

# MS38C5-80U Users Guide

Suisei Electronics System Co., Ltd  
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## 1. General Description

MS38C5-80U is a writing target board for standard serial I/O mode used by connecting to EFP-I/1M.

Reading and writing data to microcomputer 38C5 groups with built-in Renesas Electronics 8 bit PROM is enabled by using M38C5-80U.

<Packing contents>

- 1) MS38C5-80U
- 2) Users guide (this manual)

External Figure of MS38C5-80H is shown in Fig 0.1

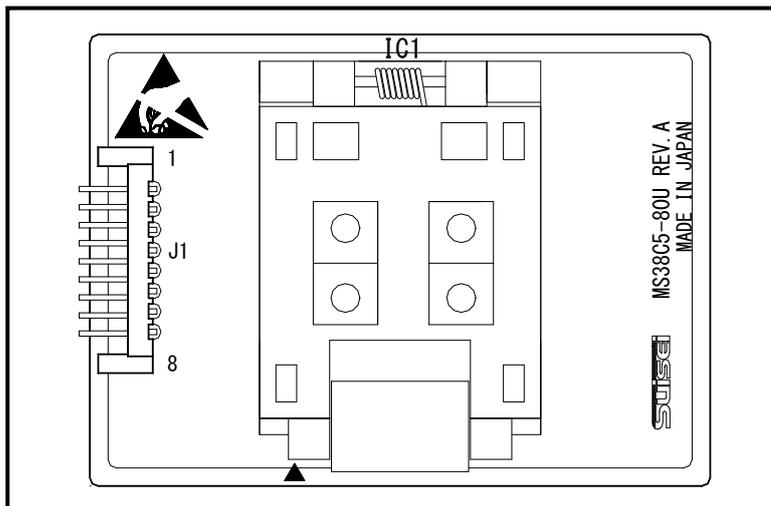


Fig 0.1 MS38C5-80U External Figure

## 2. Device constitution and a connection process

### 2. 1 Device constitution

Device constitution when you use MS38C5-80H is shown in Fig.2.1.

Fig2.1 Device constitution

Main body	Unit	Cable
EFP-I/IM	EF1SRP-04U	-
EFP-S2/S2V	EF1SRP-05U + EF1CNT-96P *1	-
	EF1SRP-01US2	EF1TGCB-A(3-wire target connection cable) ( separate sale)

\*1) when you use EF1SRP-05U in EFP-S2/S2V, EF1CNT-96P (separate sale) is necessary.

### 2. 2 Connection Process

In case MS38C5-80U is used, please connect it to target connection cable as shown in Fig.2.1

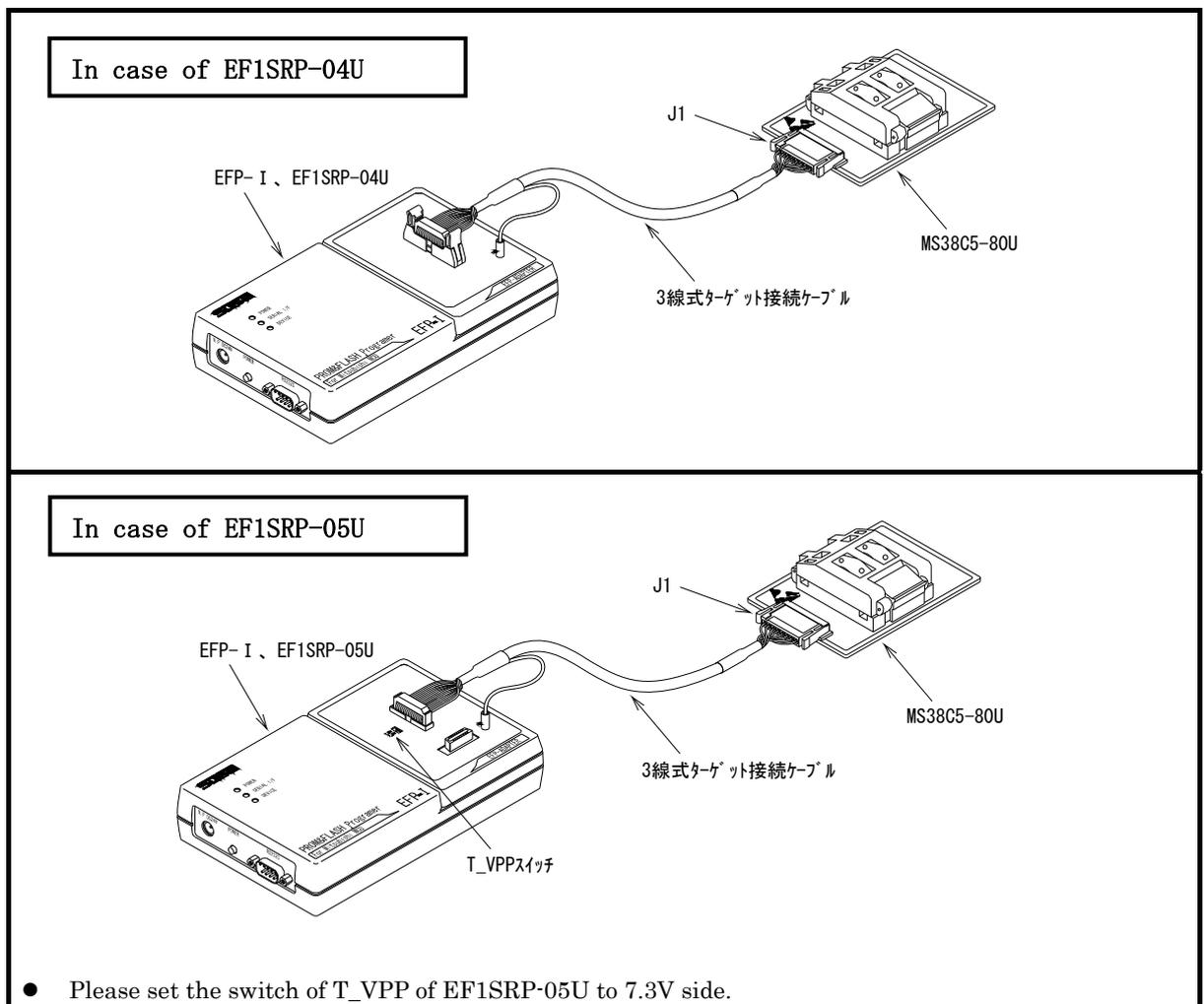


Fig2.1 Connected to EFP-I

### 3. List of Corresponding MCU and corresponding version

#### 3. 1 List of Corresponding MCU

A corresponding MCU list of MS38C5-80U is shown in Fig 3.1.

Fig 3.1 Corresponding MCU List for MS38C5-80U

MCU type	Corresponding MCU name	Program memory area
M38C59GF	M38C59GFLFP	1080h~FFFDh
M38C59GFH	M38C59GFHFP	

#### 3. 2 About Software version (S/W)

The version numbers such as EFP-1 and WinEFP are displayed by [Help]→[About] in the WinEFP window menu. Please download the latest version up data on the following site when the S/W version such as EFP- I used is old.

< EFP- I S/W the latest free download site >

[http://www.suisei.co.jp/download\\_e/productdata\\_efp1\\_e.html](http://www.suisei.co.jp/download_e/productdata_efp1_e.html)

< EFP-S2 S/W the latest free download site >

[http://www.suisei.co.jp/download\\_e/productdata\\_s2\\_e.html](http://www.suisei.co.jp/download_e/productdata_s2_e.html)

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[http://www.suisei.co.jp/download\\_e/productdata\\_s2\\_e.html](http://www.suisei.co.jp/download_e/productdata_s2_e.html)

#### Note on Corresponding Versions

Above corresponding versions might change without notice on account of the future capability improvement, etc. Furthermore in case the upgrade procedure manual is attached when this product is purchased, please refer to that manual as a priority.

#### 4. Insertion Direction of MCU and cleaning of IC socket

##### 4. 1 Insertion Direction of MCU

When MCU is inserted, No.1 pin of the IC socket on MS38C5-80U and MCU's No.1 pin should be connected. The Wrong insertion would cause a serious breakage of MCU.

Insertion direction of MCU is shown in Fig 4.1.

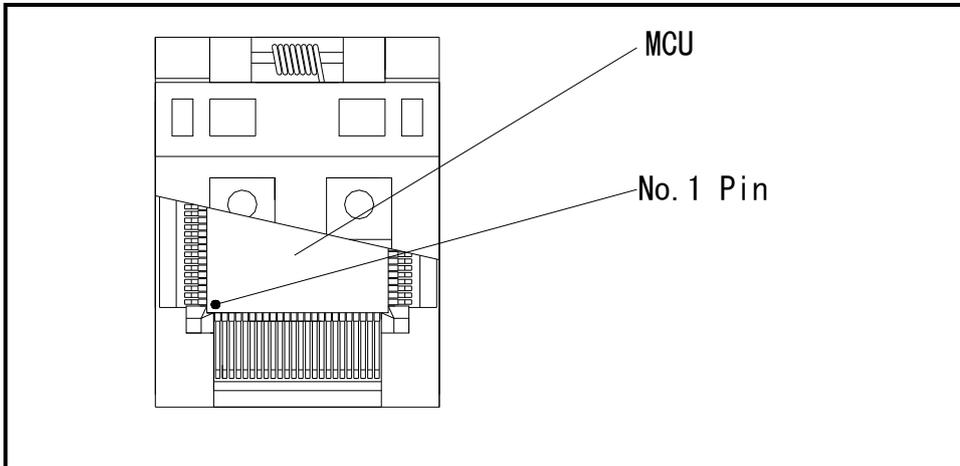


Fig 4.1 Insertion Direction of MCU

##### 4. 2 Cleaning of IC Socket

A contact pin inside of the IC socket of the MCU unit might deteriorate and a contact failure might occur because of the number of times used and its age of service. As the contact failure may cause incorrect writing of MCU and malfunction of the writer, please take the below measures.

#### Measures against IC Socket Contact Failure

- (i) Please clean the contact pin surface inside of IC socket with a brush, etc. regularly, depending on the number of times used.
- (ii) If the product is not to be used for a long period, please keep it with less humidity in a plastic bag, etc.

Though enquiries on contact failures can be made, we regard IC sockets as consumable supplies. We may recommend you to replace them if a contact failure of IC socket occurs due to its use deterioration.

#### 【Recommended item for cleaning】

About the cleaning of the contact pin in the IC socket, we recommend the use of the nanotech brush (Kita Mfg Co., Ltd).

The nanotech brush can remove the dirt which stuck to a contact pin, a very small amount of metastasis of solder. When a contact poor problem occurred, please try it.

About nanotech brush, please ask us or Kita Mfg Co., Ltd (refer to the following site).

Nanotech brush (Kita Mfg Co., Ltd.) [http://www.kita-mfg.com/pro\\_nanotech\\_e.html](http://www.kita-mfg.com/pro_nanotech_e.html)

## 5. List of Pin Connection

J1 connector terminal names of MS38C5-80U are shown in List 6.1.

List 5.1 List of J1, J2 Connector Connection Terminal

Pin No.	Terminal Name	I/O(writer side)	Pin No.	Terminal Name	I/O(writer side)
1	B U S Y	Input	5	S D A	I/O
2	V P P	Output	6	P G M / O E	Output
3	V D D	Output	7	R E S E T	Output
4	S C L K	Output	8	G N D	—

## 6. I D code field

ID code field is provided in the internal flash memory of 38C5 Group MCUs. Fulfilling the following condition enables you to prohibit writing and reading of MCU's internal flash memory.

### Condition for working ID Code Protect Function:

- Condition 1: Writes data except FFh to FFFCh or FFFDh of the flash memory.
- Condition 2: Writes ID code of your choice in ID code field.
- Condition 3: Fulfills condition 1 and 2, and then turn on MCU again.

MCU protected by writing ID code, can be released protected status by ID collation function of WinEFP2. For the ID collation function, please see "7. ID Collation".

\* This function is for preventing of incorrect data loading etc. of user's program.

FFD4h	ID code(1 <sup>st</sup> byte)
FFD5h	ID code(2 <sup>nd</sup> byte)
FFD6h	ID code(3 <sup>rd</sup> byte)
FFD7h	ID code(4 <sup>th</sup> byte)
FFD8h	ID code(5 <sup>th</sup> byte)
FFD9h	ID code(6 <sup>th</sup> byte)
FFDAh	ID code(7 <sup>th</sup> byte)

\* The collation of ID code is performed at a fixed length of 7 bytes.

Fig. 6.1: ID Code Field Configuration

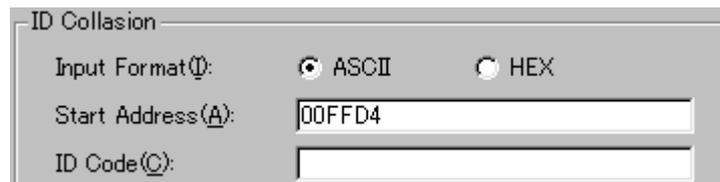
## 7. I D collation function

ID collation command enables you to reset protected MCU after written ID code.

The command is executed by inputting the ID input format and ID code for the ID collation parameter of the WinEFP2 environment setting dialog.

When ID code is matched after executing ID collation command, protect status is reset. However, all commands of [Device] of the WinEFP2 window menu cannot be used if the ID code does not match.

The ID collation parameter layout is shown in Fig. 7.1.



The image shows a dialog box titled "ID Collation". It has three rows of controls. The first row is "Input Format" with two radio buttons: "ASCII" (which is selected) and "HEX". The second row is "Start Address" with a text input field containing the hexadecimal value "00FFD4". The third row is "ID Code" with an empty text input field.

Fig. 7.1: ID Collation Parameter Layout

### 1) Input format

The ID code input format is specified as ASCII or HEX.

### 2) Start address

Specify the start address of ID code field.

For this parameter, the ID code start address of MCU is set automatically.

### 3) ID code

Inputs the ID code fixed at 7 bytes.

### 7.1. ID Collation Operating Procedure

When you use an MCU which ID code field is provided, pay attention to the miswriting into the ID code field. To avoid slipping of ID code written in, keep the ID code at user's side.

This article contains a description of the usage example and operation procedure of ID code.

Consecutive procedure from ID code writing to ID code resetting is as follows.

#### Procedure 1: ID Code Setting

Set ID code to the appropriate field for ID code field of EFP-S2/S2V's internal buffer.

In the example below, ID code is set as "SUISEI". (see the Fig. 7.2.)

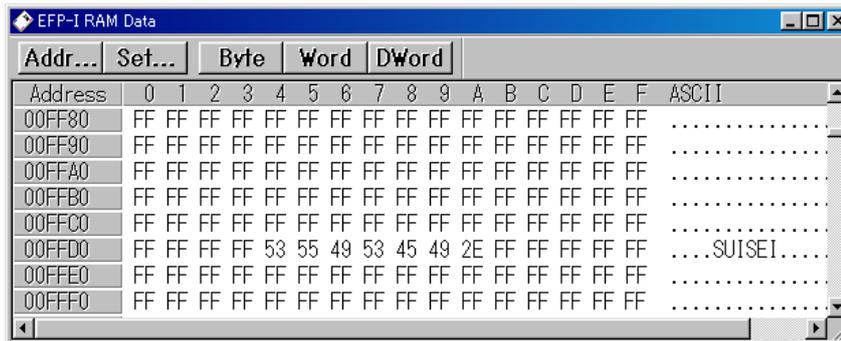


Fig. 7.2 Dump Window (ID Code Setting Data)

#### List 7.1: Buffer RAM Setting Data List

Flash Memory Address	Setting Data	Flash Memory Address	Setting Data
FFD4h	53h	FFD9h	49h
FFD5h	55h	FFDAh	2Eh
FFD6h	49h	FFFCh*1	00h
FFD7h	53h	FFFDh*1	00h
FFD8h	45h	-	-

\* 1) The ID cord protection does not become effective unless writing in data except FFh at a reset vector address.

#### Procedure 2: Writing in the ID Code Field

Write EFP-S2/S2V's internal buffer RAM data into the MCU internal flash memory.

The Fig.7.3 shows an example for writing in the field included ID code field with using program command.

After completion of writing into the ID code field, turn MCU's power on again.



Fig.7.3: Writing in the ID Code Field

#### \* Program Command Setting Address

Start address: FFD4h

End address: FFDAh

### Procedure 3: Checking Protected Status and Resetting

When executing the each command in [Device] of WinEFP2 window menu to the MCU written in the ID code, the error message dialog shown in Fig.7.4 is appeared and stop executing a command.



Fig.7.4: ID Error

Executes to collate ID code with using the ID collation command, and resets protected status at MCU's side. ID code inputting by each input format is shown in Fig.7.5 and 7.6.



Fig. 7.5: ID Collation (Input Format: ASCII)

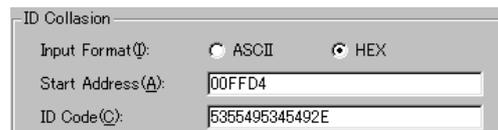


Fig. 7.6: ID Collation (Input Format: HEX)

If the ID code matches, protected status of MCU is reset and writing and reading to/from MCU are enabled. If error occurs after executing ID collation command, check ID code again and execute ID collation command.