Electronic Current Limiting Interrupter for fault current reduction and arc-flash mitigation in LV networks

GridON, a world leader in fault current limiting technology, is offering a new cost-effective compact Electronic Current Limiting Interrupter - for fault current reduction and arc-flash mitigation.

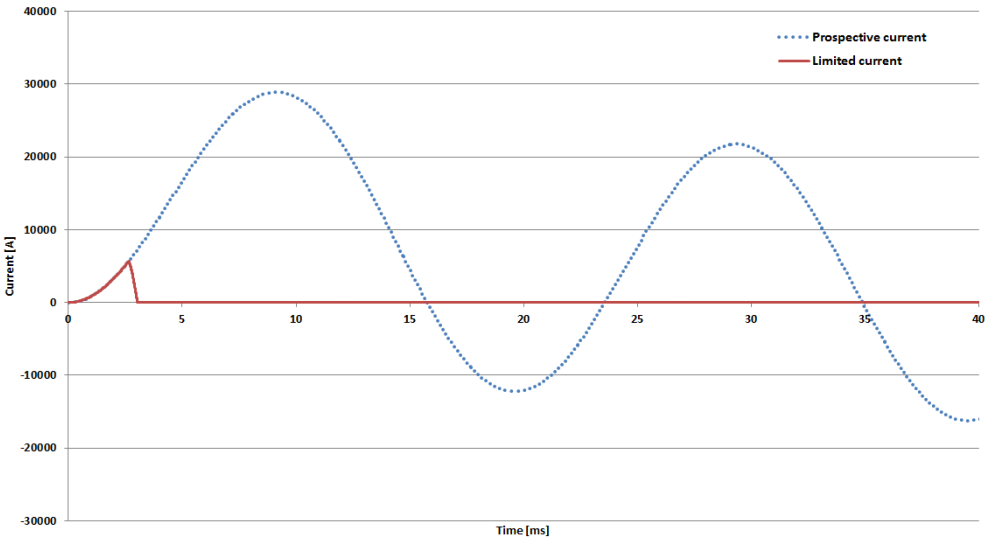
Following years of field proven fault current limiter operation in service, GridON is introducing a new product family for low-to-medium voltage networks, based on a novel architecture, using standard power-electronics devices.

The device limits fault currents in the network before they rise to high levels, and acts to interrupt or limit the fault current before the first current peak. The product controls the overall fault level in the network, allowing connection of new generation sources, while reducing the arc-flash energy in the plant.

Following is an example of a 3-phase LV FCL device. FCLs for higher voltage/power ratings are available upon request.

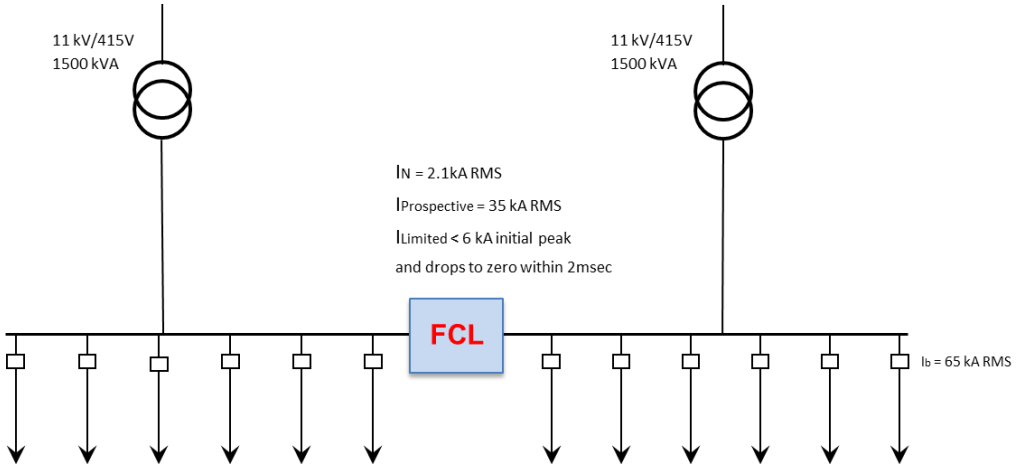
Main Features

- Fast electronic fault current limiter
- Limiting the fault current before the first peak
- Line voltage: 380-660V RMS, 3-phase, 50-60Hz
- Nominal current: 2400A RMS
- Rapid recovery time: flexible recovery modes after fault clearance
- Up to 100% fault current reduction
- Compact 3-phase system footprint (WxDxH): 0.8x0.9x2.0m



Application example 1: Arc-flash mitigation

The following single line diagram shows an industrial plant's substation with two feeding transformers and multiple outgoing feeders. The switchgear is rated for 65kA RMS breaking current. In the absence of a current limiting device, the available fault current from two transformers (35kA RMS each) would exceed the switchgear ratings. The operator wishes to reduce fault levels in the plant in order to avoid switchgear replacement and also to reduce arc-flash risk in the plant. By installing an FCL in the bus-section, the two transformers can be operated in parallel, and the available arc-flash energy is reduced significantly, which enables lowering the hazard risk category.



Application example 2: Generation connection

The following single line diagram shows a connection of distributed generation into a DNO (Distributed Network Operator) grid. The DNO approved the connection provided fault current contribution will be lower than 230A peak on the 11kV side (6kA peak on the 415V side). The available fault current from the generators is 13kA RMS at the connection point to the DNO, but the fault current contributed by the DNO to the generators' bus is 35kA RMS on the 415V side. By installing an FCL between the generators' bus and the step-up transformer the fault current contribution from the generators meets the DNO requirements.