EF1SRP-05U User's Guide

. General Description

EF1SRP-05U is serial writing unit for EFP-I using mounted on EFP-I.

Using the EF1SRP-05U enables you to write and read to/from Renesas Technology Flash memory built-in MCU or PROM built-in MCU by serial I/O mode.

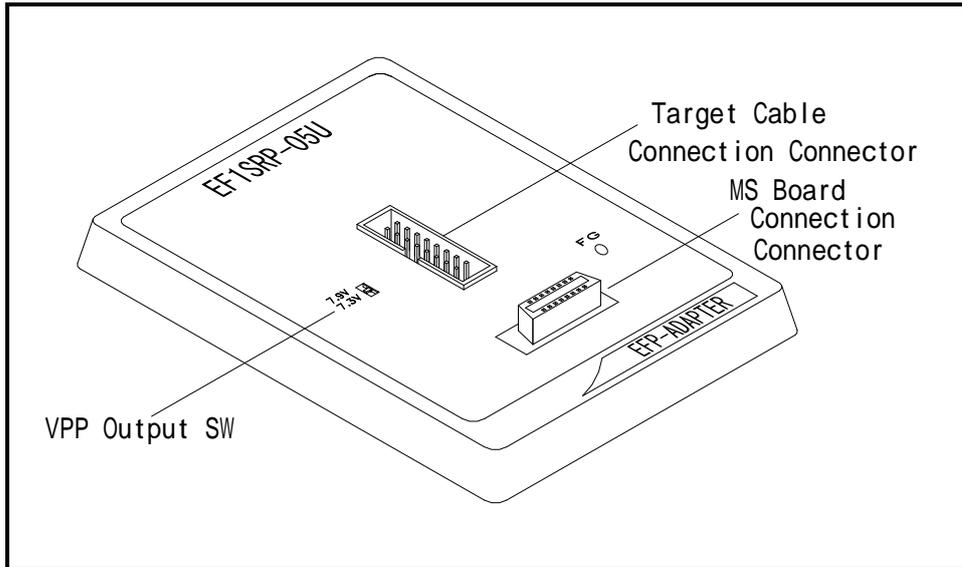The appearance of EF1SRP-05U is shown in Fig. 1.1.

Fig. 1.1 The appearance of EF1SRP-05U

. Set up

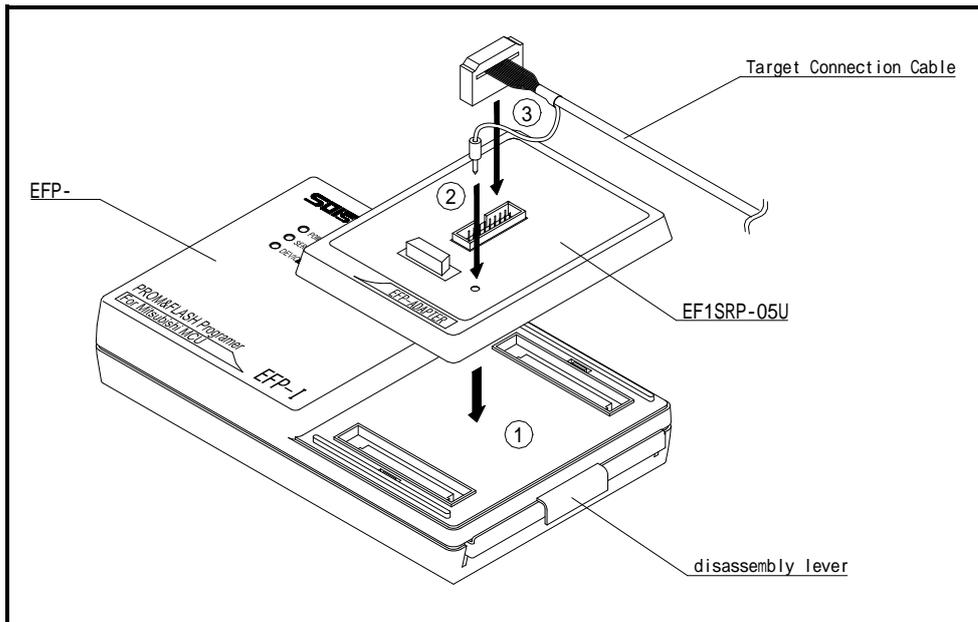EF1SRP-05U unit is mounted as shown in Fig. 2.1.

Fig 2.1 EF1SRP-05U Unit Mounting

2.1 Connecting User target board

User target board is connected by following procedure.

Connect the target connection cable after connecting the signal GND of   in order to get rid of a potential difference of a user target base and a writer.

Mount the EF1SRP-05U on the EFP-S2. (Make sure orientation is correct.)

Insert the ground wire of the target connection cable in the terminal of EF1SRP-01US2.

Insert the target connection cable in the connector.

Turn on the EFP-I's power.

Insert the ground wire (Bag warm clip) in the signal GND of the target board.

Connect the target side of the target connection cable.

Turn on the target board's power. (Pay attention to status of peripheral circuits.)

Execute write processing or read processing by PC operation.

2.2 Disconnecting User target board

User target board is disconnected by following procedure:

Turn off the target board's power.

Disconnect the target connection cable of the target board's side.

2.3 Notes

Notes about target connection are as follows:

1: The target connection cable is live when the EFP-I's device LED (red) is lit.   Do not plug or unplug the target connection cable when the LED is lit.

2: Depending on the type of MCU, power (T_VDD) is supplied from the EFP-I or from the user target board.

If power is supplied from the user target board, about 400uA of current is consumed by the output buffer circuit and voltage measurement section in the serial unit. When designing the power source, it should be considered that serial unit current and MCU current demand when writing and clearing data.

3: Turn on the target board's power after turning on EFP-I's power.

In case of turning on target board's power while EFP-I is turned off, target board's power may circulate to EFP-I and turn on EFP-I automatically.   It may cause of the damage for EFP-I and/or target interface circuit of EF1SRP-05.

4: Connect the ground wire (Bag warm clip) of the target connection cable to the signal GND of the target board. However, the connection is not necessary when the signal GND of PC is connected to the signal GND of target board in advance.

3. Target Interface Circuit

The signal I/O circuit connected to the target board from EF1SRP-05U is as follows.

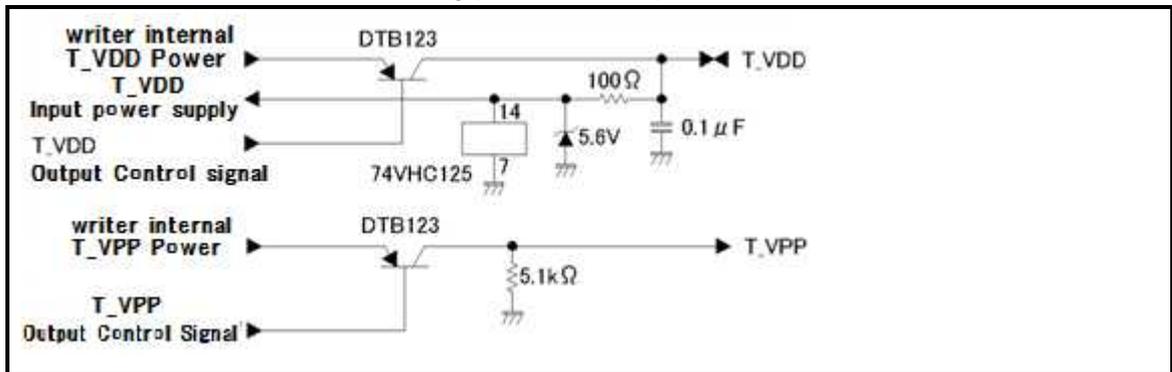MCU Power, Power source for writing (T_VDD , T_VPP)

Fig. 3.1: T_VDD, T_VPP I/F Circuit

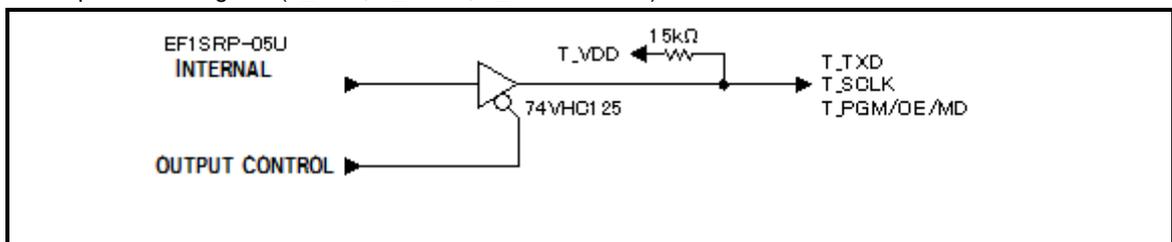Output control signals (T_TXD, T_SCLK, T_PGM/OE/MD)

Fig. 3.2: Output control signals I/F Circuit
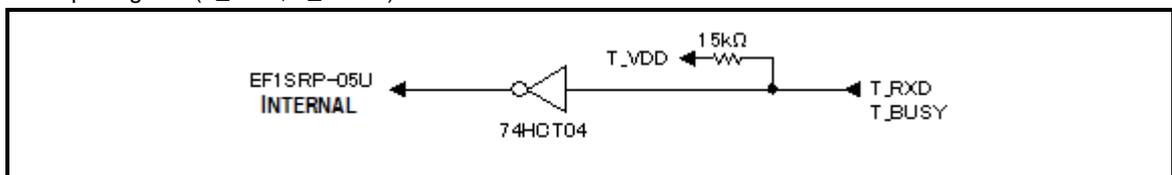
Input signals (T_RXD, T_BUSY)

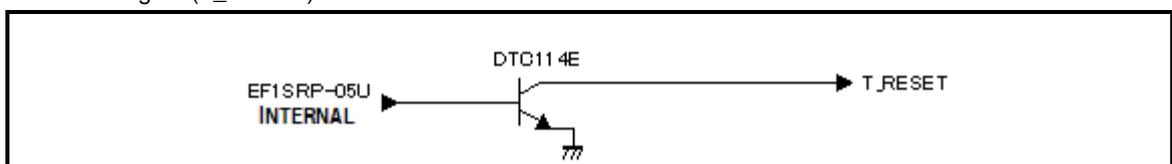Fig. 3.3: Input signals I/F Circuit

Reset signal (T_RESET)

Fig. 3.4: T_RESET I/F Circuit

4. Target Connection Cable Specifications

The standard target connection cable that comes with the equipment is a frayed end type. In addition, a 3-wire type cable (8-pin, Connector processing product) is optionally available.

4.1 Target Connection Cable Specifications

Fig. 4.1 shows the pin layout of the EF1SRP-05U side target connection cable connector.

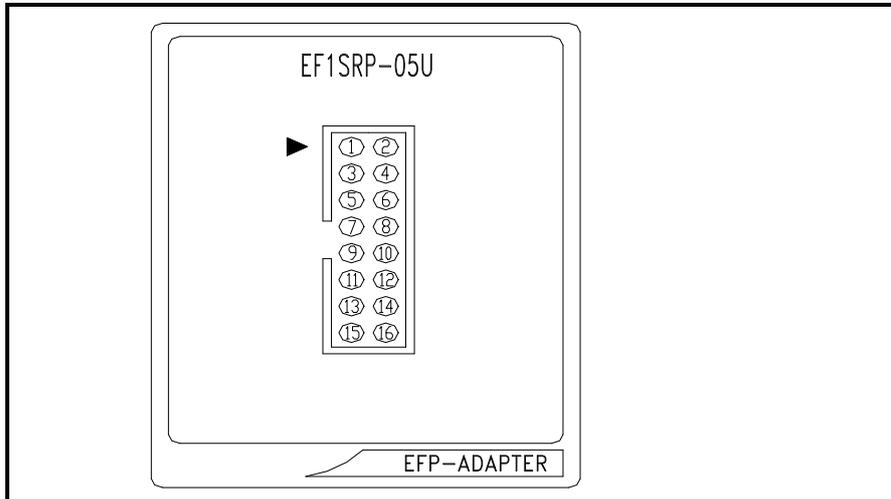Table 4.1 lists the target connection connector pins.

Fig. 4.1: Target Connection Connector Pin Layout

Table 4.1: Target Connection Connector Pins

Target Connection Connector Pin No.	Signal	Wire Color 4	I/O (writer side)	MCU Connection Method 3-Wire 1	Pin No.
	GND	Orange/red dotted 1		GND 3	
	GND	Orange/black dotted 1			
	T_VPP 2	Gray/red dotted 1	Output	VPP	
	T_VDD 2	Gray/black dotted 1	I/O	MCU VCC	
	N.C.				
	N.C.				
	N.C.	White/red dotted 1			
	T_PGM/OE/MD	White/black dotted 1	Output	PGM or OE	
	T_SCLK	Yellow /red dotted 1	Output	SCLK	
	T_TXD	Yellow/black dotted 1	Output	SDA	
	T_RXD	Pink/red dotted 1	Input		
	T_BUSY	Pink/black dotted 1	Input	BUSY	
	N.C.	Orange/red dotted 2			
	T_RESET	Orange/black dotted 2	Output	RESET	
	GND	Gray/red dotted 2			
	GND	Gray/black dotted 2			

1: "3-wire" and "4-wire" indicates the type of serial writing.

2: T_VPP and T_VDD connection differs according to MCU type.   For details, see the supplement or MCU data book.

3: The signal GND has 4 pins. When connecting to the target board, you can connect with using only one pin, but connecting more than 2 pins is recommended.

4: Fig. 4.2 shows an identification method of the Color Code.
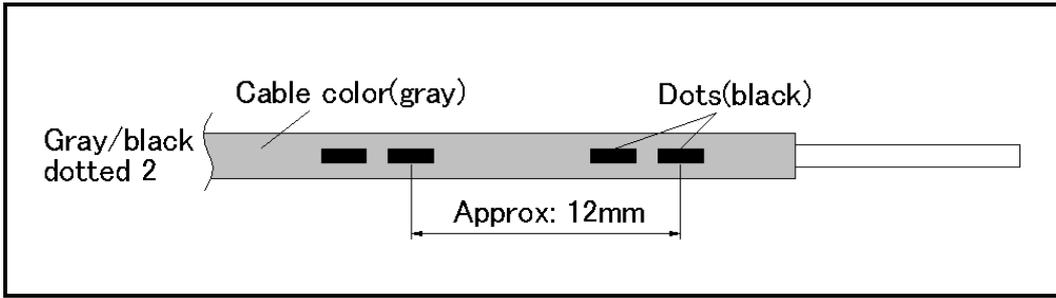
Fig. 4.2: Identification Method of the Color Code

4.2 Target Connection Cable Appearance

The appearance of the target cable is as follows.
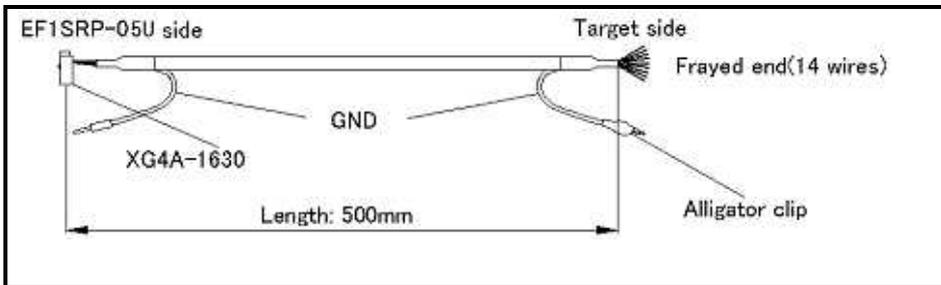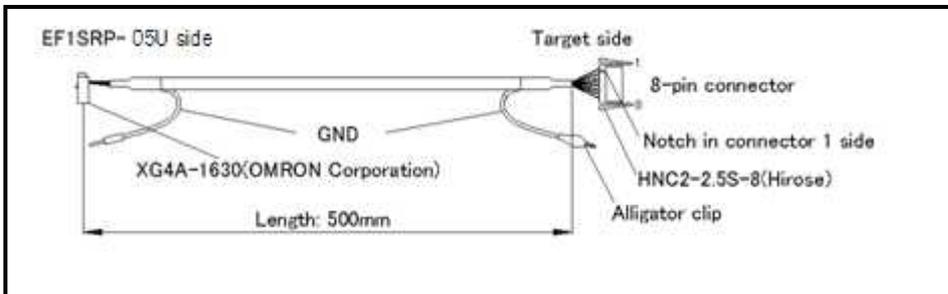
Frayed end cable   Standard

Fig. 4.3: Appearance of Frayed end cable

3-wire cable (optional)

Fig. 4.4: Appearance of 3-wire cable