RGM7000

The RGM7000 power and energy meter is a low cost, powerful metering solution for large scale deployment within an electrical distribution system. Add high accuracy, data logging, power quality functionality, extensive communication, and I/O to existing or new power meter applications.

Features and benefits

High accuracy revenue metering
- ANSI C12.20 0.2 CL and IEC 61850 0.2S Class accuracy certification for energy measurements
- 0.007 Hz measurement for frequency control applications
- Verify accuracy using standard energy test pulse
- Compensate for Transformer Line Loss and CT/PT errors
- Meets New York state PSC approval for submetering

Power quality monitoring
- Record waveforms at up to 512 samples per cycle
- Up to 170 events stored before rollover
- View real time voltage and current waveforms
- Monitor THD and record harmonic magnitudes to the 40th order
- Program up to eight limits for alarm and control applications

Extensive communication options
- Standard IrDA port for configuration and direct data download
- Standard RS485 port
- Modbus ASCII/RTU/TCP, DNP3, and IEC 61850 protocols
- Up to two Ethernet and IEC 61850 ports with independent IP addresses/email on alarm/data push/embedded web servers/IP whitelisting

Data logging
- Three independently programmable historical trending logs
- Record 64+ parameters per log
- I/O log, System Events anti-tampering log, Limit Alarm log

Expandable I/O
- Optional communication and I/O can be installed in the factory or added in the field
- The meter can accept up to two communication or I/O cards
- Expandable communication option cards are:
- 100BaseT Ethernet (INP100S)
- IEC 61850 protocol Ethernet (INP300S)
- Expandable I/O option cards are:
- Four pulse outputs, four status inputs (PO1S)
- Two relay outputs/two status inputs (RO1S)
- Four channel, bi-directional 0-1mA outputs (1mAOS)
- Four channel 4-20 mA outputs (20mAOS)

RGM8000

The RGM8000 advanced power and energy meter is designed for utility substation and critical industrial applications. Improve the reliability, efficiency, and sustainability of your facility with its high accuracy and power quality monitoring capability.

Features and benefits

Precision revenue metering
- Certified ANSI C12.20 0.1 CL and IEC 62053-22 0.2S energy measurement accuracy
- High precision frequency measurements – 0.007 Hz – for frequency control
- Energy test pulse for accuracy testing
- Perpetual time of use with customizable rate structures to meet jurisdictional requirements
- Transformer line loss and CT/PT compensation.
- Test Mode and energy presets
- Pulse accumulators and totalizers
- Up to eight pulse outputs and eight pulse inputs

Cyber security

Prevent tampering with customizable security features
- For NERC CIP compliance
- An admin and up to eight users
- Encrypted, 30-character passwords
- Role-based authorization
- Password fail timeouts to eliminate brute force attacks
- IP Whitelisting with Ethernet cards

Power quality analysis
- Up to 512 samples/cycle waveform recording
- Storage for up to 319 events in the power and energy meter
- Waveform scope of real time voltage and current
- Independent CBEMA or SEMI F47 log plotting with millisecond time stamp for accuracy
- Harmonic recording to the 40th order
- View and analyze electrical system power factor

Real time SCADA communication capability
Designed for legacy and advanced smart substation applications
- Standard RS485 and front panel USB ports
- Two optional simultaneous Ethernet ports with separate IP addresses, email on alarm, data push, and embedded web servers
- Optional RS485/RS232 serial port
- Modbus ASCII/RTU/TCP, Level 2 DNP3, and IEC 61850 protocols

Extensive logging
Perform detailed load studies
- Six independently programmable historical logs for trending
- Log 64+ parameters per log in the power and energy meter
- Over 6 years of recording and storage for 4 parameters at 15-minute intervals
- System Events anti-tampering log, I/O change log, and Limit/Alarm log

Field expandable I/O and communication
Send data to multiple applications
- Install up to two cards in meter's option card slots
- Four pulse outputs/four status inputs (PO1S)
- Two relay outputs/two status inputs (RO1S)
- Four channel, bi-directional 0-1mA outputs (1mAOS)
- Four channel 4-20 mA outputs (20mAOS)
- RS232/RS485 card (RS1S)
- 100BaseT Ethernet card (INP100S)
- IEC 61850 protocol Ethernet card (INP300S)

RGM9900
The RGM9900 power quality meter provides invaluable power quality analysis using the latest PQ standards to record electrical disturbances, improving power system reliability and reducing downtime costs. It is also a precision revenue meter that collects energy usage with high accuracy. It is a cyber secured power quality meter, featuring multiport communication and is easy to install into existing infrastructure.

Features and benefits

Precision revenue metering
Creates Confidence in Energy Measurement
- Certified ANSI C12.20 0.1 Accuracy Class
- 0.06% energy accuracy
- Extensive load profiling, TOU, and line loss compensation
- Multifunction metering, including current, volts, watts, and frequency
- Vector/arithmetic sum for VA calculation

Power quality analysis
Eliminating disturbances and outages reduces operating costs
- Capture power quality events, including surges and sags, and record subcycle transients at 50 MHz resolution
- Monitor voltage reliability to industry-accepted normative standards – IEC 61000-4-30 Class A Ed. 3 Certified
- Provide power quality reliability indices, including CBEMA and SEMI F47
- Quantify system reliability with power quality measurements, such as harmonics, flicker, unbalances, frequency, and power factor – IEC 61000-4-15 Class A Flicker Meter and IEC 61000-4-7 Class A Harmonics and Interharmonics analysis Certified power quality meter
- Customize and view EN 50160 power quality compliance reports

Phasor Measurement Unit (PMU)
Synchrophasor measurements improve power system stability
- Provide system operators with wide-area situational awareness through improved visibility into dynamic grid conditions
- Determine stress points of the electric power system
- Detect and aid in restoring an islanded section of the grid after a storm or major outage disturbance
- Instantaneous measurements provide early warning detection alerts that SCADA systems miss