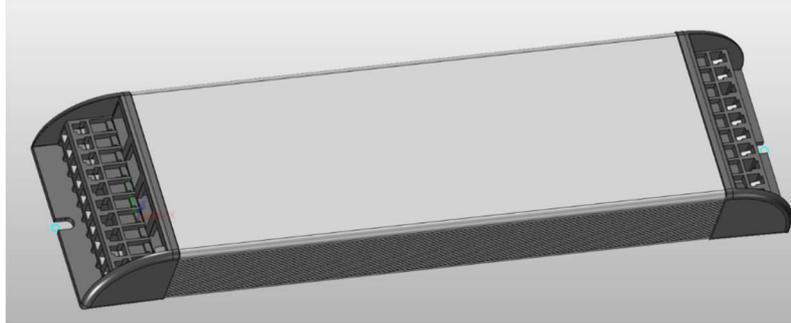


Installation and Safety

HFXE LED BG2

Ex zone 1



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Date : 5.4.2024 Rev 1

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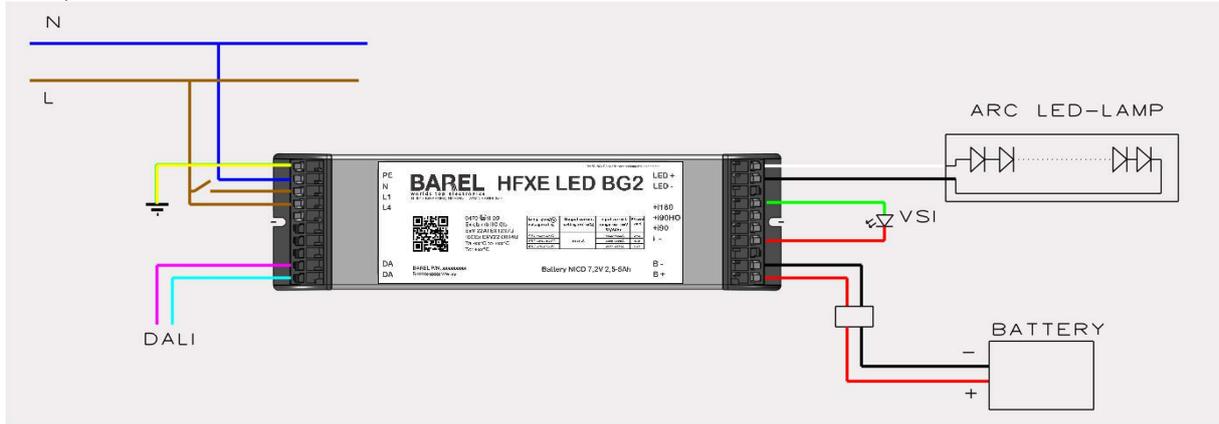
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3 Use of component

This equipment does not cause harm or injury when used as specified in these instructions. If this equipment is not utilised in a manner specified by the manufacturer, the protection by the equipment may be impaired.

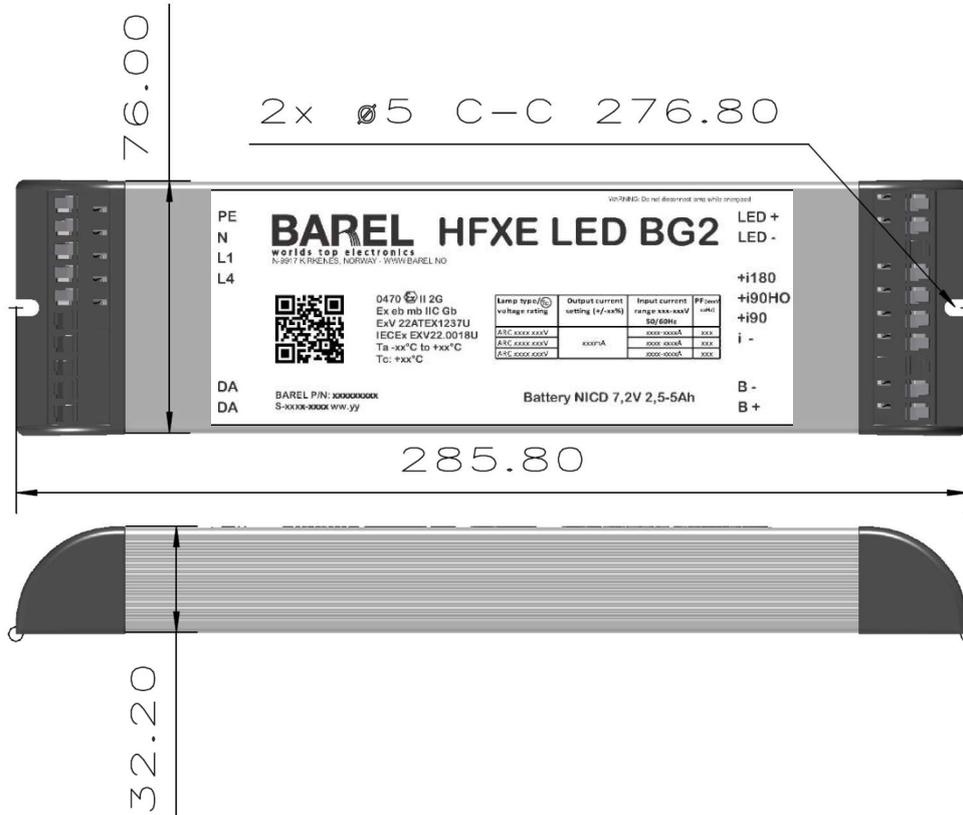
Normal light switch on/off by L1, while battery charger always powered by L4.

L1/L4 must be fed from same phase. (Both phases should be switched off to avoid visible light in LED)



3.1 Mechanical data

- Aluminum housing fastened with 2 screws (<5mm) in the plastic end-caps, c-c 276.80mm
- Recommended C-C=280mm
- 3D-model available on request (.stp)
- Same installation dimensions as Barel HFxE Gen 1



3.2 Temperature

Tc temperature is measured on top side of driver – Tc-mark on marking-label.
The allowed temperature ranges can be found in Technical Data HFxE LED BG2.

EL HFxE LED BG2

tronics
Y - WWW.BAREL.NO

0470 II 2G
Ex eb mb IIC Gb
ExV 22ATEX1237U
IECEX EXV22.0018U
Ta -xx°C to +xx°C
Tc: +xx°C

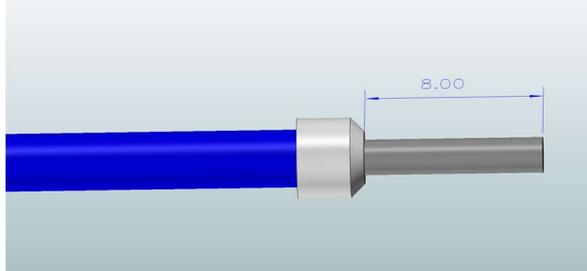
Lamp type/ voltage rating	Output current setting (+/-xx%)	Input current range xxx-xxxV 50/60Hz	PF (cos φ)xxHz
ARC xxxV	xxxmA	xxx-xxxV	xxx
ARC xxxV		xxx-xxxV	xxx
ARC xxxV		xxx-xxxV	xxx

3.3 Electrical connection

Cable cross sectional area: 0,5 - 1,5 mm²

Use solid, stranded or fine-stranded wire. A ferrule or boot-lace ferrule should be used with stranded or fine-stranded to increase connection safety. Pin length 8-10mm.

Boot-lace ferrule with 10mm pin length, and insulator diameter <3,5mm is recommended for proper connection. Short pin combined with large insulator/outer diameter may cause failure of connection.

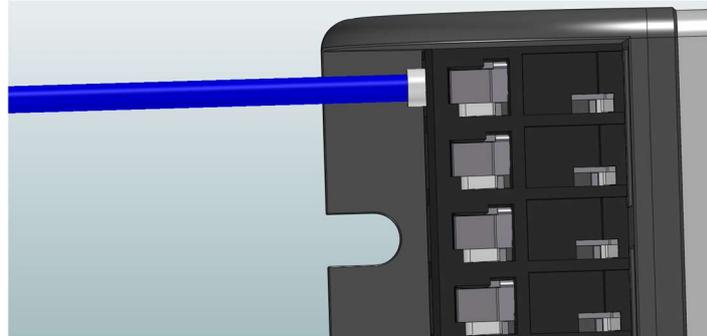
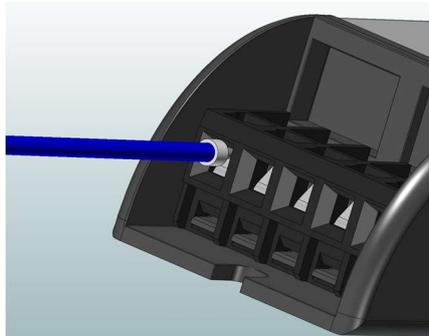


Insert wire to corresponding terminal.

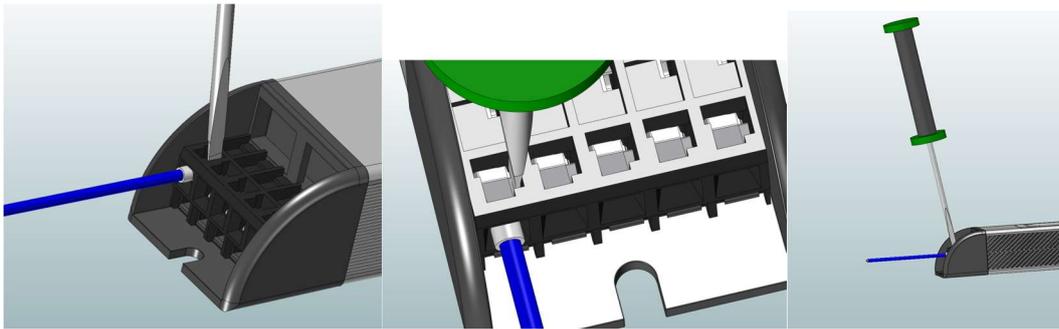
Insert to stop, and confirm connection by light pull outwards – do not bend or rotate.

The wires should be clamped outside the driver.

Warning – Rotation of wire, pushing down while pulling, or excessive pull force may cause release from terminal.



Use a 3,5x0,5mm slot screwdriver to remove connections. Insert the screwdriver (15° angle) onto the side of the tab, and apply light pressure to the spring while pulling the wire out.



Do not energize circuit before all components and lamps are connected properly.
In case of no function or malfunction: first de-energize the circuit. Disconnect mains and battery supply before disconnecting LED-lamp.

3.4 Installation

- Connect all components and LED-module inside luminaire.
- Check that all connections are made to the correct port, and that no wires are loose or damaged.
- The LED-module must be installed before the unit is energized. Do not energize the HFxE without LED-module connected.
- Connect battery
- Energize the unit from mains supply.
- The LED-module will light up in normal mode.
- Allow the battery to be fully charged before testing capacity. (min 24h)
- Switch off mains supply -unit will enter emergency-mode to power LED-lamp from local battery until mains supply return, or battery voltage reach low level threshold
- In case of malfunction or component replacement:
 - Disconnect in following order:
 - Mains
 - Battery
 - LED-lamp

3.5 Marking

WARNING: Do not disconnect lamp while energized

PE
N
L1
L4

BAREL HFxE LED BG2

worlds top electronics
N-9917 KIRKENES, NORWAY - WWW.BAREL.NO

LED +
LED -

0470 II 2G
Ex eb mb IIC Gb
ExV 22ATEX1237U
IECEx EXV22.0018U
Ta -xx°C to +xx°C
Tc: +xx°C

Lamp type/ voltage rating	Output current setting (+/-xx%)	Input current range xxx-xxxV 50/60Hz	PF _(xxxV) xxHz
ARC xxxx xxxV	xxxmA	xxxx-xxxxA	xxx
ARC xxxx xxxV		xxxx-xxxxA	xxx
ARC xxxx xxxV		xxxx-xxxxA	xxx

DA
DA

BATTERY P/N: xxxxxxxx
S-xxxx-xxxx ww.yy

Battery NICD 7,2V 2,5-5Ah

+i180
+i90HO
+i90
i -

B -
B +

3.6 Battery replacement

Do not disconnect or connect battery when hazardous atmosphere is present.

Recommended procedure:

De-energize mains supply and allow battery-backup duration to complete before disconnection and replacement of battery to minimize the potential spark energy. If area is known safe, the battery may be disconnected at any time.

Connect new battery before energizing mains supply.

An empty or partially empty battery may not be recognized immediately after connection of mains supply. Allow 24h charging period before testing.

After replacement - see chapter 2.3 in Technical Data HFXE LED BG2

3.7 Storage

Recommended procedure for storage of HFXE and battery after installation in luminaire:

Charge battery to recommended state and store disconnected from HFXE to minimize leakage current.

Battery may stay connected while mains remains de-energized to be ready for final installation or usage:

Disconnect battery.

Disconnect/de-energize mains.

Reconnect battery after 3 seconds or more.

If left unconnected/de-energized from mains while connected to HFXE, the leakage current from the battery is <0,6mA.

4 Special conditions for safe use

1. For Gas atmospheres the equipment must be housed within a suitably approved Ex eb Gb enclosure in end use equipment. For Dust atmospheres the equipment must be housed within a suitably approved Ex tb Db enclosure.
 2. The following Service Temperatures must not be exceeded when incorporated into end use equipment:
 - HFXE Encapsulant: -40°C to +110°C*
 - HFXE Terminals: -40°C to +105°C
 - Battery Packs: -20°C to +70°C (C cells) & -40°C to +45°C (D cells)
- *Note that the hottest internal component has a 37 K temperature rise under full load conditions.
3. Thermal fuses (TCO's) are employed in the driver which limit the surface temperature of the encapsulant under fault conditions to a maximum of 112°C
 4. The maximum temperature rise on the D cell type battery packs when supplying (discharge) a max potential fault current of 6.8A is 19.3K. Under a max nominal load of 2.5A the temperature rise is 6.3K. Under maximum charge conditions, constant current of 240mA, the battery pack has a temperature rise of 5.9K. The D cells type battery packs must not be subjected to ambient conditions in end use equipment of more than +39.1°C for compliance with the rated service temperature range of the batteries.
 5. The maximum temperature rise on the C cell type battery packs when supplying(discharge) a max potential fault current of 6.8A is 2.9 K. Under a max nominal load of 2.5A the temperature rise is 13.8 K. Under maximum charge conditions, constant current of 240 mA, the battery pack has a temperature rise of 5.5K. The D cells type battery packs must not be subjected to ambient conditions in end use equipment of more than +64.5°C for compliance with the rated service temperature range of the batteries.

6. When incorporated into end use equipment the bare live parts of the terminals must have a ≥ 6 mm clearance distance. The insulation must be stripped to within 1 mm of the terminal throat.
7. The equipment shall only be employed with a power supply which has a prospective short circuit current not exceeding 1500A.
8. The battery pack must not be replaced in hazardous areas (unless the area is shown to be free from a hazardous atmosphere).
9. The maximum discharge current from the battery under fault conditions is limited to 6.8 A, (by a 4A fuse internal in HFXE)
10. When stranded conductors are employed for mains connection they must be terminated with a ferrule.
11. HFXE may be used with different batteries covered by other/ luminaire certificate.
12. The HFXE are suitable for use with Barel ARC BG5, or similar LED lamp.
13. The output current to indicator LED is limited to 19,7mA, suitable to be used with Barel VSI.

5 What to do if...

- No light when first connected to the mains:
 - Make sure all connections and supply are correct.
 - Do not attempt to open or repair. Contact distributor for assistance.