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# P&QR Power Quality Recorder

FOR POWER QUALITY, LOAD STUDIES, AND FLICKER ANALYSIS AT POWER PLANTS, SUBSTATIONS, AND OTHER FACILITIES



# AMETEK

POWER INSTRUMENTS



## POWER AND QUALITY RECORDER

AMETEK Power and Quality Recorders (P&QR) provide high performance power quality recording at an affordable price. For the electrical utility, this is an economical way to monitor power system disturbances on the power distribution grid for all your key accounts. For the facilities manager or power quality department, this is an excellent tool for monitoring power quality in a plant to prevent costly shutdowns and work stoppages. The versatile P&QR comes in a portable case, wall mount box or a 19-inch rack mount chassis to meet any application: indoors or outdoors; portable or permanent. The P&QR recorder has high performance 14-bit resolution with 128 samples/cycle recording. A massive 6.4 GB of memory is included for trend recording up to 16 weeks and waveform capture up to two seconds. The P&QR features high-speed Ethernet and Modem communications, battery back-up, and a suite of available software applications.

## FEATURES AND BENEFITS

- Power quality monitor—measures voltage and frequency profiles, voltage dips and surges, loss of supply, harmonic content, flicker, voltage and current imbalance
- Transient fault recorder—analogue inputs are sampled at up to 128 samples per cycle with a maximum record length of 2 seconds
- Disturbance Recorder/Logger—analogue inputs are sampled at up to 2 samples per cycle with RMS measurements recorded up to one minute
- Trend Recording—input and computed quantities are logged as maximum, minimum, and average quantities every minute for up to 16 weeks.
- Remote Capabilities—via Ethernet or modem, and the process can be automated using the recorder's Auto-Call or Auto-Poll features
- Software—wide range of application software for communicating, configuring, downloading, displaying and analyzing recorded data. Auto-Poll/Call automates the complete process of retrieving your recorded data

## SPECIFICATIONS

### INPUTS

#### Number of channels

- 8 (4 voltage, 4 current) consult factory for other configurations

#### Voltage Inputs

- 150/300/600 RMS maximum, Star (wye) or delta connections

#### Current Inputs

- 1/5/100/200/500/1000 A RMS nominal thru external CTs. designed to record to 40% over-range

#### Frequency Response

- 40Hz-3kHz. (+0dB, -3dB for voltages) DC-3kHz (+0dB for currents)

#### Accuracy

- Better than 0.2% of full scale

### RECORDING

#### Resolution

- 14 bits

#### Sample Rate

- 128 sample per cycle, 50/60 HZ (6.4/7.68k samples per second)

### DATA STORAGE

#### Hard Disk

- 6.4 GB (up to 1000 events/surveys)

### RECORDED DATA

#### Waveform Capture

- 4 cycles pre, 12 cycles post at 128 samples/cycle (Option for up to 2 seconds)

#### Disturbance Recording

- Up to 1 minute of RMS data at 2 samples/cycle

#### Trending (up to 16 weeks)

- Voltage, Current, Frequency, Watts—1 minute min./max./avg.
- Harmonics —10 minute min./max./avg./angle to the 50th harmonic

- Imbalance —10 minute min./max./avg.

- Flicker—10 minute Pst

#### Computed (at PC)

- Phase angle, power factor, and sequence components

### EVENT TRIGGERING

#### Trigger Parameters

- Over/under level with hysteresis. Rate of Change and THD

#### Accuracy

- Better than 2%

#### External Trigger Relay Contact

- 24-120 VDC nominal

### POWER SUPPLY

#### Input Voltage Range

- 100 to 300 VDC, 85 to 264 VAC, 50/60Hz (24 or 48 VDC nominal)

#### Power Requirement

- 20 VA

#### Battery (Optional)

- 15 minute ride-through

### REAL TIME CLOCK

#### Clock Source

- 32,768 Hz internal crystal oscillator

#### Resolution

- 1 ms

#### Range

- Time and date (including leap year and day of the year)

#### Synchronization

- 50/60 Hz from voltage input

### COMMUNICATIONS

#### Serial Port

- RS232 type. Speed up to 57.6 kBaud

#### Modem (optional)

- Hayes compatible internal type (up to 57.6 kBaud)

#### Network (optional)

- TCP/IP 10Base2 or 10BaseT

### VOLTAGE WITHSTAND

#### Isolation, Impulse Voltage

#### Withstand,

#### Electrical Fast Transient (EFT),

#### Surge

#### Withstand (SWC), RFI and ESD to

#### IEEE/IEC Standards

### ENCLOSURE

#### Mounting

- Wall (internal terminals) — 11.75 in. x 16.0 in. x 8.25 in. (300 mm x 400 mm x 210 mm)
- 19" Rack Mounting — 13.25 in. x 19.0 in. x 5.25 in. (336 mm x 482 mm x 133 mm)
- Portable — 14.25 in. x 13.75 in. x 5.25 in. (362 mm x 349 mm x 133 mm)

#### Weight

- 13.2-17.6 lbs. (6-8 kg) depending on enclosure style

### ENVIRONMENT

#### Operating Temperature

- 14° to 122°F (-10° to 50°C)

#### Storage Temperature

- -40° to 158°F (-40° to 70°C)

#### Humidity

- 5 - 95% RH (non condensing)

### CERTIFICATION

#### CE

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