ENGINEERING
TOMORROW

Fact Sheet

VACON® DCGuard™
Safe DC-grid selectivity

VACON® DCGUARD™* enables fast disconnection and full selectivity between DC grids.

Utilizing DC grids rather than AC grids enables power distribution with lower power losses. However, ensuring selectivity and limited short circuit energy requires more sophisticated protection devices.

Danfoss Drives has therefore developed the VACON® DCGUARD™, a semiconductor protection device that can detect and cut off any DC faulty currents and isolate the faulty part of the system in microseconds.

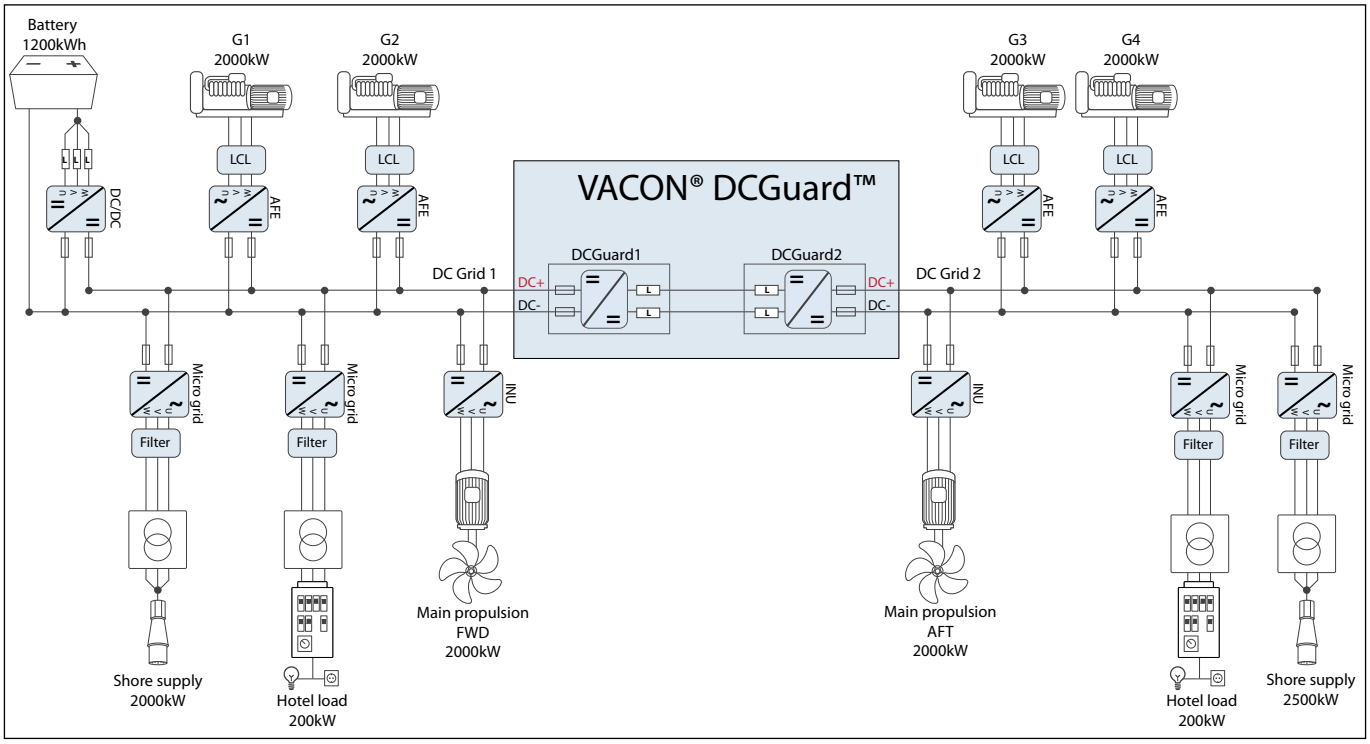
Current range:
- 465-800 VDC……3-4140 A
- 640-1100 VDC…..….4-3100 A

Current cut off in µs

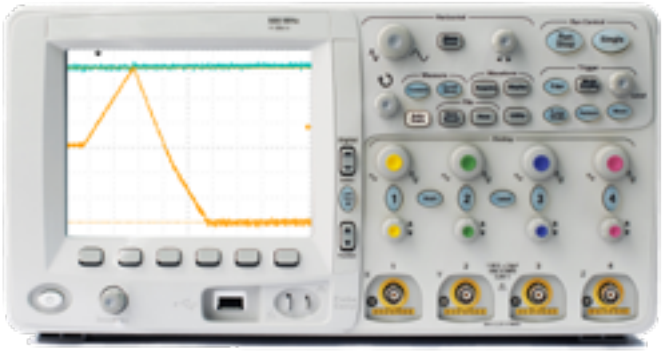
Typical fuse clearance time >30 ms.

Feature	Benefit
Short circuit protection	Ensure correct system selectivity
Cutting off both + and - inside the same unit	No overvoltage spikes related to current cut off
Controlled voltage ramp up	Connect two different DC grids with voltage differences up to full DC voltage
Overload detection	Protection of transmission cables
Standard NXP hardware	Proven and well known products

**patent pending*



Example of hybrid system where VACON® DCGuard ensures the required system selectivity



Short circuit current cut-off snapshot

- DC- link voltage on feeding side. Negligible voltage dip on feeding side.
- DC current in connection cables. Current cut off in 100-150 µs.

Easy dimensioning

Rated VACON® DCGuard™ DC current = Rated VACON® NXP Inverter AC current.

This means that your primary dimensioning value is the required load through the VACON® DCGuard™, meaning energy transfer from one side to another. It is as easy as that.

DCGuard™ is type approved by DNV-GL