

DARAY[®]

Medical



BH230 Series

LED Patient Reading Lights

User Manual & Installation Guide

QAM.BH230L.0915.5

Table of Contents

1. Introduction	3
1.1 Supported Lights	3
1.2 Lighting Specification	4
1.3 Pre-Installation Responsibilities and component packing list	4
2. Operation	5
2.1 Pre-Start Checks	5
2.3 Powering On & Variable Intensity	5
3. Installation	6
3.1 Considerations	6
3.1.1 Wiring and transformer layout	7
3.2 Panel Mounted Bracket Assembly	7
3.2.1 Placement and Installation	8
4. Maintenance	9
4.1 Maintenance schedule	9
4.2 Safety Precautions	9
4.3 Cleaning	10
4.4 Fuses and their replacement	10
4.5 Adjustments	10
4.5.2 Detaching Parts	10
5. Troubleshooting Guide	11
6. Warranty Information	12
6.1 Returns Policy	12
6.2 Warranty Details	13

1. Introduction

Thank you for choosing the DARAY BH230 patient reading light.

The BH230 LED is a patient bedhead/reading light specifically designed for panel mounting.

This high quality, low cost design mimics our iconic X200 examination range making it an ideal reading light that harmoniously integrates with the aesthetic design of any patient accommodation.

The BH230 has a smooth, 800mm flexible gooseneck arm to allow perfect positioning by the user to how they like it. The flexible neck is connected to an angled joint which swivels in its mounting bracket. The head, handles and mounting are coated with DARAY's BioProtect™ coating, an antimicrobial protection against bacteria such as MRSA.

This user & installation guide contains all the information you need for installation, operation and maintenance.

For further information on our product range and find out more about our company please visit www.daray.co.uk or call **0333 321 0971**

This product was designed & manufactured in Great Britain by:

Daray Ltd.
Marquis Drive, Moira
Swadlincote
Derbyshire
DE12 6EJ

1.1 Supported Lights

The Following Models are supported in this Manual	
BH230 LED	BH230 Panel Mounted Light

1.2 Lighting Specification

Light Specifications	
Light intensity @ 0.5m	4,250 Lux
Light intensity @ 1m	1,070 Lux
Colour temperature	3,600K
Luminous Flux	400lm
Flexible arm reach	800mm
Base of arm rotation	180° ($\pm 90^\circ$)
Head rotation	300° ($\pm 150^\circ$)
Body Colour	RAL 9016 white
Power Consumption	8.2W
Input Voltage	230V, 50Hz

1.3 Pre-Installation Responsibilities and component packing list

DARAY Ltd make every effort to ensure that the information in this document is correct and accurate, however, we cannot be held responsible for errors and omissions. DARAY Ltd reserves the right to alter specifications and to add and withdraw products without notice

This document is a guide to the steps that need to be performed to correctly install the BH230 patient light. However, the work required to be performed is the responsibility of the owner or designated contractor/s.

All fixings between Daray lights and the building super-structure must be approved by either the chief project engineer or an appropriate and competent structural assessor.

The components supplied by Daray for fitting / installation should be the following items in the specified quantities.

BH230 Panel Mounted	Qty.
Lighthouse with flexible gooseneck	1
Panel Mounting bracket with back plate and screws + Nylon Washer	1
Power supply unit (low voltage electronic transformer)	1
User Manual	1
Microfibre cloth	1

2. Operation

2.1 Pre-Start Checks



Please make sure the light head itself is not directed at people's eyes as the light will illuminate when powering on

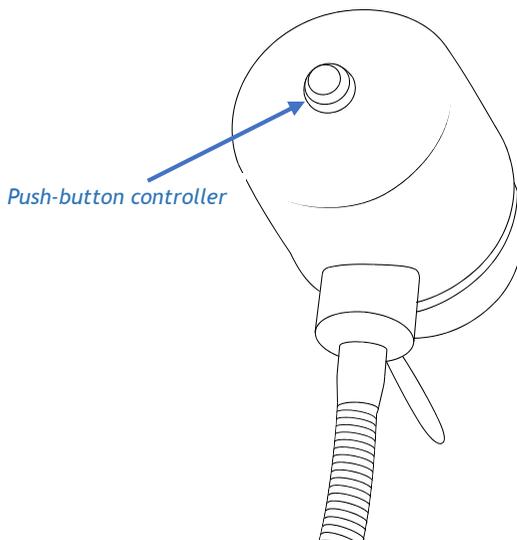
2.3 Powering On & Variable Intensity

The BH230 uses a single button (on the back of the head) to power the light on and off.

This switch also controls the lights variable intensity; hold the button in, to change the light intensity up or down.

Please Note, The variable intensity control has a memory function; whereby, if the light is turned off at a dimmed level, it will remember that level the next time it is turned on.

If the light is disconnected from the mains and reconnected the light's intensity is reset to its brightest setting.



3. Installation

3.1 Considerations



The procedures below are detailed to a high level however ***If in doubt please consult a qualified electrician.***

Room Requirements	<p>We recommend the bracket be installed approximately 1300mm from the floor to the top of the bracket.</p> <p>It may be necessary to adjust this height, if there are specific medical procedures the light will be used for.</p> <p>If in doubt consult the end user or DARAY. When installing the bracket take consideration of where you want the lighthouse to sit when in its lowest position.</p>
Live Electric Circuitry	All personnel working around live circuitry should be qualified and following proper procedures
Existing Environmental Factors	When fitting, considerations have to be taken for existing services such as; fire alarms, vents, lights, etc. along with interior ceiling construction and any surrounding hazard.
Environmental Responsibility	Once our products are installed all packaging should be disposed of appropriately and recycled where appropriate and in accordance with local governing regulations.

These instructions are based on the assumption of a fresh fit into a room with no previous lighting structures. With installations onto sites with equipment already in place, we recommend that the previous lights' mounting plate be removed and the new one fitted as if into a fresh fitting.

3.1.1 Wiring and transformer layout



Before working on electrical connections please make sure that the power to the light is switched off at the source and secured so that it will not be turned on during your work.

Ideally the cable used to power the light should be of a 1.5mm twin and earth type. Daray recommends that the power supplied uses an earthed switched fused spur, protected with a 3amp fuse.

The wiring should be as follows:		
Live terminal	→	brown wire.
Neutral terminal	→	blue wire.
Earth terminal	→	green/yellow wire.

The above wiring is for modern wiring applications (post 2000). The electronic transformer should be connected to the building mains in accordance to this and placed in a suitable location.

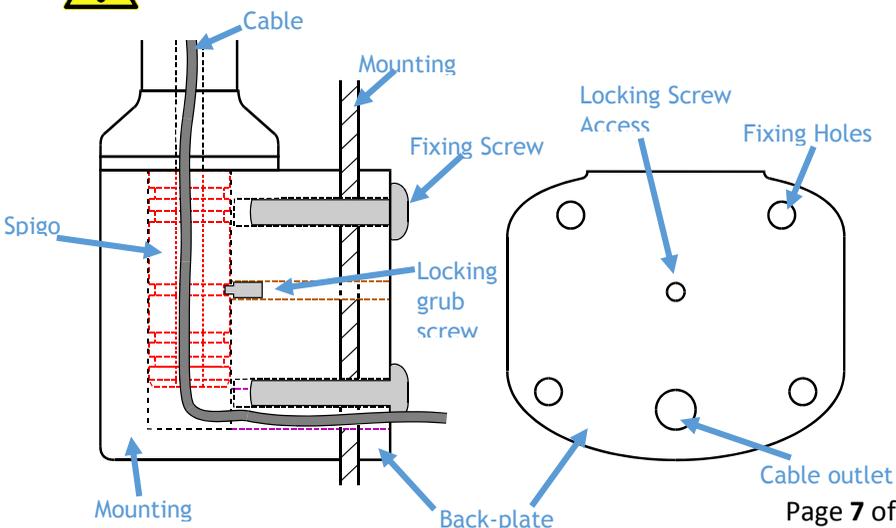


Warning, under no circumstances should this product be connected directly to the Mains electrical supply, this product requires a Low Voltage Connection only and must only be used with a Daray Certified Power Adapter.

3.2 Panel Mounted Bracket Assembly



The bracket needs to be true on the vertical plane.



3.2.1 Placement and Installation

Using the back-plate as a template, mark all the holes onto your mounting surface:

The four fixing holes (6.5mm)

The central locking screw hole (6.5mm)

The cable access hole (9mm)

(Temporarily inserting the spigot of the light to assess whether it is vertical may help to achieve a level mounting)

Drill the 6 holes.

Feed the cable from the light through the mounting bracket. Then, offer up the mounting bracket to the drilled holes and feed the cable through the mounting surface.

Using the appropriate screws with 4 x non-slip washers, fit the mounting bracket by sandwiching the mounting surface between the bracket and the back-plate.

With the mounting bracket securely locked, grease and insert the spigot. With the spigot inserted now tighten the locking grub screw to fix the light within the bracket.



Do not over tighten the locking grub screw as this could cause severe damage to the light.

Connect the Power supply unit (PSU) to the cable protruding from the back-plate. Connect the PSU to a fused 230V AC supply.

Check arm and head for smooth and correct movement before reattaching the panel surface, if the side movement is stiff you may need to slightly loosen the locking grub screw.

The light can now be tested by applying power and pressing the rocker switch on the head. With the light correctly installed and working, re-fit the panel to your wall; your new Daray light is now ready for use.

To gain full support of our warranty please fill in our warranty web form or contact Daray by phone or email.



Daray also provide service plans to help you maintain your light. Contact Daray on **0800 878 9864** for more details.

4. Maintenance

The proposed maintenance is only a suggestion. Depending on the use of the product and the operating environment, this may need to be revised more often. Daray would strongly recommend against “quick fixes” with tape, etc. If you cannot resolve a problem then please contact our helpline on **0800 878 9864** or email **support@daray.co.uk**

4.1 Maintenance schedule

Weekly checks should include:-	Range of movement testing, it should be light and easy to move throughout the range
	No visible signs of excessive wear.
Monthly checks to include:-	Check the gooseneck for cuts, damage or wear and report as necessary.
Six monthly checks to include:-	Remove head and clean the interior of the hinge
	Remove arm, clean spigot and re-grease as necessary.
	Check all electrical connections are sound and that there is no visible cable wear.
	All fixings to be checked and be of sound construction.

4.2 Safety Precautions

- For all cleaning work, power off the equipment and where possible unplug the mains socket, only minimal cleaning fluids should be used.
- Please do not look directly into the light source when illuminated.
- If the equipment is dented or scratched this should not impact the usability of our lights however we advise that if the BioProtect® coating is damaged and the metal casing underneath is visible, please do not attempt to ‘paint’ over it as this will impact upon the effectiveness of the coating, simply use an alcohol based cleaning spray when cleaning and pay special attention to the cut.



If there is damage to the power cable or if exposed wire is visible
DO NOT USE

4.3 Cleaning



Do not use strong chemical cleaning agents or any abrasive materials to clean the light. The light is not waterproof so the use of excessive amounts of cleaning fluids could cause serious harm or injury.

The BH230 Series lights are BioProtected on all painted surfaces and have enclosed heads with an Ingress Protection (IP) rating of 54.

We advise that the light should only be dusted with a soft flannel cloth, and the front cover gently cleaned with an alcohol-based liquid (aerosol) spray, and wiped dry.

4.4 Fuses and their replacement

The BH230 does not have any user replaceable fuses, the power for this light comes from an electronic transformer. For any internal or transformer burnouts please contact your supplier or Daray.

4.5 Adjustments

The head has a total turning capability of approximately 300 degrees, attempting to push further may cause damage to the movement and internal wiring of the light.

The gooseneck arm shouldn't need adjustment in the life cycle of the light however if you start to experience difficulties please contact Daray customer services to discuss this.

4.5.2 Detaching Parts

De-construction of the lights should be done following a reverse order of the instructions in the installation section.



The BH230 is a completely enclosed light and arm it should not be opened and is not serviceable outside of a Daray Authorised service centre.

For any issues requiring service work on the BH230 please contact daray, as unauthorised work will **invalidate the warranty**.

5. Troubleshooting Guide

Problem	Possible Cause	Corrective Actions
No light output	Power Supply	Check that power is being supplied to the light via its mains connection point, PSU and the buildings circuit breaker.
	On/Off/Intensity Button	Press the button on the back of the light to check if the light will power on (if dimmed refer to poor light output actions).
	Fuses	Visually check fuses then check continuity with meter
	Cables	Check the visible wiring and make sure the DC connection between the light and the PSU are fully connected
Poor Light output	Power Button	Please check the variable intensity is not just set to its minimum. To do this hold in the power button on the back of the head. This is the control used to adjust the intensity. If the light reduces more, simply remove your hand and then depress the button again
	Voltage in	Verify that the correct mains voltage and correct transformer is being used
	Voltage out	Verify correct secondary voltage (For nominal voltage under load please contact Daray)
Light patch not focused	Light head	The BH series are designed to have a more diffuse patch than examination lights, In the unlikely event that the BH series patch is different to what is expected, please contact Daray
Arm drift sideways	Panel Mount	On installation the arm has most likely not been vertically aligned and levelled. Please contact the original fitter or a qualified electrician



6. Warranty Information

6.1 Returns Policy

IMPORTANT!
 Please fill out your warranty registration online at
www.daray.co.uk/warranty or contact Daray by phone (0800 878 9864)
 or email support@daray.co.uk

DARAY's standard warranty is 12 months. However, this period may be extended for most lighting products from 3 to 5 years* free of charge by completing and submitting the warranty registration.

Year 1:	Warranty includes parts and labour (Return to Base)	*UK only
Year 2-5:	Parts only	

We want you to be completely satisfied with your purchase. If you need to return goods purchased from DARAY Ltd, please read the following information carefully.

The DARAY Ltd returns policy provides guidance on when you can return goods we have supplied, and what you can expect from us once you do. To see our detailed returns policy and procedure visit www.daray.co.uk/returns

TYPE OF RETURN	REMEDY
DAMAGED GOODS Goods which are physically damaged on delivery	We must be notified within 24 hours of receipt.
Dead On Arrival (DOA) Goods which do not work	Goods which do not work on arrival or develop a fault within 28 days, we will advance replace the item.
GOODS DEVELOPING A FAULT Goods which have developed a fault within the warranty period.	If the fault develops after 28 days, but within the warranty period, we will initiate the returns procedure.
NON WARRANTY Goods which have developed a fault outside the warranty period.	If a fault develops outside the warranty period, we will initiate the returns procedure charges may be applicable.
OTHER Any situation which is not covered by any of the above.	We will always try to help, but we cannot normally offer a refund.

For additional clarification, please refer to our terms and conditions at www.daray.co.uk/terms.

In a small number of cases, we may determine that a replacement would not work any better than the original product we supplied. In such cases we will only offer a refund rather than a replacement for qualifying returns.

Replacement bulbs and spare parts ordered on our website or from supplied part codes are not eligible for credit. We will accept returns and exchange for the correct item.

If your purchase an item incorrectly you can return it within 14 days and it can be exchanged for another product of equal or higher value, excluding transportation charges incurred. Goods and packaging must be returned in their original condition. Under no circumstances will goods be accepted for return if they are damaged, have been subjected to improper handling or abuse or have been used.

If you send us goods that do not qualify for return, you will invalidate your claim to any refund, and you will be obliged to compensate DARAY Ltd for the cost of return postage and any other reasonable costs incurred processing the goods.

Your statutory rights are not affected.

6.2 Warranty Details

TERMS AND CONDITIONS OF WARRANTY

1. To qualify for this warranty you must register on www.daray.co.uk or return to Daray Ltd (Daray) the duly completed warranty-registration form accompanying the product.
2. Daray warrants this product (excluding lamp) against faulty material and workmanship during the period of the warranty. The period of warranty is the period stated on your warranty card and commences on the date of purchase of the product. In the event that the product is not in good working order Daray will provide, during the warranty period, a free repair service within the United Kingdom. The warranty is subject to proof of purchase being provided; therefore, you should retain your original receipt.
 - 2.1 The repair service consists of the provision of spare parts and/or replacement products (at Daray's discretion) which will be provided on an exchange basis and will either be new, equivalent to new or reconditioned. All replaced spare parts and products shall become the property of Daray.
 - 2.2 Daray's only obligation under this warranty is the provision of the service as set out above.
 - 2.3 All products are returned to Daray at the customer's cost and risk. Products to be returned should be adequately packed. For the address to send returns to please visit www.daray.co.uk
3. Daray's arrangements for providing service provided under this warranty may include the use of sub-contractors.
4. This warranty does not cover damage or defects in the Product caused by or resulting from:
 - Wilful neglect or negligence by anyone other than Daray;
 - Improper use, storage or handling of the product;
 - Use of non-Daray approved parts (such as replacement lamps) not compatible with the Product;
 - Fire, accident or disaster;
 - Use of non-Daray modifications other than in accordance with Daray's instructions;Attachment of fittings and accessories not approved by Daray;
Repairs, modifications carried out by service personnel not approved by Daray;
 - Damage caused by chemical corrosion from cleaning agents not approved by Daray.
 - Failure to use or install the product in accordance with the manufacturer's instructions.
5. Nothing in this warranty shall have the effect of restricting or excluding the liability of Daray in respect of:
 - a) Death and personal injury caused by the negligence of Daray, or for fraud;
 - b) Under the *Consumer Protection Act 1987* to a person who has suffered damage caused by a defective product or to a dependant or relative of such a person;
 - c) Direct damage to your property caused by the proven negligence of Daray.
6. This agreement does not give any rights other than those expressly set out above and in particular, Daray will not be responsible for any loss of income, profits or contracts or any direct or indirect consequential loss, damage caused to or suffered by the purchaser as a direct result of this agreement.
7. This warranty is offered (subject to these terms and conditions) in addition to, and does not affect your statutory rights.
8. Daray may disclose your details and other personal information to companies within the Daray group including any subsidiary company or sub-contractor of Daray for the purposes of performing our obligations hereunder.
9. You must not resell outside the UK any products supplied by Daray and covered by the *Export of Goods (Control) Order 1992* (or any law that replaces it) without obtaining all necessary licences. You also agree not to sell the product in the UK if you know or think that the person buying the product intends to export it without getting the necessary licences. You agree to impose similar conditions to these on anyone you sell the product to.
10. These conditions shall in all respect be governed and construed in accordance with English law and the exclusive jurisdiction of the English courts.

Product:

Serial No: