

Serial Port Plug - F2M01SXA

Brief Datasheet

Features

- Provides transparent RS-232 serial cable replacement.
- No need for external drivers.
- Power is supplied via the D-SUB or mini-USB connector.
- Supports the Bluetooth® Serial Port Profile and Generic Access Profile.
- Interoperability with PDA, laptops etc.
- Range up to 500 m (line of sight).
- Configurable serial settings.
- Easy to use Configuration software available.
- Small size 35x17x60 (WxHxL) mm.
- High supply voltage range 5-30V DC.
- Simple pairing with onboard button.
- Led indications for power, data and status monitoring.
- Additional RS-232 lines for enhanced signaling.



CAD-drawing of the F2M01SXA

Applications

The F2M01SXA Serial Port Plug can be connected to applications that currently use cables for serial communication. The F2M01SXA is also ideal if you are looking for a reliable and robust wireless link between any RS-232 enabled devices. The Ad Hoc connectivity will connect the serial link as soon as the communicating devices are within range of each other.

Examples of possible applications are:

- Embedded systems
- Stand alone sensors
- Computer peripherals
- Domestic and industrial appliances

General Description

The F2M01SXA offer a way to replace the serial cable by a wireless link, based on Bluetooth® technology.

With its small size, long range, high voltage range and reliable data transmission makes it the obvious choice for the most demanding wireless applications.

F2M01SXA requires no external drivers and use a button for simple pairing to other Bluetooth® devices. The two leds are used to monitor the current status of the device and if any data transmission are present. The device uses a fault detection system indication if an invalid RS232 device is attached to the F2M01SXA. A user-friendly Windows application is available for configuration to suit your requirements.

The F2M01SXA can be used together with other Bluetooth® units supporting the Bluetooth® Serial Port Profile (SPP) e.g. Laptops, PDA and mobile phones.



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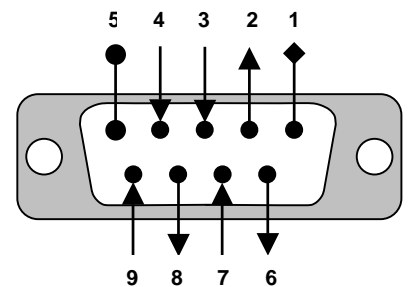
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1 Specifications

Physical size: 35x17x60 (WxHxL) mm
Voltage range: 5-30V DC
Current consumption (max): 300mA
Temperature range: 0°C to 70°C
Baud rate: Configurable up to 230400 baud/s

1.1 Pinout

| Pin | RS-232 signal | Direction |
|-----|---------------|---------------|
| 1 | DCD | Not connected |
| 2 | TxD | Output |
| 3 | RxD | Input |
| 4 | DTE Ready | Input |
| 5 | GND | Ground |
| 6 | DCE Ready | Output |
| 7 | CTS | Input |
| 8 | RTS | Output |
| 9 | Vcc Power | Input 5-30V |



Serial Port Plug connector (female)

1.2 LED indication

The F2M01SXA is equipped with two LED's. The green LED indicates the current status of the device and the blue LED indicates when data is transmitted.

1.3 Power supply

Power is supplied via either the D-SUB or mini-USB connector. The input voltage must be within 5 - 30V DC (regulated).

1.4 Mini USB

The mini-B USB connector can be used for powering the F2M01SXA Serial Port Plug. It can also be used for high throughput data transmission when running HCI-firmware¹ on the device.

| Mini USB | | |
|----------|------|---------------|
| Pin | Name | Description |
| 1 | VCC | 5 – 30V DC |
| 2 | D- | Data - |
| 3 | D+ | Data + |
| 4 | ID | Not connected |
| 5 | GND | Signal Ground |

¹ HCI-firmware can be loaded during startup of the device

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1.5 Power consumption

Measured with 5V power supply.

| Role | Mode | Average (mA) | Max (mA) |
|---------------------|--|--------------|----------|
| Endpoint (slave) | Data transfer 115,200 bit/s | TBD | TBD |
| Endpoint (slave) | Data transfer 9,600 bit/s | TBD | TBD |
| Endpoint (slave) | No data transfer, established connection | TBD | TBD |
| Endpoint (slave) | No connection | TBD | TBD |
| Connecting (master) | Data transfer 115,200 bit/s | TBD | TBD |
| Connecting (master) | Data transfer 9,600 bit/s | TBD | TBD |
| Connecting (master) | No data transfer, established connection | TBD | TBD |
| Connecting (master) | No connection | TBD | TBD |

More information about current consumption is available on request.

1.6 Radio performance

| Radio Characteristics | | | | |
|-------------------------|------|-----|------|------|
| | Min | Typ | Max | Unit |
| Operating Frequency | 2402 | - | 2480 | MHz |
| Transmit Power | TBD | - | TBD | dBm |
| Sensitivity at 0.1% BER | TBD | | | dBm |

The radiation efficiency has been measured in two planes. Common for both planes is that the D-SUB connector is pointing against the measurement point for $\varphi = 0$ degrees.

Plane 1 ($\theta = 0$ degrees)

TBD

Plane 2 ($\theta = 90$ degrees)

TBD

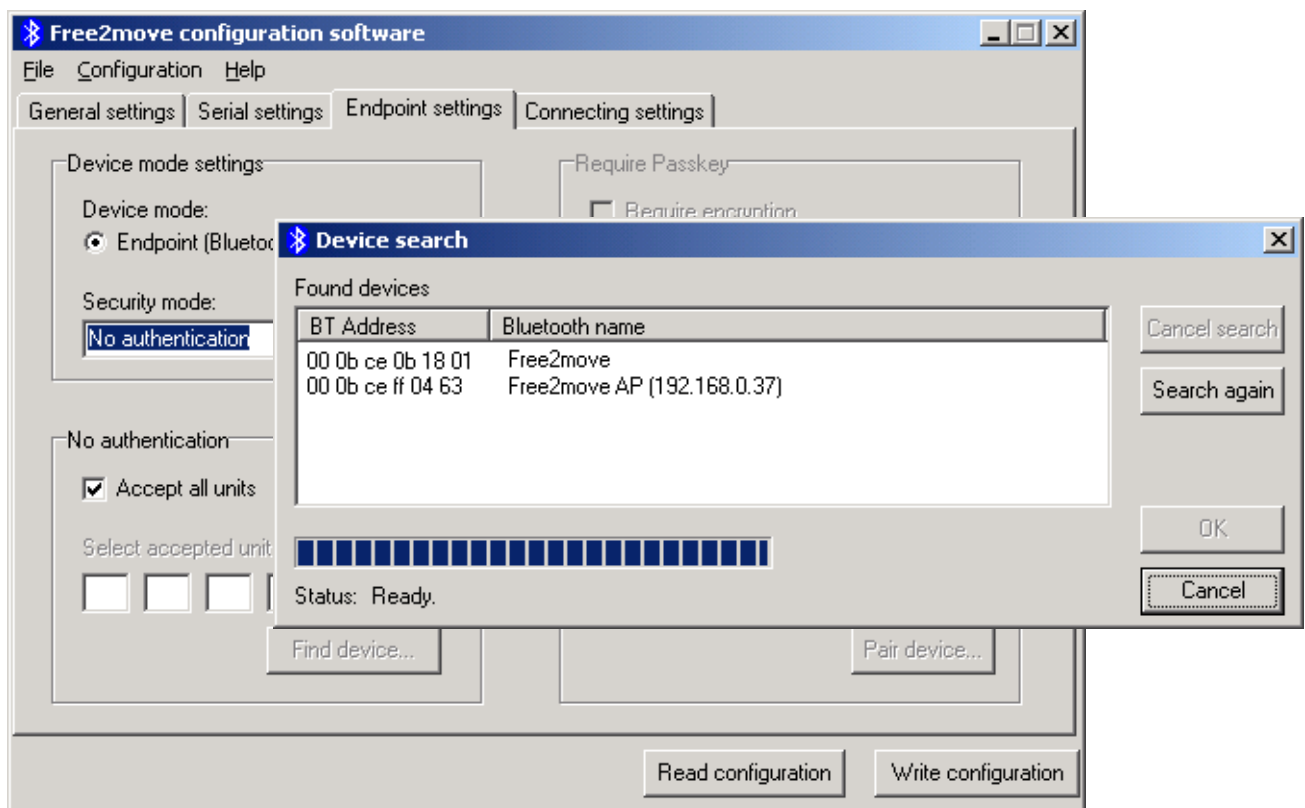
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2 Configuration options

2.1 Configuration software

A complimentary Free2move software package accompanies the F2M01SXA Serial Port Plug, which can be installed, on a PC running Windows™ 98, ME, 2000, XP or Vista. The configuration software is used to configure the device to meet your requirements.



2.2 Serial protocol

It is also possible to configure the F2M01SXA with serial commands for easy and flexible configuration working from any device supporting RS-232 communication. More information about the protocol (Wireless UART v4.0 firmware) used to configure the F2M01SXA is available on our website.

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3 Certifications

The F2M01SXA is certified according to CE and FCC regulations and is fully Bluetooth® certified as an end product

3.1 Bluetooth®

F2M01SXA is fully Bluetooth® certified as an end product.

QPID: **TBD**

3.2 CE

F2M01SXA complies with the requirements of R&TTE Directive 1999/5/CE, the European Community Directive 73/23/EEC and 93/68/EEC.

- EN 300 328
- EN 301 489-1/-17
- EN 60950

3.3 FCC

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with FCC RF exposure compliance requirements, please follow operation instruction as documented in this manual.

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

FCC ID: R47F2M01SX

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4 RoHS Statement

The F2M01SXA Serial Port Plug meets the requirements of Directive 2002/95/EC of the European Parliament and of the Council on the Restriction of Hazardous Substance (RoHS). The device is assembled solely using RoHS compliant components.

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5 Ordering information

The F2M01SXA Serial Port Plug will soon be available for ordering.

| Part nr: | Description |
|--------------|--|
| F2M01SXA-S01 | Default settings: Endpoint device accepting all units to connect. Baud rate: 38400 baud/s Data bits: 8 Parity: None Stop bits: 1 Flow control: Off |

Please visit our website: www.free2move.net for more information about local distributors and dealers.

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Contact information

For support questions please contact your local dealer

For more information visit our website: www.free2move.net

For other purposes use: info@free2move.net

Local dealer/distributor



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