08
LED	3000	> 80	8050	111	150	48	10.0	4050737707310 5XA5953E1B08P
LED	4000	> 70	7300	71	89	33	10.0	4050737707358 5XA5953K1B08
LED	4000	> 70	10800	111	150	48	10.0	4050737707372 5XA5953K1B08F
LED	5000	> 70	8450	83	107	39	10.0	4050737707211 5XA5953A1B08
LED	5000	> 70	10800	111	150	48	10.0	4050737707235 5XA5953A1B08F

- please order wire suspension separately please order second plug connection for through-wiring additionally if required please order 'adapter cable' for connection of Siteco® Service Box additionally if required

Kg	Order No. Order No. OSRAM Siteco
0.6	4039806204271 5NY900408
0.5	4039806084088 5NA18100XA08
•	Order No. Order No.
Kg	OSRAM Siteco
0.1	4050737734965 5EA6Y00CST
0.2	4050737729947 5EA6Y00C04
1.7	4039806998927 5EA6TEF01
	0.6 0.5 0.1 0.2



Electrical accessories

Siteco® Servicebox

For parameterizing the operating electronics of all "Plus" version Siteco® LED road luminaires | maximum energy effi ciency via individual adaptation of lighting level, switching time and reduction level | setting of static colors and dynamic color sequences with suitable luminaires | software* included with Servicebox | with plug-in coupling for connecting Y-cable | plastic housing; plug-in coupling with protection cap IP54 | insulation class II

Designation	Wt. (kg)	Order No. OSRAM	Order No. Siteco
Siteco Servicebox	2.4	4039806 998927	5EA6TEF01

- incl. Y-cable for looping the Servicebox into luminaire supply cable | incl. ,workshop' cable set for parameterizing the unmounted luminaire in the workshop; safety plug at one end
- Additional adapter cable required for catenary luminaire

^{*} adoption of complete color sequences and software updates possible via PC | incl. mini USB interface for connection to PC



Siteco® Architainment Suite

on all Siteco® Serviceboxes, or free download via the following link:

www.siteco.com > Service > Downloads > Software > PC tools > Architainment Suite



Mast luminaires electrical accessories



Mast cable set

For wiring of junction box in mast to the luminaire, with "Plus" version | with 5-pole plug coupling for integrating Siteco® Servicebox for manual luminaire configuration (e.g. luminous flux, timer etc.)



Designation	Order No. OSRAM	Order No. Siteco
For luminaire, "Plus" version		
Mast cable set, L = 4.0 m	4050737 028804	5EA6Y00L02
Mast cable set, L = 5.0 m	4050737 028828	5EA6Y00L03
Mast cable set, L = 6.0 m	4050737 056098	5EA6Y00L08
Mast cable set, L = 7.0 m	4050737 037745	5EA6Y00L07
Mast cable set, L = 8.0 m	4050737 056111	5EA6Y00L09
Mast cable set, L = 10.0 m	4050737 071305	5EA6Y00L10

Electrical accessories for catenary luminaires



Adapter cable for Siteco® Servicebox

For connecting the Siteco® Servicebox to the catenary luminaire with the "Plus" variant | for manual configuration of the luminaire

Designation	Order No. OSRAM	Order No. Siteco
Adapter cable for SL10 catenary luminaire	4050737 729947	5EA6Y00C04



Plug-in coupling for through-wiring

For SL10 midi catenary luminaire | for connection or through-wiring to next luminaire (not with SDI) | for 5x max. 2.5 mm^2 cables | cable diameter d = 10...14 mm

Designation	Order No. OSRAM	Order No. Siteco
Plug-in coupling for through wiring	4050737 734965	5EA6Y00CST

 $\boldsymbol{\mathsf{-}}$ With through-wiring on the output side: required once for each luminaire

Mast luminaires mounting accessories

Mast flange

Designation

For installing Streetlight 10 LED as post-top or side-entry luminaire via twisting of mast flange | luminaire inclination set via mast flange (0°, 5°, 10°, 15°) | various mast flanges for differing mast spigot diameters | mast flange of diecast aluminum, light gray (RAL 7035)

Streetlight 10 micro, mini		
Mast flange, spigot size: 42 mm	4050737 115726	5XA59000XM4
Mast flange, spigot size: 60 mm	4050737 115702	5XA59000XM2
Mast flange, spigot size: 76 mm	4050737 101484	5XA59000XM1

Order No. OSRAM

Order No. Siteco



Streetlight 10 midi

Mast flange, spigot size: 42 mm	4050737 035482	5XA58100XM4
Mast flange, spigot size: 60 mm	4050737 035468	5XA58100XM2
Mast flange, spigot size: 76 mm	4050737 035444	5XA58100XM1

- mast flange not included in luminaire delivery; please order mast flange separately according to mast spigot diameter



Mounting information for post-top mounting

$$\label{eq:mast_spigot} \begin{split} \text{Mast spigot:} \quad d_a \times I &= 76 \times 100 \text{ mm (luminaire mounting possible with mast flange type 76)} \\ \quad d_a \times I &= 60 \times 100 \text{ mm (luminaire mounting possible with mast flange type 60)} \end{split}$$



Mounting information for side-entry mounting

Mast spigot: $d_a \times I = 60 \times 100$ mm (luminaire mounting possible with mast flange type 60) $d_a \times I = 42 \times 100$ mm (luminaire mounting possible with mast flange type 42)

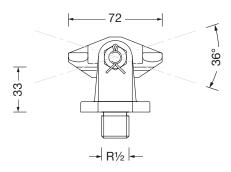
Catenary luminaires mounting accessories



Wire suspension with one swivel axis

Luminaire can be swiveled in one axis | without electrics | suspension of cast aluminum, Siteco $^{\circ}$ metallic gray (DB 702S) | suitable for cable d = 5...12 mm

Designation	Wt. (kg)	Order No. OSRAM	Order No. Siteco
Wire suspension, 1 swivel axis	0.5	4039806 084088	5NA18100XA08

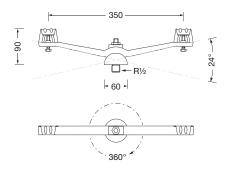




Wire suspension with one swivel and one rotary axis

Luminaire can be swiveled/rotated in two axes | without electrics | suspension of cast aluminum, Siteco $^{\circ}$ metallic gray (DB 702S); V4A mounting bracket | suitable for cable d = 5...12 mm

Designation	Wt. (kg)	Order No. OSRAM	Order No. Siteco
Wire suspension, 1 swivel /1 rotary axis	0.6	4039806 204271	5NY900408



Light according to needs with intelligent control

Intelligent control functions are a part of all Siteco LED outdoor luminaires. With such intelligence integrated into the LED operating electronics, the efficiency potential of LEDs can be exploited even further. The control functions make use of the outstanding feature of LED light sources to reduce luminous flux without loss in order to increase energy and cost savings.

The control functions of Streetlight 10 LED are contained in three different functional packages: Basic, Plus and Premium. The values for luminous flux are either factoryset (Basic), can be individually set with the Siteco® Servicebox (Plus) or centrally set via Street Light Control (Premium). The Plus and Premium versions offer the widest spectrum of efficient control of LED luminaires according to requirements.

Basic functional package

Power reduction, overheat protection

Advantage:

- wired power reduction (twilight switching)
- two illuminance levels factory-set
- (full night/twilight)

Plus functional package

Power reduction, overheat protection, constant luminous flux control, flexible luminous flux parameterisation, time-dependent luminous flux control, digital communication interface, automatic data exchange, electronic type plate

Advantage:

- precise parameterisation of the luminaire to ambient conditions or application is possible
- additional functions for optimising light points can be set
- can be activated via the Siteco[®]
 Servicebox
- no additional control components required

Premium functional package

Power reduction, overheat protection, constant luminous flux control, flexible luminous flux parameterisation, time-dependent luminous flux control, automatic data exchange, electronic type plate, Street Light Control

Advantage:

- central control and automatic monitoring of each light point is possible
- no additional cabling required
- less maintenance trips, lower costs
- improved safety via adaptation of lighting according to needs
- Feeling of safety increased due to adapting of lighting according to requirements



Power reduction

All Siteco LED luminaires are equipped with an intelligent connection for detection of power reduction via a switched control wire (230 V). Factory setting with power reduction via control wire:

$$\begin{split} L_{st} &= 230\,\text{V} > 100\,\% \text{ luminous flux (full night)} \\ L_{st} &= 0\,\text{V} > 50\,\% \text{ luminous flux (twilight)} \end{split}$$
 The switching logic can be reversed with the Servicebox for luminaires in the Plus version. With no control wire the luminaire emits 100 % luminous flux (connection remains free).



Overheat protection

The temperature of the LED module and operating electronics is permanently monitored. With excessive temperature the lighting level and consumption is automatically reduced and the luminaire can cool down. When a lower temperature threshold is attained the luminaire returns to the original lighting and consumption level. This function is purely a protective function to secure the long service life despite possible operating errors (e.g. unintended daytime switching with very high ambient temperatures or with direct sunlight). During operation within the predefined specifications, luminaire temperatures remain safe.



Constant luminous flux control

All light sources, including LEDs, are subject to luminous flux degradation with progression of the service life. This must be taken into account in the planning phase and the system must be correspondingly over-planned. This leads to excessive illuminance and energy waste. The Siteco constant luminous flux control counteracts this degradation, and continuously adds to the output of the LEDs. Luminous flux remains constant over the service life. The light source degradation factor is 1, the maintenance factor is increased. In this way, over-planning is no longer necessary. This means energy-optimised and standard-compliant lighting at all times.



Flexible luminous flux parameterisation

By the binding to fixed wattages with conventional lamps (e.g. 70 W, 100 W, 150 W) only in rare cases is the calculated result of a lighting installation achieved. The next higher wattage must be specified, the system is overlit, energy is wasted. With flexible luminous flux setting the light level can be adapted individually and precisely to the calculated result. Both switch-on value (full night) and reduction values (twilight) can be adapted according to needs.



Time-dependent luminous flux control

Siteco LED Plus luminaires allow reducing the light and therefore energy consumption automatically and without external control components in the late evening hours. The luminaire calculates an artificial (virtual) midnight based on the nominal operating period of the previous five days. On the basis of this midnight value, time windows can be defined in which the luminaire is reduced in one or two steps to freely settable lighting levels. Because of the constant internal updating of the nocturnal operating hours the luminaire adapts automatically to the seasonally varied burning durations.



Digital communication interface

This function represents the interface between the luminaire and the external world. It enables all required parameters such as lighting level, reduction wire control and automatic night-time reduction to be modified according to needs via the Siteco® Servicebox. Connection to higher-level control systems is also via this interface (on request).



Automatic data exchange

This enables exchange of the module without manual readjustment of the luminous flux parameters: if a module (PLUS ECG or LED module) is replaced at any time within the system service period, the luminaire will automatically continue operation at the same lighting level and with the same operating settings (timer, light levels). The modules exchange performance and operating data independently of module type and module generation.



Electronic type plate

This enables the simple and rapid identification of the ECG module and LED module and possible replacement parts. It contains all information about the module and operating settings (serial number, module performance data, operating data/operating hours and operating settings such as dimming levels and timer settings). The electronic type plate can be read out with the Servicebox and can be used as the basis for generating operating statistics.



Street Light Control

Street Light Control provides the option of individually addressing the luminaires from a central point without additional cabling, controlling them according to requirements and monitoring them. Data transmission is via the existing power network via a standard LON protocol. By integrating additional sensors the system can also be expanded according to requirements. Consumption values are recorded and logged, and any luminaire faults are registered automatically via e-mail or SMS. Maintenance plans can be set as desired and maintenance trips optimised.

Maintenance factor with Siteco LED outdoor luminaires

The technological transformation caused by LED technology has also caused a change in consideration of the maintenance factor. Until now, luminaire manufacturers only had to bear in mind the luminaire maintenance factor (LMF).

Maintenance factor until now (conventional lamp):

MF =	LLMF ×	LSF ×	LMF
maintenance factor	Lamp lumen output maintenance factor	Lamp service life factor	Luminaire maintenance factor
		mp acturer	Luminaire manufacturer

With the use of LED technology, a luminaire manufacturer must now take into account all three elements of the maintenance factor, as LEDs have become an integral part of the complete concept of a luminaire.

Maintenance factor with LED luminaires:

MF =	LLMF ×	LSF ×	LMF		
maintenance factor	Lamp lumen output maintenance factor	Lamp service life factor	Luminaire maintenance factor		
	Luminaire manufacturer				

Because the functionality and capabilities of LEDs differ fundamentally from conventional light sources, there are now new features to be considered with the specific characteristics of this maintenance factor comparison. It must also be considered how different manufacturers handle the technical possibilities and potential of LEDs and take these into account.

About the specific factors:

1. LLMF (lamp lumen maintenance factor)

This considers the physically-dependent luminous flux decrease of a lamp over the lamp service life (degradation). LEDs are also subject to this ageing process. And here as well there is an age-dependent reduction in luminous flux. How this reduction in luminous flux is specified is dependent upon a wide variety of factors such as the quality of LEDs, their current feed and also thermal management. This is why with Siteco luminaires there is no fixed LLMF value but a value individually specified according to the LEDs used in the luminaire. This value is taken from the characteristic curve of the manufacturer. With the SL10, all LLMF values refer though to an operating life of 100,000 hours and a nominal ambient temperature of 25 °C. In Central Europe the average outdoor temperature during luminaire operating hours is +5 °C. This temperature, 20 K less than ambient temperature in laboratory conditions, leads in practice to improvements in efficiency and service life. For the 4,000 K versions of the Streetlight 10 micro, mini and midi LED Basic the lamp lumen maintenance factor is 0.95 (B10).

Improvement of LLMF via intelligent control (with Plus and Premium)

Because Siteco cleverly exploits the electronic control capabilities of LEDs for increasing efficiency, the ageing-dependent reduction in luminous flux of LEDs is compensated for with power tracking. This ensures constant luminous flux over the complete service life up to 100,000 hours. This function for constant luminous flux control is available with the Streetlight 10 LED Plus and Premium versions. The LLMF is thus 1 for the Streetlight 10 micro, mini, midi LED Plus and Premium.

2. LSF (lamp survival factor)

This considers premature failing of lamps. Because of the high demand for quality when selecting LEDs for Siteco outdoor luminaires, the probability of failure of an LED is very low. The failure rate is between 0 and 2 %. Lamp failures are usually resolved immediately with outdoor lighting, otherwise dangerous dark zones are created. In this case then, considering a reduction in luminous flux due to lamp failures is not required, and use of the values is limited to economic considerations. For planning purposes, LLF = 1 is set.

3. LMF (luminaire maintenance factor)

The LMF considers the following factors:

- 1. protection rating in the lamp compartment
- 2. cleaning interval
- 3. air impurities in the luminaire vicinity

The protection rating with Siteco outdoor luminaires is always IP5X or IP6X. The cleaning interval and air impurities are criteria that need to be specified individually according to situation and on-site conditions. The factor is specified for the protection rating in relation to the cleaning interval (1, 2, 3, 4 years) and soiling from the vicinity (low, middle, high). The values can be seen in the table expanded for the special features of Siteco LED luminaires.

Table for defining the LMF for Siteco LED luminaires

Cleaning interval (in years)	1			2			3			4		
Air pollution	L	М	Н	L	М	Н	L	М	Н	L	М	Н
Protection rating of lamp compartment												
IP5X	0.99	0.96	0.96	0.97	0.92	0.91	0.95	0.88	0.82	0.94	0.85	0.75
IP6X	1.00	0.98	0.98	0.98	0.95	0.95	0.97	0.93	0.90	0.96	0.92	0.86

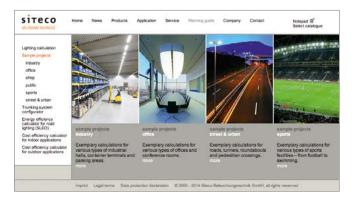
Air pollution: L = low; M = middle; H = high

MF = maintenance factor, LLMF = lamp lumen maintenance factor, LSF = lamp survival factor, LMF = luminaire maintenance factor

Lighting planning

Tools for calculating outdoor lighting systems

The modernisation of obsolete streetlighting systems pays off. Around 2.7 billion kWh of energy, 1.6 million tons of CO₂ and therefore 400 million euros are available for this in Germany alone. The quickest way to implement this is the refurbishment of old lighting installations with new, energy-efficient luminaires and lighting technologies. With Siteco's online calculation programme you can easily find out which energetic savings potential exists. Our website has tools such as the cost efficiency calculator for just such purposes:



Sample systems

These are differentiated in the various applications of office, industry, traffic, shopping, public and sports, and saved in the form of lighting calculations (Relux, Dialux and PDFs), based on specifically valid standards. The sample systems are components for planning support with application suggestions. With specific examples, the sample systems show the results achieved with which luminaires in this application sector. This makes initial conceptions easier and more time-saving for users and serves as the basis for an overview of power consumption and economy (W/m²).

Direct link to sample systems: www.siteco.com/sample-projects



Cost Efficiency Calculator

The Siteco Cost Efficiency Calculator is a web application for evaluating the cost efficiency of two outdoor lighting installations. The installations (comparison installation and new installation) can be compared to each other over a variable service life in terms of investment costs and operating costs. For evaluating cost efficiency the amortisation of an investment over the service life is calculated both statically and dynamically and displayed in figures and tables.

The cost efficiency calculator makes available the following information and services:

- a clear comparison of the old and new system
- precise data for investment, operating and energy costs
- reliable amortisation calculations
- tabular and graphical display of results
- simple step-for-step user guidance
- creation and saving of individual projects
- documentation and download of results as PDF files

Direct to the cost efficiency calculator at www.siteco.com/eco-calculator-outdoor

Optimally planned, sui	tably implemented.				
Here you can find important aids for a perfect lighting design:					
Sitece Lighting Faal	Luminaire selection tool for DIALux and RELUX Requirements: ReluxSuite 2010.1.1 and higher DIALUX 4.7 and higher NET framework 4.0				
	If you have any questions please contact lightingtool@skeco.com				
	Version: 06/2014 288.56 MB exe				
ReluxSuite	Luminaire data for ReluxSuite With 3D luminaire models Version: 06/2014 23,36 MS cop				
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Data plugins	Lightingresiny Version: 04/2014 English 8-43 MB zip German 8.23 MB zip				
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	Luminaire library in GDL format for ARCHICAD A collection of approx 100 3D luminaire models Version: 09/2008 English 281,46 KB zip German 288,48 KB zip				
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	Luminaire library in GDL format for ARCHICAD A collection of approx, 100 3D luminaire models Version: 09/2008				
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Siteco Lighting Tool

The tool enables the selection of a product with just a few clicks and the forwarding of this to the Relux and Dialux lighting planning programs. The indoor and outdoor product ranges are available for this purpose. Products can be selected using the catalog structure (product segment, group or family) or via features (mounting method, lamp type, lamp quantity, control gear etc.). The tool also provides a full search feature for more detailed searches. Specific data can be forwarded to Dialux or Relux via drag and drop. The Siteco Lighting Tool is currently being expanded with an indoor and outdoor application search. The tool is aimed at users with lighting design experience and experience in handling specifically valid standards. The tool is intended to provide support when searching

for an optimum luminaire from the Siteco product range, and among other questions provides answers to the following (example of road lighting): Which luminaire complies with the specified lighting class, and with the widest mast distance? Which luminaire complies with he specified lighting class with the lowest energy consumption per meter? Which lighting class is complied with by a luminaire for a specific road configuration? The result can be printed out via "output" or saved as a PDF.

Direct link to the Siteco Lighting Tool: www.siteco.com/lighting-calculation

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