



Glamox MAX LED

User manual





English

LED are sensitive to electrostatic discharge. Do not touch the surface of the LED module.

Norsk

LED er følsomme for statisk elektrisitet. Berør ikke overflaten på LED modulen.

Svenska

LED är känslig för elektrostatisk urladdning. Rör inte ytan på LED modulen.

Deutsch

LEDs sind empfindlich gegenüber elektro-statischer Entladung. Berühren Sie nicht die Oberfläche der LED-Module.

Suomi

LED-valonlähteet ovat herkkiä staattisille sähköpurkauksille. Älä kosketa LED-moduleja.

Eesti

Leed on tundlik elektrostaatilise laengu. Palun ära puuduta leed-moodulit.

Nederlands

LEDs zijn gevoelig voor elektrostatische ontlading. Raak het oppervlak van de LED-module niet aan.

Dansk

LED er følsomt for statisk elektricitet. Rør ikke ved overfladen på LED modulet.

Polski

Diody LED są wrażliwe na wyładowania elektrostatyczne, nie dotykaj powierzchni modułu LED.



English

For further installation and maintenance guidance, please see the document "Installation and maintenance manual" enclosed with your product or on our website.

Norsk

For ytterligere installasjons- og vedlikeholdsveiledning kan du lese dokumentet "Installation and maintenance manual" som følger med produktet, eller finnes på våre nettsider.

Svenska

För övriga installation och underhålls uppgifter, var vänlig se vårt dokument "Installation and maintenance manual" bifogat med er produkt, eller på vår hemsida.

Deutsch

Weitere Installations- und Wartungsweise finden Sie in dem Dokument "Installation and maintenance manual" zusammen mit ihrem Produkt auf unsere Webseite.

Suomi

Tarkemmat asennus- ja huolto-ohjeet löytyvät tuotteen mukana toimitetusta ohjeesta sekä internetsivuiltamme.

Eesti

Lisainformatsiooni saamiseks vaata palun "Installation and maintenance manual", mis on kaasas valgustiga ning leitav ka meie koduleheküljelt.

Nederlands

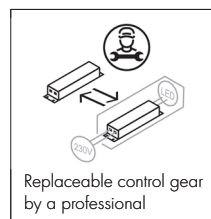
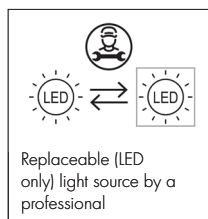
Voor verdere installatie en onderhoud, zie het document "Installation and maintenance manual" dat bij uw product is bijgesloten of kijk op onze website.

Dansk

For yderlig information om installation og vedligeholdelse, se venligst dokumenterne på vores hjemmeside på det pågældende produkt.

Polski

Dalsze wskazówki dotyczące instalacji i konserwacji znajdują się w dokumencie „Instrukcja instalacji i konserwacji” dołączonym do produktu lub na naszej stronie internetowej.



English

Do not connect to a temporary power supply source. This may damage the electronics.

Norsk

Tilslutt ikke armaturen til midlertidig byggestrøm. Dette kan skade elektronikken.

Svenska

Anslut inte armaturen till tillfällig byggström. Detta kan skada elektroniken.

Deutsch

Nicht an unsauberes Netz (Baustrom) anschliessen. Die elektronischen Bauteile können dadurch beschädigt werden.

Suomi

Älä kytke väliaikaiseen virtalähteeseen. Tämä voi vioittaa elektroniikkaa.

Eesti

Ära kasuta ajutist toiteahelat. See võib põhjustada vigastusi elektroonikale.

Nederlands

Sluit niet aan op een tijdelijke elektriciteitsvoorziening. Dit kan de elektronica beschadigen.

Dansk

Tilslut ikke armaturet til midlertidig byggestrøm. Dette kan skade elektronikken.

Polski

Nie podłączać do tymczasowego źródła zasilania. Może to uszkodzić elektronikę.



English

Installation, inspection, maintenance and repair only to be performed by Ex-qualified professionals.
Before putting into service - check that all electrical connections are well done and diffuser gasket is undamaged.

Norsk

Installasjon, inspeksjon, vedlikehold og reparasjon skal kun utføres av Ex-kvalifiserte fagfolk.

Før idriftsetting - kontroller at alle elektriske koblinger er godt utført og skjermpakningen er uskadet.

Svenska

Installation, inspektion, underhåll och reparation får endast utföras av EX-kvalificerad personal.
Innan den tas i bruk - kontrollera att alla elektriska anslutningar är väl utförda och att alla packningar är oskadade.

Deutsch

Installation, Prüfung, Wartung und Reparatur dürfen nur von qualifizierten Fachpersonal mit einer ex-Zulassung durchgeführt werden.
Vor einer Inbetriebnahme ist zu prüfen, ob alle Anschlüsse ordnungsgemäß ausgeführt sind und die Dichtigkeit der Kabeinführungen gegeben ist.

Suomi

Asennukset, tarkastukset, huollot ja korjaukset tulee suorittaa EX-hyväksytyn henkilön toimesta.
Ennen käyttöönottoa tarkista, että sähköiset liitännät ovat huolellisesti kytketty sekä kuvun tiiviste vahingoittumaton.

Eesti

Paigaldamist, kontrolli, hooldust ja remonti tohivad teha ainult Ex - kvalifitseeritud spetsialistid.
Enne kasutuselevõttu kontrollige, et kõik elektriühendused on korralikult tehtud ja hajuti tihend kahjustamata.

Nederlands

Installatie, inspectie, onderhoud en reparatie mogen alleen worden uitgevoerd door Ex-gekwalificeerde professionals.
Voor ingebruikname - controleer of alle elektrische aansluitingen goed zijn uitgevoerd en of de afdichting van de afscherming onbeschadigd is.

Dansk

Installation, inspektion, vedligeholdelse og reparation må kun udføres af Ex-kvalificerede fagfolk.
Inden ibrugtagning - check, at alle elektriske forbindelser er udført korrekt og skjærpakningen ikke er beskadiget.

Polski

Montaż, przegląd, konserwacja i naprawy mogą być wykonywane wyłącznie przez profesjonalistów z uprawnieniami dotyczącymi przeciwybuchowego sprzętu oświetleniowego (ExI).
Przed oddaniem do użytku należy sprawdzić czy wszystkie połączenia elektryczne są poprawnie wykonane, a uszczelka dyfuzora nie jest uszkodzona.



English

X: Special conditions for safe use:
Potential electrostatic charging hazard
– For cleaning use moist cloth only! No solvent.

WARNING:

Do not open when an explosive atmosphere is present!
Live parts behind cover – Do not contact!

Norsk

X: Spesielle betingelser for sikker bruk:
Potensiell fare for elektrostatiske ladning
– Bruk kun fuktig klut for rengjøring!
Ingen løsemiddel!

ADVARSEL:

Skal ikke åpnes i eksplosiv atmosfære!
Strømførende deler bak dekslet – Må ikke berøres!

Svenska

X: Särskilda villkor för säker användning:
Potentiell risk för elektrostatisk laddning
– Använd endast fuktig trasa för rengöring!
Inget rengöringsmedel.

VARNING:

Öppna ej i en explosiv atmosfär!
Strömförande delar bakom kupan – Rör ej!

Deutsch

X: Besondere Bedingungen für den sicheren Gebrauch:
Potenzielle Gefahr elektrostatischer Aufladung – Zur Reinigung nur feuchte Tücher verwenden! Kein Lösungsmittel.

WARNUNG!

Nicht öffnen, wenn eine explosionsfähige Atmosphäre vorhanden ist!
Spannungsführende Teile hinter der Abdeckung – nicht berühren!

Suomi

X: Erityismääräykset turvalliselle käyttöle:
Staatissien sähkölaatuksen vaara
– puhdistamiseen saa käyttää vain kosteaa pyyhettä! Ei liuotimia.

VAROITUS:

Älä avaa räjähdysriskissä tilanteissa!
Kuvun takana jännitteisiä osia – Älä koske!

Eesti

X: Eritingimused ohutuks kasutamiseks:
Võimalik elektrostaatiline laengu oht – kasutage puhastamiseks ainult niisket lappi! Mitte lahustit!

HOIATUS:

Ärge avage plahvatusohtliku keskkonna olemasolul!
Katte taga asuvad pinged ei ole vabalt osad – ärge puutuge!

Nederlands

X: Bijzondere voorwaarden voor veilig gebruik:
Mogelijk gevaar voor elektrostatische oplading – Om te reinigen alleen een vochtige doek gebruiken! Geen oplosmiddel.

WAARSCHUWING:

Niet openen als er een explosieve atmosfeer aanwezig is!
Onder spanning staande delen achter afscherming – Niet aanraken!

Dansk

X: Særlige betingelser for sikker brug
Potentiel risiko for statisk elektricitet
– Brug kun en fugtig klud til rengøring!
Ingen opløsningsmidler.

ADVARSEL:

Åbn ikke, når der er en eksplosiv atmosfære!
Strømførende dele bag dækslet – Må ikke berøres

Polski

X: Specjalne warunki bezpiecznego użytkowania:
Potencjalne zagrożenie wyładowaniami elektrostatycznymi – Do czyszczenia używać wyłącznie wilgotnej szmatki!
Nie stosować rozpuszczalników.

UWAGA:

Nie otwierać w obecności atmosfery wybuchowej!
Części pod napięciem za osłoną – nie dotykać!

MAX LED

CE 0470

UK
CA 8501



II 2G Ex eb mb IIC T4 Gb
II 2D Ex tb IIIC T81°C Db

PRESAFE 15ATEX 7402X
IECEX PRE 15.0068X
DNV 22 UKEX 40270 X

Description:

Surface mounted with LED modules for normal operation HF and with a battery in external Battery box for emergency operation HF-E

Temperature limits (ta): Ta: -30°C to +50°C for HF 3500/6500 Lm
Ta: -30°C to +55°C for HF 2200/4500 Lm
Ta: -20°C to +50°C for HF-E

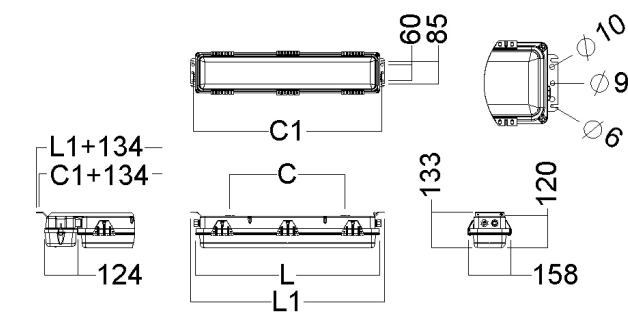
Protection: IP66/67
Line voltage: 110-254VAC 50/60Hz/220-250VDC
Supplied current (mains mode): 0.11 – 0.56A
Power factor: 0.92 – 0.96
Light modules: LED

Sales description abbreviations: MAXS: Stainless steel 316L Main body
MAXZ: Aluzinc Main body
/S: Emergency battery back up Standard
/ST: Emergency battery backup with Self Test

Emergency light marking:	X	1		90	Standard 1,5 hour battery backup
ref IEC 60598-2-22 Annex B	X	1		180	Standard 3 hour battery backup
	X	1	F	90	Self Test 1,5 hour battery backup
	X	1	F	180	Self Test 3 hour battery backup

For more information, please see www.glamox.com

MAX LED

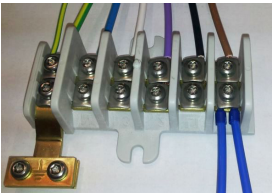


Types	L1	C1	L	C = Hood nuts M8 distance		
MAX-600 LED	724	704	687	400	430	500
MAX-1200 LED	1334	1314	1296	500	700	950

Installation and operation MAX LED

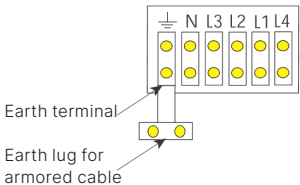
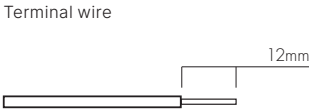
Terminal block

Torque value for screws: 1.8Nm
Type and size of wires that can be used:
Solid wire: From 1.0mm² to 6.0mm²
Stranded wire with or without ferrule: From 0.75mm² to 6.0mm²
There can only be connected one wire on each side of the screw on each side of each terminal. (totally max 4 wires at each terminal).

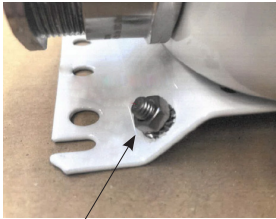
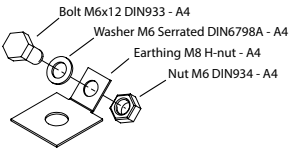


Earthing the luminaire

The luminaire must be earthed in the terminal block.
Armored cable must be earthed as described in the drawing.



For external bonding (M6) in luminaires with end suspension brackets, see picture.
For variants with M8 hood nut suspension, if external earthing is required, please order this accessory; PM231206800 MULTI Ext. Earth Connection for M8 bolt



For external bonding



	M20	M25	
Polyamide	5.0 Nm 5.0 Nm	5.0 Nm 5.0 Nm	Torque, gland fastening Torque, cable
	6-12 mm	11-17 mm	Cable diameter
NiPl Brass	5.5 Nm 20.0 Nm 18.0 Nm 15.0 Nm	6.0 Nm 25.0 Nm 20.0 Nm 18.0 Nm	Torque, gland fastening Torque, cable, sealing ring S1+S2+S3 Torque, cable, sealing ring S1+S2 Torque, cable, sealing ring S1
	4-12 mm	10-18 mm	Cable diameter

Installation and operation MAX LED

Connection of MAX LED

L1 - N for not emergency (main light)

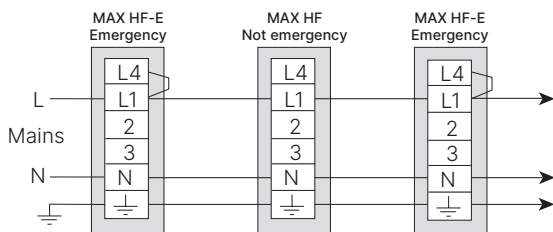
L4 - N for emergency (charging)

Power supply must be from same line (fuse) for both normal light and emergency.

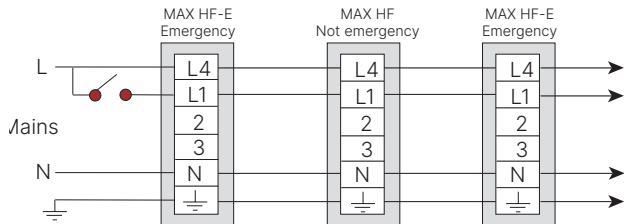
Connection of MAX to the mains

When the MAX is connected to other luminaires as shows in the diagrams, the switch will switch off/on all the luminaires. The light in both tubes of the MAX can be switched while the battery will be charged uninterruptedly.

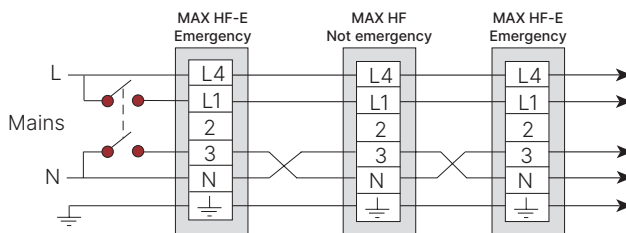
Wiring without switch for main light



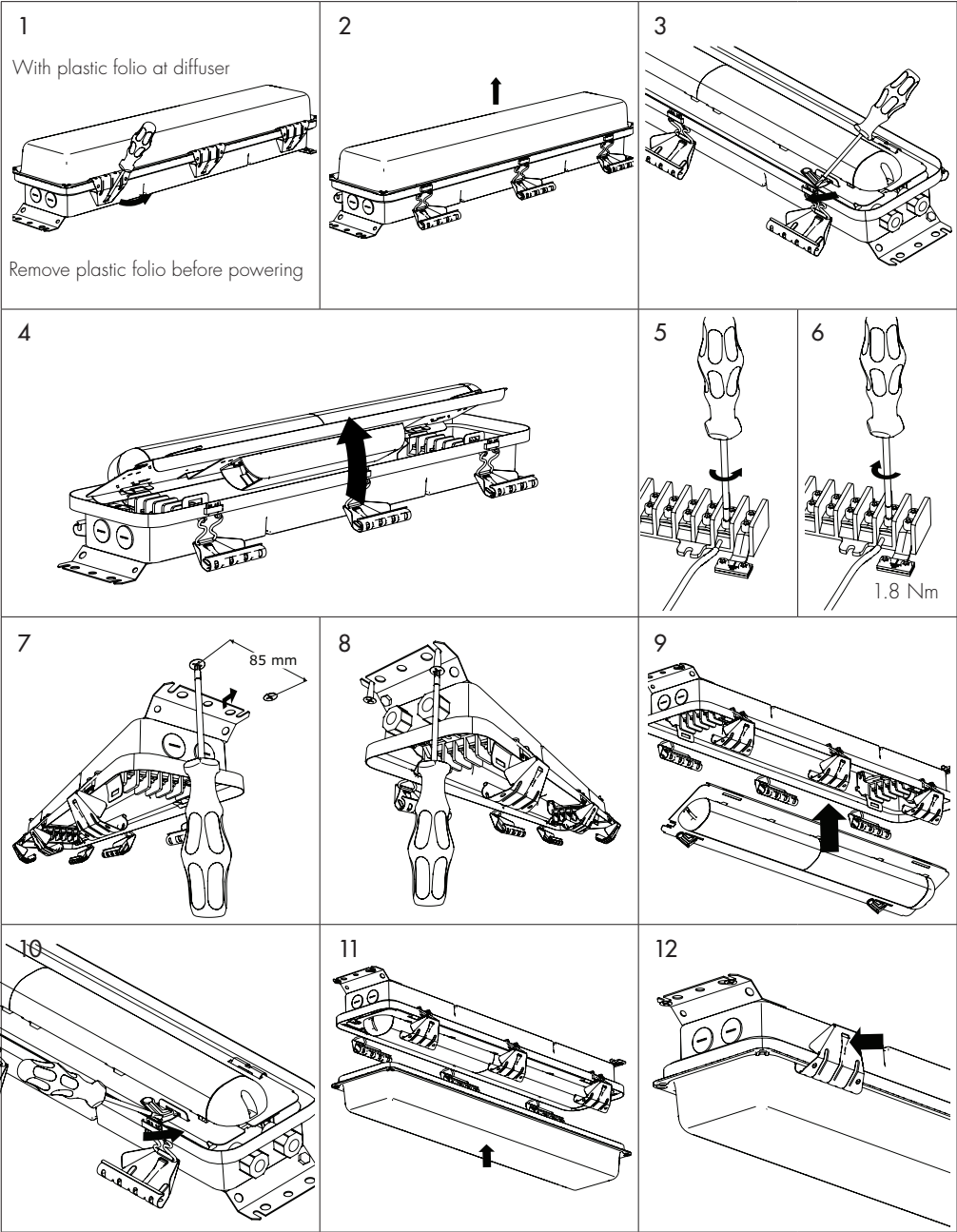
Wiring with 1-poled switch for main light



Wiring with 2-poled switch for main light



MAX LED mounting



MAX LED operation, inspection and maintenance

Cables

Mains supply cable must be approved for fixed installation. The external diameter can be as shown in table page 6. Cross sectional area of the wires can be between 1.5 and 6.0 mm². The cable must have an earth wire and shielded cable is recommended to be used. Only Ex e cable glands/blinds acc. to IEC 60079-0:2009 or later to be used. Only Ex e cable glands/blinds acc. To IEC 60079-0:2009 or later to be used. Unused cable glands to be changed to blind plugs.

Battery pack replacement

When the battery pack is defect or need to be replaced, use only original battery pack from Glamox. Do not replace the battery when an explosive atmosphere is present. Keep always the battery wires isolated to avoid shortcuts of the battery. Do not transport the battery trough a hazardous area.

Control and inspection

General inspection and main function control to be carried out once a month. Fully emergency duration test by switching off power supply should be performed at least once a year and the specified emergency light time shall be observed.

Maintenance

The MAX LED is designed to operate many years with a minimum need for maintenance. However it may be necessary to clean the diffuser if it gets dirty. Do never use any solvents for cleaning polycarbonate diffuser due to risk of generating static charge. Use moist cloth only, no solvent. If battery and other components need to be replaced, it is important to use only original Glamox components.

Cycling of battery

To have best lifetime of batteries, cycle the batteries initially and at least 2 times yearly by charging for 24 h and discharge until the emergency light turns off. To cycle, just switch the circuit breaker on/off.

Emergency operation, standard

When power supply and battery is connected and switched on, the green LED charging indicator will light up, indicating normal charging of battery. Charging time to fully charge the batteries is 24 hours.

If an emergency test does not last for 1 or 3 hours because of not fully charged battery, the charging indicator will not light even if the power is switched back since there is a faulty alarm even if the battery will be

charged. To make the green LED indicator light up when charging the battery, please reset charging indicator by switching off/on the battery and power supply. Alternative the faulty alert can be reset by charging for 24 hours and do a new emergency test. If the emergency test will be ok, light for 1 or 3 hours, the green LED indicator will light up after switching back the power supply.

Emergency operations, self-test (ST)

The self-test solution will automatically run a short test 24 hours after swiching on the power supply. Then a monthly test, and finally a full annual test operating the LED module in emergency mode from the local battery supply. The test timer includes a random period to avoid all luminaries to self-test at same time. Disconnection of mains and battery at same time will reset the test timer. Test program is acc. to IEC 62034.

LED indicator test status

LED indicator, Standard, green	LED indicator, Self-test, bi-color, green/red	System status	Action
Continuous green	Continuous green	System ok	Battery charging ok and no faults.
No light	Continuous blinking red	Battery capacity problem	24 h charge period after last discharge not completed, or faulty battery. Reset system after 24h charging period, or replace battery.
No light	Intermitted blinking red	Faulty LED module	Replace faulty of not connected LED module.
No light	Continuous red	Charging error	Battery defective or not connected. Connect or replace battery.
No light	No light	No function	Connect to mains supply voltage within specified limits.

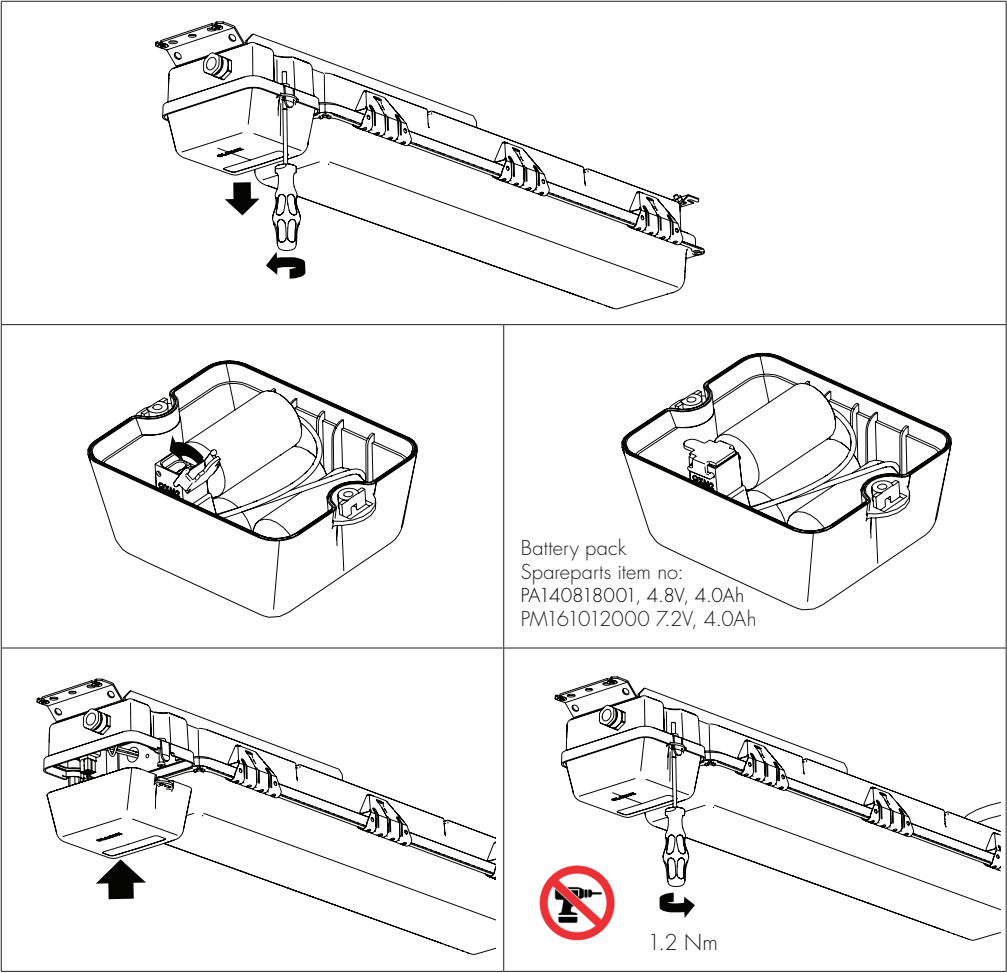
NB: Connect the LED modules to HFX/HFXE before mains or battery are connected. Also disconnect battery/mains from HFX/ HFXE before disconnecting LED modules.

Emergency operation of MAX LED

MAX LED	E1/EB1	E3/EB3
2200 Lm	44%	28%
3500 Lm	30%	19%
4500 Lm	18%	13%
6500 Lm	12%	9%

For Barel ARC LED BG4 and 7.2V battery 4.0Ah

Battery change



EU Declaration of Conformity (DOC)

Manufacturer: **Glamox AS**
Address: Birger Hatlebakksveg 15
NO-6415 Molde
NORWAY

Product: **LED Luminaire for Explosive environment zone 1 and 2**

Product Name (and Type): **MAX LED -series**

ATEX code.:  **II 2 G Ex eb mb IIC T4 Gb**
II 2 D Ex tb IIIC T81°C Db

We declare under sole responsibility that above listed products confirm with the standards listed.



EU Directive
harmonized European
Standards

2014/30/EU (EMC Directive)

EN IEC 55015:2019/A11:2020
EMC emission requirements for electrical lighting and similar equipment
EN 61547:2009
Equipment for general lighting purposes – EMC immunity requirements
EN 61000-3-2:2019
Limits for harmonic currents

EU Directive
harmonized European
Standards

2014/35/EU (Low Voltage Directive)

EN IEC 60598-1:2021/A1:2022
Luminaires –General requirements and tests
EN 60598-2-1:1989
Luminaires - Particular requirements; – Fixed general-purpose luminaires
*) **additional for Emergency Light:**
EN IEC 60598-2-22:2022
Luminaires –Particular requirements – Luminaires for emergency lighting
EN 60598-2-24:2013
Luminaires – Particular requirements – Luminaires with limited surface temperature

EU Directive

2011/65/EU (RoHS-Directive) + 2015/863/EU

EU Directive
harmonized European
Standards

2014/34/EU (ATEX-Directive)

EN IEC 60079-0:2018
General requirements Ex-equipment
EN IEC 60079-7:2015/A1:2018
Increased safety (Ex e)
IEC/EN 60079-18:2014/2015
Encapsulation (EX m)
IEC/EN 60079-31:2013/2014
Dust protection by enclosure (Ex t)

Additional standard

IEC 60092-306:2022 Luminaire for marine use

ATEX / IECEx Certificate
Notified body Ex QA

Presafe 15 ATEX 7402X (4) / IECEx PRE 15.0068X (4), NB no. 2460
0470 NEMKO

Place, Date: Molde, 15. Mai 2024

E-Mail: info@glamox.com
WEB: www.glamox.com

Signature:

i.A.

Martin Ø. Iversen
Digitally signed
by Martin Ø.
Iversen
Date: 2024.05.15
12:01:51 +02'00'

Martin Iversen
Laboratory manager

Christer A. Bjørshol
Digitalt signert
av Christer A.
Bjørshol
Date: 2024.05.15
12:44:19 +02'00'

Christer Bjørshol
BU manager

UKCA Declaration of Conformity (DOC)

Manufacturer: **Glamox AS**
Address: BU Glamox Production Molde
Birger Hatlebakksveg 15
NO-6415 Molde
NORWAY

Application: **Industrial luminaire for Ex zone 1**

Product Name and Type: **MAX LED series**

Ex code.: **Ex eb mb IIC T4 Gb**
Ex tb IIIC T81°C Db

We declare under sole responsibility that

The attachment of the UKCA
Label is in conformity with:



UK Product Regulation
Designated standards

UK Product Regulation
Designated standards

UK Product Regulation

UK Product Regulation
Designated standards

Electromagnetic Compatibility Regulations 2016 (EMC)

BS EN 55015:2019 + A11:2020

EMC emission requirements for electrical lighting and similar equipment

BS EN 61547:2009

Equipment for general lighting purposes – EMC immunity requirements

BS EN 61000-3-2:2019

Limits for harmonic currents

Electrical Equipment Safety Regulations 2016 (LVD)

BS EN 60598-1:2015 + A1:2018

Luminaires –General requirements and tests

BS EN 60598-2-1:1989

Luminaires - Particular requirements; – Fixed general-purpose luminaires

***) additional for Emergency Light:**

BS EN 60598-2-22:2014 + A1:2020

Luminaires –Particular requirements – Luminaires for emergency lighting

BS EN 60598-2-24:2013

Luminaires – Particular requirements – Luminaires with limited surface temperature

BS EN 61347-1:2015

Lamp control gear –General and safety requirements

Restriction of the use of Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (RoHS)

Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 (Ex)

BS EN 60079-0: 2018

General requirements EX-equipment

BS EN 60079-7: 2015-A1:2018

Increased safety (Ex e)

BS EN 60079-18: 2015

Encapsulation (EX m)

BS EN 60079-31: 2014

Dust protection by enclosure (Ex t)

IEC 60092-306:2009 Luminaire for marine use

DNV 22 UKEX 40270 X
8501 DNV

UKAB no. 8501

Additional standard

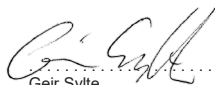
UKEx Certificate
UK Approved Body UKEx QAN

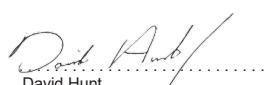
Issuer: **Glamox Luxonic Ltd**
Address: Priestley Road
Basingstoke
Hampshire
RG24 9JP

Phone: +44 1256 363090
E-Mail: info@glamoxluxonic.co.uk
WEB: www.glamox.co.uk

Signature:

i.A.


Geir Sylte
Laboratory manager


David Hunt
Managing Director

Place, Date:

Basingstoke, 12.September 2022

What to do if....

- LED module(s) do not light:
 - Check that the mains voltage is within the voltage range of the luminaire.
 - Open the luminaire and check the following:
 - Check the wires and connections.
 - Change with new parts if damaged.
- The charging indicator (LED) do not light:
 - Switch off/on to reset charging.
 - Open the luminaire and check the following:
 - The connection of L4 - N, the battery and the charging unit.
 - Check if battery is connected and OK.
 - The Emergency module or battery might be defect.
- Emergency illuminance level is too low:
 - Clean the cover of the luminaire
 - Change the battery
- Emergency lighting time is under the specified time (1.5 or 3.0 hours for standard luminaire):
 - Change the battery

Manufacturer:

Glamox AS

Birger Hatlebakks veg 15

NO 6405 Molde, Norway

Service contact:

Glamox AS

Tel.: +47 71 24 60 00

Fax: +47 71 24 60 01

or nearest Glamox sales office

