

Maintenance & Service Solutions

MAXIMISE SAFETY OF ELECTRICAL SYSTEMS



Our Mission

Bender creates innovative technologies for the safe handling of electrical power, ensuring the protection of people and the safe operation of machines, systems and manufacturing plants.

Electrical Safety is Our Priority

In critical industries it is vital that man and machine are protected from the impact of electrical failure. Effectively maintained equipment reduces the risk of electric shock, fire and loss of power.

Bender world-leading electrical safety technologies, combined with our skill and expertise, enable us to solve the most challenging of problems faced by rail, healthcare, marine, oil and gas and eMobility industries.

We support OEMs, end-users and suppliers with problem solving solutions that monitor, predict, alarm and locate power and insulation degradation in complex electrical systems, improving safety, resilience and guaranteeing high availability.

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“Since 2018 I have worked with Bender UK on large Naval and Marine projects with a long design and build period. In this time I have found Lee Slater to be courteous, helpful and technically proficient.

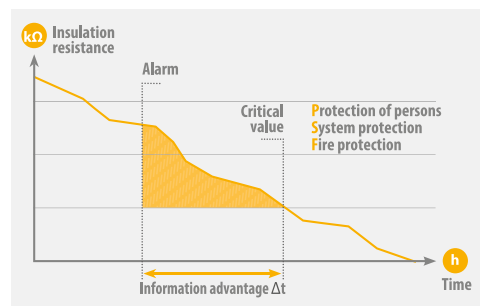
Our experience working with Bender UK as a company has been a positive one. The support and guidance we have received has been efficient and timely in helping us with these highly complex and challenging projects.”

MV/LV/Drives Technical Manager
NCE Switchgear

An Effective Maintenance Regime

Maintenance plays a vital role in reducing the risk of hazards in the workplace. The incorporation of an effective maintenance regime will:

- Prevent costly unplanned down time
- Prolong the life of equipment
- Ensure compliance with regulatory standards
- Reduce the need for repairs due to negligence
- Minimise long term operating costs
- Improve health and safety in the workplace



Maintenance strategies

Corrective

Downtime-oriented

- Reaction after direct damaging event
- Unscheduled downtime

Preventive

Time-dependent

- Established deadlines
- Frequent exchange of intact components

Condition-oriented

- Reaction to warning thresholds concerning the system condition, still prior to downtime
- Optimum use of service life (wear margin)

Predictive

Analysis-supported monitoring

- Prediction of the ideal time for maintenance
- Maintenance measures that can be planned

Predictive maintenance allows you to achieve maximum cost effectiveness. Bender monitoring systems help you to:

- Improve the management of your assets (CAPEX)
- Optimise maintenance efficiency (OPEX)

Maintenance Solutions

Our services are customised to the needs of the specific client and industry:

Engineering surveys

On site investigation to analyse system status and support the identification and location of earth faults. Surveying critical equipment enables review and recommendation of improvements to system design.

Maintenance and System Testing

Services range from preventative maintenance and verification in line with relevant standards, to predictive maintenance regimes supported by monitoring and real time data analysis from Bender systems.

Health checks

Identification of deterioration in older generation equipment. Suited to legacy projects and ageing infrastructure.

Commissioning

Customised installation and set up of Bender systems to ensure a project completion in accordance with customer requirements.

Upgrades and retrofits

System improvements and repairs to enhance efficiency and performance of electrical infrastructure.

Remote monitoring

Digital and cloud-based reporting incorporating data from Bender installed equipment.

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“Welin Lambie Limited has been utilising Bender UK's insulation monitoring devices for well over 10 years, the devices we procure are installed into naval applications.

I am pleased to endorse the quality of equipment, technical competence and engineering support that the company has provided over this time.”

Director

Welin Lambie Ltd



Periodic Inspection

Electrical power systems must be periodically maintained in accordance with the BS7671:2018 wiring regulations.

Test without Disconnect

However, maintenance is considered limited as it only provides a snapshot of system health at the time of inspection. Subsequent faults remain undetected, causing failure or disruption. This can be substituted with a continuous monitoring process delivering regular, more accurate data reporting.

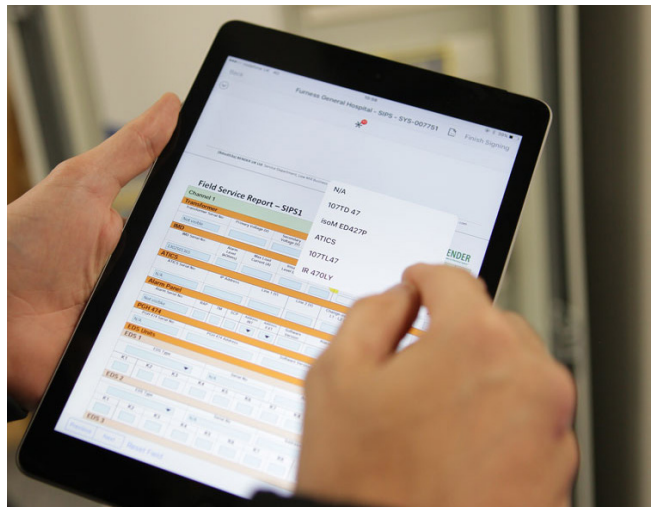
BS7671:2018 651.2 states "...Where a circuit is permanently monitored by a residual current monitor (RCM) or insulation monitoring device (IMD) it is not necessary to measure the insulation resistance if the functioning of the RCM or IMD is correct..."

Verification of Bender RCM or IMD technology eliminates the need to switch off for insulation resistance testing during periodic inspection.



Maintenance Services

- Engineering resources
- Dedicated technical assistance
- Through-life product support
- Rapid response call out
- 24/7, 365 telephone support
- Cloud based electronic reporting
- Daytime, evening and weekend services



Advantages & Benefits

- Gain expert advice and guidance from our highly skilled engineers, giving you peace of mind that the specialist power system is operating as expected.
- Improve power system design and infrastructure performance, for optimum configuration and output of system equipment.
- Reduce cost of labour by minimising manual data collection to remove the headache associated with collating data, allowing you to utilise your time, effort and money elsewhere.
- Eliminate the need to switch off for insulation resistance testing, meaning regulations are met without the challenge of having to isolate the supply for periodic inspection and testing.
- Ensure compliance with standards and regulations. We are experts when it comes to IT power systems, so you don't need to be.
- Enhanced safety and protection for man and machine, reducing reputational damage due to accidents, and allowing for a preventative planned maintenance period.
- Prevent risk of failure, shutdown and loss of power, saving time and cost associated with unplanned downtime.

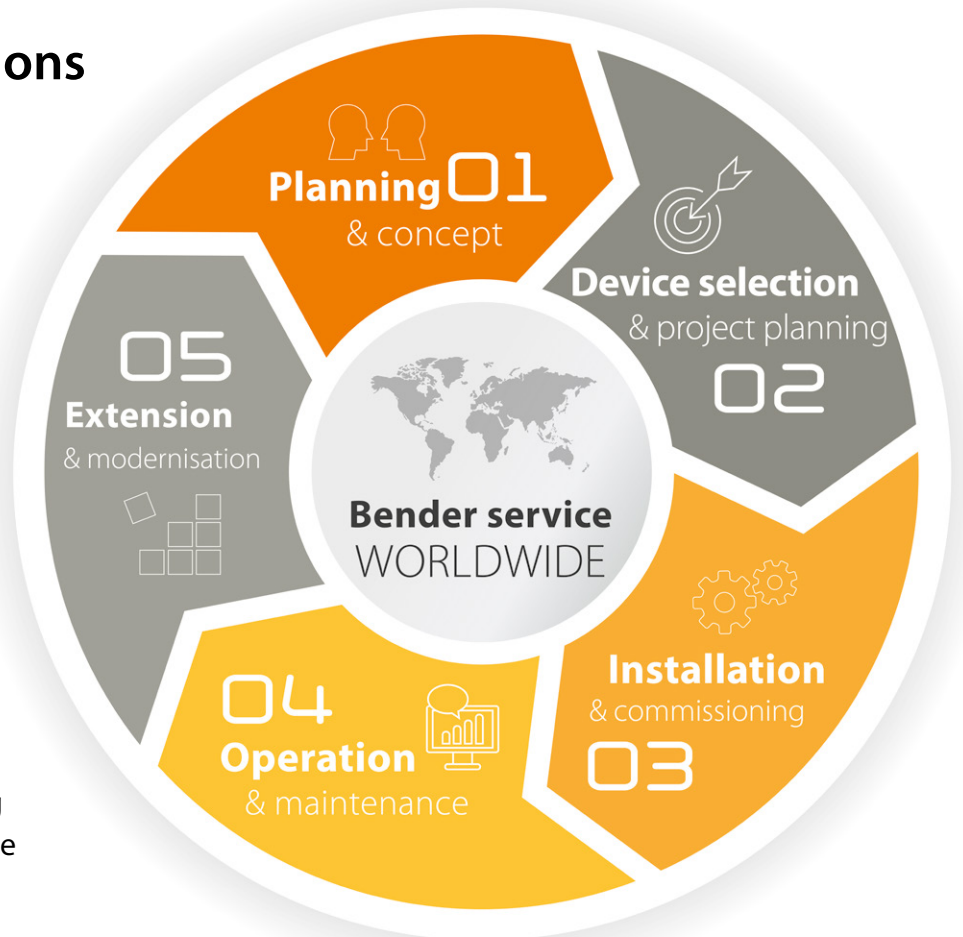
Industry Applications

Sectors

- Renewable Energy
- Oil, Gas & Mining
- Ships & Harbours
- Data Centres
- Rail & Metro
- Healthcare
- E-mobility

Technology

- IT/TN Systems
- Fault location
- Remote monitoring
- Insulation monitoring
- Power and energy quality
- Residual current monitoring
- Neutral grounding resistance



Product and System Training

Plant and infrastructure is often maintained by in-house engineering teams. Training helps end-users understand how to use Bender technology and interpret data from installed systems.

Customised

Training is designed to suit the needs of the project, installation or client. We offer tailored programmes which are delivered on-site, remotely or at our conference facilities.

Expertise

Our engineers share their experience, product knowledge and expertise to upskill end-users with the necessary proficiency and know-how, enabling adequate maintenance of power system installations.

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"I would like to congratulate Bender on their professional yet friendly service, high standards, quality equipment and on-site training. Bender has exceeded my expectations as always."

**Bid development Manager (Rail)
Baldwin & Francis Ltd**

Our Team

We have a team of electrical engineers located throughout the UK and Ireland. They are supported by a dedicated service team who manage and organise the delivery of over 400 service contracts nationwide.

The team consists of:

- Service and Commercial Coordinators
- Regionally based electrical engineers
- Technical support

What to Expect

Bender provides the highest level of service and technical support available in the marketplace.

Our friendly, dedicated service team are on hand to organise PPM schedules, provide assistance, and respond quickly in the event of an emergency or call-out.

From preventative maintenance to call-out and repairs, you can expect a truly professional service, delivered in a timely manner with associated downtime, disruption and costs kept to a minimum.

Bender maintains more than 10,000 assets in the UK and the Republic of Ireland. We have a contractual first time fix rate of over 96% and are equipped to attend site in emergencies.

Service Agreements

All service agreements are customised in accordance with standards, assets to be maintained and the level of cover provided.

Please liaise with our team to define a proposal that matches your requirements.



Why Choose Bender for Service?

- Bender UK is the only authorised company to supply, commission, maintain and repair Bender systems in the United Kingdom and the Republic of Ireland
- Our maintenance and verification services are fully compliant with BS7671:2018 and relevant IEC standards
- We have a nationwide network of factory trained service and commissioning engineers
- We have access to all software updates to service and maintain Bender systems
- We hold spares to ensure immediate repair and replacement, reducing costs and equipment downtime
- We have a service team who are committed to providing the highest levels of service for the following reasons:
 - All service agreements are tailored to the needs of the customer
 - A dedicated service coordinator will manage your agreement
 - We operate a 24/7, 365 engineer on-call service
 - We offer flexible payment terms to suit individual service packages
- The service team is professional and courteous, constantly striving to deliver a superior level of service every time
- No other UK company has the know-how, engineer expertise and software available to adequately verify and maintain your critical systems like we do
- Typical 96% first time fix record delivered to existing customers

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