VACON® NXP 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® NXP DCGuard™, a semiconductor protection device that can detect and cut off any faulty DC 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

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

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

**Type approvals:**
DNV-GL, ABS, Lloyd’s Register, CCS, Bureau Veritas

---

### Feature | Benefit
--- | ---
Short circuit protection | Ensure correct system selectivity
Cuts 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® NXP DCGuard™ ensures the required system selectivity

**Legend**

1. **Normal situation (No fault)**
   - Current is within DCGuard nominal current capacity.

2. **Fault current rise time.**
   - Current di/dt=V/L
   - V=Feeding DC voltage
   - L=Inductance in the circuit
   - Typical time: 100-150µs*

3. **Current cut off time.**
   - DCGuard performs a current cut off by forcing all IGBTs open when current reaches the tripping limit of the DCGuard. Time: <5µs

4. **Energy discharge time.**
   - Current di/dt=V/L
   - V=Feeding DC voltage
   - L=Inductance in the circuit
   - Typical time: 200-300µs*

5. **Total fault clearance time.**
   - Typical time: 200-300µs*
   - * System dependent

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequental changes being necessary in specifications already agreed.

All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.