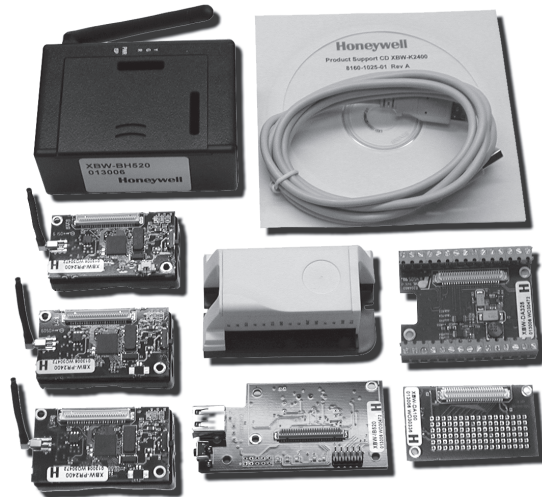# XBW-K2400 Series

3-Node Kit for Wireless Sensor Network Development

DESCRIPTION

The XBW-K2400 development platform is a comprehensive 3-node kit for wireless sensor network development. It features Honeywell's XBW-PR2400 Processor/Radio board. Designed specifically for deeply embedded sensor networks, the XBW-PR2400 is a 2.4 GHz, IEEE 802.15.4 compliant module used for enabling low-power, wireless sensor networks. It features a 250 kbps high data rate and utilizes a direct sequence spread spectrum radio that is generally resistant to RF interference and provides enhanced data security. Plug and play software includes pre-installed mesh networking firmware and an intuitive sensor network user interface.

FEATURES

- IEEE 802.15.4, Tiny, wireless measurement system
- Self-healing, self-forming, mesh network
- Extended range through low power mesh
- Deployment proven in commercial applications
- Commercial development platform designed specifically for deeply embedded sensor networks
- Multi-function data acquisition boards designed to support a wide variety of discrete external sensing devices
- Network topology, sensor data, current and historical network data analysis via Windows® based user interface

POTENTIAL APPLICATIONS

- Indoor building monitoring and security
- Intelligent consumer electronics
- Acoustic, video, vibration and other high speed sensor data
- Zigbee compliant systems and sensors
- Industrial monitoring and control
- Environmental monitoring
- Building automation

XBW-K2400
WIRELESS SENSOR NETWORK STARTER KIT

The XBW-K2400 series kit has all of the components needed to develop, test and implement a wireless sensor network. The kit includes:

- (3) XBW-PR2400 Processor/Radio boards
- (1) XBW-DA325 Data Aquisition board
- (1) XBW-DA100 Sensor board (Light, Temperature)
- (1) XBW-IB520 USB Programming/Interface board with USB cable
- (1) XBW-DH325 Injection-molded indoor housing
- (1) XBW-BH520 Injection-molded USB base housing
- Software and support tools CDROM (includes User's Manual)

ORDER GUIDE

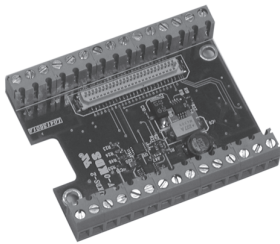| Listing	Description
XBW-K2400	Wireless Sensor Network Starter Kit

XBW-K2400 Series

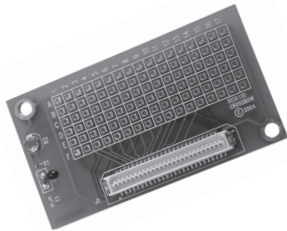## WIRELESS SENSOR NETWORK COMPONENTS

XBW-PR2400 PROCESSOR/RADIO MODULE
- IEEE 802.15.4/ZigBee compliant RF transceiver
- 2.4 GHz, a globally compatible ISM band
- Direct sequence spread spectrum radio which is generally resistant to RF interference and provides enhanced data security
- 250 kbps data rate
- Plug and play compatibility with most data acquisition boards, gateways and software
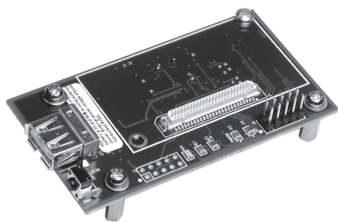
XBW-DA325 DATA ACQUISITION BOARD
- High performance data acquisition board for precision data collection and analysis
- 8 single-ended 16-Bit 0-5 V inputs, or 4 differential 0-5 V ADC channels
- 8 digital 0-2.5 V I/O channels with event detection interrupt
- 2.5, 3.3, 5 V sensor excitation and low-power mode
- 64K EEPROM for on-board sensor calibration data
- 200 Hz counter channel for wind speed, pulse frequencies
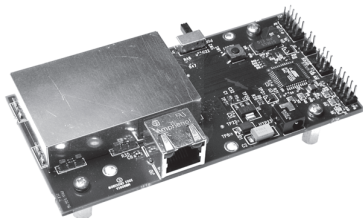- External I2C interface

XBW-DA100 DATA ACQUISITION BOARD
- Sensor and data acquisition board
- Precision thermistor, light sensor/photocell
- Prototyping area supports connection to all 51 pins on expansion connector
- 42 unconnected solder points for breadboarding

XBW-IB520 USB INTERFACE BOARD
- USB Interface: 57.6 K Baud Rate (Male-Male USB cable included with unit)
- 51-pin Interface connector
- LEDs: Red, Green, Yellow
- Programming Indicators: LEDs - Power OK (Green), Programming in Progress (Red)
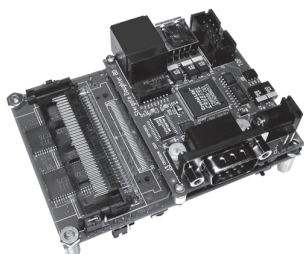- JTAG Interface: 10-pin male header

XBW-IB600 ETHERNET INTERFACE BOARD
- Base station/Ethernet gateway
- Remote in-system programming for XBW-PR2400
- Full TCP/IP protocol
- Power Over Ethernet (POE) ready

WIRELESS SENSOR NETWORK COMPONENTS (CONTINUED)

XBW-SPK400 - BASIC STARGATE STARTER KIT
- 400 MHz, Intel PXA255 processor
- < 500 mA power consumption
- Embedded Linux BSP package with source code
- PCMCIA and compact flash connector
- 51-pin peripheral expansion connector
- Ethernet, Serial, JTAG, USB interface via included daughter card
- Li-Ion battery option

XBW-DH325
INJECTION-MOLDED HOUSING FOR XBW-DA325

XBW-BH520
INJECTION-MOLDED USB BASE HOUSING

XBW-BH600
INJECTION-MOLDED ETHERNET BASE HOUSING

ORDER GUIDE

COMPONENTS

Listing	Description
XBW-PR2400	2.4 GHz Processor/Radio Module
XBW-DA325	High Performance Data Acquisition Board
XBW-DA100	Data Acquisition Board with Light and Temperature Sensor
XBW-IB520	USB Gateway
XBW-IB600	Ethernet Gateway
XBW-SPK400	Stargate Starter Kit
XBW-DH325	Injection-Molded Housing for XBW-DA325
XBW-BH520	Injection-Molded USB Base Housing
XBW-BH600	Injection-Molded Ethernet Base Housing

⚠ WARNING
MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

⚠ WARNING
PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

SALES AND SERVICE

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