

Rectifier Cabinet for PM Generators

Permanent Magnet machines are very compact. The weight as well as the volume is considerably lower than for conventional rotating machines with the same power.

Normally, PM machines are used in motor applications but can also be used as generators for example in diesel electric power plants. This product is developed for rectifying the power from a diesel driven PM generator, and controlling the charging of a battery. The design is made according to military specifications and the Rectifier Cabinet is suitable for use in a submarine for battery charging but can naturally be used in commercial applications as well.

The Rectifier Cabinet shown here is designed for a PM generator with double windings but can easily be converted to handle two smaller generators. Starting of the diesel engine is obtained by running the generator as a motor and when the engine has reached its nominal speed, the mode can be changed to generator operation.

The main components in the Rectifier Cabinet are two static inverters, controlled by a PLC. The PLC also collects all relevant data for the process, such as voltages, currents and temperatures. There is a touch panel on the cabinet front from which the system can be operated. The panel is also used for parameter setting and monitoring. There is also a possibility for remote control from an external system via Profinet.

The equipment is housed in a stainless-steel cabinet. Access is normally from the front only. For maintenance purposes the plate on the backside can be removed. Cable inlet is through MCT cable boxes in the bottom of the cabinet. The Rectifiers are water cooled by an external freshwater system.



General Technical Data

DC output voltage	0-650 V DC
DC current	max 1300 A
AC Voltage (depending on U _{DC})	<500 V
AC current	2x650A/phase