

Effortless dependability, when you need it most

Vigilohm insulation monitoring devices



*When failure is just not an option,
I know I can trust Vigilohm every time*



Industry



Marine



Solar



Oil & Gas



Mining, Minerals, Metals

Essential reliability made simple

With Vigilohm, it is easy to detect electrical insulation faults that could halt your operations



Infrastructure



Marine



Your IT earthing system must be safe and reliable. With Vigilohm, it can be simple, too



Power generation



Industry

Your operations cannot stop. A service interruption is just not an option. An IT earthing system allows your electrical distribution system to continually operate, even in the presence of an insulation fault, without endangering people or property. Required as part of an IT earthing system, an insulation monitoring device (IMD) detects the initial fault so you can make repairs before a second fault triggers protective devices that halt operations.

Even though IMDs are mandatory in IT earthing systems, not all IMDs are equivalent. IT earthing systems are often considered complex and difficult to install. Vigilohm has changed that by combining the increased energy availability, improved safety, and reduced risk of fire and explosion you expect, with the simplicity you need.

Advanced features for today's enterprises

Trusted for over 50 years, Vigilohm sets the standard for IMD reliability, and simplicity.

- Simple ordering, operation and installation
- Synchronicity with modern, communicating ungrounded electrical distribution networks
- Compliance with international standards
- Seamless integration into complete solutions
- Exclusive measurement of leakage capacitance
- Increased property life by enabling preventive and corrective maintenance operations

Greatly reduce the risk of fire and explosions

Many fires are started by intense, concentrated heat or by an electric arc from an insulation fault. The higher the fault current, the greater the risk. Whether on a ship, in a mine or on an oil rig, an IT earthing system greatly reduces the risk of fire and explosion. A high fault current can cause significant damage and require costly, time consuming repairs. By limiting the intensity of fault currents, equipment is subjected to less stress and its life cycle is increased.

Flexibility to protect any business

Vigilohm is ideally suited to a wide variety of specialized applications and industries



Vigilohm IMDs fit the needs of many industries, including specialized facilities like hospitals, where additional standards for safety and service continuity must be met. Choose among Vigilohm IMDs for low voltage monitoring applications where manual fault detection or simple and efficient automatic fault location is needed. Or choose the most advanced fault locator (XM300+XL308/316), to fulfill the most demanding applications. They meet international standards for IT earthing applications and differ in the size of network they monitor. Select features such

as communications ability, alarm logging, insulation trending and measured value display. Vigilohm IMDs offer din rail and panel mounting options, and the Vigilohm IM10, IM20, IM400 and XM300 offer compatibility with AC and DC control and power electrical networks. Vigilohm IM20, IM400 and XM300 are designed to cope with highly perturbed electrical networks with power electronics devices such as inverters, variable speed drives, rectifiers and active filters.

IEC

Vigilohm IMDs comply with international product and safety standards:

- IEC 60364-4-41
- IEC 61010-1
- IEC 61557-8
- IEC 61557-9

UL & CSA

The IM400 complies with:

- UL508
- C22-2

DNV & BV

Vigilohm IMDs are DNV (Det Norske Veritas) and BV (Bureau Veritas) approved for safeguarding life, property and the environment



Vigilohm IM9

IM9 is designed for small AC networks in marine and industrial environments.



Vigilohm IM9-OL

Suitable for insulation monitoring of offline motor applications in all earthing arrangements (TN, TT or IT networks). Features include motor start inhibition with a second threshold and the ability to authorize start even in case of low insulation.



Vigilohm IM10

IM10 monitors both AC and DC networks and features a large graphical display.

Contemporary features to meet complex power system demands

Seamless integration and display of vital information helps quickly identify problems



Only
Schneider Electric
displays the C value

Vigilohm IMDs integrate into today's ungrounded IT networks with communications, alarming, and advanced monitoring functionality. A large, intuitive, graphical display supports language customization¹ and makes data easy-to-read, even in low-light environments. The Vigilohm IMD indicates the fault on its display, and depending on the device:

- Displays the insulation resistance value
- Displays the leakage capacitance value
- Stores time-stamped alarms
- Communicates with a supervisor
- Inhibits injection to manage multiple, complex networks

¹ Supports English, French, Spanish, Italian, German, Portuguese, Russian, and Chinese



Vigilohm IM20

Benefit from Vigilohm IM20 features such as leakage capacitance measurement, current injection inhibition, high-voltage adaptor compatibility and Modbus communications with alarm logging.



Vigilohm IM400

The advanced IM400 provides insulation trending, preventative insulation alarm output and IMD redundancy management. It is compatible with efficient and simple fault location devices and is designed to monitor highly perturbed power systems, large photovoltaic installations and control networks.



Vigilohm XM300

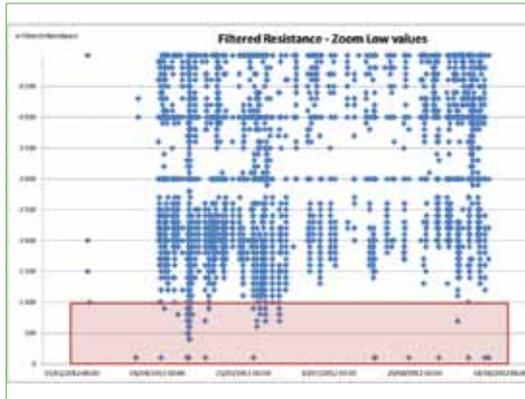
The Vigilohm XM300 is designed for monitoring control networks as well as highly perturbed power networks thanks to its level auto-adaptive sine wave injection principle. In combination with XL308 or XL316 it provides automatic fault location with measurement per feeder.

Featuring measurement and display of C

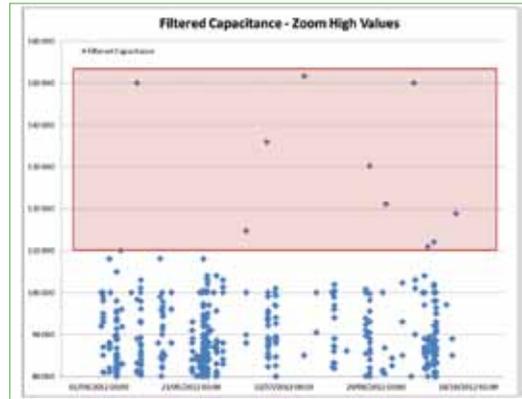
Monitoring of C is essential on large networks since the C-related impedance can cause these networks to drift towards a TT arrangement, which would give rise to a dangerous contact voltage and a high fault current after an insulation fault. Only Schneider Electric displays the C value.

Validated for monitoring demanding solar applications

Field-proven reliability you can count on when you need it



Filtered resistance: There are a few points below 1kOhm that require excellent signal processing and filtering capabilities to avoid undesired tripping



Filtered capacitance: Even for a 1 MW peak production solar farm, there are only a few points over 110 μ F.

In order to reduce the risk of fire in photovoltaic applications, the ungrounded neutral power scheme is becoming the rule rather than the exception. Monitoring the insulation to earth is key to detecting and indicating any unsafe situations.

Vigilohm IM20 and IM400 devices are designed to survive the solar industry's severe environments and highly constrained conditions. The devices were field tested for months in harsh environmental conditions and during periods with a high variance in power production.

These conditions are amongst the most difficult for insulation monitoring, and false indications can lead to operational losses. However, Vigilohm devices were immune to these conditions, as no spurious faults were detected. Operation and maintenance staff

can exercise device control and supervise their installation and diagnosis system faults from a remote location. The key to such simple integration is Vigilohm's open communication architecture. The manual fault location kit lets maintenance personnel locate the faulty section of the grid in order to repair it and quickly resume operation.

Field measurements have proven that high capacitance is not always the rule and that excellent monitoring capability on low insulation is demanded.



Vigilohm XD301/XD312

Simple and efficient fault location devices with fixed threshold to report and detect faulty feeders. The XD312 can monitor up to 12 feeders while the XD301 monitors a single feeder. They each have one output relay toggled when a faulty feeder is detected. XD301 monitors a single feeder and thus allows reporting of faulty feeder individually to the supervision system thanks to its output relay. Both log transient faults per feeder and are compatible with the IM400 and the XM300.



Vigilohm XD308

In addition to the XD312/XD301, the XD308C offers communications capability through its XLI interface. Compatible with IM400 and XM300.

Unique injection principle for improved accuracy and reliability

Advanced technology quickly locates hard to find insulation defects in complex electrical systems



The Vigilohm IM10, IM20 and IM400 embed a multi-frequency adaptative injection signal that responds to the constraints of a wide range of applications.

With this unique principle Vigilohm IMDs accurately monitor C and R over a wide range of values, on highly perturbed power systems that contain numerous power electronic devices, such as variable speed drives, inverters, rectifiers, and active filters.

The level of injection is adaptable to the applications constraints and provides excellent monitoring in sensitive control-command and safety applications. Tests on several critical sites such as industrial production systems, utilities' critical

control-command systems, solar farms have proven the robustness and efficiency of Vigilohm IMDs.

Unlike other injection principles the "multifrequency adaptative signal" provides predictable response times for systems with significant leakage capacitance, and is not sensitive to leakage capacitance variation as frequently seen on systems with active electronic devices like variable speed drives and inverters. This is key for transient fault detection.



Vigilohm XL308/316

Combined with the XM300, the XL308/316 offers advanced fault location with adjustable thresholds, measurement per feeder of R and C, up to 8 (XL308) and 16 (XL316) feeders, plus communication through the XLI gateway.



Vigilohm XML308/316

The combinations of XM300 and XL308/316 in a single device for simple systems requiring the most advanced fault location features.

