

## WATCHDOG II MESH

Wireless Remote Monitoring System

### APPLICATIONS

- Cathodic protection rectifier and test point monitoring
- Rectifier group current interruption
- Monitor multiple rectifiers with one base station at tank farms and terminals
- Accomplish compliance reporting automatically

### FEATURES

- “Wireless Mesh Technology” sensors virtually eliminate lightning damage
- Automatic rectifier and test point readings with alarm notifications
- Powerful group interruption with real-time current feedback notifies user of anomalies during field surveys
- Configurable from the Watchdog website– no field laptop needed
- Low cost global communication to the Pipeline Watchdog web monitor via GSM/GPRS cellular or Inmarsat satellite
- Easy-to-use web interface– simple data export to popular CPDM software
- Power via AC mains, low voltage AC or DC or solar panel
- Firmware reprogrammable over the air (GSM/GPRS) or via USB port
- Monitors up to 16 wireless analog channels and 5 digital inputs



- **Accomplish Compliance Reporting from Your Desk**
- **Eliminate Travel to Remote Sites**
- **Easy to Install**
- **Improve Pipeline Integrity with Timely Outage Alarms & Reliable Data**
- **Know Your Pipeline is Protected**

The Watchdog Mesh system is a comprehensive, turn-key solution to pipeline integrity management. The patented design features “Wireless Mesh Technology” which virtually eliminates lightning damage to the system. The Watchdog base station communicates with one or more wireless “smart node” sensors and/or interruption controllers at a range up to 100 m.

By providing unparalleled deployment flexibility, users can economically monitor one or more rectifiers at terminals or tank farms, on pipelines and well casings, or on ICCP protected piers and bridge decks. Start with simple volts/amps rectifier monitoring and add GPS synchronized interruption or wireless channels to monitor multiple negative current shunts at any point.

The powerful web interface simplifies multiple rectifier GPS-synchronized interruption, group polling, and automatic compliance report generation.

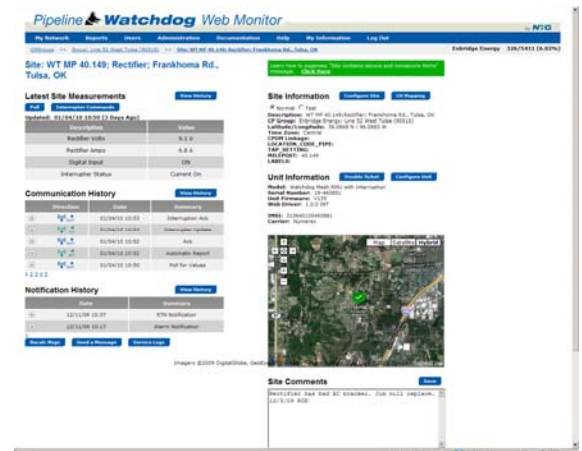


## Product Specifications

<b>Operating Environment</b>	Temperature: -40°C to +85°C Humidity: 0 – 100% non-condensing Enclosure rating: NEMA-4X
<b>Power</b>	Input– 115/230 Vac, 50-60 Hz or 10-40 Vdc or 8-30 Vac for “Always On” operation Optional 5” x 12” solar panel for “Monitor and Sleep” operation
<b>Size</b>	Standard Option: 6” (15.2 cm) X 8” (20.3 cm) X 4” (10.2 cm) Integrated Option: 16” (40.6 cm) x 14” (35.6 cm) x 6” (15.2 cm)- recommended for systems that include an interrupter module
<b>I/O</b>	Inputs- 4 dry-contact digital, 1 digital pulse counter, 1 analog (4-20mA or 0-5V) Outputs– 1 digital for relay control (125mA maximum sink current) Up to 16 wireless channels can be linked to one base station
<b>Communications</b>	GSM/GPRS digital cellular using TCP/IP or SMS Inmarsat (geo-stationary satellite network) Isat M2M
<b>Wireless “Smart Node” Input Sensor</b>	3 channel analog input with independently assignable input ranges Voltage range +/- 100V DC, current range +/- 100mV DC Structure potential range +/-10V DC, input impedance > 10MΩ Field sensing AC voltage detection probe input Enclosure size: 5.5” (14 cm) x 2.5” (6.3 cm) x 1.2” (3 cm), ABS-94 flame retardant Surge protection: Wireless mesh total isolation system, normally open measurement relays and MOV's 300ft (100 m) line-of-sight range to Watchdog base station
<b>Interrupter Module</b>	GPS synchronized Syncs with all popular portable interrupters Relay options: 100 Amp mercury relay 100 Amp DC or AC “fail safe” solid state system with 100 Amp mercury bypass relay (100Amp non-Hg bypass relay available) Input power ranges: 115/230 V ac, 13-25 V ac, 11-35 Vdc



Base unit in enclosure with Smart Node, interrupter and solid state relay options



\*U.S. Patent number 7,317, 321 and others pending

