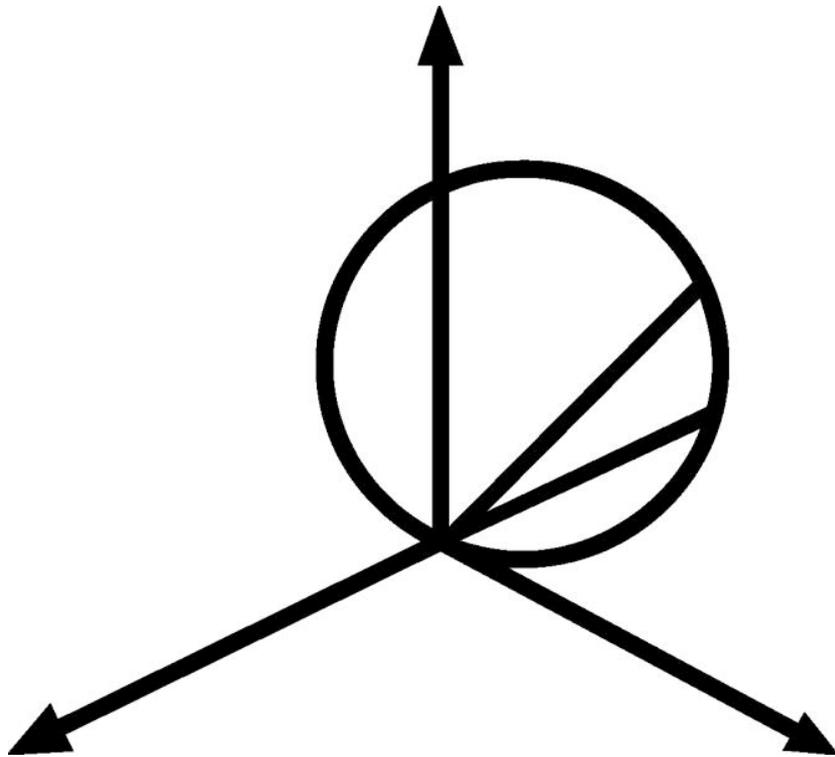


Swedish Neutral

Premium Power Protection



Product Catalog Shortform

Premium protection for premium power.

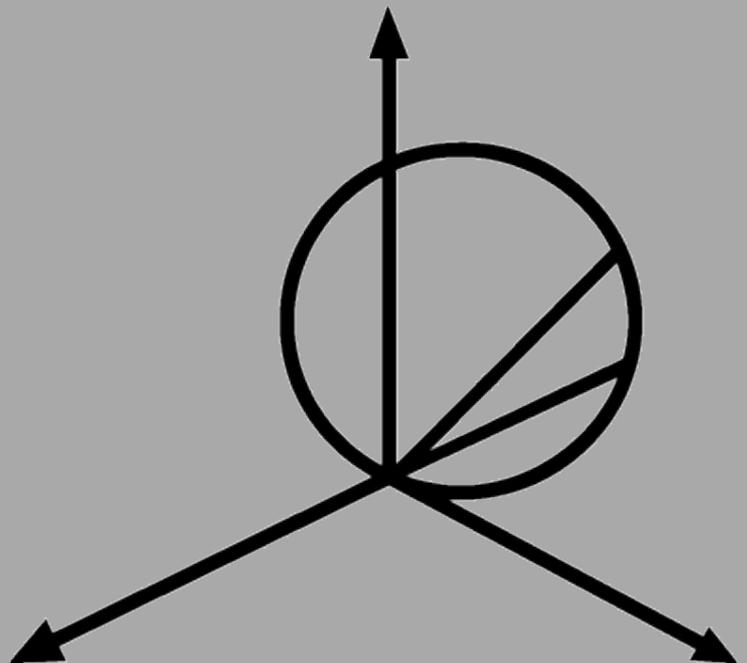
Reliable and safe power supply is today more important than ever and is becoming more and more important every day.

Swedish Neutrals mission is to supply products and solutions that help improve reliability and safety.

Started in 1987 we have more than 25 years of experience of earth fault protection and neutral treatment.

Swedish Neutral has developed and is now providing a full range of earth fault protection and neutral equipment products - everything from traditional neutral equipment such as the Arc Suppression Coil to the market leading Ground Fault Neutralizer.

By helping to achieve the safest and most reliable power supply Swedish Neutral offers cost-effective solutions for utilites as well as highest possible gain for end users of energy.



The Arc Suppression Coil
a big step towards real earth fault protection

Resonance grounding by Petersen coils (Arc Suppression Coils) has been used in Scandinavia and other European countries for some eighty years.

The excellent properties of this grounding concept are mirrored by very low outages rates.

Resonance grounding is mainly used in overhead networks where most of the faults are single phase- to-ground and often of transient nature.

The Petersen coil chokes the fault current below the level of self-extinction (< 35 A) by compensating for the capacitive fault current of the network.

By this action all transient faults can be cleared without feeder tripping.

The Ground Fault Neutralizer
real earth fault protection

Sustained faults on overhead lines and cable faults cannot be cleared by any Arc Suppression Coil since no Arc Suppression Coil can compensate for the active part of the fault current. Due to this remaining fault current it is necessary to trip the feeder to minimize the risk for fire and personal hazards in the network.

To obtain safe continuous operation during earth faults Swedish Neutral can offer the Ground Fault Neutralizer system which compensates for the complete fault current (capacitive+active).

The Ground Fault Neutralizer reduces the fault current to practically zero, for all types of earth faults, faster than any other protection, while maintaining power supply to the customers – no feeder tripping!

Neutral Treatment

Neutral Treatment	Fault Current	Speed of Protection
Solid Grounding	10kA	0.1-1.0 sec
NER Grounding	1kA	0.1-1.0 sec
Ungrounded	100A	0.1-1.0 sec
Resonance Grounding	10A	1.0-(∞)sec
Ground Fault Neutralizer	0A (<50mA)	<60 msec

Product Gallery

Ground Fault Neutralizer



The GFN offers as the only system available on the market true earth fault protection.

The GFN reduces the earth fault current to practically zero faster than any other system.

The GFN neutralizes the earth fault without tripping the feeder – no outage and at the same time highest possible safety.

The GFN comes with built in earth fault location with very high sensitivity that copes with the difficult and dangerous high impedance earth faults.

Arc Suppression Coil



Even though superior to other traditional neutral treatments the Arc Suppression Coil does not offer the whole solution.

An Arc Suppression Coil compensates for the capacitive part of the earth fault current but still leaves a residual current at the fault which is large enough to still risk human life, injury to humans and fires.

The Arc Suppression Coil should be combined with a tripping scheme to avoid these risks.

In Sweden and other countries tripping in resonance grounded networks is mandatory since 1987 due to fatalities caused by the residual current that the Arc Suppression Coil cannot compensate for.

All Swedish Neutral Arc Suppression Coils are prepared for a later upgrade to a complete Ground Fault Neutralizer system.



Product Gallery

Earth Fault Locator

One of the most important benchmarks of good protection is sensitivity – the protection needs to see the fault – otherwise it cannot operate. The Earth Fault Locator works with two schemes – transient measurement and differential admittance measurement. To see the really difficult faults – the high impedance faults (i.e. wire on ground) the protection needs highest possible sensitivity.

The differential admittance measurement gives you this – by using a differential measurement the Earth Fault Locator is able to see also very high impedance faults. The differential measurement cancels out any errors in the CT and therefore can supply highest possible sensitivity.

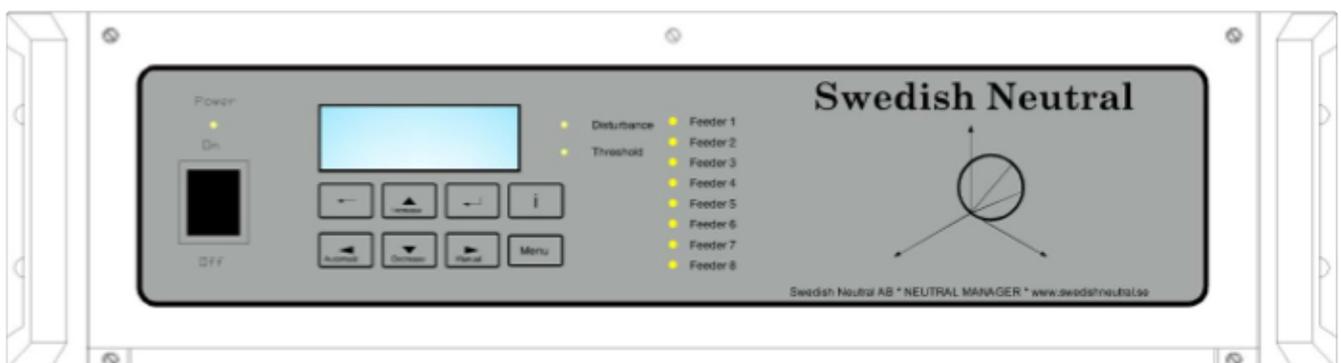
The Earth Fault Locator locates the faulty feeder. Distance to fault measurement is included (loop measurement).

Stand Alone Earth Fault Locator

The Stand Alone Earth Fault Locator is a stand-alone version of the Earth Fault Locator used for lower levels in branched networks (i.e. networks in mines)

Automatic Tuning Device

The Arc Suppression Coil needs to be tuned correctly to the network. The network can change due to connection or disconnection of feeders and other factors. The Automatic Tuning Device constantly monitors the network and automatically tunes the Arc Suppression Coil to the correct value if the network changes.



Grounding Transformer



The Grounding Transformer provides a physical neutral where needed.

The Grounding Transformer can also be supplied with an auxiliary winding for local power supply.

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