

LED lighting solutions

2018

Crouse-Hinds
by **EATON**



Safe. Reliable. Efficient.

LED solutions by Eaton's Crouse-Hinds business



ROYALTEC

Single Source For Your Needs

HLL linear LED lighting-hazardous area

Product introduction

HLL series is an extremely robust linear LED luminaire in an aluminum housing with a polycarbonate diffuser for use in zone 1, 2, 21 and 22 arduous environments.

The use of high quality LED chips coupled with Crouse-Hinds' knowhow of taking heat away from the product in explosion-proof equipment, ensures longevity in operation in addition to the benefits of energy savings, contributing to a greener environment, lower maintenance cost and hence achieving overall lower cost of ownership.



Product features

Model	Length	Color temp.	Nominal lumens	Wattage	Equivalent fluorescent luminaire
HLL-2-2L series	735mm	3000K	Approx.2700	<30W	2x18W
HLL-2-3L series	735mm	5700K	Approx.2800		
HLL-4-4L series	1335mm	3000K	Approx.5600	<60W	2x36W
HLL-4-5L series	1335mm	5700K	Approx.5700		

Reliability

- Polycarbonate, 4J impact resistant
- Cooper free aluminum for excellent corrosion and heat transfer properties
- IP66 protection
- Suitable for zone 1, 2, 21 and 22 gas and dust atmospheres
- Highest temperature class T6

Permissible ambient temperature:

- Standard luminaire: -40°C~+50°C
- Emergency luminaire: -25°C~+50°C
- Available in cool white 5700K or warm white 3000K

Anti shock and vibration proof

Mercury-free

Instant ON without time delay

Fixture life and years of maintenance-free operation

Ambient temperature	No. of years at 24 hours usage	No. of years at 12 hours usage
25°C	11	23
30°C	11	23
35°C	10	21
40°C	9	17
45°C	7	14
50°C	5	9

Technical data

Ex marking	Ex d e i b mb IIC T6 Gb Ex tb IIIC T80°C Db
IECEX CoC	IECEX CQM 16.0030X
Ambient temp	-40°C to 50°C (Normal) -25°C to 50°C (Emergency)
Rated input volt	100~240 VAC; 108~250 VDC
Power factor	>0.9
CRI	Cool white>70, warm white>80
System watt	HLL 2 series: 2x14W HLL 4 series: 2x28W
Lumen output	HLL 2 series: 2800Lm, 5700K HLL 4 series: 5700Lm, 5700K HLL 2 series: 2700Lm, 3000K HLL 4 series: 5600Lm, 3000K
Material	Aluminum
Weight	HLL 2 series Normal: 5kg HLL 2 series Em: 6kg HLL 4 series Normal: 10kg HLL 4 series Em: 12kg
Terminals	6mm ²
Out line dimension	HLL 2 series: 735x180x130(mm) HLL 4 series: 1335x180x130(mm)
Backup duration & lumen percentage	EM1=1.5h, 25% output, EM2=3h, 25% output
IP (IEC60529)	IP66

HLL linear LED lighting-hazardous area

Ordering logic

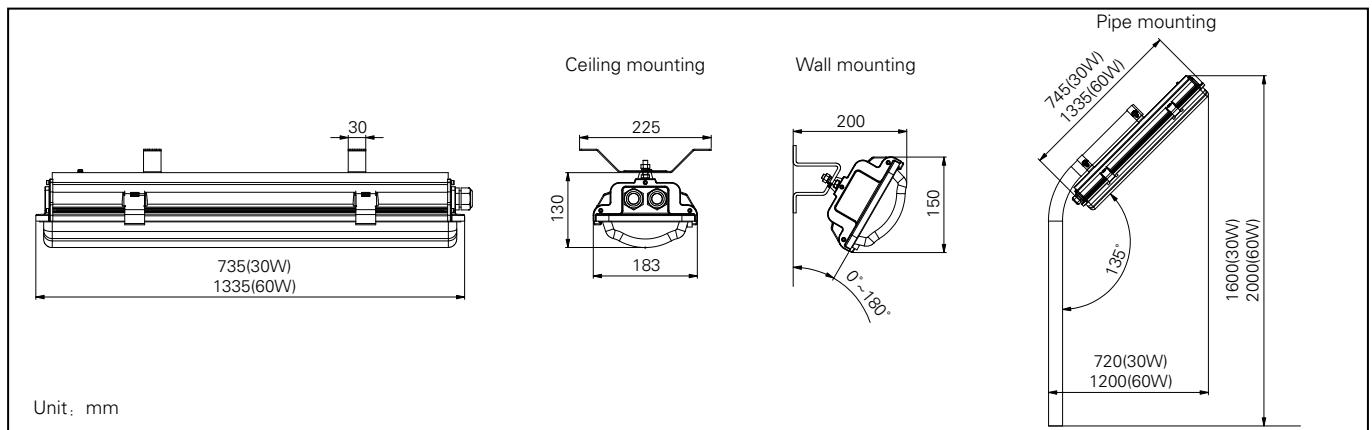
HLL	-2	-W	-2L	-D	-EM1	-1/6-225	-C	-R	-N
Product group	Length	Color temp	Lumen output	Zone area	Emergency duration	Entry size type	Coating	Replacement	Safety switch
Alum linear LED	-2=2 feet length -4=4 feet length	-Default=cold temp, 5700K -W=warm temp, 3000K	-2L=2700lm (2 feet, warm color only) -3L=2800lm (2 feet, cold color only) -4L=5600lm (4 feet, warm color only) -5L=5700lm (4 feet, cold color only)	-D= Zone 1	Default=non emergency version -EM1=1.5h, 25% output 1.5h, 50% output(2 Series) -EM2=3h, 25% output	-1/6-120(125)=6mm ² Single-ended 1 x M20/1 x M25 -1/6-220(225)=6mm ² Single-ended 2 x M20/2 x M25 -2/6-120(125)=6mm ² Through wiring 2-1 x M20/2-1 x M25 -2/6-220(225)=6mm ² Through wiring 2-2 x M20/2-2 x M25	-Default=Cu-free Al -C=Epoxy Coating	Default=LED module cannot be replaced. -R=LED module can be replaced.	Default=with safety switch -N=Without safety switch

Ordering information

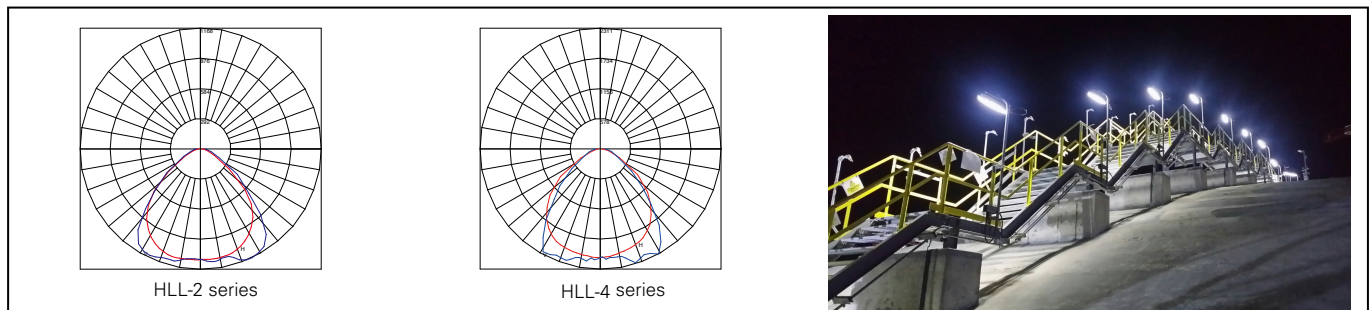
Part No.	Product type	Ambient Ta	Lumen output	Colour temp.	System watt.	T code
CCL1622391	HLL-2-3L-D-1/6-120	-40°C~+50°C	2800Lm	5700K	<30W	T6
CCL1622407	HLL-2-3L-D-2/6-120					
CCL1622423	HLL-2-3L-D-EM1-1/6-120					
CCL1622439	HLL-2-3L-D-EM1-2/6-120	-25°C~+50°C				
CCL1622775	HLL-4-5L-D-1/6-120	-40°C~+50°C	5700Lm		<60W	
CCL1622791	HLL-4-5L-D-2/6-120					
CCL1622807	HLL-4-5L-D-EM1-1/6-120	-25°C~+50°C				
CCL1622823	HLL-4-5L-D-EM1-2/6-120					

* Default=IECEx certified; Suffix A=ATEX certified; Suffix B=GB certified
 * Any other types, please contact Crouse-Hinds sales.

Dimension

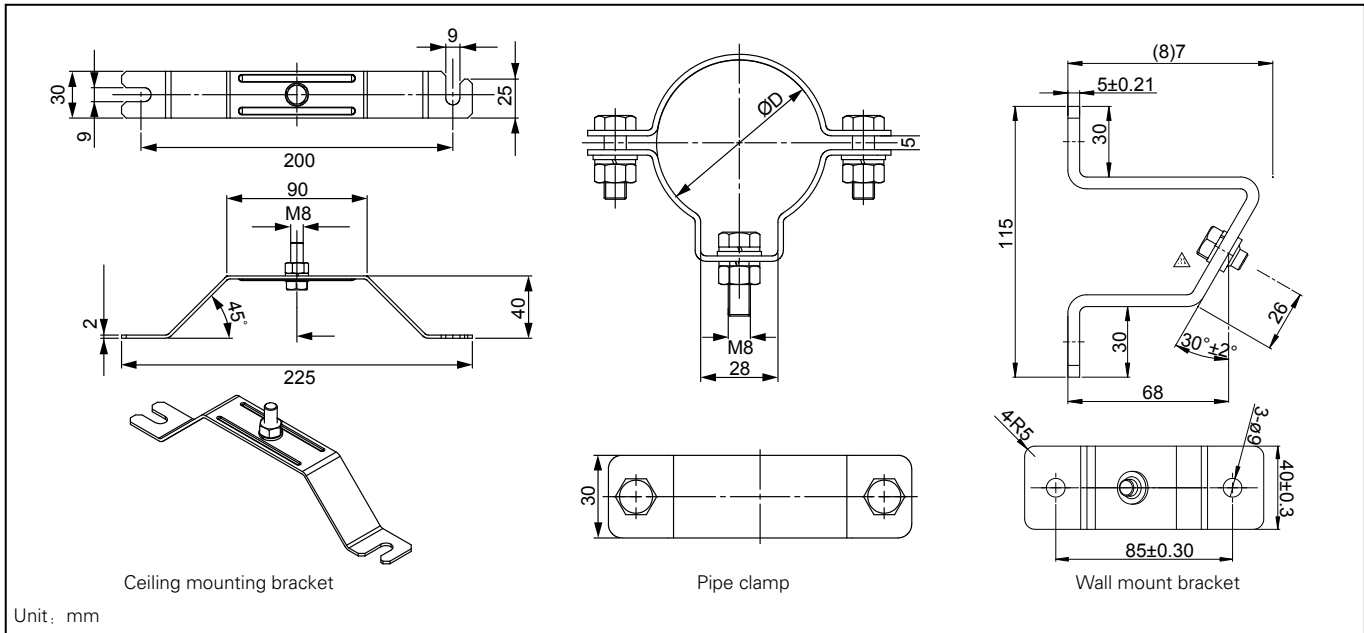


Polar curve



HLL linear LED lighting-hazardous area

Mounting accessories (To be ordered separately)



Pipe mounting

Part No	Description	Qty
CHR11076	Pipe clamp assy D42 316S/S	2
CHR11077	Pipe clamp assy D42 304S/S	2
CHR11078	Pipe clamp assy D42 plating	2
CHR11079	Pipe clamp assy D51 316S/S	2
CHR11080	Pipe clamp assy D51 304S/S	2
CHR11081	Pipe clamp assy D51 plating	2

Wall mounting

Part No	Description	Qty
CHR11073	Wall suspension 316S/S	2
CHR11074	Wall suspension 304S/S	2
CHR11075	Wall suspension plating	2

Ceiling mounting

Part No	Description	Qty
CHR11099	Ceiling mounting BKT 316S/S	2
CHR11100	Ceiling mounting BKT 304S/S	2
CHR11101	Ceiling mounting BKT plating	2

Ex-Linear light fitting with metal housing for surface mounting

AB 12...LED / AB 12...E / AB 12...C
(Zone 1, 2, 21, 22)

The robust lighting concept for hazardous areas

With its flameproof housing made of copper free aluminium ($Cu < 0.1\%$), high degree of protection IP67 and a protective tube made of borosilicate glass with a high mechanical and thermal stability, this luminaire is the ideal solution for harsh and hazardous environments.

The luminaire for all types of applications

The AB 12 luminaire series with G13 sockets for fluorescent lamps are either fitted with electronic (AB 12 .. E) or electromagnetic ballasts (AB 12 .. C). The AB12LED series is intended for use with LED tubes for direct connection without ballast operation. The easy-to-open

threaded cover, the large terminal compartment and the lamp assembly on a guide carriage facilitate servicing.

An optional external reflector ensures an application-specific light distribution. The optional protective wire guard made of stainless steel provides added safety.









Features

- Robust Ex-d housing
- For fluorescent lamps or LED-tubes
- Easy opening due to screw cover on end
- 2 individual circuits (double lamp version)
- Large terminal compartment
- High degree of protection IP67

Ordering details

AB 12...LED / AB 12...E / AB 12...C

Ordering details

Type	Content	Terminals	Through-wiring single-ended	Cable gland/thread	Threaded plug	Order No.
AB 12... LED for retrofit LED-tubes						
	AB 12220 LED1E	1 x 3	x	2 x 3/4" NPT, metal thread	1 x 3/4" Ex-d	NOR 000 005 060 331
	AB 12240 LED1E	1 x 3	x	2 x 3/4" NPT, metal thread	1 x 3/4" Ex-d	NOR 000 005 060 332
	AB 12265 LED1E	1 x 3	x	2 x 3/4" NPT, metal thread	1 x 3/4" Ex-d	NOR 000 005 060 333
	AB 12220 LED1E	1 x 3	x	2 x M25, metal thread	1 x M25 Ex-d	NOR 000 005 060 431
	AB 12240 LED1E	1 x 3	x	2 x M25, metal thread	1 x M25 Ex-d	NOR 000 005 060 432
	AB 12265 LED1E	1 x 3	x	2 x M25, metal thread	1 x M25 Ex-d	NOR 000 005 060 433
AB 12... E with electronic ballast (EVG)						
	AB 12220 E (2 x 18 W)	1 x 3	x	2 x 3/4" NPT, metal thread	1 x 3/4" Ex-d	NOR 000 005 060 300
	AB 12240 E (2 x 36 W)	1 x 3	x	2 x 3/4" NPT, metal thread	1 x 3/4" Ex-d	NOR 000 005 060 308
	AB 12265 E (2 x 58 W)	1 x 3	x	2 x 3/4" NPT, metal thread	1 x 3/4" Ex-d	NOR 000 005 060 316
	AB 12220 E (2 x 18 W)	1 x 3	x	2 x M25, metal thread	1 x M25 Ex-d	NOR 000 005 060 500
	AB 12240 E (2 x 36 W)	1 x 3	x	2 x M25, metal thread	1 x M25 Ex-d	NOR 000 005 060 508
	AB 12265 E (2 x 58 W)	1 x 3	x	2 x M25, metal thread	1 x M25 Ex-d	NOR 000 005 060 516

Scope of delivery without lamp and fixing accessories
Metal cable glands see catalogue part 2: 2.3.12 ff

Ordering details / Accessories

AB12

Ordering details

Type	Content	Terminals	Through-wiring single-ended	Cable gland/thread	Threaded plug	Order No.
AB 12... C with electro-magnetic ballast						
AB 12220 C (2 x 18/20 W)		1 x 3	x	2 x 3/4" NPT, metal thread	1 x 3/4" Ex-d	NOR 000 005 060 346
AB 12240 C (2 x 36/40 W)		1 x 3	x	2 x 3/4" NPT, metal thread	1 x 3/4" Ex-d	NOR 000 005 060 354
AB 12265 C (2 x 58/65 W)		1 x 3	x	2 x 3/4" NPT, metal thread	1 x 3/4" Ex-d	NOR 000 005 060 362
AB 12220 C (2 x 18/20 W)		1 x 3	x	2 x M25, metal thread	1 x M25 Ex-d	NOR 000 005 060 546
AB 12240 C (2 x 36/40 W)		1 x 3	x	2 x M25, metal thread	1 x M25 Ex-d	NOR 000 005 060 554
AB 12265 C (2 x 58/65 W)		1 x 3	x	2 x M25, metal thread	1 x M25 Ex-d	NOR 000 005 060 562
AB 12... PL for PL-lamps						
AB 12236 PL (2 x 36 W PL)		1 x 3	x	2 x M25, metal thread	1 x M25 Ex-d	NOR 000 005 060 569
AB 12236 PL (2 x 36 W PL)		1 x 3	x	2 x 3/4" NPT, metal thread	1 x 3/4" Ex-d	NOR 000 005 060 669

Scope of delivery without lamp and fixing accessories
Metal cable glands see catalogue part 2: 2.3.12 ff

Accessories

Type	Content	Application	Order No.
LED tube 9 W 600 mm	1100 lm / 840	AB 12220 LED 1E	3 2475 901 012
LED tube 18 W 1200 mm	2300 lm / 840	AB 12240 LED 1E	3 2475 901 015
LED tube 27 W 1500 mm	3400 lm / 840	AB 12265 LED 1E	3 2475 901 018

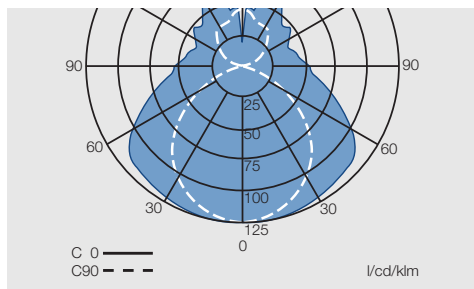
Accessories

Type	Content	Application	Order No.
Reflector RAB 220	Reflector, AISI 304	for AB 12220 . / AB 12236 PL	NOR 003 045 060 403
Reflector RAB 240	Reflector, AISI 304	for AB 12240..	NOR 003 045 060 411
Reflector RAB 265	Reflector, AISI 304	for AB 12265..	NOR 003 045 060 429
Reflector GRAB 220	Reflector + wire guard ANSI 304	for AB 12220../AB 12236 PL	NOR 003 045 060 479
Reflector GRAB 240	Reflector + wire guard ANSI 304	for AB 12240..	NOR 003 045 060 487
Reflector GRAB 265	Reflector + wire guard ANSI 304	for AB 12265..	NOR 003 045 060 495
Reflector RAB 220	Reflector, AISI 316	for AB 12220../AB 12236 PL	NOR 003 165 060 403
Reflector RAB 240	Reflector, AISI 316	for AB 12240	NOR 003 165 060 411
Reflector RAB 265	Reflector, AISI 316	for AB 12265	NOR 003 165 060 429
Reflector GRAB 220	Reflector + wire guard ANSI 316	for AB 12220../AB 12236 PL	NOR 003 165 060 479
Reflector GRAB 240	Reflector + wire guard ANSI 316	for AB 12240..	NOR 003 165 060 487
Reflector GRAB 265	Reflector + wire guard ANSI 316	for AB 12265	NOR 003 165 060 495

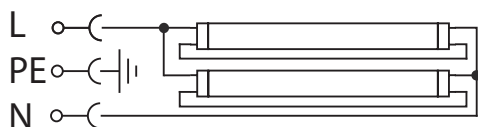
Dimension drawing / Polar curve

AB 12...LED / AB 12...E / AB 12...C

Polar curve AB 12...LED/E/C

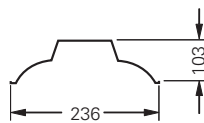


Wiring diagram AB 12 ... LED 1 E

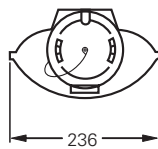


Type AB 12 LED 1 E

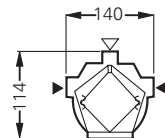
AB 12...



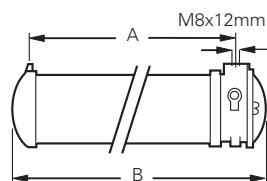
Reflector RAB



Reflector with wire guard GRAB



▷ optional entries, on request
▶ entries



	A	B
AB 12220	652	707
AB 12240	1265	1320
AB 12265	1565	1620
AB 12236 PL	652	707

Technical data

AB12 / AB 12 LED



Technical data

	AB 12 LED	AB12 E
EC-Type Examination Certificate	LOM 02 ATEX 2013 X	LOM 02 ATEX 2013 X
IECEX Certificate of Conformity		IECEX BK1 07.0008 X
Marking accd. to 94/9/EC	Ⓢ II 2 G Ex d IIB T6 Gb Ⓢ II 2 D Ex t IIIC T85°C Db	Ⓢ II 2 G Ex d IIB T5 Gb Ⓢ II 2 D Ex t IIIC T76°C/T93°C Db
Marking accd. to IECEx		Ex d IIB T5 /Ex d IIC T5 Ex tD A21 IP67 T76°C
Permissible ambient temperature	-20 °C up to +40 °C (T6)	-20 °C up to + 40 °C
Rated voltage	max. 277 V	198 V - 254 V AC 175 V - 280 V DC
Frequency	50 - 60 Hz	50/60 Hz
Power factor cos φ	≥ 0.9	≥ 0.9
Circuit	direct	EVG
Protection class	I	I
Lamp / Illuminant	2 x T8 LED-tube 9 - 25 W or 2 x T8 LED-tube up to 50 W, both ends supply voltage (Retrofit)	2 x T26 / 18 - 58 W
Lamp cap	G13 accd. to IEC 60061-1	G13 accd. to IEC 60061-1
Light output ratio	90 %	73%
Connecting terminals	L, N and PE: 2 x 2, 5 mm ² / PE ext. 2 x 6 mm ²	L1, N and PE: 2 x 2.5 mm ² / PE ext. 2 x 6 mm ²
Enclosure colour	grey	grey
Enclosure material	copper-free aluminium with powder coating	copper-free aluminium with powder coating
Cable glands / gland plates / enclosure drilling	direct entry: 2 x 3/4" NPT or 2 x M25 1 x Ex-d blanking plug 3/4" or M25	direct entry: 2 x 3/4" NPT or 2 x M25 1 x Ex-d blanking plug 3/4" or M25
Degree of protection accd. to EN 60529	IP67	IP67
Protective cover / protective bowl	borosilicate glass	borosilicate glass

Ex-LED-Linear light fitting

eLLK/M 92 LED 400A / eLLK/M 92 LED 800A / eLLK/M 92 LED 400A NE / eLLK 92 LED 800A NE

(Zone 1, 2, 21, 22)

The efficient solution for your explosion-protected lighting concept

The explosion-protected linear light fittings series eLLK/M 92 LED 400A/800A combines the latest LED technology with the protection of a reliable housing solution. As a result, this light fitting series is the ideal solution for lighting tasks in harsh and hazardous environments.

Latest lighting technology for a proven lighting concept

As a leading manufacturer of explosion-protected luminaires, we have redesigned our revolutionary LED module to fit into the eLLK/M... linear light fitting series.

With the new Gen2 modules, our LED linear luminaires are even more efficient and brighter than before. In addition, they now also have an extended temperature range from -25 °C to +55 °C. The new eLLK-2/4-C/W LED module can also be used for converting existing eLLK/M 92 light fittings with fluorescent lamps and an electronic ballast (EVG 09) into LED linear light fittings in just few simple steps.

The LED system design and certification allow the use in the proved Ex e technology of the eLLK/M 92 light fittings. With the use of our electronic ballast EVG 09 as the driver, we can rely on more than 20 years successful and safe operation in harsh and hazardous environments.

The advantages of the LED module:

- Environmentally friendly, no mercury
- Shock and vibration resistant, no filament or glass to break
- Immediate start, instant full illumination
- No life time reduction due to switching cycles
- Reduced disposal costs

Energy and cost savings

- >20% energy savings compared to fluorescent lamps
- Additional energy savings due to operation on demand (night/day and presence-mode)
- Reduced maintenance costs compared to standard fluorescent lamps
- Lower overall cost of ownership

Operating life

- The expected operating life of this LED module is up to 90,000 hours. This is a significant improvement compared to traditional light sources.
- Heat sinks are specifically engineered to remove heat from the LEDs to ensure a longer life, better lumen output and accurate colour temperature.
- Fully operational with V-CG-S modules for connection to CEAG central battery emergency lighting systems.
- Also available as self-contained emergency luminaire eLLK 92 LED ... NE.

Easy and cost-effective installation

Like all the luminaires in the eLLK lighting family, our standard LED linear luminaires feature a single-ended through-wiring, which, in conjunction with the generously dimensioned terminal compartment, allows a cost-effective installation. The double-sided locking facility with 10 or 20 latch points allows the protective bowl to be hinged on both sides, meaning that the fitting can be mounted on either side.




Features

- >20 % energy savings compared to similar fluorescent luminaires
- Special LED design with direct light distribution
- Proved technology; the EVG 09 has been used as a driver for more than 20 years
- Various light colour temperatures available - 4000 K / 5700 K
- Selected LED chips with perfect binning, low power loss and long life
- Ex-e technology for easy maintenance
- For ambient temperatures from -25 °C up to +55 °C

Ordering details

eLLK/M 92 LED 400A/800A




Ordering details

Type	Version	Terminals	Through-wiring single-ended	twin-ended	Cable gland/ thread	Threaded plug	Blanking plug	Order No
eLLK 92 LED 400A								
	eLLK 92 LED 400A	1/6-1K	1 x 6	x	–	2 x M25, Plastic	1	1 2265 504 101
	eLLK 92 LED 400A	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25	1 2265 504 103
	eLLK 92 LED 400A	1/6-1M ¹⁾	1 x 6	x	–	2 x M20, Metal thread	1 x M20	1 2265 504 109
	eLLK 92 LED 400A	2/6-2M ¹⁾	2 x 6	–	x	4 x M20, Metal thread	2 x M20	1 2265 504 111
eLLK 92 LED 800A								
	eLLK 92 LED 800A	1/6-1K	1 x 6	x	–	2 x M25, Plastic	1	1 2266 504 101
	eLLK 92 LED 800A	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25	1 2266 504 103
	eLLK 92 LED 800A	1/6-1M ¹⁾	1 x 6	x	–	2 x M20, Metal thread	1 x M20	1 2266 504 109
	eLLK 92 LED 800A	2/6-2M ¹⁾	2 x 6	–	x	4 x M20, Metal thread	2 x M20	1 2266 504 111
eLLM 92 LED 400A/800A								
	eLLM 92 LED 400A	1/3-1K	1 x 3	–	–	1 x M25, Plastic		1 2268 504 101
	eLLM 92 LED 800A	1/3-1K	1 x 3	–	–	1 x M25, Plastic		1 2269 504 101
eLLK 92 LED 400 V-CG-S ²⁾								
	eLLK 92 LED 400 V-CG-S	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25	1 2265 516 103
	eLLK 92 LED 400 V-CG-S	2/6-2M ¹⁾	2 x 6	–	x	4 x M20, Metal thread	2 x M25	1 2265 516 111
eLLK 92 LED 800 V-CG-S ²⁾								
	eLLK 92 LED 800 V-CG-S	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25	1 2266 516 103
	eLLK 92 LED 800 V-CG-S	2/6-2M ¹⁾	2 x 6	–	x	4 x M20, Metal thread	2 x M25	1 2266 516 111
eLLK 92 LED 400A NE ³⁾								
	eLLK 92 LED 400A NE	1/6-1K	1 x 6	x	–	2 x M25, Plastic	1	1 2260 587 101
	eLLK 92 LED 400A NE	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25	1 2260 587 103
	eLLK 92 LED 400A NE	1/6-1M ¹⁾	1 x 6	x	–	2 x M20, Metal thread	1 x M20	1 2260 587 109
	eLLK 92 LED 400A NE	2/6-2M ¹⁾	2 x 6	–	x	4 x M20, Metal thread	2 x M20	1 2260 587 111
	eLLK 92 LED 400A NE	1/6-1M ¹⁾	1 x 6	–	x	2 x M25, Metal thread	2 x M25	1 2260 587 609
	eLLK 92 LED 400A NE	2/6-2M ¹⁾	2 x 6	–	x	4 x M25, Metal thread	4 x M25	1 2260 587 611
eLLK 92 LED 800A NE ³⁾								
	eLLK 92 LED 800A NE	1/6-1K	1 x 6	x	–	2 x M25, Plastic	1	1 2261 587 101
	eLLK 92 LED 800A NE	2/6-2K	2 x 6	–	x	2 x M25, Plastic	2 x M25	1 2261 587 103
	eLLK 92 LED 800A NE	1/6-1M ¹⁾	1 x 6	x	–	2 x M20, Metal thread	1 x M20	1 2261 587 109
	eLLK 92 LED 800A NE	2/6-2M ¹⁾	2 x 6	–	x	4 x M20, Metal thread	2 x M20	1 2261 587 111
	eLLK 92 LED 800A NE	1/6-1M ¹⁾	1 x 6	–	x	2 x M25, Metal thread	2 x M25	1 2261 587 609
	eLLK 92 LED 800A NE	2/6-2M ¹⁾	2 x 6	–	x	4 x M25, Metal thread	4 x M25	1 2261 587 611
eLLM 92 LED 400A NE ³⁾								
	eLLM 92 LED 400A NE	1/3-1K	1 x 3	–	–	1 x M25, Plastic		1 2273 587 101

Scope of delivery including LED-module, without fixing material. Metal cable glands see catalogue part 2: 2.3.12 ff

- 1) with metal thread, without cable gland
- 2) for operation with CEAG-emergency supply system
- 3) self-contained emergency light fitting

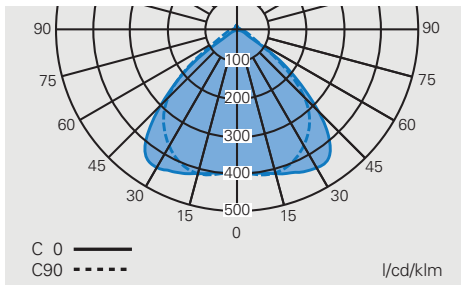
Accessories

Type		Order No.	
	eLLK-2-C	LED module for eLLK/M 92 018/18 incl. conversion kit for standard fluorescent light fittings - 5700 K	CCL 1635 127
	eLLK-4-C	LED module for eLLK/M 92 036/36 incl. conversion kit for standard fluorescent light fittings - 5700 K	CCL 1635 128
	eLLK-2-C	LED module for eLLK/M 92 018/18 LED Ready / eLLK 92 LED 400A - 5700 K	CCL 1634 697
	eLLK-4-C	LED module for eLLK/M 92 036/36 LED Ready / eLLK 92 LED 800A - 5700 K	CCL 1634 698
		Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material	2 2218 602 000
		Battery set Type 2710-3 with LED display and microprocessor-monitoring, complete	2 2710 904 000
		Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material for eLLM 92 LED 400A/800A	2 2218 602 000
		Protective bowl with green filter for eye wash safety shower facilities (eLLK 92 LED 400A)	2 2215 402 018

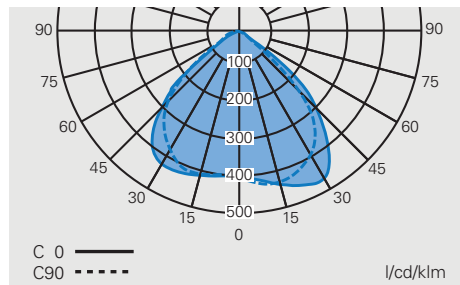
Polar curve / Dimension drawing

eLLK/M 92 LED 400A/800A / NE

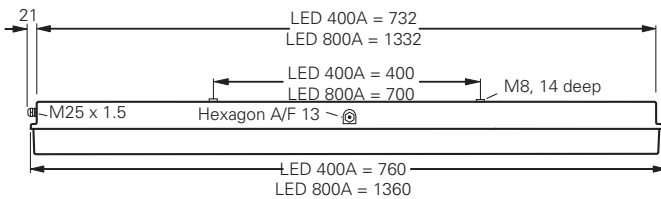
Polar curve eLLK/M 92 LED 400A/800A



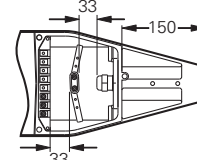
Polar curve eLLK/M 92 LED 400A/800A NE in emergency mode



eLLK 92 LED 400A/800A

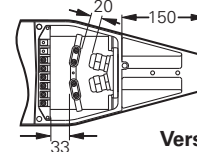
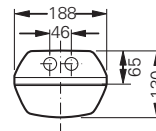
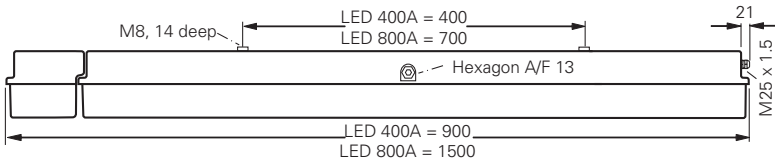


eLLM 92...



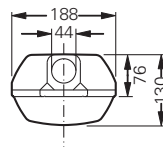
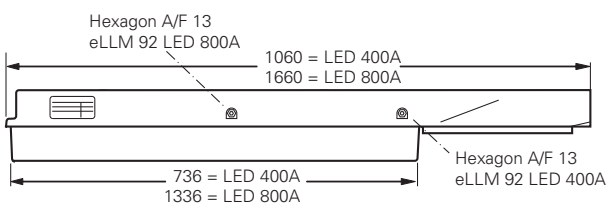
Version 1/3

eLLK 92 LED 400A/800A NE



Version 2/6

eLLM 92 LED 400A/800A



Dimensions in mm

Technical data

eLLK 92 LED 400A/800A



Technical data

	eLLK/M 92 LED 400A	eLLK/M 92 LED 800A
EC-Type Examination Certificate	BVS 09 ATEX E 034	BVS 09 ATEX E 034
IECEX Certificate of Conformity	IECEX BVS 09.0033	IECEX BVS 09.0033
Marking accd. to 2014/34/EU	<ul style="list-style-type: none"> ⊕ II 2 G Ex db eb mb op is IIC T4 Gb ⊕ II 2 D Ex tb IIIC T80 °C Db IP66 	<ul style="list-style-type: none"> ⊕ II 2 G Ex db eb mb op is IIC T4 Gb ⊕ II 2 D Ex tb IIIC T80 °C Db IP66
Marking accd. to IECEx	Ex db eb mb op is IIC T4 Gb Ex tb IIIC T80 °C Db	Ex db eb mb op is IIC T4 Gb Ex tb IIIC T80 °C Db
Permissible ambient temperature	-25 °C up to +55 °C	-25 °C up to +55 °C
IK-class according to IEC/EN 62262	IK 10 Δ 20 J	IK 10 Δ 20 J
Rated voltage	110 V - 254 V AC 110 V - 250 V DC	110 V - 254 V AC 110 V - 250 V DC
Power consumption	29 W	57 W
Frequency	50 - 60 Hz	50 - 60 Hz
Life expectancy LED module	L 70 = 90.000 h at ta=25 °C	L 70 = 90.000 h at ta=25 °C
Power factor cos ϕ	≥ 0.95	≥ 0.95
Circuit	EVG	EVG
Protection class	I	I
Immunity to surge voltages according to EN 61000-4-5	4 kV, L - N and L - PE	4 kV, L - N and L - PE
Illuminance at measurement plane	comparable with luminaires for fluorescent lamps	comparable with luminaires for fluorescent lamps
CRI	> 70 (>80 für 4000 K)	> 70 (>80 für 4000 K)
Lamp / Illuminant	eLLK-2-C - 2 x 13 W	eLLK-2-C - 2 x 26 W
Light colour	5700 K (4000 K on request)	5700 K (4000 K on request)
Rated luminous flux of the luminaire (typical, ± 10 %)	2700 lm (5700 K) / 2565 lm (4000 K)	5350 lm (5700 K) / 5085 lm (4000 K)
Dimensions (L x W x H)	760 x 188 x 130 mm (eLLK) 1060 x 188 x 130 mm (eLLM)	1360 x 188 x 130 mm
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm ² per terminal	L1, L2, L3, L, N, PE; max. 2 x 6 mm ² per terminal
Enclosure colour	RAL 7035 light grey	RAL 7035 light grey
Enclosure material	Glass-fibre reinforced polyester	Glass-fibre reinforced polyester
Weight	7.2 kg (eLLK) / 9.2 kg (eLLM)	11.1 kg (eLLK) / 13.1 kg (eLLM)
Cable glands / gland plates / enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic), option: M20/M25 x 1.5 metal th'ead ¹⁾	Ex-e cable glands M25 x 1.5 (plastic), option: M20/M25 x 1.5 metal th'ead ¹⁾
Degree of protection accd. to EN 60529	IP66/IP67	IP66/IP67
Protective cover / protective bowl	Polycarbonat	Polycarbonat

¹⁾ with dustcover if entry/thread is not closed

HPL pendant LED lighting-hazardous area

Product introduction

The Zone 1 HPL product series LED luminaires using high-quality international brand LED chips, have extremely long lifespan. Multiple version of the HPL LED are available, providing ideal solutions for a wide range of applications.

HPL provides the same durability and reliability of a traditional HID fixture, coupled with the low cost of ownership and energy efficiency of Crouse-Hinds LED technology. High-performance LEDs and a solid-state electronic driver provide light where you need it, at a fraction of the operating costs of HID lighting technologies.

Suitable for Zone 1 & Zone 2 Ex-gas and Zone 21/22 Ex-dust hazardous area, such as heavy industrial, chemical, petrochemical or pharmaceutical facilities, platforms, shipyard, electric power, loading docks, wastewater treatment, paper mill.



Product features

• High efficient & Energy saving

Up to 66% energy-saving comparing to HID Luminaire.

Model	Nominal lumens	Wattage	Equivalent HID luminaire	Energy savings
HPL-3L	Approx.3000	Approx.30	70W-100W	up to 58%
HPL-5L	Approx.5000	Approx.50	100W-150W	up to 66%
HPL-7L	Approx.7000	Approx.70	150W-175W	up to 60%
HPL-8L	Approx.8000	Approx.80	150W-175W	up to 60%

• Industry-best safety reliability

- Extremely low profile & light weight
- Copper free aluminum housing, tempered and impact resistant glass globe, heat & corrosion proof
- IP66 protection
- Suitable for Zone 1 & Zone 2, Zone 21 & Zone 22 both gas and dust Ex - hazardous area

• Perfect temperature and optical performance for wide application

- Best T- rating: T6

- Permissible temp. range:
 - 40°C~+40°C/45°C/50°C(normal)
 - 40°C~+45°C(EM)
- Cold white 5700K & warm white 3000K are available

• Anti shock and vibration

• Mercury-free & lead free, environment protection

• Instant ON/OFF

• Standard product provides pendant mount, optional U shape yoke mount provide the greatest mounting flexibility: wall mounting, ceiling mounting, pole mounting and etc.

• Fixture life and years of maintenance-free operation

Ambient temperature	No. of years at 24 hours usage	No. of years at 12 hours usage
25°C	11	23
30°C	11	23
35°C	10	21
40°C	7.5	15
45°C	6	11
50°C	5	9

Ordering logic

HPL Series No.	-3L Total Lm	-W Color temperature	-1M Entry size	-S886 Entry Qty.	-T1 Terminal	-F Glass	-1P Entry acc.	-B1 Mounting type	EM1 Emergency duration*
HPL	-3L=3000 -5L=5000 -7L=7000 -8L=8000	Default=5700K -W=3000K	-1M=M20 -2M=M25 -D1=Direct entry M25*	Default=1 entry -S886=Two entries	-T1=Pillar terminal -T2=MK 6/3 -T3=MK 6/6 -T4=MUT 4(3 pole) -T5=MUT 4(6 pole)	Default=Clear glass -F=Foggy glass	Default=one unplugged entry -1P=Two entries,1 plastic plug, 1 opening -2G=Two entries,plastic gland each -3G=Two entries,with 1 plastic plug, 1 plastic gland	Default=G3/4 Pendant mout only -B1=With Painted bracket mount only -B2=With 304SST bracket mount only -B3=With 316SST bracket mount only -B4=With both Painted bracket mount, also available for G3/4 Pendant mount -B5=With both 304SST bracket mount, also available for G3/4 Pendant mount -B6=With both 316SST bracket mount, also available for G3/4 Pendant mount -B7=G3/4 Pendant mount, also with mounting bracket hole cut, but bracket need to order separated. -B8=Only with mounting bracket hole cut, mounting bracket need to be ordered separated.	Default=Non emergency EM1= 1.5H, 30% output EM2= 3H, 15% output

*If choosing -D1, then -S886/-T1/-1P were not suitable.

*Emergency only available for 5L.

*If choosing emergency version, then only T2 and T4 terminal were available.

*Warm color was not suitable for 7L and 8L.

HPL pendant LED lighting-hazardous area

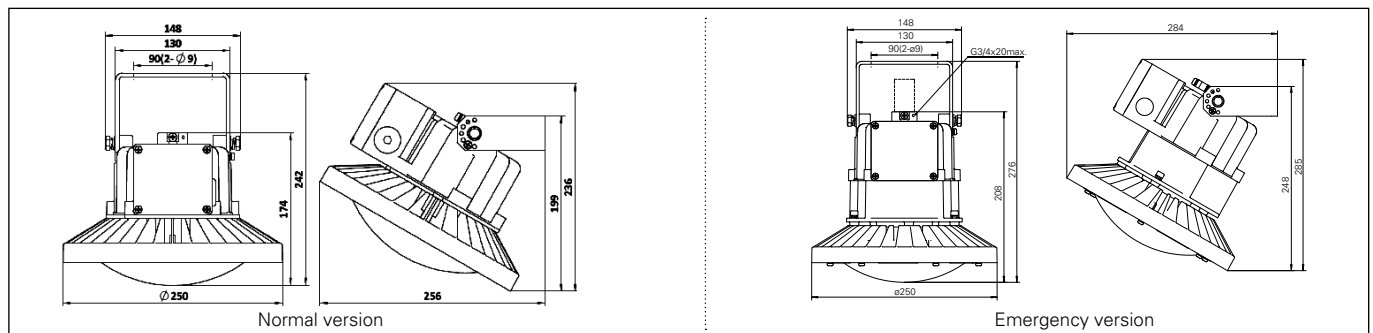
Technical data

EC-Type Examination Certificate	EPT 16 ATEX 2405X
IECEX-Certification of Conformity	IECEX CQM 15.0054X
GB Certificate	GYJ15.1157X
Marking accd.to 94/9/EC	Ⓜ II 2 G Ex db eb mb op is IIC T6 Gb Ⓜ II 2 D Ex tb op is IIIC T80°C Db
Marking accd. to IECEx	Ex db e mb IIC T6 Gb Ex tb IIIC T80°C Db IP66
Marking accd. to GB	Ex d e mb IIC T6 Gb Ex tD A21 IP66 T80°C
Power consumption	Refer to below table
Rated voltage	AC 100V - 240V 50/60Hz; DC 108-250V
THD	<15%
Power factor	≥ 0.9
Cable entry	2xM25x1.5 or 2xM20x1.5, 1 entry plugged
Terminal	L, N, PE; solid: 0.5mm ² -6mm ² ; flexible: 0.5mm ² -4mm ²
Permissible ambient temperature	-40°C~+40°C/45°C/50°C (Normal); -40°C~+45°C (EM)
Degree of protection	IP66
Insulation class	I
Dimension	Ø250 x 174 (mm)
Net weight	<5kg, <6.5kg (EM)
Emergency lumen output	EM1=1.5H, 30% output; EM2= 3H, 15% output

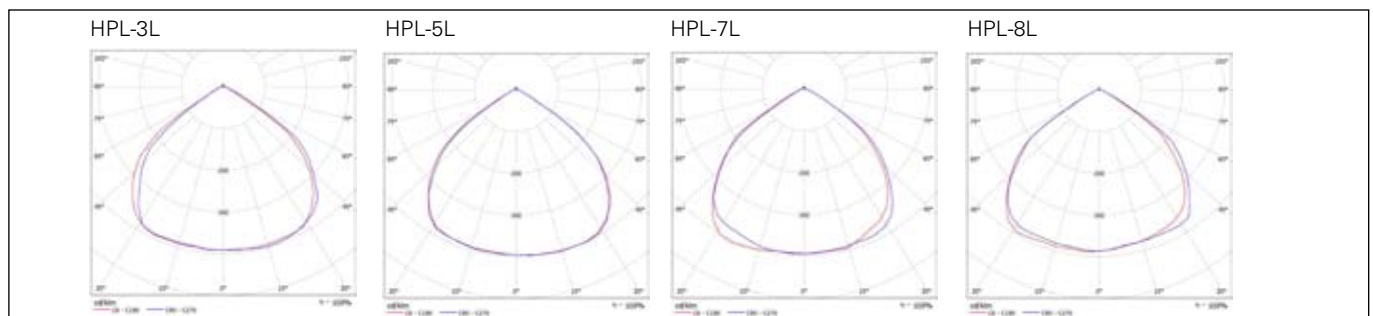
Ordering information

Part no.	Product type	Ambient Ta	Lumen output	Colour temp.	System watt.	T code
CCL1608595	HPL-5L-2M-S886-T2-1P-B1	-40°C~+50°C	5000lm	5700K	50W	T6
CCL1608610	HPL-5L-2M-S886-T2-1P-B4				70W	
CCL1609075	HPL-7L-2M-S886-T2-1P-B1	-40°C~+50°C	7000lm		50W	
CCL1609090	HPL-7L-2M-S886-T2-1P-B4				70W	
CCL1614397	HPL-5L-2M-S886-T2-1P-B1-EM1		5000lm		50W	
CCL1614781	HPL-5L-2M-S886-T2-1P-B1-EM2					

Dimension



Polar curve



LPL Ex High Power LED Light

Product Introduction

The Zone 1 LPL product Series LED Luminaires are designed to provide full-spectrum, white light. Multiple version of the LPL LED are available, providing ideal solutions for a wide range of applications.

LPL offering provides the same durability and reliability of a traditional HID fixture, coupled with the low cost of ownership and energy efficiency of Crouse-Hinds LED technology. High-performance LEDs and a solid-state electronic driver provide light where you need it, at a fraction of the operating costs of HID lighting technologies.

Suitable for Zone 1 & Zone 2 Ex-gas and Zone 21/22 Ex-dust hazardous area, such as heavy industrial, chemical, petrochemical or pharmaceutical facilities, platforms, shipyard, electric power, loading docks, wastewater treatment, paper mill.



Product Features

• High Efficient

Model	Nominal Lumens	Wattage	Equivalent HID Luminaire
LPL18-C57-4L	4270lm	43W	70W-100W
LPL18-C57-5L	4994lm	53W	70W-100W
LPL18-C57-6L	6418lm	62W	150W-175W
LPL18-C57-7L	6680lm	70W	150W-175W
LPL18-C57-9L	8998lm	87W	175W
LPL18-C57-10L	9974lm	105W	250W
LPL18-C57-12L	11700lm	125W	250W-400W
LPL18-C57-14L	13721lm	141W	400W

*Warm color limen Please contact Crouse-Hinds sales.

• Outstanding Safety & Reliability; Robust Construction, Maintenance Free

- Copper free aluminum housing, tempered and impact resistant glass globe, heat & corrosion proof.
- IP66 Protection.
- Ex de design, suitable for Zone 1 & Zone 2, Zone 21 & Zone 22 both gas and dust Ex - hazardous area.

• Perfect Temperature and Optical Performance for Wide Application

- Best T- Rating: T6/T5
- Permissible temp. range:
 - 40°C~+40°C/+45°C/+55°C(Nor)
 - 40°C~+55°C(EM)
- Standard product cool white 5700K LED
- Warm white 3000K is available for special environment such as smoke and dust environment.

• Standard products are suitable for pendant mount.

Optional mounting accessories U shape bracket and pole mounting bracket is also available. Provides the greatest mounting flexibility, it can be installed as ceiling wall mount And pole mount. Please refer to below drawing for details.

• Lead-free and environment-friendly

• LPL LED Benefits:

- Instant illumination and restrike
 - Cold temperature operation / no warm-up required
 - Redundancy in drivers with multiple series circuits connected to each driver to avoid complete loss of illumination
 - Energy-efficient technology - up to 65% energy savings over HID fixtures
 - Contains no mercury or other hazardous substances
 - Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break - greatly reduces the risk of premature failure
 - Dark sky compliant
 - Life time $\geq 50,000\text{h}@55^\circ\text{C}$ for 4L~12L
 - Life time $\geq 50,000\text{h}@40^\circ\text{C}$ for 14L*
- *14L was certified at 55°C, for life time of 55°C, pls contact Crouse-Hinds sales.

LPL Ex High Power LED Light

Technical Information

Marking acc. to ATEX	⊕ II 2 G Ex db eb IIC T6/T5 Gb ⊕ II 2 D Ex tb IIIC T80°C/T95°C Db
ATEX Cert	EPT 17 ATEX 2592X
Marking acc. to IECEx	Ex db eb IIC T6/T5 Gb Ex tb IIIC T80°C/T95°C Db
IECEx Cert	IECEx CQM 16.0043X
Marking acc. to GB	Ex d e IIC T6/T5 Gb Ex tD A21 T80°C/T95°C
GB Cert	GYJ17.1005X
EMC compliance	EN55015:2006+A1:2007+A2:2000; EN61000-3-2:2006+A1:2009+A2:2009; EN61000-3-3:2008; EN61000-6-2:2005; EN61547:2009
LED light source	PHILIPS LUMILEDS Luxeon series LED chips
Rated voltage	Nor: 100~277V AC 50/60Hz, 127~250V DC EM: 100~240V AC 50/60Hz, 127~250V DC
THD	<15% @120V~230V AC <20% @277V AC
Power factor	≥ 0.9
CRI	5700K(CRI 70)/ 3000K(CRI 80)
Cable entry	2xM25x1.5 or 2xM20x1.5, 1 entry plugged
Terminal	L, N, PE; solid: 0.5mm ² -6mm ² ; Flexible: 0.5mm ² -4mm ²
Permissible ambient temperature	-40°C~+40°C/45°C/55°C(Nor), -40°C~+55°C(EM)
Degree of protection	IP66
Insulation class	I
Dimension	Ø350 x 240 (mm)
Net weight	Nor: 17kg, EM: 20kg

Ordering Logic

LPL	18	-C57	-5L	-V07*	-1M	-LT1	-FG	-EM1	-NB*
Series	LED qty	LED color temperature	Total Lumen	Driver voltage	Entry size	Temperature range	Glass	Emergency Duration	Narrow Beam
LPL	18= ≥18PCS	C57=COOL WHITE 5700K	4L= 4270 lm	V07:100-277V AC	1M= M20	LT1=-40°C ~55°C	FG=Frosted glass	Default=Non-Emergency	Default=Wide Beam
	LED ARRYS W30=WARM WHITE 3000K		5L= 4994 lm	50/60Hz 127-250V DC	2M= M25	LT2=-40°C ~50°C	CG=Clear glass	EM1=100% lumen output(4L)	NB=Narrow Beam
			6L= 6418 lm	V09:100-240V AC		LT3=-40°C ~45°C		EM2=35% lumen output(6L&7L)	
			7L= 6680 lm	50/60Hz 127-250V DC		LT4=-40°C ~40°C		EM3=25% lumen output(6L&7L)	
			9L= 8998 lm						
			10L= 9974 lm						
			12L= 11700 lm						
			14L= 13721 lm						

* : V07 suitable for normal version, V09 suitable for emergency version, NB only suitable for clear glass

Ordering Code of Typical Type(mounting accessories ordered separately, see next page)

Part No.	Product Type	Lumen Output	Color Temp	System Watt	Input Voltage	LED Qty	Ambient Ta	Ta Code (Gas)	TC(Dust) Dust Temp
CCL1624878	LPL18-C57-4L-V07-2M-LT1-CG	4270lm	5700K	43W	100~277VAC	40	-40°C ~+55°C	T6	T80°C
CCL1624879	LPL18-C57-5L-V07-2M-LT1-CG	4994lm		53W		50		T6	T80°C
CCL1624880	LPL18-C57-6L-V07-2M-LT1-CG	6418lm		62W		60		T6	T80°C
CCL1624801	LPL18-C57-7L-V07-2M-LT1-CG	6680lm		70W		30		T6	T80°C
CCL1624803	LPL18-C57-9L-V07-2M-LT1-CG	8998lm		87W	127~250VDC	40		T6	T80°C
CCL1624804	LPL18-C57-10L-V07-2M-LT1-CG	9974lm		105W		44		T6	T80°C
CCL1624805	LPL18-C57-12L-V07-2M-LT1-CG	11700lm		125W		52		T5	T95°C
CCL1624807	LPL18-C57-14L-V07-2M-LT1-CG	13721lm		141W		60		T5	T95°C

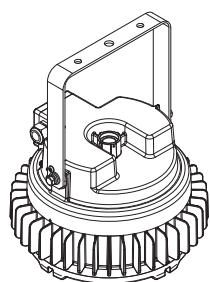
*Default= IECEx certified; suffix A= ATEX certified; suffix B=GB certified

LPL Ex High Power LED Light

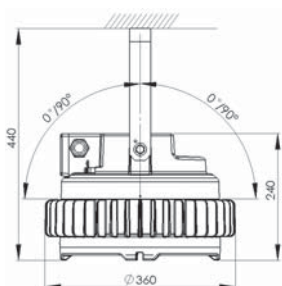
Mounting Accessories (Order separately)

Material Code	Product Description
CCL1202180	Standard U mounting bracket
CCL1624750	Universal mounting bracket, painted steel
CCL1076003	Pole mounting bracket, painted steel

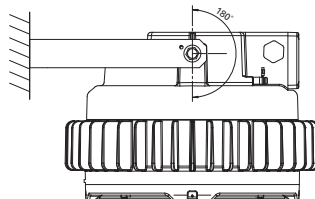
Installation and Dimension



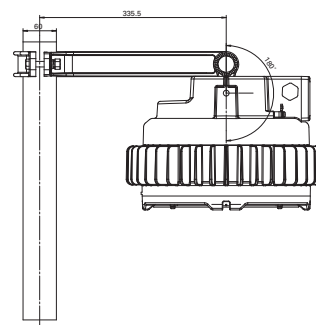
Standard U mounting bracket



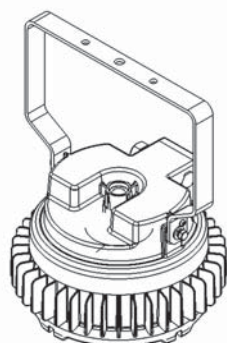
Ceiling mounting



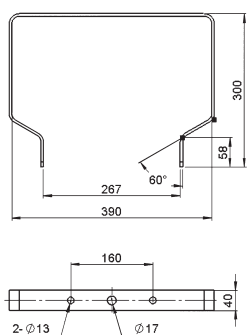
Wall mounting



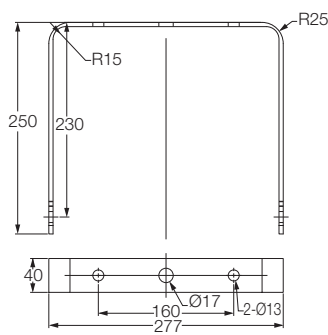
Pole mounting



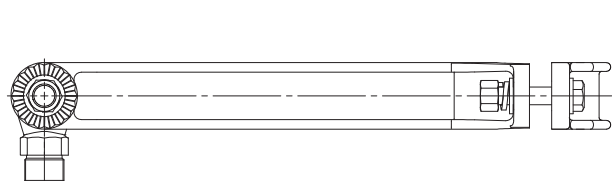
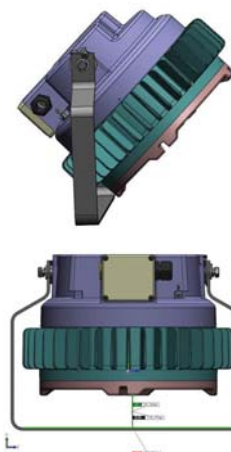
Universal U mounting bracket



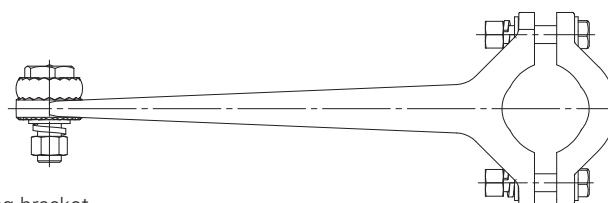
Universal mounting bracket



Standard mounting bracket



Pole mounting bracket



Note: 1. Scope of supply exclude pole mounting accessories, please purchase separately.

2. As shown in figure, angle locator is included, to install the bracket vertically to adjust the aim light to 90° past vertical.



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