WLS-IFC

Specifications

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Typical for 25 °C unless otherwise specified.

Specifications in *italic* text are guaranteed by design.

Wireless communications

Table 1. Wireless communications specifications

Communication standard	*IEEE 802.15.4, ISM 2.4 GHz frequency band, non-beacon, point-to-point*
Range	Indoor/urban: Up to 150' (50 m) Outdoor RF line-of-sight: Up to 1/2 mile (750 m)
Transmit power output	10 mW (10 dBm)
Receiver sensitivity	*-100 dBm (1% packet error rate)*
RF channels	*12 direct sequence channels available, channels 12 – 23 (2.410 – 2.465 GHz) (software selectable)*
Addressing	16-bit PAN (personal area network) IDs per channel (software selectable) 64-bit device address
Encryption	*128-bit AES (software selectable)*

Note 1: Contains FCC ID: OUR-XBEEPRO. The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (*i.*) this device may not cause harmful interference and (*ii.*) this device must accept any interference received, including interference that may cause undesired operation.

Note 2: Canada: Contains Model XBee-PRO Radio, IC: 4214A-XBEEPRO

Caution! To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended. The antenna used for this transmitter must not be co-located in conjunction with any other antenna or transmitter.

Memory

Table 2. Memory specifications

EEPROM	256 bytes USB micro for external application use

Microcontroller

Table 3. Microcontroller specifications

Type	High performance 8-bit RISC microcontroller

USB +5V voltage

Table 4. USB +5V voltage specifications

Parameter	Conditions	Specification
USB +5V (VBUS) input voltage range		4.75 V min. to 5.25 V max.

Power

Table 5. Power specifications

Parameter	Conditions	Specification
Supply current		300 mA max (Note 3)

Note 3: Self-Powered Hub refers to a USB hub with an external power supply. Self-powered hubs allow a connected USB device to draw up to 500 mA. This device may not be used with bus-powered hubs due to the power supply requirements.

Root Port Hubs reside in the PC's USB Host Controller. The USB port(s) on your PC are root port hubs. All externally powered root port hubs (desktop PC's) provide up to 500 mA of current for a USB device. Battery-powered root port hubs provide 100 mA or 500 mA, depending upon the manufacturer. A laptop PC that is not connected to an external power adapter is an example of a battery-powered root port hub.

USB specifications

Table 6. USB specifications

USB device type	USB 2.0 (full-speed)
Device compatibility	USB 1.1, USB 2.0
	Bus powered, 300 mA consumption max
USB cable type	*A-B cable, UL type AWM 2725 or equivalent. (min 24 AWG VBUS/GND, min 28 AWG D+/D-)*
USB cable length	3 meters max.

Environmental

Table 7. Environmental specifications

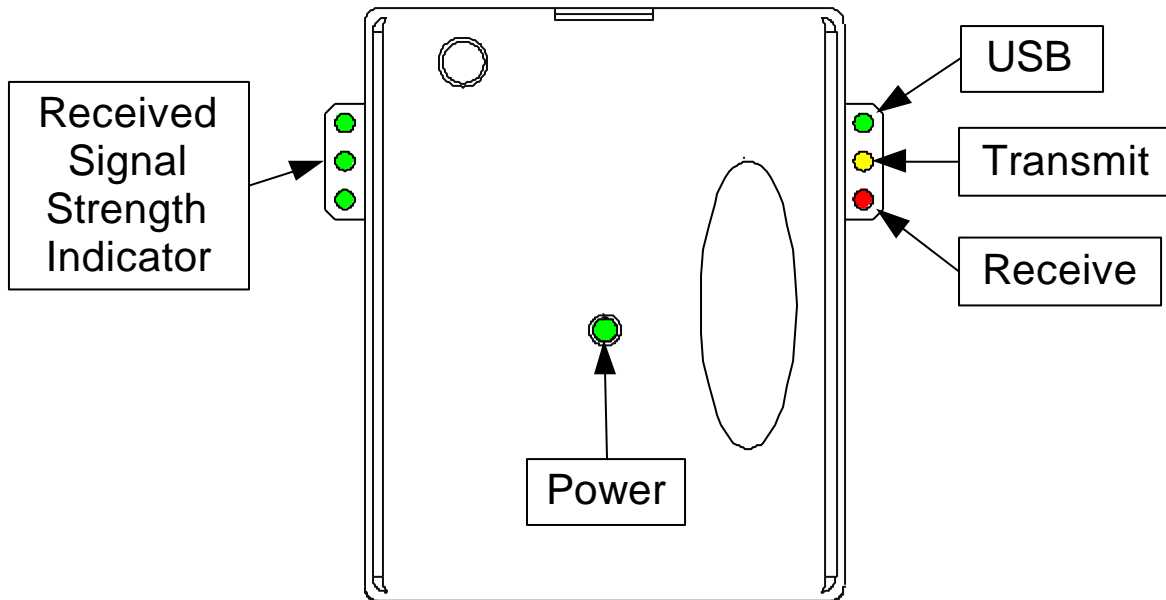|	
Operating temperature range	0 to 70 ° C
Storage temperature range	-40 to 85 ° C
Humidity	0 to 90% non-condensing

Mechanical

Table 8. Mechanical specifications

Dimensions	79 mm (L) x 75 mm (W) x 26.5 mm (H)

LED configuration

Table 9. LED configuration

Power	The WLS-IFC is connected to a computer or external USB hub
Received Signal Strength Indicator (RSSI)	3 green LED bar graph. The LEDs will turn on when receiving a wireless message and stay on for approximately 1 second after the end of the message. They indicate the amount of fade margin present in an active wireless link. Fade margin is defined as the difference between the incoming signal strength and the device's receiver sensitivity. ▪ 3 LEDs on: Very strong signal (> 30 dB fade margin) ▪ 2 LEDs on: Strong signal (> 20 dB fade margin) ▪ 1 LED on: Moderate signal (> 10 dB fade margin) ▪ 0 LEDs on: Weak signal (< 10 dB fade margin)
USB activity	Green LED – indicates activity over the USB connection
Transmit	Yellow LED – indicates transmitting data over the wireless link
Receive	Red LED – indicates receiving data over the wireless link

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