

EF3062F-100HS2 User's Guide

Suisei Electronics System Co., Ltd
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1. General Description

EF3062F-100HS2 is a parallel writing unit to use to set to EFP-S2/EFP-S2V.

Reading and writing data to MCU Renesas Technology 38B7 group with built-in Flash memory are enabled by using EF3062F-100HS2.

<Packing contents>

- 1) EF3062F-100HS2
- 2) Users guide (this manual)

The appearance of the EF3062F-100HS2 is shown in Fig. 1.1.

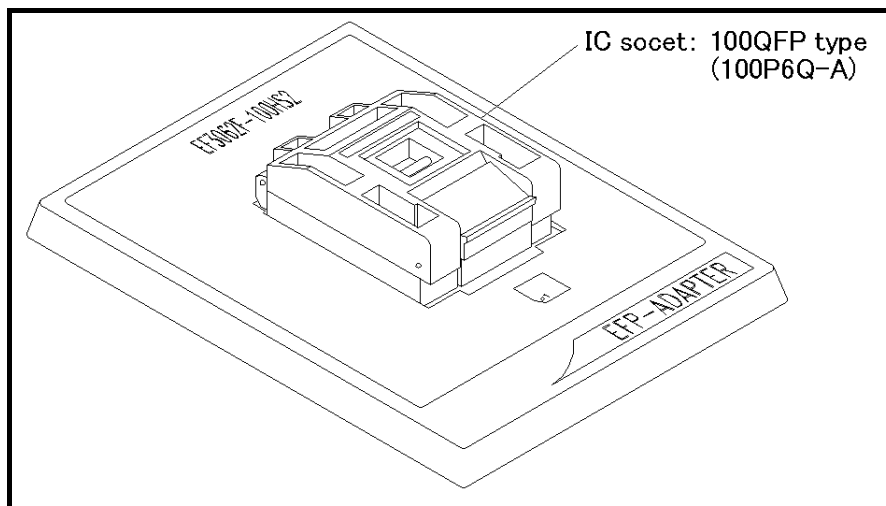


Fig.1.1: Appearance of the EF3062F-100HS2

2. Insertion Direction of MCU and cleaning of IC socket

2.1 Insertion Direction of MCU

When MCU is inserted, No.1 pin of the IC socket on EF3062F-100HS2 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.2.1.

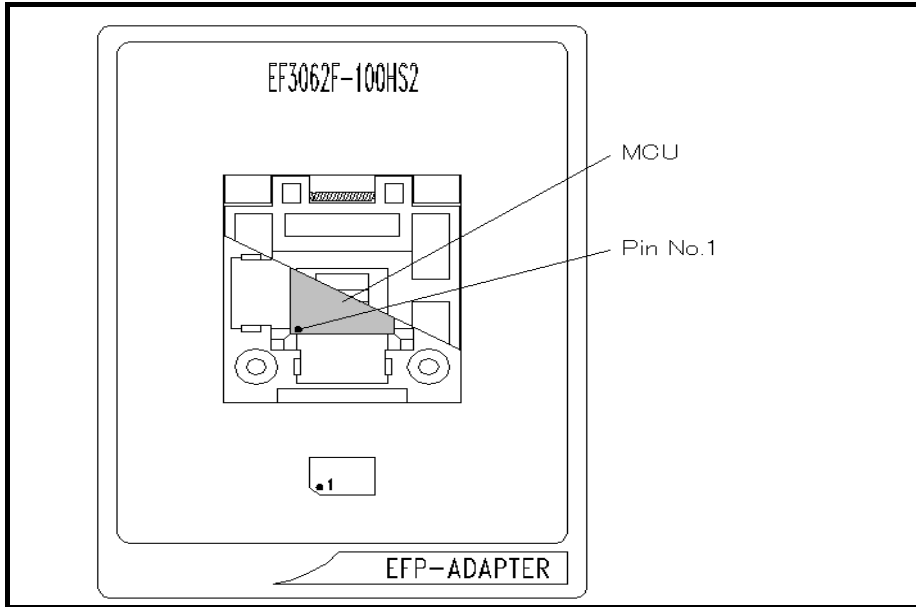


Fig. 2. 1: MCU Insertion Orientation

2.2 Cleaning of IC Socket

A contact pin inside of the IC socket of 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.

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.

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.

【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

3. Corresponding MCU Name List

The correspondence S/W version list of each MCU is given in Table 3.1.

The correspondence MCU name list of EF3062F-100HS2 is given in Table 3.2.

Table 3.1: The correspondence S/W version list

MCU Group Name	EFP-S2 Monitor Version	WinEFP2 Version	EF3062F-100HS2.TBL Version
M16C/62 Group	Ver. 1.00.00 or later	Ver. 1.00.00 or later	Ver. 1.00.00 or later
M16C/62N Group	Ver. 1.00.08 or later	Ver. 1.00.01 or later	Ver. 1.00.01 or later
M16C/62P Group			
M16C/80 Group	Ver. 1.00.00 or later	Ver. 1.00.00 or later	Ver. 1.00.00 or later
M32C/83 Group			

Table 3.2: Correspondence MCU name list

MCU Type	Correspondence MCU Name	Flash Memory Address
M16C/62 Group		
M3062xFC	M30620FCAGP	BOOT (FE000h~FFFFFFh) NORMAL (E0000h~FFFFFFh)
M3062xFG	M30624FGAGP	BOOT (FE000h~FFFFFFh) NORMAL (C0000h~FFFFFFh)
M16C/62N Group		
M3062xF8N	M3062GF8NGP	BOOT (FF000h~FFFFFFh) NORMAL (F0000h~FFFFFFh)
M3062xFCN	M30620FCNGP	BOOT (FF000h~FFFFFFh) NORMAL (E0000h~FFFFFFh)
M3062xFGN	M30624FGNGP	BOOT (FF000h~FFFFFFh) NORMAL (C0000h~FFFFFFh)
M16C/62P Group		
M3062xFCP	M30620FCPGP	BOOT (FD000h~FFFFFFh) NORMAL (E0000h~FFFFFFh)
M3062xFGP	M30624FGPGP	BOOT (FD000h~FFFFFFh) NORMAL (C0000h~FFFFFFh)
M3062xFHP	M30626FHPPG	BOOT (FD000h~FFFFFFh) NORMAL (A0000h~FFFFFFh)
M16C/80 Group		
M3080xFC	M30800FCGP	BOOT (FFE000h~FFFFFFh) NORMAL (FE0000h~FFFFFFh)
M3080xFG	M30803FGGP	BOOT (FFE000h~FFFFFFh) NORMAL (FC0000h~FFFFFFh)
M32C/83 Group		
M3083xFJ	M30833FJGP	BOOT (FFE000h~FFFFFFh) NORMAL (F80000h~FFFFFFh)

4. Command Specification of Group Distinction

This guidebook contains special command description using for M16C/62, 80 and M32C/83 group parallel I/O mode, however command correspondence contents are different by each group of MCU. The command correspondence list is given in Table 4.1

Table 4.1: Command Correspondence List

MCU Group Name	Block Set	Block Erase	Automatic Offset	HEX Files
M16C/62 Group	○	○	×	×
M16C/62N Group	○	○	×	×
M16C/62P Group	○	○	×	×
M16C/80 Group	○	○	○	○
M32C/83 Group	○	○	○	○

※ ○ means “correspondence”, and × means “not correspondence” .
Refer to following articles for description of command by each group:

Block Set : 7. Block Set
Block Erase: 8. Erase
Automatic Offset : 10. Automatic Offset Address of EFP-S2
HEX Files: 11. A limit of a HEX file

5. Select of a BOOT/NORMAL Field

In the parameter input dialogue of each device command, a field to execute writing and reading can be selected.

A parameter input dialogue of program command is shown in Fig. 5.1.

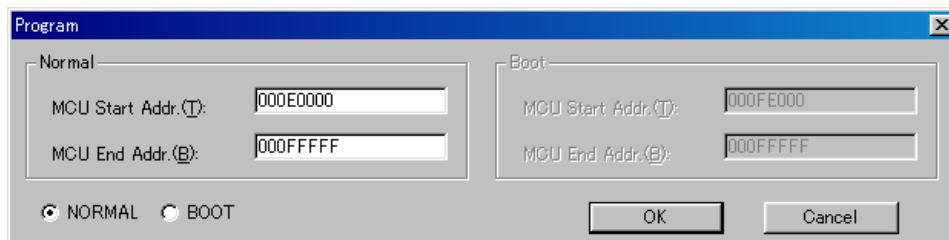


Fig.5.1: Parameter Input Dialogue of Program Command

Radio button for selecting field is located in left below of parameter input dialog of program command.

After setting each parameters and selecting field to execute command, click the OK button.

※ All device command has a radio button for selecting field same as Fig.5.1, and its operations are also same.

6. Block Set Command

In the MCU usable by this unit, internal flash memory is divided into several blocks. And every block has block-renewal-prohibition bit called lock bit.

The block set command handles for viewing and setting lock bit.

Setting a block's lock bit to "lock" allows you to protect the block from being written to or erased.

6.1 Screen Layout

The screen layout for the block set command is shown in Fig. 6.1.

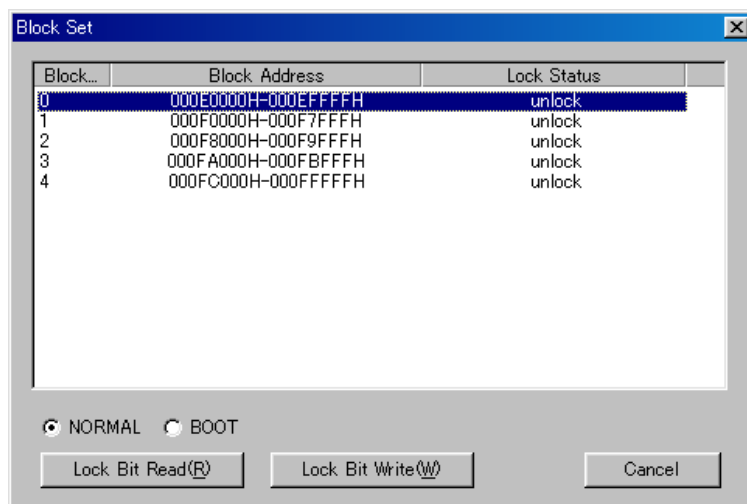


Fig. 6.1: Block Set Command Screen layout

(1) Block No.

Indicates the block No. assigned for each block.

(2) Block Address

Indicates start and end address for each block.

(3) Lock Status

Indicates the lock bit status for each block.

Lock: The lock bit is locked.

Unlock: The lock bit is unlocked.

(4) Radio button for selecting field

Select a field to be erased.

(5) Lock Bit Read button

Reads all lock bit data from target MCU, and indicates lock bit status according to data contents.

(6) Lock Bit Write button

Setting lock bit. The lock bit of the block, which is displayed "lock" in lock bit status, is set to "locked".

(7) Cancel button

Cancels command.

Refer to "6.2 Lock Bit Setting Operation Procedure" about a setting method of lock bit.

6.2 Lock Bit Setting

The procedure for setting lock bit to lock is as follows:

This section contains a procedure to set unlocked lock bit to be locked.

To change a locked lock bit back to unlocked, see “7.1 Lock Bit Erase Command”.

Procedure-1: Lock Type Setting

Lock type parameter specifies whether lock bit is to be effective or not.

Lock type parameter is located in Use Devise of WinEFP2 Environment Setting dialog.

Without setting lock type parameter, protect function by lock bit is not worked correctly.



Fig. 6.2: Lock Type Parameter

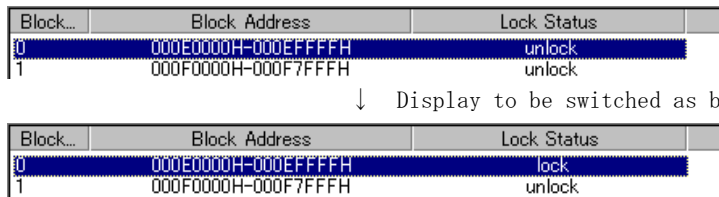
※ Lock type setting contents

Lock bit effective: Lock bit is effective

Procedure-2: Lock Bit Setting

Execute block set command, and then block set command dialog appears.

Position the mouse cursor on the desired line and double-click to switch lock bit status in Lock Status, and set to lock side.

Two screenshots of a table with three columns: 'Block...', 'Block Address', and 'Lock Status'. The first screenshot shows two rows: row 0 with address '000E0000H-000EFFFFH' and status 'unlock', and row 1 with address '000F0000H-000F7FFFH' and status 'unlock'. An arrow points down from the first row to the second screenshot. The second screenshot shows the same two rows, but the status for row 0 is now 'lock' and for row 1 is 'unlock'.

Block...	Block Address	Lock Status
0	000E0000H-000EFFFFH	unlock
1	000F0000H-000F7FFFH	unlock

↓ Display to be switched as below when double-clicking

Block...	Block Address	Lock Status
0	000E0000H-000EFFFFH	lock
1	000F0000H-000F7FFFH	unlock

Fig. 6.3: Setting Lock Bit

Click the Lock Bit Write button, and execute block set command.

If you write or erase the block which protected status by lock bit after setting above, error occur and stop a command execution. Error doesn't occur by All Erase (all block to be erased together) command, but unlocked block is all erased.

7. Erase Command

Erase type parameter contained in the erase command enables you to erase by block or erase all blocks.

Erase command parameter input dialog is shown in Fig. 7.1.

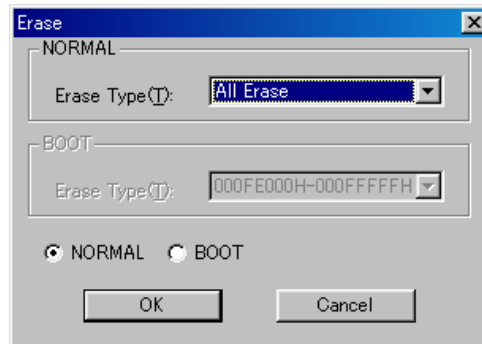


Fig. 7.1: Erase Command Parameter Input Dialog

(1) Erase type

All erase and block address field (xxxxxxh – xxxxxxh) are displayed in the drop-down list to the right of the erase type parameter display field (displayed by clicking the arrow pointing downward with the mouse). Select the block erase method.

(2) Radio button for selecting field

Select a field doing erase.

(3) OK button

Executes block erase command.

(4) Cancel button

Cancels command.

7.1 Lock Bit Releasing

Procedure for releasing a protected status block by lock bit is as follows.

Procedure-1: Lock Type Setting

Lock type parameter specifies whether lock bit is to be effective or not.

Lock type parameter is located in Use Devise of WinEFP2 Environment Setting dialog.

Without setting lock type parameter, protect function by lock bit is not worked correctly.



Fig. 7.2: Lock Type Parameter

※ Lock type setting contents

Lock bit ineffective: Lock bit is ineffective

Procedure-2: Lock Bit Erasing

Execute erase command. Then, Erase Command Parameter Input dialog is appeared.

Specify a protected block by lock bit or “All Erase” in Erase type parameter, and then execute Erase command.

8. Automatic offset address for EFP-S2' s internal RAM

EFP-S2/S2V has built-in 4MB user buffer RAM. In EFP-S2/S2V, address space of buffer RAM are normally set from 0h to 3FFFFFFh. However, some MCU used in this unit automatically set offset address in buffer RAM and allocate address space from C00000h to FFFFFFFh.

Buffer RAM address configuration in each group is given in Table.8.1.

Table 8.1: Buffer RAM Address Configuration

MCU Group Name	User Buffer RAM Address Configuration
M16C/62 Group	000000h~3FFFFFFh
M16C/62N Group	000000h~3FFFFFFh
M16C/80 Group	C00000h~FFFFFFh
M32C/83 Group	C00000h~FFFFFFh

9. Parameter Input by Device Command

In a case to execute programming and reading by device command, there is an input limitation given in Table 10.1 when inputting executing field of command. If incorrect field is specified, parameter error occurs and it stops command execution.

Table 9.1: Address Input Format

MCU Group Name	Programming	Reading
M16C/62 Group	“Page” Input	“Word” Input
M16C/62N Group	“Word” Input	
M16C/62P Group	“Word” Input	
M16C/80 Group	“Page” Input	
M32C/83Group	“Page” Input	
In case of “Page” input, input a start and end address with page unit. 1Page equals 256bytes, and this means start address should be xxxx00h and an end address should be xxxxFFh when inputting a command.		

1 0. Limitation on HEX File

Intel HEX and extension HEX format file are compatible with EFP-S2/S2V, but address field can be composed using HEX file is within 1Mega bite (from 0h to FFFFFh). If the address configuration of user program is more than 100000h, create HEX file with Motorola S format and download it to EFP-S2/S2V.

Table 10.1: HEX File Address Configuration

EFP-S2 compatible HEX File	Address Configuration
Intel HEX	00000000h~0000FFFFh
Intel extension HEX	00000000h~000FFFFFh
Motorola S Format HEX	00000000h~FFFFFFFh

In addition to above HEX file format, HEX file for Mitsubishi exclusive use is available. Mitsubishi exclusive HEX file enable to create address field from 0h to FFFFFFFh with Intel HEX format. It is impossible to download Mitsubishi HEX file to EFP-S2/2SV directly, so exchange that file to Motorola S format HEX with using HEXTOS2.EXE enclosed Mitsubishi C compiler tool, and then download it to EFP-S2.