

# KIO LED



Designer : Grandesign



## Elegance, comfort, creation of ambience and performance

The clean and fluid lines of the KIO LED luminaire adapt to various urban landscapes such as parks, squares, gardens and residential areas.

The KIO LED combines the energy efficiency of LED technology with the photometric performance of the LensoFlex®2 concept developed by Schröder. This luminaire offers photometric efficiency with visual comfort for the creation of ambience. It is available with multiple light distributions that provide excellent photometric performance.

The design of the KIO LED luminaire guarantees an IP 66 tightness level.



## Concept

The materials used for KIO LED are of excellent quality: the base and cover are in high-pressure die-cast aluminum while the protector is composed of polycarbonate.

KIO LED is available in two versions: direct and comfort. In the direct version, the light from the LEDs is emitted directly through a transparent or methacrylate protector. In the Comfort version, an internal diffuser provides a softer light for high visual comfort with reduced glare.

The KIO LED luminaires have been designed to fulfil the FutureProof concept. Both the photometric engine and the electrical power supply can be replaced to take advantage of any future technological developments.

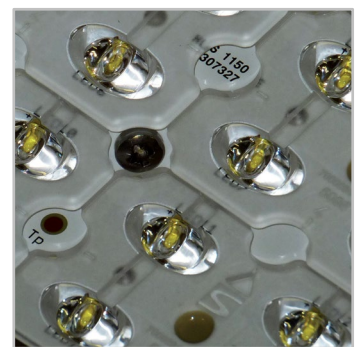
To facilitate installation and maintenance operations, KIO LED integrates patented technologies such as the IzyHub compact connection and connectivity module for quick, tool-free and error-proof wiring.

This connected-ready luminaire is compatible with standard NEMA 7-pin or Zhaga socket.

KIO LED offers slip-over mounting onto a Ø60mm spigot.



As an option, KIO LED can be equipped with standard 7-pin NEMA or Zhaga socket



KIO LED is available with a wide range of LensoFlex\*2 optics.

## TYPES OF APPLICATION

- URBAN & RESIDENTIAL STREETS
- BRIDGES
- BIKE & PEDESTRIAN PATHS
- RAILWAY STATIONS & METROS
- CAR PARKS
- SQUARES & PEDESTRIAN AREAS

## KEY ADVANTAGES

- LensoFlex®2 : high-performance photometry adapted to various applications
- Visual comfort
- Creation of ambiance
- FutureProof: easy replacement of the photometric engine and electronic assembly
- Connected-ready for your future Smart cities' requirements
- Based on open and interoperable standards
- Compatible with Schröder EXEDRA control platform
- Zhaga-D4i certified



This luminaire offers slip-over mounting onto a Ø60mm spigot.



KIO LED is available in two versions: direct and comfort (high visual comfort)



## LensoFlex®2

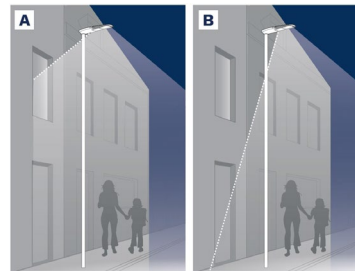
LensoFlex®2 is based upon the addition principle of photometric distribution. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LEDs in combination with the driving current determines the intensity level of the light distribution.



## Back Light control

As an option, the LensoFlex®2 and LensoFlex®4 modules can be equipped with a Back Light control system.

This additional feature minimises light spill from the back of the luminaire to avoid intrusive light towards buildings.



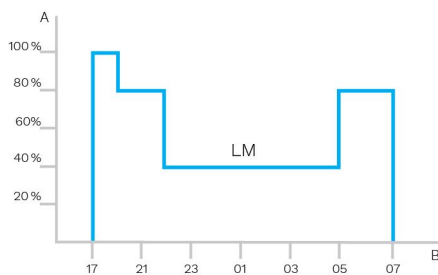
A. Without Back Light control | B. With Back Light control



## Custom dimming profile

Intelligent luminaire drivers can be programmed with complex dimming profiles. Up to five combinations of time intervals and light levels are possible. This feature does not require any extra wiring.

The period between switching on and switching off is used to activate the preset dimming profile. The customised dimming system generates maximum energy savings while respecting the required lighting levels and uniformity throughout the night.

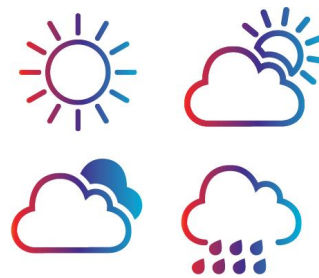


A. Dimming level | B. Time



## Daylight sensor / photocell

Photocell or daylight sensors switch the luminaire on as soon natural light falls to a certain level. It can be programmed to switch on during a storm, on a cloudy day (in critical areas) or only at nightfall so as to provide safety and comfort in public spaces.



## PIR sensor: motion detection

In places with little nocturnal activity, lighting can be dimmed to a minimum most of the time. By using passive infrared (PIR) sensors, the level of light can be raised as soon as a pedestrian or a slow vehicle is detected in the area.

Each luminaire level can be configured individually with several parameters such as minimum and maximum light output, delay period and ON/OFF duration time. PIR sensors can be used in an autonomous or interoperable network.

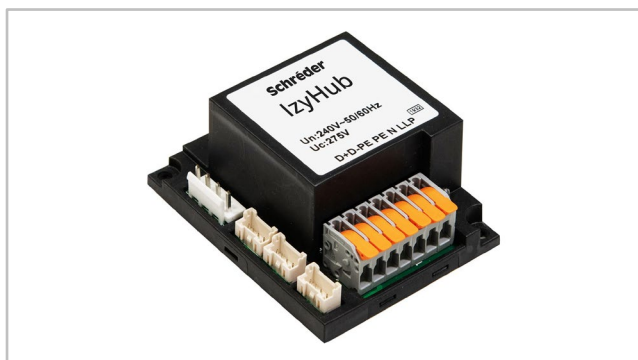




## IzyHub

IzyHub is an innovative device that aims to keep luminaire installation and maintenance hassle-free. This single central connection hub distributes electricity and control information to all parts of the luminaire, ensuring that all components work together and offering reliable, long-term performance.

Its compact size and error-proof connections enable smaller and lighter luminaires that are easier to maintain and upgrade.



### Surge Protection

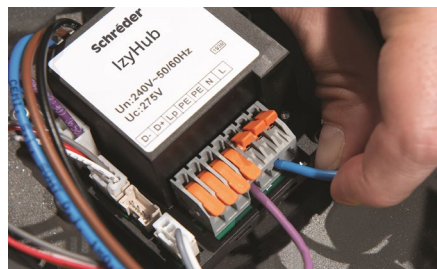
IzyHub features a built-in surge protection device. This prevents electrical surges resulting from lightning strikes and other transient voltages that originate from the mains network from damaging the luminaire, even in the most demanding conditions. The protective device also includes an end-of-life LED warning light, indicating that the luminaire is protected correctly.

### User-friendly

Installing a luminaire has never been easier. IzyHub features tool-free connector as the main connection terminal. It enables 30% shorter installation times compared with standard solutions. Lever actuated spring-loaded electrical connectors provide optimal contact throughout the entire life of the product.

### Easy maintenance

On the rare occasion that a component needs to be replaced in the luminaire, IzyHub makes sure that operations are carried out quickly and easily. Luminaire component connections are keyed so that mixing up electrical connections is physically impossible. Installers do not need to trace wires individually: plug it in, and it works straight away.



### Versions and upgrades

IzyHub has several versions featuring different connectivity options. IzyHub can include an SPD, can work with external dimming and operate with all type of control sockets. It is also able to provide bi-power control and to include fuse options.

These options provide flexibility for future upgrades by only having to replace the IzyHub to connect the new equipment. No complicated re-wiring needed.



The Schröder Bluetooth solution consists of 3 main components:

- A Bluetooth dongle plugged into the modular driver of the luminaire (BLE transceiver)
- A Bluetooth antenna fitted on the luminaire
- A smartphone application called Sirius BLE



## Easy to use

The Schröder Bluetooth solution is ideal for the on-site configuration of individual outdoor luminaires using Bluetooth. From the ground, the user is able to switch the luminaire on or off, adapt the dimming curve, read diagnostic data and much more. A user-friendly application called Sirius BLE provides an easy and secure access to the control and configuration functions.

Whether you are managing a lighting network in an urban or a residential area, this solution will make it easy to control your outdoor luminaires while simply standing by the pole.

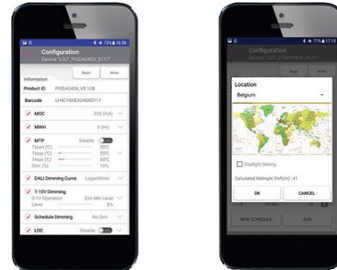
## Quick and easy pairing

Get the Sirius App from Schröder. Go to the menu. Press the “SCAN DEVICE (START)” button, to search for the surrounding BLE modules. They will be displayed with a bar graphic (signal intensity) to indicate the closest and the most distant one you can reach. Click on the device you want to connect to and enter your personal access key to control the luminaire.



## Defining the settings

Once you are connected to a luminaire, you can set various parameters such as the maximum output current, minimum dimming level and custom dimming profile.



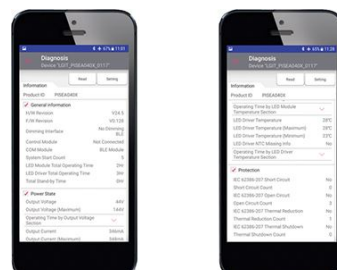
## Manual dimming control

The App enables you to do a manual override to adapt the dimming levels instantly. Simply tap on the “Dimming” button in the main menu and adjust the dimming using the wheel and button. Predefined dimming levels can be applied immediately. The corresponding value is displayed on the wheel. This enables you to test the ON / OFF and dimming features of the luminaire paired to the smartphone.



## On-site diagnostic

When a luminaire is paired, you can access various diagnostic information: total number of power up events, operation time of LED module and driver, total energy consumption of LED driver... etc. You can also track operating events (short circuits, thermal shutdowns...). The diagnostic values may be the current state or values accumulated to date.





The Zhaga consortium joined forces with the DiiA and produced a single Zhaga-D4i certification that combines the Zhaga Book 18 version 2 outdoor connectivity specifications with the DiiA's D4i specifications for intra-luminaire DALI.

### Cost-effective solution

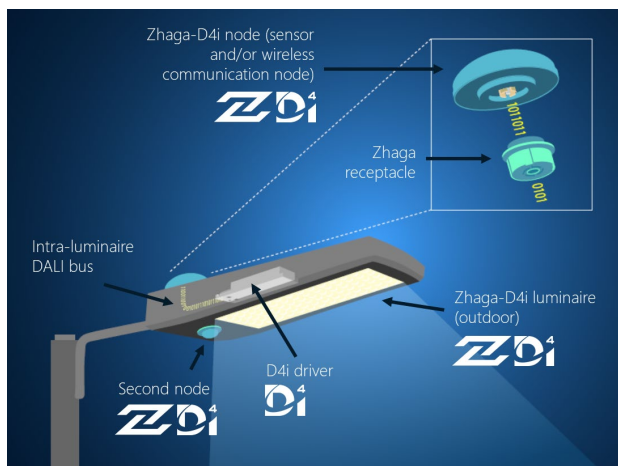
A Zhaga-D4i certified luminaire includes drivers offering features that had previously been in the control node, like energy metering, which has in turn simplified the control device therefore reducing the price of the control system.

### Standardisation for interoperable ecosystems

As a founding member of the Zhaga consortium, Schröder has participated in the creation of, and therefore supports, the Zhaga-D4i certification program and the initiative of this group to standardise an interoperable ecosystem. The D4i specifications take the best of the standard DALI2 protocol and adapt it to an intra-luminaire environment but it has certain limitations. Only luminaire mounted control devices can be combined with a Zhaga-D4i luminaire. According to the specification, control devices are limited respectively to 2W and 1W average power consumption.

### Certification program

The Zhaga-D4i certification covers all the critical features including mechanical fit, digital communication, data reporting and power requirements within a single luminaire, ensuring plug-and-play interoperability of luminaires (drivers) and peripherals such as connectivity nodes.





Schröder EXEDRA is the most advanced lighting management system on the market for controlling, monitoring and analysing streetlights in a user-friendly way.



### Tailored experience

Schröder EXEDRA includes all advanced features needed for smart device management, real-time and scheduled control, dynamic and automated lighting scenarios, maintenance and field operation planning, energy consumption management and third-party connected hardware integration. It is fully configurable and includes tools for user management and multi-tenant policy that enables contractors, utilities or big cities to segregate projects.

### A powerful tool for efficiency, rationalisation and decision making

Data is gold. Schröder EXEDRA brings it with all the clarity managers need to drive decisions. The platform collects massive amounts of data from end devices and, aggregates, analyses and intuitively displays them to help end-users take the right actions.

### Protected on every side

Schröder EXEDRA provides state-of-the-art data security with encryption, hashing, tokenisation, and key management practices that protect data across the whole system and its associated services.

### Standardisation for interoperable ecosystems

Schröder plays a key role in driving standardisation with alliances and partners such as uCIFI, TALQ or Zhaga. Our joint commitment is to provide solutions designed for vertical and horizontal IoT integration. From the body (hardware) to the language (data model) and the intelligence (algorithms), the complete Schröder EXEDRA system relies on shared and open technologies.

Schröder EXEDRA also relies on Microsoft™ Azure for cloud services, provided with the highest levels of trust, transparency, standards conformance and regulatory compliance.

### Breaking the silos

With EXEDRA, Schröder has taken a technology-agnostic approach: we rely on open standards and protocols to design an architecture able to interact seamlessly with third-party software and hardware solutions. Schröder EXEDRA is designed to unlock complete interoperability, as it offers the ability to:

- control devices (luminaires) from other brands
- manage controllers and to integrate sensors from other brands
- connect with third-party devices and platforms

### A plug-and-play solution

As a gateway-less system using the cellular network, an intelligent automated commissioning process recognises, verifies and retrieves luminaire data into the user interface. The self-healing mesh between luminaire controllers enables real-time adaptive lighting to be configured directly via the user interface.



## GENERAL INFORMATION

Recommended installation height	3m to 5m   10' to 16'
FutureProof	Easy replacement of the photometric engine and electronic assembly on-site
Driver included	Yes
CE mark	Yes
ENEC certified	Yes
ROHS compliant	Yes
Zhaga-D4i certified	Yes
French law of December 27th 2018 - Compliant with application type(s)	b, c, d, f, g
BE 005 certified	Yes
Testing standard	LM 79-08 (all measurements in ISO17025 accredited laboratory)

## HOUSING AND FINISH

Housing	Aluminium
Optic	PMMA
Protector	Polycarbonate
Housing finish	Polyester powder coating
Standard colour(s)	AKZO black 200 sanded
Tightness level	IP 66
Impact resistance	IK 09
Vibration test	Compliant with modified IEC 68-2-6 (0.5G)

· Any other RAL or AKZO colour upon request

## OPERATING CONDITIONS

Operating temperature range (Ta)	-30°C up to +35°C / -22°F up to 95°F
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· Depending on the luminaire configuration. For more details, please contact us.

## ELECTRICAL INFORMATION

Electrical class	Class I EU, Class II EU
Nominal voltage	220-240V – 50-60Hz
Power factor (at full load)	0.9
Surge protection options (kV)	10
Electromagnetic compatibility (EMC)	EN 61547 / EN 61000-4-2, -3, -4, -5, -6, -8, -11
Control protocol(s)	Bluetooth, 1-10V, DALI
Control options	AmpDim, Bi-power, Custom dimming profile, Photocell, Remote management
Socket	Zhaga (optional) NEMA 7-pin (optional)
Associated control system(s)	Sirius BLE Owlet Nightshift Owlet IoT Schröder EXEDRA
Sensor	PIR (optional)

## OPTICAL INFORMATION

LED colour temperature	2700K (Warm White 727) 3000K (Warm White 730) 3000K (Warm White 830) 4000K (Neutral White 740)
Colour rendering index (CRI)	>70 (Warm White 727) >70 (Warm White 730) >80 (Warm White 830) >70 (Neutral White 740)
Upward Light Output Ratio (ULOR)	<5%

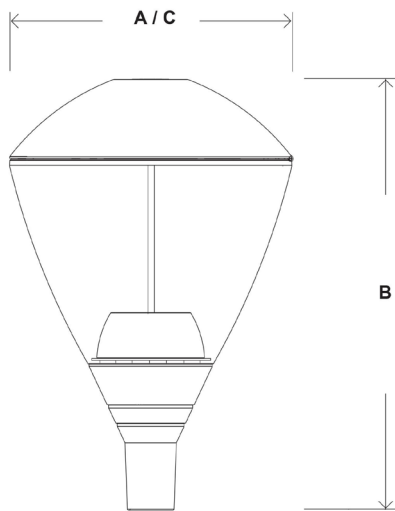
· ULOR may be different according to the configuration. Please consult us.

## LIFETIME OF THE LEDS @ TQ 25°C

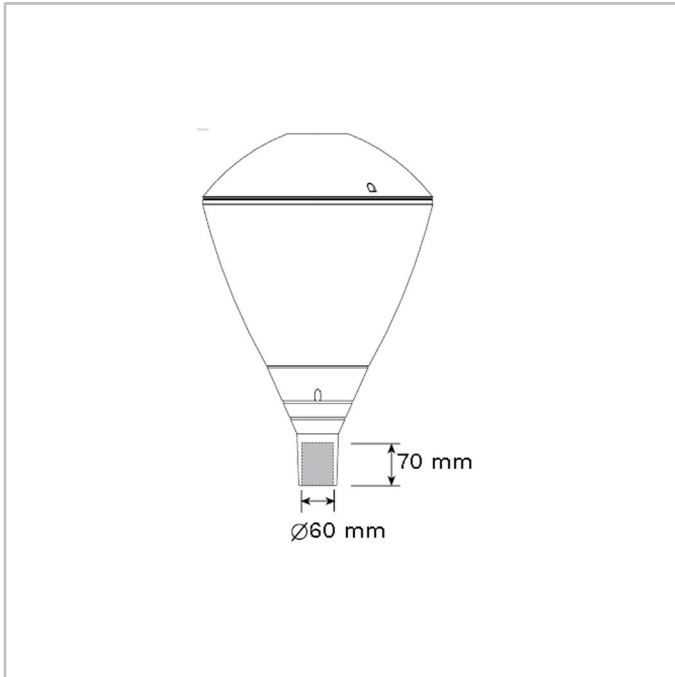
All configurations	100,000h - L90
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## DIMENSIONS AND MOUNTING

AxBxC (mm   inch)	460x703x460   18.1x27.7x18.1
Weight (kg   lbs)	8.2   18.0
Aerodynamic resistance (CxS)	0.08
Mounting possibilities	Post-top slip-over – Ø60mm



KIO LED | Slip-over mounting Ø60 mm -  
6XM6 or 2XM8 screws





Luminaire	Number of LEDs	Current (mA)	Luminaire output flux (lm) Warm White 727		Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Warm White 830		Luminaire output flux (lm) Neutral White 740		Power consumption (W)		Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
KIO LED	8	350	700	1000	800	1200	700	1000	900	1200	9.8	9.8	122	
	8	380	800	1100	900	1300	800	1100	900	1300	10.6	10.6	123	
	8	400	800	1200	900	1300	800	1200	1000	1400	11.1	11.1	126	
	8	470	1000	1300	1100	1500	1000	1300	1100	1600	13.1	13.1	122	
	8	500	1000	1400	1100	1600	1000	1400	1200	1600	13.9	13.9	115	
	8	600	1200	1600	1300	1800	1200	1600	1400	1900	16.7	16.7	114	
	8	700	1400	1900	1500	2100	1400	1900	1600	2200	19.6	19.6	112	
	16	350	1500	2100	1600	2300	1500	2100	1700	2400	18.1	18.1	133	
	16	380	1600	2300	1800	2500	1600	2300	1800	2600	19.6	19.6	133	
	16	400	1700	2400	1800	2600	1700	2400	1900	2700	20.6	20.6	131	
	16	500	2000	2800	2200	3200	2000	2800	2300	3300	25.8	25.8	128	
	16	600	2300	3300	2600	3700	2300	3300	2700	3800	31	31	123	
	16	700	2600	3700	2900	4100	2600	3700	3000	4300	36.5	36.5	118	
	24	350	2200	3200	2500	3500	2200	3200	2600	3700	26.5	26.5	140	
	24	400	2500	3600	2800	4000	2500	3600	2900	4100	30.2	30.2	136	
	24	500	3000	4300	3400	4800	3000	4300	3500	4900	37.7	37.7	130	
	24	590	3500	4900	3800	5500	3500	4900	4000	5600	44.5	44.5	126	
	24	600	3500	5000	3900	5500	3500	5000	4000	5700	45	45	127	
	24	700	3900	5600	4400	6200	3900	5600	4500	6400	53	53	121	
	32	350	3000	4200	3300	4700	3000	4200	3500	4900	34.6	34.6	142	
32	400	3400	4800	3700	5300	3400	4800	3900	5500	39.5	39.5	139		
32	450	3700	5300	4100	5900	3700	5300	4300	6100	44.5	44.5	137		
32	500	4000	5700	4500	6400	4000	5700	4700	6600	49.5	49.5	133		
32	600	4700	6600	5200	7400	4700	6600	5400	7600	59.5	59.5	128		
32	700	5300	7500	5900	8300	5300	7500	6100	8600	69.5	69.5	124		

Tolerance on LED flux is ± 7% and on total luminaire power ± 5 %

