

ELECTRICAL EARTHING



A correctly installed Electrical Earthing system is vital to ensure the safety of people working at a site and the integrity of the system it protects.

As UK market leader, Omega has developed and uses best practice processes based upon proven and demonstrable scientific fact as a way of meeting or superseding new legislative standards for Electrical Earthing.

First and foremost

Earthing systems can vary in size from those connected to a simple transformer to those connected to, and protecting, a large power station or distribution grid.

While the fundamental principles involved in developing an Earthing system remain the same, the scope of work can vary dramatically between installations. To determine what type and size of Earthing system is required we undertake a detailed assessment and development process:

Site survey

Your site needs to be fully assessed with careful attention paid to the electrical properties of the ground, particularly "soil resistivity". The site's characteristics will determine what equipment is needed to complete the job.

Data analysis

Survey data is analysed to provide apparent resistivity values over the whole site and to determine resistivity within the various soil layers to produce a site-specific soil model.

Design

Using advanced, state-of-the-art computer software we plot the proposed initial Earthing system onto the soil model. This enables the designer to model electrical current dissipation within the Earthing system in the event of a fault and the consequent voltages created over the site and

beyond. These apparent values are then compared with the values needed to achieve a safe site in the event of an actual fault and the proposed Earthing system layouts are amended as necessary. We make sure that your site is designed so that any rise in earth potentials resulting from an earth fault will be kept within tolerable levels.

Installation

Your installation will be serviced quickly and efficiently through our nationwide branch network. We use only our own fully trained engineers so that we can ensure that our designs are not compromised and that you are provided with a top quality service and installation.

Commissioning

Upon completion of an Earthing system its resistance must be tested to ensure that design values have been met. Tests on small systems can be made with a good quality 4-pole earth tester using the "Fall of Potential" method. Tests on larger systems, or where the centre of the system is not known, can also be made with a good quality 4-pole earth tester for the more sophisticated "Slope" method of testing.

Maintenance

Any new system should have "as installed" resistance measurements. This establishes a benchmark from which to compare future test results and measure how the resistance has changed over time. From this data we can identify any remedial actions needed to correct changes in the ground conditions/earth resistance.

ELECTRICAL EARTHING CONTINUED



Benefiting your business

Our customers have made us the UK market leader in Earthing and Lightning Protection. We believe that you benefit from a customer-focussed philosophy of continuous improvement that enables you to take advantage of service levels that are second to none in our industry.

- You can choose as little or as much as you need from our complete turnkey offering
- You can be sure that you will get what you need through our commitment to best practice design and engineering
- You can count on our staff because we have made sure of their technical and service competence
- You can rely on the support of our national branch network, there to meet your needs
- You can take confidence from our proven track record - evidence of our ability and professionalism
- You have the added security that all our services are professionally indemnified and performance bonded
- You can benefit from our after sales service, safeguarding your assets for many years to come.

Meeting the standard

When designing and installing Electrical Earthing systems various technical standards need to be considered including but not limited to:

- BS7430: 1998 – British Standard Code of Practice For Earthing
- Electricity Supply Regulations 1988
- Electricity At Work Regulations 1989
- Electricity Association Technical Specification EA TS41-24

- Engineering Recommendation S.34
- I.E.E.E 80.

About us

Omega is the UK market leader for the design, supply, installation, testing and maintenance of specialist Earthing and Lightning Protection systems. Omega was set up in the 1980s by a group of qualified electrical engineers with more than 100 years collective experience between them. Their vision, which remains in place to this day, was of a new company that would introduce a higher level of professionalism and service to an industry that had been complacent and lacking in innovation.

Omega employs more than 200 people throughout the UK and operates from branches in Edinburgh, Manchester, Nottingham, London and Bristol.

A full service offer

You can benefit from our unique turnkey offering, make use of our entire scope of services or just choose the parts you want:

- Earthing: survey, analysis, design & modelling, supply, installation, testing and maintenance
- Lightning Protection: survey, design, supply, installation, testing and maintenance
- Lightning Protection Testing & Maintenance: regular inspection and maintenance to make sure your system remains in effective working condition.