LM048v2 Bluetooth RS232 Serial Adapter
100m Distance with On-Board Antenna

Product	LM048v2
Part No	048-0000
Revised	25/NOV/2014
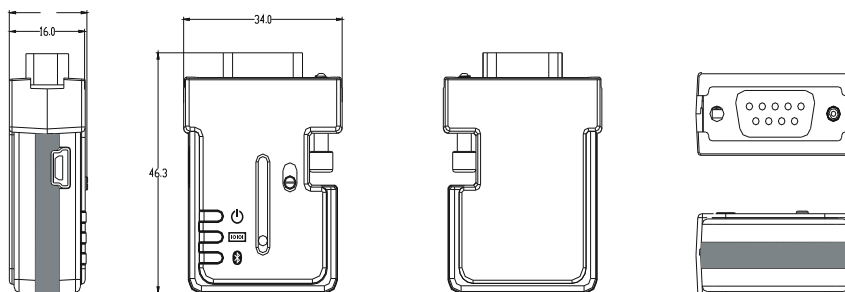
Features

- World's smallest RS232 Bluetooth adapter.

- Multi power supply options, AC Mains via Mini USB, USB-Mini USB.

- No mains power cable needed as adapter can also be powered from RS232 Pin 9.

- Supports up to 100 meters (in open space).

- Unique Patented Firmware Enabling Serial Printer Functionality.

- DTR DSR Handshaking and RTS CTS Flow Control options available depending on the configuration.

- No need of external host or software, simply works as a standalone product.

- Ability to transfer DTR, DSR, RTS and CTS line   status over air providing true Serial Cable replacement solution. This functionality allows serial printers using DSR or CTS line for error reporting such as "Out of Paper", "Printer Offline" etc.

- Supports Bluetooth Serial Port Profile (SPP) and Generic Access Profile (GAP).

- CSR BC04 Bluetooth chipset with Bluetooth 2.0 + EDR firmware based design. Bluetooth 2.1 + EDR firmware also available.

- Ease of configuration and setup using LM149 Software.

- FCC, RoHS, BQB and RTTE certified.

Overview

Data transfer made easy with the world's smallest RS232 Bluetooth adapter. This adapter provides RS232 cable replacement for devices which use RTS/CTS flow control or DTR DSR handshaking.

The LM048v2 can be powered from RS232 Pin No.9 (4v-13v) or from Mini USB Port via the AC mains adapter or Mini USB-USB cable. Our new patented firmware replicated all RS232 control signals (DTR, DSR, RTS, and CTS) to transfer over the Bluetooth link. Unlike other Bluetooth serial adapters in the market, a pair of LM048 adapters with their unique hardware and firmware combination, can act as a true straight or twisted serial cable solution.

LM Technologies® provide an application called LM149 Configuration Software, which allows easy configuration of these adapters. LM Technologies® also provide an option to configure the adapter from a console using an in-built menu system. This option may be required for a device which only has a keyboard and screeen, such as a cash register.

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Packaging Options

SRP - Single Retail Pack
Part No 048-0006

1 x Bluetooth Serial Adapter.
1 x DB9 male to female connector.
1 x USB - mini USB Cable for power supply.
1 x All in one power supply (UK, EU and US).

Optional
LM025 Slim Line 9 pin to 25 pin Convertor.

TRP - Twin Retail Pack
Part No 048-0012

2 x Bluetooth Serial Adapters.
1 x DB9 male to female connector.
1 x USB mini USB Cable for power supply.
1 x All in one power supply (UK, EU and US).

Optional
LM025 Slim Line 9 pin to 25 pin Convertor.

AO - Adapter Only
Part No 048-0000

- User Guides, Manuals and Widcomm Configuration Software available to download via our website - http://www.lmtechnologies.com/support/downloads

General Specification

|	
Baud Rate	1.2/2.4/4.8/9.6/19.2/38.4/57.6/115.2/230.4/460.8/921.6 Kbps
Coverage	Up to 100m
Connection	Point-to-Point
Signal	TxD, RxD, RTS, CTS, DTR, DSR and GND
RS-232 Interface	D_SUB 9 pin female
Standard Bluetooth	Specification 2.0 + EDR
Frequency	2.400 to 2.4835 GHz
Hopping	1,600/sec, 1Mhz channel space
Modulation	GFSK-Mbps, DQPSK-2 Mbps, and 8-DPSK-3Mbps
Tx Power	Max 18 dBm (Class 1)
RX Sensitivity	-86 dBm typical
Antenna	Chip Antenna
Antenna Gain	Max 1 to 2 dBi
Power Supply	+4 to 13V DC
Current Consumption	Max 90 mA
Operation Temperature	-20 °C to +75 °C
Dimensions	46.3mm (W) x 34mm (D) x 16mm (H)

Signals

Female DB9
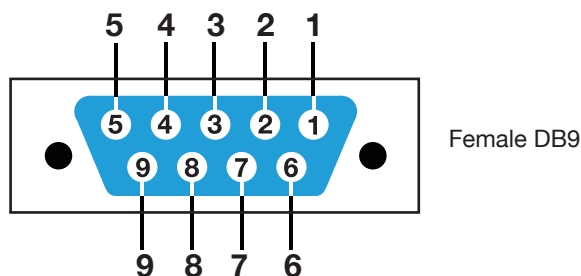
Pin out for LM048v2 Adapter

Pin	RS232 Signal	DTE to DCE Direction	DCE to DTE Direction	Description
1	CD	Input	Output	Not Connected
2	RxD	Input	Output	Receive Data
3	TxD	Output	Input	Transmit Data
4	DTR	Output	Input	Data Terminal Ready
5	GND	n/a	n/a	Signal Ground
6	DSR	Input	Output	Data Set Ready
7	RTS	Output	Input	Request to Send
8	CTS	Input	Output	Clear to Send
9	Vcc	Input	Input	Power Supply

Factory Settings

The factory settings of the COM Port are as follows:

Baud Rate	19200 bps
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	None

Customised settings are available as factory settings upon special request; Bonding, Pre-Pairing, different Baud Rates, Data Bits, Parity and Flow Control Settings.
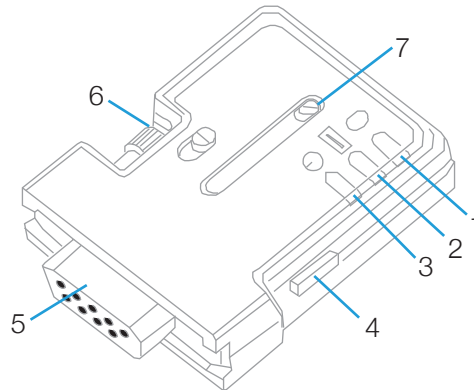
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Hardware Structure

1   Link LED.
2   Data LED.
3   Power LED.
4   Mini USB Connector.
5   RS232 Connector.
6   Slide Switch.
7   Reset Button.


Switch Functions

Reset Button

- By pressing the Reset Button you can:

  Disconnect a wireless connection (after a short press).
  Restore the factory settings (after over 3 seconds press).

Slide Switch

- The slide witch can swap TxD/RxD, RTS/CTS and DTR/DSR Signals. By switching, you can set the adapter as a DTE (towards antenna connector) or a DCE (towards RS232 connector).

Additional Dimensions
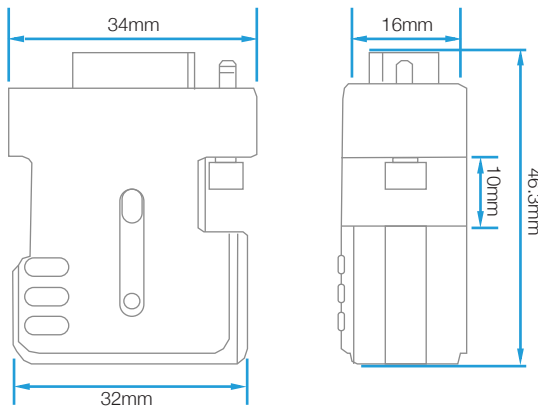
34mm

16mm

10mm

46.3mm

32mm

Revision History

1.0	17/NOV/2011	First version with new layout
1.1	20/MAR/2012	Some minor changes in data sheet content
1.2	12/FEB/2014	1. Packaging information corrected
		2. Revision information added
1.3	25/NOV/2014	Revision to documentation