



Example of a 3-level FC

Typical application and trends

- Medium voltage drive up to 4.15kVAC
- UPS up to 690VAC
- Solar up to 1500VDC
- Electric Vehicle
- SMPS
- Mobile phone

Conversion stage

- ✓ DC/DC mono and bi-directional
- ✓ DC/AC mono and bi-directional

Number of levels

Typical: 3 to 4
Max: 12

Intellectual Property

Initial patent FR2679715 expired

Advantages

- DC - DC compatible
- Minimal number of switches
- Increased apparent switching frequency

Drawbacks

- Need flying capacitors

Notes

- Natural balancing of flying capacitors
- Extra balance boosters can be added for transients