



Digital Energy

Gridcom DIP.net

Load Shedding Application

MAINTAIN STABILITY, AVOID BLACKOUTS AND PREVENT SYSTEM DAMAGE

When power demand exceeds capacity, the electricity system becomes unbalanced. Frequency and voltage fall, and can lead to grid blackout, equipment damage, as well as penalties for power utilities. Undervoltage/underfrequency load shedding and selective generator trip applications are crucial in keeping power system stability.



KEY FEATURES AND OUTCOMES

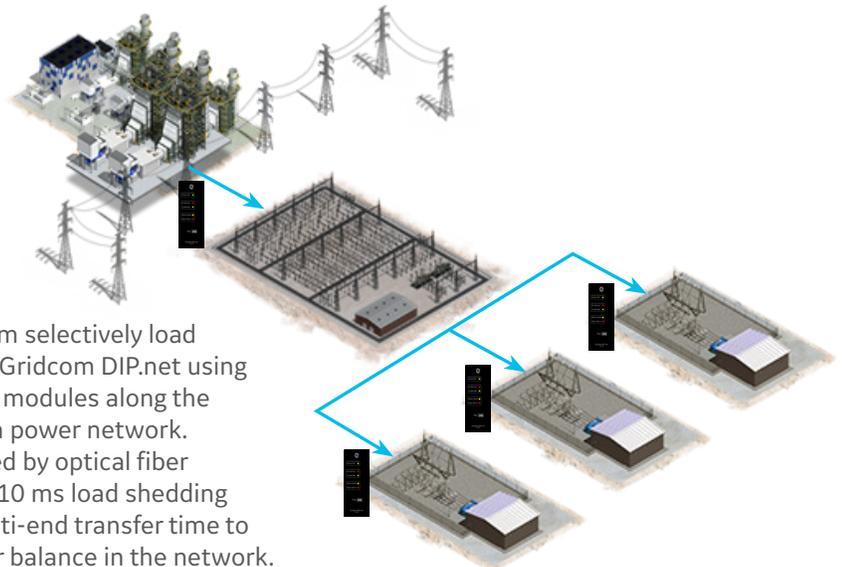
- Ensured low latency for a short end-to-end transfer time
- Simultaneous command transmission paths using Gridcom DIP.net multi-point signaling approach
- High burden output contacts for acting directly into circuit breaker tripping circuit
- IEC61850 1A type GOOSE trip message
- Extensive capability of input/output logical combinations
- Small size modular architecture
- Versatile multi-media telecommunication path (E1/T1, V11, 64kbps, direct OF, C37.94, ETH 61850)
- IEC 61850 2nd edition compliant
- Simultaneous protection signaling acquisition from conventional and IEC61850 protection relays

TP COM - Telecommunication Interface Module

GE's Gridcom DIP.net provides a controlled response to load shedding and safe generator tripping, extending beyond its native teleprotection functionalities as a flexible, secure and fast automation and protection interface device, used for applications in load shedding and generator feeder tripping.



Distribution or industrial power network event-based load shedding application



Downstream selectively load shed using Gridcom DIP.net using distributed modules along the distribution power network. This is linked by optical fiber ensuring < 10 ms load shedding end-to-multi-end transfer time to keep power balance in the network.

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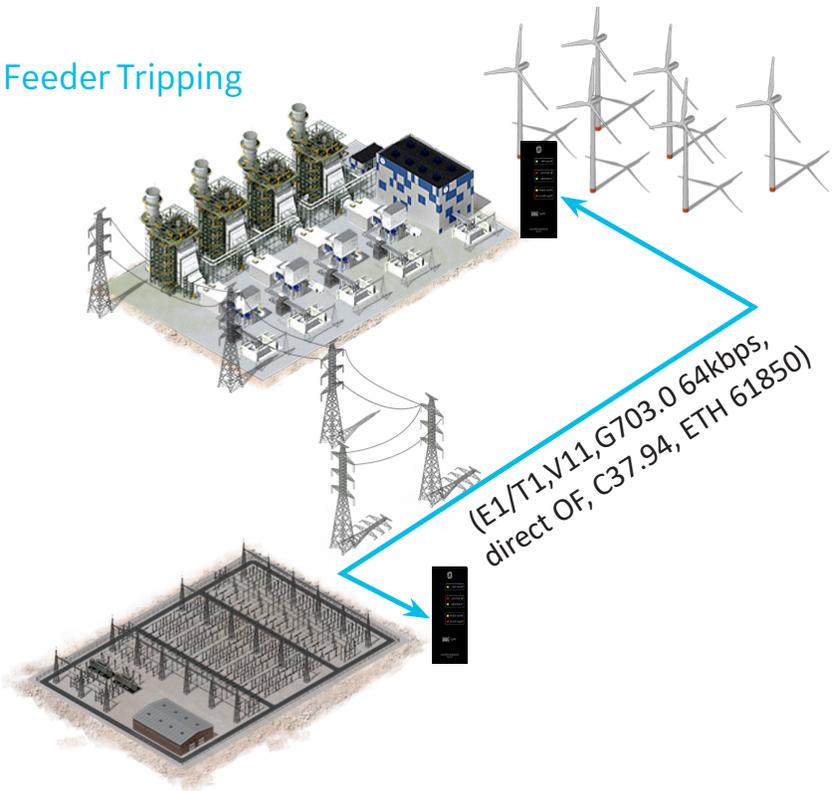
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Event-based wind farm Selective Feeder Tripping

Event-based generator feeder tripping or group of feeders using Gridcom DIP.net with modules located in power substation and remote wind-farm generator switchgear. This ensures < 4 ms end-to-end transfer time to keep power network stability.

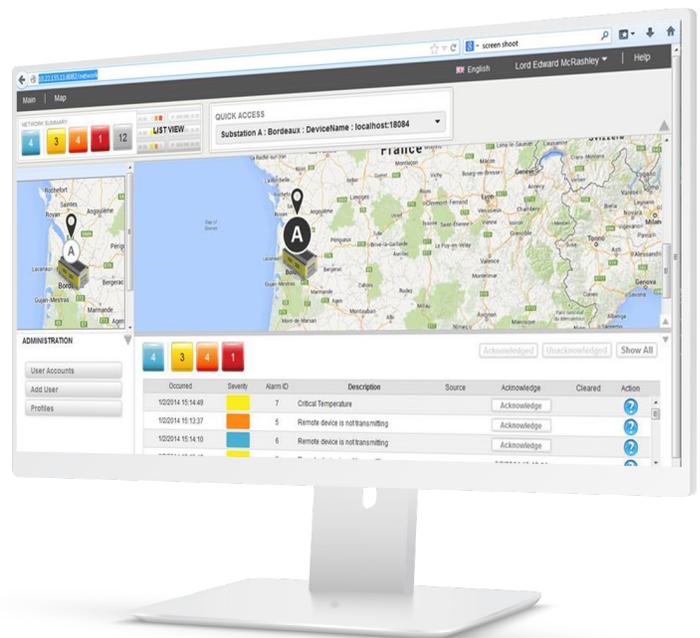
Generator selective remote disconnection action using Gridcom DIP.net over a communication link between power substation and remote generator switchgear. This trips the generator circuit breaker directly by TP I/O module output contacts or by IEC 61850 1A type GOOSE trip.



HMI Access



HMI access is available through a web browser and using a wireless tablet display, allowing the geographical location of Teleprotection equipment and connections to be viewed. An optional LCD screen module to access main events and the alarms database is also available.



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