

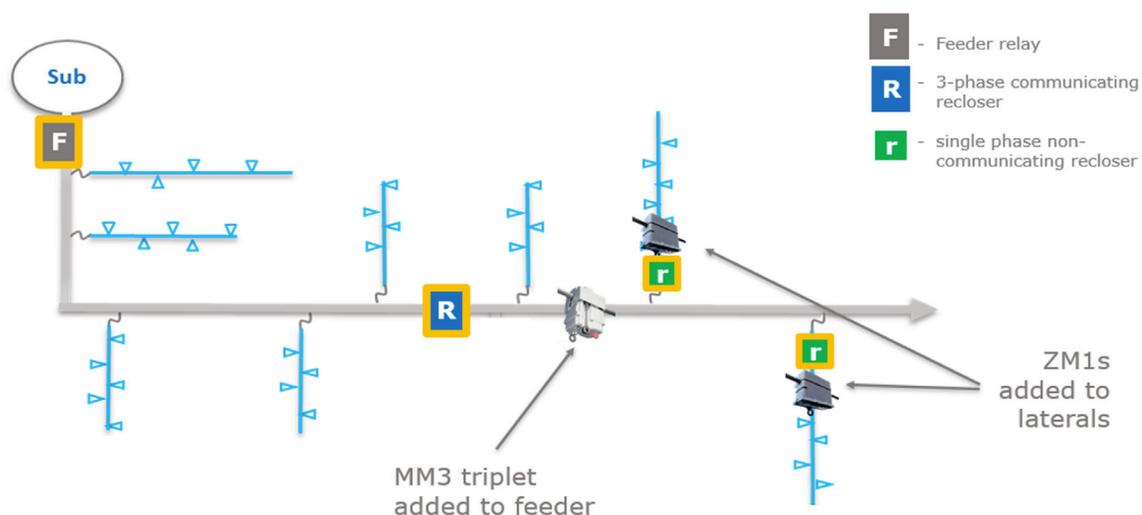


Pairing Intelligent Sensors with Non-Communicating Reclosers

Utilities often use single phase reclosers on laterals as an effective way to clear momentary faults and reduce permanent outages on the main feeder lines. But, when these reclosers are not equipped with network communications, utility operations teams have just a partial view of their distribution system status.

Sentient Energy's Grid Analytics System™

Sentient Energy's intelligent line sensors can be paired with non-communicating reclosers to give utilities improved visibility of their distribution system lateral lines. Our intelligent line sensors detect permanent and momentary faults and notify the Ample® Analytics Platform. Waveforms are captured for all faults and can be displayed and analyzed in Ample. Lateral load data is also available to improve load profiling and phase balancing.



How It Works

With Sentient Energy's low-load ZM1™ line sensors deployed just downstream of single-phase reclosers utilities have greater real time awareness of their distribution system including:

- 1. Momentary faults on laterals** – Counts of momentary faults by lateral give reliability engineers more granular information to understand and improve SAIFI. This data can help identify vegetation issues and onset of equipment failures before they worsen and cause permanent faults.
- 2. Permanent faults on laterals** – When single phase reclosers on laterals open for a permanent fault, ZM1 line sensors provide operators immediate notification of the fault to speed up restoration processes.
- 3. Detect lateral protection failures** – Ample software combines data from MM3 sensors on the feeder and ZM1 sensors on laterals to identify when single phase reclosers did not operate for a lateral fault causing the feeder recloser to open.

Results

The Sentient Energy Grid Analytics System, composed of intelligent line sensors and the Ample Analytics software platform, has been proven in the field to be an effective solution to add network communications to single phase recloser locations. This additional electric power system visibility makes grid operators more effective in their efforts to improve reliability.

Sentient Energy®, a Koch Engineered Solutions company, is the premier provider of intelligent sensing, data analytics, optimization, and control technologies for the distribution grid. For more information visit www.sentientenergy.com.

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