

RM-92X USB Specification

Model: RM-92X USB

Product Name: USB Dongle for RM-92X Series

Product Specification Document

Version: 1.6

Date: 2025-10-08

Revision History

This section tracks updates to the document over time, showing when changes were made, by whom, and what was updated:

Version	Date	Author	Pages	What Changed
1.0.0	2018-05-01	Kobayashi	-	First creation of the document
1.1.0	2020-01-09	Kobayashi	Page 9	Added information about the case (housing)
1.2.0	2020-04-01	Kobayashi	Page 5	Added info about compatible communication modules
1.3.0	2024-05-17	Kobayashi	Page 9	Corrected case size details
1.3.1	2024-06-12	Kobayashi	Page 9	Further correction of case size
1.4.0	2024-07-03	Kobayashi	Pages 6-8	Updated circuit diagram and images due to chip upgrade
1.5.0	2025-09-08	Kobayashi	-	Added detailed case dimension drawings

This shows the document is kept up to date with design changes and improvements.

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1. Product Overview:

The **RM-92X USB** is an adapter that allows certain RF (radio frequency) communication modules (specifically RM-92A and RM-92C series) to connect to a computer via USB.

- It has a built-in chip (FTDI UART/USB converter) that turns the serial data from the communication module into USB data.
- When you plug it into a Windows or Linux PC, the system detects it as a COM port (a virtual serial port).
- You can then use serial terminal software (like PuTTY, Tera Term) or create your own application to communicate with the device.
- This lets you send and receive data with the RF modules via your computer's USB.

Learn about FTDI USB to Serial converters here:

[FTDI USB Serial Converters Explained](#)

2. Specifications

No.	Item	Details
01	Product Name	USB Dongle for Sub-GHz communication modules
02	Model Number	RM92X USB
03	External Interface	USB Type-A Connector (standard USB plug), JTAG/SWD terminal for debugging
04	Supported Modules	RM-92AS, RM-92AN, RM-92AWS, RM-92AWN (all 20mW power, external/internal antenna) and RM-92C series (250mW power, external antenna)
05	Dimensions	28mm (W) × 55mm (D) × 15mm (H), includes USB connector
06	Weight	About 7 grams (without module attached)
07	Case	Dedicated plastic case available

3 & 4. Circuit and Board Diagram Highlights

- J2, J3 connectors: These are 13-pin connectors where the communication modules are physically mounted.
- SW4: A 1-bit DIP switch to configure how the communication module starts (see below).
- FT234XD chip: Converts UART serial signals from the module into USB signals for the PC.
- SW1: Reset button to restart the communication module.
- J4 connector: SWD interface for debugging or general-purpose input/output (GPIO) if supported.
- LED1: Lights up to indicate power is on.
- FT234XD chip datasheet:

[FT234XD UART-USB converter datasheet \(PDF\)](#)

- **4. Board Diagram**

No	Parts name	Name	Purpose
①	J2, J3	13pin x 2 1.27pitch connector	For mounting communication module
②	SW4	1bit dipsw	For setting communication module operation mode
③		FT234XD	UART/USB conversion IC
④	SW1	Reset button	For resetting communication module
⑤	J4	SWD connection connector	Probe for ICE connection. *Can also be used as GPIO depending on communication module software settings.
⑥	LED 1	Power LED	Lights up when power is applied

4.1 DIP-SW Setting Description



By setting the 1bit DipSW, you can configure the startup mode of the communication module.

The single DIP switch (SW4) controls the startup behavior of the communication module:

SW4 Status	Name	Purpose
OFF	Auto-start enabled	After power-on, the network configuration information stored in the internal FlashROM is read, and the program starts immediately.
ON	Auto-start disabled	After power-on, it waits for input of a newline key code for 10 seconds. If a newline code is entered within 10 seconds, it transitions to network configuration mode. If there is no newline code input for 10 seconds, it reads settings from the internal FlashROM and starts the program.

This setting lets you choose if the device should start normally or allow for manual configuration on boot.

5. Case Specifications



Item	Details
Material	Plastic
Weight	About 30 grams (case only)
Waterproofing	None
Optional Accessories	SMA-L type joint (for antenna support), Various external antennas (both can be purchased separately)
Case Colors	White or Black (image shows white)

- The nameplate sticker in the image is for when the RM-92A is mounted.
- **SMA-L type joint:** Used to stand the antenna upright when connecting via USB to the side of a PC.



- **External antenna:** External antennas can improve wireless communication range and quality.

- (The image shows a dipole antenna).



Company Information

- Manufacturer: RLink.INC (株式会社アールエフリンク), Tokyo, Japan.
- Locations: Ebisu Garden Place Tower and Unosawa Tokyu Building, Shibuya-ku, Tokyo.

Summary and Useful Links

Topic	Link
FTDI USB to Serial Converter Info	https://www.ftdichip.com/Products/ICs/FT232R.htm
Sub-GHz Wireless Communication	https://en.wikipedia.org/wiki/Sub-gigahertz
DIP SwitchesExplanation	https://www.electronics-notes.com/articles/electronic_components/switches/dip-switch.php
USB Type-A Connector Details	https://en.wikipedia.org/wiki/USB