



Grid Edge Sensing

12MHz

analog sampling

A next-generation smart meter that goes beyond billing. With revenue-grade accuracy, ultra-fast waveform capture, and real-time fault detection, it delivers unmatched insight into grid performance. Built-in standards-based power quality reporting and continuous connection integrity monitoring help utilities reduce outages, prevent safety incidents, and improve reliability.



Features

0.2% accuracy for revenue-grade energy metering and TOU reporting.

Synchronous waveform capture at 12 MHz with 1 μ s GNSS time accuracy.

Compliant power quality reporting per IEEE 1159.3 and IEEE 61000-4-30.

Supply impedance estimation for connection integrity monitoring.

EMI noise analysis for arcing, vegetation contact, and partial discharge detection.

Benefits

Revenue collection without risk of financial loss due to poor accuracy.

Correlation of waveform events across multiple devices in different locations.

Standardized reporting formats for power quality.

Provides early warning of unsafe conditions or degraded supply quality.

Reduces wildfire risks and catastrophic failures, and supports regulatory mandates for safety and reliability.

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information beyond data

GENERAL	
Features	<p>Compliant with revenue metering and reporting standards</p> <p>Real-time anomaly detection with instant event alerts</p> <p>RaptorVision™ waveform capture with adaptive sampling (2 kHz–2 MHz)</p> <p>GNSS-synchronized timestamps with microsecond accuracy</p> <p>Continuous 2 MHz wavelet analysis for high-frequency fault detection</p> <p>Advanced grid modeling with Kalman filter and transient impedance analysis</p>
PHYSICAL WIRING	
Forms	13J (9S)
Security	Ring or ringless type
PERFORMANCE SPECIFICATION	
Accuracy Class	ANSI C12.1 Class 0.2%
Voltage Accuracy	0.1% (excludes external sensors)
Current Accuracy	0.2% (excludes external sensors)
Freq. Accuracy	0.1% 45-65Hz
Operating	-30°C to +70°C
Storage	-40°C to +70°C
Rel. Humidity	75% mean
Consumption	3W typical
Real-time Clock	NTP server or GNSS sync
Starting Current	Class 20: 6mA
REPORTING	
Revenue	ANSI C12.19
Power Quality	IEEE 1159.3 (PQDIF) IEC 61000-4-3 (10min-24hr interval)

ANALOG SAMPLING FREQUENCY	
Continuous	2kHz per circuit
Revenue	20kHz per circuit
Power Quality	200kHz per circuit
Fault Analysis	2MHz per circuit, 12MHz total
POWER QUALITY METRICS	
Harmonics	Sub, Odd, Even, and Inter-harmonics to the 400th
Conducted Emissions	Voltage & Current across three bands: 2-10kHz, 10-150kHz, 150-900kHz
Waveform Capture	20kHz for 10-cycles + GNSS 200kHz for 1-cycle + GNSS
DATA MEMORY	
Power & Events	256MB storage
Retention	20yrs
Encryption	256bit AES
COMMUNICATION	
Standard	BLE 5.2, Cellular LTE CAT-M1 (eSIM)
Optional	WiFi, NR+ (mesh), Ethernet
Optical	ANSI C12.18
STANDARDS & COMPLIANCE	
ANSI C12.1	Code for Electricity Metering
ANSI C12.10	Physical Aspects Of Watthour Meters - Safety Standard
ANSI12.18	ANSI Type 2 Optical Port
ANSI C12.19	Utility Industry End Device Data Tables
ANSI C12.20	American National Standard for Electricity Meters: 0.1, 0.2, and 0.5 Accuracy Classes
UL 2735	UL Standard for Safety Electric Utility Meters