Airborne Industrial Wireless Serial Device Server
Serial to 802.11b/g Wireless LAN

ABDG-SE-IN5410, ABDG-SE-IN5420

The Airborne™ line of industrial wireless device servers and Ethernet adapters are built for networking equipment in an array of machine-to-machine (M2M) applications. Available in both single and dual-port models, each wireless device server comes standard with industry-leading RF performance, enterprise class security support, and industrial-strength packaging designed to withstand the most challenging M2M environments.

Wireless Security
WPA/WPA2-Enterprise, 802.11i

Network Security
PEAP, EAP-TLS, EAP-TTLS, EAP-FAST, LEAP

Secured Access
Ethernet Firewall
WLAN Firewall/Port Forwarding
User Authentication

Secure Communications
Secure Shell (SSH)

Secure Device
Encrypted Configuration

Five Layer Security

Protecting enterprise networks is one of the most important challenges undertaken by today's network administrators. Airborne security keeps your data private by using the latest wireless security protocols (WPA2-Enterprise) and SSH tunneling. It protects the network by encrypting configurations and providing an embedded firewall. Today there is no more secure solution for Enterprise class device servers.

Quatech supports the broadest range of EAP processes (including EAP-TLS, EAP-TTLS, PEAP and LEAP). In addition, the Airborne line supports the most flexible certificate delivery and management available in the wireless device market.

Maximum Protection and Performance

Quatech's ruggedized, industrial device servers are built tough—tough enough to come with a standard 5 year warranty.

5YRS
-40°C/+85°C

The Airborne product line is rated to meet full industrial operating temperature range of -20°C to +85°C. The industrial series also incorporates a variable power supply (5-36 VDC) with screw terminal connectors for easy installation.

Quatech's highly-optimized 32 bit platform delivers superior transmit power and receive sensitivity, leading to greater range and the highest available throughput rates over both the serial and 10/100 Ethernet interfaces.

KEY FEATURES

- Extended operating temperature range (-20°C to +85°C)
- Plug-n-Play Serial to 802.11 Connectivity and Ethernet to 802.11 Connectivity
- Enterprise Class wireless security (WPA2-Enterprise, WPA, WEP, EAP)
- Airborne Management Center included for Quatech device discovery, control and management
- Variable DC power supply (5-36 VDC) with screw terminal connectors
- 2 kV serial ESD Surge Suppression
- Airborne SpeedLink roaming for enhanced connection reliability
- Onboard certificate delivery and storage
- Airborne PortFlex capability enables any combination of comm ports (Serial, Ethernet and 802.11 interfaces)
- CE and FCC Part 15 Class B Sub C Approval
- 5 year warranty

Airbone wireless device servers come standard with an integrated 3 dBi omni antenna. Users may also extend the range of the Airborne line by selecting a higher-gain antenna and magnetic mount options (contact Quatech for an approved list).

All Airborne Wireless Device Servers are built to meet worldwide regulatory requirements. Certifications include FCC, IOC, CE, ETSI, RoHS and WEEE.

Flexible for a Broad Range of Applications
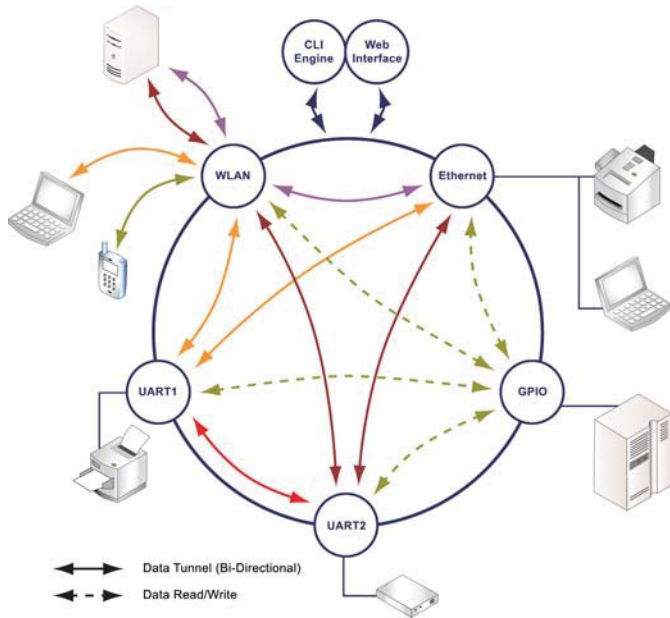
Airborne's unique PortFlex™ capability enables users to configure communication ports in any combination through a simple setup wizard. Airborne PortFlex™ supports UART, Ethernet and 802.11 interfaces, and provides the ability to independently configure each port.

Data and control can be accessed to and from any of the available ports on the device. For example the serial data can be accessed from the wireless or Ethernet port while the device is managed from the same port without changing the device configuration.

SpeedLink™ Roaming

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

Markets

Quatech has delivered high-performance device networking and connectivity solutions around the world since 1983.

Today, Airborne wireless device servers and Ethernet adapters operate in a wide-range of M2M applications, including:
• Industrial Automation
• Medical Devices
• Retail/Point of Sale
• Vehicle Telematics
• Military Communications
• Material Handling & Logistics
• Energy Management
• Test & Measurement
• Security & Access Control

Model Selection Guide

Model No.	Interface				WiFi	Security				
	RS-232	RS-422/485	Ports	10/100 Ethernet	802.11b/g	WEP (64 & 128 bit)	WPA	WPA2	LEAP	EAP
ABDG-SE-IN5410	•	•	1	•	•	•	•	•	•	•
ABDG-SE-IN5420	•	•	2	•	•	•	•	•	•	•
Accessories										
PS-SDS	Optional 120VAC/DC power supply, providing 5VDC @ 3w (max)/2.1 mm barrel									
ACH2-AT-DP002	2 dBi portable (Rubber duck) antenna (RP-SMA)									
ACH2-AT-DP003	5 dBi portable (Rubber duck) antenna (RP-SMA)									
ACH2-AT-DP011	5 dBi magnetic mount vehicle antenna, indoor/outdoor									

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Airborne Management Center

Managing your Airborne™ products is now simpler, whether you have one or one thousand.

KEY FEATURES

The Quatech Airborne Management Center (AMC) is a device discovery, control and management application that supports individual and group management of all aspects of the devices:

- Firmware updating
- Configuration management
- Access management (passwords)
- Virtual COM port installation

AMC allows a single or group of devices to have their firmware updated in the background.

- Directly launch web browser for devices from AMC
- Supports cloning device configurations across groups of units
- Records configuration changes for automatic update logging
- Remembers all discovered devices and maintains a database of their configuration
- Allows unauthorized devices to be marked as rogue

- Automatically informs user of new and unmanaged devices
- Manages all DP100, DP500 and DP550 devices
- Predefined device configuration templates available
- JAVA application included that will run on Windows, Linux and MacOS platforms
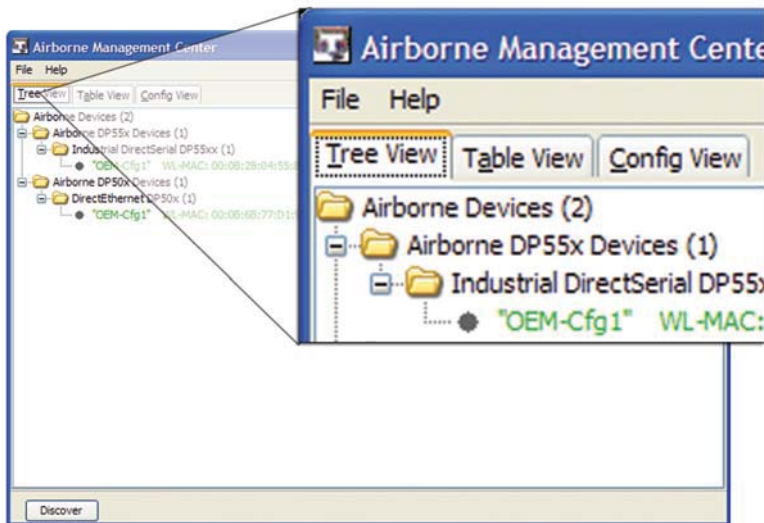
The Quatech Airborne Management Center (AMC) brings Enterprise class device discovery, management and control to the world of M2M wireless devices. This advanced device management application enables single-click maintenance of your entire population of deployed products.

From either the directory or table based views, you can:
- Update firmware and configurations
- Deliver certificates and private keys
- Access and monitor groups of devices

AMC Command Set

With just a single click, AMC provides access to a range of commands and functions:

- Locate modules
- Launch web browser
- Blink POST LED
- Refresh, display and edit configs
- Install VCOM Driver
- Set preconfigured passwords

- Add and manage templates
- Update module firmware and Uboot
- Restart module
- Manage or unmanage
- Remove modules
- Set modules to rogue
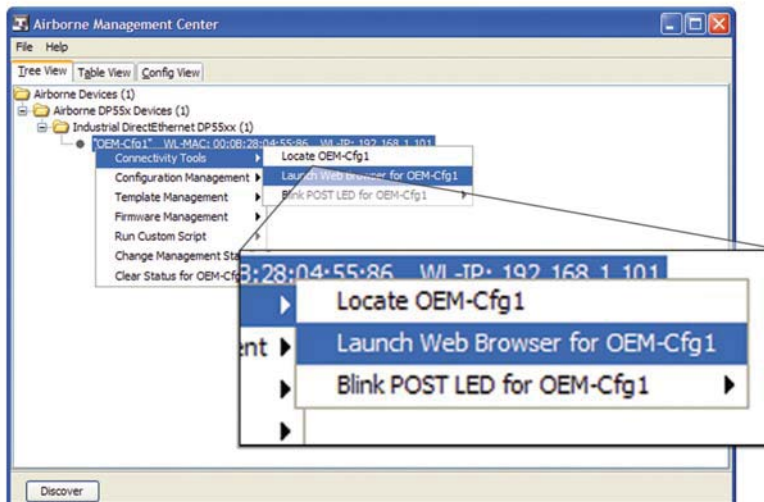
VCom port drivers can be installed with one click, enabling the use of legacy software to communicate with networked devices seemlessly through Comm Port Addresses (i.e., com1, com2) in the system's device manager. Quatech's VCom driver takes care of routing virtual comm ports to the network devices.

*All trademarks are the property of Quatech, Inc.

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Specifications

Wireless Technology
IEEE 802.11b/g, WiFi compliant

Wired Interface
RS-232
RS-422
RS-485
MEI (2 wire)
10/100 Ethernet (auto sense)
Software selectable

Frequency
2.4 ~ 2.4835 GHz (US/Canada/Europe)
2.4 ~ 2.497 GHz (Japan)

Modulation Technology
DSSS, CCK, OFDM

Modulation Type
DBPSK, DQPSK, CCK, BPSK, QPSK,
16QAM, 64QAM

Network Access Modes
– Infrastructure
– Ad Hoc

Channels
USA/Canada: 11 channels
Europe: 13 channels
France: 4 channels
Japan: 14 channels
                      13 channels - 11g

Wireless Data Rate
802.11b = 11, 5.5, 2, 1 Mbps
802.11g = 54, 48, 36, 24, 18, 12, 9, 6 Mbps

Network Protocols
TCP/IP, ARP, ICMP, DHCP, DHS, UDAP,
TFTP, UDP, PING, HTTP, FTP

Receive Sensitivity
54 Mb/s = -69dBm
  6 Mb/s = -86dBm
  1 Mb/s = -86dBm

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 & management

Secure Communications
– SSH and SSL tunneling
– Encrypted configuration

Antenna
RP-SMA antenna connector
Integrated omni-directional 3dBi antenna

Supply
5-36 VDC+/-5%, 500mA (MAX)

Power Consumption
2.5W @ 5VDC

Supply In-rush Current
3000mA (MAX) for 20ms

Power Connector
2-position terminal block
2.1mm barrel jack

DC Characteristics
Operating current = 190mA @ 5VDC (Typ.)
PS-Poll mode = 140mA @ 5VDC (Typ.)

Connectors
1 x DE-9 (DB-9) – IN5410
2 x DE-9 (DB-9) – IN5420
1 x RJ-45 socket
1 x RP-SMA

Enclosure
Ruggedized metal (Black)
DIN rail mounting adapter

Dimensions
120.14 mm x 120.12 mm x 29.21 mm
(4.89" x 4.73" x 1.15")

Regulatory Approvals
FCC Part 15.247, Class B Sub C Modular Approval
Industry Canada RSS-210
CE
ETSI EN300-328 v1.7.1
ETSI 60950-1
Directive 2004/108/EC
ETSI EN 55022:2006 + A1:2007 (emissions)
ETSI EN 55024:1998 + A1:2001
ETSI EN 55024:1998 + A2:2003 (immunity)
FCC Part 15 Subpart B:2007
– Part 15.107(b) (conducted emissions, Class A)
– Part 15.109(g) (radiated emissions, Class B)
Industry Canada ICES-003:2004, Issue 4
AS/NZS CISPR 11:2004 (Australia/New Zealand)
RoHS and WEEE Compliant

Environmental
Operating temperature: -20°C to +85°C
Storage temperature: -55°C to +150°C
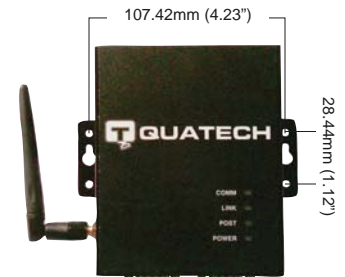Relative humidity: 5% to 95% (non-condensing)

LED Indicators
4 Indicator LEDs (POWER, POST, LINK, COMM)
Site survey mode

Airborne Management Center
– Fully supported
– Device identification
– Enhanced discovery
– Configuration management
– Firmware update
– VCOM install

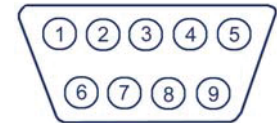## Mechanical Outline

Top View

Front View

Port View

(Model 5020 shown)

Serial Connectors
DB-9 Male, External View

Signal Information

DB-9 Pin #	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	NC	RxD+	RxD+	NC
2	RxD	RxD-	RxD-	-Tx/-Rx
3	TxD	TxD+	TxD+	+Tx/+Rx
4	NC	TxD-	TxD-	NC
5	GND	GND	GND	GND
6	NC	RTS-	NC	NC
7	RTS	RTS+	NC	NC
8	CTS	CTS+	NC	NC
9	NC	CTS-	NC	NC

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