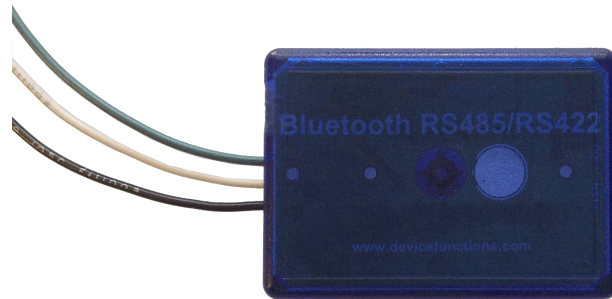## A10485B Bluetooth RS485/RS422 Adapters

Features

- RS485/RS422 interface with wire pin terminals
- Half-duplex data communication
- ESD, EFT, and surge protection
- Bluetooth Class 1 Radio
- Integrated antenna
- Data encryption
- Support Microsoft Windows Bluetooth COM port
- Battery powered
- LED indicators
- Configuration via USB
- Touch button power switch
- Battery usage meter
- Battery overdischarge protection
- Battery charger

Specifications

Bluetooth	Bluetooth v2.1 + EDR
	Class 1 Radio
RS485/RS422	Half-duplex transceiver
	1/8-unit-load receiver input impedance or up to 256 transceivers on one bus
	True fail-safe receiver
	No integral 120Ohm termination resistor
	Wire pin terminals
	Baud rate: 300bps to 115200bps
	Parity: Even, Odd, None, Mark, Space
	Data length: 5-bit, 6-bit, 7-bit, 8-bit
	Stop bits: 1-bit, 2-bit
USB	USB 2.0, USB Micro-B receptacle connector
Software	Microsoft Windows, eeTerminal.
Power	14500 Li-ion rechargeable battery
Dimensions	57.4mm x 40.89mm x 19.05mm

Typical Application - Microsoft Windows Bluetooth COM Port

This application requires install this Bluetooth adapter on Microsoft Windows, and Bluetooth connection to computer is required. A virtual COM port is created for this adapter after installation. User application software can access this adapter's RS485/RS422 interface using the virtual COM port. Here are the steps to install this adapter on Microsoft Windows. The adapter's authentication pin code is 1234.

Method 1 - Install Bluetooth Adapter Using eeTerminal Power on Bluetooth adapter. Starts eeTerminal. Select **File** from menu bar, and select **Open Device**. The software lists all compatible devices in a pop-up window. Select the Bluetooth device from the list and click the **Open** button. Follow the on-screen instructions to install the device if this Windows version supports automatic device installation.

Method 2 - Install Bluetooth Adapter Using Windows Bluetooth Device Manager Power on Bluetooth adapter. Locate Bluetooth icon on Microsoft Windows taskbar. Click on it and select *Add a Bluetooth Device*. Follow Microsoft Windows on-screen instructions to install the device.

After Windows successfully installs the Bluetooth adapter, a virtual COM port (Outgoing direction) with SPP description will be created.

To check the COM port number, click on Windows taskbar and select *Open (Bluetooth) Settings*. Click *COM Ports* in *Bluetooth Settings* window.

RS485/RS422 Serial Configuration and Check Battery Status

The adapter's serial settings are configured using eeTerminal (download from www.devicefunctions.com). Connect the adapter's USB port to a computer's USB port. Start eeTermianl, click **File** from menu bar, and select **Open Device**. eeTerminal lists all compatible devices in a pop-up window. Select **DEVICE FUNCTIONS UART/RS485** and click the **Configure** button. A device configuration window will pop up. Select the required serial settings and click **Ok** to save the new settings, or click **Cancel** to cancel the configuration.

In the battery section, it shows the battery status: battery voltage, number of hours that the battery has been used, and battery type (non-rechargeable or rechargeable). NOTE: B10485B has integrated Li-ion battery charger. Rechargeable is always displayed in battery section.
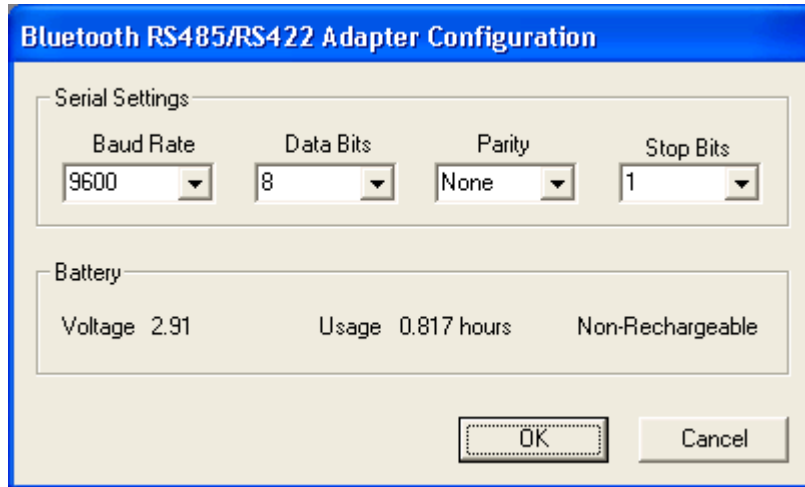
RS485/RS422 Signal Descriptions

Wire Pin Terminal Color	RS485/RS422 Signal
Green	TxD+/RxD+ (A)
White	TxD-/RxD- (B)
Black	Signal GND (C)
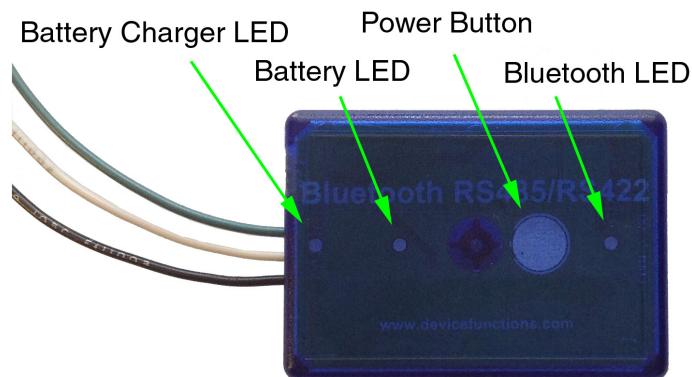
Fig 1

LED Indicator - Bluetooth connection, see Fig 1

Status	LED Flash Rate
Connected	Solid on
Waiting for connection	Once per second

DEVICE FUNCTIONS

LED Indicator - Battery meter and battery switch, see Fig 1

Status	LED Flash Rate
Battery switch (touch button)	Solid on while touching, otherwise off
Battery good	LED off
Battery low (Rechargeable)	Once per second
Battery cutoff (Rechargeable)	LED off

LED Indicator – Battery charger, see Fig 1

Status	LED Flash Rate
Charging	Solid on
Charged	Off
Defective battery	2Hz

Battery and Battery Charger

This adapter requires a14500 Li-ion rechargeable battery. A capacity of 750mAh and above is recommended. To install a battery, unscrew the screw on the battery pack, remove the cover gently, align the + and - signs on the battery with the + and - signs on the battery holder, and place the battery in. Put on the cover and tighten the screw.

To prevent rechargeable battery degradation caused by overdischarge, the adapter will be turned off automatically when the battery voltage is below low voltage limit.

To charge the battery, connect the adapter's USB micro-B port to an USB power supply. The battery charger LED will light up. The LED will be turned off when the battery is charged. If the battery charger LED flashes, the battery is a defective battery.

Power On and Power Off

Touch the power button ⏻, see Fig 1, until battery LED lights up. Lift your finger. Touch twice more consecutively. The battery LED must be on with each touch. This turns on battery power. The same procedure is used to turn off battery power.

Battery Usage Meter and Reset

The battery usage meter tells the number of hours that the battery has been used. Power on the adapter. Place your finger on the ⏻ power button. The battery LED will start flashing in a few seconds. Count the number of flashing until the battery LED stops flashing. The battery usage is read as,

Number of Flashing	Battery Usage (hours)
1	Less than 1
2	1 – 2
3	2 - 3
- - - - - -	- - - - - -

Lift your finger after LED stops flashing. To reset the battery usage meter, continue touching on power button until the battery LED flashing again, lift your finger after LED stops flashing.

Touch Button Adjustment

Unscrew the screw and gently remove the cover. Remove the battery. Touch on ⏻ power button while placing back the battery. The LED is solid on. Keep touching the ⏻ power button until LED off. Lift your finger. Wait until the LED is solid on again. Place your finger over the ⏻ power button. Keep your finger on the ⏻ power button until LED starts flashing. Lift your finger. When the LED stops flashing, the touch button recalibration is done.

The following procedure can be used to restore manufacture's touch button setting. Unscrew the screw and gently remove the cover. Remove the battery. Touch on the ⏻ power button while placing back the battery. The LED is solid on. Keep your finger on the ⏻ power button until LED off. Continue keeping your finger on the ⏻ power button until LED starts flashing. Lift your finger. When the LED stops flashing, the touch button is restored.

DEVICE FUNCTIONS

Accessories

eeTerminal Configure, read, and write Bluetooth adapters. Upload/download files.
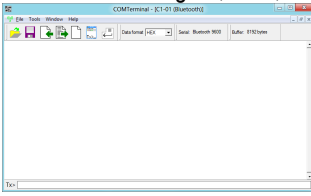
Environmental Conditions

Operating temperature range	0°C TO +45°C
Storage temperature range	-20°C TO +35°C
Relative humidity	0% to 90%, non-condensing