

EXTENSIBLE GRID MEASUREMENT UNITS

Reactive Technologies' proprietary Extensible Measurement Units (XMUs) are proven, cost-effective and scalable measurement devices that enable greater grid visibility and enhanced monitoring as part of the GridMetrix service available to Transmission System Operators (TSOs) and Distribution Network Operators (DNOs).



The XMUs leverage secure internet connections to accurately and continuously measure electric grid frequency, voltage magnitude and phase angle and report these data to a cloud-based storage and analytics platform. The XMUs are also able to control electrical assets such as generators, load, batteries, capacitors and fly wheels.



Information as a service to deliver the energy system of the future – today



XMUs are most similar to Phasor Measurement Units (PMUs) currently used by TSOs. There are however a number of key differences, particularly in terms of cost effectiveness and scalability.

Reactive's XMU

- 'Grid edge' measurement
 - ❖ Single-phase at 110/220 V
 - ❖ Frequency, Voltage, Voltage-angle
- Less costly device & installation costs
- Ability to control assets remotely
- More data points -> more insight
- 'Extensible'
 - ❖ Firmware can be changed remotely
 - ❖ Functionality can be changed per application
- Cloud connection
 - ❖ Quicker installation for deployment
 - ❖ Cheaper telecommunications link
 - ❖ Scalable to big-data due to cloud-computing and infrastructure
 - ❖ Secure VPN connection
- Technology as a service
 - ❖ Lower CAPEX investment
 - ❖ Maintenance part of the service
 - ❖ High quality data without the hassle

Generic PMU

- Transmission-level measurement
 - ❖ 3-phase at >132 kV typically
 - ❖ Frequency, Voltage, Voltage-angle
- Fewer data points due to cost of scaling the technology
- Fixed functionality
 - ❖ PMUs are capable of an array of functionality, but this is dependent on both their configuration, i.e. M class or P class, and on their application
- Costly dedicated connection
 - ❖ Slower deployment
 - ❖ Expensive telecommunications link
- High CAPEX costs for
 - ❖ Installation
 - ❖ Maintenance
 - ❖ Upgrade

Learn how GridMetrix can benefit you by booking a demo
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Find out more about our grid solutions
reactive-technologies.com/grid-operators