

Marine activity

Ring Main Units : RM6

The RM6 is a compact unit combining all MV functional units to enable connection, supply and protection of one or two transformers on an open ring network. RM6 medium voltage switchgear cubicles are very simply a perfect match for configurations with one to four functions.

- choice of “all-in-one” units integrated in a single metallic enclosure,
- cubicles insensitive to climatic conditions,
- optimized dimensions,
- fast installation, fast cable connections on the front,
- marine certified product.



Certification
E-9002



Some marine references
• Aker Yards:
NCL Cruise Liner,
Genesis 1 & 2
• Meyer Werft:
Aida ships, Norwegian
Gem, Norwegian Pearl,
Pride of Hawai'i,
Norwegian Jewel,
Jewel of the seas....

The new RM6 generation benefits from the accumulated experience acquired from the 1,000,000 functional units that equip electrical networks in more than 50 countries in Africa, America, Asia, Europe and Australia.

With 20 local production units around the world, RM6 can be made available to you in the shortest possible time.

Why is the HV loop adapted to a ship?

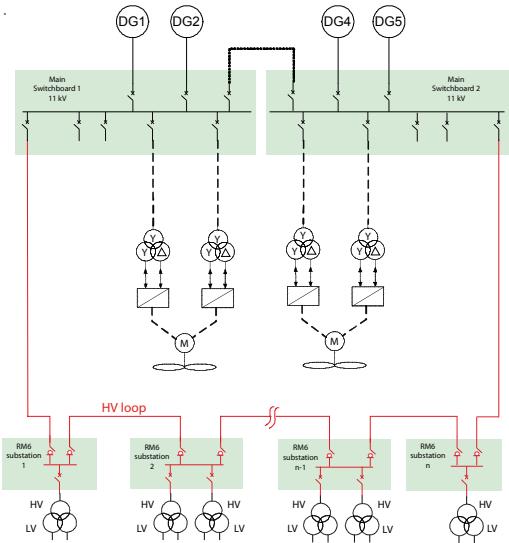
A HV loop network is composed of several substations, called RMU (Ring Main Units). Each substation consists of several HV functions.

Two HV switch-disconnectors ensure the closing or opening of the HV loop.

The protection of one or two transformers can be done through a circuit-breaker or a fuse switch combination.

The electrical architecture of a ship is divided in two parts:

- the machinery space composed of propulsion motors, thrusters, power generation, pumps... Generally, the associated electrical architecture is a radial configuration.
- the cargo, like for example the accommodation part of a cruise liner. Several HV/LV transformers are dispatched in the different ship's zones. Therefore, a HV loop configuration is an adapted solution as the loads can be supplied as near as possible.



Example of a ship HV loop

What can be the system benefits?

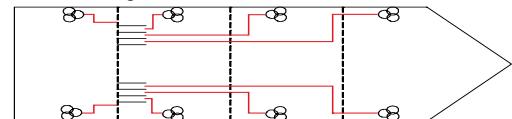
A HV loop configuration offers significant advantages:

- Main HV switchboard smaller (only two cells to feed a HV loop)
- Length of HV cables reduced (shortening average ratio > 30% for the configuration)
- The maintainability and availability of the network are also improved.

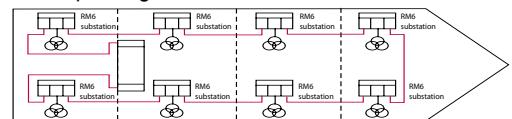
Actually :

- A failed cable section on the HV loop can be disconnected
- An automatic reconfiguration of the HV loop after a fault detection can be achieved
- Possibility of installation, during ship construction, of a package (RMU, HV/LV transformer and LV switchboard).

Radial configuration

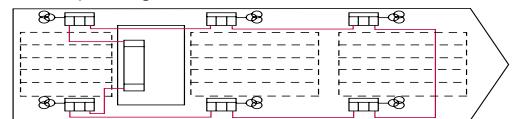


HV loop configuration



Example of a cruise liner architecture

HV loop configuration



Example of container ship solution

Schneider Electric Industries SAS

Head Office

35 rue Joseph Monier
CS 30323
F - 92506 Rueil-Malmaison Cedex

RCS Nanterre 954 503 439
Capital social 896 313 776 €
www.schneider-electric.com

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