

5GHz WES4HTG-AX Series

Wireless Ethernet Radio in Industrial
Enclosure with External Antenna Connections

Product Description

The WES4HTG-AX Series provides a solution within the WES4 series that offers even more operational flexibility, including external omni-directional antennas for a wide range of uses. WES4HTG-AX can be used with the other range of KBC WES4 and WES4HTG or legacy WES3 / WES3HTG series of wireless products. This industrial unit supports operation in harsh environments allowing it be mounted in a compact unconditioned space or weatherproof enclosure. External antenna ports provide ability to extend cables to antennas situated in a location with more open-air clearance and/or ideal line-of-sight to mate radio(s). It is IEEE802.11a/n/ac compliant and operates in the license-free, 5GHz band.

With its dual radio operation, the user can now create a local “hot spot” to access the device via a mobile device rather than physically connecting on the Ethernet port. The mobile connectivity ease of log-in will not obstruct its ability to link to other KBC WES4 and other devices remotely connected via point-to-point or multipoint.

The KBC WES4HTG-AX features Gigabit Ethernet LAN ports and frequency selection configurations that can support as much as 650 Mbps of throughput in long-range point-to-point and point-to-multipoint applications. Since the firmware is configurable for mode type (Host or Client) and offers auto SSID selection, it can also be adapted to connect to a 3rd party 802.11a/n/ac compliant access point. The WES4HTG-AX units are industrial-rated but must be mounted in an enclosure. KBC offers an enclosure and power solution for the WES4HTG-AX Series.



Product Features

- Configurable for client/singlepoint host/multipoint host
- IEEE802.11ac compliant
- Transmission Power Control
- Up to 30dBm output power
- Up to 650 Mbps of Throughput
- Secure transmission: WPA2 - AES or TKIP encryption
- Embedded web browser graphical user interface (GUI) for at-a-glance diagnostics and ease of use configuration

Suitable for

- Point-to-Point & Point-to-Multi Point Systems
- High throughput back hauls
- Megapixel IP camera networks
- Remote gate access
- Solar power locations
- Access Points for Mobile Surveillance Systems
- Non-stationary surveillance or data communication
- Building to remote building network extension
- Exterior access points

Included with Each Unit

- Radio unit designed to be mounted indoors or inside a weatherproof enclosure when in exterior applications.
- Omni-directional rubber duck antenna
- Plug-in power supply adapter

Optional Enclosure Power Box Solution Available

For use when mounting outdoors on a pole with access to 100-240VAC constant power

Note: this is an optional solution available for order. This is not included when ordering the WES4HTG-AX.

- Pole mountable enclosure with integrated power supply
- Exterior pole mountable high gain omni-directional antenna
- Two (2) radio-to-omni antenna connecting cables

Specifications

Standards

IEEE Standards	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX IEEE 802.3ab 1000BASE-T, IEEE 802.3x Full Duplex IEEE 802.11a 5GHz, IEEE 802.11h ETSI DFS & TPC IEEE 802.11b/g/n/ac IEEE 802.11n MIMO IEEE 802.11ac MIMO
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Power

Supply Voltage	24-48VDC
Consumption	8.658W
PoE	Passive PoE
Connector	DC jack

Radio Frequency Ranges

5 GHz Range	4.940 GHz to 5.825 GHz
2.4 GHz Range	2.400 GHz to 2.482 GHz
Frequency	Auto-Select
Operation	User static selectable

Power Output	Dynamic Frequency Selection (ETSI DFS) 30dBm max ⁽¹⁾
Channel Bandwidth Spectrum	Transmit Power Control (ETSI TPC) Selectable 20, 40 or 80MHz

Antenna Options

5dBi (included)	Omni-directional 360
13dBi (available as upgrade option)	External, pole mount 360

*Directional upgrade options
Also available for purchase*

Antenna Connections

5dBi	SMA Female
13dBi (optional upgrade)	N Female (requires connecting cable N to SMA)

System

Data throughput ⁽²⁾	HT40 650 Mbps
Latency	<10ms
Encryption	TKIP / AES encryption up to 128 bit

Mechanical (unit)

Dimensions (L x W x D)	292mm x 152mm x 89mm /11.5" x 6.00" x 3.5"
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Weight	0.73 kg / 1.6 lbs.
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Environmental

Operating Temperature	-40° ~ +74° C / -40° ~ +165° F
Storage Temperature	-40° ~ +90° C / -40° ~ +194° F
Operating Humidity	0 to 95% non-condensing
Mean Time Between Failure (MTBF)	> 100,000 Hours

Connectors

10/100/1000Mbps Electrical	1 x RJ45
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Approvals

FCC Part 15 Subpart C	Class B
CE	Class B
EN55024	
(IEC61000-4-2,3,4,5,6,8,11)	Electromagnetic Immunity
EN 55022 (CISPR 22)	Electromagnetic Interference (Conduction & Radiation)
EN 60 950: 1992+A1: 1993+A2: 1995+A4: 1996+A1: 1997	Low Voltage Directive
EN 300 328-2	
EN 300 826	
EN 301 489-17	
EN 301 893	
R&TT Directive (1999/5/EC)	

Radio Specifications (5180 MHz-5825 MHz)

TX Specifications					RX Specifications		
Operating Mode	Data Rate	Power		Tolerance	Operating Mode	Data Rate	Sensitivity
		1 Chain	2 Chains				
802.11a	6 Mbps	27dBm	30dBm	+2dB	802.11a	6 Mbps	-96dBm
	54 Mbps	23dBm	26dBm	+2dB		54 Mbps	-78dBm
802.11n HT20	MCS0, MCS8	26dBm	29dBm	+2dB	802.11n HT20	MCS0, MCS8	-92dBm
	MCS7, MCS15	22dBm	25dBm	+2dB		MCS7, MCS15	-73dBm
802.11n HT40	MCS0, MCS8	25dBm	28dBm	+2dB	802.11n HT40	MCS0, MCS8	-90dBm
	MCS7, MCS15	21dBm	24dBm	+2dB		MCS7, MCS15	-70dBm
802.11ac	MCS0, MCS10, MCS20	25dBm	28dBm	+2dB	802.11ac HT40	MCS0, MCS10, MCS20	-90dBm
	MCS9, MCS19, MCS29	19dBm	22dBm	+2dB		MCS9, MCS19, MCS29	-67dBm
					802.11ac HT80	MCS0, MCS10, MCS20	-88dBm
						MCS9, MCS19, MCS29	-62dBm

Radio Specifications (2412 MHz-2482 MHz)

TX Specifications					RX Specifications		
Operating Mode	Data Rate	Power		Tolerance	Operating Mode	Data Rate	Sensitivity
		1 Chain	2 Chains				
802.11a	6 Mbps	24dBm	27dBm	+2dB	802.11a	6 Mbps	-96dBm
	54 Mbps	22dBm	25dBm	+2dB		54 Mbps	-78dBm
802.11n HT20	MCS0, MCS8	23dBm	26dBm	+2dB	802.11n HT20	MCS0, MCS8	-92dBm
	MCS7, MCS15	22dBm	25dBm	+2dB		MCS7, MCS15	-73dBm
802.11n HT40	MCS0, MCS8	25dBm	28dBm	+2dB	802.11n HT40	MCS0, MCS8	-90dBm
	MCS7, MCS15	21dBm	24dBm	+2dB		MCS7, MCS15	-70dBm
802.11ac	MCS0, MCS10, MCS20	25dBm	28dBm	+2dB	802.11ac HT40	MCS0, MCS10, MCS20	-90dBm
	MCS9, MCS19, MCS29	19dBm	22dBm	+2dB		MCS9, MCS19, MCS29	-62dBm

Part Numbers

Model #	Antenna	Power plug & Firmware (Region)	Single radio unit	Items included in model
WES4HTG-AX-AA	5dBi	US	✓	Radio, antenna & US power plug power supply
WES4HTG-AX-AB	5dBi	UK	✓	Radio, antenna & UK power plug power supply
WES4HTG-AX-AC	5dBi	Euro	✓	Radio, antenna & Euro power plug power supply
WES4HTG-AX-AE	5dBi	Australia	✓	Radio, antenna & Australian power plug power supply
Kits available:				
WES4HTG-AX-OP	13dBi	US	✓	WES4HTG-AX-AA kit, OD5M-13, cables & PWB-OP enclosure

1. Territory specific.
2. Assumes ideal RF environment with max signal rates & within receive sensitivity specification. Max values - limited by 10/100 port.

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