



Luxo LHH G2/LHH G2 CCT

User manual





English

Our products are subject to the Directive 2012/19/EU (Waste Electrical and Electronic Equipment - WEEE) and should at the end of their lifespan always be collected separately and brought to the appropriate collection point in your community or region.

Norsk

Våre produkter er underlagt direktiv 2012/19/EU (Waste Electrical and Electronic Equipment - WEEE) og skal etter endt levetid leveres til mottak for slikt avfall eller til en forhandler av slikt avfall.

Svenska

Våra produkter omfattas av direktivet 2012/19/EU (Waste Electrical and Electronic Equipment – WEEE) och ska vid slutet av produktens livscykel alltid samlas in och lämnas till återvinningsstation i din kommun eller region.

Deutsch

Unsere Produkte entsprechen der Richtlinie 2012/19/EU (Elektro- und Elektronik-Altgeräte – WEEE) und sollten am Ende ihrer Lebensdauer immer getrennt gesammelt und an einem entsprechenden Sammelpunkt in Ihrer Gemeinde oder Region entsorgt werden.

Suomi

Tuote kuuluu elektronisten laitteiden jätteenkäsittelyä (WEEE) koskevan direktiivin 2012/19/EU piiriin ja elinkaaren lopussa oleva tuote tulee toimittaa asiaankuuluvaan keräyspisteeseen.

Eesti

Meie toodete kohta kohaldatakse 2012/19/EU WEEE (elektri-ja elektroonikaseadmetest tekkinud jäätmete) direktiivi ning nad peavad olema eluea lõppedes eraldi kokku kogutud ning toimetatud piirkonna jäätmete vastuvõtupunkti.

Nederlands

Onze producten zijn onderworpen aan de Richtlijn 2012/19/EU (Waste Electrical and Electronic Equipment - WEEE) en moeten aan het einde van hun levensduur apart ingezameld en naar het juiste inzamelpunt gebracht worden in uw gemeente of regio.

Dansk

Vores produkter er underlagt direktiv 2012/19/EU (Waste Electrical and Electronic Equipment - WEEE) og skal efter endt levetid leveres til modtagere for sådan type affald eller til en forhandler af sådan affald.

EN: Instructions for use in your local language, please visit www.glamox.com

NO: Instruksjoner for bruk på ditt lokale språk, vennligst besøk www.glamox.no

SE: Instruktioner för användning på ditt lokala språk, besök www.glamox.se

DE: Bedienungsanleitungen in Ihrer Landessprache finden Sie unter www.glamox.de

FI: Käyttöohjeet omalla kielelläsi löytyvät osoitteesta www.glamox.fi

EE: Kasutusjuhised teie kohalikus keeles leiate veebisaidilt www.glamox.ee

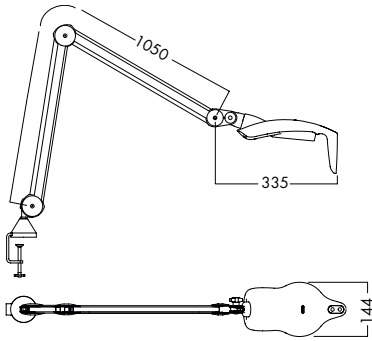
NL: Ga voor een gebruiksaanwijzing in uw eigen taal naar www.glamox.nl

DK: Instruktioner til brug på dit lokale sprog, besøg venligst www.glamox.dk

RISK GROUP 2

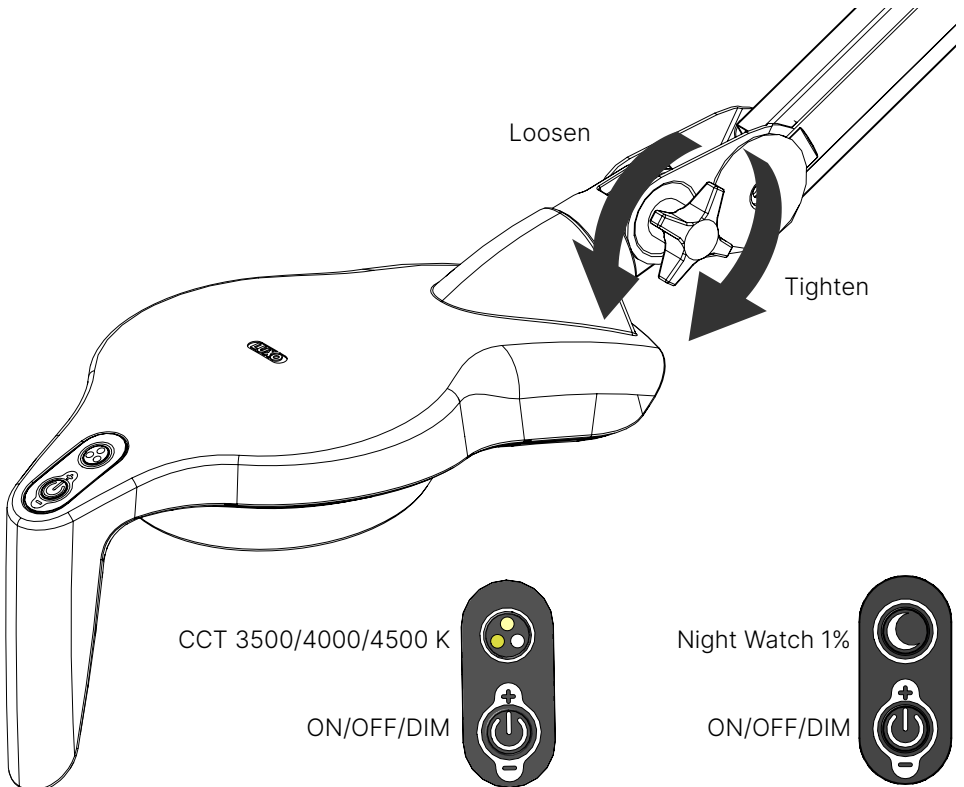
CAUTION: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye.

LHH G2/LHH G2 CCT



This product contains a spring loaded arm. In order to avoid damage or possible injury, first mount table bracket or floor stand. Insert product and remove protective plastic sleeve or rubber band, and carefully unfold the product.

Use only brackets supplied by Glamox or a Glamox representative. Glamox cannot guarantee the lifetime and functionality if third party accessories are used.



CCT 3500/4000/4500 K

ON/OFF/DIM

Night Watch 1%

ON/OFF/DIM

LHH G2/LHH G2 CCT

General information

This luminaire is intended for use as a general purpose examination luminaire. If the product is used during treatment there should be NO contact with the patient. This product is not designed and approved for home use. Optimum working distance between the light source and illuminated object or surface, using a standard lamp, is 50 cm.

Installation

Always use enclosed the table bracket or optional accessories provided by Glamox.

This product contains a spring loaded arm. In order to avoid damage or possible injury, first mount the table bracket or optional accessories. Insert the product, remove the protective plastic sleeve or rubber band, and carefully unfold the product.

For accessories available for this product, please visit our website www.glamoxluxonic.co.uk

Requirements on permanently installed models:

- Must be installed with an separate switch, breaking both phases
- Separate switch cannot be placed on cord or other external cord
- If operator or service personnel is unable to view the separate switch, the switch must be capable to be locked in the off position

Place the power cable so it won't be damaged

Glamox cannot guarantee the lifetime and functionality if third party accessories are used.

Cleaning

Remove dust and dirt.

Avoid use of alcohol, acids or any kind of organic solvents (Isopropanol etc.)

Only use the weak mix of ordinary soap and water.

Maintenance

Cleaning of product is the only maintenance required. No requirements on frequency of cleaning other than when the products get degraded functions on movements or light. There are no parts requiring special inspection or maintenance on the product.

Transportation

The product should be set in transportation mode when moved. Fold upper arm down in parallel with the lower arm, and secure them together with a rubber band or strips.

Spare parts	
SPA026011	Cable 3×0.75+/3,0m BS1363A White
SPA026705	AC/DC LHH G2 class I 24V
SPA026706	Led Module LHH G2
SPA026707	Led Module CCT LHH G2
SPA026708	Cable 3×0.75+/3,0m Schuko White
SPA026709	Cable 3×18 AWG/3,0m NA White
SPA026710	Fuse T1.25AH/250V

"Instructions for replacing parts will be supplied upon request to service personnel.

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Troubleshooting for qualified electrical fitters and other similarly qualified personnel

- Fuse replacement:
 - Remove the lamp from mains supply.
 - Loosen the screw holding the bottom lamp cover
 - Replace the fuse
 - Place bottom cover, and tighten the screw
- Mains cable Replacement:
 - Instructions for changing the mains cable will be shipped with the mains cable when ordered as a spare part.

If any other problems should arise please contact your local Glamox representative.

Classification	
	LHH G2/ LHH G2 CCT
Medical class:	Class I
Permitted leakage current	Must not exceed 0.5 mA
Protection reliability	Resistance in earth circuit – earth connection 0.1
Power supply	100-240VAC 50/60 Hz
Power consumption	LHH G2 max 60VA LHH G2 CCT max 50VA
Protection against risk of explosion	Not protected
Protection against liquid penetration	Not protected
Degree of mobility	Mobile table or permanently installed (special version)
Type of approval	MEDICAL Standard
Safety test in line with	EN 60601-1 :2012
EMC test in line with	EN 60601-1-2 :2007
Primary fuse	IEC 127-5X20mm, 2xT1.25AH 250V
Operating life	50000 Hours (L70B50)
G2 CCT:	
Central illuminance 4500K	28500lx at 1m
Central illuminance 4000K	27900lx at 1m
Central illuminance 3500K	25900lx at 1m
Colour rendering index R _a	96
Corresponding specific index R ₉	92
G2:	
Central illuminance 3700K	35200lx at 1m
Colour rendering index R _a	98
Corresponding specific index R ₉	98
Total irradiance, LHH G2	128 W/m ²
Total irradiance, LHH G2 CCT, 3500K	96 W/m ²
Total irradiance, LHH G2 CCT, 4000K	102 W/m ²
Total irradiance, LHH G2 CCT, 4500K	103 W/m ²

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Symbol explanations:



Do not throw away. Electronic waste.
The product must be recycled



Self declaration symbol



Approved by Nemko



Attention, read instructions before use

Warning:

- Avoid spilling liquid on the lamp head
- Have minimum 400 Lux light, when reading the labels on the product
- The power cable must only be replaced by a qualified electrical fitter or other similarly qualified professional.
- The switch disengages the low voltage to the lamp only. To disconnect the mains supply, unplug the plug from the socket outlet.
- To avoid risk of electric shock, this equipment must only be connected to a supply main with protective earth.
- This ME EQUIPMENT could cause risk of reciprocal interference during specific investigations or treatments.
- Position the product so that it's easy to disconnect the device when the product is used as isolation means.
- To terminate operation, turn the product off with the switch. For storage, unplug the device and fold the arm together.
- Any repairs of the arm must be performed by Glamox or Glamox approved personnel. The arm contains high tensions springs.
- Do not modify this equipment without authorization of the manufacturer.
- This product complies to IEC/EN 60601-1-2, electromagnetic compatibility for medical devices. Electromagnetic or other interference between this equipment and other devices should not occur. In the event of interference, please move the equipments apart from each other.
- The switch disengages the low voltage to the lamp only. To disconnect the mains supply, unplug the plug from the socket outlet.
- Glamox does not accept responsibility for the consequences resulting from improper use of the product.
- Users of this form of lighting should be aware that the manufacturer of the product can only accept liability for the lighting when maintenance, repairs or changes are carried out by the manufacturer or by companies which the manufacturer has approved to carry out such work, and when components that influence the safety of the lighting are replaced with original spare parts. The lighting is not intended for use in areas where there is a risk of explosion.
- National standards and regulations for hygiene and disinfection should be followed.

Disposal

Dispose of the product at an appropriate recycling centre.

Environmentally conditions

Transport and storage

Ambient temperature -20° C to 70° C
Moisture content 10 % to 100 % (keep dry)
Atmospheric pressure 500hPa til 1060hPa

Operate

Ambient temperature 5° C to 40° C
Moisture content 30 % to 75 %
Atmospheric pressure 700hPa to 1060hPa, Max 3000m

Guidance and manufacturer's declaration – electromagnetic emissions

LHH is intended for use in the electromagnetic environment specified below.

It is the customer or user's responsibility to ensure the product is used in its intended environment.


Emission tests	Compliance	Electromagnetic environment – guidance
RF emission CISPR 11	Group 1	LHH uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emission CISPR 11		LHH must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected.
RF emission CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Class C	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	
RF emissions CISPR 15	Complies	

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Guidance and manufacturer's declaration – electromagnetic immunity

LHH is intended for use in the electromagnetic environment specified below.

It is the customer or user's responsibility to ensure the product is used in its intended environment.

Immunity tests	IEC 60601 Test level	Compliance level	Electromagnetic environment – guidance
<p>Conducted RF IEC 61000-4-6</p>	<p>3 Vrms 150 kHz to 80MHz outside the ISM bands^a</p>	<p>3 V/m</p>	<p>Portable and mobile RF communication equipment should be used no closer to any part of LHH, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> <p>$d = [3.5 / V1]\sqrt{P}$</p>
<p>Radiated RF IEC 61000-4-3</p>	<p>10 V/m 80MHz to 2.7 GHz</p>	<p>10 V/m</p>	<p>$d = [12 / E1]\sqrt{P}$ 80 MHz to 800 MHz</p> <p>$d = [23 / E1]\sqrt{P}$ 800 MHz to 2.5 GHz</p> <p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).^b</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^c should be less than the compliance level in each frequency range.^d</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

NOTE 1: At 80 MHz to 800 MHz, the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a)

The ISM (industrial, scientific and medical) bands between 150 kHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz.

b)

The compliance levels in the ISM frequency bands between 150 kHz and 80 MHz and in the frequency range 80 MHz to 2,5 GHz are intended to decrease the likelihood that mobile/portable communications equipment could cause interference if it is inadvertently brought into patient areas. For this reason, an additional factor of 10/3 is used in calculating the recommended separation distance for transmitters in these frequency ranges.

c)

Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which LHH is used exceeds the applicable RF compliance level above, LHH should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating LHH.

d)

Over the frequency range 150 kHz to 80 MHz, field strengths should be less than $[\sqrt{1}]$ V/m.

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Guidance and manufacturer's declaration – electromagnetic immunity

LHH is intended for use in the electromagnetic environment specified below. It is the customer or user's responsibility to ensure the product is used in its intended environment.			
Immunity tests	IEC 60601 Test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±15 kV air	±8 kV contact ±15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line(s) to lines(s) ±2 kV line(s) to earth	±1 kV line(s) to lines(s) ±2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines	<5% UT (>95% dip in UT) for 0.5 cycle <5% UT (>95% dip in UT) for 1 cycle 70% UT (30% dip in UT) for 25/30 cycles <0% UT (100% interruption in UT) for 5 sec	<5% UT (>95% dip in UT) for 0.5 cycle <5% UT (>95% dip in UT) for 1 cycle 70% UT (30% dip in UT) for 25/30 cycles <0% UT (100% interruption in UT) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of LHH requires continued operation during power mains interruptions, it is recommended that LHH be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: UT is the AC mains voltage prior to application of the test level			

Declaration of Conformity

**(Directive 93/42/EEC as amended by directive 2007/47/EE
and RoHS directive EU 2015/863, EcoDesign directive 2009/125/EC)**

Manufacturer: Glamox AS

Address: Bruksvegen 7
 2260 Kirkenær
 Norway

Product: Ceiling, trolley, wall and Table standing LED luminaire,
 Medical Class I


Product name: **LHH G2 / LHH G2 CCT**

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


<i>Reference:</i>	<i>Date:</i>	<i>Name:</i>
EN 60601-1	2006	General requirements for basic safety and essential performance
EN 60601-1-6	2010	Collateral standard: Usability
EN 60601-2-41	2009	Particular requirements for the safety of surgical luminaires and luminaires for diagnosis
EN 62366	2015	Application of usability engineering to medical devices
EN 60601-1-2	2007	Electromagnetic compatibility – Requirements and tests
EN ISO 14971	2012	Application of risk management to medical devices
EN 62471	2008	Photobiological safety of lamps and lamp systems

Place and date: Kirkenær, 11.07.2019

Name and signature of authorized persons:



 Factory Manager,
 Glamox AS, BU Production Kirkenær



 Laboratory Manager
 Glamox AS



Glamox Luxonic

Glamox Luxonic is a company that develops, manufactures and distributes professional lighting solutions for the UK market. Our mission is to provide sustainable lighting solutions that improve the performance and wellbeing of people. Glamox Luxonic is part of the Glamox Group.

High performance and ease of use

Our solutions are designed to combine high performance and sustainability with simplicity and ease of use, offering a superior customer experience. We make smart use of the latest technology and supply it with generations of experience and true care for our customers and their people.

Quality brands and dedicated support

We offer our solutions through a range of quality lighting brands. Regardless of brand, the close follow-up of each customer is at the heart of our offering. Whether in a production facility or an office building, our ambition is to provide lighting that contributes to a better life for the businesses we serve and those who work there.

Please visit our web site for contact information
www.glamoxluxonic.co.uk

