

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 GHz, 5 GHz)
- One or two serial ports, one Ethernet port
- Advanced Enterprise class wireless security
- Variable DC power supply (5-36 VDC)
- PoE 802.3af Power-over-Ethernet (Model ABDN-ER-IN5018)
- Extended operating temperature range (-40 to +85 °C)
- AirborneM2M SpeedLink roaming - enhanced connection reliability
- Supported by Airborne Management Center (AMC) device discovery, management and control application software

The AirborneM2M™ line of 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. Power options include 5-36VDC input or Power-over-Ethernet "PoE" 802.3af on select models.

Dual-Band Wi-Fi

The 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.

Enterprise Class Security

Security protocols are important to mission-critical wireless M2M applications. AirborneM2M multi-layered security approach addresses the requirements of Enterprise-class networks and corporate IT departments. These advanced security features include wireless security (801.11i/WPA2 Enterprise); network security (EAP authentication and certificate support); communication security (SSH functionality and fully encrypted data tunnels); and device security (multi-level encryption capability to protect configuration data).

SpeedLink™ Roaming

The latest AirborneM2M SpeedLink roaming feature further enhances the high level of connection reliability. SpeedLink enables AirborneM2M devices to roam quickly and freely throughout a wireless network without losing important data. If you're walking around a hospital or driving through a warehouse, SpeedLink ensures you stay connected.

ORDERING INFORMATION

| MODEL NUMBER | DESCRIPTION |
|----------------|---|
| ABDN-ER-IN5010 | Dual Band AirborneM2M Industrial Wireless Ethernet Bridge/Router |
| ABDN-ER-IN5018 | Dual Band AirborneM2M Industrial Wireless Ethernet Bridge/Router with PoE |
| ABDN-SE-IN5410 | Dual Band AirborneM2M Industrial Wireless Serial Server with one RS-232/422/485 port |
| ABDN-SE-IN5420 | Dual Band AirborneM2M Industrial Wireless Serial Server with two RS-232/422/485 ports |

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

ACCESSORIES - sold separately

PS-WDS: 120-240VAC, 50/60Hz, 5VDC, 2A barrel connector power supply

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

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

All product specifications are subject to change without notice.

ABDN-er-se-IN50xx_EthBridgeRouter-SerSvr_1918ds

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

AirborneM2M™ Industrial ABDN-xx-IN50xx Series



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, DNS, 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 | 3000mA (maximum) for 20ms |
| PoE | PoE using a 802.3af Class 1 PSE device (Model ABDN-ER-IN5018) |
| 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 2dBi 2.4GHz / 5GHz Antenna |
| Enclosure | Metal enclosure |
| Mounting | Panel mount, optional DIN rail brackets |
| Dimensions | 120.14 x 120.12 x 29.21 mm (4.89 x 4.73 x 1.15 in) |
| MEANTIME BEFORE FAILURE (MTBF) | |
| MTBF | ABDN-ER-IN5010 = 392467 hours ABDN-ER-IN5018 = 377995 hours ABDN-SE-IN5410 = 360740 hours ABDN-SE-IN5420 = 350412 hours |
| 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) |