



# W345 Quick Installation Guide

Fourth Edition, January 2010

## 1. Overview

The W345 embedded computer has four RS-232/422/485 serial ports, one 10/100 Mbps Ethernet port, an embedded GSM/GPRS module, an SD socket interface for storage expansion, two USB 2.0 host ports, and one relay output channel. This combination of features makes the W345 ideal for your wireless embedded applications.

## 2. Package Checklist

Before installing W345, verify that the package contains the following items:

- 1 W345 embedded computer
- Wall mounting kit
- Quick Installation Guide
- Document & Software CD
- Ethernet Cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-4PINDB9F-100: 4-pin header to DB9 female console port cable, 100 cm
- GSM/GPRS Antenna
- Universal Power Adaptor
- Product Warranty Statement

### Optional Accessories

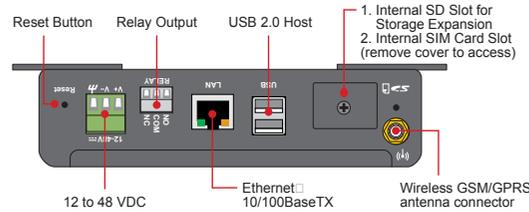
- 35 mm DIN-Rail Mounting Kit (DK-35A)

Please notify your sales representative if any of the above items are missing or damaged.

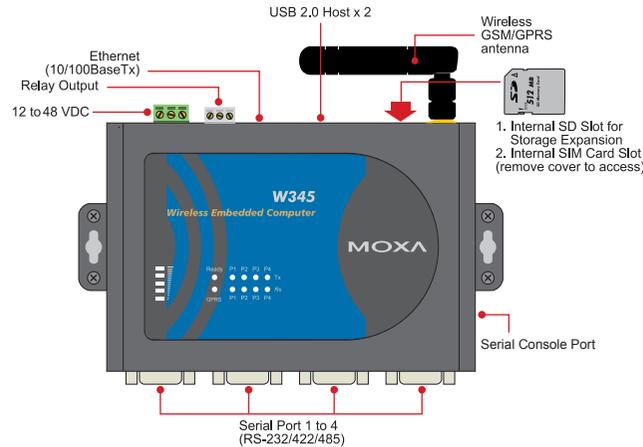
## 3. W345 Panel Layout

The W345 comes with four RS-232/422/485 serial ports, one RS-232 console port, one 10/100 Mbps LAN port, an embedded GSM/GPRS module, an SD socket interface for storage expansion, two USB 2.0 host ports, and one relay output channel. The following figures show the panel layouts of the W345.

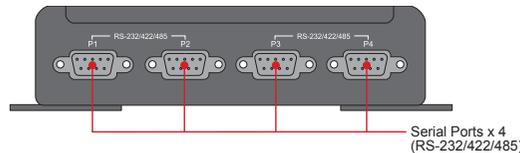
### Top View



### Front View



### Bottom View



## LED Indicators

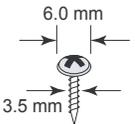
The following table describes the LED indicators located on the front panel of the W345.

LED Name	LED Color	LED Function
Ready	Green	Power is on and functioning normally
	Off	Power is off or power error exists
SD	Green	SD card is detected
	Off	SD card is not detected
GSM/GPRS	Green	ON: GPRS is ready
		Blinking: Conflict with GPRS IP, or DHCP server not responding
	Off	GPRS is not ready or function error exists
Signal Strength	Green	Number of glowing LEDs indicates signal strength:
		5: Excellent
		4: Very good
3: Good		
2: Fair		
1: Bad		
LAN	Off	No signal, or GPRS connection failed
	Orange	10 Mbps Ethernet link
	Green	100 Mbps Ethernet link
TxD P1-P4	Off	Disconnected or short circuit
	Green	Serial ports P1-P4 transmitting data
RxD P1-P4	Off	Serial ports P1-P4 not transmitting data
	Yellow	Serial ports P1-P4 receiving data
P1-P4	Off	Serial ports P1-P4 not receiving data

## 4. Installing the W345

### Wall or Cabinet Mounting

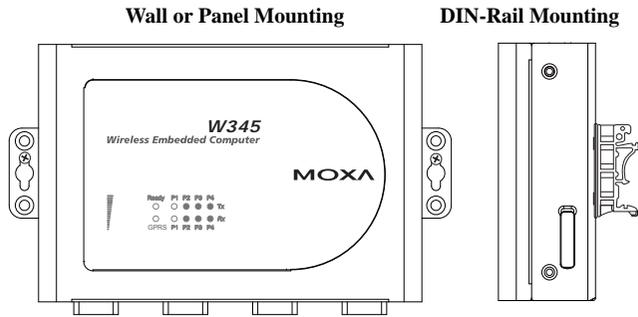
The W345 comes with two metal attachment plates for attaching the embedded computers to a wall or the inside of a cabinet. We suggest using two screws per ear to attach the W345 to a wall or cabinet. The heads of the screws should be less than 6.0 mm in diameter, and the shafts should be less than 3.5 mm in diameter, as shown by the figure at the right.



### DIN-Rail Mounting

DIN-rail attachments can be purchased separately to attach the product to a DIN-rail. When snapping the attachments to the DIN-rail, make sure that the stiff metal springs are at the top.

P/N: 1802003450013



## 5. Connector Description

### Power Connector

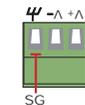
Connect the 12 to 48 VDC LPS or Class 2 power line to the W345's terminal block. If the power is supplied properly, the Power LED will light up. The OS is ready when the Ready LED glows a solid green.

### Grounding the W345

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting the power.

### ATTENTION

This product is intended to be mounted to a well-grounded mounting surface, such as a metal panel.

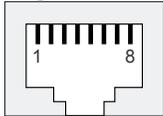


**SG:** The Shielded Ground (sometimes called Protected Ground) contact is the left most contact of the 3-pin power terminal block connector when viewed from the angle shown here. Connect the SG wire to an appropriate grounded metal surface.

### Ethernet Ports

The 10/100 Mbps Ethernet port uses RJ45 connectors.

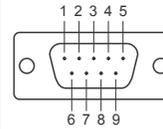
PIN	Signal
1	ETx+
2	ETx-
3	ERx+
6	ERx-



### Serial Ports

The serial ports use DB9 connectors. Each port can be configured by software for RS-232, RS-422, or RS-485. The pin assignments for the ports are shown in the following table:

Pin	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	DCD	TxDA(-)	TxDA(-)	---
2	RxD	TxDB(+)	TxDB(+)	---
3	TxD	RxDB(+)	RxDB(+)	DataB(+)
4	DTR	RxDA(-)	RxDA(-)	DataA(-)
5	GND	GND	GND	GND
6	DSR	---	---	---
7	RTS	---	---	---
8	CTS	---	---	---



### SD Slot

The W345 has an internal SD slot for storage expansion. The SD slot allows users to plug in a Secure Digital (SD) memory card compliant with the SD 1.0 standard for up to 1 GB of additional memory space, or a Secure Digital High Capacity (SDHC) memory card compliant with the SD 2.0 standard for up to 16 GB of additional memory space. To install an SD card, first use a screw driver to remove the SD slot cover to access the slot. The slot is located on the top panel of the W345. Plug the SD card directly into the socket, and then replace the SD slot cover. The SD card will be mounted at `/mnt/sd`. To remove the SD card from the slot, press the SD card in slightly with your finger, and then remove your finger to allow the card to spring out partially. You may now grasp the top of the card with two fingers and pull it out.

### Console Port

The serial console port is a 4-pin pin-header RS-232 port. It is designed for serial console terminals, which are useful for viewing boot-up messages. Use the CBL-4PINDB9F-100 cable included with the product to connect a PC to the W345's serial console port.

### SIM card installation

The SIM slot is located on the front panel of W345. Before you install a SIM card, be sure to shut down the operating system. Use a screw driver to remove the protective cover to access SIM card slot. Make sure the chip on the SIM card faces up and then plug the SIM card directly into the slot.

**NOTE:** Please refer to the W345 User's manual for information on GPRS network connections.

### Reset

Press the "Reset" button and hold it in for at least 5 seconds to load the factory default configuration. After the factory default configuration has been loaded, the system will reboot automatically. The Ready LED will blink on and off for the first 5 seconds, and then maintain a steady glow once the system has rebooted.

### Real-time Clock

The W345's real-time clock is powered by a lithium battery. We strongly recommend that you do not replace the lithium battery without help from a qualified Moxa support engineer. If you need to change the battery,

contact the Moxa RMA service team.

### ATTENTION

There is a risk of explosion if the battery is replaced by an incorrect type of battery.

## 6. Powering on the W345

To power on the W345, connect the "terminal block to power jack converter" to the W345's DC terminal block (located on the left rear panel), and then connect the power adaptor. Note that the Shielded Ground wire should be connected to the right most pin of the terminal block. It takes about 30 seconds for the system to boot up. Once the system is ready, the Ready LED will light up.

## 7. Connecting the W345 to a PC

There are two ways to connect the W345 to a PC: (1) through the serial console port, or (2) by Telnet over the network. The COM settings for the serial console port are: **Baudrate=115200 bps, Parity=None, Data bits=8, Stop bits=1, Flow Control=None.**

### ATTENTION

Use the CBL-4PINDB9F-100 cable included with the product to connect a PC to the W345's serial console port. Remember to choose "VT100" terminal type.

To use Telnet, you need to know the W345's IP address and netmask. The default LAN settings are shown below. For first-time configuration, you may find it convenient to use a cross-over Ethernet cable to connect directly from the PC to the W345.

	Default IP Address	Netmask
LAN	192.168.3.127	255.255.255.0

Once the W345 is powered on, the Ready LED will light up, and a login page will open. Use the following default Login name and Password to proceed. The defaults are:

**Login: root**  
**Password: root**

## 8. Configuring the Ethernet Interface

Type the command `vi /etc/network/interfaces` to edit network configuration. The default IP address for W345's Ethernet LAN is: **ifconfig eth0 192.168.3.127**

**NOTE:** Refer to the W345 User's Manual for information on how to configure the Ethernet interface.

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