

POWER QUALITY • LV NETWORK

NC31

PQ & compliance monitor

The NC31 is an IP67-rated advanced power quality monitor for low-voltage networks.

It provides four current-monitoring channels and captures synchronised waveforms @ 1 MHz per circuit, with GNSS timing accuracy down to 1 µs for distributed event correlation.

Suitable for both permanent and temporary deployments, the NC31 supports standards-compliant power-quality reporting, including emissions analysis up to 900 kHz.

It identifies network emission sources and provides statistical tracking, trend analysis, and summary reporting.



1 MHz ANALOG SAMPLING PER CIRCUIT



Load
Profiling & fingerprinting



Quality
IEEE & IEC reporting



Faults
Anomaly & event alerts

FEATURES

- Measures three-phase and neutral current using Rogowski coil sensors.
- Captures synchronised waveforms at 1 MHz with GNSS timing accuracy down to 1 µs.
- Supports standards-compliant power quality and revenue reporting.
- Estimates supply impedance to monitor connection integrity and detect degradation.
- Performs high-frequency EMI analysis, including identification of line-side and load-side noise sources.

BENEFITS

- Suitable for permanent installations and temporary field deployments.
- Enables waveform event correlation across multiple meters and network locations.
- Supports standardised power quality reporting formats.
- Provides early warning of unsafe operating conditions and degraded supply quality.
- Helps locate sources of high-frequency noise within the network.

0.1%

VOLTAGE ACCURACY

IP67

INGRESS

1 µs

GNSS TIMING

20 yr

RETENTION



TECHNICAL SPECIFICATION

NC31 PQ & compliance monitor

GENERAL	
Events Notifications	Real-time anomaly detection with instant event alerts.
	GNSS-synchronised timestamps with microsecond accuracy.
Fault Analysis	RaptorVision™ waveform capture with adaptive sampling from 2 kHz to 1 MHz.
PHYSICAL WIRING	
Enclosure	Polycarbonate
Ingress	IP67
Protection Class	II
Dimensions	221 mm x 145 mm x 55 mm
PERFORMANCE SPECIFICATION	
Voltage Accuracy	0.1 %
Current Accuracy	0.5 %
Freq. Accuracy	45-65 Hz, 0.1%
Operating	-25 °C to +60 °C
Storage	-40 °C to +70 °C
Rel. Humidity	75 % mean
Consumption	3 W peak
Real-time Clock	< 5 s/mth, NTP server or GNSS sync
Rogowski Coil	10—500 mV/kA
Supply Voltage	110—480 V AC
Time Accuracy	<5 s/month (unsynchronised)
Sync Method	NTP server when connected
Battery Backup	10 years at 23 °C, unpowered

REPORTING	
Revenue	HHR & TOU (in HERM, EIEP3 formats) Active & Reactive, Inject & Extract
Power Quality	IEEE 1159.3 (PQDIF) IEC 61000-4-3 (10min-24hr interval)
Load Current	Sampled at 10 sec
ANALOG SAMPLING FREQUENCY	
Revenue	20 kHz per circuit
Power Quality	200 kHz per circuit
Compliance e.g. solar installations	1MHz per circuit
POWER QUALITY METRICS	
Harmonics	Harmonics, Sub-harmonics and Inter-harmonics from 5 Hz to 10 kHz
Waveform Capture	20 kHz for 10-cycles + GNSS 200 kHz for 1-cycle + GNSS
Conductive Emissions	Voltage & Current across three bands: 2-10 kHz, 10-150 kHz, 150-900 kHz
DATA MEMORY	
Reports & Events	512 MB storage
Retention	20 years
Encryption	256-bit AES
COMMUNICATION	
Standard	Cellular LTE CAT-M1 NB-IoT (eSIM)
Option	NR+ (mesh)
STANDARDS & COMPLIANCE	
AS/NZS	61439.1:2016 10.9, 10.9.2, 10.9.3, 10.9.4, 11.9

ORDERING OPTIONS



NC31
3 phases, 1 feeder circuit



NC32
3 phases, 2 feeder circuits



NC33
3 phases, 3 feeder circuits

