



PLANET  
**LIGHTING**



PHANTOM EX

---

**INSTALLATION MANUAL**

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# 1.0 INTRODUCTION

Thank you for choosing Planet Lighting Phantom EX medical examination light. We aim to help you ensure a successful installation and operation of the product.

Please read this manual carefully before proceeding with installation - it contains important notes and drawings relating to each installation task. Installing the PRODUCT correctly will help protect the Service Personnel and the Operator from injury. Ensure this document is handed to the owner upon completion of the installation and commissioning.

The information in this document is also available on our website.

## CONFORMITY

The manufacturer declares this appliance is a Class 1 medical device pursuant to AS/NZ standards 3200-2-41 (IEC 60601-2-41).

## VALIDITY OF MANUAL

This installation manual is valid for the following models:

Phantom EX - wall and extended wall mount

Phantom EX - ceiling mount

Note! For twin ceiling mount installation please refer to our supplementary document or contact us for more information.

## CUSTOMER SERVICE

Please contact us for any further details you may require regarding the PRODUCT, its packaging, its transport and its installation and for any requests for technical and electrical diagrams. Our contact details are below:

Planet Lighting

Ph: +61 2 6659 5600  
info@planetlighting.com

## COPYRIGHT

The reproduction and translation, including partial, of any of this manual is forbidden without written permission from Planet Lighting.

## TRANSLATIONS

The original language of this manual is English. For all other translations, reference must be made to the original manual language.

## 1.1 Glossary of terms

See the following glossary of terms in Fig. 11.

| TERM                     | DEFINITION  |
|--------------------------|---|
| PRODUCT                  | The EM (Electro-Medical) equipment; the Planet Lighting Phantom EX examination light.   |
| OPERATOR                 | The Person(s) handling the equipment (e.g., professional health personnel, and non-expert person assisting the patient).  |
| WE, US, THE MANUFACTURER | The manufacturer and company Planet Lighting.   |
| RESPONSIBLE ORGANIZATION | The entity or entities accountable for the use and maintenance of an EM equipment or EM system (e.g., a hospital, an individual doctor or a non-expert person). Preparation and training are included in use.   |
| SERVICE PERSONNEL        | <p>The individuals or entities accountable to the responsible organisation that installs, assembles, maintains or repairs the equipment. In certain circumstances, the safety of such persons depends on their knowledge and training and ability to take appropriate precautions when gaining access to hazardous parts of the PRODUCT assembly. By way of example only, the following professional figures are deemed as SERVICE PERSONNEL:</p> <ul style="list-style-type: none"><li>• Construction engineer, draftsman, building firm duly registered in the professional register (for the masonry works)</li><li>• Electrical engineer, or other electro-technical expert qualified to work as an electrician (for the electrical works)</li><li>• For the installation phase, as regards assembly operations only, a qualified person is deemed whosoever has attended a course organised by Planet Lighting or, alternatively, whosoever has carefully read the manual.</li></ul> |

FIG. 1.1 GLOSSARY OF TERMS



## 1.2 Warnings and safety notices

Observe the following warning and safety notices (Fig 1.2).









|  |                |  |
|--|----------------|--|
|    | <b>CAUTION</b> | This manual is an integral part of the PRODUCT as indicated by AS/NZ standards 3200-2-41 (IEC 60601-2-41 and subsequent amendments and supplements. Read and keep this manual close to the PRODUCT.  |
|    | <b>WARNING</b> | Planet Lighting disclaims all liability for any injury to persons or damage to things caused by the PRODUCT having been installed by persons who are not "SERVICE PERSONNEL".  |
|    | <b>WARNING</b> | The RESPONSIBLE ORGANIZATION is entirely responsible for PRODUCT installation activities; no costs or responsibilities relating to the installation and/or commissioning of the PRODUCT may therefore be traced back and/or in any case attributed to Planet Lighting.   |
|    | <b>WARNING</b> | The PRODUCT is not suitable for use in premises where explosion risks exist. The PRODUCT is not suitable for use wherever there are inflammable mixes of anesthetics with air, oxygen or N <sub>2</sub> O.   |
|    | <b>WARNING</b> | No arbitrary structural changes or variations to the PRODUCT are admitted. Any modifications must have the prior written authorisation of Planet Lighting. In case of the PRODUCT having been tampered with, the warranty shall be invalidated and the manufacturer disclaims all liability for any injuries or damage caused to the OPERATOR, the RESPONSIBLE ORGANIZATION and the SERVICE PERSONNEL.   |
|   | <b>DANGER</b>  | The ceiling or wall masonry works for PRODUCT to be installed on ceilings or walls, and the electrical works for supplying power to the PRODUCT shall be carried out in a workmanlike manner by SERVICE PERSONNEL to ensure these are sturdy and safe.   |
|  | <b>DANGER</b>  | <p>The electrical system in the premises must conform to the applicable local standards, and any national regulations. A master switch must be installed with fuse or thermal magnetic circuit breaker to be able to interrupt power to the PRODUCT.</p> <div style="border: 2px solid black; padding: 10px; display: flex; align-items: center;">  <p><b>DANGER – Risk of Electric shock</b></p> </div> <p>To avoid any risk of electric shocks, the PRODUCT must only be connected to mains supplies with earth protection.</p> |

FIG. 1.2 WARNINGS AND SAFETY NOTICES

## 2.0 GENERAL INFORMATION

This installation manual describes how to install, maintain and operate the Planet Lighting Phantom EX medical examination light. Prior to installation carefully read through all the instructions enclosed in this manual.

The PRODUCT complies with AS/NZ standards 3200-2-41 (IEC 60601-2-41)

## 2.1 PRODUCT definition

Planet Lighting Phantom EX is an advanced LED medical examination light. Designed and manufactured in Australia by Planet Lighting, the PRODUCT provides a high quality of light with easy operation, high durability, and a significant reduction in ongoing maintenance and expense due to its low operational costs.

The PRODUCT allows the accurate positioning of the lamp head above any work surface. It is designed to be mounted on a wall or ceiling and be pulled down from above when required, remaining there until repositioned.

### COMMITMENT TO QUALITY

We back our products with pride, service and a five year warranty. When installed and maintained in accordance with these instructions, this product will provide many years of trouble-free operation.

Please contact us should you have any enquiry, comment or special lighting need.

### ABOUT THE MANUFACTURER

Planet Lighting (est. 1911) is renowned pioneer in lighting design and manufacture, with over 15 years experience in the design, manufacture and supply of LED devices worldwide.

## 2.2 Operator qualification

The following qualification requirements are based on the definitions given under the 'Glossary of Terms (Fig. 1.1). The qualification requirements for various tasks relating to the PRODUCT are as follows :

|                      |   |
|----------------------|---|
| Installation:        | SERVICE PERSONNEL                                 |
| Use:                 | OPERATOR  |
| Cleaning:            | OPERATOR  |
| Routine maintenance: | SERVICE PERSONNEL                                 |
| Special maintenance: | SERVICE PERSONNEL                                 |
| Disposal:            | RESPONSIBLE ORGANISATION<br>and SERVICE PERSONNEL |

## 2.3 Environmental considerations

### PACKAGING

Cardboard boxes containing PRODUCT. Dispose of these in compliance with national directives applicable for waste disposal.

### TRANSPORT

PRODUCT transport is done by land, sea or air according to the following characteristics:

Temperature (°C): -15 / +60

Humidity: 10 / 75 %

### STORAGE

The packaged PRODUCT must be stored (warehoused) in dry premises having the following characteristics:

Temperature (°C): -15 / +60

Humidity: 10 / 75 %

### PLACE OF INSTALLATION

The premises where the product is started up must have the following characteristics:

Temperature (°C): +10 / +40

Humidity: 30 / 75 %

## 2.3 Recycling

Design of the PRODUCT takes into account the materials used in the manufacture of components. This is to ensure when it reaches its end of life, the disposal method with the lowest or least negative impact, on human health and the environment is selected.


When your PRODUCT reaches the end of its life, contact Planet lighting or our local agents to learn about recycling options. The PRODUCT must be disposed of properly according to local laws and regulations.




## 2.3 Recycling

Design of the PRODUCT takes into account the materials used in the manufacture of components. This is to ensure when it reaches its end of life, the disposal method with the lowest or least negative impact, on human health and the environment is selected.

When your PRODUCT reaches the end of its life, contact Planet lighting or our local agents to learn about recycling options. The PRODUCT must be disposed of properly according to local laws and regulations.

 **WARNING:** indicates a potentially hazardous situation that could result in death or serious injuries.

 **CAUTION:** indicates a potentially hazardous situation which could result in moderate or light injuries and PRODUCT damage.



This triangular symbol together with the explanation alongside (shown above) indicates the type of hazard.


## 2.4 Graphic signs and symbols used in the installation manual

The safety measures outlined in this document must be put in place during PRODUCT installation, use and servicing. To emphasize their importance, a number of safety precautions are repeated throughout the manual. Follow the safety precautions before using or repairing the PRODUCT. Carefully abiding by the safety precautions improves the ability to use the PRODUCT safely and correctly and helps prevent incorrect maintenance which could be hazardous and cause damage. The safety measures are approximate and not exhaustive; the Operator, the Responsible Organization and the Service Personnel must develop their capacities to upgrade and integrate them.

Indications such as DANGER, WARNING and CAUTION, preceded by the symbol  indicate the level of risk to which the SERVICE PERSONNEL, the RESPONSIBLE ORGANIZATION and the PRODUCT could be exposed.

 **DANGER:** indicates an immediately hazardous situation which could result in death or serious injuries.

 **WARNING:** indicates a potentially hazardous situation that could result in death or serious injuries.

 **CAUTION:** indicates a potentially hazardous situation which could result in moderate or light injuries and PRODUCT damage.



This triangular symbol together with the explanation alongside (shown above) indicates the type of hazard.

## 2.5 Graphic symbols used on packaging

See Table Fig. 2.5 for common symbols used by planet lighting on our packaging.

## 2.6 Graphic symbols used on the PRODUCT

See the Table Fig. 2.6 for symbols found on the PRODUCT.

## 2.7 Warranty and liabilities

Planet Lighting disclaims all liability with regard to unreliable PRODUCT operation in the following cases:

- Installation, authorised modifications and repairs have not been performed by SERVICE PERSONNEL
- The PRODUCT has not been used for its intended purpose and in conformity with the operating instructions (see operation manual)
- The premises have not been approved for healthcare activities
- The premises are not built in conformity with the law and applicable regulations
- The electrical system in the premises is not in compliance with appropriate requirements

## 2.8 Structural changes or variations

No arbitrary structural changes or variations to the PRODUCT are admitted. Any modifications must have the prior written authorisation of Planet Lighting. In case of the PRODUCT having been tampered with, the warranty shall be invalidated and the manufacturer disclaims all liability for any injuries or damage caused to the OPERATOR, the RESPONSIBLE ORGANIZATION and the SERVICE PERSONNEL.



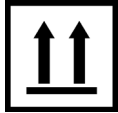


| DESIGNATION     | SYMBOL  | DESCRIPTION  |
|-----------------|---|--|
| THIS SIDE UP    |  | Package must always be transported, handled and stored with the arrows always pointing upwards.  |
| FRAGILE         |  | The cargo is easily broken or damaged. Cargoes marked with this symbol should be handled carefully and should never be tipped over or slung.   |
| TWO PERSON LIFT |  | Cargo with this symbol weighs in excess of 20kg. For personal safety these items should only be lifted mechanically, or by two or more people. |

FIG. 2.5 GRAPHIC SYMBOLS USED ON PACKAGING





| DESIGNATION           | SYMBOL  | DESCRIPTION                             |
|-----------------------|---|---|
| POSITIVE              | +VE   | Connect positive wire here              |
| NEGATIVE              | -VE   | Connect negative wire here.             |
| ACTIVE/LIVE           | L   | Connect active/live wire here           |
| NEUTRAL               | N   | Connect neutral wire here               |
| EARTH                 |  | Connect earth wire here                 |
| DATE OF MANUFACTURE   |  | Date of manufacture (Month/Year)        |
| MANUFACTURER          |  | Manufacturers address                   |
| READ OPERATING MANUAL |  | Compulsory to read the operating manual |

FIG. 2.6 GRAPHIC SYMBOLS USED ON THE PRODUCT

## 3.0 PLANNING

### 3.1 Preparing the premises structurally

#### **WARNING – Unsafe Masonry Works**

The masonry works for preparing the ceiling to install the PRODUCT must be sturdy and safe and completed in a workmanlike manner, according to applicable building regulations.

By way of example only, the professional persons charged with completing the masonry works could be: Construction Engineer, Structural engineer, or a Builder, duly registered in the respective professional register.

#### **DANGER – Wrong Wall Perforation**

In case of wrong perforation of the PRODUCT supporting wall (e.g., the breakage of a reinforced-concrete ceiling/wall iron) always inform the building manager as this could affect the stability of the building.

#### **WARNING – Assess Ceiling And Wall Structural Capacity**

The ceiling must be able to withstand a weight of at least 300 kg/m<sup>2</sup> and have a thickness of at least 250 mm. For the wall mount model, the wall must be a supporting wall and be made of solid brick. Installation on walls of perforated bricks and plasterboard is only allowed with the fitting of another plate on the opposite side of the wall (sandwich closing).

Observe the following structural loadings and approx product weights. The listed weights and loads are static only, and as such do not include any dynamic loads or externally applied loads such as operator handling. For the purposes of quoting minimum structural requirements of mountings, torque-load of 12 Newton Metres plus lever-arm effect of length of ceiling-mount tube or wall mounting must be accommodated (plus factors of safety and dynamic loads). Vertical dead load (IE No dynamic or external loads such as operators pulling or pushing fitting are included in this value.)

#### Structural capacity requirements - Ceiling Mounted:

Total Weight - structural ceiling fitting only: 10.6kg

Torque (at mounting plate): 63Nm

#### Structural capacity requirements - Wall Mounted:

Total Mass - structural ceiling fitting only: 10.22kg

Torque (at mounting plate): 69Nm

The PRODUCT installation premises must conform to local building standards.

After making sure the premises used for medical purposes are in conformity with the above requirements, proceed to mechanically anchor the ceiling and wall plate, assessing the type of building and making all consequent adaptations.

THE SERVICE PERSONNEL have all technical, civil and legal responsibilities relating to correctly and suitably performing PRODUCT anchoring and installation operations in an adequate manner.

#### STRUCTURAL MOUNTS (COTTON REEL MOUNTS)

We can support your installer with the supply of pre-engineered structural mounts (Fig 31). These can be useful in cases when the structural mounting surface is too high above the floor to mount the PRODUCT directly, such as false ceiling. Please contact us to find out more, or fill in our ceiling suspension form for assessing the suitability of a cotton reel mount for your installation.

For more information regarding our cotton reel mounts, please see the Cotton Reel Mount datasheet.

### 3.2 Correctly wiring up the premises



The premises used for medical purposes must be safely wired up in a workmanlike manner by SERVICE PERSONNEL to power the PRODUCT.

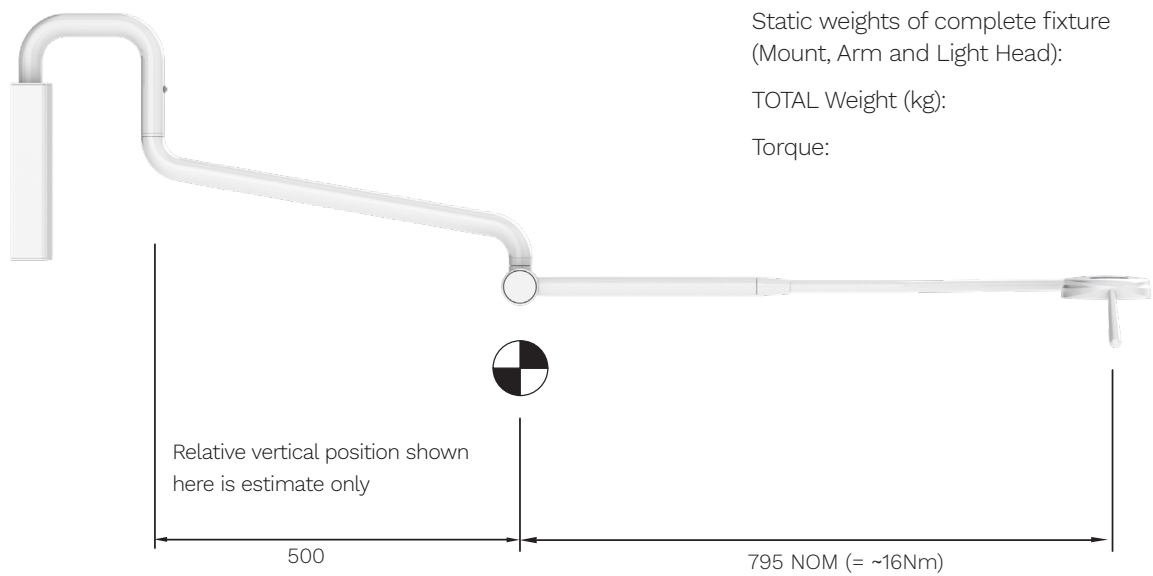
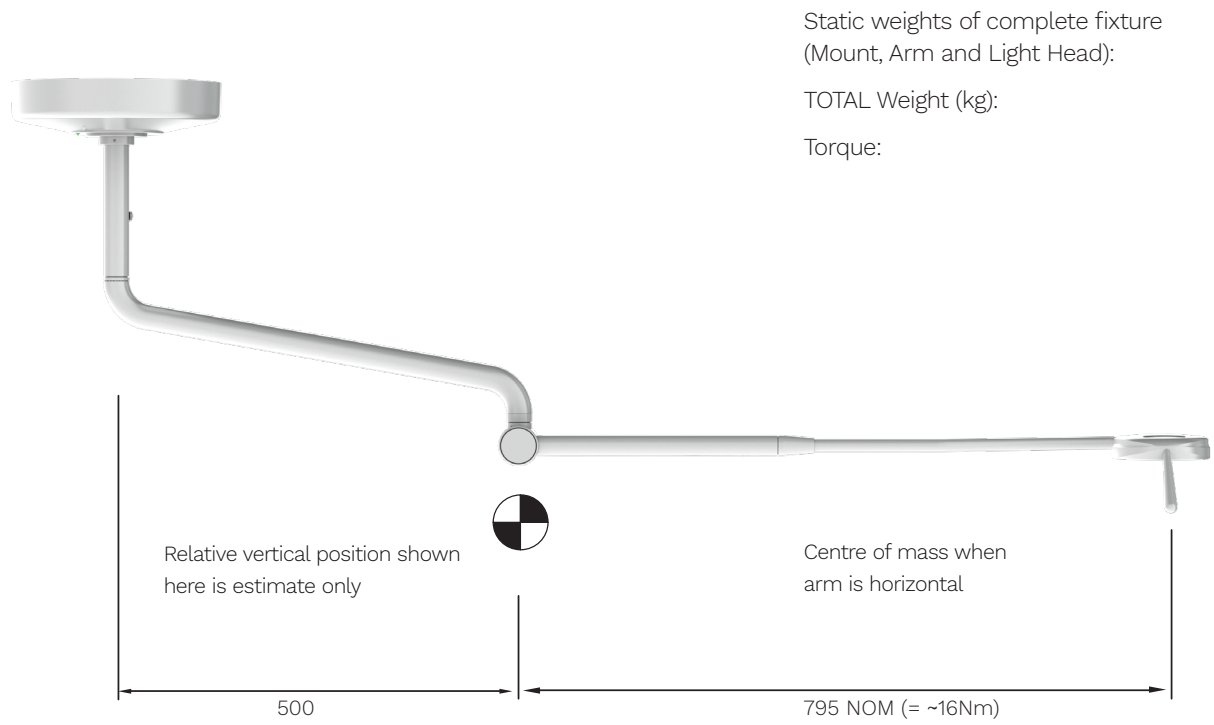
## **DANGER – Electrical Environment Non-Compliance With The Law**

Before installing the PRODUCT, the SERVICE PERSONNEL must make sure the following conditions exist:

- The wiring system of the environment (premises) in which installation is made must conform with regulations for premises used for medical purposes and with applicable national laws and/or regulations.
- The electrical system must have a certificate of conformity issued by whosoever installed it.
- The earth system must be certified as required by applicable regulations.



FIG. 3.1 STRUCTURAL MOUNTING EXTENSION (COTTONREEL)



**FIG. 3.2 STRUCTURAL LOADINGS / APPROXIMATE WEIGHTS FOR WALL AND CEILING MOUNT**

Static weights of complete fixture (Mount, Arm and Light Head).

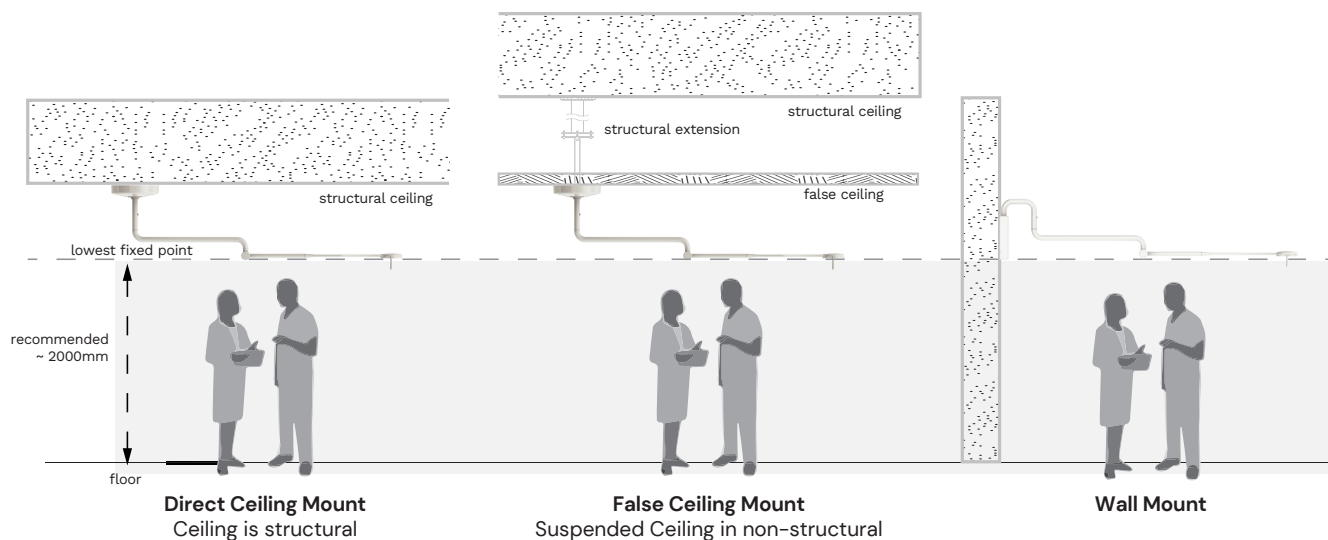


FIG. 3.3 INSTALLATION HEIGHTS

## 4.0 INSTALLATION GENERAL REQUIREMENTS

### WARNING – Isolation Switch

The qualified electrician who is responsible for the installation of the PRODUCT must include an isolation switch( all -pole disconnection ) in the fixed wiring of the PRODUCT and a cable tie near the terminal block of the primary(240V) wiring (Phase and Neutral) to secure the cables.

### 4.1 Mounting general notes

The Phantom EX arm is designed to be mounted above the immediate work area. Standard mounting fixtures for the Phantom EX are: Ceiling Mount & Wall Mount (specialised mountings are available on application). For mounting, please use the relevant Ceiling or Wall Mount Template document provided on our website.

### 4.2 Use of mounting templates

Note! Before using mounting templates, ensure the scale and measurements are printed accurately to avoid any installation errors caused by incorrect printer settings. Mounting templates are a guide only and measurements should always be checked with a measure.

### 4.3 Mounting height

In all cases the suggested mounting height (underside of the hinge point or knuckle between the upper and lower arms) is two metres from floor level, as seen in Fig. 3.3).

## 5.0 WALL MOUNT INSTALLATION

### DANGER Risk of Electric Shock

Ensure before commencing the installation, that the MAINS power circuit is isolated (off).

### WARNING – Isolation Switch

The qualified electrician who is responsible for the installation of the PRODUCT must include an isolation switch( all -pole disconnection ) in the fixed wiring of the PRODUCT and a cable tie near the terminal block of the primary(240V) wiring (Phase and Neutral) to secure the cables.

## **WARNING Product Damage and Personal Injury**

NOTE! Check and ensure the following before commencing installation:

- You have the appropriate mounting template.
- You have appropriate tools for the job.
- Confirmed mains cable entry is located appropriately.
- The mounting structure is suitable.
- The structural loadings and approx product weights (refer Fig. 3.2)
- You have appropriate fixing attachments. e.g. Dyna bolts, large screws


During installation, take care to remove any dust during drilling and make sure not to damage any existing cabling.

### 5.1 Fixing the wall mount

- 5.1.0 Using appropriate wall template mark mounting holes and mains cable entry. Make sure the bottom of the template wall mount is 2000mm from the floor to maintain 2000mm clearance at the bottom of the swivel. (ref Fig. 3.3)
- 5.1.2 Drill 4 mounting holes as shown on template.
- 5.1.3 Remove the wall mount cover <sup>①</sup> (ref Fig. 5).  
Feed mains cable through the larger bottom hole of the wall mount <sup>②</sup>.  
Place correct wall mount into position and secure to wall using appropriate fixings <sup>③</sup>.

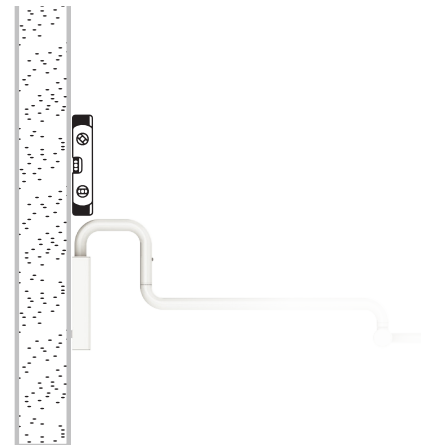
### 5.2 Electrical Connections

- 5.2.1 Connect mains cable to appropriate locations on terminal block (L and N) (ref Fig. 5) <sup>④</sup>
- 5.2.2 Connect the Earth (yellow/Green) cable to the Earth Lug (ref Fig. 5) <sup>⑤</sup>
- 5.2.3 Attaching the arm fitting to wall mount:  
Connect wall mount plug to the socket in the swivel boss <sup>⑥</sup>; then insert the swivel boss into the wall bracket tube <sup>⑦</sup>; and fix into position with the locking screw <sup>⑧</sup>

 **WARNING** Replace cover <sup>①</sup> ensuring the cables do not get caught/pinched and attach with the screws located at the bottom and top (ref Fig. 5)

### 5.5 FINAL INSPECTION

- 5.5.1 The mount is firm, has no movement and is level.
- 5.5.2 The light head moves through its full range of movements.
- 5.5.3 The assembly of light and mount is clean and free of any marks.
- 5.5.3 Energise circuit and test the light fixture for normal operation, that is the green led on the bottom of the power supply cover is working and the switch on the light head is working.

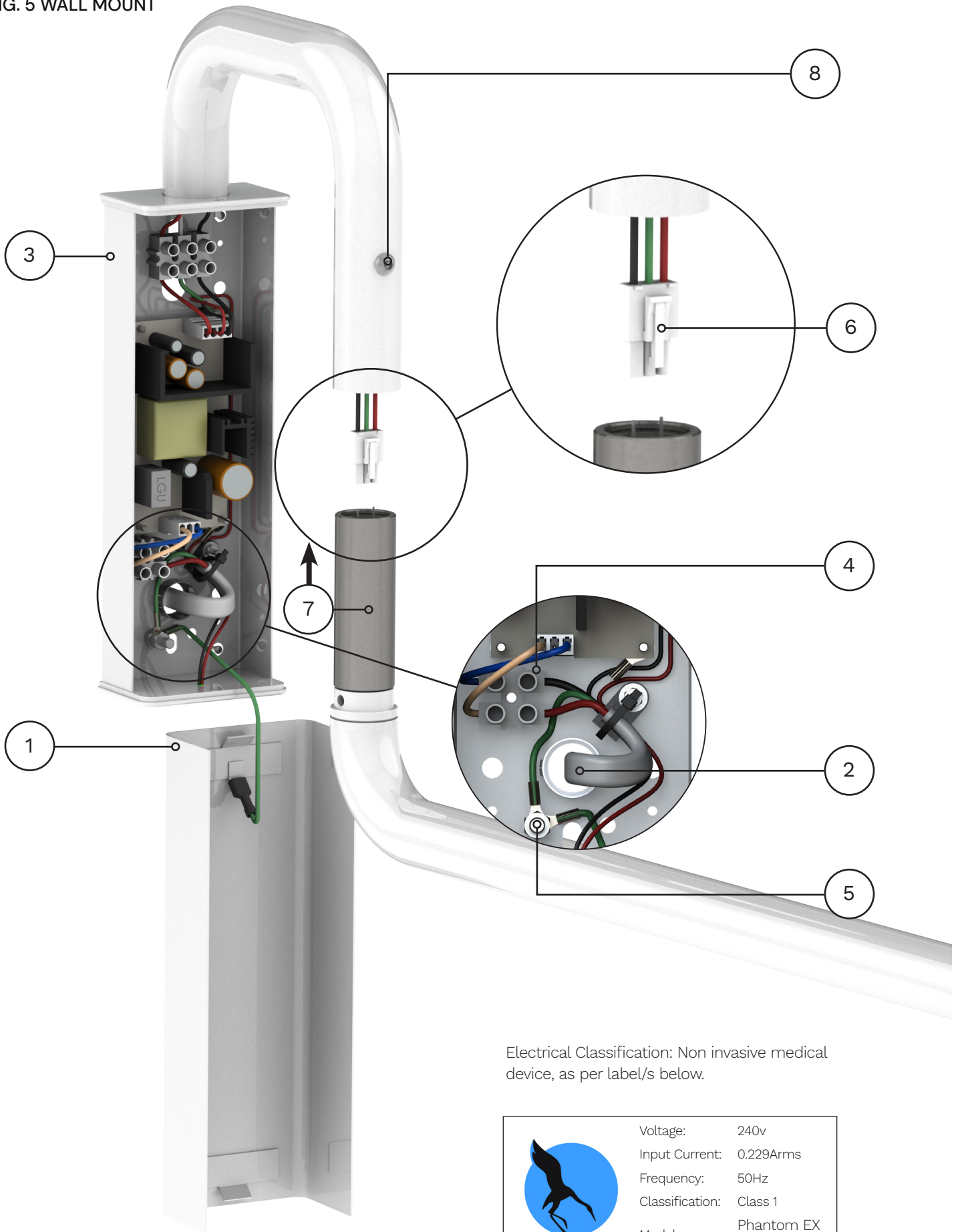


**FIG. 5.1 ENSURE VERTICAL**


Ensure wall mount installation is vertical.



FIG. 5 WALL MOUNT



Electrical Classification: Non invasive medical device, as per label/s below.

|  |                 |                    |
|--|-----------------|--------------------|
|  | Voltage:        | 240v               |
|  | Input Current:  | 0.229Arms          |
|  | Frequency:      | 50Hz               |
|  | Classification: | Class 1            |
|  | Model:          | Phantom EX<br>Wall |

## 6.0 CEILING MOUNT

### DANGER Risk of Electric Shock

Ensure before commencing the installation, that the MAINS power circuit is isolated (off).

### WARNING – Isolation Switch

The qualified electrician who is responsible for the installation of the PRODUCT must include an isolation switch( all -pole disconnection ) in the fixed wiring of the PRODUCT and a cable tie near the terminal block of the primary(240V) wiring (Phase and Neutral) to secure the cables.

### WARNING Product Damage and Personal Injury

NOTE! Check and ensure the following before commencing installation:

- You have the appropriate mounting template.
- You have appropriate tools for the job.
- Confirmed mains cable entry is located appropriately.
- The mounting structure is suitable.
- The structural loadings and approx product weights (refer Fig. 3.2)
- You have appropriate fixing attachments. e.g. Dyna bolts, large screws

During installation, take care to remove any dust during drilling and make sure not to damage any existing cabling.

### 6.1 Fixing the mount

#### Retro Models And Existing Ceiling Mounts Only (see Fig. 6.1)

If your existing ceiling tube <sup>1</sup> has a swivel boss (see Fig. 6) <sup>17</sup>, then please remove swivel boss locking screw <sup>13</sup> and slide out and discard the swivel boss, and locking screw from the old ceiling tube. Use existing wires in the ceiling tube to pull through the new wiring loom supplied in plastic bag <sup>18</sup>. After running the new wire loom, continue the standard installation process from 6.3: electrical connections.

- 6.1.0 Take ceiling mount <sup>1</sup> and using template if required mark holes, drill and attach mount to surface making sure to use appropriate fixings <sup>2</sup>. Take care and feed 240V mains cables through entry hole if applicable <sup>3</sup>, or if a class 2 driver is installed in the light, plug the supplied 240v plug and socket into a GPO.

### 6.2 Attaching the power supply

- 6.2.0 Remove from the packaging the box containing the electronic power supply and ceiling cover. Take the electronic power supply mounted on the tray and clamp to the ceiling mount <sup>4</sup>.

### 6.3 Electrical Connections

- 6.3.1 Connect 240V mains cables to appropriate locations on terminal block L and N <sup>5</sup>.
- 6.3.2 Connect the Earth (yellow/Green) cable to the Earth Lug on ceiling mount <sup>6</sup>.
- 6.3.3 Connect 24V cables (located in ceiling tube) to secondary side of electronic power supply terminal block (red to red, black to black) <sup>7</sup>.
- 6.3.4 Remove ceiling cover <sup>15</sup> from the packaging and carefully slide the cover up the ceiling tube. Connect the LED power indicator <sup>8</sup> plug to the matching connector coming from the electronic power supply. Continue to slide the ceiling cover up over the electronic power supply and associated wiring making sure the cover is pushed up against the ceiling. Tighten the two locking screws on the collar <sup>9</sup> to secure the ceiling cover. <sup>15</sup>



- 6.3.5 Remove the light and arm ⑩ from the packaging. Remove the swivel boss locking screw ⑪. Connect the two electrical plugs together ⑫ and carefully slide the swivel boss up into the ceiling tube ⑬. Locate/line up the fixing hole ⑭. Tighten the locking screw securely.

## 6.4 Final inspection

- 6.4.0 The ceiling mount is firm and has no movement.
- 6.4.1 The light head moves through its full range of movements.
- 6.4.2 The assembly of light and mount is clean and free of any marks.
- 6.4.3 Energise circuit and test the light fixture for normal operation. Check the green LED indicator light on the power supply cover ⑮ is ON (Fig. 6), and that the Power ON/OFF switch on the light head is working (refer Fig. 7.2).

## 7.0 OPERATING INSTRUCTIONS

### **WARNING – Eye Damage**

DO NOT direct the lighting beam into your eyes or another person's eyes during operation. Looking directly into this light may cause permanent eye damage.

### **CAUTION**

Ensure you follow your workplace cleaning and maintenance requirements.

### 7.1 General operation

The general operation sequence is as follows:

- Switch light on
- Adjust dimming as required
- Using the handle, position the head of the fitting and direct the light at the target location
- Perform task
- Reposition for other tasks if required
- Turn light off after use
- Ensure PRODUCT has been cleaned appropriately as per your facility requirements (refer to 8.0 Cleaning)
- Ensure PRODUCT has been cleaned appropriately as per your facility requirements (refer to 8.0 Cleaning)

### 7.2 Membrane switch and dimming operation

The PRODUCT lighting functions are controlled via the membrane switch located on the head of the fitting, adjacent to the handle. The controls (shown below) offer a simple ON/OFF switch and an additional up/down dimming control. The dimming control allows the user to set the brightness level.

### **WARNING – Eye Damage**

DO NOT direct the lighting beam into your eyes or another person's eyes during operation. Looking directly into this light may cause permanent eye damage.

### **CAUTION**

Ensure you follow your workplace cleaning and maintenance requirements.

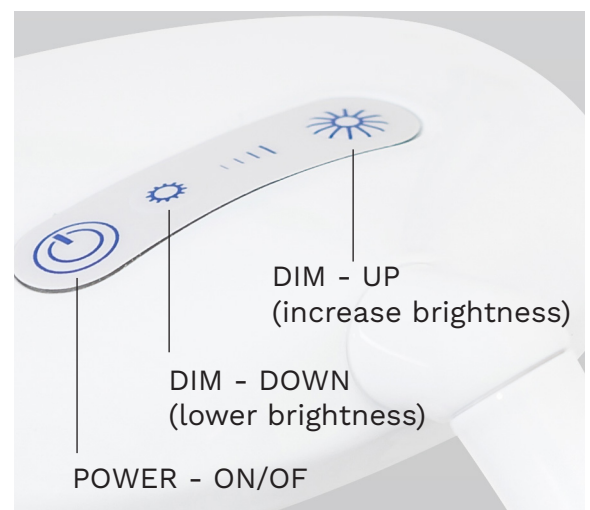


FIG. 6.0  
CEILING MOUNT

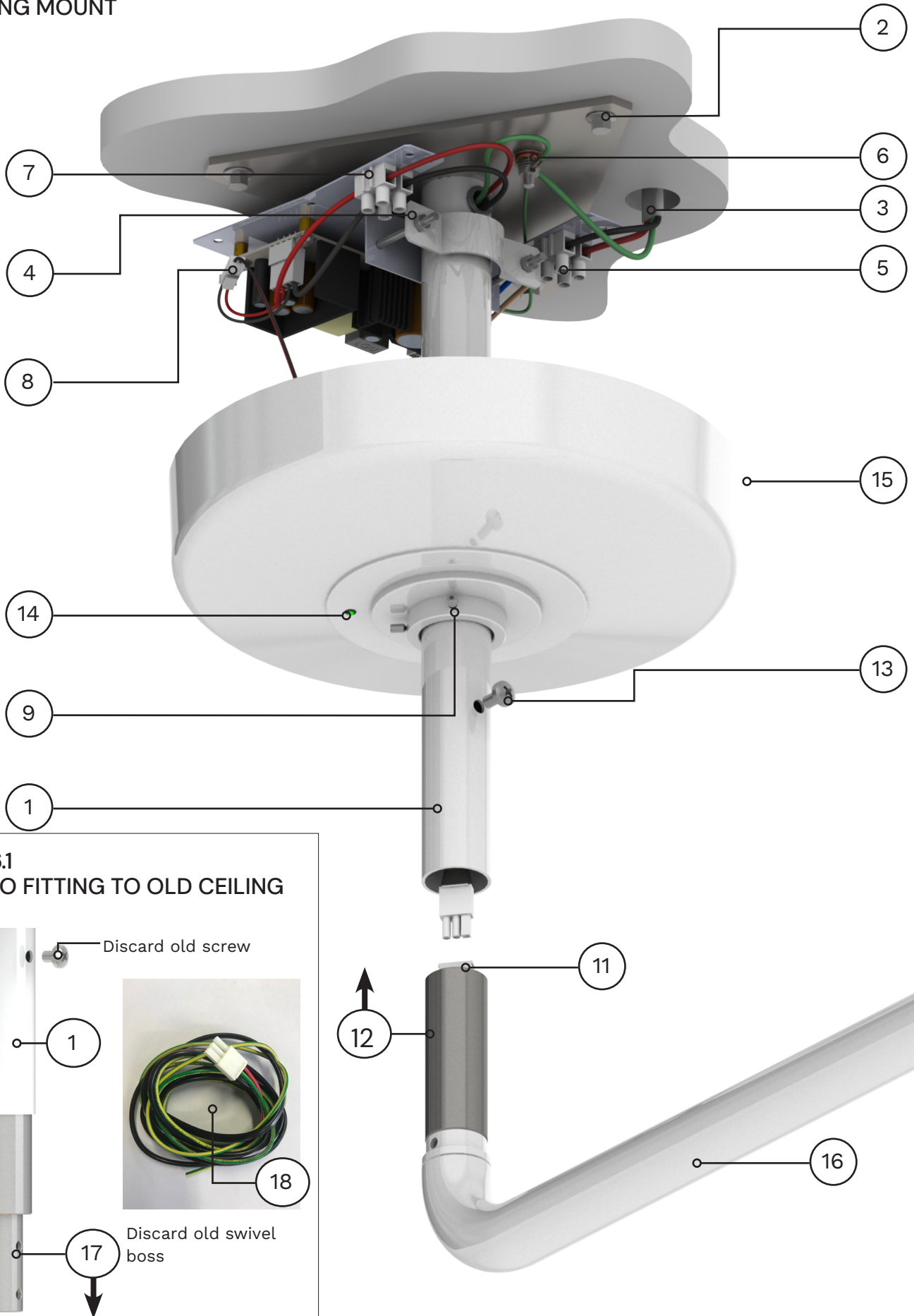
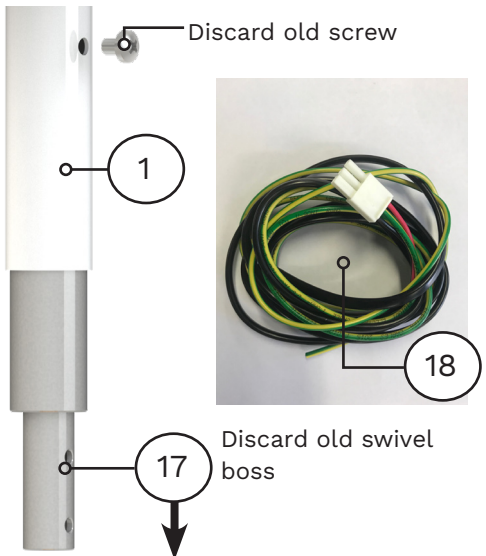


FIG. 6.1  
RETRO FITTING TO OLD CEILING  
TUBE



## 8.0 CLEANING

### 8.1 Cleaning

#### **WARNING – Personal Injury**

Turn off the light and allow the PRODUCT to cool before commencing any cleaning.

Please use the following procedures and precautions during the cleaning process:

- Let the light cool down. Only disinfect and clean the light and body (including any cables) when it is cold.
- Make sure that excess water/cleaning agent has been removed from cleaning cloth before commencing.
- Use a damp cloth. DO NOT use a wet cloth.
- Use alcohol/detergent having medium alkaline level but no active chlorine.

#### **WARNING – Product Damage**

Do not use abrasive products, petrol, paint thinners, alkaline detergent, acidic cleaning agents or aldehydes. Make sure the proportions of the detergents/cleaning agents are accurate based on manufacturers instructions.

#### **WARNING – Product Damage**

DO NOT spray cleaning solutions directly onto the PRODUCT as it may affect product life and performance. Instead, spray onto a cloth and wipe the PRODUCT.

#### **WARNING – Chemical Hazards**

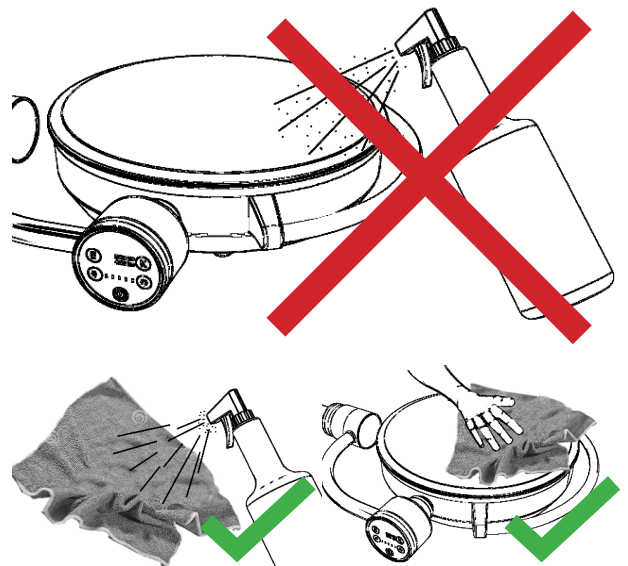
The disinfectants/cleaning agents may contain substances harmful to health: use disinfectants only recommended by your health authorities and follow the manufacturer's user instruction carefully.

### 8.2 Sterilise Handle

#### **WARNING**

Ensure you observe sterilisation procedure and policy as per the RESPONSIBLE ORGANISATION.

- Remove the handle from the fitting
- Sterilise or autoclave
- Once handle is sterilised, re-attach the handle to the light fitting



**FIG 8.0 DO NOT** spray cleaning solutions directly onto the PRODUCT. Spray onto a cloth and wipe the product.

## 9.0 MAINTENANCE

### **WARNING Personal Injury and Product Damage**

Only appropriately qualified personnel should carry out maintenance on the PRODUCT.

#### 9.1 Technical faults and repairs

In the case of a technical fault with one of our products, Planet Lighting recommend that the product is returned to our factory to be assessed and repaired. If a qualified technician is available to repair the fixture, circuit diagrams, parts lists, and descriptions will be made available to assist in this process.

The following maintenance procedures, performed as required, should ensure the PRODUCT provides many years of effective service.

#### 9.2 Maintenance tasks schedule

Observe the periodic maintenance tasks presented in the table (Fig. 9.2). These are recommended for both wall and ceiling mounted PRODUCTS.

| TASK                        | DESCRIPTION  | FREQUENCY                         |
|-----------------------------|--|-----------------------------------|
| Clean/disinfect the PRODUCT | Using a suitable disinfectant, wipe down all exterior surfaces of the fitting. | As per site specific requirements |

FIG. 9.2 MAINTENANCE TASKS SCHEDULE

#### 9.3 Head Replacement (Refer Fig. 9.3)

In the unlikely event that one or more of the LEDs should fail, the light head has been designed to be removed without tools for return to Planet lighting for prompt service. Our LED light head does not contain user serviceable parts

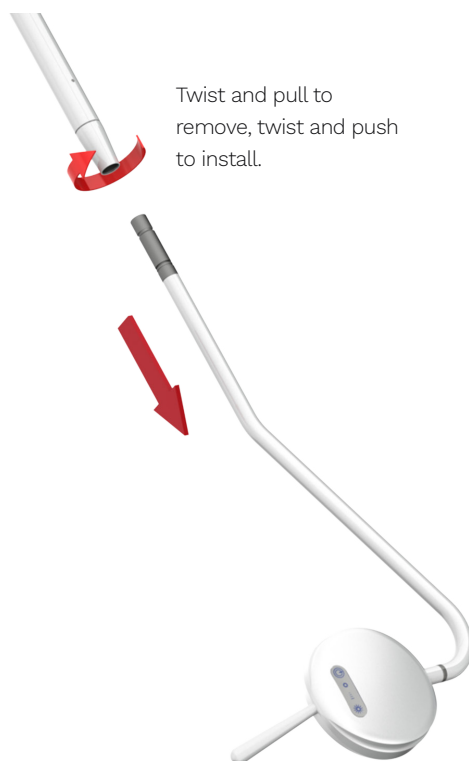


FIG. 9.3 HEAD REPLACEMENT



## 10.0 TROUBLESHOOTING

### **WARNING Personal Injury and Product Damage**

Only appropriately qualified personnel should carry out maintenance on the PRODUCT.

The following troubleshooting guide (Fig. 10) may help you resolve unexpected behaviour of the PRODUCT. Do NOT attempt to modify the PRODUCT or continue to use a malfunctioning product. Contact the manufacturer or your supplier for support.

| ISSUE / SYMPTOM                                     | POSSIBLE CAUSE  | SOLUTION                                    |
|---|---|---|
| Light does not turn on after installation           | The PRODUCT has been wired or installed incorrectly                                   | Contact your installer and/or your supplier |
| Light feels too loose or too tight when positioning | The PRODUCT may need to be returned for repair or replacement                         | Contact your supplier or the manufacturer   |
| Light does not stay in place once positioned        | The PRODUCT may need to be returned for repair or replacement                         | Contact your supplier or the manufacturer   |
| The light flickers                                  | An LED may have failed. The PRODUCT may need to be returned for repair or replacement | Contact your supplier or the manufacturer   |

FIG. 10 TROUBLESHOOTING

## END OF DOCUMENT

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