

# INVISA-BEAM<sup>®</sup>

## DUAL BEAM BED MONITOR

### OPERATING INSTRUCTIONS

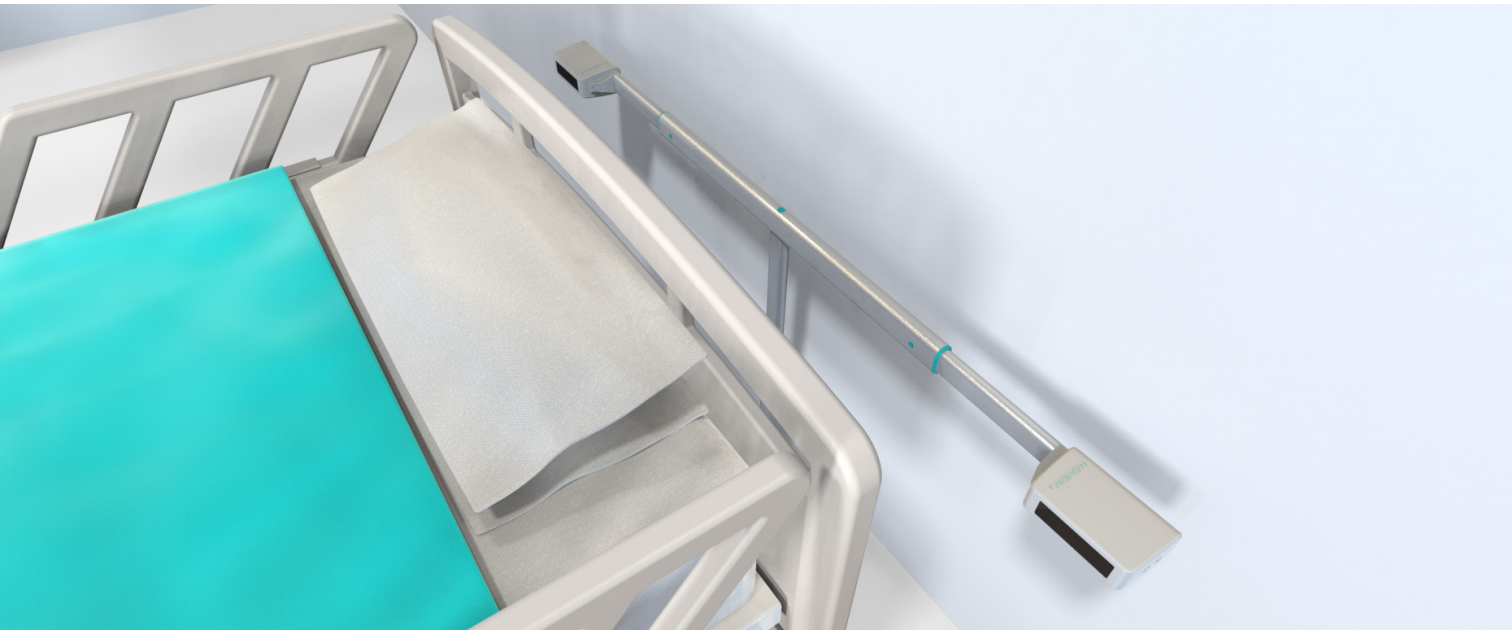




# CONTENTS

<b>Introduction</b> - An aid for falls prevention	2
<b>Overview</b> - Purpose, features, options	3
<b>Components List</b>	4
<b>Monitor Head Unit</b> – Front and rear views	5
<b>Monitor Assembly</b> – How to set up the monitor	6
<b>Installation</b> – How to install	7
<b>Beam Arrangement</b> – Location & position of the Invisible Beam	8
<b>Manual Operation</b> – Operational sequence	9
<b>Component Specifications</b>	10
- Sensor specifications	
- Desktop power supply	
- Classifications	
- Summary of component parts	
<b>Accessories</b>	
<b>Invisalert</b> – Features, charging, programming	11
<b>Entry Pass</b> – Features	12
<b>Entry Pass Charger</b> – Features, charging	13
<b>General Information</b>	14
- Conformance	
- Safety instructions	
- Warranty	
- Disclaimer	
<b>Warranty Registration</b>	15

# INVISA-BEAM® DUAL BEAM BED MONITOR



## **AN AID FOR FALLS PREVENTION**

**Monitors both sides of the bed**

**Alerts the carer immediately when the invisible beam is interrupted**

**Non-invasive and non-restrictive monitoring system**

**Suitable for Hospitals and Aged Care Facilities**

*catch them before they fall®*

# INVISA-BEAM® DUAL BEAM BED MONITOR OVERVIEW



## PURPOSE

INVISA-BEAM® Dual Beam Bed Monitor monitors **both** sides of the bed with continuous invisible beams. When a patient at-risk of a fall attempts to first leave the bed unaided, the invisible beam is broken, immediately raising an alarm. It is either directed to a nurse-call system, an INVISA-BEAM® Invisalert or Remote Alarm.

## FEATURES

INVISA-BEAM® Dual Beam Bed Monitor is very flexible. Using its telescopic arms, the monitor can be adjusted to accommodate beds varying in width from approximately **1000mm to 1350mm**. The monitor can also be raised to approximately **790mm** for beds using bed rails or lowered to within **450mm** off the floor for low level beds.

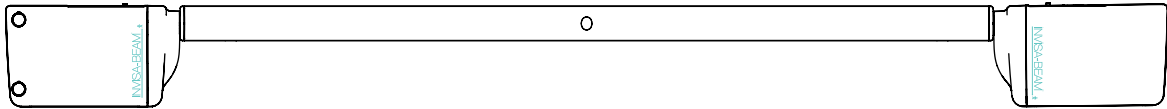
INVISA-BEAM® Dual Beam Bed Monitor is free-standing. This allows the hospital bed patient to be transported in their bed for treatment. On return, the bed is placed in the same position and the monitoring system restored.

## OPTIONS

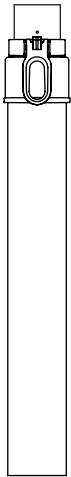
**[a] Hands Free** INVISA-BEAM® Dual Beam Bed Monitor requires either an Entry Pass or an Invisalert to be worn by staff to switch the monitor OFF and ON automatically.

**[b] Manual Operation** Touch pad controls are provided as a backup.

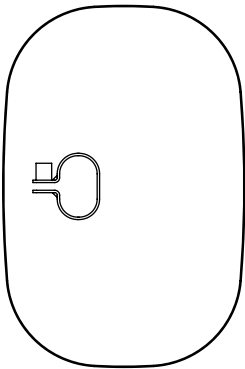
# INVISA-BEAM® DUAL BEAM BED MONITOR COMPONENTS



Crossbar Assembly



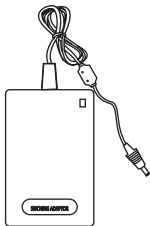
Adjustable  
Vertical Column



Base Plate



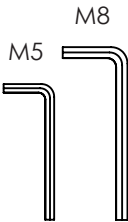
Power Cord



Power Supply

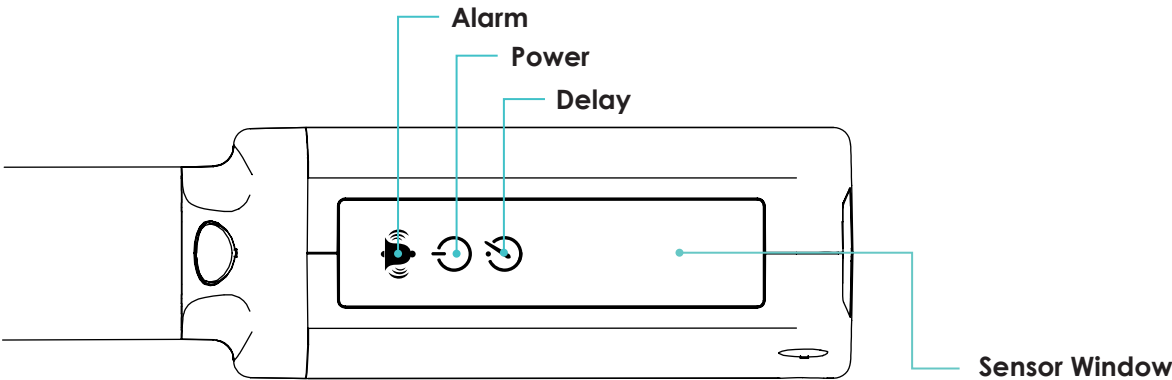


Nurse-call  
Cable

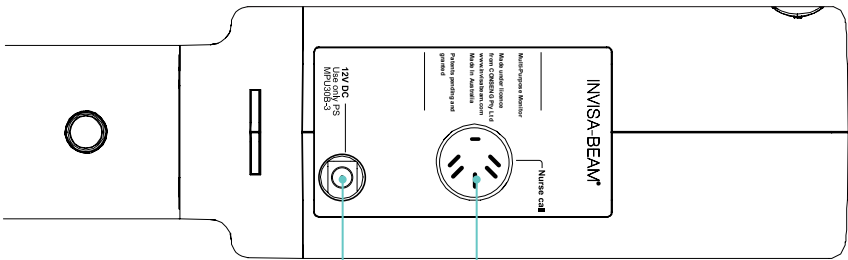


Allen Keys

# INVISA-BEAM® DUAL BEAM BED MONITOR HEAD-UNIT

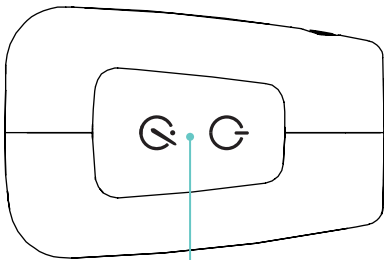


FRONT VIEW



**12V DC POWER**  
**5 Pin Nurse-call Socket**  
Connects to Nurse-call socket to transmit

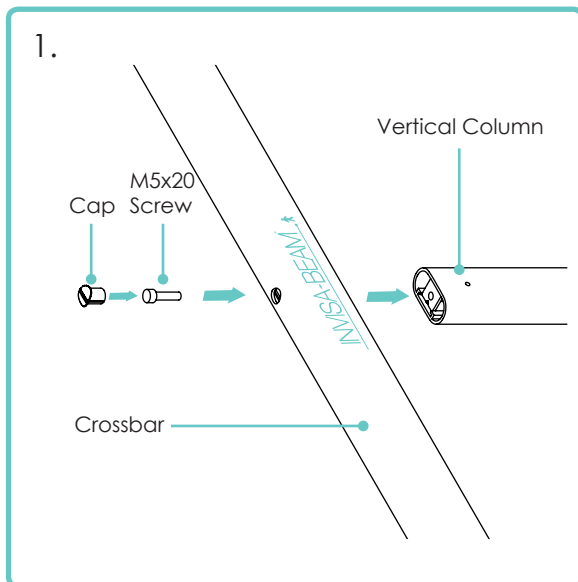
REAR VIEW



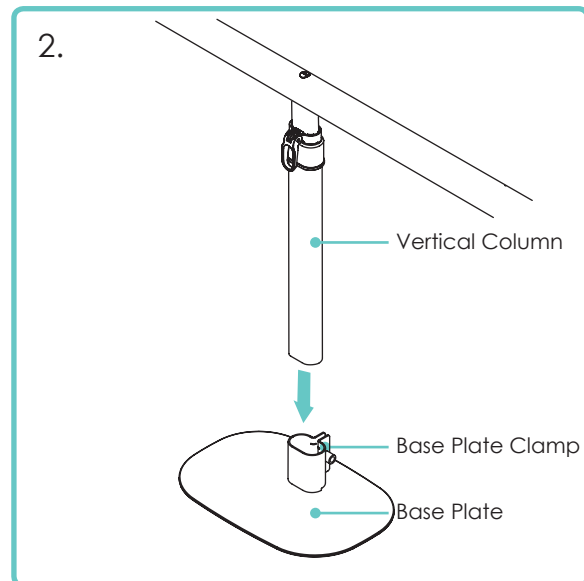
**Delay & Power Touch Pads**

END VIEW

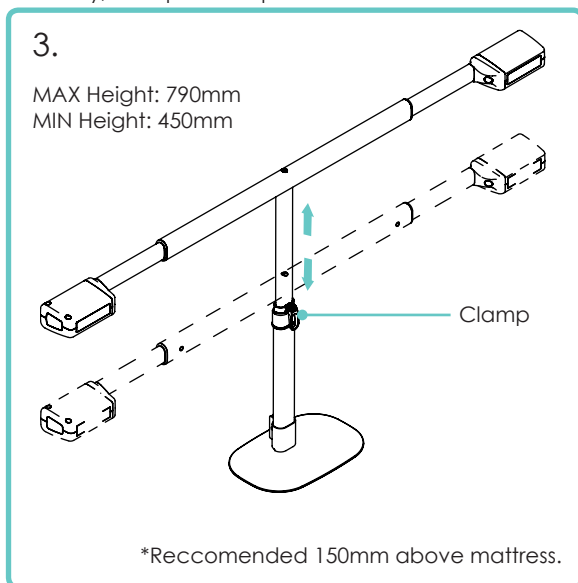
# INVISA-BEAM® DUAL BEAM BED MONITOR ASSEMBLY



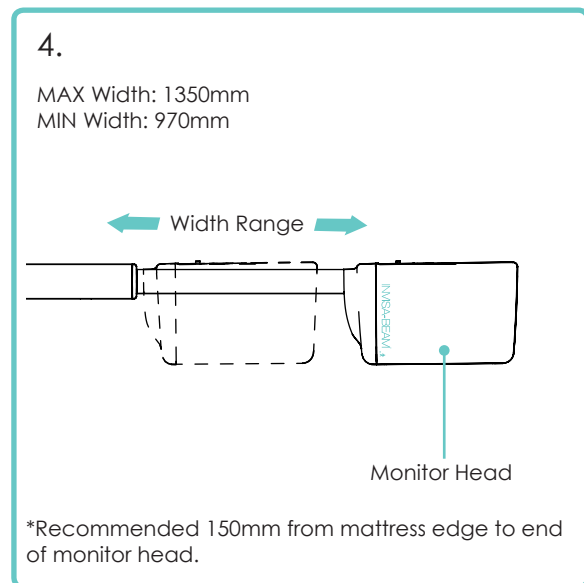
1. Place the crossbar section onto a flat surface and screw crossbar to vertical column using supplied screw and M5 Allen Key, then place cap on hole.



2. Place the Vertical Column into the Base Plate clamp and tighten screw firmly with supplied M8 Allen Key.



3. Lift clamp lever to unlock, adjust monitor height to required level and lock by pushing clamp lever down.

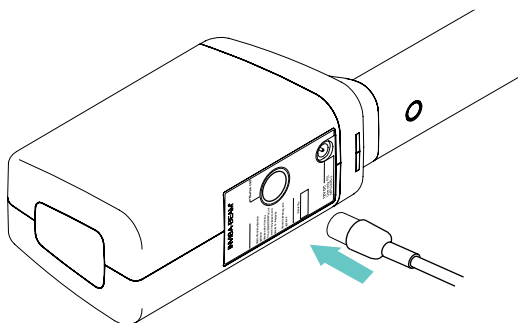


4. Adjust monitor width as required.



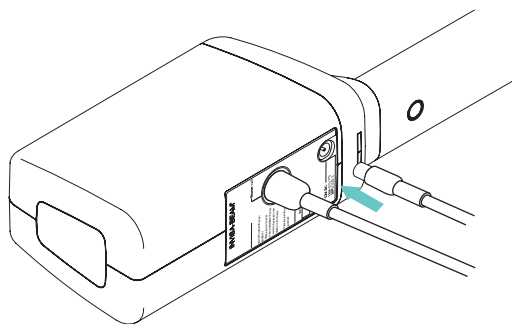
# INVISA-BEAM® DUAL BEAM BED MONITOR INSTALLATION

5.



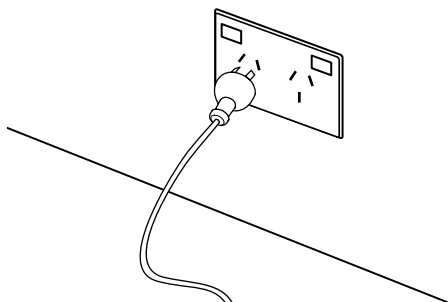
5. Plug Nurse-call Cable into Nurse-call socket on rear of one of the monitor Head-Units only.

6.



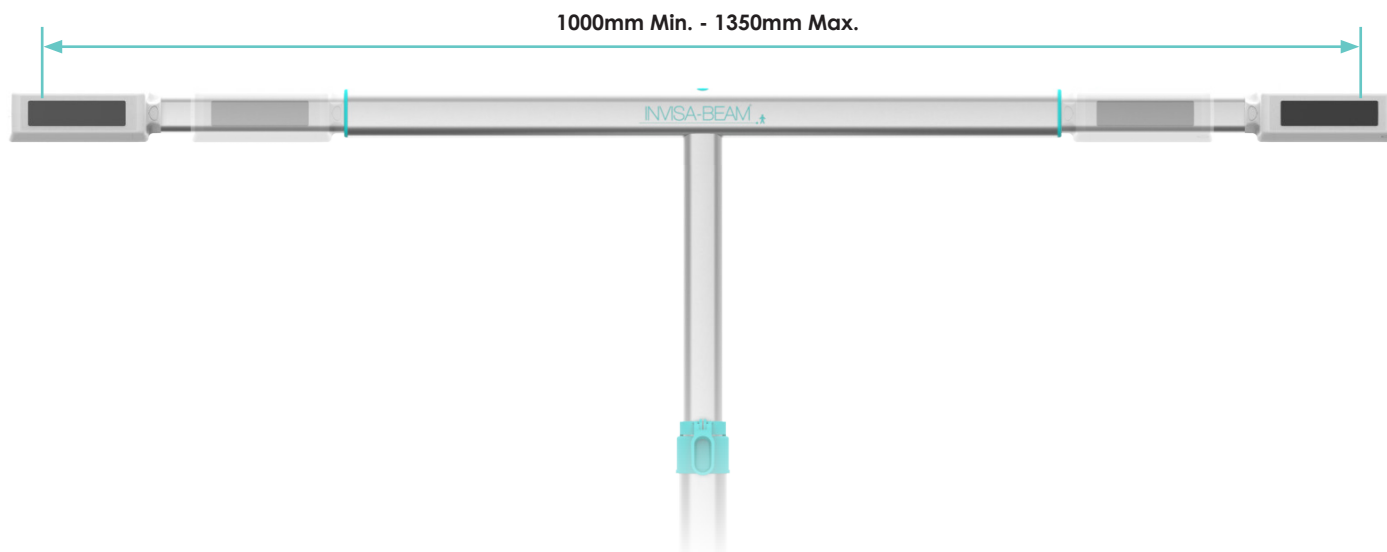
6. Plug the 12V Power Supply cable from the power supply into the 12V port at the rear of one of the monitor Head-Units only.

7.



7. Plug 240V Power Cord into the power point and switch the power point on.

# BEAM ARRANGEMENT



## LOCATION & POSITION OF THE INVISIBLE BEAM

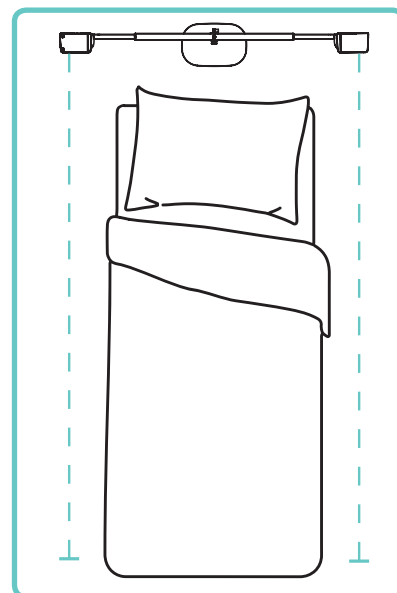
### DUAL BEAM BED MONITOR SET-UP

- Place the monitor centrally behind the bed.
- Raise/lower the cross-arm until it is approximately 150mm above the mattress and lock in position.
- Adjust telescopic arms on the cross-arm so that the **outside** edge of each lens is approximately 150mm from the edge of the bed.

### POSITIONING THE BEAMS TO SUIT THE BED

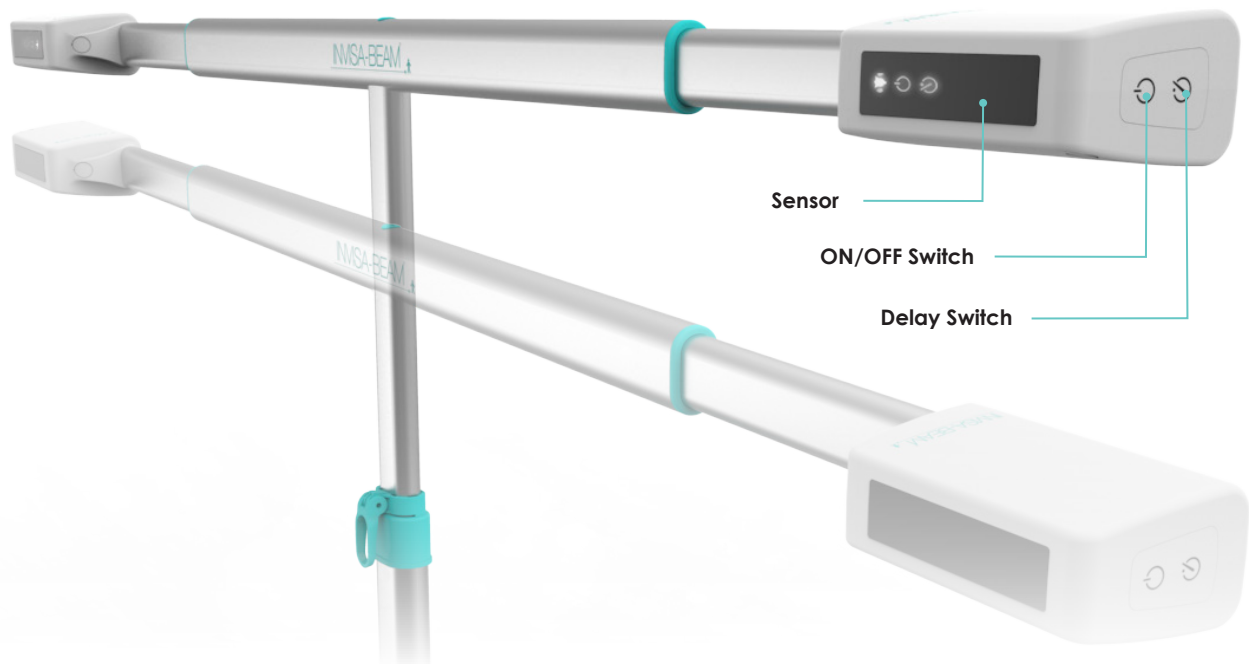
The ends of the INVISIBLE-BEAM® Dual Beam Bed Monitor are telescopic. They can be extended from 1000mm to 1350mm to accommodate bed widths.

When positioning, ensure that the Sensor Window is free of obstructions that may cause false alarms eg: blankets, furniture.






The length of the invisible beam is preset to 1650mm. If the beam length needs to be altered, contact the distributor.

# DUAL BEAM BED MONITOR MANUAL OPERATION



## OPERATIONAL SEQUENCE

### Normal Operation

-  - Constantly illuminated to confirm power to the monitors.
-  - When alarmed, the LED on the activated monitor will flash continuously until disarmed by Entry Pass, Invisalert or manually.
-  - Indicates alarm signal is delayed approximately 0.5 seconds.

**Delay Switch** - Minimises false alarms caused by erratic body movements, etc.

- Press Delay switch once, LED glows.
- The sensor signal only activates when the beam is continuously broken for more than 0.5 secs.

**INVISA-BEAM DUAL BEAM BED MONITOR IS NOW ACTIVATED**

# COMPONENT SPECIFICATIONS

The photoelectric proximity sensor utilises an infrared light source [880nm wavelength] with background suppression. There is no visible light from the sensor. The sensor consists of an emitter and a receiver in the same housing and uses a diffuse mode. The sensing range of the sensor is accurately determined by adjusting the background suppression using the sensitivity control screw at the back of the sensor. This adjustment must only be made by an authorised technician.

The sensor model used is SICK WTB23-2PI.

To maximise sensor performance INVISA-BEAM® Dual Beam Bed Monitor utilises middle of range [0-1800mm].

SICK WTB23-2PI Infrared Photoelectric Switches meet all relevant International Standards.  
The infrared beam is not harmful to people [Ref - SICK Operating Instructions - 'Proper Use'].



## SENSOR SPECIFICATION

Scanning range	100 to 2500mm, adjustable
Light source	LED, infrared, 880nm
Supply voltage	10 to 30 V DC
Operating temperature	+10°C.....+40°C

## DESKTOP POWER SUPPLY

To meet all standards, the INVISA-BEAM® Dual Beam Bed Monitor must be used with ELJINTEK Model MPU30B Medical Approved Desktop Power Supply -  
Input 100 – 240 VAC, 50 – 60 Hz, 0.8A  
Output 12 VDC regulated, 30W, 2.5A

## IEC 60601-1 CLASSIFICATIONS

- Class II Equipment  For double insulated equipment.
- Type B Applied Part .
- IPXX
- Equipment not suitable for use in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide.
- Lead free and ROHS compatible.
- Continuous operation.

## SUMMARY OF COMPONENT PARTS

Object/part No	Manufacturer/trademark	Type/model	Technical data	Approval	Notes/Remarks
Power Supply	ELJINTEK	MPU30B	100-240VAC 50/60Hz, 0.8A	UL, CE	
Control Circuit PCB	Lintek		FR4	PC600F Class 2	
Relay RLY1, RLY2	Omron G6S-2F-Y-TR	DIL DPDT	12V DC 60W		
Sensor	SICK	WTB23-2PI	DC 10...30V out ≤100mA	UL, CE	

# INVISA-BEAM® INVISALERT

INVISALERT® is part of a stand-alone nurse-call system used in conjunction with INVISABEAM® Dual Beam Monitor. INVISALERT® automatically cancels the alarm when the nurse is at the bedside and resets the monitor after leaving the bed. It has a receiving range of 100-200m depending on building structure.



## FEATURES

- Alarm with vibrator and audible alarm
- When alarm is activated:
  - vibrates and sounds alarm.
  - window illuminates.
  - R - room and B - bed number is displayed.
  - stores up to 99 rooms and 99 beds.
- Cannot be switched off. This ensures the resident is attended immediately.
- Alarm can only be cancelled when the INVISALERT® is at the bedside.

## CHARGING INVISALERT

Use 6VDC regulated power supply provided.

**Charging Port** - Located mid-way on left hand side

To charge battery - plug power supply into power point and connect power supply to charging port. Then turn on power supply at the power point.

**Charging Battery** – approximately 6 hours.

Battery life appears as a battery symbol in the window. Re-charge battery daily.

**Warning** INVISALERT® is not waterproof. Do not immerse in liquids.

**Cleaning** Unplug INVISALERT® before cleaning. Wipe external surface with an antiseptic wipe.

## INVISALERT

### TO SET ROOM+BED

Press OK - "Add BMT"

Press OK - "0000000"

Activate Alarm - "0000309"  
(Sample Number)

Press OK

Scroll Room No ↓

Press Right →

Scroll Bed No ↓

Press OK - "ADD OK"

Press Left ← "00 MSG"

### TO READ MESSAGE

Press Left ← "01 MSG"

Press Right → "Bed 01 Rm 01"

### TO REMOVE BMT

Press OK - "Add BMT"

Press Down ↓ "REM BMT"

Press OK - "0000309"

(Sample Number)

Press OK - "REM OK"

Press Left ← "00 MSG"

# INVISA-BEAM® ENTRY PASS



## FEATURES

- Coloured side of the Entry Pass is worn to the front. It continuously transmits a pulse signal containing its serial number.
- Flashing green LED is visible through the translucent front.
- Flashes continuously when in use, indicating the battery is charged and operation is correct.
- Erratic flashing indicates the Entry Pass requires charging. Battery life approx. 3~4 days before recharging.
- Working range of 1.5m approx. and a field range of 3 to 4m.

**Warning** The Entry Pass is not waterproof. Do not immerse in liquids.

**Cleaning** The Entry Pass may be wiped over with a damp cloth or an antiseptic wipe.

The Entry Pass is like a master key. It allows the nurse free access to the patient without worrying about switches.

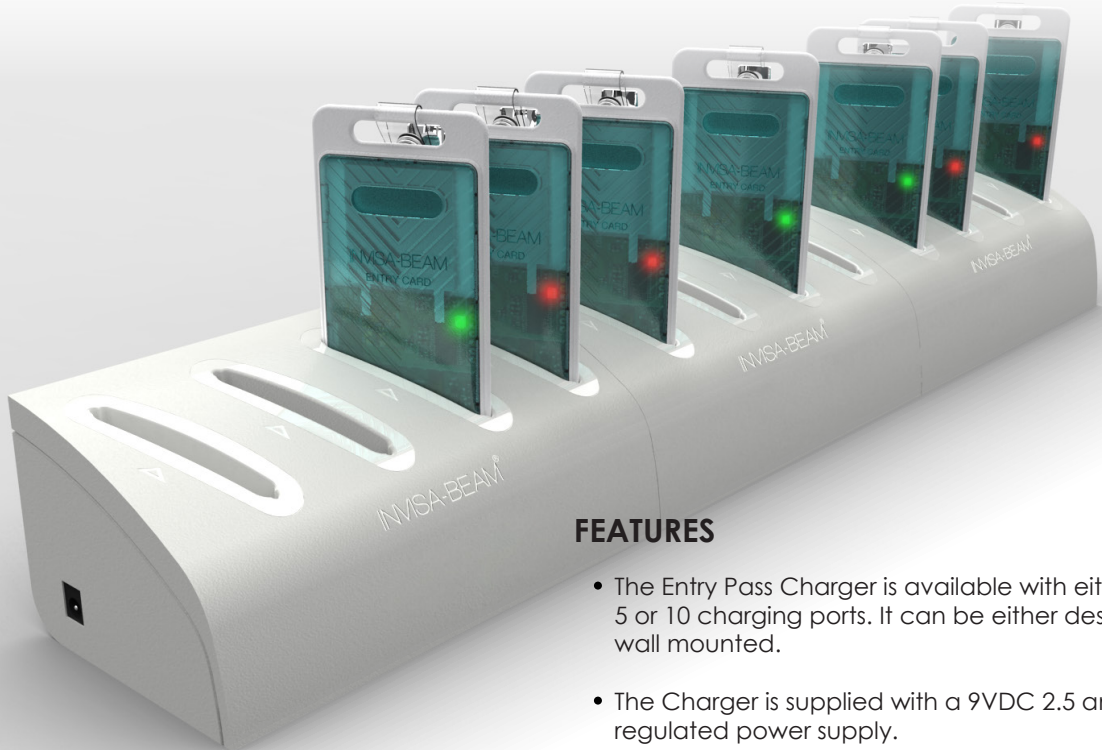
When the nurse attends to the patient in response to an alarm:

- The Entry Pass cancels the alarm
- The bed monitor alarm automatically resets when the nurse leaves the bed

The Entry Pass may be worn with retractable clip supplied.



# INVISA-BEAM® ENTRY PASS CHARGER



## FEATURES

- The Entry Pass Charger is available with either 5 or 10 charging ports. It can be either desk or wall mounted.
- The Charger is supplied with a 9VDC 2.5 amp regulated power supply.
- While the Entry Pass is in the Charger its transmitter is turned OFF.

## CHARGING THE ENTRY PASS

- Connect power supply to charger and power point – turn power ON.
- Power indicator on the charger glows yellow indicating power.
- Insert the Entry Pass into a charging port. Do not force the Entry Pass into the Charger – it can only be inserted in one direction.
- Charging indicator on the Entry Pass will flash red/green.
- When fully charged, the Entry Pass will glow red.

**Warning** The Entry Pass Charger is not waterproof. Do not immerse in liquids.

**Cleaning** Unplug the Entry Pass Charger before cleaning. Wipe external surface with an antiseptic wipe.

# CONFORMANCE

Therapeutic Goods Administration - ARTG 173590 – Listed Medical Device - Class 1

AS/NZS 3200.1.0

AS/NZS 3200.1.2

IEC 60601-1 + A1 + A2

IEC 60601-1-2

## SAFETY INSTRUCTIONS

Do not allow liquids to be spilled on the INVISA-BEAM® Dual Beam Bed Monitor or its components. They are not waterproof.

Before cleaning, unplug the INVISA-BEAM® Dual Beam Bed Monitor at the power point. Clean all external surfaces with an antiseptic wipe.

Do not use the INVISA-BEAM® Dual Beam Bed Monitor as a shelf. Do not place objects on it.

An authorised technician should check the INVISA-BEAM® Dual Beam Bed Monitor, including power supply plugs and cords, annually.

Do not attempt to service the INVISA-BEAM® Dual Beam Bed Monitor. There are no serviceable parts. If the equipment does not work, return it to the manufacturer or authorised distributor for repair or replacement.

## WARRANTY

The benefits conferred by this warranty of INVISA-BEAM® Dual Beam Bed Monitor are in addition to all other rights and remedies in respect of the product that the consumer has under the Trades Practices Act and other State and Territory Laws.

Subject to the following conditions, we provide from the date of purchase, the following warranty -

For 1 year from the date of purchase, we will replace any parts made defective in workmanship, and make all necessary adjustments, free of charge, provided the equipment is used for the purpose it is intended.

The INVISA-BEAM® Dual Beam Bed Monitor must only be used with Power Supply ELJINTEK Model MPU30B-3 to comply with the above Standards, otherwise the warranty may be voided.

This unit must not be connected to any voltage other than the specified voltage – 12 volts DC.

## DISCLAIMER

INVISA-BEAM® Dual Beam Bed Monitor is a non-invasive and non-intrusive bed monitoring system to ALERT medical staff when a frail/ confused patient/resident attempts to, or leaves the bed, without assistance, thus reducing the possible risk of injury.

Whilst INVISA-BEAM® Dual Beam Bed Monitor may help avert falls, it cannot directly prevent falls. It should be used only for its intended purpose e.g. where the patient/resident does not use the hand-held Nurse-call button.

The performance of INVISA-BEAM® Dual Beam Bed Monitor may be affected by Electro-magnetic Interference if placed in strong fields generated by other equipment. Under these conditions INVISA-BEAM INTERNATIONAL PTY Limited shall not be held responsible for the proper performance of the bed monitor.



WARRANTY REGISTRATION

Name of Facility: \_\_\_\_\_ Date of Purchase: \_\_\_\_\_

Address: \_\_\_\_\_ Serial No: \_\_\_\_\_

Telephone: \_\_\_\_\_ Model: \_\_\_\_\_

Email: \_\_\_\_\_ Distributor: \_\_\_\_\_

To register for your 1 year warranty, please detach and return to:

INVISABEAM INTERNATIONAL PTY LTD  
52 MACKELLAR CRESCENT  
COOK, ACT 2614  
AUSTRALIA

Tel: 61 (0)2 62511374  
E-mail: info@invisabeam.com  
Web: www.invisabeam.com

SERVICE CONTRACT

Annual service inspection of the bed monitor is highly reccomended.

☐ Please indicate if you wish to have your bed monitor(s) serviced annually

# INVISA-BEAM<sup>®</sup>

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