ATX™ FDBAES LED Series Self-Contained Emergency Lighting Units

Flameproof

ATEX/IECEx: Zone 1 and 2 - 21 and 22 | Ex II 2 GD | IP66/68 | IK08

Applications

- Provides adequate lighting and/or visual indication of access on exit routes during an evacuation in a hazardous environment.
- Can be installed in hazardous areas designated as Zone 1 and 2 – 21 and 22.
- Typical applications include:
  - — Oil refineries
  - — Petrochemical plants
  - — Pulp and paper mills
  - — Hydrogen and Biofuels plants
  - — LNG (Liquid Natural Gas) plants

FDBAESLEDEM

Features

- All versions:
  - — Power supply 230 Vac, 50/60 Hz.
  - — 1 hour duration (emergency).
  - — Threaded access cover with O-ring seal.
  - — Can be maintained in hazardous areas as an internal switch cuts off battery supply automatically once the cover is unscrewed and opened.
  - — Battery pack.
  - — Escape route lighting: 2.4 V - 1.5 Ah (2 cells - Nicd) Space lighting: 7.2 V - 2.2 Ah (6 cells - NiMh) - Flameproof.
  - — Padlockable switch is available on switched models which individually cuts off power supply and remote control.
  - — Charge indicator by 1 green LED (life time over 10 years).
  - — Operates in any position.
  - — Connection to plug-in terminal block via 2 x 5 x 2.5 mm^2 (0.003 x 0.008 x 0.004 in^2) terminals.
  - — Supplied with two fixing lugs.
  - — Reported L70 is >330 000 hours at +25 °C.
  - — Automatic built-in self-test system (SATI) with memorization of tests indicated by LEDs.
  - — Using a microprocessor and an internal clock, the unit will carry out automatic tests.
  - — Weekly test: Lamp check during 6 seconds.
  - — Quarterly test: Emergency operation and lamp check for 1 hour.
  - — Can be remotely controlled and checked without switching the mains off with remote control unit from Legrand (Catalog Number 03901) or URA (Catalog Number 095448 and 095450) manufacturers.
  - — The remote control unit installed in a safe area or inside a flameproof box allows manual ignition of all the units (maximum 300 units) for visual inspection of their operation.
  - — Escape route lighting: 55 lumens, 0.50 wattage. Space lighting: 540 lumens, 0.95 wattage.
  - — Correlated Color Temperature: 5700K.
  - — 5 year standard warranty.
- Addressable versions:
  - — Operates without additional control lines. Communication between units and the control system is realized via mains borne signals that utilize the existing electrical wiring.
  - — Standard control system capacity: one control system for up to 200 emergency lighting units.
  - — Optional increased control system capacity: booster (repeater unit) is used to increase the length of the network allowing up to 1000 emergency lighting units to be on one control system. This allows for the use of a single computer to centralize the management of the facilities emergency lighting system. *For more information, contact your local sales representative*.

Options

- Addressable monitoring software, *contact your local sales representative*.
- Low temperature application, *contact your local sales representative*.

Standard Materials

- End caps and cover: aluminum
- O-ring seal: nitrile
- Lens: tempered borosilicate glass
- Fixing brackets: zinc plated steel or 316 stainless steel
- Accessories: white painted galvanized steel
- Guard: zinc plated steel

ATEX/IECEx Certifications and Compliances

- Certification Type: FLd
  - — Gas: Zone 1 - 2
    - – Conforming to ATEX 2014/34/UE: Ex II 2 G
    - – Type of Protection: Ex db IIC Gb
    - – Temperature class: T6
  - — Dust: Zone 21 - 22
    - – Conforming to ATEX 2014/34/UE: Ex II 2 D
    - – Type of Protection: Ex tb IIIC Db
    - – Surface Temperature: T80 °C (T176 °F)
- Ambient Temperature: - 20 °C to +40 °C (-4 °F C to +104 °F) ①
- ATEX Certificate: INERIS 15ATEX0056X
- UKEX: CML 21UKEX1155X
- IECEx Certificate: IECEx INE 15.0052X
- Index of Protection according EN/IEC 60529: IP66/68
- Impact Resistance (shock): IK08
- Internal Volume: > 2 dm^3 (122 in^3) - 2 liters
- Conforming to NF AEAS

Other Certifications

- INMETRO Certificate: BVC 17.5709-X ②

① Optimum operating temperature for battery is -5 °C to +30 °C (+23 °F to +86 °F).
② Inmetro certification available on special request only. Contact your local sales representative for more information.

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Order Using Catalog Numbering Guide — FDBAES LED Series Luminaires

FDBAES
Series Prefix:
FDBAES - FDBAES Series Zone 1 and 2 – 21 and 22 ATEX/IECEx Certified

LED
Lamp Type:
LED

SL
Type:
SL - Space Lighting
E - Escape Route Lighting

N
Cable Entry:
N - 3/4" NPT
M - Metric M20

A
Options:
A - Addressable
W - With Switch (main supply and remote)

Lumen Output (Efficacy) ①

Model	Equivalency	CCT (Correlated Color Temperature)	CRI (Color Rendering Index)	Lumen Output	Efficacy (lm/W)
Space Lighting					
FDBAESLEDSL*	1 X 8W Fluorescent	5650K	>80	540 ③	107
Escape Route Lighting					
FDBAESLEDE*	2 X 3W Incandescent	5650K	>80	55 ④	107

Electrical Specifications ②

Model	Voltage	Input Power (Watts)	Input Current (Amps)	Power Factor (PF)	Total Harmonic Distortion (THD)
Space Lighting					
FDBAESLEDSL*	230 Vac, 50/60 Hz	2.6	0.02	>0.5	<20%
Escape Route Lighting					
FDBAESLEDE*	230 Vac, 50/60 Hz	1.1	0.01	>0.45	<20%

Temperature Codes

	Gas IIC — T Rating			Dust — Surface T°		
Model Type	Ta = +40 °C (+104 °F)	Ta = +50 °C (+122 °F)	Ta = +55 °C (+131 °F)	Ta = +40 °C (+104 °F)	Ta = +50 °C (+122 °F)	Ta = +55 °C (+131 °F)
Standard Models						
FDBAESLEDSL*	T6	T6	T6	+80 °C (+176 °F)	+80 °C (+176 °F)	+80 °C (+176 °F)
Emergency Models						
FDBAESLEDE*	T6	T6	T6	+80 °C (+176 °F)	+80 °C (+176 °F)	+80 °C (+176 °F)

"T" Numbers Represent the Maximum Temperature

"T" #	T1	T2	T3	T4	T5	T6
Temp. Range °C (°F)	+301 to +450 (+547 to +842)	+201 to +300 (+394 to +572)	+136 to +200 (+277 to +392)	+101 to +135 (+214 to +275)	+86 to +100 (+187 to +212)	+85 (+185)

① All lumen values are typical (tolerance +/- 10%).
② All values are typical (tolerance +/-10%). Same electrical ratings apply to each luminaire with different LED position, mounting versions and cable entries.
③ Value measured after 1 hour duration - required value by standard is 400 lm.
④ Value measured after 1 hour duration - required value by standard is 45 lm.

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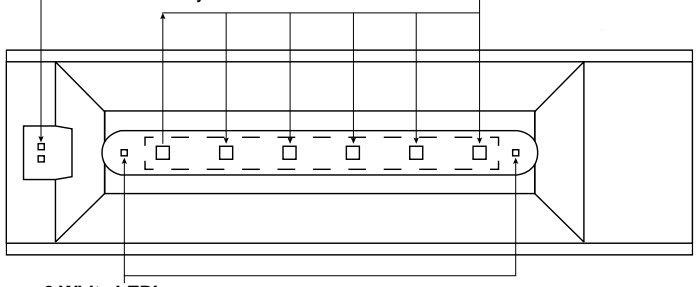
LED Indicator

Space Lighting — Replaces Fluorescent Version

1 Green LED + 1 Amber LED indicating the charge battery status
– Green: Flashing → battery is charging
Fixed → battery is fully charged
– Amber: Flashing → battery is not connected or faulty

6 White LED's: Lighting LED's
– OFF when main power is ON
– ON when main power is OFF

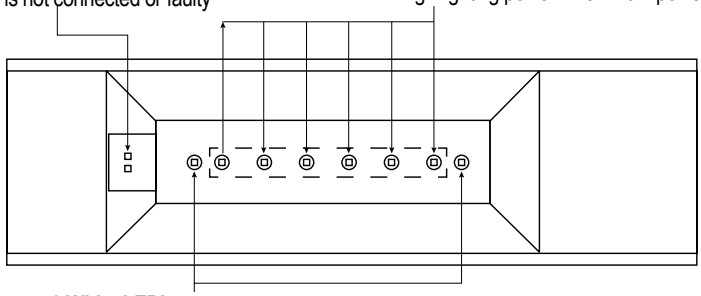


2 White LED's:
– ON when main power is OFF
– OFF when main power is ON
– Flashing when battery is not connected or faulty (only with SATI version)

Escape Lighting — Replaces Incandescent Version

1 Green LED + 1 Amber LED indicating the charge battery status
– Green: Flashing → battery is charging
Fixed → battery is fully charged
– Amber: Flashing → battery is not connected or faulty

6 White LED's: Lighting LED's
– Low lighting power when main power is ON
– High lighting power when main power is OFF



2 White LED's:
– Flashing when battery is not connected or faulty (only with SATI version)

Main Status	Non Maintained Space Lighting	Escape Route Lighting
Switched On	☼ ● ● ● ● ● ● ☼	● ¤ ¤ ¤ ¤ ¤ ¤ ¤ ●
Switched Off	● ☼ ☼ ☼ ☼ ☼ ☼ ●	● ☼ ☼ ☼ ☼ ☼ ☼ ●

● OFF
☼ ON (high lighting power)
¤ ON (low lighting power)

Battery Not Connected or Faulty	Main Power ON Space or Escape Route Lighting
SATI	⁂ ⁂ ● ● ● ● ● ● ⁂
Addressable	⁂ ● ● ● ● ● ● ● ●

● OFF
⁂ ON — Flashing — White LED
⁂ ON — Flashing — Amber LED

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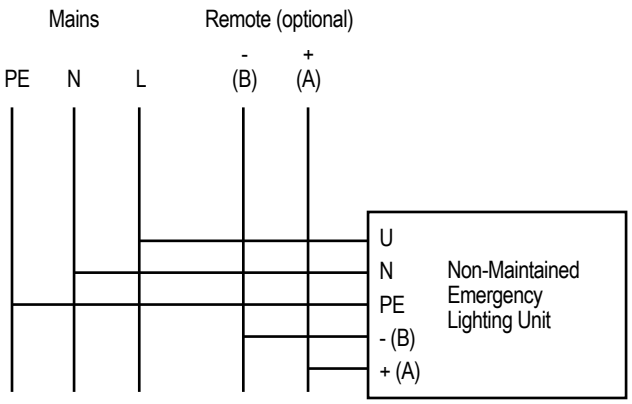
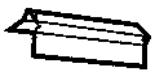
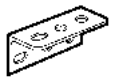
Electrical Wiring Diagram



Accessories and Replacement Parts

	Description	Weight in kg (lb)	Catalog Number
Reflector			
	White painted galvanized steel	1.02 (2.25)	**FDER5G**
Protective Guard			
	Zinc Plated Steel	0.42 (0.92)	**FDPG5Z**
Fixing Brackets for Ease of Surface Installation — Set of Two			
	Zinc plated steel	0.2 (0.44)	**FDFBZ**
	316 stainless steel	0.27(0.60)	**FDFBS**
Surface Mounting Brackets — Set of Two			
	Zinc plated steel	0.54 (1.20)	**FDSBZ**
	316 stainless steel	0.45 (1.00)	**FDSBS**
Half Clamp Brackets for Pole Mounting — Set of Two			
	Diameter for 1-1/4" to 1-1/2" pole: 42 mm to 49 mm (1.65" to 1.93")		
	• Zinc plated steel	0.55 (1.21)	**FDHC49Z**
	• 316 stainless steel	0.51 (1.12)	**FDHC49S**
	Diameter for 2" pole: 60 mm (2.3")		
	• Zinc plated steel	0.55 (1.21)	**FDHC60Z**
	• 316 stainless steel	0.51 (1.12)	**FDHC60S**
Fall Prevention Kit			
	1.20 meter (3.93 feet) stainless steel chain	0.15 (0.33)	**FDSCS**

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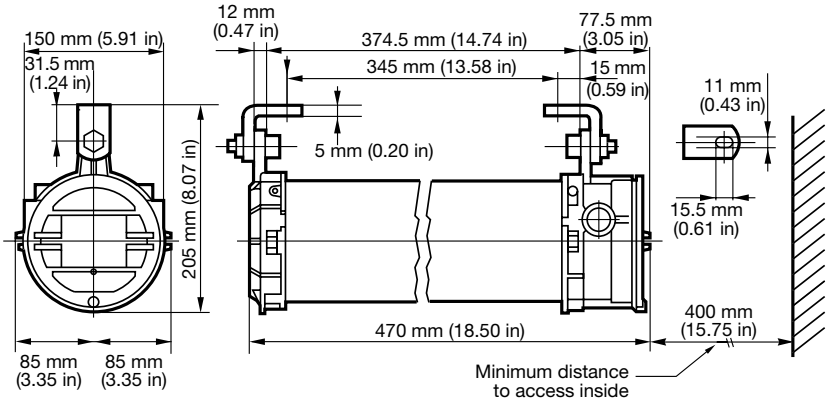
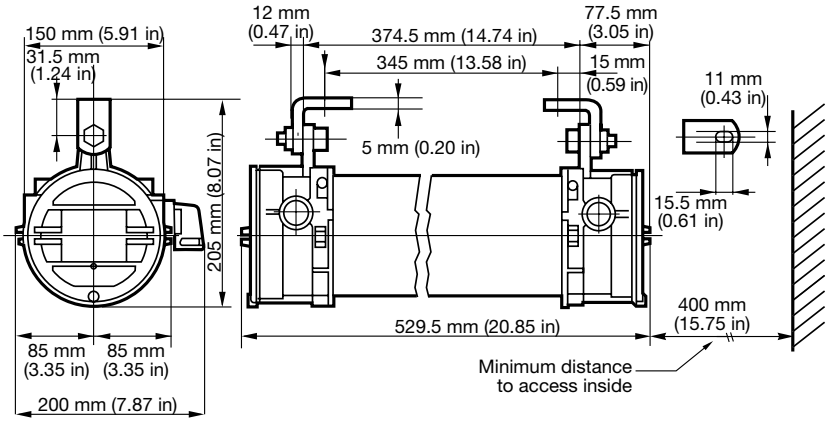
Dimensions in Millimeters (Inches)

Unswitched Versions



Switched Versions



Luminaire Specifications

Model	Weight in kg (lb)	Volume in dm^3 (in^3)
Addressable and Unswitched Versions — 1 hour duration — Non-maintained — Two threaded cable entries with one blanking plug		
FDBAESLED*A FDBAESLED*W	8.1 (17.9)	37.1 (2264.0)
Addressable and Switched Versions — 1 hour duration — Non-maintained — One threaded cable entry		
FDBAESLED*A FDBAESLED*W	10.0 (22.0)	40.4 (2465.4)
Unswitched Version — 1 hour duration — Non-maintained — Two threaded cable entries with one blanking plug		
FDBAESLED*A	8.1 (17.9)	37.1 (2264.0)
Switched Version — 1 hour duration — Non-maintained — One threaded cable entry		
FDBAESLED*W	10.0 (22.0)	40.4 (2465.4)

Signaling Labels

For Use with ATX™ FDBAES LED Series Self-Contained Emergency Lighting Units

Standard Materials

- Plastic coating
- White inscriptions
- Green background

Compliances

- These signaling labels are compliant with:
  - — ERP security regulations (Article C0 42: clearing markings)
  - — The order of November 4, 1993 (Signage of workplace safety)
  - — Standard NF X 08-003: July 2006 (Colors and safety signs)
  - — EN 1838 European Standard, visible labels at a distance of 20 m
  - — EN ISO 7010 (2013)

BAESLABEL200

BAESLABEL201

	Description		Size in Millimeters (Inches)	Catalog Number
	Warning label, straight arrow	Adhesive and divisible	327 x 109 (12.87 x 4.29)	**BAESLABEL200**
	Warning label, inclined arrow	Adhesive and divisible	327 x 109 (12.87 x 4.29)	**BAESLABEL201**

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