



Effortless dependability, when you need it most

Vigilohm insulation monitoring devices



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INFRASTRUCTURE

MARINE

Essential reliability made simple

With Vigilohm, it's easy to detect and locate electrical insulation faults that could halt operations

Your operations cannot stop – service interruptions are never 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 mandatory in IT earthing systems, not all IMDs are the same. 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.





POWER GENERATION



INDUSTRY

“When failure is just not an option, I know I can trust Vigilohm every time.”

Advanced features for today's enterprise

- Simple ordering, operation and installation
- Synchronicity with modern, communicating ungrounded electrical distribution networks
- Compliance with international standards
- Seamless integration with Com'X Energy Server, Ecostruxure Power Monitoring Expert or Ecostruxure Power SCADA Operation
- Exclusive measurement of leakage capacitance
- Increased property life by enabling preventive and corrective maintenance operations (IM400 & IFL12MC logging and trending)

Greatly reduce 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 perfect for a wide variety of specialized applications and industries



IEC

Vigilohm IMDs comply with international product and safety standards:
IEC 60364-4-41
IEC 61010-1
IEC 61557-8
IEC 61557-9
IEC 61508

UL/CSA

Vigilohm IMDs & IFLs comply with:
UL61010
UFLFS
UL1998

DNV/BV

Vigilohm IMDs & IFLs certified by Marine Agencies (DNV - Det Norske Veritas, BV - Burea Veritas, ...) approved for safeguarding life, property and the environment

Vigilohm IMDs and IFLs fit the needs of many industries, including hospitals, where there are additional standards for safety and service continuity. 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 (IFL12MC), for the most demanding applications. All 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 IFL12 offer compatibility with AC and DC control and power electrical networks. Vigilohm IM20, IM400 and IFL12MC are designed for highly perturbed electrical networks with power electronics devices such as inverters, variable speed drives, rectifiers and active filters.



Vigilohm IM9

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 2nd threshold and ability to authorize start even with low insulation.



Vigilohm IM10

Monitors both AC and DC networks and features a large graphical display.

Contemporary features meet complex power system demands

Seamless integration and display of vital information helps identify problems fast



‘C’

Only Schneider Electric displays C value, essential on large networks since the C-related impedance can cause a drift towards a TT arrangement, which may cause a dangerous contact voltage and a high fault current after an insulation fault.

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
- Log real time value for trending and preventive maintenance



Vigilohm IM20

Enjoy features like leakage capacitance measurement, current injection inhibition, high-voltage adaptor compatibility and Modbus communications with alarm logging.



Vigilohm IM400

Insulation trending, preventative insulation alarm output and IMD redundancy management features. Compatible with efficient and simple fault location devices and designed to monitor highly perturbed power systems, large photovoltaic installations and control networks.



Vigilohm IM400THR

IM400THR brings IM400 values to Medium Voltage applications up to 36kV: insulation trending, preventative insulation alarm output, and Modbus RS485 communications.

Validated for monitoring demanding solar applications

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

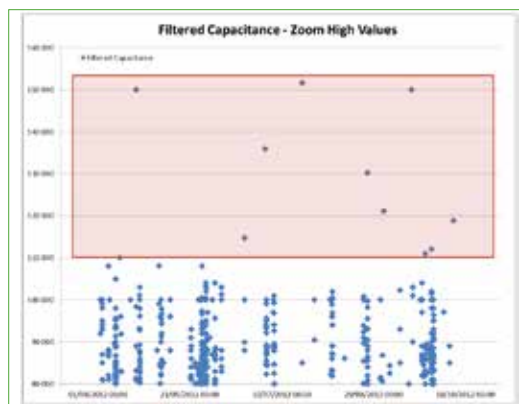
To reduce the risk of fire, ungrounded neutral power schemes are now the rule rather than the exception. Monitoring the insulation to earth is key to detecting and indicating any unsafe situations.

Vigilohm IM20 and IM400 devices are designed to survive the solar industry's severe environments and highly constrained conditions. Devices were field tested for months the most difficult conditions for insulation monitoring: harsh environments, and high-variance power production periods.

In such conditions, false indications can lead to operational losses. Vigilohm devices proved immune, as no spurious faults were detected. Operation and maintenance staff can exercise device control and supervise installation and diagnosis system faults from remote locations.

Vigilohm's open communication architecture is the key. The manual fault location kit lets maintenance personnel locate the faulty section in order to repair it and quickly resume operation.

Field measurements prove that high capacitance is not always the rule and that excellent monitoring capability on low insulation is needed.



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



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

Vigilohm XD301



Simple and efficient fault location device with fixed threshold to report and detect faulty feeder. Monitors a single feeder and allows reporting of individual faulty feeder to the supervision system thanks to its output relay. Logs transient faults and compatible with the IM400.

Vigilohm IFL12



Simple, efficient fault location device with three selectable thresholds to detect faulty feeders, the IFL12 simultaneously monitors up to 12 feeders and reports faults on a dedicated channel LED and on a common output relay. IFL12 offers a very fast, 5 seconds, response time. A filtering option is available for disturbed power systems. IFL12 monitors and report toroids disconnections, logs transient faults, and is compatible with the IM400.

Unique injection principle for improved accuracy, reliability

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

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 with 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.

From the simplest devices (IFL12 and IFL12C) to the most advanced (IFL12MC), Vigilohm IFLs take advantage of this unique principle to help locate insulation faults, accurately and efficiently, on every power systems.



Vigilohm IFL12C



A simple and efficient fault location device, the IFL12C offers Modbus 485 communication in addition to features offered by the IFL12.

Vigilohm IFL12MC



Our most efficient fault location device, the IFL12MC is designed for demanding applications. Thanks to its unique ability to measure insulation resistance and capacitance, the IFL12MC helps staff accurately operate electrical systems. Logging and trending capabilities are key for preventive and curative maintenance.

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For more information on Vigilohm insulation monitoring devices,
please visit [schneider-electric.com](https://www.schneider-electric.com)

Schneider Electric Industries SAS
35, rue Joseph Monier - CS 30323
F92506 Rueil-Malmaison Cedex