HIOKI

PQ3198

The Hioki PQ3198 is a professional-grade, high-performance power quality analyzer designed for monitoring and recording power supply anomalies, enabling rapid investigation of issues such as voltage drops, flickers, harmonics, and transient overvoltages. Operating in full compliance with the strict IEC61000-4-30 Class A standard, it offers unparalleled precision, standard-compliant recording, and synchronous 4-channel voltage/current inputs.

SPECIFICATIONS

General

Interfaces	LAN (100Base-TX), USB 2.0 (Device), SD/SDHC Card Slot, RS-232C (for GPS synchronization)
Display	6.5-inch color TFT LCD (640 × 480 dots)

Physical

Power Supply	AC Adapter Z1002 (100 V to 240 V AC, 50/60 Hz, max 40 VA), Battery Pack 9780 (7.2 V DC)
Operating Temperature	-20 °C to 50 °C °C
Dimensions (W×H×D)	300 mm × 211 mm × 68 mm mm
Weight	2.2 kg (including Battery Pack 9780) kg

Input Channels & Configuration

Number of Voltage Inputs	4 channels (Ch 1, Ch 2, Ch 3: common ground; Ch 4: isolated)
Number of Current Inputs	4 channels
Phase Configurations Supported	Single-phase 2-wire, Single-phase 3-wire, Three-phase 3-wire, Three-phase 4-wire

Measurement Ranges & Input Characteristics

Direct Voltage Range	1000.0 V rms
Direct Current Range	500.00 mA to 5.0000 kA AC (clamp sensor dependent)
Transient Voltage Range	6.0000 kV peak
Voltage Input Impedance	2.0 MΩ ±10% (for all voltage input channels)
Voltage Crest Factor	3 or less
Maximum Input Voltage	1000 V AC / DC

Measurement Performance & Accuracy

Transient Sampling Rate	2 MHz (0.5 µs cycle)
Power Sampling Rate	200 kHz (5 µs cycle)
A/D Converter Resolution	16-bit
Basic Frequency Range	45 Hz to 66 Hz
Voltage Measurement Accuracy	±0.1% of nominal voltage
Current Measurement Accuracy	±0.1% rdg. ±0.1% f.s. + clamp sensor accuracy
Active Power Accuracy	±0.2% rdg. ±0.1% f.s. + clamp sensor accuracy

Power & Harmonic Analysis Functions

Harmonic Measurement Bandwidth	1st to 50th order
High-order Harmonic Range	2 kHz to 80 kHz (voltage and current)
Flicker Measurement Compliance	IEC 61000-4-15 (Pst, Plt)
Unbalance Measurement	Voltage and current unbalance (zero-phase and negative-phase components)
Swell/Dip/Interruption Resolution	0.5-cycle interval recording

Data Logging, Memory & Visualization

Internal Storage Capacity	60 MB
External Storage Compatibility	SD/SDHC card (up to 32 GB)
Maximum Logging Duration	Up to 1 year (dependent on SD card capacity and parameter settings)

Power Supply & Safety Compliance

Safety Category Rating	CAT IV 600 V, CAT III 1000 V
Safety Standards Compliance	EN 61010-1
EMC Standards Compliance	EN 61326-1 Class A
Battery Continuous Operation Time	Approx. 180 min (using Battery Pack 9780)

Physical & Environmental Specifications

Storage Temperature Range	-30 °C to 60 °C
Operating Humidity Range	80% rh or less (non-condensing)
IP Rating	IP30 (EN 60529)

Performance

Maximum Recordable Events	9999
Clock Accuracy	±0.3 s/day (power ON), ±1.0 s/day (power OFF, 23 °C)
GPS Synchronization Accuracy	Within ±13 µs (with optional GPS Box PW9005)
Transient Overvoltage Peak Measurement Range	Up to 6.000 kV peak
Transient Overvoltage Minimum Detection Width	0.5 µs

Inputs & Outputs

External Control Terminals	Event input ×1, Event output ×1
USB Interface Type	USB 2.0 (High Speed, mini-B connector)
LAN Interface Type	100Base-TX

Safety

Maximum Rated Voltage to Earth	1000 V AC / DC (CAT III), 600 V AC / DC (CAT IV)

Power

Maximum Power Consumption	80 VA max.
Battery Charging Time	Approx. 5.5 hours (at 23 °C with power OFF)

Display

Display Resolution	640 × 480 dots (VGA)
Display Languages	English, Japanese, Chinese (Simplified/Traditional), Korean, German, French, Italian, Spanish, Turkish

Logging & Memory

Recording Interval Settings	1 s, 3 s, 15 s, 30 s, 1 min, 5 min, 10 min, 15 min, 30 min, 1 h, 2 h, 150/180 cycles

Connectivity & Control

Web Server Function	Yes (allows remote configuration and monitoring via web browser)
FTP Functionality	FTP Server and FTP Client
Modbus/TCP Support	Yes
E-mail Notification	Yes (sends emails on event occurrences)

Power & Battery

Battery Pack Model	Z1003 Battery Pack (Lithium-ion)

Measurement Performance

Harmonic Analysis Orders	1st to 50th order
Inter-harmonic Analysis Orders	0.5th to 49.5th order

General Specifications

Real-Time Clock Backup Battery Life	Approx. 10 years (referenced to 23 °C)

TECHNOLOGY

Power Quality Analyzer

APPLICATIONS

Electrical grid monitoring, power quality troubleshooting, energy audits, and testing of power distribution systems.

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