



ION⁺**HV**

HV & LV specialists

About us

Ion HV Ltd is a **family run HV & LV specialist** company based in the North west of England, **with over 15 years' experience in HV & LV industry**. Having worked in multiple sectors including Renewable & Battery Storage, Transport, & Critical Infrastructure including Data Centres.

We offer HV & LV solutions for a variety of systems across the UK & Ireland.

Our case studies

Page 3. HV & LV commissioning

Page 5. G59 / G99

Page 7. 61850 / hardwired alarms

Page 9. Windfarm maintenance

Page 11. Data centre maintenance

HV & LV commissioning

- ✓ Protection Testing
- ✓ Hipot / dielectric withstand testing
- ✓ VT & CT primary and secondary injection testing
- ✓ Switchgear functional testing
- ✓ SCADA / End to End testing
- ✓ Cable testing

Complete testing of all HV & LV equipment within substations. Configuration & modification to new and existing HV systems and substations.

HV Switchgear:



Substation equipment:

- ✓ Protection Relays
- ✓ HV Switchboard
- ✓ LV Switchboard
- ✓ LVAC Changeover Panel
- ✓ Substation Marshalling Cabinet
- ✓ HVAC Panel
- ✓ HV Cables
- ✓ Battery Charger

Test equipment used:



Megger MIT1025



T&R ADM100



DLRO600



Hipot 100kV AC



Omicron CMC



Baur 50kV DC

G59 / G99 Testing

- ✓ Protection testing
- ✓ Functional testing
- ✓ Stability testing

G59 / G99 are the guidelines of the Engineering Recommendation (EREC) requirements for the connection of Power Generating Facilities to the Distribution Networks of licensed Distribution Network Operators (DNOs). This standard covers multiple Power Generation Facilities including Solar Farms & Wind Farms.

Secondary Injection Testing of:

- ✓ Under voltage
- ✓ Over voltage (stage 1 & 2)
- ✓ Under frequency (stage 1 & 2)
- ✓ Over frequency
- ✓ ROCOF

Stability / Functional testing of:

- ✓ Over voltage
- ✓ Under voltage
- ✓ Under frequency
- ✓ Over frequency
- ✓ ROCOF
- ✓ Loss of mains

Protection relay examples:



Intelipro



COMAP Mains Pro



Micom P40



Micom P341



61850 / hardwired communications

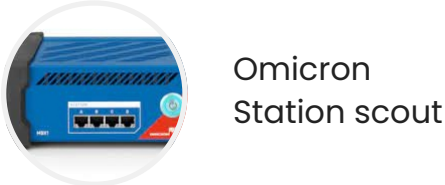
- ✓ MCL / 61850 / GOOSE configuring
- ✓ Hardwired alarms
- ✓ End to end testing
- ✓ I/O testing
- ✓ RTU config testing

Complete testing of 61850 & Hardwired alarms for all equipment within the substation. Configuration & modification to new and existing substations.

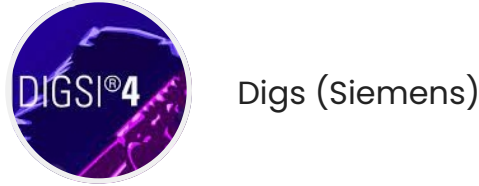
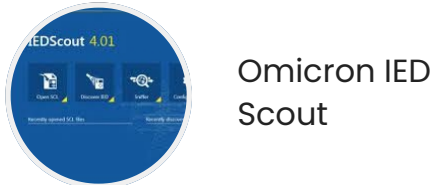
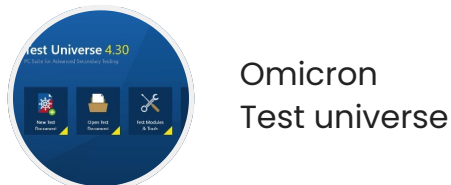
Substation equipment:

- ✓ RTU
- ✓ Protection relays
- ✓ HV switchboard
- ✓ LV switchboard
- ✓ LVAC changeover panel
- ✓ Battery charger
- ✓ Substation marshalling cabinet
- ✓ HVAC panel

Test equipment:



Software:



Windfarm HV switchgear maintenance

- ✓ 25 HV substations
- ✓ Primary & Secondary injection
- ✓ Mechanical & Electrical functional check
- ✓ Protection testing

Crystal Rig I Windfarm was the largest onshore Windfarm in the UK, located in Lammermuir Hills, east of Edinburgh. Originally consisting of 20 Nordex Wind Turbines, the windfarm was upgraded adding an additional 5 turbines.

Making a total of **25 Wind turbines** it can generate up to 62.5MW.

Maintenance provided:

- ✓ Confirmation of protection settings
- ✓ External/Remote trip
- ✓ Manual operation confirmation
- ✓ Lubrication of mechanical parts
- ✓ Cleaning of substation & switchgear
- ✓ Auxiliary wiring confirmation
- ✓ Mechanical & Electrical interlocking
- ✓ Gas pressure monitoring

Equipment maintained:



Ekor RPG
Relay



Ormazabal CMP-V





Data centre HV switchgear maintenance

- ✓ 5 HV substations, 30 HV panels
- ✓ ABB REF542+, ABB REF610, MICOM P521
- ✓ Mechanical & Electrical functional check
- ✓ Protection testing



Iron Mountain is a large data centre located in Slough, London. The data centre has a critical IT load of 2.7MW.

Maintenance provided:

- ✓ Confirmation of protection settings
- ✓ Protection relay functional testing
- ✓ Manual operation confirmation

Equipment maintained:



ABB REF610



ABB REF542+



MICOM P521



Omicron
CMC 430



Omicron
Test universe

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Interested in our services? **Get in touch.**



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ionhv.co.uk



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