

FRIZA GEN2



Redefining urban lighting with sustainability at its core

The classic conical “Kegel” urban luminaire has been refreshed to deliver a high-performance, low-impact lighting solution that significantly reduces your environmental footprint. Its innovative design seamlessly blends the aesthetic continuity of the FRIZA luminaire with the latest in renewable technologies. Taking sustainability to the next level, the FRIZA GEN2 now features a protector and a cover made from bio-sourced materials, reducing its carbon footprint by 28% compared to traditional fossil fuel alternatives, without compromising on durability or performance.

Offering exceptional photometric performance and low-glare comfort, FRIZA GEN2 enhances safety and well-being in multiple public spaces while drastically cutting energy consumption.

This second generation of the FRIZA luminaire has been reimagined to meet the challenges of modern cities while retaining its classic appeal.



Concept

Though the base section of the FRIZA GEN2 luminaire is still made of recyclable high-pressure die-cast aluminium, its protector and cover introduce the latest generation of bio-based materials. In this new generation, the traditional fossil fuel plastic parts have been replaced by renewable, bio-circular materials. The cover is made of a bio-based polymer (ASA type), and the protector is crafted from a bio-circular polycarbonate. The benefit of using renewable materials is a reduction in greenhouse gas (GHG) emissions of up to 60%, creating a lighting network that has a positive impact on your urban environment while promoting a circular economy.

This innovation not only reduces FRIZA GEN2's environmental footprint, it also provides a robust luminaire perfectly suited to withstand any urban outdoor environment.

FRIZA GEN2 takes advantage of the latest generation of Schröder LensoFlex® photometric engines. Combined with a wide range of lighting distributions, this luminaire can be tailored to light various types of urban application, such as residential streets, bike paths, city squares, pedestrian areas or car parks, with the greatest efficiency.

As an ambiance luminaire, FRIZA GEN2 can be fitted with an internal diffuser, creating an appealing visual effect while considerably reducing glare, and providing safety and well-being for your public spaces, in every situation.

This connected-ready luminaire is compatible with a Zhaga socket, providing easy access to advanced remote lighting management options that allow you to achieve greater levels of customisation and energy efficiency.

FRIZA GEN2 is designed for post-top mounting on Ø60mm spigots. Its design has been significantly streamlined to further simplify installation. Delivered pre-wired, FRIZA GEN2 is a lightweight urban lighting solution that combines aesthetics and exceptional practicality. Its canopy can be opened for maintenance by unscrewing 8 screws, giving direct access to the gear plate.



A robust and durable design that makes the difference in reducing your carbon footprint.



FRIZA GEN2 ensures the best performance with high visual comfort thanks to its low-glare options.

TYPES OF APPLICATION

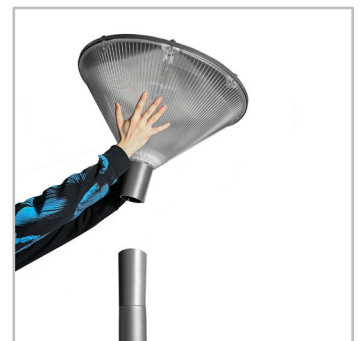
- URBAN & RESIDENTIAL STREETS
- BRIDGES
- BIKE & PEDESTRIAN PATHS
- RAILWAY STATIONS & METROS
- CAR PARKS
- SQUARES & PEDESTRIAN AREAS

KEY ADVANTAGES

- Bio-sourced materials significantly reducing the luminaire's carbon footprint
- Cost effective lighting solution for creation of ambiance
- Superior visual comfort (low glare)
- Elegant and robust
- Reduces environmental impact and the carbon footprint.
- Connected-ready
- Compatible with the Schröder EXEDRA control platform
- Zhaga-D4i certified
- Supplied pre-cabled to facilitate its installation
- Compact, lightweight and easy to install



As an option, this connected-ready luminaire can be equipped with a Zhaga socket.



FRIZA GEN2 offers convenient slip-over mounting onto Ø60mm spigots.

FRIZA GEN2 | Striated protector (with or without internal diffusor)



FRIZA GEN2 | Clear protector (with internal diffusor)

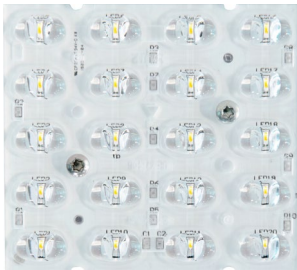




LensoFlex®4

LensoFlex®4 maximises the heritage of the LensoFlex® concept with a very compact yet powerful photometric engine based upon the addition principle of photometric distribution. The number of LEDs in combination with the driving current determines the intensity level of the light distribution. With optimised light distributions and very high efficiency, this fourth generation enables the products to be downsized to meet application requirements with an optimised solution in terms of investment.

LensoFlex®4 optics can feature backlight control to prevent intrusive lighting, or a glare limiter for high visual comfort.

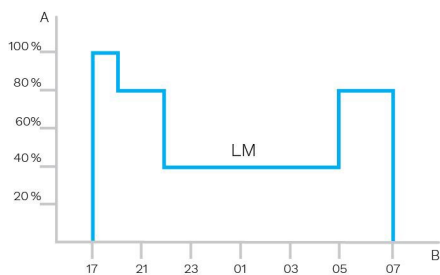




Custom dimming profile

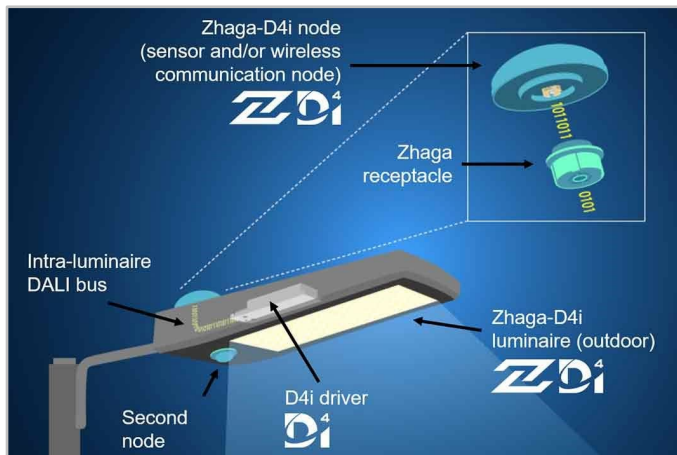
Intelligent luminaire drivers can be programmed with complex dimming profiles. Up to five combinations of time intervals and light levels are possible. This feature does not require any extra wiring.

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

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.



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.

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.

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



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

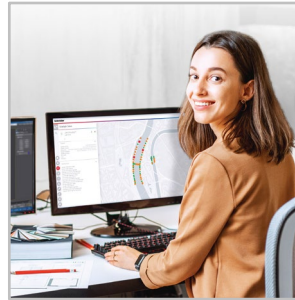
With EXEDRA, Schröder has taken a technology-agnostic approach: we rely on open standards and protocols to design an architecture able to interact seamlessly with third-party software and hardware solutions. Schröder EXEDRA is designed to unlock complete interoperability, as it offers the ability to:

- 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. OWLET IV luminaire controllers, optimised for Schröder EXEDRA, operate Schröder's luminaires and luminaires from third parties. They use both cellular and mesh radio networks, optimising geographical coverage and redundancy for continuous operation.

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

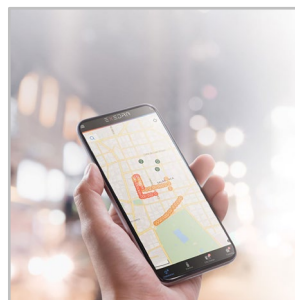
Data is gold. Schröder EXEDRA brings it with all the clarity managers need to drive decisions. The platform collects massive amounts of data from end devices and, aggregates, analyses and intuitively displays them to help end-users take the right actions.

Protected on every side



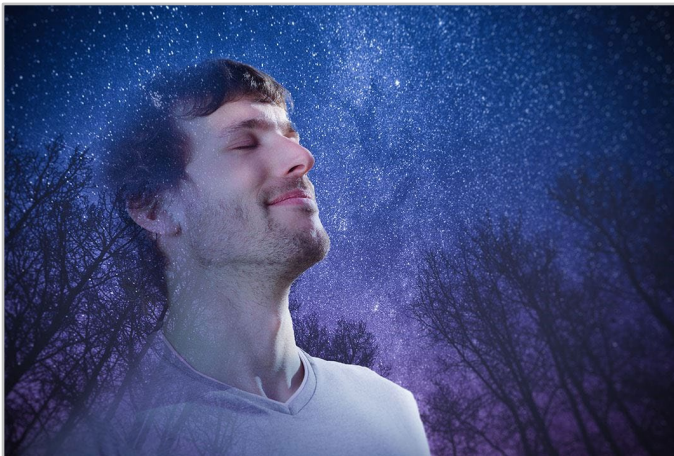
Schröder EXEDRA provides state-of-the-art data security with encryption, hashing, tokenisation, and key management practices that protect data across the whole system and its associated services. The whole platform is ISO 27001 certified. It demonstrates that Schröder EXEDRA meets the requirements for establishing, implementing, maintaining and continually improving security management.

Mobile App: any time, any place, connect to your street lighting

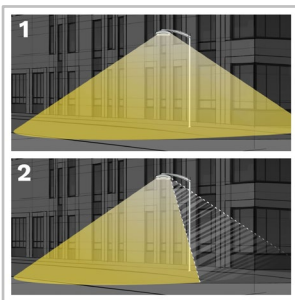


The Schröder EXEDRA mobile application offers the essential functionalities of the desktop platform, to accompany all types of operator on site in their daily effort to maximise the potential of connected lighting. It enables real-time control and settings, and contributes to effective maintenance.

With the PureNight concept, Schröder offers the ultimate solution for restoring the night sky without switching off cities, while maintaining safety and well-being for people and preserving wildlife. The PureNight concept guarantees that your Schröder lighting solution satisfies environmental laws and requirements. Well-designed LED lighting has the potential to improve the environment in all respects.



Direct the light only where it is wanted and needed



1. Without backlight
2. With backlight

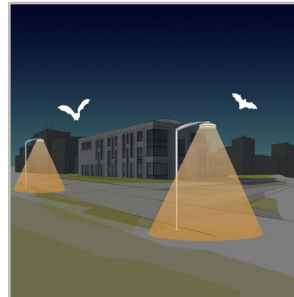
Schröder is renowned for its expertise in photometry. Our optics direct light only where it is wanted and needed. However, light trespass behind the luminaire might be a key concern when it comes to protecting a sensitive wildlife habitat or avoiding intrusive lighting towards buildings. Our fully integrated backlight solutions easily address this potential risk.

Offer maximum visual comfort to people



Because of the lower installation height compared to road lighting, visual comfort is an essential aspect of urban lighting. Schröder designs lenses and accessories to minimise any type of glare (distracting, discomforting, disabling glare and blinding glare). Our design offices harness a range of possibilities to find the best solutions for each project and ensure that we provide a gentle light that delivers the best night-time experience.

Protect wildlife



If not well designed, artificial lighting can badly affect wildlife. Blue light and excessive intensity can have a damaging effect on all types of life. Blue light radiation has the ability to suppress the production of melatonin, the hormone that contributes to the regulation of the circadian rhythm. It can also alter the behavioural patterns of animals including bats and moths, as it can change their movements towards or away from light sources. Schröder favours warm white LEDs with minimal blue light, combined with advanced control systems including sensors. This enables permanent adaptation of the lighting to the real needs of the moment, minimising disturbance to the fauna and flora.

Get the starry sky back



The Upward Light Ratio (ULR) and Upward Light Output Ratio (ULOR), the latter taking the flux from the luminaire into account, provide information on the percentage of light emitted towards the sky. This Schröder range of luminaires minimises or eliminates (depending on the options) upward-directed light flux. It complies with strict international and local requirements.

GENERAL INFORMATION

Recommended installation height	3m to 5m 10' to 16'
Circle Light label	Score ≥ 90 - The product fully meets circular economy requirements
Driver included	Yes
CE mark	Yes
ENEC certified	Yes
ENEC+ certified	Yes
ROHS compliant	Yes
Zhaga-D4i certified	Yes
UKCA marking	Yes
Testing standard	EN 60598-1 EN 60598-2-1 EN 62262 IEC 62717 (LLM ENEC +) IEC 62722-2-1 IEC 62493 IEC 62471

HOUSING AND FINISH

Housing	Biopolymer (50% bio-sourced content) Aluminium
Optic	PMMA
Protector	Polycarbonate (72% bio-circular content, based on ISCC PLUS)
Housing finish	Polyester powder coating
Standard colour(s)	AKZO grey 900 sanded
Tightness level	IP 66
Impact resistance	IK 10
Vibration test	Compliant with modified IEC 68-2-6 (0.5G)
Access for maintenance	By loosening screws on the top cover

· Only the top cover and the protector are made of bio sourced materials

OPERATING CONDITIONS

Operating temperature range (Ta)	-30°C up to +55°C / -22°F up to 131°F with wind effect
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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
Surge protection options (kV)	10
Electromagnetic compatibility (EMC)	EN 55015 / EN 61000-3-2 / EN 61000-3-3 / EN 61547
Control protocol(s)	1-10V, DALI
Control options	Custom dimming profile, Remote management
Socket	Zhaga (optional)
Associated control system(s)	Schröder EXEDRA

OPTICAL INFORMATION

LED colour temperature	2700K (Warm White WW 727) 3000K (Warm White WW 730) 3000K (Warm White WW 830) 4000K (Neutral White NW 740)
Colour rendering index (CRI)	>70 (Warm White WW 727) >70 (Warm White WW 730) >80 (Warm White WW 830) >70 (Neutral White NW 740)

LIFETIME OF THE LEDS @ TQ 25°C

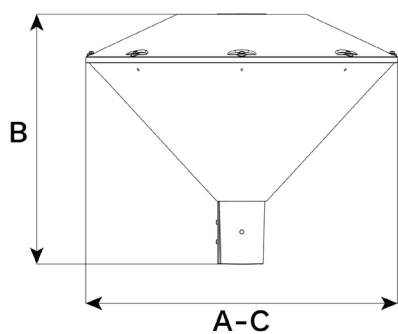
All configurations	100,000h - L95
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· Lifetime may be different according to the size/configurations. Please consult us.

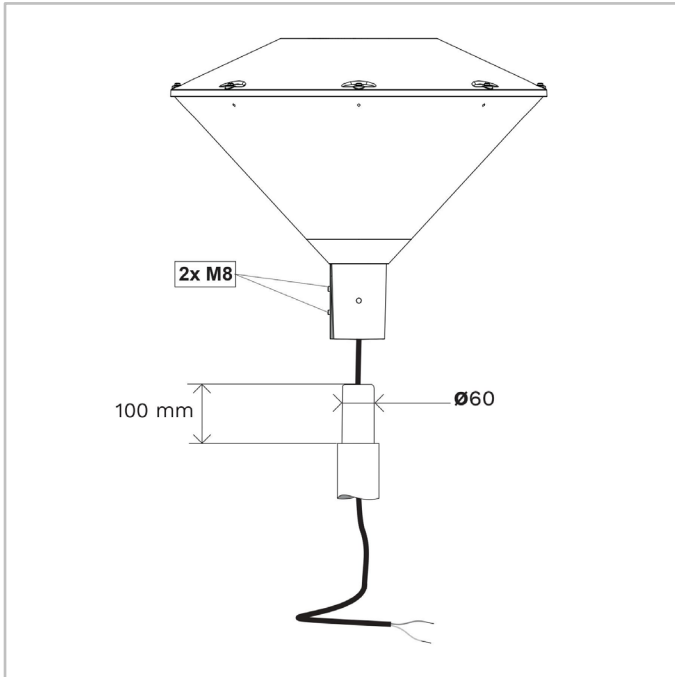
DIMENSIONS AND MOUNTING

AxBxC (mm inch)	564x462x564 22.2x18.2x22.2
Weight (kg lbs)	6.0 13.2
Aerodynamic resistance (CxS)	0.07
Mounting possibilities	Post-top slip-over – Ø60mm

· For more information about mounting possibilities, please consult the installation sheet.



FRIZA GEN2 | Slip-over mounting Ø60mm - 2XM8 screws





Number of LEDs	Luminaire output flux (lm)								Power consumption (W)		Luminaire efficacy (lm/W)
	Warm White WW 727		Warm White WW 730		Warm White WW 830		Neutral White NW 740				
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Up to
10	1500	3600	1600	3900	1500	3600	1800	4200	16	36	143
20	1300	5900	1400	6400	1300	5900	1500	6900	14	52	150

Tolerance on LED flux is $\pm 7\%$ and on total luminaire power $\pm 5\%$

