

# Cost-effective connection of independent generators enabling sale of excess generation capacity to the grid



GridON, a world leader in fault current limiting technology, is offering a novel electronic Fault Current Limiting Interrupter which enables cost-effective connection of independent generators and renewable energy sources, and sale of excess generation capacity to the grid.

The ever increasing penetration of Distributed Generation (DG) has led to rising network fault levels, challenging the fault capacity of existing equipment, and poses challenges to both network operators and Independent Power Producers (IPPs). In order to enable a scalable and long term path for such connections, the fault current contribution from new generators needs to be reduced to near zero. While some generation sources contribute little fault current (e.g. inverter based generation), synchronous ones (such as CHP) contribute significant fault current. Consequently, connection requests by IPPs are often rejected by grid operators due to lack of fault current headroom in their networks. In some cases, connections are made possible through conventional resource-intensive and often disruptive network reinforcement, with substantial cost and delays to the IPPs. This leaves available generation capacity underutilized, thus inhibiting improvements in network capacity and flexibility and energy source diversification.



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 Fault Current Limiting Interrupter (FCLi) is a series-connected solid-state device which instantaneously interrupts the AC current upon detection of short circuit conditions. The FCLi limits and interrupts excessive fault currents from the generation source to the grid - before the first current peak. It also limits short circuit currents from the grid to the generator. Once the short-circuit condition

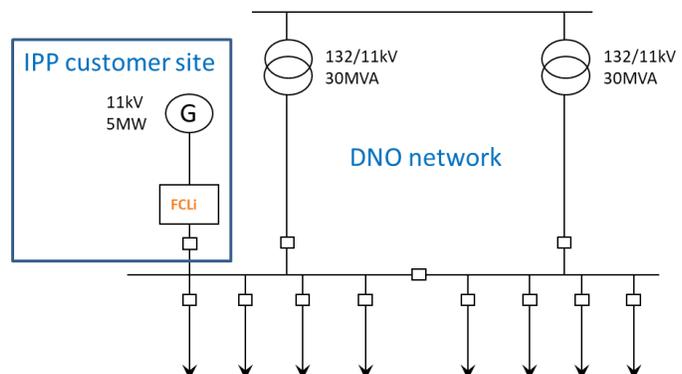
is cleared, the FCLi is immediately ready to resume normal conduction.

By controlling excessive fault currents, the FCLi enables fast and cost-effective connection of IPPs, and sale of excess generation capacity to the grid. Return on investment in an FCLi is expected within one year.

Western Power Distribution (WPD) has recently contracted GridON to trial an FCLi in a 5MW generator connection into WPD's 11kV network. WPD is targeting the FCLi solution for connection of hundreds of new distributed generators into their network.

## 5MW generator connection

FCLi enables connection of 5MW generators at 11kV with nominal current rating of 328A, reducing the fault current contribution to near zero.



## **About GridON Ltd**

GridON is a leading provider of Fault Current Limiting solutions for increased capacity in electricity networks and for cost-effective connection of distributed generation and renewable energy sources. Short circuit currents in electricity grids are rising with new generation sources added to meshed networks, often exceeding existing switchgear ratings. GridON provides fault mitigation solutions for network operators, independent power producers, and industrial customers.

GridON is offering scalable solutions from medium to very high transmission voltage ratings.

GridON's commercially available saturated-core Fault Current Limiters (FCL) have been operating flawlessly in live networks for more than 5 years, proving the reliability and maturity of the product, and are being offered in partnership with Wilson Transformer Company - Australia's leading manufacturer of high-quality transformers.

GridON's solid-state Fault Current Limiting Interrupters (FCLi) are offered for low-to-medium voltage networks. Designed with compact footprint and low price tag, the FCLi is a cost-effective solution for connecting distributed generation sources and for increasing power capacity in industrial plants.

GridON's FCL and FCLi improve grid resilience and reliability and significantly lower capital expenditures and operating costs, while eliminating network upgrades and early retirement of fit-for use equipment.

For further information, please visit [www.GridON.com](http://www.GridON.com) or email [sales@GridON.com](mailto:sales@GridON.com) or call +972.3.711.1183