LXDS – Surface mount Emergency Luminaire

The LXDS is a surface mounted self contained emergency luminaire. Incorporating $LiFePO_4$ batteries, and consisting of dual power-LEDs and status indicator powered by an emergency lighting driver. Available to operate in maintained or non-maintained modes.

This safety-compliant luminaire ensures emergency escape route and anti-panic lighting in buildings.

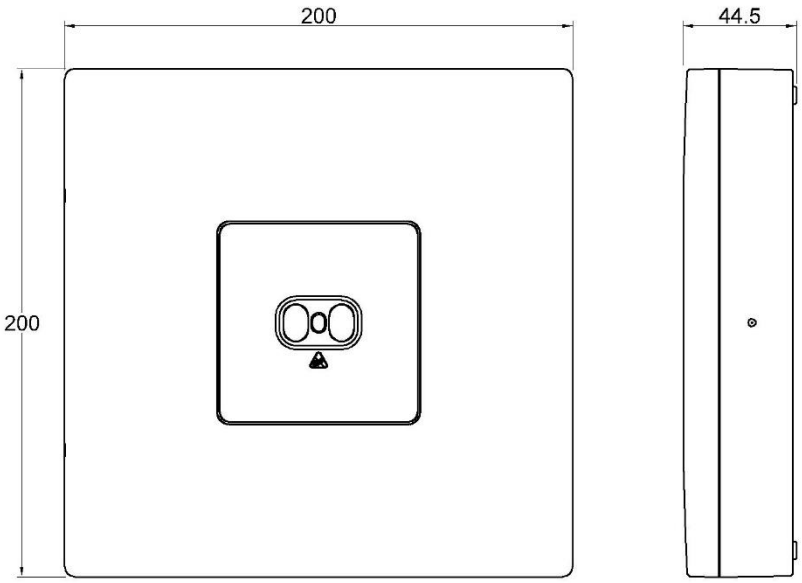
KEY FEATURES AND BENEFITS

- Available in basic, self test and DALI
- Non-maintained and maintained mode of operation
- Different lenses for emergency escape route lighting (elliptical) and open area, anti-panic emergency lighting (rotationally symmetric). Also for power-LED protection
- 3Hr emergency operation
- Self-testing in accordance with EN62034 (on self-testing and DALI units only)
- Status display LED
- Constant power output in emergency mode
- Charging regime optimised for LiFePO4 batteries
- Automatic deep discharge protection
- Self-contained emergency luminaire
- BESA box and Standard fixing points
- Dual LED luminaire with integrated battery, status indicator LED and connected emergency lighting driver
- 5 year warranty on electronics
- 3 year warranty of LiFePO4 battery

Technical Specifications

Input Voltage range	220V - 240Vac
Mains frequency	50 / 60 Hz
Max. Input power	Max 2.4W / 3VA
Power output in emergency mode	3W
Max. Power consumption / power input standby	Max 5W / 7VA
Power Rating (when charging)	Initial 24 hours: 1 W / 2VA Over one year: 0.15W / 0.4 VA
Charge Current	350 mA
Changeover time mains – emergency	<0.5s
Max. case temperature tc	65°C
Ambient temperature range ta	5°C to + 50°C
Battery Specification	Battery LiFePO4 1865 3.2v 3.0Ah 2-cell
Emergency Duration	3 hours
Battery charging time for rated duration	24 hours
LED Colour	6000K
CRI (Ra)	80
Luminous Flux	196 lm
Beam Angle – Open Area	Horizontal 95° Vertical 102°
Beam Angle - Corridor	Horizontal 39° Vertical 134°
Protection class	II
Ingress Protection	IP20
Housing	Polycarbonate RAL 9016
Weight	0.31kg
Dimensions	200 x 200 x 44.5 mm

Size diagram

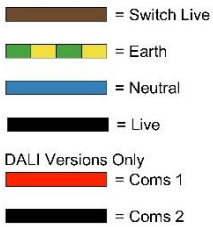


Ordering Data

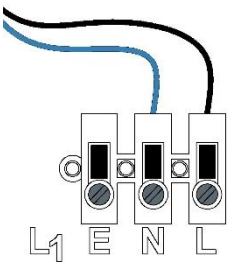
Code	Description
LXDS-2-3-C-NM	LXD SURFACE 2 CELL 3 HOUR CORRIDOR NON-MAINTAINED BASIC
LXDS-2-3-O-NM	LXD SURFACE 2 CELL 3 HOUR OPEN AREA NON-MAINTAINED BASIC
LXDS-ST-2-3-C-NM	LXD SURFACE 2 CELL 3 HOUR CORRIDOR NON-MAINTAINED SELF-TEST
LXDS-ST-2-3-O-NM	LXD SURFACE 2 CELL 3 HOUR OPEN AREA NON-MAINTAINED SELF-TEST
LXDS-DALI-2-3-C-M	LXD SURFACE 2 CELL 3 HOUR CORRIDOR MAINTAINED DALI
LXDS-DALI-2-3-O-M	LXD SURFACE 2 CELL 3 HOUR OPEN AREA MAINTAINED DALI

Wiring Diagrams

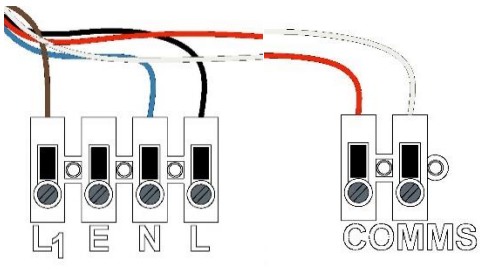
Wire Key



Basic / Selftest



Dali



Status Indicator

Visual status indicator for Self-Testing models

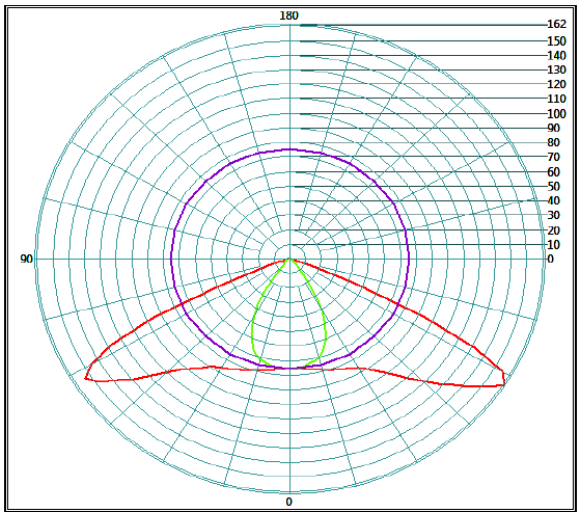
	LED intermittently flashing green – commissioning/battery regeneration after initial connection.
	LED green: no fault/normal state.
	LED continuous red: battery fault – either insufficient battery capacity or interrupted connection. The fault indication is reset once the fault is cleared.
	LED intermittently flashing red: Lamp fault. Please note that the fault is not indicated (or reset) immediately when it occurs (or is cleared), but after the next self-test.
	LED flashing green/momentary red – duration test interrupted and postponed or self- testing failure
	LED off: If the LED is still off after more than 5 minutes of switching on the mains, then the mains or the unit is faulty

Visual status indicator for DALI models

	LED intermittently flashing green – commissioning/battery regeneration after initial connection. Function test (fast flash 100ms on/off) or duration test (slow flash 1s on/off)
	LED regularly flashing green – inhibit
	LED green: no fault/normal state.
	LED continuous red: battery fault (fast flash 100ms on/off) or test failed (slow flash 1s on/off). The fault indication is reset once the fault is cleared.
	LED luminaire fault
	LED flashing green/momentary red – duration test interrupted and postponed or self- testing failure
	LED alternately flashing red/green – identification switched on to locate individual unit address (DALI only)
	LED off: If the LED is still off after more than 5 minutes of switching on the mains, then the mains or the unit is faulty

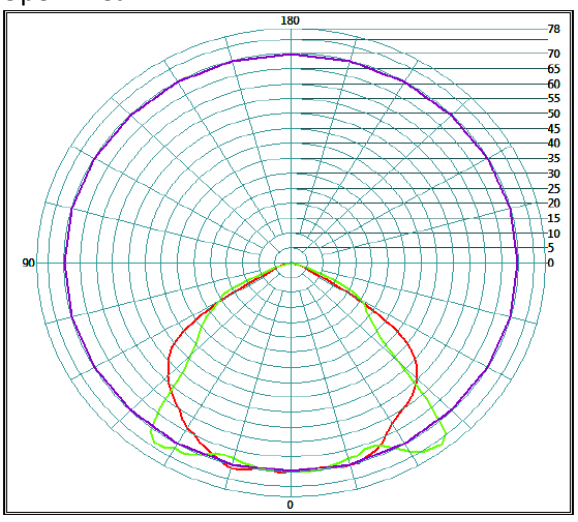
Light Distribution

Corridor



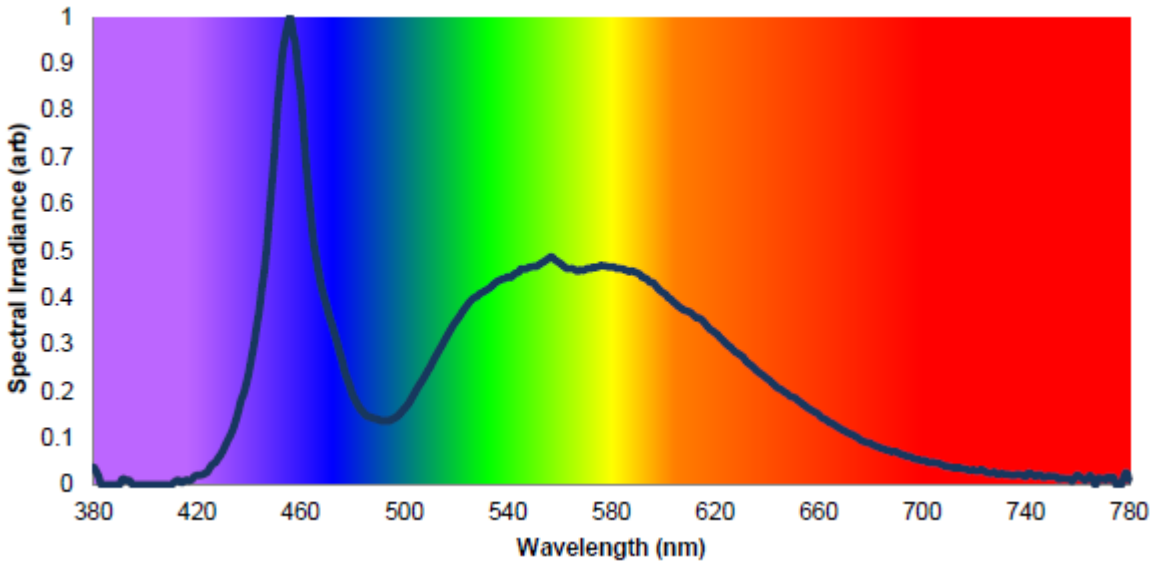
Mounting Height (m)	Beam Width (m)		Projected Illuminance (lux)
	C0-180 plane	C90-270 plane	
0.5	0.4	2.3	302
1	0.7	4.7	76
2	1.4	9.4	19
3	2.1	14.1	8
4	2.8	18.8	5
5	3.5	23.5	3
7.5	5.3	35.2	1
10	7.1	46.9	1
20	14.1	93.9	0

Open Area



Mounting Height (m)	Beam Width (m)		Projected Illuminance (lux)
	C0-180 plane	C90-270 plane	
0.5	1.1	1.2	280
1	2.2	2.5	70
2	4.4	4.9	17
3	6.6	7.4	8
4	8.8	9.8	4
5	11	12.3	3
7.5	16.5	18.5	1
10	21.9	24.6	1
20	43.9	49.2	0

Spectral Irradiance versus Wavelength



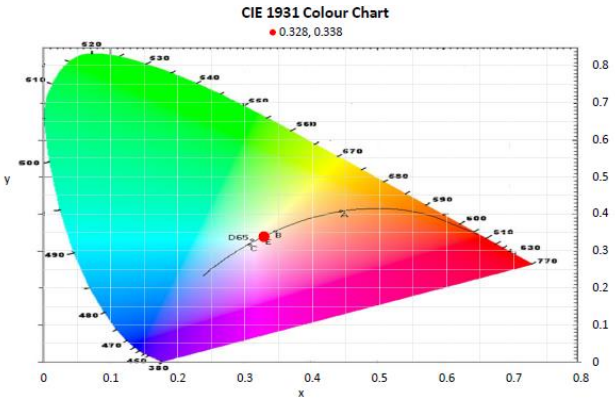
Colorimetric and Chromaticity

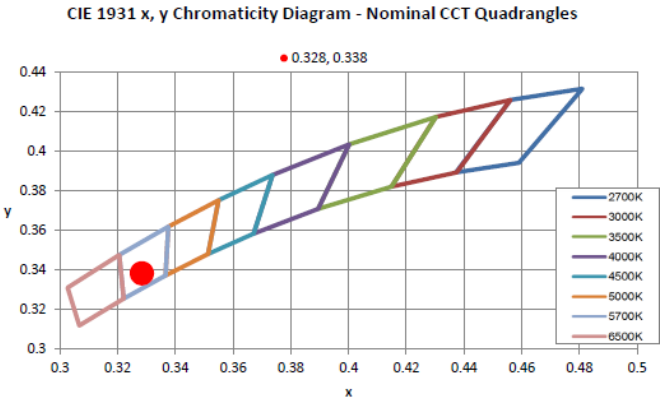
CRI detail

R1	78	R8	66
R2	87	R9	1
R3	88	R10	64
R4	75	R11	70
R5	76	R12	45
R6	78	R13	81
R7	86	R14	93

Chromaticity Coordinates

CIE 1931	x	0.3284
	y	0.3383
CIE 1960	u	0.2051
	c	0.317
CIE 1976	u	0.2051
	v	0.4755
Duv		0.0004





Thermal details and lifetime

Average failure rate per 1000 operating hours <0.2%

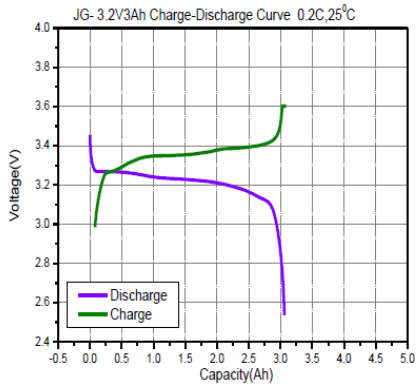
Electronic Module	Tc	65°C	70°C	75°C
	Lifetime	8 years	6 years	4 years

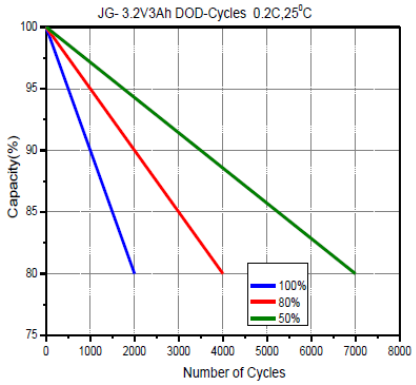
Storage conditions

Normal storage	Storage temperature 0-(+)40°C, dry preservation (Optimum storage temperature +5 to +25 °C, 65±5% relative humidity atmosphere)
Long term storage (up to 9 months)	After long term storage in open circuit, up to 3 IEC cycle may be required to recover the initial performatnce of the battery.

LiFePO4 battery Technical Data

Charging regime	CC-CV	Constant current (CI) up to 3.6V Then constant voltage (CV) between 3.4V and 3.6V
$LiFePO_4$ Cell Type		2 x1865 Li cells
Charging Current	Initial Charge	350mA until battery voltage reaches 3.6V - then 0mA
	Fast recharge	N/A
	Trickle charge	350mA when the battery rises from 3.4V to 3.6V 0mA when the battery voltage drops from 3.6V to 3.4V
Discharge current		1.5A +/- 100mA
Charge voltage range		Max 3.6 V
Discharge voltage range		Min 2.1 V
Alternating Internal Resistance		≤80 mΩ
Dimensions		Φ20mm x 135mm
Lifetime to 75% Capacity (0°- 50°C amb.)	Cycle life > 2000. (Charging with Standard charge, leaving 0.5~1h; then discharging with standard discharge , leaving 0.5~1h, counting as 1 cycle) or 4 years (Reference only)	





Standards and Approvals

- EN 60598-2-22
- EN 60598-1
- EN 62034
- EN 61347-1 (Glow wire test with increased temperature of 850°C)
- EN 61347-2-7
- EN 61347-2-13
- IEC 62133 / IEC 62620
- BSI verified (LFP battery)
- DALI standard EN 62386-202