

VANTEDGEPOINT™ LINUX GATEWAY



USER GUIDE

CRANE

Wireless Monitoring
Solutions

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Specifications

Preliminary Product Data Sheet



Introduction

Versatile, easy to install, and user-friendly, the VantedgePoint Gateway is central to a Wireless Sensor Network (WSN). Application data from remote nodes is routed through the wireless network to the Gateway. The VantedgePoint Gateway is well suited for industrial applications that require distributed processing and local data storage. It is powered by an ARM 9 processor running embedded Linux. The Gateway provides control and functionality needed for high performance industrial applications that require effortless data aggregation coupled with transparent WAN interfacing.

Product flexibility and adaptability are key attributes of the VantedgePoint Gateway. Providing direct WAN connectivity through Ethernet, USB, or a Serial RS-232 port gives the flexibility to control backhaul costs. In order to address a wide range of implementation scenarios the gateway offers support for land line, 802.11, cellular and satellite communications.

Features

- WAN Interfaces: Ethernet, USB, Serial RS-232
- Operating System: Embedded Linux
- Microprocessor: ARM 9
- Memory: 32MB volatile, 16MB non-volatile
- Frequency: 2.4 GHz ISM band
- Wireless Standard: IEEE 802.15.4 / Zigbee
- Wireless Network Topologies: Mesh, Star, P2P (up to 256 remote nodes)
- IP Networking: DHCP, VPN, SSL, firewall capable
- Remote Access: Status and configuration
- Upgrades: Remote software downloads
- Approvals: FCC certified, UL listed, ISA/IEC Class 1, Div 2 (with approved enclosure)
- Operational Range: Up to 300 ft indoor / Up to 1.5 miles LOS

Benefits

- Supports multiple backhaul options including: Ethernet, cellular, satellite and 802.11
- Provides data storage and processing capabilities
- Linux based OS for rapid development and support for open source code
- Supports secure end-to-end data communications
- Industrial grade operating temperature range with ruggedized housing, single panel interface and LED status indicators
- Zigbee standard based wireless networking



1/23/07

CRANE WMS 1820 PRESTON PARK BLVD, SUITE 2800 PLANO, TX 75093
PHONE (972) 964-5178 FAX (972) 964-5968 WWW.CRANEWMS.COM

Specifications

Radio Specifications

Operating Frequency:	2405 – 2475 MHz (2.4 GHz ISM band)
RF Channels:	15
Radio Standard:	IEEE 802.15.4 / Zigbee
Spreading Method:	Direct sequence spread spectrum
Modulation:	O-QPSK
RF Data Rate:	250 Kbps
Transmit Power:	+20 dBm (100 mW) at antenna port

Operating Conditions

Input Voltage:	8.0 VDC to 30.0 VDC 115 VAC or 230 VAC /w external power adapter
Temperature Range:	-30°C to +70°C (excluding external power adapter)
Hazardous Location Rating:	ISA / IEC Class 1, Div 2 (with approved enclosure)

External Interfaces

Inputs/Outputs	Interface
10/100 Auto Sensing Base-T Ethernet	RJ-45 Jack
Universal Serial Bus (USB)	USB Type-A Receptacle
RS-232 Serial (DTE)	DB-9 Plug
Antenna Port	Reverse Polarity SMA
Input Power	3-Pin DIN
Reset	Recessed Button

Physical Characteristics

Dimensions:	6.5" x 4.5" x 1.2" (excluding connectors and antenna)
Weight:	15.9 oz

Applications

- Industrial Equipment Monitoring
- Conditioned Based Monitoring
- Personnel / Vehicle Intrusion Detection
- Environmental Monitoring
- Vending Machine Monitoring



Specifications are subject to change without notice

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Regulatory Information

This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment or devices
- Connect the interfering equipment to an outlet other than the VantedgePoint Linux Gateway

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Caution: FCC approved RF operation of this equipment is permitted only with the approved antennas, cable and connectors provided with this product. Use of unauthorized antennas, modifications or attachments could damage the device and/or may result in your device not complying with local regulatory requirements in your country.

FCC regulates that this product may be used with a 5.5 dBi (or less) Omni directional antennae or a 13 dBi (or less) directional antennae. User should only use antennas supplied by Crane WMS.

FCC Notice: Changes or modifications to this device not expressly approved by the manufacturer could void the user's authority to operate the equipment.

For more details on legal combinations of power levels and antennas, contact Crane WMS.

Limited Warranty

Wireless Gateway

The seller warrants to the end user (Customer) that this hardware product will be free from defects in workmanship and materials, under normal use and service, for 1 year from the date of purchase from the seller or its authorized reseller. The seller's sole obligation under this express warranty shall be, at the seller's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, The seller may, in its sole discretion, refund to the Customer the purchase price paid for the defective product. All products that are replaced will become the property of the seller. Replacement products may be new or reconditioned.

Wireless Gateway Software

The seller makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or software applications products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected

Safety Information



Warning!

To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.

1. Do not use this apparatus near water.
2. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
3. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
4. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
5. Only use attachments/accessories specified by the manufacturer.
6. Refer all servicing to qualified service personnel. Servicing is required when the unit has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the unit, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.
7. No open flame sources, such as lighted candles, should be placed on the apparatus.
8. The unit shall not be exposed to dripping or splashing. No objects filled with liquids, shall be placed on the unit.
9. The unit is for indoor use only. Operation outside requires the use of an appropriate sealed enclosure.

Warnings

Follow Instructions to Avoid Interference Problems

Turn off your device in any location where posted notices instruct you to do so. These locations include any facility that may be using equipment that is sensitive to external RF energy.

Pacemakers

If you have a pacemaker, consult your physician before using this device.

Persons with pacemakers should observe the following precautions:

- o ALWAYS keep the device more than 20 centimeters (8 inches) from your pacemaker when the device is turned ON.
- o Turn OFF the device immediately if you have any reason to suspect that interference is taking place.

Hearing Aids

Some digital devices may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer or physician to discuss alternatives.

Contact Information

Visit us online: www.cranewms.com

Call our office: (972) 964-5178

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