

# FDBAES LED Series Self-Contained Emergency Lighting Units

## Flameproof

Zone 1 and 2 - 21 and 22

⊕ II 2 GD  
ATEX / IECEx  
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, 2, 21 and 22.
- Typical applications include oil refineries, petrochemical plants, pulp and paper mills.

### 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<sup>2</sup> terminals.
  - Supplied with two fixing lugs.
  - 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 (max. 300 units) for visual inspection of their operation.
  - Escape route lighting: 55 lumens, 0.50 wattage.  
Space lighting: 540 lumens, 0.95 wattage.
- Addressable versions:
  - Providing the regulatory control of the emergency lighting units and centralizing information coming from those units on a computerized management system.
  - Operating without any special line, communication between units and the control system is realized via mains-borne signals on the remote control line.



FDBAESLEDEM

- Capacity: one control system for 200 emergency lighting units.
- Max. capacity: 1000 emergency lighting units with boosters.

### Standard Materials

- End caps and cover: anti-corrosive gray painted Zamak
- O-ring seal: Nitrile
- Lens: sealed tempered glass
- Fixing brackets: zinc plated steel or 316 stainless steel
- Accessories: white painted galvanized steel
- Guard: zinc plated steel

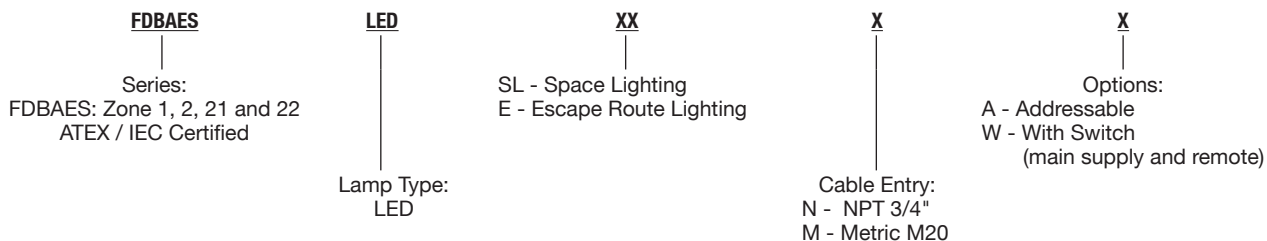
### Options

- Addressable monitoring software, please consult factory.
- Low temperature application, please consult factory.

### Certifications and Compliances

- Certification Type: FLd
- Zone 1 - 2
  - Conforming to ATEX 94/9/CE: CE 0081 ⊕ II 2 G
  - ATEX/IEC Protection: Ex d IIC
  - T Rating: T6
- Zone 21 - 22
  - Conforming to ATEX 94/9/CE: CE 0081 ⊕ II 2 D
  - ATEX/IEC Protection: Ex tD A21
  - Surface Temperature: T176 °F/ T80 °C
- Ambient Temperature: -40 °F/-40 °C to 131 °F/55 °C ⊕
- CE Declaration of Conformity: 50203
- ATEX Certificate: LCIE 97/ ATEX 6012
- IECEx Certificate: IECEx LCI 04.0018
- Other Certifications: GOST
- Index of Protection (solid and liquid): IP66 / 68
- Impact Resistance (shock): IK08
- Internal Volume: > 122 in<sup>3</sup>/2 dm<sup>3</sup> (2 liters)
- Ex Standards EN / IEC 60079-0; 60079-1; 61241-0; 61241-1
- Product Standards: EN / IEC 60598-1; 60598-2-22-NFC 71800; 71820
- EMC Standards: EN / IEC 55015; 61547
- Other Standards: EN / IEC 60529 (IP); 62262 (IK)

### Catalog Numbering Guide



⊕ Optimum operating temperature for battery is 23 °F/-5 °C to 86 °F/+30 °C.

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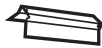




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Type	Lamp	Lumen Output	Cable Entries	Weight (lb/kg)	Volume (in <sup>3</sup> /dm <sup>3</sup> )	Pack	Catalog Number
<b>Unswitched Version – 1 hour duration – Non-maintained – Two threaded cable entries with one blanking plug</b>							
Space Lighting	LED Array	540 lm ①	3/4" NPT M20	17.9/8.1	2263.98/37.1	1	FDBAESLEDSL FDBAESLEDSL
Escape Route Lighting	LED Array	55 lm ②	3/4" NPT M20	17.9/8.1	2263.98/37.1	1	FDBAESLEDEN FDBAESLEDEM
<b>Switched Version – 1 hour duration – Non-maintained – One threaded cable entry</b>							
Space Lighting	LED Array	540 lm	3/4" NPT M20	22.0/10	2465.36/40.4	1	FDBAESLEDSLW FDBAESLESLMW
Escape Route Lighting	LED Array	55 lm	3/4" NPT M20	22.0/10	2465.36/40.4	1	FDBAESLEDENW FDBAESLEDEMW
<b>Addressable and Unswitched Version – 1 hour duration – Non-maintained – Two threaded cable entries with one blanking plug</b>							
Space Lighting	LED Array	540 lm	3/4" NPT M20	17.9/8.1	2263.98/37.1	1	FDBAESLEDSLNA FDBAESLEDSLMA
Escape Route Lighting	LED Array	55 lm	3/4" NPT M20	17.9/8.1	2263.98/37.1	1	FDBAESLEDENA FDBAESLEDEMA
<b>Addressable and Switched Version – 1 hour duration – Non-maintained – One threaded cable entry</b>							
Space Lighting	LED Array	540 lm	M20	22.0/10	2465.36/40.4	1	FDBAESLEDSLMAW
Escape Route Lighting	LED Array	55 lm	M20	22.0/10	2465.36/40.4	1	FDBAESLEDEMAW

### Accessories

	Description	Catalog Number
	<b>Reflector</b> White painted galvanized steel	FDER5G
	<b>Protective Guard</b> Zinc plated steel	FDPG5Z
	<b>Fixing Brackets – set of two brackets for ease of surface installation</b> Zinc plated steel 316 stainless steel	FDFBZ FDFBS
	<b>Surface Mounting Brackets – set of two brackets for ease of installation</b> Zinc plated steel 316 stainless steel	FDSBZ FDSBS
	<b>Half Clamps – set of two</b> Zinc plated steel versions: 1-1/4" (dia. 1.65 in/42 mm) to 1-1/2" (dia. 1.93 in/49 mm) 2" (dia. 2.36 in/60 mm) 316 stainless steel versions: 1-1/4" (dia. 1.65 in/42 mm) to 1-1/2" (dia. 1.93 in/49 mm) 2" (dia. 2.36 in/60 mm)	FDHC49Z FDHC60Z FDHC49S
	<b>Fall Prevention Kit</b> 3.94 ft/1.20 m stainless steel chain	FDHC60S FDSCS

① Value measured after 1 hr. duration - required value by standard is 400 lm.

② Value measured after 1 hr. duration - required value by standard is 45 lm.

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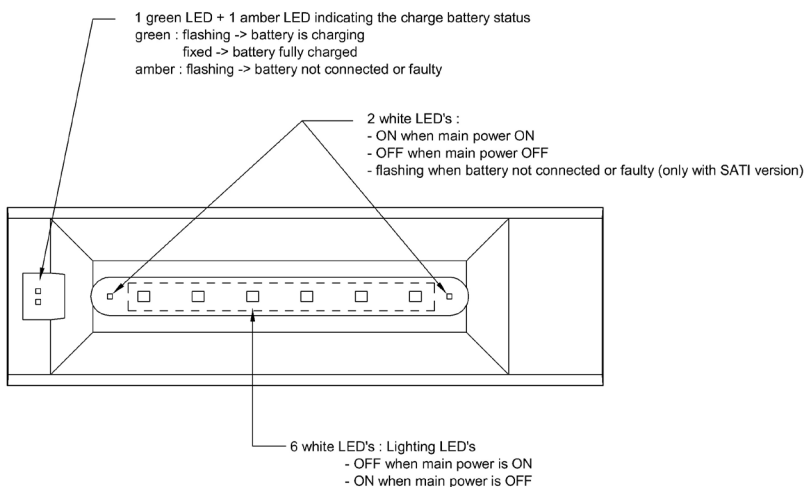
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### LED Indicator

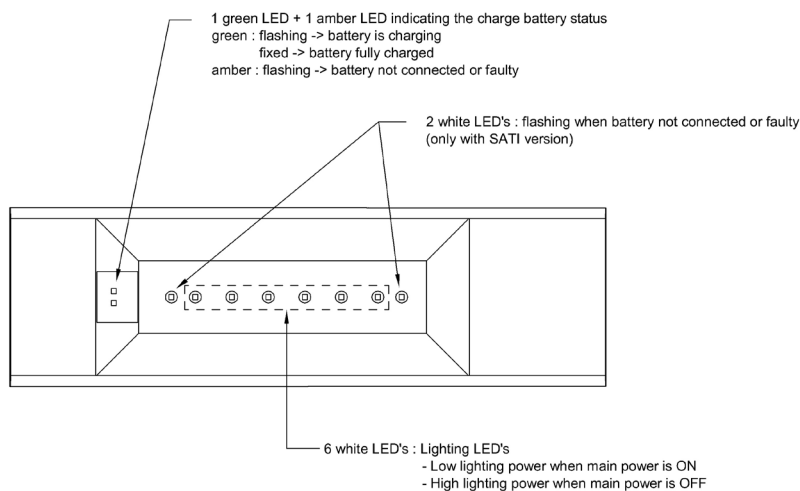
#### Space lighting :

(replace fluorescent version)



#### Escape lighting :

(replace incandescent version)



Lighting

LIGHTING: INCREASED SAFETY/FLAMEPROOF – BULKHEAD

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
Escape or spacelighting	SATI	⋮ ☒ ● ● ● ● ● ● ● ☒
	Addressable	⋮ ● ● ● ● ● ● ● ●

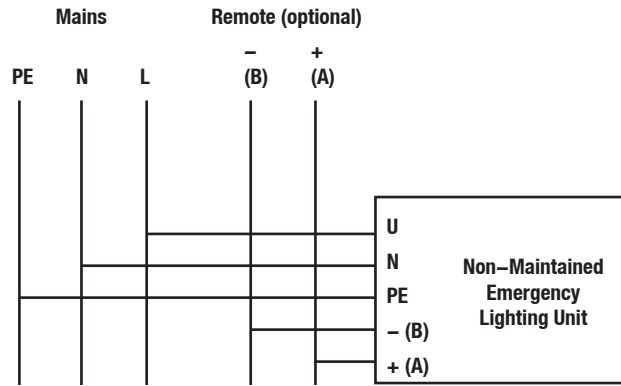
- OFF
- ☒ Flashing (white LED)
- ⋮ Flashing (amber LED)

# FDBAES LED Series Self-Contained Emergency Lighting Unit Technical Data

## Flameproof

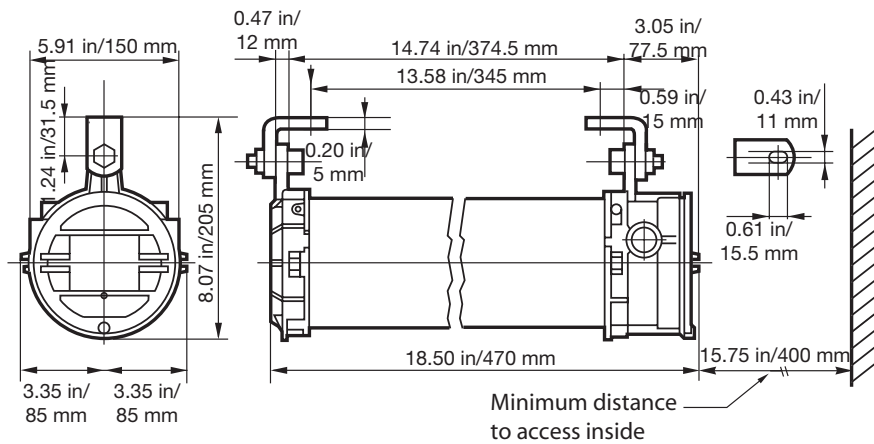
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### Electrical Wiring Diagram

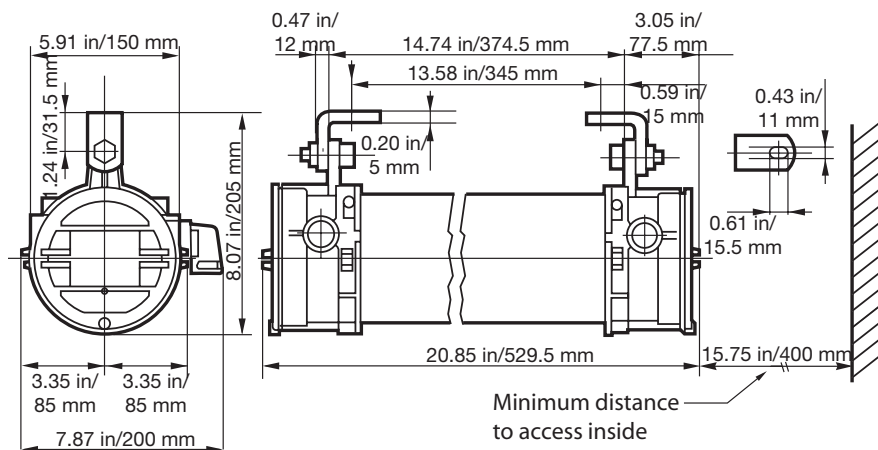


### Dimensions (in/mm)

#### Unswitched Versions



#### Switched Versions



Lighting

LIGHTING: INCREASED SAFETY/FLAMEPROOF - BULKHEAD