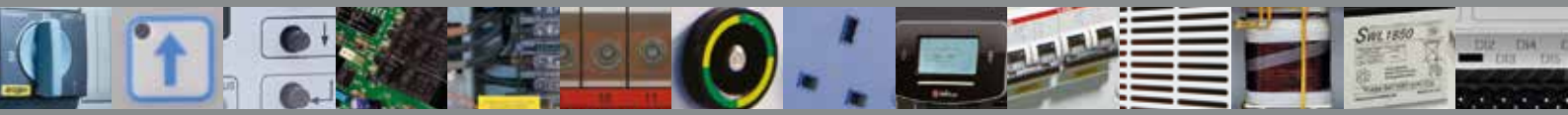


Medipower™

Medical IT & Uninterruptible Power Supply



Medipower™ Medical IT & Uninterruptible Power Supply



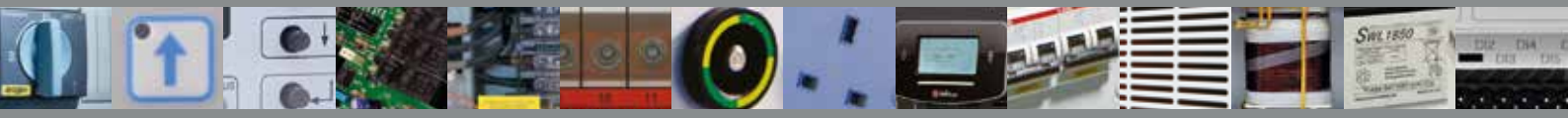
"Brandon Medical is a UK manufacturer and designer of world-leading technology for operating theatres, critical care areas and primary care institutions. For over 70 years, Brandon Medical has provided healthcare professionals with reliable, high-quality and affordable medical equipment. Continuous investment in our products allows us to meet the ever-changing needs of our customers, the healthcare industry and the patients it serves."



Providing clinical solutions for your every need

Brandon Medical provide a comprehensive range of products covering four main specialities; Medical Lighting, Control & Power, Medical Architectural and Medical AV Systems. The Company works exclusively with the most reputable and reliable suppliers in the Control & Power sector, namely ESA Grimma for Medical IT systems and Riello for UPS to provide integrated solutions for medical locations.





Medical IT Systems (also known as IPS systems)

Medical IT systems provide safe delivery of electrical power in accordance with HD60364-7-710 for group 2 locations or HTM06-01 for clinical risk category 5 areas.

The Medical IT system provides continuity of supply in the instance of the first insulation fault. The Medical IT system also offers additional protection from electrical leakage currents.

Uninterruptible Power Supply - UPS

In accordance with regulations all UPS units provided are double online conversion with an autonomy of 60 minutes. Systems with greater autonomy are available.

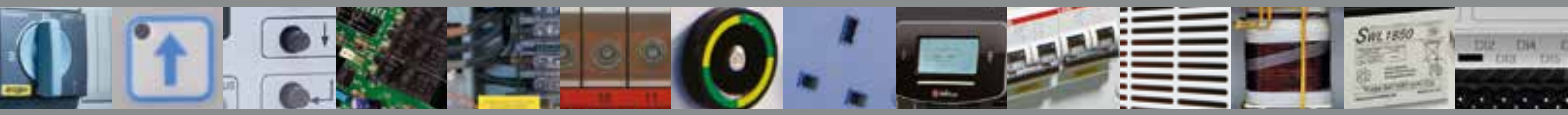
The UPS also provides load protection from mains borne spikes, surges and electrical noise.

In order to provide maintainability in accordance with CDM guidance, UPS are typically supplied with an external maintenance bypass panel (EMBP).

Using energy stored in batteries, a UPS provides instantaneous emergency power to a critical load when the input power source or mains power fails.



Medipower™ Medical IT Power Supply



High Quality

ESA Grimma develop and produce system solutions that ensure safe energy distribution. These products are used and trusted worldwide.

Modular Construction

Ability to hot-swap and maintain individual components.

Powerful Messaging

Programmable content with up to 1000 alarm messages.

Smaller Footprint Space Requirements

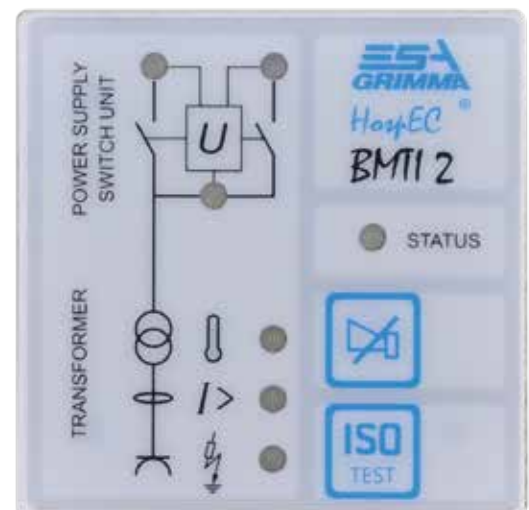
The compact system design allows for better use of valuable space.

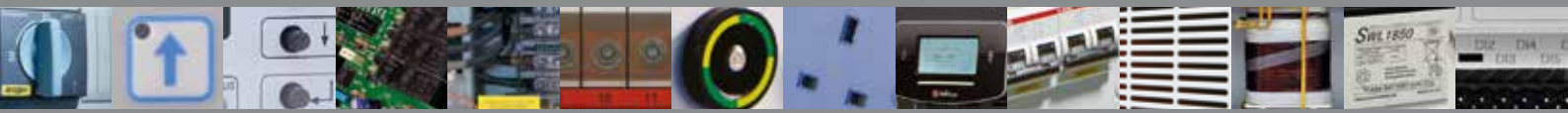
Flexible Number of Outgoing Ways

Medical IT systems MCBs are available in functional blocks of 6, up to a maximum of 96.

Enhanced Warranty

Medical IT systems are provided with a warranty of up to 5 years, subject to there being planned preventative maintenance measures in place, offering additional peace of mind.





CANbus Network Connectivity

A CANbus (Controller Area Network bus) allows devices to communicate with each other without a host computer.

Medical IT alarm signals communicate seamlessly via CANbus, offering many benefits:

■ Significant Reduction in Field Wiring

CANbus can offer over 50% reduction in field cabling costs.

■ Multiple Master Alarm Functionality

The BMTi 5 Series remote alarm communicates with all other connected devices on the CANbus network. In the unlikely event of a failure any remote alarm can take precedence.

■ Speed of Response

CANbus is capable of identifying and reporting load insulation faults in 5-30 seconds.

■ Future-proof

Each CANbus network can be up to 2500m in length for linking multiple networks or future expansion.

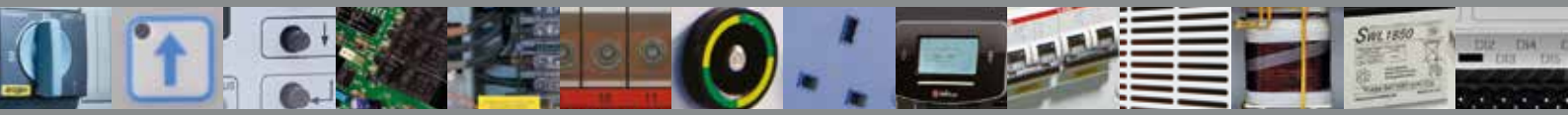
■ High Resilience

CANbus continually monitors two-way communications between all CANbus connected devices, identifies any faults and provides parallel redundancy.

■ Advanced Event Logging

The Medical IT system timestamps and documents any fault reported for future reference or data extraction.

Medipower™ Medical IT Power Supply



Clinical Areas Applicable

Medical IT systems should serve the following areas:

- Operating Theatre Suites and Recovery Areas.
- Emergency Departments - Resuscitation
- Critical Care Areas – CCU, ITU, SCBU, NICU, HDU etc.
- Imaging Rooms – MRI, CT, PET, X-Ray, Cath Lab etc.

System Configurations

Medical IT transformers are available in 4,5,6,3,8 and 10KVA frame sizes:

- Panel configurations are Single (SIPS), Double (DIPS) and Triple (TIPS) solutions.
- Floor and wall-mounted options.

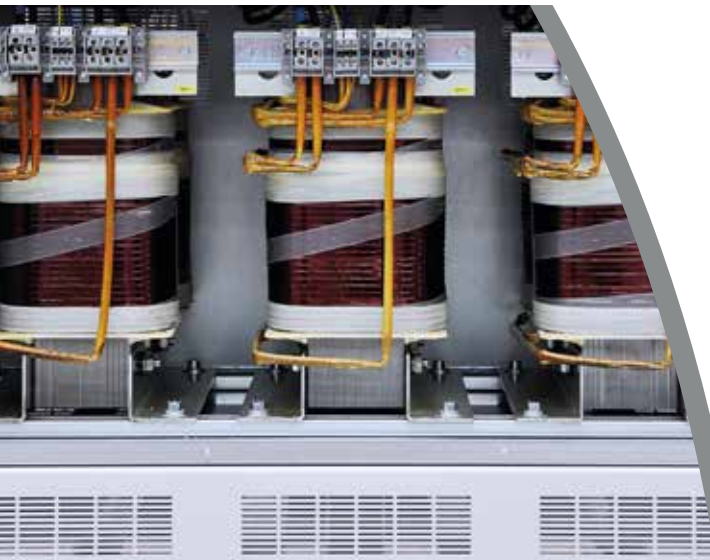
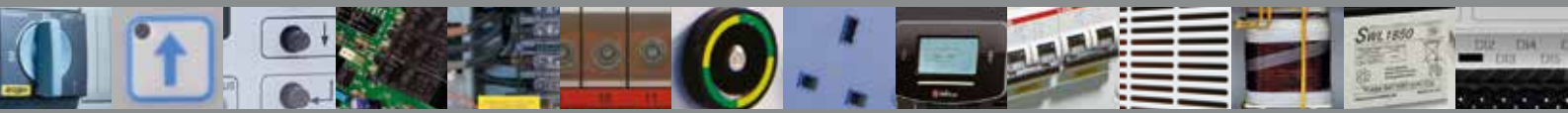
System Options

- Individual line insulation fault monitoring (IFS).
- Brandon Automatic Transfer System (BATS).
- Pass switch.
- Surge protection.
- MCB tripped monitoring.
- Network gateway.

Annunciator Alarm Panels

A remote annunciator alarm panel is always installed either in the medical room and/or at the nurse station, providing both audio and visual indication.





Medical IT Systems Key Components

■ Energy Efficient Transformers - TRX

Highly efficient transformers reduce running costs and allow for a long product lifespan.

■ Insulation Load Temperature - ILT

Monitors the 3 primary functions, namely net work insulation, transformer load and transformer temperature.

■ Insulation Fault Detection Systems - IFS

IFS provides a simple and effective method to identify which outgoing circuit has an insulation fault.

■ Automatic Transfer System - BATS

In the event of failure of the primary power supply, BATS ensures that the secondary supply can be switched into service within 0.5 seconds.

■ CANbus Interface Panel

All equipment which can provide a volt free alarm status, can be connected to the CANbus network via the CANbus interface.

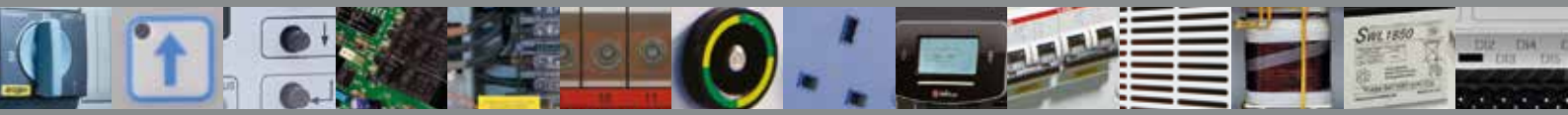
■ Surge Protection

Where Medical IT panels are considered a distribution board, double pole type II surge protection devices may wish to be considered.

■ Network Gateway

An optional feature, the web server provides an open protocol gateway to an external computer network and/or the internet.

Medipower™ Uninterruptible Power Supply



Comprehensive Product Range

UPS frame sizes from 6KVA to 500KVA to satisfy virtually all healthcare applications.

System Configurations

- Traditional.
- Modular.
- Various Topologies – N, N+1, 2N+1, N+N etc.
- Synchronous kit.
- Parallel kit.

Transformerless Design

All UPS supplied are based on transformerless technology.

High Efficiency

All Double Online Conversion UPS units offer up to 96.5% efficiency and a 0.9 power factor.

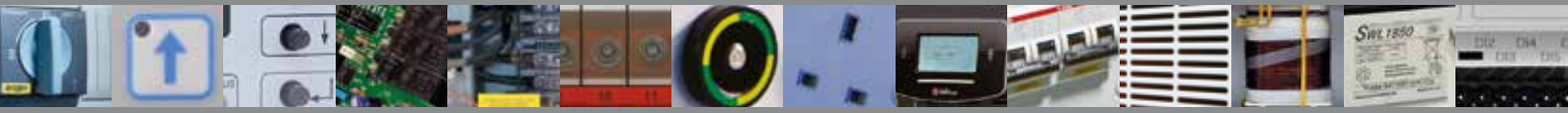
Market Proven

Riello have been active in the UK market for over 15 years, completing thousands of healthcare installations.

Reliability

Mean Time Between Failure (MTBF) of over 250,000 hours within the UPS range.





High Quality

Riello UPS systems are internationally respected, supplying global solutions and guaranteeing power for any critical application.

Smaller Footprint Space Requirements

The compact system design allows for better use of valuable space.

Advanced Communications

- Volt free contacts.
- Simple network management protocol - SNMP.
- MODbus.
- RS232.

Open Protocol

Allows end users to communicate without the requirement of a complex interface. End users are able to obtain competitive price year on year for planned preventative maintenance (PPM).

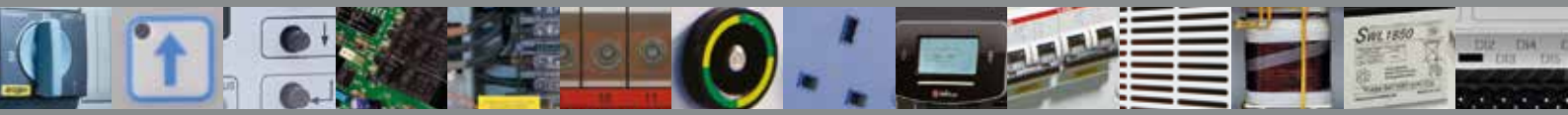
Enhanced Warranty

UPS systems are provided with a warranty of up to 3 years, subject to there being planned preventative maintenance measures in place, offering additional peace of mind.

Factory Tested

Our UPS systems are tested in our state-of-the-art factory to match all current regulations. Test certificates are available.

Medipower™ Uninterruptible Power Supply



Batteries

10 Year Valve Regulated Lead Acid Batteries

All medical UPS systems are supplied with batteries in accordance with BS60896 pt. 21 and 22. These 10 year VRLA batteries are constructed from a rigid, flame retardant casing with screw terminals.

Increased Battery Performance

UPS battery care system optimises battery management and obtains the best operating life possible.

Environmental Conditions

It is important that batteries are kept in a suitable environment to ensure battery design life is achieved.

Battery Monitoring Options

- Design life.
- End of life.
- Battery block monitoring.
- Temperature labels.
- Repeat duty within nominated timescale.
- Battery autonomy countdown.

On Site Load Bank Testing

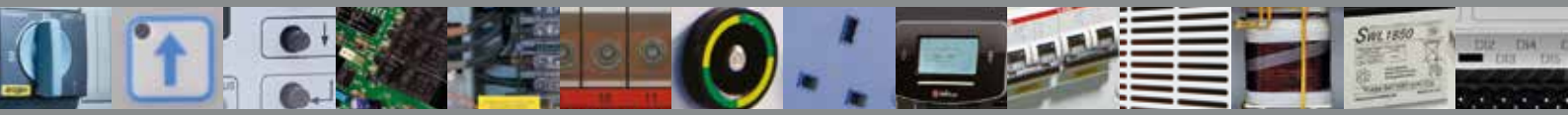
A service typically requested by end users and available on request.

Lithium Ion Battery Option

When compared against the traditional VRLA battery, the Lithium Ion Battery provides:

- Substantial reduction in footprint.
- Increased operating temperature.
- Provides a 20 year design life.





Ancillary Equipment

External Maintenance Bypass Panels - EMBP

These panels provide total isolation for UPS maintenance with no disturbance to the load.

The EMBP allows the UPS to be switched out of service and connects utility supply directly to the load. This enables maintenance of the UPS to take place without interruption of supply.

EMBP are available with multiple configurations to satisfy any UPS design topology.

EMBP Available up to 160KVA

UPS frame sizes larger than 160KVA are typically supplied from separate input/output distribution boards.

Fast Response Negates Safety Key Requirement

EMBP panel allows the static bypass switch to operate within 6 milliseconds ensuring no backfeed to the UPS, thus negating the requirement and cost of Castell interlocking.

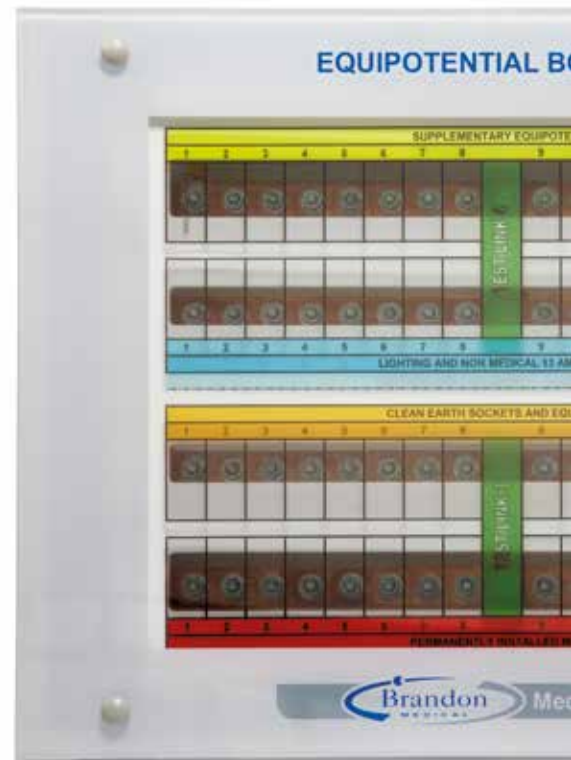
Safety Key Interlock Option

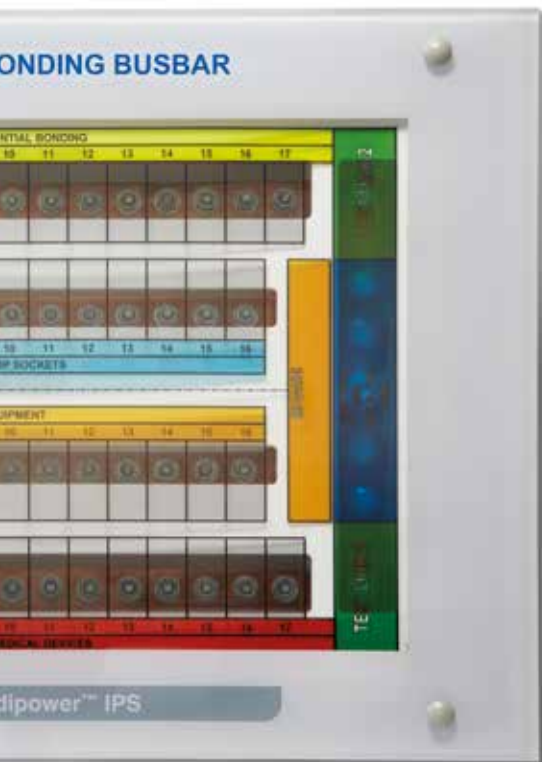
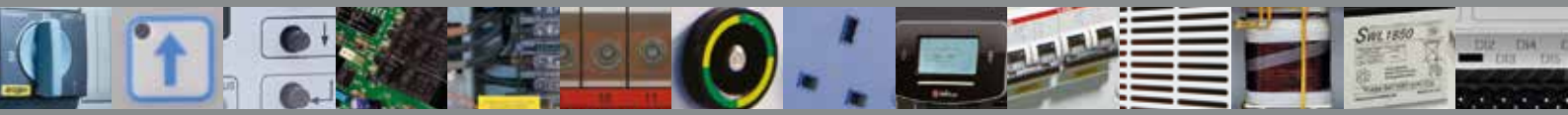
Where required by the specification, this option is available upon request.

Delta Zig Zag Transformers

Preferred solution for neutral generation close to UPS, also available upon request.

- 160A size.
- 320A size.
- 630A size.
- Non-ferrous.
- Flush or surface-mounted.





Equipotential Earth Sockets - EES

Equipotential earth sockets provide additional earth bonding reference points for all extraneous medical equipment. All medical electrical equipment will have a built-in earth stud counterpart as standard.

These sockets are available for loose fitting into panels, trunking or pendants, or on a back plate in a single, double or quadruple configuration.

Equipotential Earth Leads

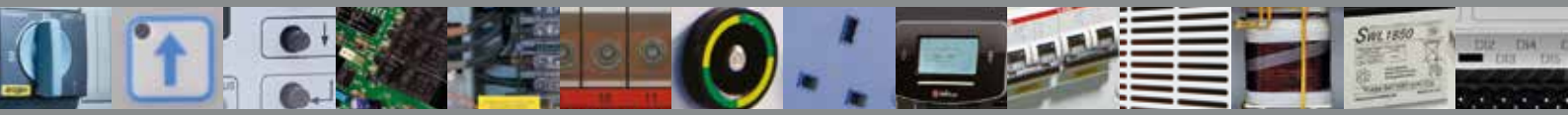
Equipotential earth leads are used to connect medical equipment to equipotential earth sockets which are subsequently connected to the earth bonding bar.

Clean Earth Unswitched Blue Sockets

All Medical IT power sockets are required to be blue in colour, unswitched with clean earth connection and labelled as 'Medical Equipment Only'.

These sockets are available as single or double gang configurations.





Intelligent Battery Emergency Power for Operating Lights

Surgical luminaries are one of the critical systems within the OR and require the highest level of power supply resilience. To ensure this each luminaire should have its own primary (mains) and secondary (battery backup) supply. In accordance with HD60364-7-710, BS7671-2018 (18th edition) and HTM06-01:2017, the surgical operating light must have a back up of 3 hours.

- Time and cost saving via automated test and battery maintenance.
- HTM 06-01 compliant.
- Modbus communication.
- Intelligent theatre control panel (iTCP) connection.
- Easy to monitor and configure with Near Field Communication (NFC).
- Collects data for secure reports via Android app.

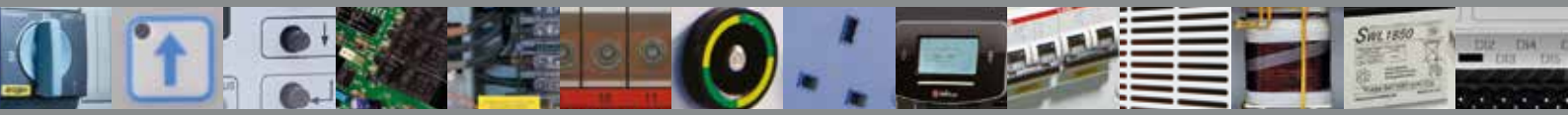
Brandon Medical's iBEPU system consist of:

- An integrated power supply unit (PSU).
- A separate battery charger.
- 10-year design life batteries.
- High speed (static switch) changeover unit.
- Modbus communication to iTCP.

The primary supply unit (PSU) will provide the lamp with power under normal operating conditions. Should the primary supply suffer a mains failure or a catastrophic component failure, then the iBEPU will switch over to its own battery supply.

Through its associated app engineers can configure, maintain and provide reporting on the battery system.





Further Assistance

The equipment associated in medical IT/UPS system design is complex, requiring specialist knowledge. This brochure is intended to provide only an overview of the equipment that we provide.

Contact Brandon Medical for more detailed information and assistance in designing and specifying medical IPS/UPS solutions.

- CPD – Continuous Professional Development.
- Design Assistance.
- Technical Seminars.
- Site Survey.
- Demonstrations.

Compliances

Brandon Medical prides itself on supplying products of the highest quality. All products comply to the strictest regulatory and recommendatory documentation.

Our IT/UPS systems comply to the following documentation:

IPS

- HD60364-7-710:2012
- BS EN 61558-2:2015
- BS EN 61557-1:2007
- BS EN 61557-8:2015
- BS EN 61557-9:2015
- BS EN 60601-1:2010
- BS7671:2018 – 18th Edition
- Guidance Note 7:2015
- HTM06_01

UPS

- BS EN 62040-1:2013
- BS EN 62040-2:2006
- BS EN 62040-3:2011
- BS EN 60896 Pt. 21 and 22:2004
- BS EN 50272-1:2010
- BS7671:2018 – 18th Edition
- Guidance Note 7:2015
- HTM06_01

Exceeding Standards

Brandon Medical is certified as an ISO 13485 and ISO 9000 manufacturer, the global standard for medical device manufacturers.



UK Customs
Approved Exporter
Status GB 16164/13



THE QUEEN'S AWARDS
FOR ENTREPRISE:
INTERNATIONAL TRADE
2018



Certificate Number 325



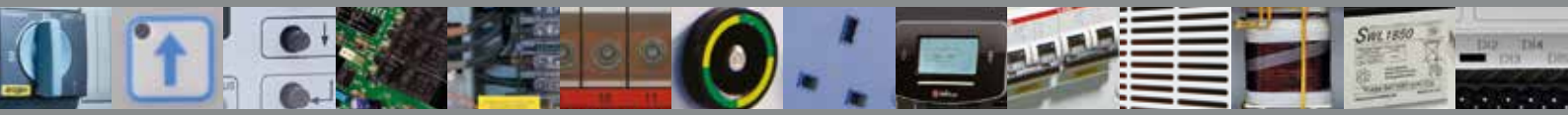
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THE QUEEN'S AWARDS
FOR ENTREPRISE:
INNOVATION



Award Winner
2019



IPS/UPS can be associated with Brandon Medical's wide range of products.

Operating Theatre Lights and Battery Back Up

Minor Surgical Lights

Examination Lights

Theatre Control Panels

PACS Workstations

Medical Gas Pendants and Accessories

Ultra Clean Ventilation Canopies

Operating Table and Accessories

Digital Audio Video Solutions

Brandon Medical Co Ltd, Elmfield Road, Morley, Leeds, LS27 0EL

T: +44 (0)845 1243 666 F: +44 (0)845 1243 667

T: +44 (0)113 2777 393 F: +44 (0)113 2728 844

E: enquiries@brandon-medical.com

www.brandon-medical.com