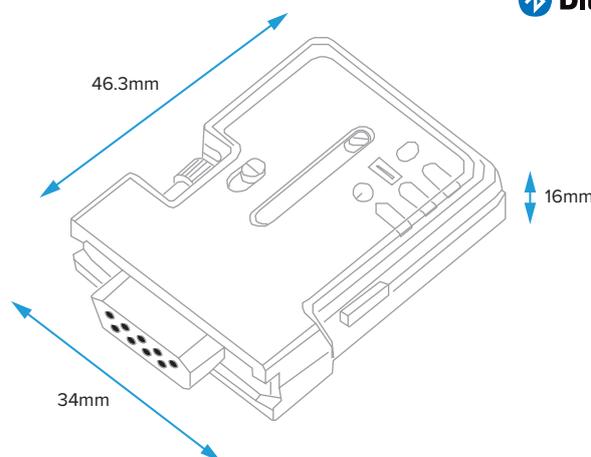


LM068 Bluetooth® v4.1 Dual Mode RS232 Serial Adapter

Standalone (With Embedded Bluetooth® v4.1 Stack)

Product LM068
Part No See Last Page
Revision Draft v1.0



Features

- World's smallest Bluetooth® Serial Adapter (RS232)
- Bluetooth® v4.1 wireless technology
- 9 dBm Tx Output Power and -86 dBm Rx Sensitivity
- Serial (RS232) interface
- Programmable Standalone Module (With Embedded Bluetooth® v4.1 Stack)
- Up to 80m-100m range in open space (adapter to adapter)
- 46.3mm x 34mm x 16mm
- Powered by USB - Mini USB, DB9 or AC adaptor
- DTE / DCE (Master / Slave) mode switch
- DTR / DSR Handshaking and RTS / CTS Flow control lines
- Full Duplex for simultaneous communication between sender and receiver
- Ease of configuration and setup using the LM149v2 software
- Configurations pre-installed on production
- To be certified in the following countries: FCC, CE, RED Directive, SIG, Anatel, IC, IDA, KC, MoC, NBTC, NCC, NOM / NYCE, RCM, MCMC, SRRC, TELEC
- RoHS, REACH and WEEE Compliant Solution

Typical Industries

- EPOS
- Aviation
- M2M
- Automotive
- LNG

Overview

The LM068 is the world's smallest Bluetooth® serial adapter (RS232), providing a secure and reliable Bluetooth® v4.1 connection.

This wireless connection reaches a range of up to 100m in open space, replacing RS232 cables between a master (DTE) device and slave (DCE) devices such as printers, data loggers and digital signalling devices.

The LM068 patented firmware allows the serial configurations to be used. The firmware controls the RS232 signals, including DTR / DSR handshaking and RTS / CTS flow control lines. The LM068 is powered by USB - Mini USB, DB9 or AC adaptor and all settings and configurations are even retained when the adapter is powered down.

Our LM149v2 software is used to change the settings and configurations; including the auto connect function, discoverable / non-discoverable function, device name, baud rate, data bits and flow control. The AT Command set is used to change the configurations, plus the developer can also configure and modify the settings of a remote LM068 from a local LM068. Customised configurations and settings can be preloaded to the LM068, simplifying the manufacturing and testing process.

LM068 Bluetooth® v4.1 Dual Mode RS232 Serial Adapter

Standalone (With Embedded Bluetooth® v4.1 Stack)

Product LM068
Part No See Last Page

General Specification

Wireless

Bluetooth® Standard	v4.1 (Dual Mode)
Adapter Type	Standalone (Configurable with AT Commands)
Profiles	SPP

Hardware

Chipset	CSR
Antenna	IC Antenna Onboard
Interfaces	Serial (RS232)
Power Supply	4V to 12V DC
Crystal Oscillator	16 MHz
LED Indicators	Link (BLUE), Data (ORANGE) and Power (RED)

RS232 (Serial)

RS232 Interface	D_SUB 9 pin female
Signal	RxD, TxD, DTR, DSR, RTS, CTS and GND
Full Duplex	Yes
Baud Rate	1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, 115.2, 230.4, 460.8 and 921.6 Kbps

RF Characteristics

Tx Output Power	9 dBm (Maximum)
Rx Sensitivity	-86 dBm (Typical)
Antenna Gain	1 dBi to 2 dBi (Maximum)
Current Consumption	90 mA (Typical) (Likely to be lower)
Range (in open space)	Up to 80m - 100m
Data Rate	Up to 3Mbps
Frequency	2.4 GHz to 2.485 GHz
Hopping	1,600/sec, 1MHz channel space
Modulation Scheme	GFSK-Mbps, DQPSK-2 Mbps, and 8-DPSK-3Mbps

Physical Characteristics

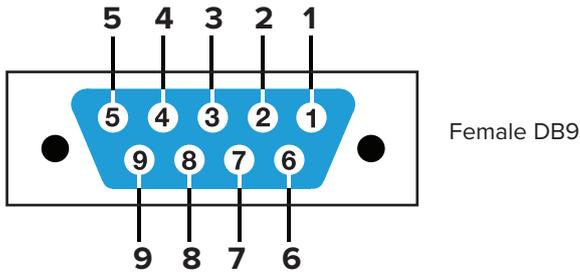
Operating Temperature	-20°C to +75°C
Dimensions (L x W x H)	46.3mm x 34mm x 16mm
Certifications	TBA
Compliance	RoHS, REACH and WEEE

LM068 Bluetooth® v4.1 Dual Mode RS232 Serial Adapter

Standalone (With Embedded Bluetooth® v4.1 Stack)

Product LM068
Part No See Last Page

Signals



Pin out for LM068 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.

LM068 Bluetooth® v4.1 Dual Mode RS232 Serial Adapter

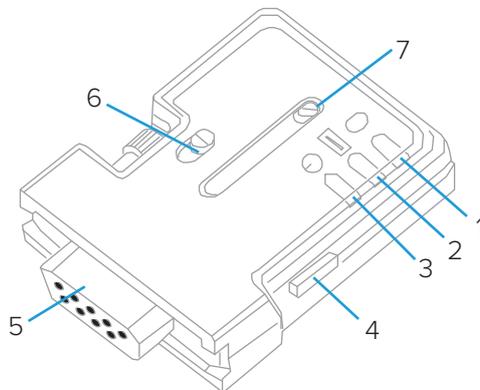
Standalone (With Embedded Bluetooth® v4.1 Stack)

Product
Part No

LM068
See Last Page

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

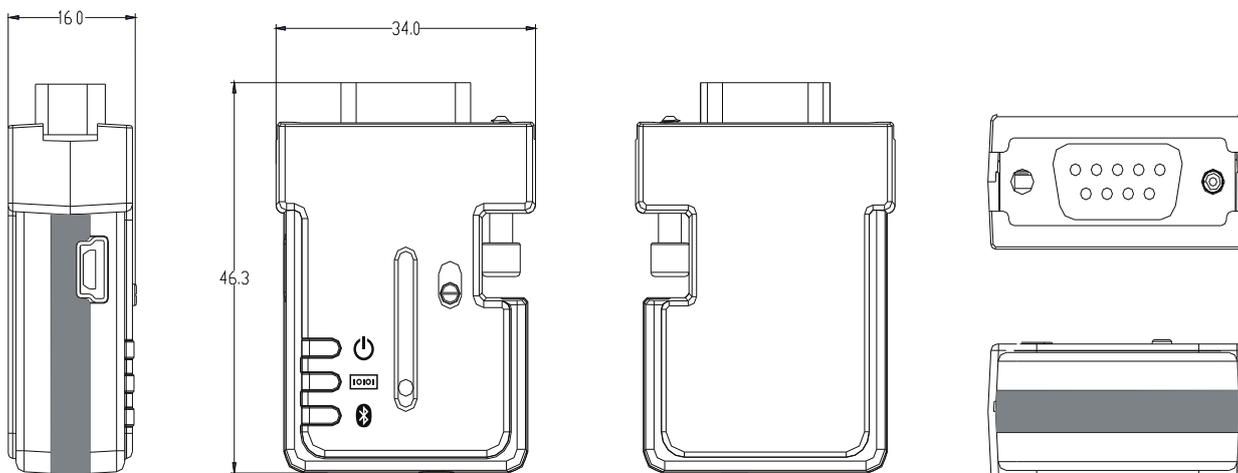
By pressing the Reset Button you can:

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

Slide Switch

The slide switch 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).

Physical Dimensions



LM068 Bluetooth® v4.1 Dual Mode RS232 Serial Adapter
 Standalone (With Embedded Bluetooth® v4.1 Stack)

Product LM068
 Part No See Below

LM068 Packaing Options



068-XXXX

AO - Adapter Only

1 x Bluetooth® Serial Adapter



068-XXXX

SRP - Single Retail Pack

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



068-XXXX

Twin Pack Pre-Paired

2 x Bluetooth® Serial Adapter



068-XXXX

TRP - Twin Retail Pack

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

• See our website to download any applicable Product Software, Manuals and Notes - <http://www.lm-technologies.com/downloads>