



Medical Isolation Panel

Catalogue

Enhancing Electrical Safety in Group 2 Medical Locations with Insulation Monitoring Device (IMD)

MEDICAL ISOLATION PANEL

Medical isolation panels, also known as medical IT systems, are crucial safety measures for Group 2 medical locations. They ensure the continuity of power supply to critical medical equipment during first fault condition. Insulation level monitoring is vital in operating rooms, as it detects and addresses electrical leakage currents caused by poor connections, damaged cables, and defective components. These systems monitor insulation levels, transformer load, and temperature, ensuring any faults are promptly managed

There is a misconception that medical IT systems alone provide complete safety in medical environments. While they significantly enhance safety, additional protective measures are essential for comprehensive safety, which are often overlooked in hospitals. By integrating medical isolation panels with other safety strategic solutions by CAPE, hospitals can ensure the reliability and efficiency of critical medical equipment.

Medical isolation panels consist of an isolation transformer, an insulation monitor, and a remote alarm indicator. The isolation transformer provides electrical separation from the grounded power system, minimizing shock risks and leakage currents. The insulation monitor continuously checks the insulation resistance of the ungrounded system, issuing alarms once the insulation level falls below 50 kΩ, and the remote alarm indicator promptly alerts medical staff to any issues, allowing immediate action to ensure patient safety and equipment reliability.



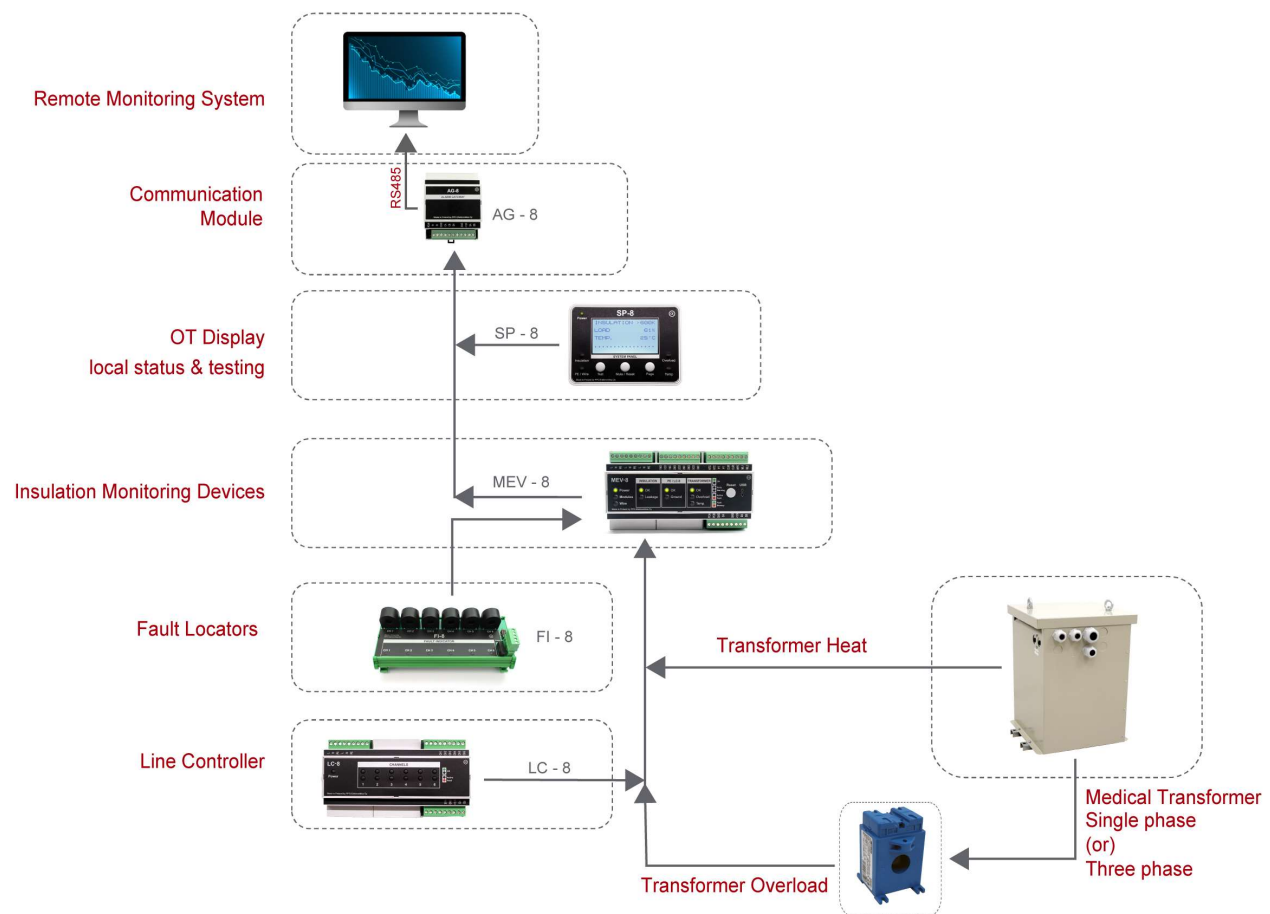
Why to use Medical Isolation Panel (insulation monitoring) in group2 locations?

It is a matter of safety, efficiency and cost savings

- The early detection of potential electric faults prevents risky situations during critical functions; for example, during surgeries.
- More efficient & effective usage of valuable surgical and/or other production equipment due to: Predictable and timely maintenance which results in substantially smaller operating costs.
- Significantly increased the lifetime of expensive surgical and/or production equipment.

	IPP - G	IPP - GE	IPP - GEC
Standard	IEC 61557-8, IEC 61557-9, IEC 61558-2-15		
Medical Isolation Transformer Rating	3.5 / 5.5 / 7.5 / 10kVA		
No.of source	1	1	2
Supply voltage -1	230 V / 440 V AC		
Supply voltage -2	-	-	230 V AC
Change over switch	-	-	Yes
Rated Frequency	50/60 Hz		
Monitoring Parameters	Insulation Failure, Med. Transformer Overload & Temperature.	Insulation Failure, Med. Transformer Overload & Temperature, Protective Earth	Insulation Failure, Med. Transformer Overload & Temperature, Protective Earth.
Output type	Alarm & visible indication	Alarm & visible indication	Alarm & visible indication
Protection class	IP54		
Panel Dimensions	600x2000x400mm		
Color	RAL 7035		
Mounting Type	Self Standing (Floor)		

Complete Topology for Medical IT Premise with CAPE's Medical Isolation Panel



- MEV-8 insulation level monitoring device - Monitors the insulation of a floating IT network (leakage current), transformer load (current A) and temperature (°C).
- SP-8 System monitoring panel - Indicates any insulation level alarms, line controller alarms, and test lead faults as well as transformer overloading and temperature alarms.
- LC-8 Line controller - Monitors the continuity of a floating IT network's protective earth.
- FI-8 Fault locator unit - Locates any insulation faults in a floating IT network.
- AG-8 Alarm transfer unit - The AG-8 Alarm transfer unit transmits alarms to touch-screen panels and controls the room's PC program via the RS-485 bus.

Applications:

- Operation Theatres
- Intensive Care Units
- Anaesthesia Rooms
- Neonatal Intensive Care Units
- Pre-Operative Rooms
- Dialysis Centres

Standards:

- IS17512 – Electrical Installations in Medical Locations.
- IEC 61557-8 - Medical insulation monitoring devices (MED-IMD).
- IEC 61557-9 - Equipment for insulation fault location in IT systems.
- IEC 61558-2-15 – Medical Isolation transformer.

Services to Hospitals by CAPE

- Electrical Safety Verification (Inspection and Testing) in Existing and New Hospitals.
- Global Earthing Systems / TNS with Protective Multiple Earthing System - Overcurrent and earth fault protection (important in oxygen-enriched areas). Faster disconnections and avoidance of arc/spark.
- Lightning protection system – Protection of buildings from lightning damage.
- Surge protection system – Protection of expensive medical equipment from damage due to transient surges.
- Equipotential Bonding (Main and Supplementary) - Ensuring maximum touch voltages of 25V at medical locations to avoid shock hazards.
- Electromagnetic compatibility and EMP-compliant hospital buildings - Voltage disturbances and EMC compliance for reliable operation of sensitive and expensive biomedical equipment.
- Supply of Medical Isolation OT Panels (IT Panels) in Existing and New Hospitals - Ensuring continuity of power supply even under first fault conditions for lifesaving equipment with an IT supply (referred to as OT Panels).

Benefits of using solution by CAPE

- Electrical hazards are mitigated in the property.
- Reduced risk of explosion and fire.
- Safety assured for medical personnel and patients from electric shock.
- Availability of the power supply during first fault is ensured in group 2 locations.
- Medical equipment that are essential for medical care are protected from degradations and damages.
- Long life assured for bio medical appliances.

CAPE
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