Dual Band (2.4 GHz, 5 GHz) Wi-Fi Ethernet Bridge/Router, Serial Server

AirborneM2M™ Industrial ABDN-xx-IN50xx Series

B+B SmartWorx Powered by Advantech

www.advantech-bb.com

PRODUCT FEATURES

- RS-232/422/485 or 10/100 Mbps Ethernet to 802.11a/b/g/n (2.4, 5 GHz)
- Advanced Enterprise class wireless security
- One or two serial ports, one Ethernet port
- Wide operating temperature: -40 to +85 °C
- PoE 802.3af Power-over-Ethernet (Model BB-ABDN-ER-IN5018 = "PD")
- 5-36 VDC variable DC power supply (USA cord included; other cords sold separately)

AirborneM2M™ Industrial Wireless Device Serial Servers and Ethernet Bridge/Routers are built for networking equipment in a wide array of machine-to-machine (M2M) applications. AirborneM2M industrial series features industrial strength packaging and supports a wide temperature rating (-40 to +85 °C) to withstand challenging M2M environments. Available in both single and dual serial port models or a single Ethernet port model.

Dual-Band Wi-Fi

These AirborneM2M products establish wireless connections over both 2.4 GHz and 5 GHz bands. Whenever the 2.4 GHz airspace is overcrowded with competing wireless transmission, AirborneM2M products can be switched over to 5 GHz band to keep data flowing.

Powering Options

- External 5-36 VDC power source required. USA power cord included, other cords sold separately.)
- Power-over-Ethernet (PoE) 802.3af, Powered Device (PD) (select models)

ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION	POE POWER-OVER-ETHERNET
BB-ABDN-ER-IN5010	**Ethernet Bridge/Router –** Industrial Wireless, Dual Band D(2.4/5 GHz)	no
BB-ABDN-ER-IN5018	**Ethernet Bridge/Router, PoE (PD)** – Industrial Wireless, Dual Band D(2.4/5 GHz)	**YES** (PD)
BB-ABDN-SE-IN5410	**Serial Server –** Industrial Wireless, Dual Band D(2.4/5 GHz) - with one RS-232/422/485 port	no
BB-ABDN-SE-IN5420	**Serial Server –** Industrial Wireless, Dual Band D(2.4/5 GHz) - with two RS-232/422/485 ports	no

Available in: North America, European Union (EU), Japan

ACCESSORIES - sold separately

BB-PS-WDS – 120-240 VAC, 50/60 Hz, 5 VDC, 2A barrel connector power supply
(Note: includes USA cord; other cords sold separately.)

BB-MDR-20-24 – 120-240 VAC, 50/60 Hz, 24 VDC, 1.0A DIN rail power supply

BB-ACH2-DBAT-DP002 – 2dBi portable (rubber duck) 2.4GHz / 5GHz antenna

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SPECIFICATIONS

TECHNOLOGY		
Wireless Technology	IEEE 802.11 a/b/g/n, Wi-Fi Compliant	
Wired Interface	2 ports, RS-232/422/485, (RS-232/422 4- wire or RS-485 2 wire) 10/100 Ethernet port (Bridge, Router (NAT3) Modes) Software selectable	
Frequency	2.4~2.4835 GHz (US/Canada/Europe) 2.4~2.497 GHz (Japan) 5.150 ~ 5.350 GHz 5.725 ~ 5.825 GHz	
Modulation Technology	DSSS, CCK, OFDM	
Modulation Type	DBPSK, DQPSK, CCK, BPSK, QPSK, 16QAM, 64QAM	
Network Access Modes	Infrastructure (Client), Ad Hoc	
	US/Canada:	11 Channels 802.11b/g
		13 Channels 802.11a
	Europe:	13 Channels 802.11b/g
		19 Channels 802.11a
	France:	4 Channels 802.11b/g
	Japan:	14 Channels 802.11b
		13 Channels 802.11g
		23 Channels 802.11a
Wireless Data Rates	802.11a/g = 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11b = 11, 5.5, 2, 1 Mbps 802.11n = 65, 58.5, 42, 39, 26, 19.5, 13, 6.5 Mbps	
Network Protocols	TCP/IP, ARP, ICMP, DHCP, DHS, UDAP, TFTP, UDP, PING, HTTP, FTP	
Receive Sensitivity – 802.11 b/g	54Mb/s = -72 dBm 36Mb/s = -78 dBm 18Mb/s = -84 dBm 6Mb/s = -89 dBm 11Mb/s = -86 dBm 1Mb/s = -92 dBm	
Receive Sensitivity – 802.11 a	54Mb/s = -74 dBm 36Mb/s = -80 dBm 6Mb/s = -90 dBm	
Wireless Security	- Open, WEP 64 & 128 bit, WPA-PSK (TKIP), WPA2-PSK (AES), 802.1x (EAP), WPA-Enterprise, WPA2-Enterprise, EAP-TLS/MSCHAPv2, EAP-TTLS/MSCHAPv2, EAP-TTLS (MD5), EAP-PEAPv0/MSCHAPv2, LEAP - Zero host security footprint - Advanced certificate storage and management	
Secure Communications	SSH and SSL tunneling. Encrypted configuration.	
Transmit Power	802.11b = 15 dBm (31.6mW) 802.11g = 12.6dBm (18.12mW) 802.11a = 17 dBm (50.1mW)	

POWER	
Input Voltage	5-36VDC +/-5%, 500mA (maximum)
Power Connection	2-position terminal block, 2.1mm barrel jack
Power Use	2.5W at 5VDC
Supply In-rush Current	3000 mA (maximum) for 20ms
Source (all models)	External, required (USA cord included, other cords sold separately)
PoE "PD" (select model)	Power-over-Ethernet, using a 802.3af Class 1 (Model# BB-ABDN-ER-IN5018 only)
LED INDICATORS	
4 LEDs	COMM, LINK, POWER, POST (Power on Self Test)
ENVIRONMENTAL	
Operating Temperature	-40 to +85 °C
Storage Temperature	-40 to +85 °C
Operating Humidity	5 to 95% (non-condensing)
MECHANICAL	
Antenna	RP-SMA Omni-directional 5.5 dBi 2.4GHz / 5GHz Antenna
Enclosure	Metal enclosure
Mounting	Panel mount, optional DIN rail brackets
Dimensions	12.1 x 12.0 x 2.9 cm (4.9 x 4.7 x 1.2 in)
MEANTIME BETWEEN FAILURES (MTBF)	
MTBF	BB-ABDN-ER-IN5010 = 392467 hours BB-ABDN-ER-IN5018 = 377995 hours BB-ABDN-SE-IN5410 = 360740 hours BB-ABDN-SE-IN5420 = 350412 hours
MTBF Calc. Method	MIL 217F (Parts Count Reliability Prediction)

APPROVALS, DIRECTIVES & STANDARDS	
North America	FCC Title 47 Part 15 Class B Sub C Intentional Radiator
CE - Directives (Europe)	2014/35/EU - Low Voltage Directive 2014/53/EU - Radio Equipment Directive (RED) Hereby, Advantech B+B SmartWorx declares that the radio equipment type Wi-Fi Ethernet Bridge/Router or Serial Server is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: *www.advantech-bb.com* 2011/65/EU - Reduction of Hazardous Substances Directive (RoHS) 2012/19/EU - Waste Electrical & Electronic Equipment Directive (WEEE)
CE - Standards (Europe)	**EMC:** ETSI EN 300 328 v2.1.1 - EMC & Radio Spectrum Matters (ERM) Wideband Transmission Systems - 2.4 GHz ISM Band ETSI EN 301 893 v1.8.5 - EMC & Radio Spectrum Matters (ERM) Wideband Transmission Systems - 5 GHz ISM Band ETSI EN 301 489-1 v2.1.1 - Applied in accordance with the specific requirements of: ETSI EN 301 489-17 v3.1.1 - EMC & Radio Spectrum Matters (ERM) Broadband Data Systems EN 55032+AC, Class A - Information Technology Equipment (ITE) - RF Emissions EN 55024 - Information Technology Equipment (ITE) - Immunity Characteristics - Limits and Methods of Measurement **Safety:** EN 60950-1 + A1 + A11 + A12 + A2 - Information Technology Equipment (ITE) - Safety - Part 1 - General Requirements **RF Exposure:** EN 62311 - Assessment of electronic and electrical equipment related to human exposure restrictions for EM fields (0 Hz to 300 GHz)