

Teceo



Designer : Michel Tortel



Lighting in an efficient and sustainable manner

Teceo is a market benchmark recognised by independent bodies. This very successful luminaire has already enabled thousands of towns and cities to improve lighting levels, generate energy savings and reduce their ecological footprint.

With the S version which is particularly suited to low-height applications, the Teceo range offers optimised photometrical performance with a minimum total cost of ownership.

Thanks to its broad range of lumen packages, its impressive scope of light distributions and its various control options, Teceo provides the ideal solution for lighting numerous environments; from bike paths, squares and car parks to residential streets, urban roads, large avenues and motorways.

Designed for a versatile mounting with the same universal piece allowing both side-entry and post-top fixation on a spigot, Teceo is easy to combine with standard poles, refined brackets or wall brackets.

IP 66	IK 09	IK 08



Concept

Teceo is composed of three different parts in aluminium, with a top opening. The hinges of the top cover open 120° to provide access to the gear compartment.

Teceo can be fitted with LensoFlex® photometric engines, protected by a tempered glass.

The Teceo range offers optimised photometrical performance with a minimum total cost of ownership. This highly efficient luminaire is available in three sizes to offer towns and cities the ideal tool to improve lighting levels, generate energy savings and reduce their ecological footprint.

Teceo S, for up to 24 LEDs, has been designed for low-height applications such as residential streets, car parks and bike paths. Teceo 1, for up to 48 LEDs, is ideally suited to lighting urban roads and squares while Teceo 2 for up to 144 LEDs is perfect for large roads, avenues and motorways.

The complete range is available with four different universal fixation parts adapted for post-top and side-entry mounting on various spigots (Ø32mm with adapter, Ø42-48mm, Ø60mm and Ø76mm). The inclination angle can be adjusted on-site for both post-top (0 to 10°) and side-entry (0 to 15°) configurations.



The top opening provides access to the gear compartment for cabling and maintenance.



Teceo is available with a wide range of photometries.

Types of application

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

Key advantages

- Maximised savings in energy and maintenance costs
- A market benchmark recognised by independent bodies
- LensoFlex®2 offering high performance photometry, comfort and safety
- 3 sizes to provide the most accurate solutions for numerous road and urban applications
- Universal fixation adapted for side-entry and post-top mounting
- IoT ready: optional 7-pin NEMA socket



Teceo can be equipped with an optional PIR sensor for light-on-demand scenarios.



The Teceo range offers universal fixations for spigots ranging from Ø32 to Ø76mm.



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. The proven LensoFlex®2 concept includes a glass protector to seal the LEDs and lenses into the luminaire body.



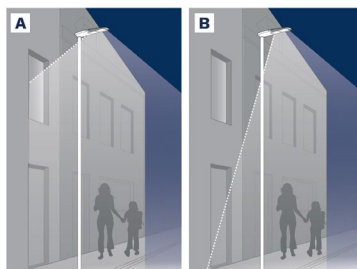
LensoFlex®3

LensoFlex®3 uses lenses made of mouldable and optical-grade silicon offering superior transparency and excellent photothermal stability. This withstands high driving currents and delivers maximised lumen output over time. As silicon offers a higher thermal resistance compared to PMMA, temperature is not as critical for LensoFlex®3 engines. This offers two distinct advantages; LensoFlex®3 ensures enhanced performance in warm climates and enables a high driving current to be used to increase the lumen output and a higher lm/kg ratio. It also does not suffer from yellowing over time.



Back Light control

As an option, the LensoFlex®2 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.

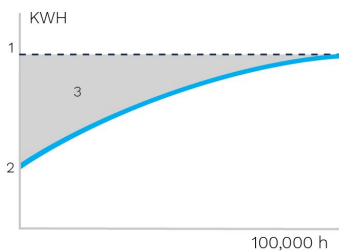


A. Without Back Light control | B. With Back Light control



Constant Light Output (CLO)

This system compensates for the depreciation of luminous flux to avoid excess lighting at the beginning of the installation's service life. Luminous depreciation over time must be taken into account to ensure a predefined lighting level during the luminaire's useful life. Without a CLO feature, this simply means increasing the initial power upon installation in order to make up for luminous depreciation. By precisely controlling the luminous flux, the energy needed to reach the required level can be maintained throughout the luminaire's life.

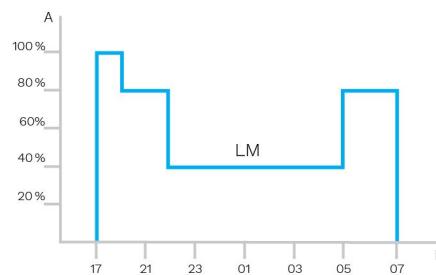


1. Standard lighting level | 2. LED lighting consumption with CLO | 3. Energy savings



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.

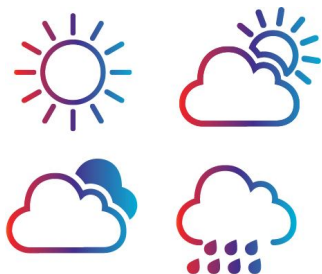


A. Performance | B. Time



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 night fall 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.



Owlet IoT

Owlet IoT remotely controls luminaires in a lighting network, creating opportunities for improved efficiency, accurate real-time data and energy savings of up to 85%.



ALL-IN-ONE

The LUCO P7 CM controller includes the most advanced features for optimised asset management. It also provides an integrated photocell and operates with an astronomical clock for seasonal dimming profile adaptations.

EASY TO DEPLOY

Thanks to wireless communication, no cabling is needed. The network is not subject to physical constraints or limitations. From a single control unit to an unlimited network, you can expand your lighting scheme at any time. With real-time geolocation and automatic detection of luminaire features, commissioning is quick and easy.

USER-FRIENDLY

Once a controller is installed on a luminaire, the luminaire automatically appears with its GPS coordinates on a web-based map.

An easy-to-use dashboard enables each user to organise and customise screens, statistics and reports. Users can gain relevant, real-time insights.

The Owlet IoT web application can be accessed at all times from anywhere in the world with a device connected to the Internet. The application adapts to the device to offer an intuitive and user-friendly experience.

Real-time notifications can be pre-programmed to monitor the most important elements of the lighting scheme.



Plugging the LUCO P7 CM controller onto the 7-pin NEMA socket

SECURE

The Owlet IoT system uses a local wireless mesh communication networks to control the on-site luminaires combined with a remote control system utilising the cloud to ensure smooth data transfers to and from the central management system.

The system uses encrypted IP V6 communication to protect data transmission in both directions. Using a secure APN, Owlet IoT ensures a high level of protection.

In the exceptional case of a communication failure, the built-in astronomical clock and photocell will take over to switch the luminaires on and off, thus avoiding a complete blackout at night.

EFFICIENT

Thanks to sensors and/or pre-programmed settings, lighting scenarios can be easily adapted to cope with live events, providing the right lighting levels at the right time and in the right place.

The integrated utility grade meter offers the highest accuracy available on the market today, enabling decisions based on real figures.

Accurate real-time feedback and clear reporting ensures that the network operates efficiently and maintenance is optimised.

When LED luminaires are switched on, the inrush current can create problems for the electricity grid. Owlet IoT incorporates an algorithm to preserve the grid at all times.

OPEN

The LUCO P7 CM controller can be plugged onto the standard 7 pin NEMA socket and operates through either a DALI or 1-10V interface to control the luminaire.

Owlet IoT is based on the IPv6 protocol. This method for addressing devices can generate an almost unlimited number of unique combinations to connect non-traditional components to the Internet or computer network.

Through open APIs, Owlet IoT can be integrated into existing or future global management systems.

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



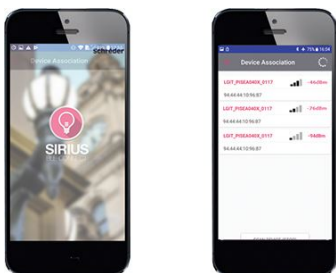
Easy to use

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.

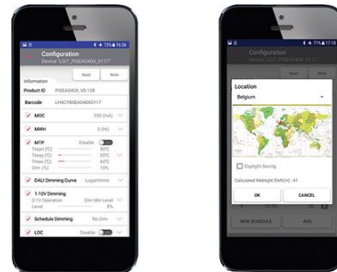
Quick and easy pairing

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.



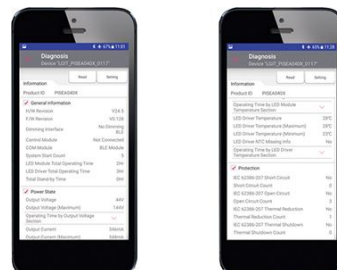
Manual dimming control

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.



GENERAL INFORMATION

Recommended installation height	4m to 12m 13' to 39'
FutureProof	Easy replacement of the photometric engine and electronic assembly on-site
Driver included	Yes
CE Mark	Yes
ENEC+ certified	Yes
ETL/UL certified	Yes
ROHS compliant	Yes
Testing standard	LM 79-08 (all measurements in ISO17025 accredited laboratory)

· Teceo S is not ETL/UL certified

HOUSING AND FINISH

Housing	Aluminium
Optic	PMMA Silicon
Protector	Tempered glass
Housing finish	Polyester powder coating
Standard colour(s)	AKZO grey 150 sanded
Tightness level	IP 66
Impact resistance	IK 08, IK 09
Vibration test	Compliant with ANSI 1.5G and 3G and modified IEC 68-2-6 (0.5G)
Access for maintenance	Direct access to the gear compartment by loosening screws on the top cover

· Any other RAL or AKZO colour upon request

· IK may be different according to the size/configurations. Please consult us.

OPERATING CONDITIONS

Operating temperature range (Ta)	-30 °C up to +45 °C / -22 °F up to 113 °F
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· Depending on the luminaire configuration. For more details, please contact us.

ELECTRICAL INFORMATION

Electrical class	Class 1US, Class I EU, Class II EU
Nominal voltage	120-277V – 50-60Hz 220-240V – 50-60Hz
Power factor (at full load)	0.9
Surge protection options (kV)	10
Electromagnetic compatibility (EMC)	EN 55015 / EN 61000-3-2 / EN 61000-3-3 / EN 61000-4-3 / EN 61000-4-4 / EN 61000-4-5 / EN 61000-4-6 / EN 61000-4-11 / EN 61547
Control protocol(s)	Bluetooth, 1-10V, DALI
Control options	AmpDim, Bi-power, Custom dimming profile, Remote management
Socket option(s)	NEMA 7-pin (optional)
Associated control system(s)	Sirius BLE Owlet Nightshift Owlet IoT
Sensor	PIR (optional)

· Bluetooth only available for Teceo S

OPTICAL INFORMATION

LED colour temperature	2700K (Warm White) 3000K (Warm White) 4000K (Neutral White)
Colour rendering index (CRI)	>70 (Warm White) >80 (Warm White) >70 (Neutral White)
Upward Light Output Ratio (ULOR)	0%

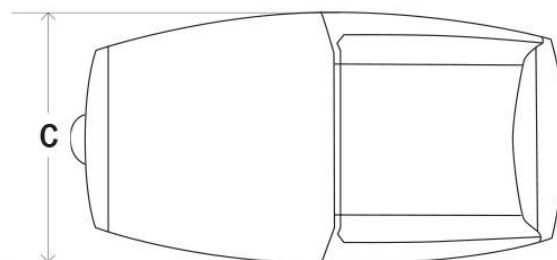
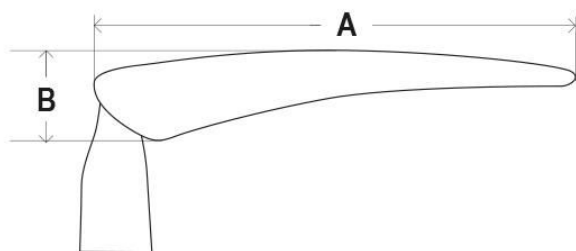
LIFETIME OF THE LEDS @ TQ 25°C

All configurations	100,000h - L90
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DIMENSIONS AND MOUNTING

AxBxC (mm inch)	TECEO S - 450x99x252 17.7x3.9x9.9 TECEO 1 - 607x113x318 23.9x4.4x12.5 TECEO 2 - 788x119x439 31.0x4.7x17.3
Weight (kg lbs)	TECEO S - 5.1 11.2 TECEO 1 - 9.6 21.1 TECEO 2 - 17.5 38.5
Aerodynamic resistance (CxS)	TECEO S - 0.17 TECEO 1 - 0.06 TECEO 2 - 0.08
Mounting possibilities	Side-entry slip-over – Ø32mm Side-entry slip-over – Ø42mm Side-entry slip-over – Ø48mm Side-entry slip-over – Ø60mm Side-entry penetrating – Ø60mm Post-top slip-over – Ø32mm Post-top slip-over – Ø42mm Post-top slip-over – Ø48mm Post-top slip-over – Ø60mm Post-top slip-over – Ø76mm Thylia pole type

· Thylia mounting only for Teceo S and Teceo 1





	Number of LEDs	Current (mA)	Luminaire output flux (lm) Neutral White 740		Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Warm White 830		Luminaire output flux (lm) Warm White 727		Power consumption (W)	Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max	Min	Max			
TECEO S	8	350	900	1200	900	1200	800	1000	800	1000	9.9	121	
	8	400	1100	1300	1100	1300	900	1100	1000	1200	11.1	126	
	8	500	1300	1600	1300	1600	1100	1400	1200	1500	13.7	124	
	8	600	1600	1900	1600	1900	1300	1600	1400	1700	16.6	120	
	8	700	1800	2200	1800	2200	1500	1800	1600	2000	19.4	119	
	8	800	2000	2400	2000	2400	1700	2100	1800	2200	22.2	113	
	8	950	2300	2800	2300	2800	1900	2400	2000	2500	25.9	112	
	16	200	1200	1400	1200	1400	1000	1200	1000	1300	11	136	
	16	300	1700	2100	1700	2100	1400	1800	1500	1900	15.8	139	
	16	400	2200	2700	2200	2700	1900	2300	2000	2400	20.8	135	
	16	500	2700	3300	2700	3300	2300	2800	2400	3000	25.9	131	
	16	600	3100	3800	3100	3800	2700	3300	2800	3500	31.1	129	
	16	700	3600	4400	3600	4400	3000	3700	3200	3900	36.4	126	
	16	860	4200	5200	4200	5200	3600	4400	3800	4600	45	120	
	24	200	1800	2200	1800	2200	1500	1800	1600	1900	15.4	149	
	24	300	2600	3100	2600	3100	2200	2700	2300	2800	22.5	147	
	24	400	3300	4100	3300	4100	2800	3400	3000	3700	29.9	144	
	24	590	4700	5700	4700	5700	3900	4800	4200	5100	44.5	135	
	24	600	4700	5800	4700	5800	4000	4900	4200	5200	45.5	132	
	24	700	5400	6600	5400	6600	4500	5600	4800	5900	53.5	129	
24	800	6000	7300	6000	7300	5000	6200	5300	6500	61.5	124		
24	900	6500	8000	6500	8000	5500	6800	5800	7200	69.5	119		
24	1000	7000	8600	7000	8600	6000	7300	6300	7700	78	115		

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



			Luminaire output flux (lm) Neutral White 740		Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Warm White 830		Luminaire output flux (lm) Warm White 727		Power consumption (W)	Luminaire efficacy (lm/W)	
	Number of LEDs	Current (mA)	Min	Max	Min	Max	Min	Max	Min	Max		Up to	Photometry
TECEO 1	8	350	800	1200	800	1200	700	1000	800	1100	9.7	124	
	8	500	1200	1700	1200	1700	1000	1400	1100	1500	13.6	132	
	8	700	1600	2200	1600	2200	1400	1900	1400	2000	19.1	126	
	8	1000	2200	3000	2200	3000	1800	2500	1900	2700	29.2	106	
	16	350	1700	2400	1700	2400	1500	2000	1600	2200	18.2	137	
	16	500	2400	3300	2400	3300	2000	2800	2100	3000	25.7	136	
	16	700	3200	4400	3200	4400	2700	3700	2800	4000	36.2	127	
	24	350	2600	3700	2600	3700	2200	3100	2400	3300	26.8	142	
	24	500	3600	5000	3600	5000	3100	4200	3200	4500	38.1	136	
	24	700	4800	6600	4800	6600	4100	5600	4300	6000	53.5	129	
	32	350	3500	4900	3500	4900	3000	4100	3200	4400	34.8	147	
	32	500	4800	6700	4800	6700	4100	5700	4300	6000	49.5	141	
	32	700	6400	8900	6400	8900	5400	7500	5700	8000	70	133	
	40	350	4400	6100	4400	6100	3700	5200	4000	5500	43	149	
	40	500	6100	8400	6100	8400	5100	7100	5400	7500	61.5	143	
	40	700	8000	11100	8000	11100	6800	9400	7200	10000	87	133	
	48	350	5300	7400	5300	7400	4500	6200	4800	6600	51.5	150	
	48	500	7200	10000	7200	10000	6100	8500	6500	9000	73	144	
48	700	9600	13300	9600	13300	8200	11300	8600	12000	104	134		
48	700	12000	12900	-	-	10300	11100	-	-	105	123		
48	1000	16000	17100	-	-	13700	14700	-	-	151	113		

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	Number of LEDs	Current (mA)	Luminaire output flux (lm) Neutral White 740		Luminaire output flux (lm) Warm White 730		Luminaire output flux (lm) Warm White 830		Luminaire output flux (lm) Warm White 727		Power consumption (W)	Luminaire efficacy (lm/W)	Photometry
			Min	Max	Min	Max	Min	Max	Min	Max			
TECEO 2	56	350	7000	8300	7000	8300	5900	7000	6200	7500	59.5	146	
	56	500	9500	11300	9500	11300	8000	9600	8500	10200	86	137	
	56	700	12600	15100	12600	15100	10700	12800	11300	13500	121	130	
	64	350	8000	9500	8000	9500	6700	8000	7100	8500	67.5	147	
	64	500	10800	12900	10800	12900	9200	11000	9700	11600	97	139	
	64	700	14100	16900	14100	16900	11900	14300	12700	15100	138	128	
	72	350	9000	10700	9000	10700	7600	9100	8000	9600	76	147	
	72	500	12200	14600	12200	14600	10300	12300	10900	13100	109	139	
	72	700	15900	19000	15900	19000	13400	16100	14300	17000	154	129	
	80	350	10000	11900	10000	11900	8400	10100	8900	10700	84	148	
	80	500	13500	16200	13500	16200	11500	13700	12200	14500	121	140	
	80	700	17600	21100	17600	21100	14900	17900	15800	18900	174	126	
	88	350	11000	13100	11000	13100	9300	11100	9800	11800	93	147	
	88	500	14900	17800	14900	17800	12600	15100	13400	16000	133	140	
	88	700	19400	23200	19400	23200	16400	19600	17400	20800	192	126	
	96	350	12000	14300	12000	14300	10100	12100	10700	12800	103	145	
	96	500	16300	19400	16300	19400	13800	16500	14600	17400	148	137	
	96	700	21200	25300	21200	25300	17900	21400	19000	22700	208	127	

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			Min	Max	Min	Max	Min	Max	Min	Max			
TECEO 2	104	350	13000	15500	13000	15500	11000	13100	11600	13900	111	146	
	104	500	17600	21100	17600	21100	14900	17800	15800	18900	160	138	
	104	700	23000	27500	23000	27500	19500	23300	20700	24700	224	128	
	112	350	14000	16700	14000	16700	11800	14100	12500	15000	119	146	
	112	500	19000	22700	19000	22700	16100	19200	17000	20400	172	138	
	112	700	24700	29500	24700	29500	20900	25000	22200	26500	242	128	
	120	350	15000	17900	15000	17900	12700	15100	13400	16000	127	147	
	120	500	20300	24300	20300	24300	17200	20600	18300	21800	184	138	
	120	700	26500	31600	26500	31600	22400	26800	23800	28400	258	128	
	128	350	16000	19100	16000	19100	13500	16100	14300	17100	135	147	
	128	500	21700	25900	21700	25900	18400	22000	19500	23300	194	140	
	128	700	28300	33800	28300	33800	23900	28600	25400	30300	276	128	
	136	350	17000	20300	17000	20300	14400	17200	15200	18200	144	147	
	136	500	23100	27500	23100	27500	19500	23300	20700	24700	206	140	
	144	350	18000	21500	18000	21500	15200	18200	16100	19300	152	147	
	144	500	24400	29200	24400	29200	20700	24700	21900	26200	218	140	
144	500	28300	29400	-	-	24300	25200	-	-	220	134		

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