

## Case Study

### Improving electrical maintenance at a leading healthcare facility


#### Overview

A prominent hospital faced significant challenges in maintaining its electrical infrastructure due to the lack of smart monitoring systems. The absence of these systems necessitated the manual disconnection of supplies to essential loads for conducting insulation resistance tests, a key component of periodic inspection and testing.

This process was not only time-consuming but also posed risks to hospital operations and patient safety.

#### Challenge

The main issue was the disruptive and labour-intensive process required to ensure compliance with safety standards, which involved disconnecting power supplies to critical areas of the hospital. This procedure led to operational downtime and increased the risk of errors and complications in patient care facilities.

Plant status	
07/05/2024 11:51:22	
06/08/2024 11:51:22	
<b>Status</b>	
Caution: Exceeded limit values or faults have been detected in your installation!	
Prewarnings	2
Warnings	11
Error(s)	0
Sum	13
Date	
Signature	

#### Solution implemented

To address these challenges, Bender provided a comprehensive residual current monitoring solution, including the installation of a COM465 gateway device.

This setup enabled the use of Bender smart software, which offers capabilities such as:

#### Advanced monitoring equipment

- Installation of residual current monitors for all outgoing circuits from the distribution board

#### Data management

- Integration of the COM465 gateway device, which facilitated the uploading of information to Powerscout for cloud storage

#### Continuous compliance and reporting

- Powerscout's capabilities ensured regular documentation of residual current alarms and provided essential feedback on potential concerns, aligning with BS7671 requirements for continuous monitoring and effective management systems in place of traditional dead testing

The solution involved applying residual current monitoring to all outgoing circuits from the distribution board. This method not only automated the monitoring process but also provided a robust framework for compliance without the need to disconnect power supplies during inspections.

# Transform electrical maintenance

BENDER <sub>pulse</sub>		Plant documentation Hospital: Residual Current Monitoring (Quarterly Report)	page 8/59	
SDB01 Power_RCM3 RCMS150		Timerange	Person responsible	
!	Device address	Selected channels	Events	Sum
	GW/210852528/Device/bms/25	12 / 12		
Notes:			Prewarnings	0
			Warnings	1
			Error(s)	0
Measured values				
Status	Measuring point name	Average	Maximum	Minimum
✓	5.L1_Drug Store Clean Utility Response value: 0 A	0 A	0 A	0 A
✓	5.L2_Spur Block Bay Response value: 388 mA	762.461 µA	900 µA	700 µA
!	5.L3_Stat Response value: 288 mA	32.637 mA	34.6 mA	25.6 mA
✓	6.L1_Door Access 1 Response value: 288 mA	357.506 µA	500 µA	200 µA
✓	6.L2_Door Access 2 Response value: 288 mA	469.255 µA	600 µA	400 µA
✓	6.L3_Door Access 3 Response value: 288 mA	952.47 µA	1.1 mA	700 µA
✓	5.L1_Drug Store Clean Utility Response value: 68 mA	0 A	0 A	0 A
✓	5.L2_Spur Block Bay Response value: 68 mA	900 µA	900 µA	900 µA
✓	5.L3_Stat Response value: 68 mA	960.429 µA	1.5 mA	500 µA
✓	6.L1_Door Access 1 Response value: 68 mA	0 A	0 A	0 A
✓	6.L2_Door Access 2 Response value: 68 mA	0 A	0 A	0 A
✓	6.L3_Door Access 3 Response value: 68 mA	99.915 µA	100 µA	0 A
Events				
Date	Event	Type	Status	Measured value
15/02/2024 09:42:05	Residual current	Warning	Start	32.4 mA
				5.L3_Stat

## Outcomes

The installation of this system transformed the hospital's approach to electrical maintenance:

- Compliance with BS7671: 651.2: Eliminated the need for disconnection during periodic inspections, enhancing operational continuity
- Operational efficiency: Significant time and cost savings were achieved by reducing the need for manual testing and minimising disruptions to hospital operations
- Future-proofing: The system's remote diagnostic capabilities meant that potential device errors could be promptly addressed, and software updates could be applied without onsite visits

The adoption of Bender advanced monitoring solutions provided the hospital with a more efficient, reliable, and compliant electrical maintenance protocol. This highlights the critical importance of integrating smart technologies to streamline operations and ensure safety in healthcare environments.

By enhancing their electrical systems with sophisticated monitoring solutions, the hospital not only improved its operational efficiency but also ensured greater reliability and safety for its patients and staff, showcasing a proactive approach to healthcare facility management.

