

BGAN M2M

# RECLOSER MONITORING AND CONTROL

## SATELLITE CONNECTIVITY ENABLES RELIABLE REMOTE CONTROL AND RECOVERY SERVICES FOR THE GRID

### YOUR CHALLENGE

Energy and a reliable electrical supply have never been more valuable. Electrical utility network operators are therefore under increasing pressure to maintain incredibly high levels of service, quality and availability, with failure to meet government mandated standards having the potential to attract significant fines.

To deliver the required reliability of service, distribution network operators (DNOs), are implementing increasingly smart grids, with critical grid management components monitored and controlled by supervisory control and data acquisition (SCADA) networks. Circuit reclosers are a key element of this service, sensing and interrupting current on a grid segment in the event of a fault. While these devices can trip and reset independently, unconnected reclosers can often enter a lockout state once tripped, requiring an engineer response to reset them. Monitoring and controlling reclosers from a central SCADA system not only removes this risk, but it can also provide more data to a SCADA control room.

For a centralised reclosers approach, secure and reliable connectivity is critical. With many DNOs managing grids that span across wide

territories, often traversing remote areas, cellular or other terrestrial options cannot always be relied upon.

### OUR SOLUTION

The solution is to use a satellite IP service that can meet the high levels of network availability required, either as primary or backup connectivity. By using the Hughes 9502 BGAN or the Cobham 540 BGAN, which provide cellular with satellite fall-back in one unit, DNOs can easily connect their reclosers to Inmarsat's connectivity services using IP over the ELERA network. DNOs can count on this L-band satellite network with 99.9% availability, for secure, reliable connectivity 24/7.

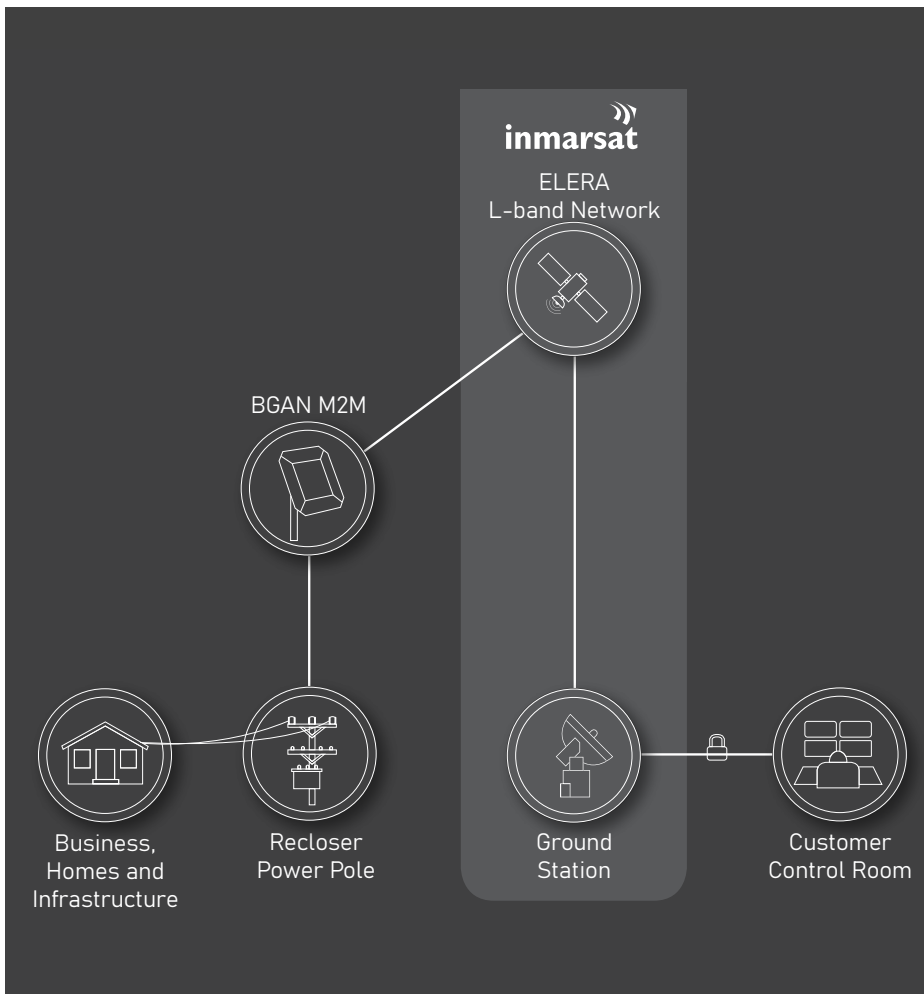
DNOs using or introducing centralised reclosers into their network should consider the overall reliability and resilience of their connectivity infrastructure. Although it is likely terrestrial services will form the major communications backbone, this may be insufficient for operators covering more remote areas and can be unreliable in bad weather. Introducing Inmarsat satellite services utilising BGAN terminals and the ELERA network, will help DNOs achieve the continuity of service they require, as ELERA provides continuity of services through adverse weather conditions.

### SYSTEM BENEFITS AND ROI

Implementing centralised reclosers with reliable connectivity delivers several benefits:

- Enhanced operations management, including motoring and control from SCADA control room
- Removes risk and cost of sending field engineers to reset tripped reclosers:
  - Due to the risks associated with this type of activity, including working with high-power electrical components and operating at height, this is likely to require a minimum of two engineers, travelling to potentially remote sites
  - No time lost on dispatching workforce to reset reclosers as this can be done remotely, immediately
- Enables utilities to remotely disable the automatic recloser function in dry seasons to avoid starting wildfires
- Enables DNOs to identify and limit the spread of faults, mitigating risk of serious operational impacts

Using BGAN over Inmarsat's ELERA network to provide connectivity ensures this approach is successful and avoids potential service interruptions.



## SOLUTION FEATURES

- Inmarsat's small, low-power BGAN M2M terminal easily integrates with reclosers to provide reliable, uniform coverage, while its standard IP protocols allow for seamless and secure integration as part of an existing or expanding grid
- Centralised management capability at a low cost no matter how remote the location, provides power companies with remote control and recovery services for the grid
- Unparalleled reliability of both the L-band service and the hardware helps users avoid site visits or needing to change hardware in the field for decades at a time
- Easy maintenance: BGAN M2M offers remote management capabilities, including remote firmware updates and self-healing capabilities, which form a critical part of the service offering

## To find out more or to purchase:

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