

Installation Instructions

# Gamma 60 LED Light System



# Safety Instructions

## Intended Use

The Gamma 60 LED examination light is an examination light. Its intended use is to illuminate the body of the patient to support diagnosis or treatment. An interruption of the diagnosis or treatment caused by a light failure is always possible without posing any risk for the patient. The light cannot be used in operating rooms.

## User Profiles

- Medical staff
- All persons with medical training who work in the field for which they were trained.
- Cleaning staff
- All persons familiar with national and workplace hygiene requirements.
- Electricians
- All persons with training in electronics and electrical technology who are familiar with the relevant standards and regulations.

## Safety Instructions

- The instructions are part of the product and must be kept so they are accessible for all subsequent users.
- All applicable occupational health and safety regulations and the requirements specified by the national regulators for hygiene and disinfection must be observed to reduce the risk of disease transmission as much as possible.
- The installation must only be carried out by a qualified electrician.
- Repairs to the cable or lens must only be carried out by a qualified electrician, all other repairs must be carried out by the manufacturer's service department.
- The light must not be modified or manipulated. Use in any other manner than with the original parts may result in different specifications and life-threatening dangers.
- Danger of death from electric shock. Do not plug in a damaged cable. The mains voltage and frequency must match the data on the name plate.
- The light must not be used in an explosive environment. The power supply to the light is a potential ignition source.
- Keep all flammable equipment and objects away from the light head during use.
- Do not modify any conductive parts.
- Do not use a damaged light. Defective cables can also be a potential hazard. Do not position cables near heat sources or sharp edges.
- Danger of injury! Replace damaged glass before using the light again.
- Eye damage! Never look directly at the light cone.
- The light must be used in dry rooms only.
- The light must not be left on unattended.
- Do not place any materials (such as cloths, rags etc.) on top of the light head.
- Never apply additional loads to the light head and the spring arm.

## Specific Safety Instructions

- The light must only be mounted such that the type of fixture can be guaranteed to be secure.
- The ceiling must be solid concrete to guarantee secure fixture for the light. If this is not the case, safety must be checked by structural engineers and the light secured with a suitable fixture material.

# Installing Gamma 60 LED Ceiling Mount

## Included:



Gamma 60 LED  
with adapter



1x Cable



1x cover



1x ceiling fixture



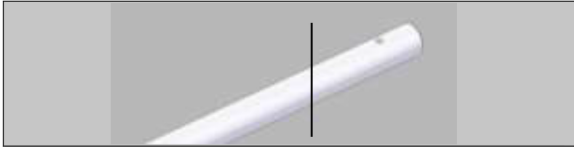
1x End ring



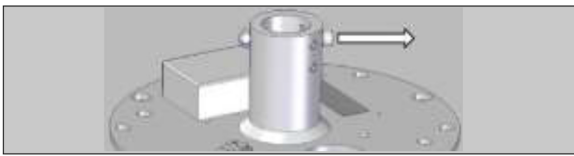
1x ceiling tube  
including cable

# Installing Gamma 60 LED Ceiling Mount

## Attaching the Ceiling Bracket



- ▶ Pay attention to the minimum distance of the ceiling tube!
- ▶ Saw ceiling tube to the desired length at the top end using a metal saw and deburr.



- ▶ Remove fastening screw.

### **DANGER**

#### **Assembly by qualified personnel**

- ▶ Assembly must be carried out by qualified personnel only. Lack of appropriate knowledge could be life-threatening.

### **DANGER**

#### **Life-threatening danger from falling light.**

- ▶ The ceiling must be made of solid concrete to guarantee a secure hold.

### **DANGER**

#### **Electric shocks are life threatening**

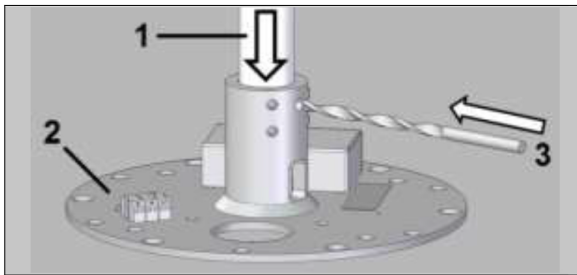
- ▶ It must be possible to separate the light from the mains by an external all-pole switch (not included).

### **DANGER**

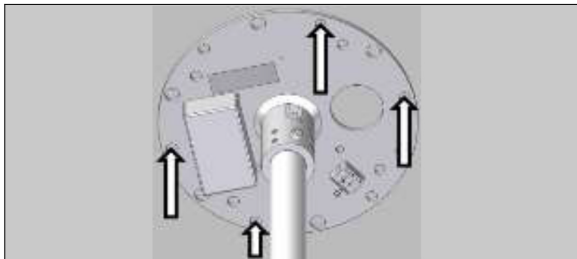
#### **Electric shocks are life-threatening**

- ▶ Voltage supply from the power connection must be protected on all poles by means of an overcurrent release (according to national installation requirements; it is not included in the scope of supply).

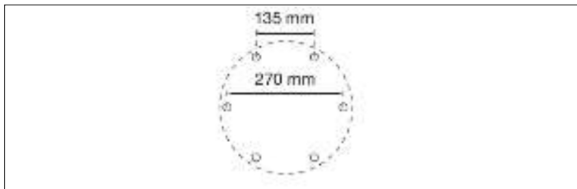
# Installing Gamma 50 LED Ceiling Mount



- ▶ Insert ceiling tube **1** into ceiling bracket **2** and drill with  $d=9\text{mm}$  **3**. Use the existing hole in the ceiling bearing as a guide.



- ▶ Make 4 opposed drill hole markings ( $\text{Ø}13\text{mm}$ ), note the position of the  $\text{Ø}60\text{mm}$  drill hole for electrical connections



- ▶ Check clearances

**⚠ DANGER**

**Risk of injury from falling parts**

- ▶ The ceiling bracket must be secured to the fastening material, which must be suitable for the corresponding ceiling condition.

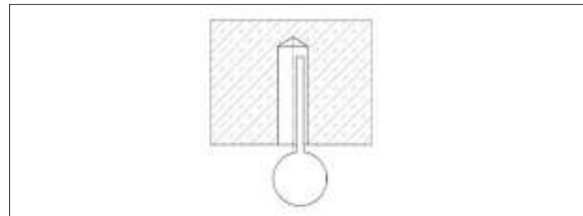
**⚠ DANGER**

**Risk of injury from falling parts**

- ▶ Mounting must be performed by two people.

**CAUTION**

**Use protective equipment in line with the tool manufacturer's instructions**



- ▶ Drill the bore holes, then blow them out using bellows

**⚠ DANGER**

**Risk of injury from falling light**

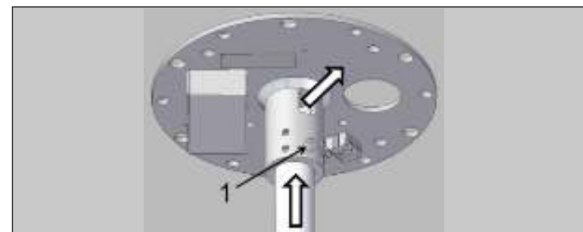
- ▶ The ceiling must be made of solid concrete to guarantee a secure hold.
- ▶ Use suitable ceiling anchors.



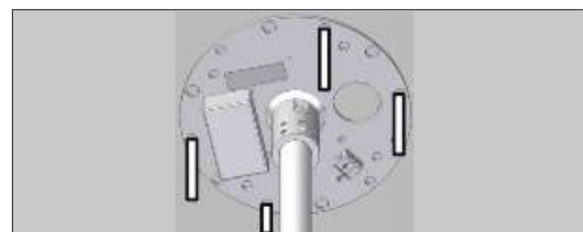
- ▶ Disassemble the securing element from the ceiling tube (Allen wrench is enclosed; do not lose the threaded pin!)



- ▶ Insert the cable (with loose ends first) and pull up to the stop

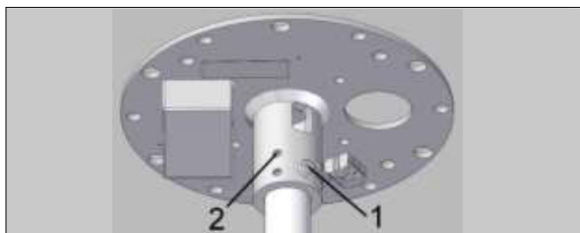


- ▶ Pull the light cable of the ceiling tube through the light mount.
- ▶ Insert ceiling tube into light mount
- ▶ Secure using the M8 safety screw and nut **1**



- ▶ Hold the ceiling bracket against the ceiling and strike the ceiling anchor with a hammer
- ▶ Tighten fastening in line with manufacturer's data

# Installing Gamma 60 LED Ceiling Mount

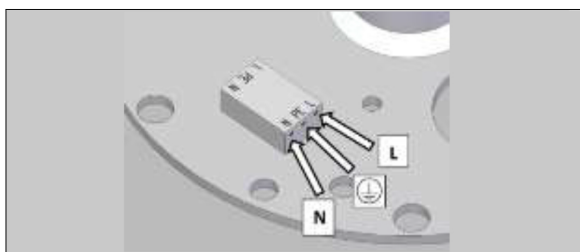


- ▶ Tighten M8 safety screw and nut **1** (20 Nm / 14.75 lbf ft)
- ▶ Tighten all 4 threaded pins **2** (5 Nm / 3.68 lbf ft)

## **⚠ DANGER**

### **Mortal danger from electric shock**

- ▶ Disconnect from the power supply and secure against unintended switching on before starting work on the power connection.



- ▶ Make power connection



- ▶ Connect the secondary cable to the connection point
- ▶ Pay attention to the polarity:  
**+ = red** → **Connect the brown cable**  
**- = blue** → **Connect the blue cable**



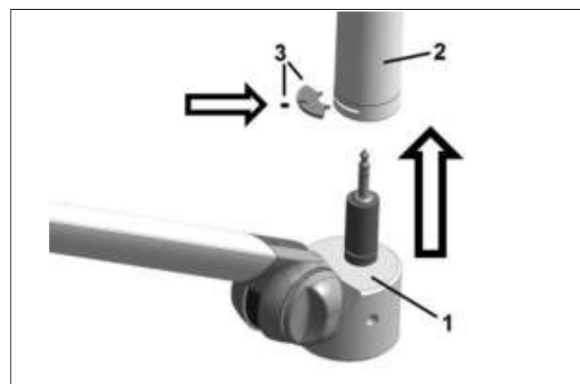
- ▶ Push cover and end ring over the ceiling bracket and tighten them (0.5Nm)

## Assemble the Light on the Ceiling Tube

## **⚠ WARNING**

### **The light will fall if fastening is done incorrectly**

- ▶ The securing element must be screwed in fully and correctly.



- ▶ Insert the light and the adapter 1 into the ceiling tube 2
- ▶ Insert securing element with threaded pin **3** and screw in to the stop
- ▶ Loosen by one quarter-turn to ensure the operation of the turnover axis

## Load Data

Bending moment $M_B$	25Nm
Vertical weight $F_G$	20N

- ▶ The lights are equipped with an adapter pin. The light must be positioned in one of the accessories described in chapter 9.

# Operation

**⚠ DANGER**

**Electric shocks are life-threatening**

- ▶ Only connect to a mains power supply with a protective conductor

**⚠ DANGER**

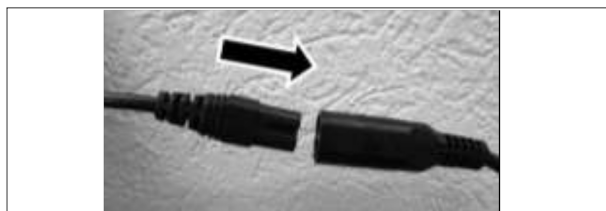
**Electric shocks are life-threatening**

- ▶ Do not insert any power cable that is damaged.
- ▶ If there is any sign of damage to the power cable, replace it immediately with a new one.
- ▶ The connection voltage and frequency must match the data on the type plate.

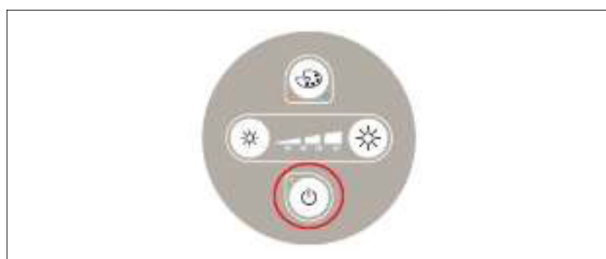
**⚠ WARNING**

**Risk of eye damage**

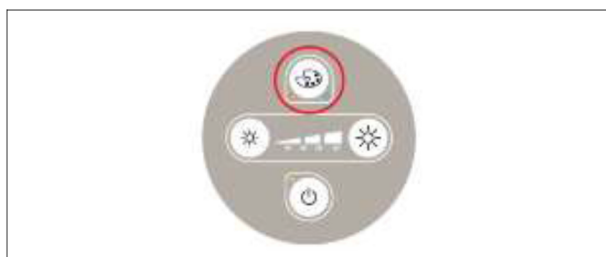
- ▶ Never look directly into the beam of light.



- ▶ Insert power cable
- ▶ Connect the cable to the mains
- ▶ Perform a function test before every use: All LED's in the light cone must illuminate.

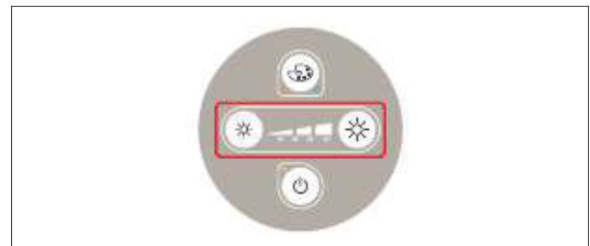


- ▶ Switch the LED module on/off



- ▶ Set the desired colour temperature according to the following table:

<b>COLOUR</b>	<b>COL. TEMP.</b>	<b>RECOMMENDATION</b>
blue	cold white	Ideal for identifying individual vessels for wound follow-up treatment and small procedures
orange	warm white	Ideal for various types of skin examinations



- ▶ Set the desired Illuminance in 25% dimmer steps



- ▶ Only transport the light in this position.

# Disinfection and Cleaning

## **DANGER**

### **Electric shocks are life-threatening**

- ▶ Switch off the power and secure against unintended switching on before disinfectant cleaning.

## **CAUTION**

### **Damage to property caused by incorrect cleaning**

- ▶ Use only disinfectants that will not affect the functional capability of the light.
- ▶ No cleaning agents containing solvents, chlorine or abrasive products must be used. Those agents can cause damage to the plastic parts.
- ▶ The cleaning and disinfection agents must be suitable and approved for plastics like PC, PMMA, PA and ABS.
- ▶ Concentrated disinfectants may damage the light.
- ▶ Pay attention to the specifications from the data sheet of the agent for concentration and effectiveness time.
- ▶ Unsuitable cloths can cause scratches.

## **CAUTION**

### **Dirt decreases luminosity**

- ▶ Clean regularly to keep the screen clean.
- ▶ Disinfection only by wiping is permitted.



- ▶ Clean the PA screen with a non-abrasive cleaning cloth and a suitable cleaning agent.



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