

POWER QUALITY • LV NETWORK

# NX31

## LV transformer monitor

The NX31 is an IP67-rated low-voltage transformer monitor for permanent installations and temporary field deployments.

It provides four current-monitoring channels, each sampled at 200 kHz. The base model supports single feeder monitoring – can be extended to 2 or 3 feeder circuits.

The NX31 supports standards-compliant power quality reporting, load profiling, connected load identification, abnormal event detection, and connection impedance estimation across the low voltage network.



200 kHz 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 200 kHz with GNSS timing accuracy (optional addition) down to 1 µs.
- Supports standards-compliant power quality and revenue reporting.
- Estimates supply impedance to monitor connection integrity and detect degradation.
- Records continuous load-current profiles at 10-second intervals.

### BENEFITS

- Suitable for permanent installations and temporary field deployments.
- Enables waveform event correlation across multiple meters and network locations.
- Supports standardised power quality reporting and analysis.
- Provides early warning of unsafe operating conditions and degraded supply quality.
- Helps identify large loads switching on and off, supporting connected-device fingerprinting.

|                          |                 |                     |                    |
|--------------------------|-----------------|---------------------|--------------------|
| 0.1%<br>VOLTAGE ACCURACY | IP67<br>INGRESS | 1 µs<br>GNSS TIMING | 20 yr<br>RETENTION |
|--------------------------|-----------------|---------------------|--------------------|



TECHNICAL SPECIFICATION

# NX31 LV transformer monitor

| GENERAL                   |                                                                    |
|---------------------------|--------------------------------------------------------------------|
| Events Notifications      | Real-time anomaly detection with instant event alerts.             |
|                           | GNSS-synchronised timestamps with microsecond accuracy (optional). |
| 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)<br>Active & Reactive, Inject & Extract |
| Power Quality             | IEEE 1159.3 (PQDIF)<br>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                                                       |
| POWER QUALITY METRICS     |                                                                           |
| Harmonics                 | Harmonics, Sub-harmonics and Inter-harmonics from 5 Hz to 10 kHz          |
| Waveform Capture          | 20 kHz for 10-cycles + GNSS<br>200 kHz for 1-cycle + GNSS                 |
| 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<br>10.9, 10.9.2, 10.9.3, 10.9.4, 11.9                        |

ORDERING OPTIONS



**NX31**  
3 phases, 1 feeder circuit



**NX32**  
3 phases, 2 feeder circuits



**NX33**  
3 phases, 3 feeder circuits