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Industrial **LED** lighting



**ENERGY SAVING**



# Industrial LED lighting

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## Echo Led



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The best of the LED technology applied to a product that has been a leader in the market for years thanks to the exceptional quality of the materials, and the robustness and reliability of its housing.

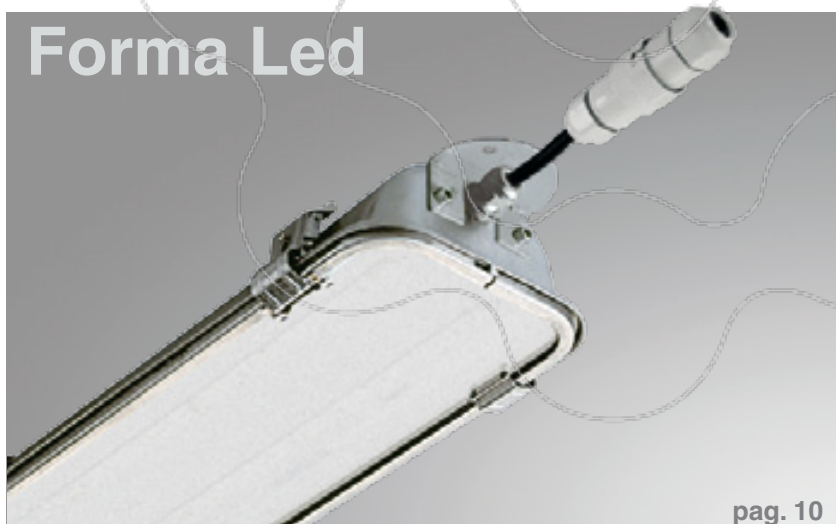
**Echo LED** is a product of Disano's watertight line of products which is now available in two new versions: **Energy Saving** and **High Performance** to ensure extraordinary performance in terms of energy savings and light quality.

Savings are further increased by the new light control technologies, like presence sensors that, thanks to LEDs, improve performance without affecting the duration of the light sources.

The high quality of lighting, with an amazing degree of light uniformity and a **CRI>80**, offer tangible advantages in terms of safety, productivity and visual well-being at the work place.



## Forma Led



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The lamp's housing is in steel, with **IP65** protection rating, particularly resistant thanks to the reinforced structure with internal ribbing.

These characteristics are supported by all the benefits of LED technology, i.e. light sources with a very long life (**50,000 hours**), low consumption and high light quality.

**Forma LED** is the most energy-efficient and technologically advanced solutions for the lighting of industrial and commercial interiors, and for infrastructure such as galleries, tunnels and underpasses.

Advantages are even greater in places where maintenance is difficult and the long life of a lighting system is fundamental.



Thanks to the expertise and attention to quality guaranteed by Disano, a world-wide leader in the industrial lighting sector, the **Rapid System** series is now available with LEDs: the product presents the same basic features that has made it such a success over the years, plus the advantages of the LED technology, such as quality output, energy saving and long life. Ideal for the installation in stores to save running costs thanks to the LED technology.

**Rapid System** uses latest generation LEDs and modules that are designed to allow the light beam to be directed according to needs in order to optimise light and performance when they are used in combination with optical accessories.

## Rapid System



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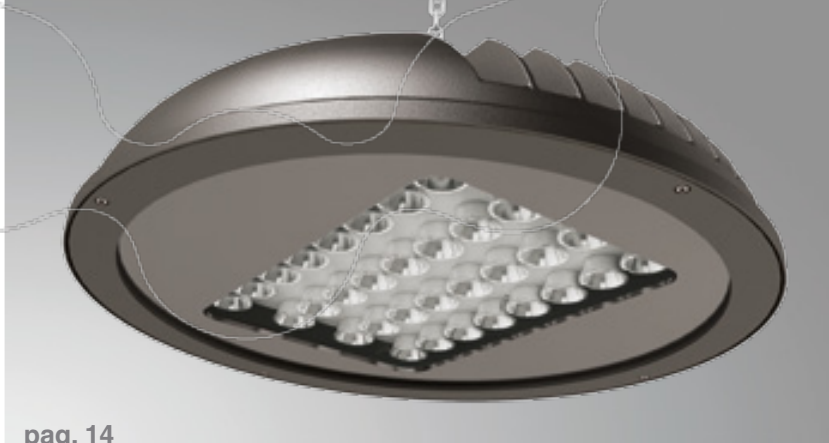


Lights with great aesthetic quality, superior energy-efficiency and long life: in order to obtain the best from the new lighting technology, lighting systems need the technical requirements and the reliability of state-of-the-art fixtures. With these criteria in mind, we created **Astro**, a fixture fitting latest generation LEDs.

Thanks to narrow and wide beam optics it presents itself as a fully compliant and adjustable solution.

Simple and linear aesthetics combines with a sophisticated technology to offer exceptional technical performance.

## Astro Led



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# Industrial LED lighting

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## Efficiency, energy saving and security

Isolation class I.

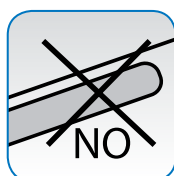
Quick connection with plug and socket, no need to open the fixture.

Material compatible with food industry environments. Mounting is also possible at low or very low temperatures (instant start and no flux decay).

**For applications with direct exposure to sunlight, we recommend using Forma LED.**

## On request:

- Water-proof lighting fitting on request with stainless steel latches to be ordered using **sub-code 0077** at an extra price.



**WATERPROOF FIXTURES** Polycarbonate fixtures of the **Echo** series are IP66 water-resistant if installed at temperatures not exceeding 45°C. Direct exposure to sunlight can easily cause the temperature to exceed 45°C, which affects the degree of protection. However, it is recommended that these fixtures are used properly without altering their mechanical and protection properties (IP66); **they should not be installed on surfaces subject to strong vibrations, outdoors on ropes or stakes**; whenever this is necessary, waterproof steel fixtures should be used.



**HIGH  
MECHANICAL  
RESISTANCE**



## SELF-EXTINGUISHING

**U.L.94** is a widely accepted USA flammability standard that classifies plastics according to how they burn. The **ECHO** fixture is made of **V2** self-extinguishing plastic material: burning stops within **25 seconds**.

## GLOW WIRE TEST

Glow wire tested at 850°C.



**HIGH  
THERMAL  
RESISTANCE**

**LED**

Power factor:  $\geq 0.9$   
Luminous flux maintenance 80%:  
50000h (L80B20)  
Photobiological safety class:  
Exempt group.  
Allowable ambient temperature :  
-30°C to + 40°C

## Project comparison: old system.

One-to-one fixture replacement without changing the existing electrical system

fixtures	ballast	room	LUX	Qty	P. tot (W)
<b>927 ECHO 1600mm</b>	electronic	40m x 20m H 3.5m	360	50	2650
2X58W	electronic	40m x 20m H 3.5m	324	50	5500
2X58W	magnetic.	40m x 20m H 3.5m	324	50	7000

## 927 Echo - energy consumption

**-52%**  
compared to  
A2 2x58W electronic

**-63%**  
compared to 2x58W  
magnetic  $\Delta t55$

## Project comparison: new system

Save on energy and installation costs by reducing the number of lighting fixtures

fixtures	ballast	room	LUX	Qty	P. tot (W)
<b>957 ECHO 1600mm</b>	electronic	40m x 20m H 3.5m	340	40	2440
2X58W	electronic	40m x 20m H 3.5m	324	50	5500
2X58W	magnetic.	40m x 20m H 3.5m	324	50	7000

## 957 Echo - energy consumption

**-56%**  
compared to  
A2 2x58W electronic

**-65%**  
compared to 2x58W  
magnetic  $\Delta t55$

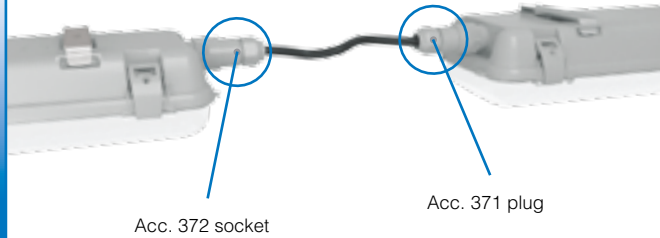
## Continuous line alignment

Perfect alignment of the lighting fittings is achieved using moulded guiding notches. Continuous electric line connection: a through-line wiring arrangement and socket/plug type connectors from the first of the last lighting fitting is required for this type of installation. (Lighting fitting supplied on request **sub-code 0072** with surcharge).



## Installation with cable and lighting fitting with sub-code 0072

Continuous electric line connection using acc. 371 plug and acc. 372 socket, with the lighting fittings with sub-code 0072 at an extra price.



### acc. 371 quick connector plug

grey	998041-00
------	-----------

Always to be used for continuous line with wire. Cable gland with inlet cable 16A min.  $\varnothing$  9 max  $\varnothing$  12 mm. **10 per pack.**



### acc. 372 quick connector socket

grey	998042-00
------	-----------

Always to be used for continuous line with wire. Cable gland with inlet cable 16A min.  $\varnothing$  9 max  $\varnothing$  12 mm. **10 per pack.**



**Standard steel mounting bracket** enables quick and easy installation of the fixture to ceiling surfaces.

### Standard spring loop

allows quick connection to any chain suspension system.

**Equipment:** plug connector.

**Housing:** injection moulded, vandal resistant, UV stabilised RAL 7035 grey polycarbonate, high mechanical resistance thanks to the stiffening ribs inside the structure.

**Diffuser:** injection moulded V2 self-extinguishing, UV stabilised clear polycarbonate, prismatic inside for better light control. The smooth outside finishing facilitates cleaning, essential to ensure maximum lighting efficiency at all times.

**Reflector:** in galvanised steel, previously stove-enamelled with UV-stabilised polyester resin.

### ALL LIGHT: no glare

The special surface finish of the diffuser allows light to escape, creating an "all light" effect. The fluted diffuser spreads light evenly without leaving dark areas.

### Greater performance

The fixture is made with first-choice polycarbonate stabilised against UV light. It has been treated to eliminate glare without affecting performance.

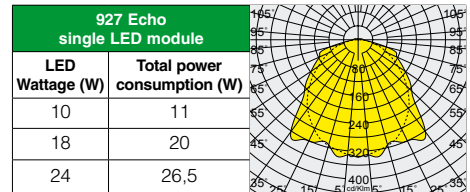
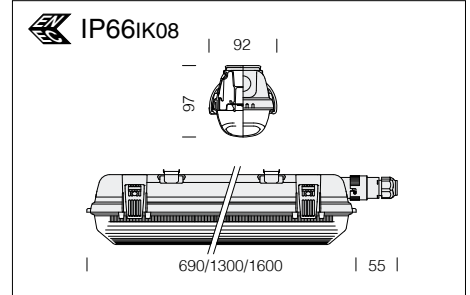




4000K

1620lm  
2920lm  
3890lm

CRI≥80



## 927 Echo - single LED module

wattage/W	colour	CLD CELL			CLD CELL-E	W	LED (T <sub>j</sub> =25°C)	
		weight	L	code			K - ølm - CRI	
LED	grey	1.00	690	164700-00		10	4000K -	1620lm - CRI≥80
LED	grey	2.00	1300	164701-00	164701-07	18	4000K -	2920lm - CRI≥80
LED	grey	3.00	1600	164702-00	164702-07	24	4000K -	3890lm - CRI≥80

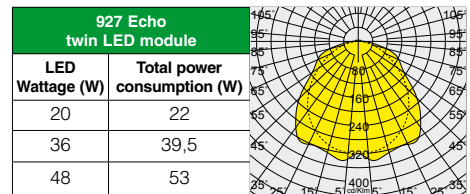
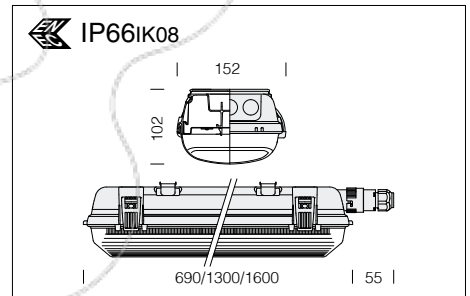
**On request RADAR SENSOR (sub-code -19 at an extra price):** is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.



4000K

3240lm  
5830lm  
7780lm

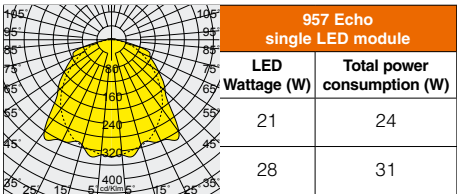
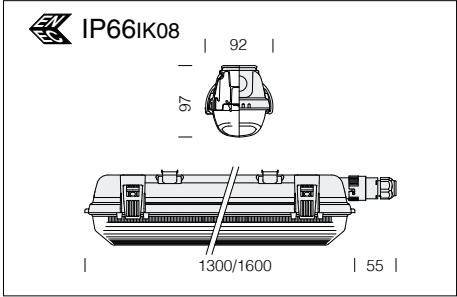
CRI≥80



## 927 Echo - twin LED module

wattage/W	colour	CLD CELL			CLD CELL-E	W	LED (T <sub>j</sub> =25°C)	
		weight	L	code			K - ølm - CRI	
LED	grey	1.30	690	164703-00	164703-07	20	4000K -	3240lm - CRI≥80
LED	grey	2.30	1300	164704-00	164704-07	36	4000K -	5830lm - CRI≥80
LED	grey	3.30	1600	164705-00	164705-07	48	4000K -	7780lm - CRI≥80

**On request RADAR SENSOR (sub-code -19 at an extra price):** is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.



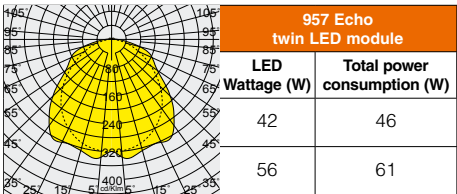
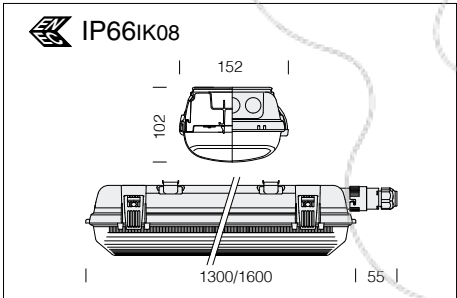
		957 Echo - single LED module					
		CLD CELL		CLD CELL-E	W	LED (Tj=25°C)	
wattage/W	colour	weight	L	code		K - ølm - CRI	
LED	grey	2.00	1300	164711-00	21	4000K - 3400lm	- CRI≥80
LED	grey	3.00	1600	164712-00	28	4000K - 4540lm	- CRI≥80



4000K

3400lm  
4540lm

CRI≥80



		957 Echo - module LED double					
		CLD CELL		CLD CELL-E	W	LED (Tj=25°C)	
wattage/W	colour	weight	L	code		K - ølm - CRI	
LED	grey	2.30	1300	164714-00	42	4000K - 6800lm	- CRI≥80
LED	grey	3.30	1600	164715-00	56	4000K - 9070lm	- CRI≥80



4000K

6800lm  
9070lm

CRI≥80





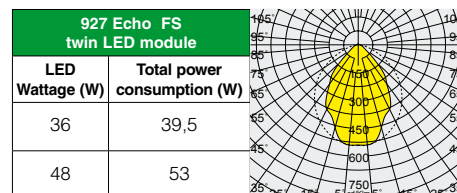
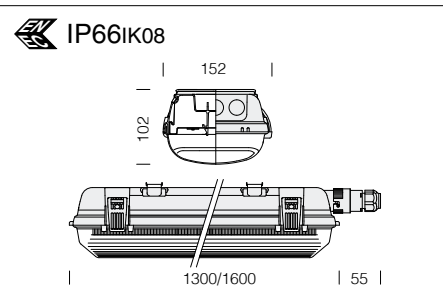
4000K

CRI≥80

5830lm  
7780lm

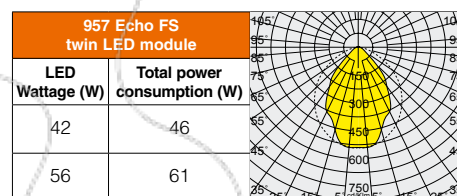
## 927 Echo FS - twin LED module

		CLD CELL			LED (Tj=25°C)	
wattage/W	colour	weight	L	code	W	K - ølm - CRI
LED	grey	2.30	1300	164704-22	36	4000K - 5830lm - CRI≥80
LED	grey	3.30	1600	164705-22	48	4000K - 7780lm - CRI≥80



## 957 Echo FS - twin LED module

		CLD CELL			LED (Tj=25°C)	
wattage/W	colour	weight	L	code	W	K - ølm - CRI
LED	grey	2.30	1300	164714-22	42	4000K - 6800lm - CRI≥80
LED	grey	3.30	1600	164715-22	56	4000K - 9070lm - CRI≥80



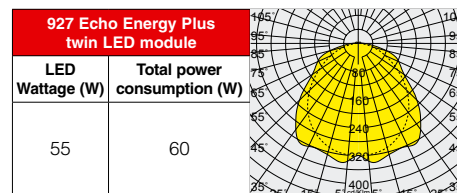
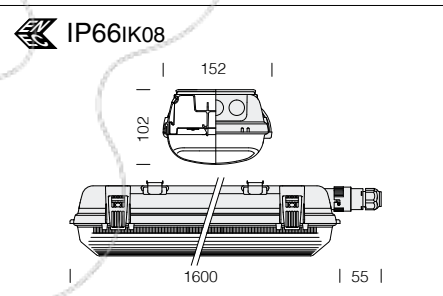
4000K

8500lm

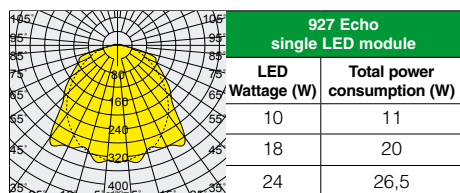
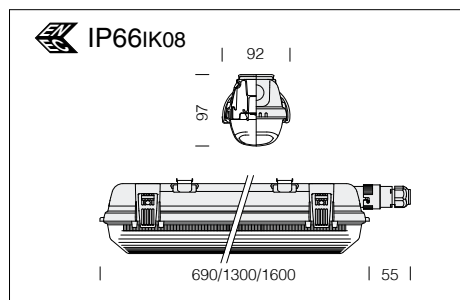
CRI≥80

## 927 Echo Energy Plus - twin LED module

		CLD CELL			LED (Tj=25°C)	
wattage/W	colour	weight	L	code	W	K - ølm - CRI
LED	grey	3.30	1600	164706-00	55	4000K - 8500lm - CRI≥80







**3000K:**  
1530lm  
2754lm  
3672lm

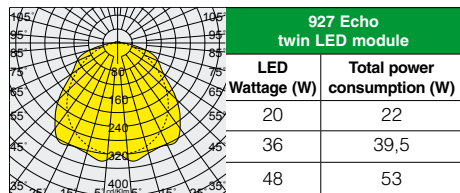
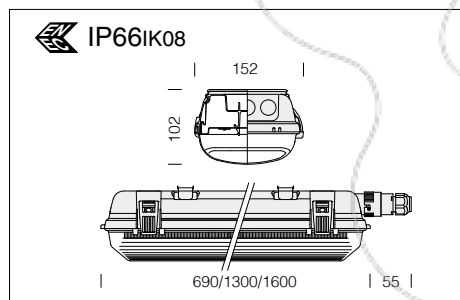
**6500K:**  
1680lm  
3020lm  
4030lm

**CRI≥80**

## 927 Echo - single LED module

wattage/W	colour	CLD CELL		CLD CELL-E	W	LED (Tj=25°C)
		weight	L	code		K - ølm - CRI
LED	grey	1.00	690	164700-39	10	3000K - 1530lm - CRI≥80
LED	grey	2.00	1300	164701-39	18	3000K - 2754lm - CRI≥80
LED	grey	3.00	1600	164702-39	24	3000K - 3672lm - CRI≥80
LED	grey	1.00	690	164700-0083	10	6500K - 1680lm - CRI≥80
LED	grey	2.00	1300	164701-0083	18	6500K - 3020lm - CRI≥80
LED	grey	3.00	1600	164702-0083	24	6500K - 4030lm - CRI≥80

On request **RADAR SENSOR (sub-code -19 at an extra price)**: is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.



**3000K:**  
3060lm  
5500lm  
7340lm

**6500K:**  
3360lm  
6050lm  
8060lm

**CRI≥80**

## 927 Echo - twin LED module

wattage/W	colour	CLD CELL		CLD CELL-E	W	LED (Tj=25°C)
		weight	L	code		K - ølm - CRI
LED	grey	1.30	690	164703-39	20	3000K - 3060lm - CRI≥80
LED	grey	2.30	1300	164704-39	36	3000K - 5500lm - CRI≥80
LED	grey	3.30	1600	164705-39	48	3000K - 7340lm - CRI≥80
LED	grey	1.30	690	164703-0083	20	6500K - 3360lm - CRI≥80
LED	grey	2.30	1300	164704-0083	36	6500K - 6050lm - CRI≥80
LED	grey	3.30	1600	164705-0083	48	6500K - 8060lm - CRI≥80

On request **RADAR SENSOR (sub-code -19 at an extra price)**: is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.

# Industrial LED lighting

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We recommend using this version for applications with direct exposure to sunlight.

On request: emergency unit.

## LED

Power factor:  $\geq 0,9$

Luminous flux maintenance 80%:

50000h (L80B20)

Power consumption:

46W, 61W

Colour temperature: on request 3000K and 6000K.



<p><b>993 Forma with clear glass</b> has a flux in excess of about 11% and increased beam width compared to</p> <p><b>995 Forma etched glass,</b> ideal for a greater anti-glare.</p>		<p><b>The energy-efficiency pyramid</b></p>
<b>993 Forma LED</b>	<b>995 Forma LED</b>	
11% more light than clear glass!	Matt glass to ensure greater glare control!	

**Housing:** made of pressed steel, drawn in a single piece for high mechanical resistance. Supplied with frame.

**Coating:** polyester powder for better resistance to corrosion and saline environment.

**Equipment:** supplied with a connector; brackets for wall / suspension attachment.

**Standard supply:** plug connector for quick installation;

silicon gasket.

**Diffuser art. 993:** impact-resistant transparent tempered glass.

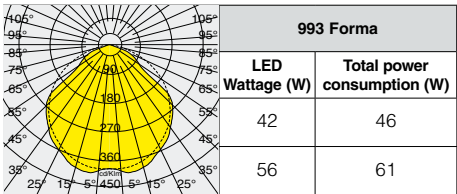
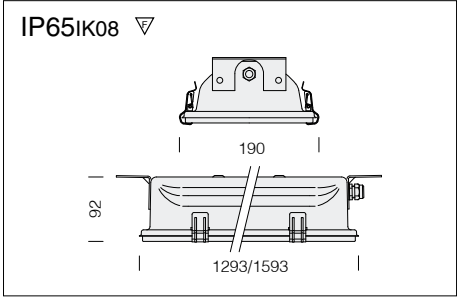


**Diffuser art. 995:** impact-resistant and etched tempered glass.

**art. 993-995**  
**LED - Fluorescent**  
**correspondence**  
**Luminous emission**

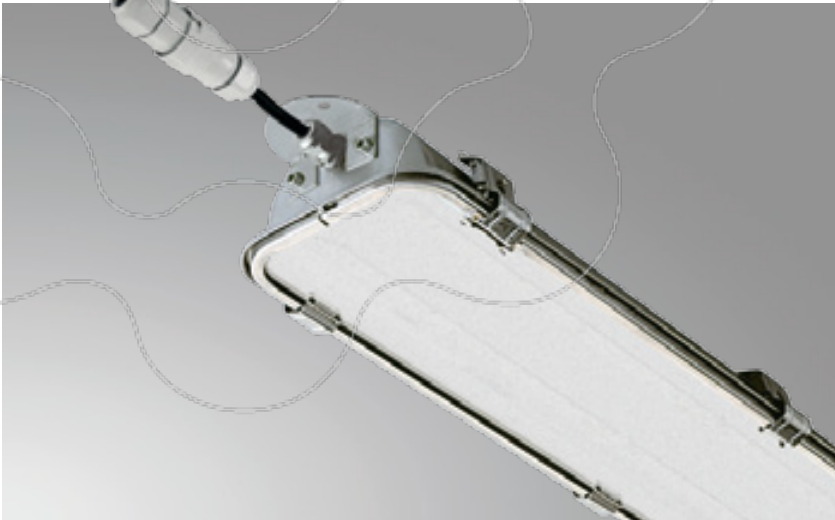
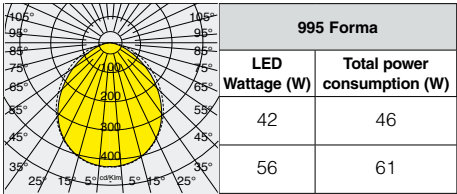
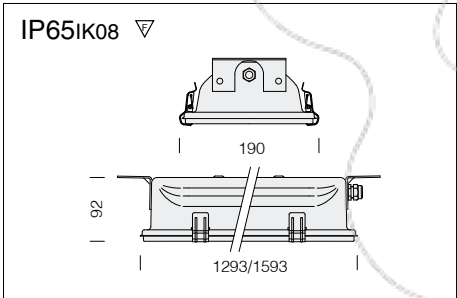
2x58W			56 W
2x36W		42 W	





993 Forma

		CLD CELL			LED (Tj=25°C)	
wattage (116mA)	colour	weight	L	code	W	K - ølm 116mA - CRI
LED	s. silver	7.20	1293	162447-00	42	4000K - 6800lm - CRI≥80
LED	s. silver	9.00	1593	162448-00	56	4000K - 9070lm - CRI≥80



995 Forma

		CLD CELL			LED (Tj=25°C)	
wattage (116mA)	colour	weight	L	code	W	K - ølm 116mA - CRI
LED	s. silver	7.20	1293	162445-00	42	4000K - 6800lm - CRI≥80
LED	s. silver	9.00	1593	162446-00	56	4000K - 9070lm - CRI≥80

4000K

6800lm  
9070lm

CRI≥80

4000K

6800lm  
9070lm

CRI≥80

# Industrial LED lighting

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**Fixture housing:** galvanized steel previously stove-enamelled with UV-stabilised white polyester resin; rounded edges to prevent cutting; polycarbonate end caps.

**Standard supply:** nylon fastening pawl.

**LED module:** support in natural anodized extruded aluminium. Micro-fluted diffuser in methacrylate.

**On request:** 3000K versions, DIMM 1-10V and DALI.

**LED:** Power factor  $\geq 0.9$   
Luminous flux maintenance 80% 50000h (L80B20)

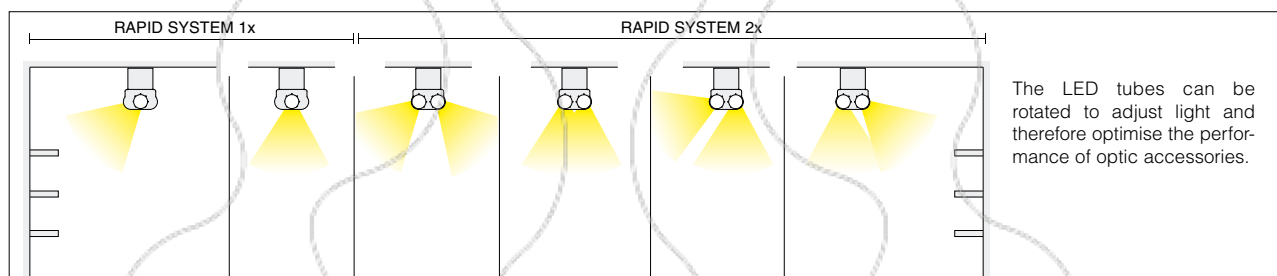
Photobiological safety class: Exempt group.

Power consumption:

art. 6402 14W, 26W, 34W

art. 6502 26W, 52W, 68W

## Accessories Rapid System



The LED tubes can be rotated to adjust light and therefore optimise the performance of optic accessories.

### acc. 6405 upper cover

1/2x12W	237603-46
1x24W	237617-00
1x30W	237613-00
2x48W	237624-00
2x60W	237625-00

White steel. For ceiling mounting.

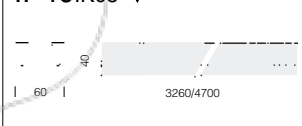


### 6000 Rapid system - track

length	weight	code
L=3260	3.25	132900-00
L=4700	4.70	132923-00

Designed to be quickly attached to the Rapid System series luminaires.

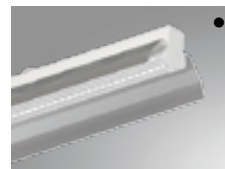
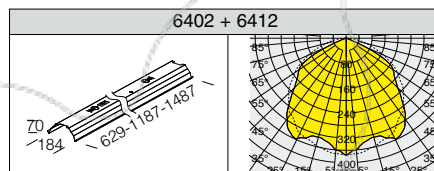
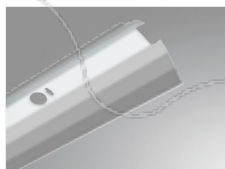
IP40IK08



### acc. 6412 wide-beam reflector

L=629	237729-00
L=1187	237730-00
L=1487	237731-00

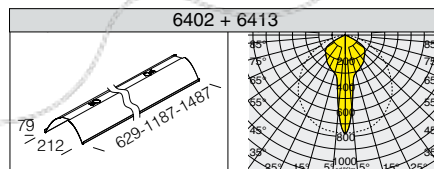
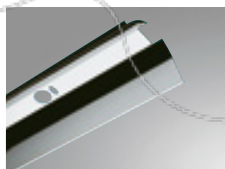
Polished matt gloss aluminium 99.85, anodised 2 $\mu$ .



### acc. 6413 narrow-beam reflector

L=629	237732-00
L=1187	237733-00
L=1487	237736-00

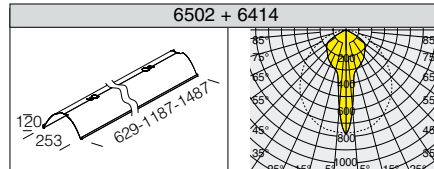
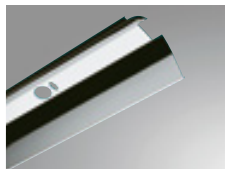
Polished high-gloss aluminium 99.85, anodised 2 $\mu$ .



### acc. 6414 narrow-beam reflector

L=629	237766-00
L=1187	237764-00
L=1487	237765-00

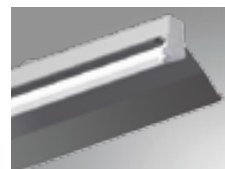
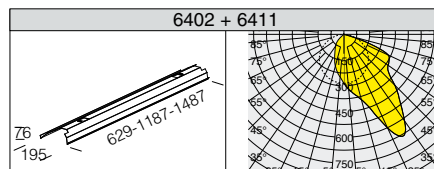
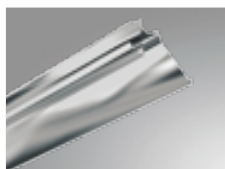
Polished high-gloss aluminium 99.85, anodised 2 $\mu$ .



### acc. 6411 asymmetric reflector

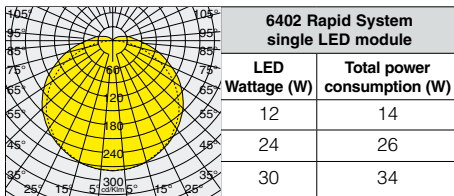
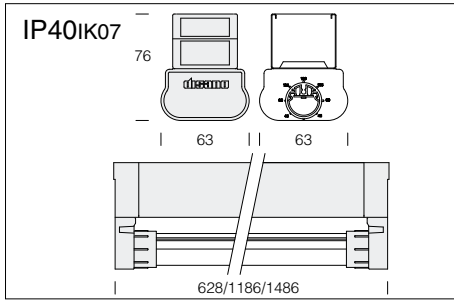
L=629	237623-00
L=1187	237619-00
L=1487	237622-00

Polished high-gloss aluminium 99.85, anodised 2 $\mu$ .



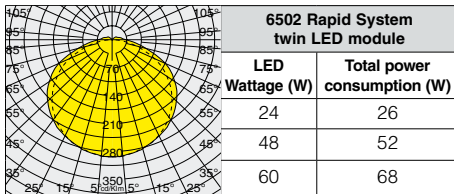
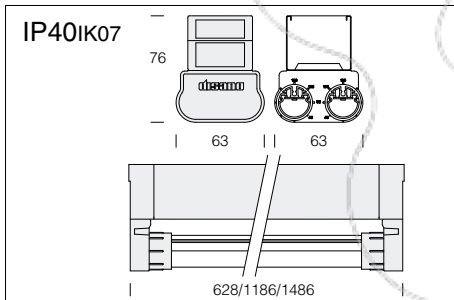
• = application examples





## 6402 Rapid System - LED 1x

wattage	couleur	CLD CELL			CLD CELL-E			W	LED (Tj=25°C) K - ølm - CRI
		weight	L	code	weight	L	code		
LED 1x	white	1.10	628	237521-00				12	4000K - 1940lm - CRI≥80
LED 1x	white	1.30	1186	237522-00	1.80	1186	237522-09	24	4000K - 3890lm - CRI≥80
LED 1x	white	1.50	1486	237523-00	2.00	1486	237523-09	30	4000K - 4860lm - CRI≥80



## 6502 Rapid System - LED 2x

wattage	colour	CLD CELL			CLD CELL-E			W	LED (Tj=25°C) K - ølm - CRI
		weight	L	code	weight	L	code		
LED 2x	white	1.10	628	237541-00				24	4000K - 3890lm - CRI≥80
LED 2x	white	1.30	1186	237542-00	1.80	1186	237542-09	48	4000K - 7780lm - CRI≥80
LED 2x	white	1.50	1486	237543-00	2.00	1486	237543-09	60	4000K - 9720lm - CRI≥80

4000K

1940lm  
3890lm  
4860lm

CRI≥80

4000K

3890lm  
7780lm  
9720lm

CRI≥80

# Industrial LED lighting

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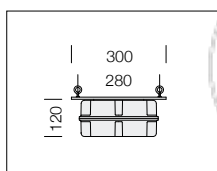
**Standard supply:** temperature control inside the device with automatic resetting.  
Safety diode to protect against voltage peaks compliant with EN 61547.  
Equipped with anti-condensation filter.

**Dimmable:** Standard 1-10V dimmer, dimmable from 10% to 100%.

**LED:** Power factor  $\geq 0.9$ . Luminous flux maintenance 70% : 50000h (L70B20).

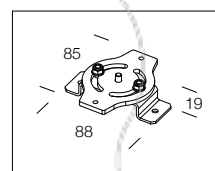
**On request:** presence sensor or light sensor to wall or ceiling.

## Accessories



**acc. 1175 Box**  
997658-00-00

To be used when purchasing Astro in EM, sub-code -07.



**acc. 533 adjustable connector**  
993975-00

Adjustable connector - 120°

## Energy saving

fixture	room	LUX	Qty	P tot W	Energy saving
<b>Astro (16 LED)</b>	60m x 40m x 6m	232	40	5000	58%
Reflector JM-E 250W	60m x 40m x 6m	209	50	13900	
fixture	room	LUX	Qty	Ptot	Energy saving
<b>Astro (24 LED)</b>	60m x 40m x 8m	354	40	7480	54%
Reflector JM-E 400W	60m x 40m x 8m	319	40	17200	

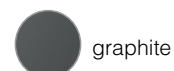
The comparison shows how Astro can save more energy compared to conventional discharge lamps and meet applicable standards.

We recommend using LED technology to save energy in environments where lights stay on for a long time.

**Photometric performance:** designed with an optical system capable of controlling the potential glare created by the growing light intensity of LEDs while achieving high photometric performance.

**Housing/Frame:** in die-cast aluminium with cooling fins integrated into the cover.

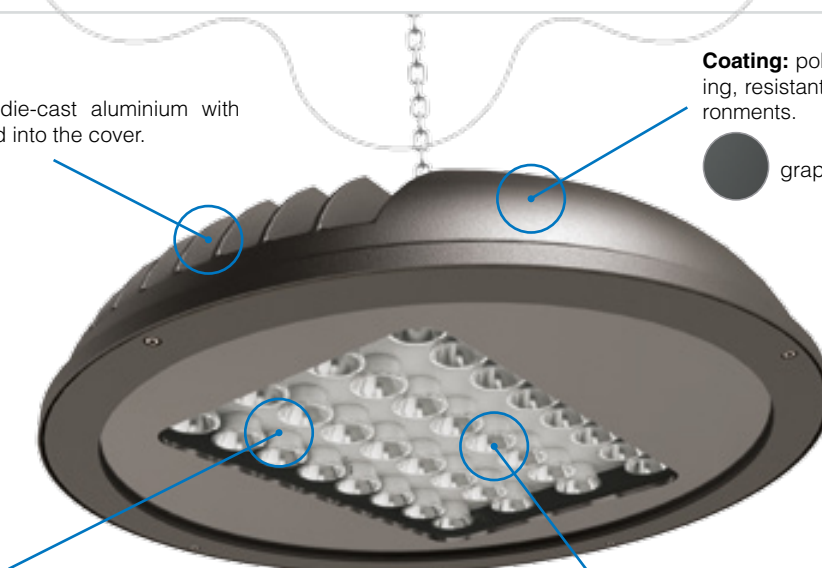
**Coating:** polyester resin for powder coating, resistant to corrosion and saline environments.



graphite



s. silver

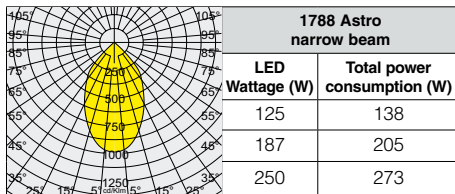
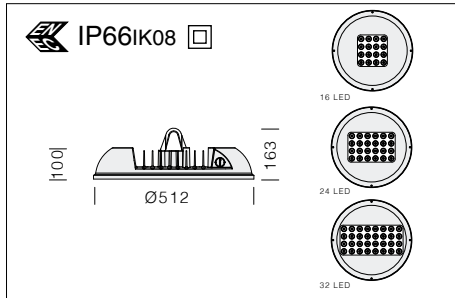


**Diffuser:** tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

**Optics art. 1788:** optics made of PMMA with high temperature resistance and UV rays.

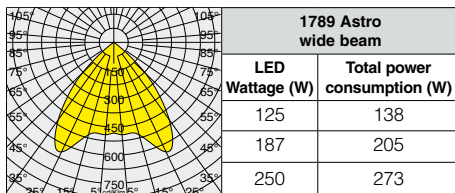
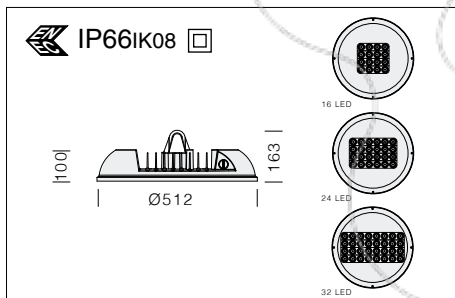
**Optics art. 1789:** in high-performance metallic V0 polycarbonate with micro-faceted finish.





**1788 Astro - suspension - narrow beam**

		CLD CELL-D (1-10V)		CLD CELLD-E	W	LED (Tj=85°C)
wattage 700mA	colour	weight	code	code		K - ølm 700mA - CRI
LED	s. silver	11.20	330080-00	330080-07	125	4000K - <b>17280lm</b> - CRI 80
LED	graphite	11.20	330083-00	330083-07		
LED	s. silver	11.35	330081-00	330081-07	187	4000K - <b>25920lm</b> - CRI 80
LED	graphite	11.35	330084-00	330084-07		
LED	s. silver	11.50	330082-00	330082-07	250	4000K - <b>34560lm</b> - CRI 80
LED	graphite	11.50	330085-00	330085-07		



**1789 Astro - suspension - wide beam**

		CLD CELL-D (1-10V)		CLD CELLD-E	W	LED (Tj=85°C)
wattage 700mA	colour	weight	code	code		K - ølm 700mA - CRI
LED	s. silver	11.20	330090-00	330090-07	125	4000K - <b>17280lm</b> - CRI 80
LED	graphite	11.20	330093-00	330093-07		
LED	s. silver	11.35	330091-00	330091-07	187	4000K - <b>25920lm</b> - CRI 80
LED	graphite	11.35	330094-00	330094-07		
LED	s. silver	11.50	330092-00	330092-07	250	4000K - <b>34560lm</b> - CRI 80
LED	graphite	11.50	330095-00	330095-07		

4000K

17280lm  
25920lm  
34560lm

CRI 80

DIMM  
1/10V

4000K

17280lm  
25920lm  
34560lm

CRI 80

DIMM  
1/10V



**disano**   
**illuminazione**

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