

PWATCH

Cathodic Protection System Remote Monitoring and Data Logger

KEY FEATURES

- DC measurements
- True RMS AC measurements
- Coupon measurements
- Programmable pipe and coupon measurement intervals
- Programmable data record intervals
- High data storage capacity
- High input impedance
- Over voltage and lightning protection
- Fully battery operated
- Up to 4 simultaneous TCP connections via GPRS interface
- Remote monitoring, configuration, and diagnostics
- Remote firmware update
- Hourly, daily, monthly archive, min/max/average data
- Flexible, user-configurable data logging feature
- Alarm and event logging
- Alarm reporting via SMS
- Modbus RTU/TCP support with configurable addressing
- Integral RS-232 port for local communications
- Ultra low power consumption. In excess of 5 years battery life
- RTC with synchronization and daylight saving support
- Maintenance free, durable design
- IP65 rugged, stainless housing
- Push-in terminals for easy field wiring
- Easy to use configuration and programming software

PWATCH is a high performance, self contained, durable, data acquisition and logging device specially designed for remote monitoring of cathodic protection systems of distribution and transmission utilities .

It defines a new standard for ease of use while delivering unmatched performance and flexibility.

PWATCH, with its advanced measurement, data logging, alarm generation, and remote monitoring properties, not only prevents costly pipeline problems from occurring, but also provides a complete solution for utilities to achieve fast, efficient and cost effective operation and management.

Flexible Data Acquisition and Logging

PWATCH™ offers many user-configurable data collection and storage features.

In addition to hourly, daily and monthly periodic archiving, average, minimum, and maximum values, it also provides user-programmable general purpose data logging features. Measured and calculated values may be stored in the general purpose data log at separate intervals..

Alarms, events, and configuration changes are also recorded in separate logs, and may be monitored locally or remotely.



Standalone Operation at Remote Locations

PWATCH is designed to operate as a maintenance-free, standalone unit at remote locations where access is limited or not possible during specific times of year.

With its complete battery powered design, it provides prolonged, low cost operation without any service need at remote locations. It saves costly external power supplies and panels. Its durable, industrial design, wide operating temperature range ensures uniform and uninterrupted information flow from harsh remote locations, may be especially important during winters.

Stable and Accurate Measurements

PWATCH performs high stability and accurate DC and AC measurements. Measurements may be available for both pipeline and coupons.

Sharp analog and digital filters ensures accurate DC measurements be taken even when high amplitude AC signals are present.

True RMS measurement yields accurate AC results even when high crest factor signals are present.

Extensive Remote Communication Features

PWATCH offers many features for modern, Internet based remote access via GPRS networks. All configuration, reporting, monitoring and diagnostics facilities are available remotely via GPRS channels, to form a modern supervisory monitoring and management system which requires very low number of visits to remote stations and less personnel for network operations and maintenance.

PWATCH supports multiple, simultaneous TCP connections. This means multiple hosts at different locations may access a remote device without affecting each other. Thus parallel operation of multiple remote monitoring systems of different nature, such as utility SCADA, distribution management systems, and other legal monitoring systems belonging to upper level government organizations, are possible.

Complete remote communication features are available with battery. This gives an advantage when remote locations are difficult to reach, power is unavailable, and also eliminates the need for costly solar power systems. It can perform periodic reporting at scheduled times of day via the GPRS interface, exchange data with remote center, transfer runtime and archive information, and execute scheduled tasks. Alarms may also be reported to multiple recipients as SMS messages.

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BASIC SPECIFICATIONS

GENERAL	
Battery	3.6V primary, min. 5 years battery life (under the specified operating conditions)
Battery diagnostics	Battery voltage, remaining battery, battery low alarm
Operating temperature range	-30°C...+70°C
Relative humidity	95% non-condensing
Dimensions	80H x 195W x 55D mm
Weight	0.8 kg
Housing	IP65 ABS
RTC	Real-Time-Clock. Automatic synchronization. Automatic daylight saving time change

CERTIFICATES AND APPROVALS	
CE	IEC 61000-4-2 (ESD), IEC 61000-4-3 (EM), IEC 61000-4-4 (EFT), IEC 61000-4-5 (surge), IEC 61000-4-6 (conducted), IEC 61000-6-4 (emission)

COMMUNICATIONS	
GPRS	QUAD band GPRS/GSM, SMS, TCP/IP client or server (up to 4 concurrent TCP connections)
Antenna	2.4 dBi internal antenna standard. 5 dBi external antenna optional.
SIM card holder	Internal micro SIM
Integral RS-232	Full duplex, 150...115200 bps, 7...9 bits, 1/1.5/2 stop bits, none/odd/even parity
Protocols	Auto detect Native, Modbus RTU/TCP Slave

ANALOG INPUTS	
Input impedance	≥ 10 MΩ
Lightning protection	600V GDT
Over voltage protection	30V AC/DC
DC range	± 3.5 V
AC suppression	> 50 dB
DC measurement time	< 50 ms
AC range	0...15V AC RMS
AC measurement time	< 20 ms
Coupon channel	Same as AC / DC pipeline channel
Coupon switching	Magnetically latched relay
Coupon sampling delay	Programmable

SAMPLING	
Pipe AC / DC	5...3600 seconds programmable
Coupon AC / DC	5min to 24 hours programmable

ARCHIVING and LOGGING	
Long-term archive	180 day hourly values, 180 day daily values, 60 months monthly values
Logs	Event log (250 records), communications log (250 records), alarm log (500 records)
General purpose logging	10000 records, all measurements, 15 mins to 24 hours programmable recording interval per parameter

MEASUREMENTS	
Pipe, coupon AC / DC measurements	Instant value, current hour average, previous hour average, current day average, previous day average, current month average, current hour max, current hour min, previous hour max, previous hour min current day max, current day min, previous day max, previous day min, current month max, current month min, previous month max, previous month min

DIAGNOSTICS	
Diagnostics information	Battery voltage, remaining battery level, ambient temperature, GPRS signal level, GPRS bit error rate