Chapter 1 Overview

1.1 Introduction

ADAM-4570W/4571W is a cost-effective data gateway between RS-232/422/485 and 802.11b Wireless LAN interfaces. It provides a quick and low-cost method to connect any RS-232/422/485 device to 802.11b wireless LAN. Functionally transparent and efficient, ADAM-4570W and ADAM-4571W saves costs when existing H/W & S/W must continue to be used. ADAM-4570W and ADAM-4571W bring the advantages of remote management and data accessibility to thousands of RS-232/422/485 devices that cannot connect to the network.

ADAM-4570W and ADAM-4571W provide one or two RS-232/422/485 serial ports, and the transmission speed is up to 230 kbps, meeting the demand for high-speed data exchange. In addition, you can use a Windows® utility to configure ADAM-4570W and ADAM-4571W without further programming. This not only protects your current hardware investment but also ensures future network expandability. Since the protocol conversion is transparent, all your existing devices can be seamlessly integrated with the 802.11b wireless LAN network. Therefore, ADAM-4570W and ADAM-4571W can be used in security systems, factory automation, SCADA, transportation and more.

ADAM-4570W and ADAM-4571W integrate both your existing human-machine interface software (HMI) and the RS-232/422/485 system architecture with an 802.11b Wireless LAN network. The result helps you save cabling and software development costs. Another benefit is that ADAM-4570W and ADAM-4571W makes it possible to remotely download programs to a designated device via 802.11b wireless LAN. This reduces the need for on-site maintenance and diagnosis. In addition, ADAM-4570W and ADAM-4571W comes with a Windows configuration and port-mapping utility. The configuration tool can auto-detect all 802.11b wireless LAN Data Gateway products on the local network. It also lets you adjust all settings easily. The port mapping utility helps you to set up COM ports for one Windows® NT/2000/XP platform. This helps you configure all ports to meet your requirements.

1.2 Features

- Supports 802.11b standard
- Supports Wireless LAN Ad-Hoc and Infrastructure modes
- Supports high transmission speeds up to 230 kbps
- Supports an advanced security mechanism to avoid unauthorized access
- Auto-reconnection
- Remote download firmware
- Auto-detecting
- Easy-managing Port Mapping Utility
- Supports Windows® 98/NT/2000/XP driver
- Surge protection for RS-485 line and power supply
- Automatic RS-485 data flow control

1.3 Specifications

- **Protocol** TCP/IP
- **Network** 802.11b
- **Port** 1/2 Independent RS-232/422/485 ports
(ADAM-4570W:2 ports; ADAM-4571W: 1 port)
- **Connector** Serial: RJ-48 (RJ-48 to DB9 male cable provided)
- **Transmission Speeds** 50 bps ~ 230 kbps
- **Parity Bits** Odd, even, none, space, mark
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2

- **Diagnostic LEDs** WLAN: Active, Quality
  Serial: TX/RX
  System: Status, Power
- **Surge Protection** 15 K V_{ESD}
- **Utility Software** Auto-detecting configuration utility(up to 128 devices)
  Port mapping utility
- **Driver Support** Windows® 98/NT/2000/XP
- **Power Requirement** Unregulated 10 to 30 V_{DC}
- **Power Consumption** Max @ 4 Watt
- **Mounting** DIN-rail, panel mounting, piggyback stack
- **Operating Temperature** 0 ~ 55℃ (32 ~ 131°℉)
- **Storage Temperature** -20 ~ 75℃ (-4 ~ 167°℉)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)

1.4 Package Checklist

- CD-ROM for utility and manual
- 1/2 pcs of 1m RJ-48 to male DB-9 RS-232/422/485 cables
- One RS-232 loopback DB-9 tester
- EMI Dia. 7.8mm/L82mm Wireless LAN Antenna
- Five stickers
- NYLON DIN-rail Mounting Adapter
- SECC Panel Mounting Bracket
- Power Adapter (Trade name / model number: Kynet / SNP-PA59)

1.5 Ordering Information

- **ADAM-4570W** 2-port RS-232/422/485 to WLAN Data Gateway
  (2pcs of 1m RJ-48 to male DB9 RS-232/422/485 cable included)
- **ADAM-4571W** 1-port RS-232/422/485 to WLAN Data Gateway
  (1pcs of 1m RJ-48 to male DB9 RS-232/422/485 cable included)
- **OPT1A** 1m RJ-48 to male DB9 RS-232/422/485 cable
- **OPT1D** 30cm RJ-48 to male DB9 RS-232/422/485 cable

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

CE Declaration of Conformity

CE 0984 ⓘ

Is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directive (73/23/EEC) and the Amendment Directive (93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/3360EEC.
The equipment was passed. The test was performed according to the following European standards:

- EN 300 328 V.1.6.1 (2004-04)
- EN 301 489-1 V.1.4.1 (2002-04) / EN 301 489-17 V.1.2.1 (2002-04)
- EN 50371: 2002
- EN 60950: 2000