



SAMCO-*V*m05

CURRENT OUTPUT BOARD SAS
INSTRUCTION MANUAL

[For Safe Use]

- Safety instructions are given in this manual and on the product to prevent physical injury to yourself or others, or damage to property.
Read the instructions thoroughly and use the product correctly.
- After reading, keep this manual to hand for reference.
- Critical safety instructions are marked “Danger” or “Caution” as follows:



This symbol indicates a hazard that could lead to death or serious injury if the warning is ignored and the product is handled incorrectly.



This symbol indicates a hazard that could lead to injury or damage to property if the warning is ignored and the product is handled incorrectly.

- * Even ignoring an instruction marked “Caution” can have serious consequences under some circumstances. Be sure to abide by all instructions, irrespective of the degree of danger.

Meanings of symbols



This symbol indicates a potential danger.

The specific danger is indicated in the symbol. (This example indicates a general danger.)



This symbol indicates the need for caution.

The specific caution is indicated in the symbol. (This example indicates a general caution.)



This symbol indicates a prohibition.

The specific prohibited action is indicated in the symbol. (This example indicates a general prohibition.)



This symbol indicates an action that must be performed.

The specific action is indicated in the symbol. (This example indicates a general requirement.)

Thank you for purchasing the **SAMCO-vm05** current output board (SAS). This is a built-in type option board for the SAMCO-vm05 inverter. The current signal of 4 – 20mA which is in proportion to the inverter frequency is outputted by this SAS board. This board can be used for the combined operation by the current command. Be sure to read through this manual before using the product.

Safety Notes

1. Mount the inverter on a strong metal panel or similar surface using the specified screws.
2. Ground the inverter and the motor using their ground terminals ().
3. Install a circuit breaker (MCCB) of the appropriate capacity between the inverter and the power supply.
4. The inverter incorporates high-voltage circuitry that could cause an electric shock or other physical injury. Do not touch the inside of the inverter.
5. When carrying out maintenance or inspection, turn the power off and check with a circuit tester that there is no voltage between X and P on the terminal board after the **CHARGE** lamp goes out.
6. Some internal components in the inverter retain an electric charge even when the inverter is not operating. Do not touch the terminal board.
7. Check the safety of the load when operating the inverter.
8. Turn the power off when not using the inverter for a long time.
9. This inverter is made for domestic use. Please consult us before exporting this product.

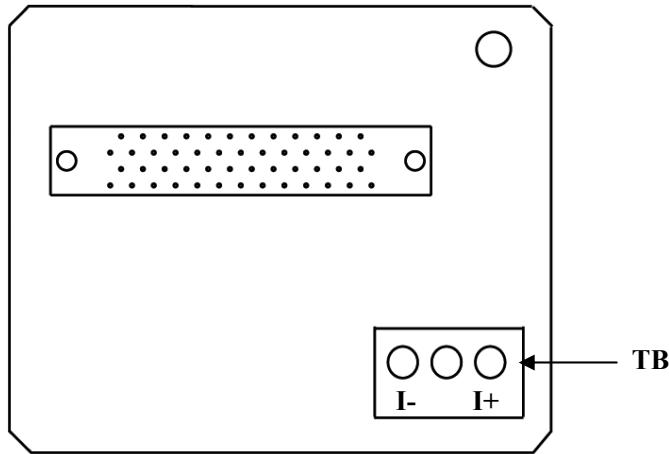
Contents

1. GENERAL	1
2. Mounting of Option Board	2
2.1 Preparation For Mounting	2
2.2 Mounting Of Option Board	3
3. Description Of Functions	4
3.1 Basic Function	4
3.2 Magnification Of Output.....	5
4. Precautions On Use	6

1. GENERAL

- The current output board (SAS) outputs the current signal of 4 – 20mA in proportion to the output frequency. This board can be used for the combined operation by the current command.

The magnification of the output is variable from 0.01 time to 20 times in accordance with the function code **Cd679**: magnification of output current.



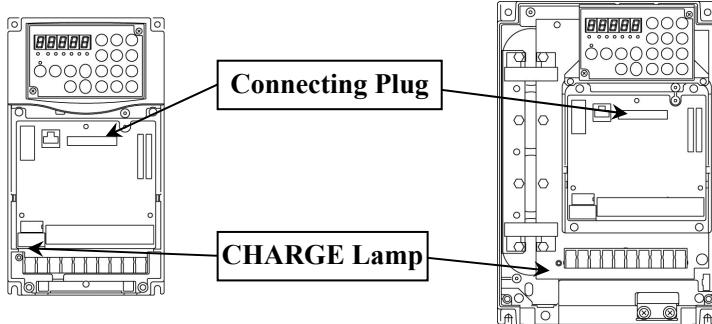
Current Output Board (SAS)

2. Mounting of Option Board

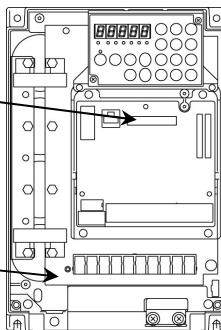
2.1 Preparation for Mounting

- The **SAMCO-vm05** power supply shall be turned off and after more than 15 minutes, the rear cover shall be removed to confirm that the **CHARGE** lamp is put out.

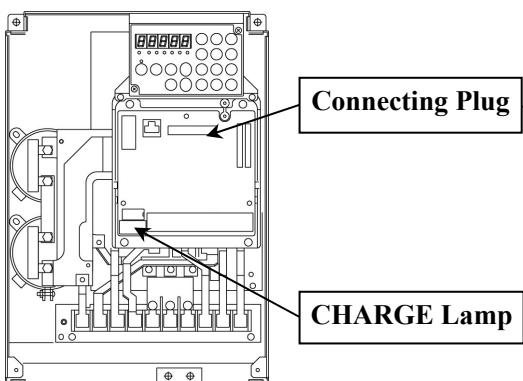
Please do not mount or remove the option board, when the power supply is ON and the **CHARGE** lamp is lit, since it causes not only incorrect operation, but also danger to the human body.



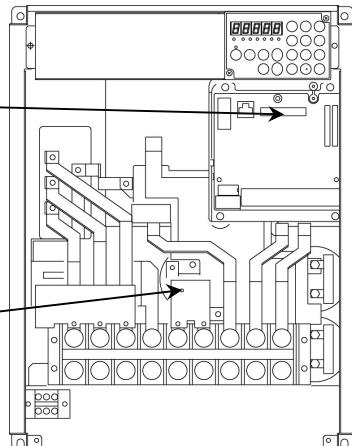
SHF-1.5K~4.0K
SPF-2.2K~5.5K



SHF-5.5K~11K
SPF-7.5K~15K



SHF-15K~22K
SPF-18.5K~30K

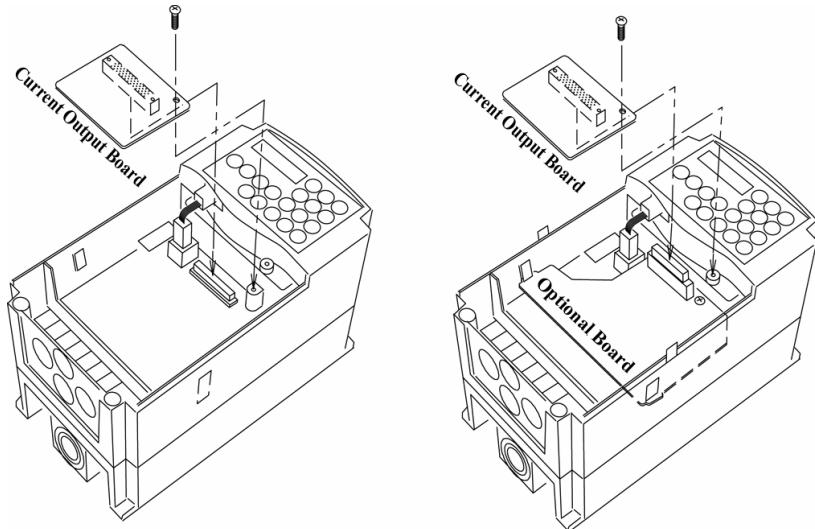


SHF-30K~55K
SPF-37K~55K

2.2 Mounting of Option Board

- The SAS option board shall be inserted into the connector and be fixed by the attached screws as shown below.

*It is to be noted that other option boards cannot be mounted on the SAS board.



3. Description of Functions

3.1 Basic Function

- The SAS option board outputs the current (4 – 20mA) between I- and I+ of the terminal block TB1 in proportion to the output frequency of the inverter.

TB1 I-: Negative terminal I+: Positive terminal (the current flows from I+ to I-.)

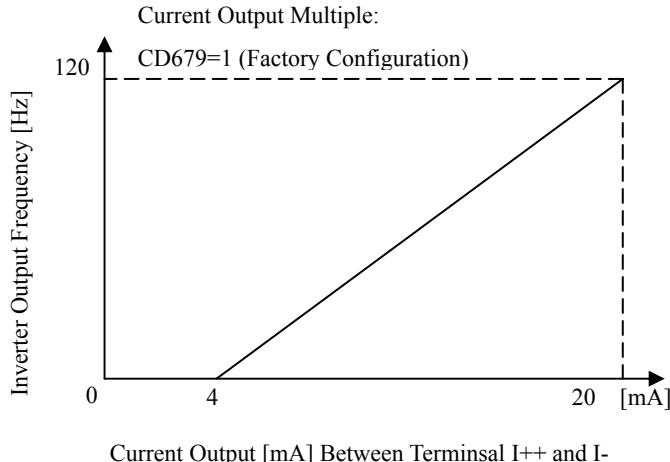
※ TB1 is a 3-pin terminal and the intermediate terminal shall be left unused.

- The conversion values of the output frequency and the output current of the inverter are shown below.

At the inverter output frequency = 0Hz, the output current = 4mA

At the inverter output frequency = 120Hz, the output current = 20mA

(Cd679: the magnification of current output = 1 (factory preset))



3.2 Magnification of Output

- The magnification of the current output is variable according to the following function code. It can be adjusted as desired subject to the condition of use.

Cd679: magnification of current output 0. 00 – 20.00 times

0. 01 unit factory preset = 1 time

* It should be adjusted so that the current output can be below 20mA at the maximum output frequency.

4. Precautions on Use

- If the option board is mounted or removed after the power supply is turned on, it may cause not only unstable operation, but also the danger to the human body. Be sure to confirm that the CHARGE lamp is put out before mounting or removing the option board.
- Two option boards can be mounted on the inverter at the same time.
(The first option board is mounted on the slot 1 of the inverter and the second board is mounted on the slot 2 of the option board mounted on the slot 1.)

Such mounting may not be made subject to the combination as shown below.

Slot1 Slot2	Not Mounted	SB – PG	SWS	SAS	SDI
Not Mounted	–	○	○	○	○
SB – PG	–	×	×	×	×
SWS	–	×	×	×	○
SAS	–	○	○	×	○
SDI	–	×	○	×	×

- Simultaneous mounting allowed
- ✗ Simultaneous mounting not allowed

- The impedance of the load side shall be below 500Ω . The output current will be less than 20mA if the impedance is great enough.
- But please note that the counter output function at the multifunctional terminals **DO1 – DO3** is invalid.
- The current output of 4mA is at least outputted even in the case of the output frequency = 0Hz or the magnification = 1 time.
- The current output board shall be powered after confirming that there is no short circuit or open condition on the wiring of the load side. If signal wiring is short circuited or opened, the operation does not take place correctly

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Published June 2004.

TEX48198-020EJ