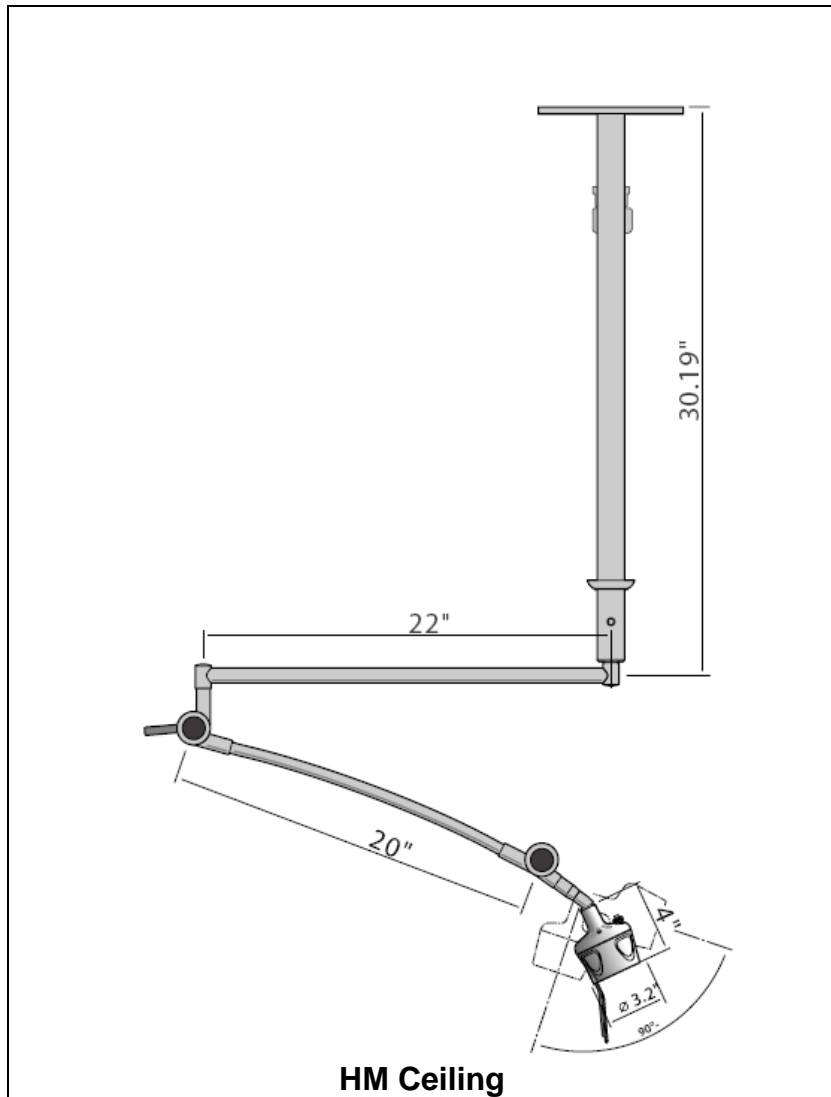


Installation Instructions
Sunnex HM Exam Light
Models: HM1006-37W, HM28002W, HM1000-37W, HM2017-44

1.1 Applications

This HM LIGHT is intended to be used as a medical examination lamp in consulting rooms and health care centers.



1.2 Cleaning and Disinfection

The lamp fixture can be cleaned as needed with a damp cloth and a mild detergent. For disinfection use a soft cloth with a disinfectant solution such as isopropyl alcohol. NOTE! Do not introduce any fluids to the inside of the lamp head as this could cause a fire hazard.

The glass lens can be cleaned with a damp cloth and a mild detergent and inside part of the lens can be easily cleaned with Q-tips.

Technical Data

2.1 Manufacturer

<u>Sales office</u>	<u>Production Facility</u>
Sunnex, Inc. 3 Huron Drive Natick, MA 01760, USA Phone: 508-651-0009 Fax: 508-651-0099 Email: sunnex@sunnex.com	Sunnex, Inc. 3 Huron Drive Natick, MA 01760, USA Phone: 508-651-0009 Fax: 508-651-0099 Email: sunnex@sunnex.com

2.2 Technical Data

Main Voltage	120VAC 60Hz
Nominal effect	60W
Safety Class	I
Transformer	Medical Grade Plug-in transformer INPUT: 120VAC, 60Hz, 0.5A, OUTPUT: +12VAC, 5.0A MAX. Part# GS1137
Bulb	12V/20W/NSP
Color Temperature (CCT)	3584 Kelvin (at 2.1meter)
Color rendition index (CRI)	95 (at 2.1meter)
Total irradiance	16 W/m ² (at 2.1meter)
Certifications	ETL Listed: CAN/CSA-C22.2 No. 601.1-M90 EN60601-1, UL60601-1, EN60601-2-41 UL60601-2-41, IEC 60601-1-2 (2001-09) 2nd edition (EN55011:1991, Group I Class B)

Only original accessories must be used with HM light. The HM light is equipped with a push-button ON-OFF switch on the lamp head that should be used to turn the light ON and OFF.

EMC

The lamp complies with the EMC requirements in accordance with EN 60601-1-2. Wireless transmission equipment e.g. mobile phones etc. should not be used in the vicinity of the lamp since this can affect the function. Special care should be observed during the use of strong sources of interference e.g. diathermy and the like, so that the diathermy cables not are placed on or close to the lamp. If in doubt consult your technician or the supplier. Accessories other than here mentioned are not allowed to use as they may negatively affect emissions and immunity. The complete light must be recycled in accordance with WEEE standard.

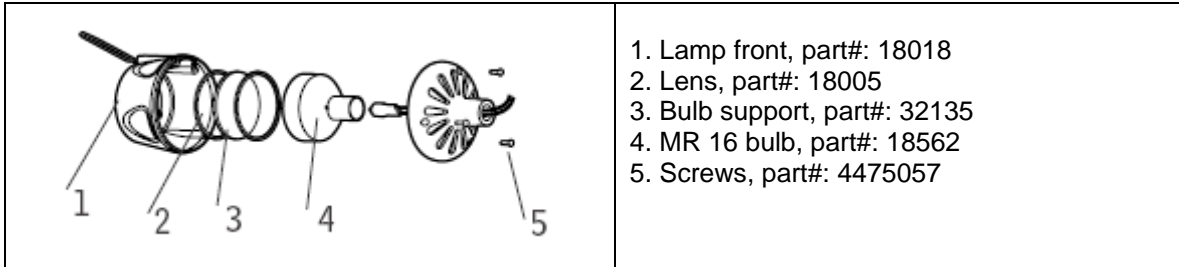
2.3 Transportation and Storage

This light is packaged in card board and should be transported protected from moisture. The light should be stored in a dry environment and room temperature.

Transportation and storage temperature: -5°F / -20°C to 140°F / 60°C

Humidity < 95%

2.4 Bulb replacement



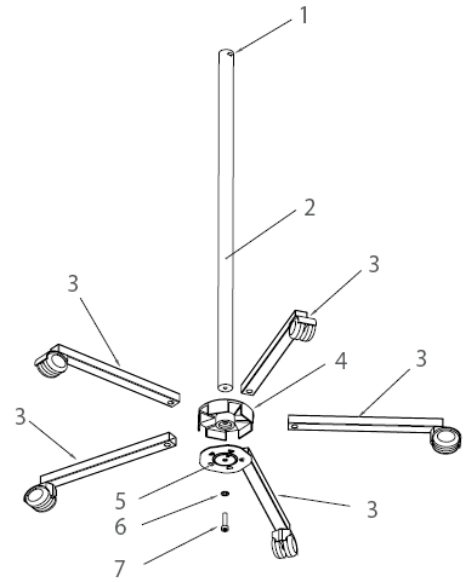
1. Unplug lamp from power source and wait at least one hour for lamp to cool.
2. Loosen the connecting cable from the transformer to make sure that lamp is not supplied with voltage.
3. Unscrew the three screws from back cover of the lamp.
4. Remove the halogen cold light bulb from its socket.
5. Replace the damaged halogen cold light reflector. Only Sunnex cold light reflector with part. no. 18562 must be used. **NOTE!** Make sure the cold light reflector is clean and without fingerprints.
6. Refit the back cover, with the three screws. **NOTE!** The color filter must not be removed, since the color temperature of the lamp depends on this. A damaged color filter must be replaced immediately.

CAUTION! Be sure the lampshade components are properly seated when screws are tightened!

2.0 Assembly Instructions

2.1 HM LIGHT Mobile (HM1006-37W)

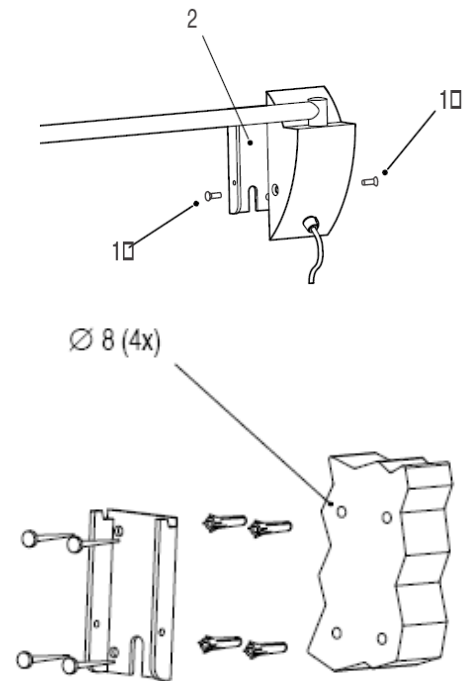
1. Place the pole (2) in the center housing (4)
2. Press down until you feel resistance. Assemble the clamp plate (5) using the provided screw (7) and washer (6). Do not tighten the screw. The teeth on the plate should face inwards.
3. Insert each of the 5 legs into the center housing, and place the 2 lockable casters on opposite sides.
4. Tighten the screw (7). Secure the legs in the housing by lining up the teeth on the clamp plate (5) with the holes in the legs.



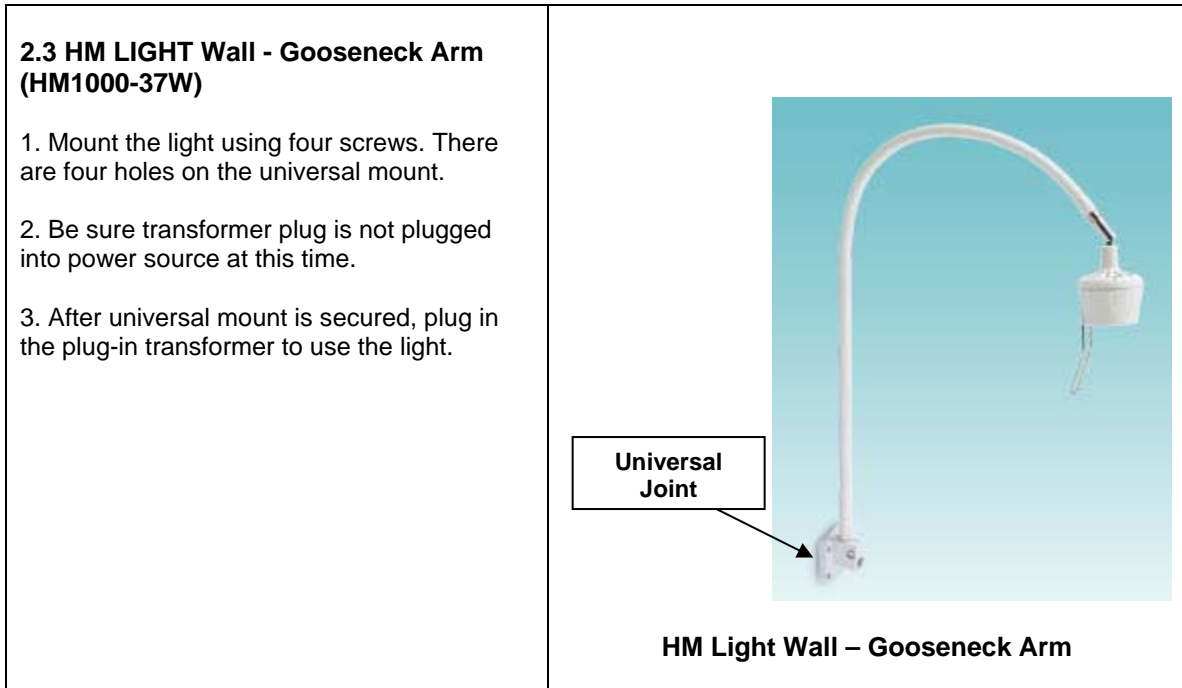
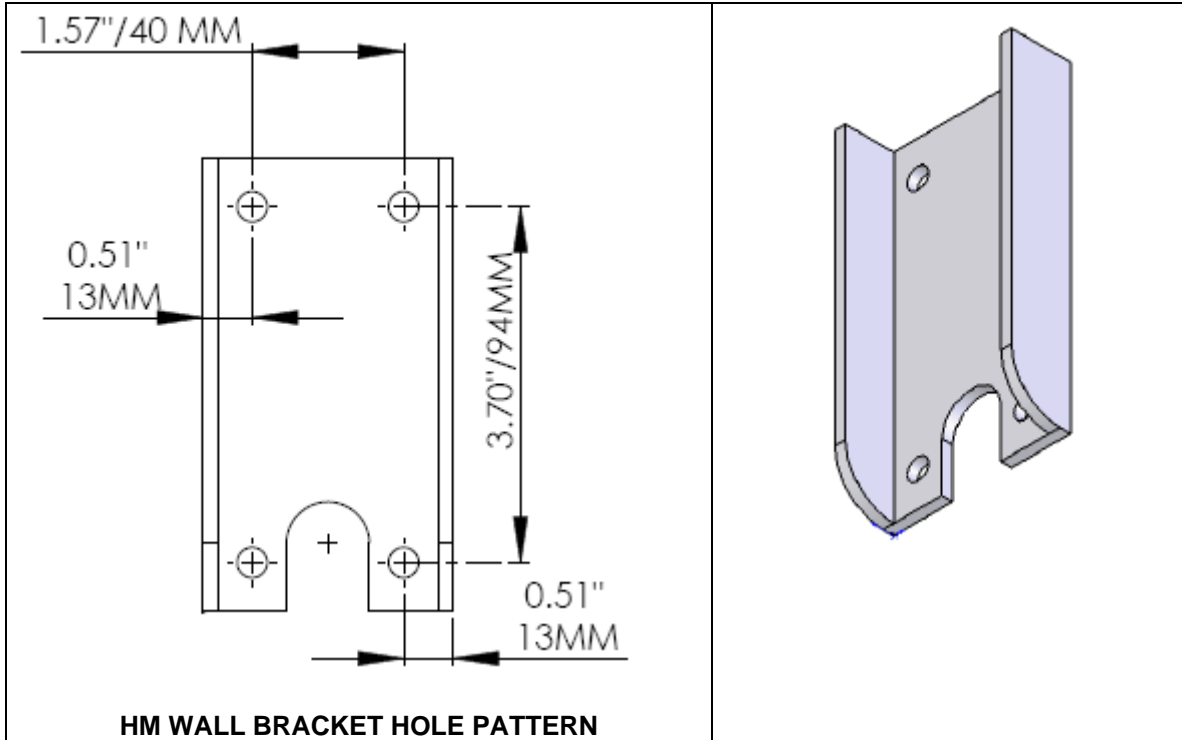
2.2 HM LIGHT Wall – Articulating Arm (HM28002W)

Wall Mount - 20W - Plug-in transformer

- A. Remove the screws in the wall plate (1&2).
- B. Remove the wall plate from casing (2)
- C. Drill 4 holes (8mm) in alignment with the holes in wall plate. Make sure plate is leveled. **NOTE! Wall plate must be mounted to wall stud or structural member.**
- D. Insert the anchors into the holes and attach the wall plate with the screws provided.
- E. Attach wall casing to the wall plate with provided screws.
- F. Make sure that the wall casing is securely fastened to the plate and adjust and tighten the arm as needed.
- G. Plug the transformer into power outlet and turn on lamp with switch on back of lamp head.

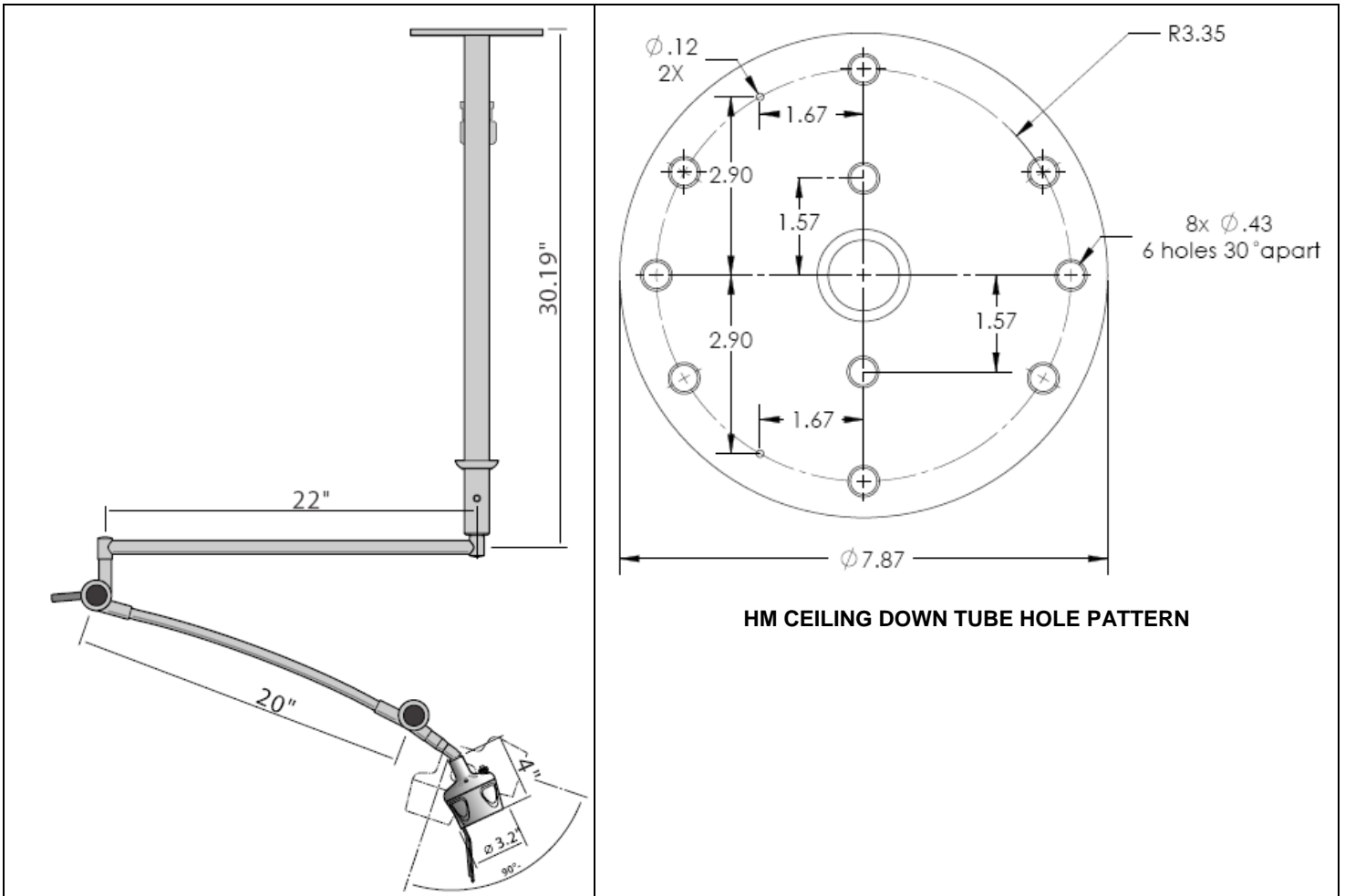


CAUTION! The arm is equipped with friction joints. Do not tighten the joints excessively as this will cause uneven movement and could damage the arm.



2.4 HM LIGHT Ceiling (HM2017-44)

1. Securely fasten lamp down tube from ceiling. It is recommended that 6-5/16" diameter or larger fasteners of the proper length for your individual application be used. Be sure down tube is securely mounted to structural framework. Down tube should be mounted plumb and square to ceiling surface.
2. Be sure transformer plug is not plugged into power source at this time.
3. After down tube support is secured plug electrical connectors at the end of the down tube support and lamp arm together.



2.6 Symbols

CE-Mark	
AC powered:	
This product must be sorted as Waste from Electrical and Electronic Equipment (WEEE):	

3. Sunnex Limited Warranty

Sunnex warrants that its Products shall be free from defects in material and workmanship and this warranty shall remain in force and effect for a period of three (3) years from and after the date of its Delivery (the "Warranty Period") provided that this warranty shall be subject the following conditions:

(a) the Sunnex Installation Instructions shall have been strictly complied with in all respects by the party performing the installation of the Product; and

(b) the Product shall have been used only for the purposes for which it is intended and shall not have been abused, damaged or modified during installation or from usage.

(c) ordinary wear and tear shall not be covered by the terms of this warranty.

(d) written notice to Sunnex of the defective Product shall be given within the Warranty Period. If a Product is found to be defective and the provisions of this Section have been complied with Sunnex will repair or replace the Product, at its expense.

Other than as herein expressly set forth there are no warranties made or given herein with respect to a product and the warranties given in statement are in lieu of all other warranties, which are hereby disclaimed. In particular, there are no express or implied warranties, and no warranty of merchantability or fitness for a particular purpose.

Sunnex will not be liable for any special, indirect, incidental or consequential damage, loss, cost or expense whatsoever arising from the installation or use of a product or from any other cause.


When making a claim against your Sunnex warranty, please provide the model number of your product, the date of purchase and a receipt or other proof of purchase to your Sunnex customer service representative. Sunnex Customer Service: (800)445-7869.

Guidance and manufacturer's declaration — electromagnetic emissions		
The HM LIGHT is intended for use in the electromagnetic environment specified below. The customer or the user of the HM LIGHT should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment — guidance
Emissions test CISPR 15	Complies	HM LIGHT may not be interconnected with other electrical equipment.
Harmonic emissions IEC 61000-3-2	Not applicable	The HM LIGHT is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	

Guidance and manufacturer's declaration — electromagnetic immunity			
The HM LIGHT Image Intensifier is intended for use in the electromagnetic environment specified below. The customer or the user of the HM LIGHT Image Intensifier should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment — guidance
Electrostatic discharge (ESD) IEC 61000-4.2	±6 kV contact ±8 kV air	±6 kV contact ±8 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 IEC 61000-4-4	±2 kV for power supply 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 differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % U_T (>95 % dip in U_T) for 0,5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5% U_T (>95 % dip in U_T) for 5 s	<5 % U_T (>95 % dip in U_T) for 0.5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5% U_T (>95 % dip in U_T) for 5 s	Mains power quality should be that of a typical commercial or hospital environment, If the user of the HM LIGHT Image Intensifier requires continued operation during power mains interruptions, It is recommended that the HM LIGHT Image Intensifier be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 6 1000-4-8	3 A/m	0,3 A/m	If Image distortion occurs, It may be necessary to position the HM LIGHT Image Intensifier further from sources of power frequency magnetic fields or to install magnetic shielding. The power frequency magnetic field should be measured in the intended installation location to assure that it is sufficiently low.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			

Guidance and manufacturer's declaration — electromagnetic immunity

The HM LIGHT is intended for use In the electromagnetic environment specified below. The customer or the user of the HM LIGHT should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment — guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3 Vrms 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2,5 GHz</p>	<p>3 V</p> <p>3 V/m</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the HM LIGHT, including cables, than the recommended applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> <p>$d = 1,2 \sqrt{P}$</p> <p>$d = 1,2 \sqrt{P}$ 80 MHz to 800 MHz</p> <p>$d = 2,3 \sqrt{P}$ 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).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

NOTE 1 At 80 MHz and 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 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 the HM LIGHT is used exceeds the applicable RF compliance level above, the HM LIGHT should be observed to verify normal operation. if abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the HM LIGHT. ^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the HM LIGHT

The HM LIGHT is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the HM LIGHT can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the HM LIGHT as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter w	Separation distance according to frequency of transmitter m			
	150 kHz to 80 MHz outside ISM bands $d = 3,5 \sqrt{P}$	150 kHz to 80 MHz in ISM bands $d = 12 \sqrt{P}$	80 MHz to 800 MHz $d = 1,2 \sqrt{P}$	800 MHz to 2,5 GHz $d = 2,3 \sqrt{P}$
0,01	0,35	1,2	0,35	0,35
0,1	1,1	3,8	1,1	1,1
1	3,5	12	3,5	3,5
10	11	38	11	11
100	35	120	35	35

For transmitters rated at a maximum output power not listed above, the recommended separation distance *d* in metres (m) can be determined using the equation applicable to the frequency of the transmitter, where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 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.

NOTE 3 An additional factor of 10/3 is used in calculating the recommended separation distance for transmitters in the ISM frequency bands between 150 kHz and 80 MHz and in the frequency range 80 MHz to 2,5 GHz to decrease the likelihood that mobile/portable communications equipment could cause interference if it is inadvertently brought into patient areas.

NOTE 4 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

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