IC Socket Board for the M16C Family (R0K3100PSZ000BR)

Release Note Rev. 1.10

Renesas Solutions Corp
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Thank you very much for purchasing the IC socket board for the M16C family (R0K3100PSZ000BR).
This release note describes how to use the IC socket board (R0K3100PSZ000BR).
Please be sure to read this release note before using the IC socket board.

Table of Contents

1. Introduction

This release note describes how to use the hardware included with the IC socket board (R0K3100PSZ000BR; hereafter the product type name is omitted) and the precautions to be observed when using it.

2. Usage Precautions (Please Be Sure to Read)

[About the removal of a microcomputer]

> Before using the IC socket board to remove a microcomputer from the IC socket board, be sure to turn off the power for the IC socket board. If a microcomputer is inadvertently removed or attached while the power is on, Renesas will withhold guarantee and support for the IC socket board and microcomputer.
> **Caution: The LED mounted on the IC socket board goes off when the IC socket board is no longer supplied with power. Please be sure to confirm that the LED is turned off.**

[About a connection of the flash programmer]

> The communication connectors (CN1–CN4) mounted on the IC socket board are configured with wired-OR logic. Therefore, do not connect two or more flash programmers to the IC socket board at the same time. If two or more flash programmers are inadvertently plugged into the communication connectors (CN1–CN4), Renesas will withhold guarantee for the IC socket board and flash programmers.

3. Product Outline

This product is a write-only IC socket board that permits a program to be written into a 100-pin version flash microcomputer of the M16C family by using a flash programmer.

[Supported MCUs]
   M16C family of 100-pin version flash microcomputers
   Supported package: PRQP0100JB-A (100P6S-A)

[Supported programmers]*1
   (1) Renesas Technology Corp.
      ✓   Flash Starter (M3A-0806)
      ✓   USB Flash Writer (M3A-0665)
      ✓   Flash Development Toolkit
      URL address : http://www.renesas.com/homepage.jsp
   (2) Suisei Electronics System Co.
      ✓   EFP-S2 EPROM*2
      ✓   EFP-S2V EPROM*3
      URL address : http://www.suisei.co.jp/index_e.html
   (3) Sunny Giken Inc.
      ✓   Multifunction flash microcomputer programmer MFW-1
      ✓   USB-compatible multifunction flash microcomputer programmer S550-MFW1U
      URL address : http://www.sunnygiken.co.jp/english/index.html
   (4) Yokogawa Digital Computer Corporation
      ✓   NET IMPRESS flash microcomputer programmer *4
      URL address : http://www.yokogawa-digital.com/emb/en/index.html

   *1: Depending on the flash programmer used, not all microcomputers of the M16C family may be supported. Please be sure to confirm that your flash programmer is usable for the intended microcomputer.
   *2: To use EFP-S2, please purchase the flash programmer from its supplier, separately from the IC socket board.
   *3: To use EPP-2SV, please purchase the flash programmer from its supplier, separately from the IC socket board.
   *4: To use NET IMPRESS, please purchase the flash programmer from its supplier, separately from the IC socket board.

4. Product Specifications

Specifications of the IC socket board are listed in Table 4-1.

Table 4-1 . IC Socket Board Specifications

Item		R0K3100PSZ000BR
Operating voltage		5.0V,3.0V
Operating environment	Operating ambient temperature	25±5[°]
	Humidity	No dewdrops allowed

5. Package Composition

The package composition of the IC socket board is listed in Table 5-1.

Table 5-1.   IC Socket Board Package Composition

Product name	Quantity	Remark
IC socket board (R0K3100PSZ000BR)	1 pc.	
Power cable	1 pc.	
Release note	1 copy	Japanese and English versions

6. Configuration of the IC Socket Board

6.1. External Specifications

External specifications of the IC socket board are listed in Table 6-1.

Table 6-1.   IC Socket Board External Specifications

Item	Content	Remark
Connector	[CN1]: Communication connector 1 Accepts Renesas Technology and Sunny Giken	Mounted on-board
	[CN2]: Communication connector 2 Accepts Suisei Electronics System	Mounted on-board
	[CN3]: Communication connector 3 Accepts Yokogawa Digital Computer	Not mounted on-board (to be purchased separately)
	[CN4]: Communication connector 4 Accepts Renesas Technology	Mounted on-board
IC socket	[MCU1]: IC234-1004-098P	PRQP0100JB-A(100P6S-A)
Resonator	[X1]: 10MHz	Mounted on
LED	[D2]: Power lamp	Mounted on
Jumper	[JP1]: Switches between external power supplies [JP2]: Connects a reset signal [JP3]: Connects an EPM signal [JP4]: Connects a CE signal	Mounted on-board
Test pin	[TP1, TP2]: Power supply pins [TP3–TP10]: Communication signals [TP11–TP16]: GND signals	Through-hole
Power supply jack	[J2]: Single-power supply jack	Mounted on-board

6.2. Input Power Supply

1) Power supply from the flash programmer

If the power for the IC socket board can be supplied from the flash programmer, plug a connector from the flash programmer into the corresponding communication connector of the IC socket board.

2) Single-power supply jack (J2)
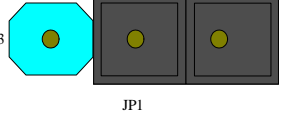
To use a single power supply

For 5 V power supply, input 5.0 V ± 0.5 V to this jack.

For 3 V power supply, input 3.0 V ± 0.3 V to this jack.

6.3. Jumper Specifications

Use JP1 to select an external power supply and the type of power supply. Table 6-2 shows JP1 settings.

Table 6-2.   JP1 Settings

Jumper setting	Content	Initial setting	Remark
JP1*1	Switches between external power supplies	3 ● ● ● 1 JP1	Default
JP2	Connects a reset signal	Shorted (connected)	Fixed
JP3	Connects an EPM signal	Shorted (connected)	Fixed
JP4	Connects a CE signal	Shorted (connected)	Fixed

*1: To use J2 for power supply, short 2-3 together.
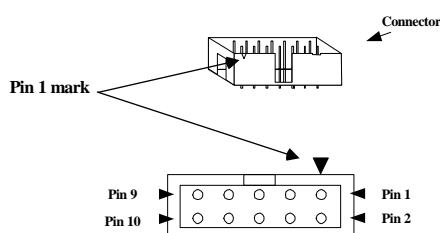
6.4 Switch Specifications

SW1 is used as a reset signal for the microcomputer.

6.5. Connector Specifications

1) CN1: 10-pin connector (accepts Renesas Technology and Sunny Giken)

Pin assignments of CN1 are shown in Table 6-3 and Figure 6-1.

Table 6-3. CN1 Pin Assignments

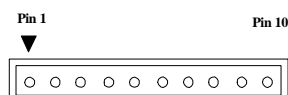| Pin No.	Signal Name
1	Vcc
2	BUSY
3	SCLK
4	RxD
5	CE
6	EPM
7	GND
8	RESET
9	CNVss
10	TxD

Figure 6-1. CN1 Pin Layout

Reference) CN1

Part type name: HIF3FC-10PA-2.54DS

Manufacturer: Hirose

2) CN2: 10-pin connector (accepts Suisei Electronics System)

Pin assignments of CN2 are shown in Table 6-4 and Figure 6-2.

Table 6-4. CN2 Pin Assignments

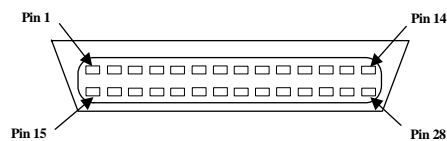| Pin No.	Signal Name
1	GND
2	TxD
3	BUSY
4	N.C
5	Vcc
6	SCLK
7	RxD
8	CNVss
9	RESET
10	GND

Figure 6-2. CN2 Pin Layout

Reference) CN2

Part type name: HNC2-2.5P-10DSL

Manufacturer: Hirose

3) CN3: 28-pin connector (accepts Yokogawa Digital Computer)
   Pin assignments of CN3 are shown in Table 6-5 and Figure 6-3.

Table 6-5. CN3 Pin Assignments

Pin 1   Pin 14

Pin 15   Pin 28

Pin No.	Signal Name	Pin No.	Signal Name
1	GND	15	GND
2	Vcc	16	-
3	-	17	-
4	-	18	-
5	RESET	19	CE
6	SCLK	20	-
7	-	21	GND
8	GND	22	-
9	-	23	EPM
10	-	24	BUSY
11	-	25	-
12	CNVss	26	-
13	RxD	27	TxD
14	GND	28	GND

Figure 6-3. CN3 Pin Layout

Reference) CN3

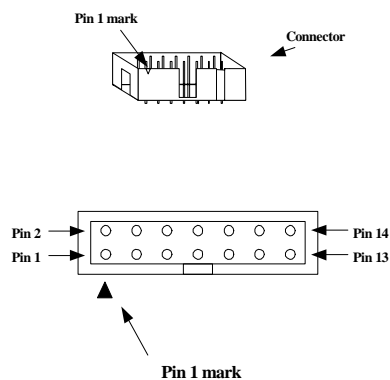 Part type name: DX10-28S

  Manufacturer: Hirose

  * The above product is not available from Renesas.

4) CN4: 14-pin connector (accepts Renesas Technology)
   Pin assignments of CN4 are shown in Table 6-6 and Figure 6-4.

Table 6-6. CN4 Pin Assignments

Pin 1 mark   Connector

Pin 2   Pin 14
Pin 1   Pin 13

Pin 1 mark

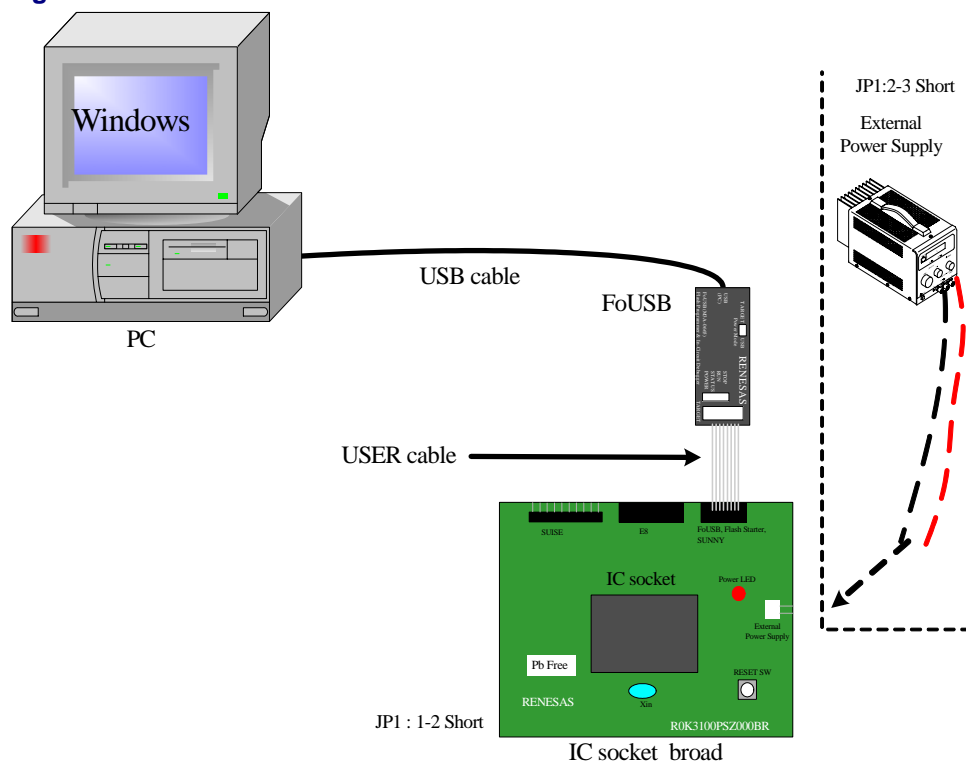| Pin No.	Signal Name
1	SCLK
2	GND
3	CNVSS
4	EPM
5	TxD
6	N.C
7	CE
8	Vcc
9	BUSY
10	N.C
11	RxD
12	N.C
13	RESET
14	GND

Figure 6-4. CN4 Pin Layout

Reference) CN4
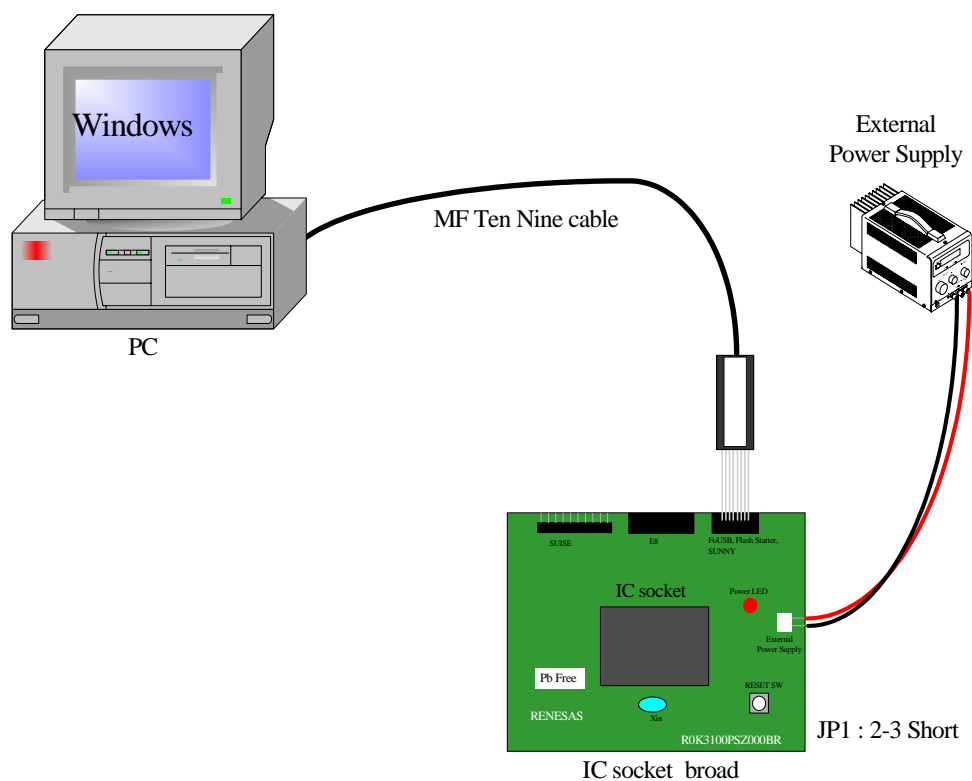
  Part type name: XG4C-1434

  Manufacturer: Hirose

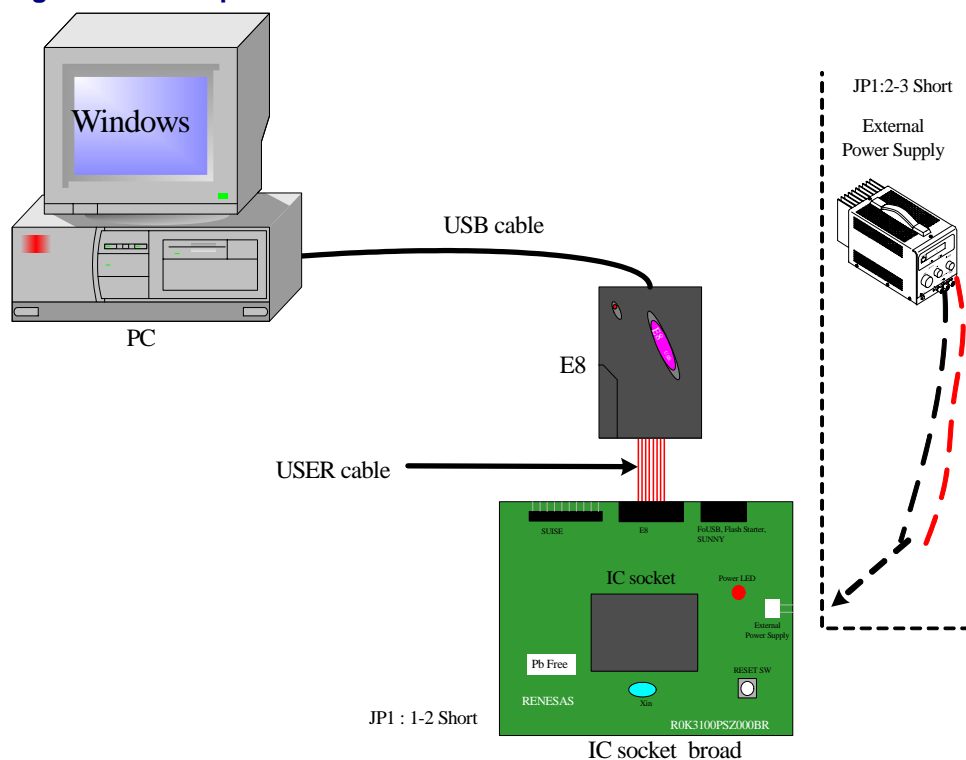# 7. Connecting the Flash Programmer to the IC Socket Board
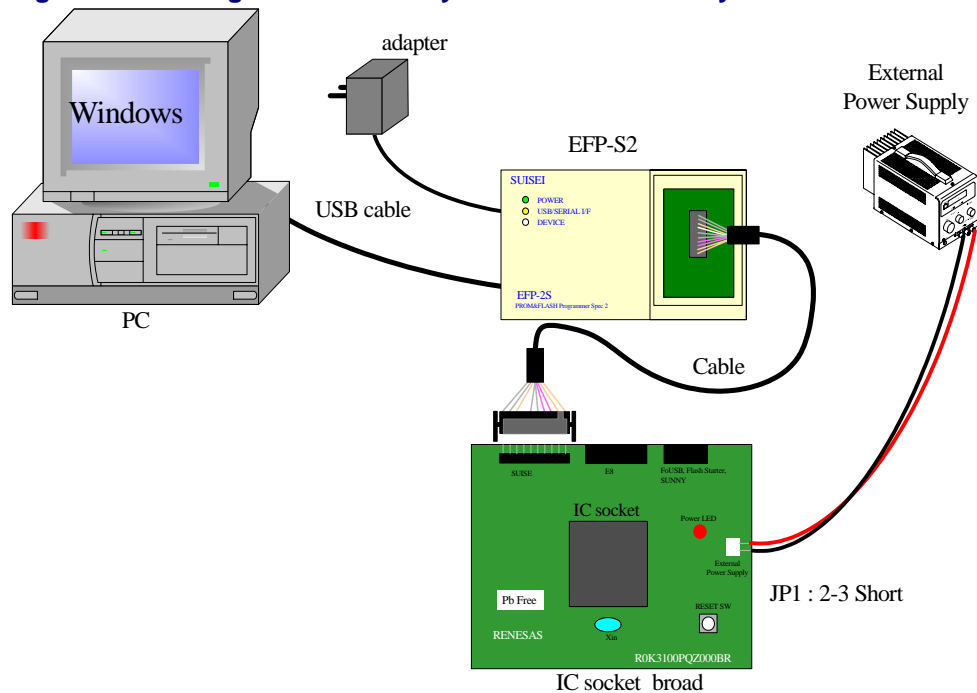
7.1. Connecting USB Flash Writer
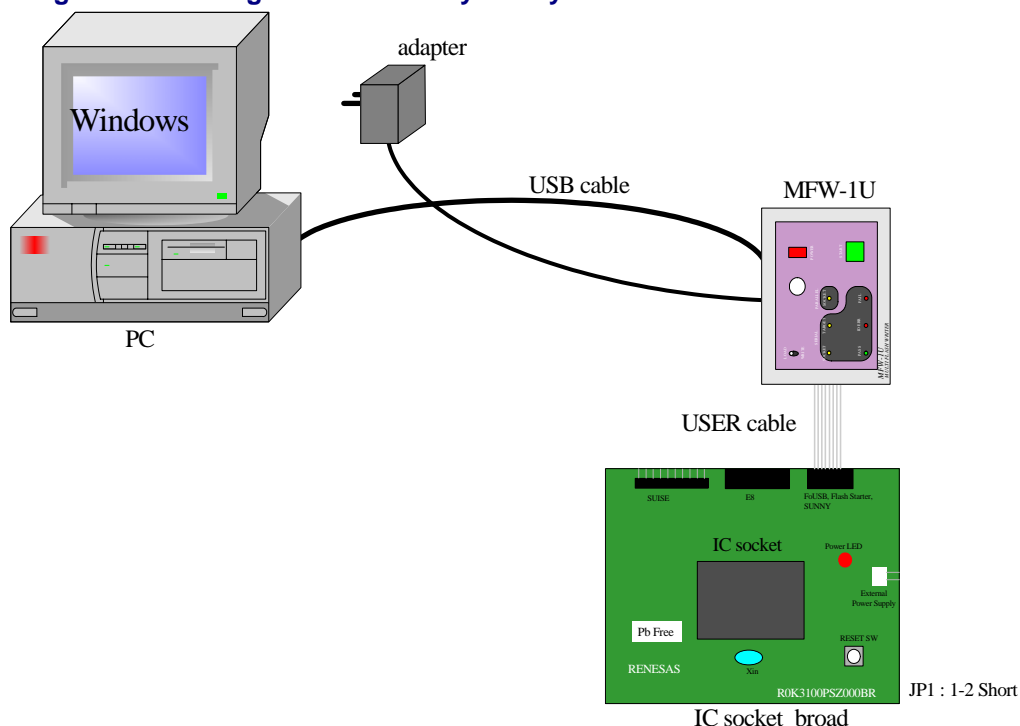

7.2. Connecting Flash Starter

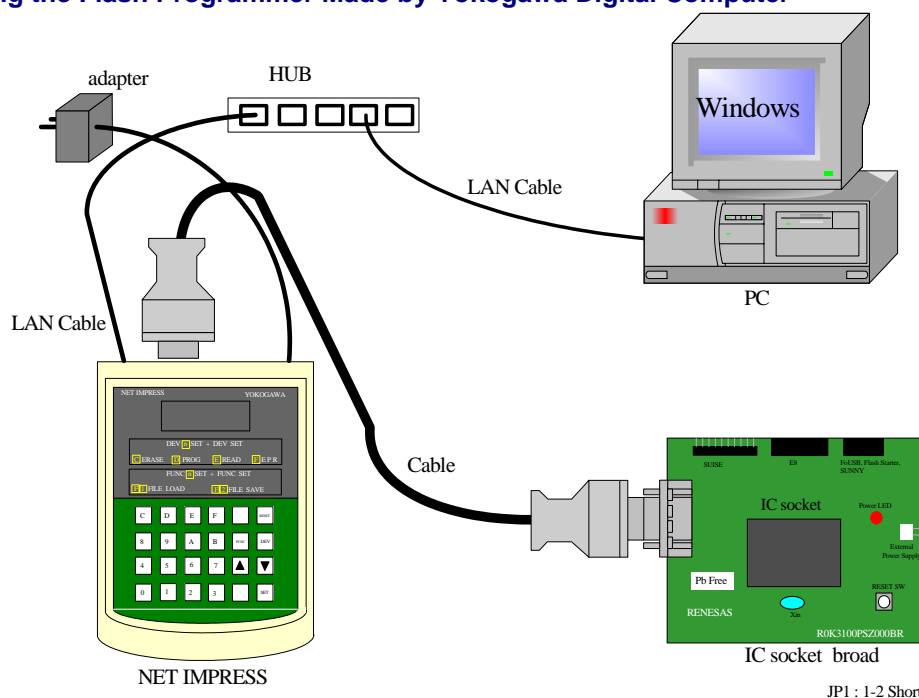## 7.3. Connecting Flash Development Toolkit

7.4. Connecting the Flash Programmer Made by Suisei Electronics System

7.5. Connecting the Flash Programmer Made by Sunny Giken

7.6. Connecting the Flash Programmer Made by Yokogawa Digital Computer

8. Using the Flash Programmer

For details on how to use the flash programmer, please refer to the user's manual or other documentation of your flash programmer.

9. Getting the Latest Information

To get the latest information on the IC socket board, visit the Renesas Web site given below.
URL address: http://www.renesas.com/homepage.jsp