EcoStruxure™ Power
Insulation Fault Monitoring eGuide

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Contents

EcoStruxure Power digitizes electrical distribution

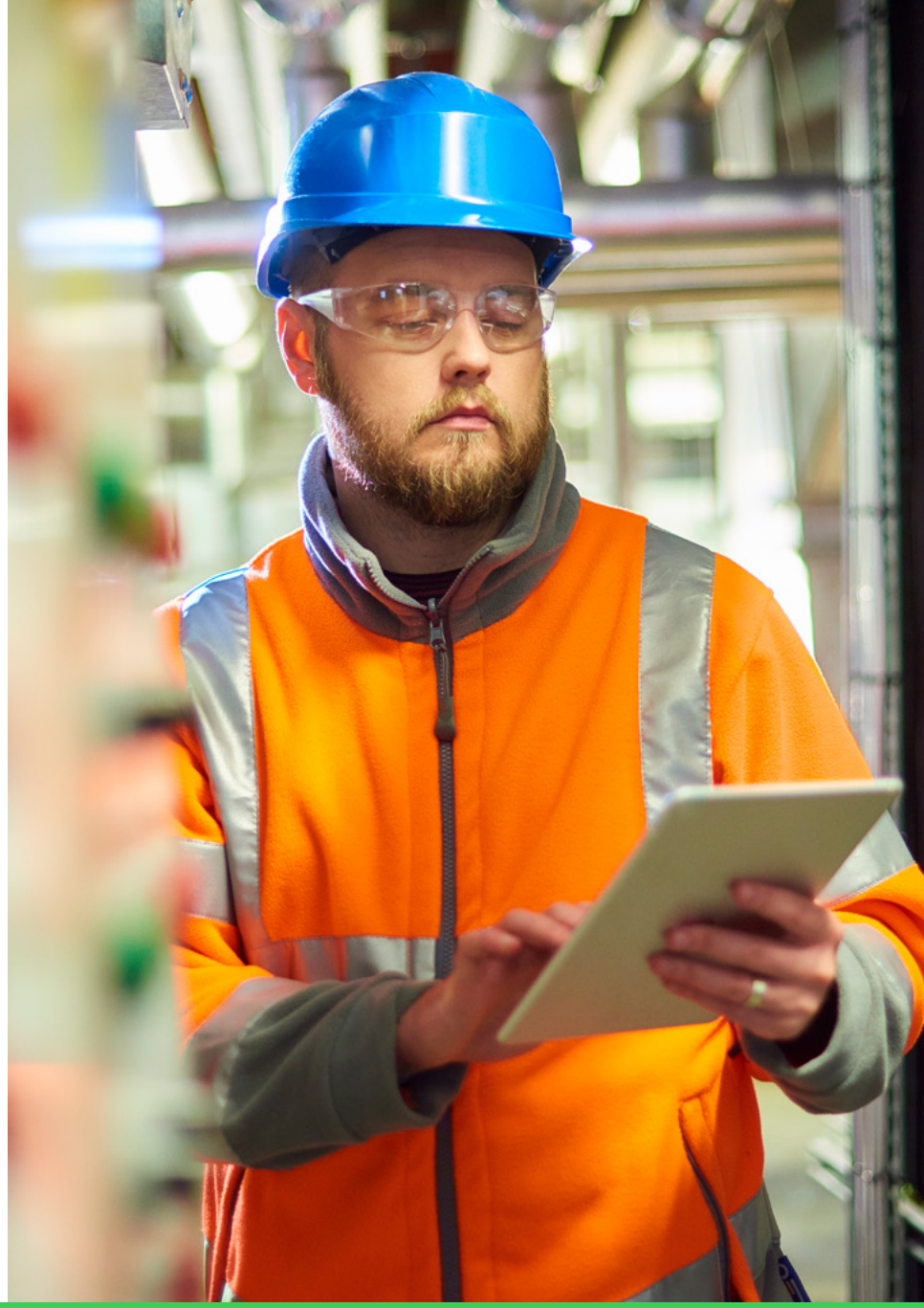
EcoStruxure Power helps critical power facilities detect electrical faults and ensure power protection

For medium and large hospitals as well as smaller outpatient facilities, 24/7 power is critical. To help ensure safe and reliable power for patient and staff well-being, it's important to safeguard against risks and find issues quickly, before problems occur:

- Insulation monitoring
- Arc fault protection
- Power restoration

EcoStruxure Power's insulation fault monitoring helps you comply with the latest standards evolution and provides key information on the location of the fault.

Read the white paper



Challenges and Opportunities

Electric shock is a concern in healthcare

Systems are highly regulated

In operating rooms and intensive care units, ground faults in medical equipment can be lethal for the patient. Patients are exposed because the natural insulation of the skin during surgery doesn't protect the patient, thus they are especially susceptible to electric shock.

Electric shock risk

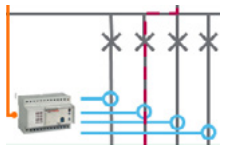
IEC 60364-7-710

- Resistive measurement 50KΩ
- Isolated transformer overload and overheating alarm
- One insulation monitoring system near operating theatre

NFPA 99 & 110

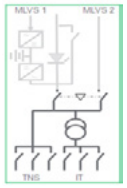
- Resistive + capacitive hazard current measurement 5 or 2 mA
- Up to six monitoring near operating theatre to limit alarm disturbance

HTM 06-01

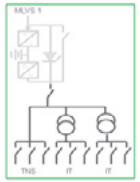


- Insulation fault location by feeder
- Limited segregation between two operating rooms

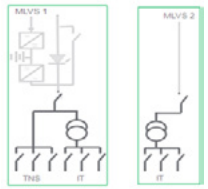
Continuity of services



- Two incomers with automatic change over
- Dealing with 500 ms performance
- Total discrimination



- Overload tripping
- Flash mounted panel in the operating room



- Insulation fault location by feeder
- Limited segregation between two operating rooms

1 in 300

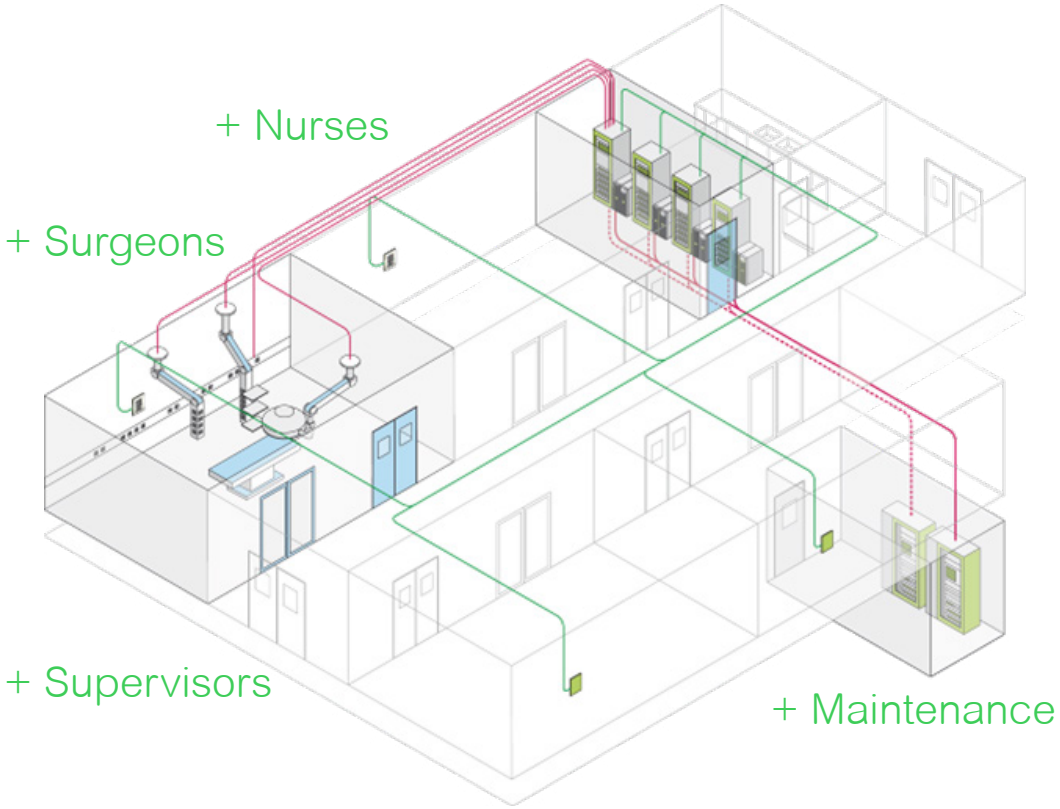
chance of patient harm during a health care stay

Read more:

- IEC 60364-7-710
- NFPA 99 & 110
- HTM 06-01

Avoid electrical shock and ensure protection

Help ensure patient safety with Smart Power Management



The three classifications of sensitivity

Group 2:

- Medical location where medical electrical equipment have to be used into the body
- Isolated ground system is mandatory

Group 1:

- Medical location where medical electrical have to be used as follows:
  - Externally
  - Invasively to any part of the body
- A limited residual 30mA current device is mandatory

Group 0:

- Medical location where no medical electrical equipment is in contact with the body

IoT enabled applications for optimizing insulation fault monitoring

Power system performance

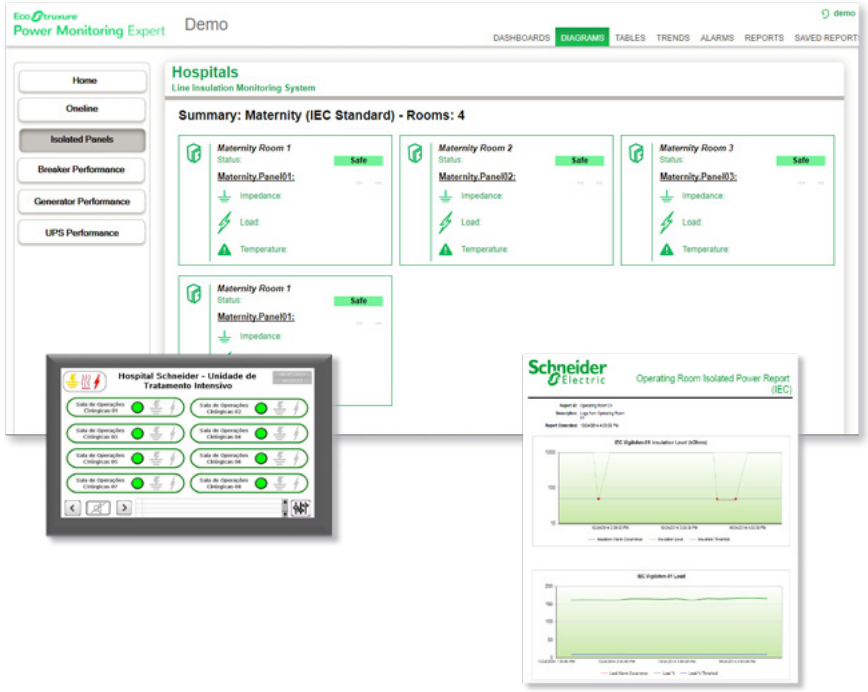
How can you help ensure patient safety by detecting insulation faults and solving them fast?

OT, ICU Insulation monitoring

> I want to view the status of the isolated power in my operating rooms and intensive care units, and in case of any insulation fault, I want to know the location of the fault.

Detect electrical shock and inform the right stakeholders

- Isolated Smart Panels protect the patient and medical staff against electrical shock
- The Insulation Monitoring Device activates an alarm in case the resistance to equipotential bonding drops below 50 KΩ
- The (IEC) fault location device pinpoints the location of the insulation fault (feeder /sockets) for quick troubleshooting.
- The monitoring system serves up this information to the chief nurse and/ or the facility manager in real time
- Stakeholders identify the equipment problem set to work resolving the issue.



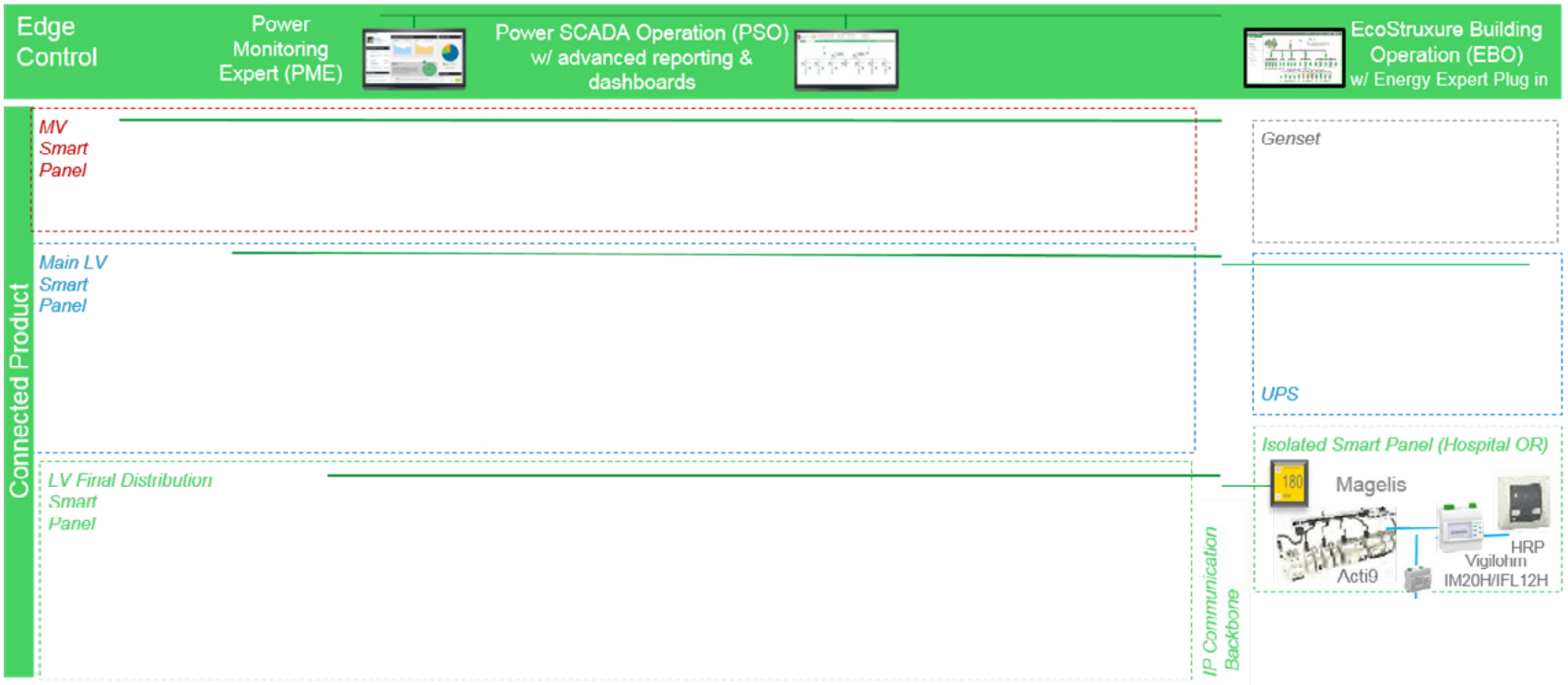
Read the blog

Architectures

Architecture 1 | Architecture 2

Insulation monitoring (IEC)

Avoid electrical fires and ensure protection

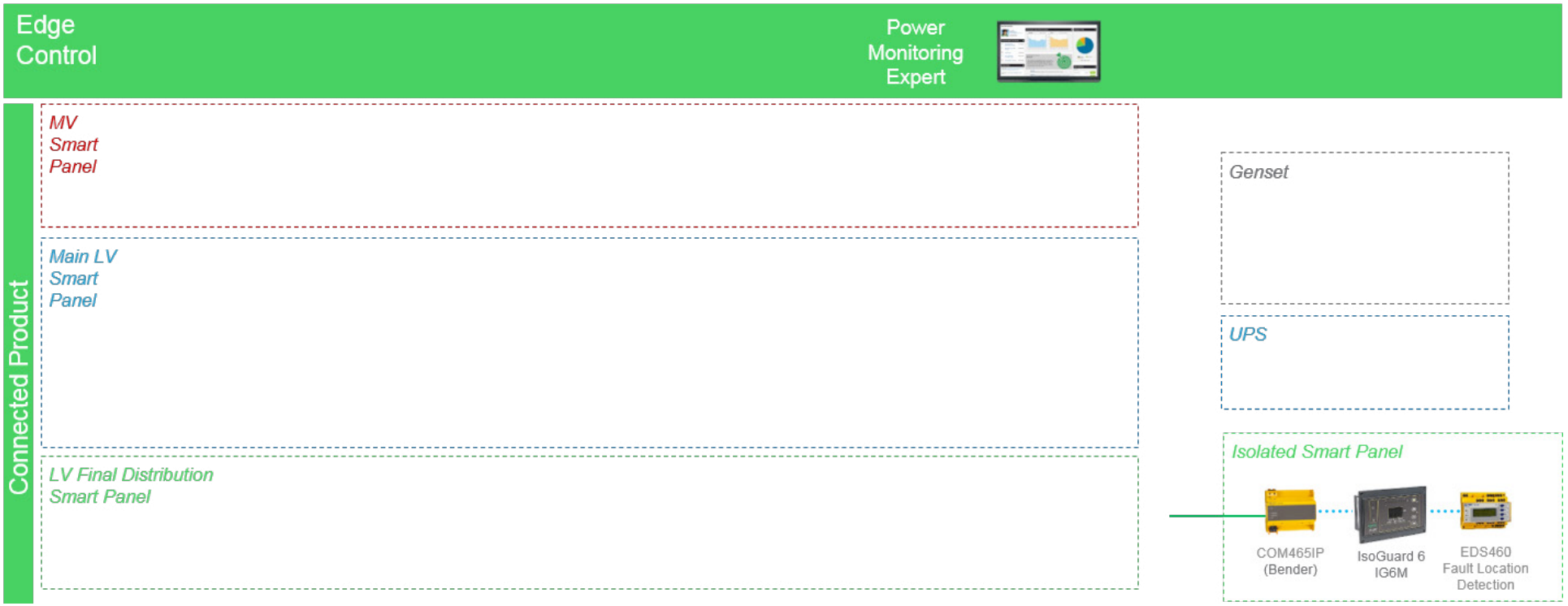


Architectures

Architecture 1 | Architecture 2

Insulation monitoring (NEMA)

Avoid electrical fires and ensure protection.



Learn more

Customer success: Moorfields Eye Hospital gains new visibility

Video: EcoStruxure Power and EcoXPerts deliver clean power

White paper: Bringing critical power distribution out of the dark

Contact us to start your journey.

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