User manual

# SUB-E CARD

## SV-iP5A series

- Read this manual carefully before using the SUB-E Card and follow the instructions exactly.
- After reading this manual, keep it at handy for future reference.

LS Industrial Systems Co., Ltd.

- Head Office
  Yonsei Jaedan Severance Bldg. 84-11, 5ga, Namdaemun-ro, Jung-gu, Seoul 100-753, Korea
- Domestic Sales Team

| | | |
|---|---|---|
| PLC sales team | TEL:+82-2-2034-4620~34 | FAX:+82-2-2034-4622 |
| Busan sales team | TEL:+82-51-310-6855~9 | FAX:+82-51-310-6851 |
| Deagu sales team | TEL:+82-53-603-7740~5 | FAX:+82-53-603-7788 |
| Gwangju sales team | TEL:+82-62-510-1885~91 | FAX:+82-62-526-3262 |
| Deajeon sales team | TEL:+82-42-820-4240~2 | FAX:+82-42-820-4298 |
| Jeonju sales team | TEL:+82-63-271-4012 | FAX:+82-271-2613 |

- Overseas Sales Team

| | | |
|---|---|---|
| PLC sales team | TEL:+82-2-2034-4640~7 | FAX:+82-2-2034-4648 |

- Web site
  http://www.lsis.biz
- Overseas Branches

| | | |
|---|---|---|
| USA | New Jersey Branch | +1-201-816-2985 |
| China | Beijing Branch | +86-10-6462-3256 |
| | Shanghai Branch | +86-21-6278-4370 |
| | Guangzhou Branch | +86-20-8755-3429 |
| JAPAN | Tokyo Branch | +81-3-3582-9128 |
| Vietnam | Hanoi Branch | +84-4-882-0222 |


This product specification may be changed without any prior notice for the purpose of improving its quality, so please make an inquiry by telephone when purchasing the product.

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## Before using the product

Thank you for purchasing LS SUB-E CARD.
This user manual describes handling and precaution for using SUB-E CARD. As wrong handling could result in the product damage and reduction in product life, before using the product, handle it correctly after thoroughly reading this user manual.

## ⚠ Caution

- Do not connect or disconnect SUB-E CARD while the power is on. There is a possibility that both SUB-E CARD and the main fame of inverter might be damaged. (Connect or disconnect it after the capacitor voltage is discharged completely.)
- As there is a possibility of damage in CMOS devices of SUB-E CARD due to ESD (Electrostatic Discharge), be careful in handling.
- Do not connect differently the current output terminal while the power is on.
- Be careful that the main frame of inverter and SUB-E CARD connector is connected coincidently.
- Handle the inverter as an industrial waste when disposing of it.
- This product can be used with general functions for SV-iP5A .

### 1) Specifications

- Serial D/A MAX518 (8Bit, 2Ch, 5V)
- Insulation Type (Photocoupler Insulation)
- Channel : Current Output 2Ch
- 0(4) ~ 20mA Output
- Allowable Impedance : 250 ~ 500(Ω)
- Level of precision : less than 0.5% (Full Scale)

### 2) Terminals

| CO1 | CO2 | GND | GND |
|---|---|---|---|

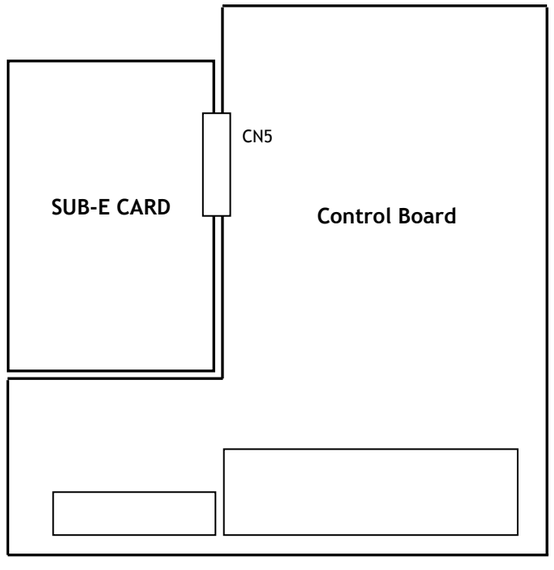
| Classif-ication | Terminal Symbol | Terminal Name | Terminal Description |
|---|---|---|---|
| Current Output | CO1 | Current Output Ch 1 | Select one of output frequency, output current, output voltage, DC link voltage and external PID output, and output it. Output frequency is set to factory default. |
| | CO2 | Current Output Ch 2 | Select one of output frequency, output current, output voltage, DC link voltage and external PID output, and output it. DC link voltage is set to factory default. |
| | GND | Common Terminal | Common terminals of current output Ch1, Ch2. |

### 3) Use Parameter

| CODE | Function Name | LCD Display | Min/Max Range | Factory defaults | Adj. During run |
|---|---|---|---|---|---|
| EXT-01 | SUB board type | Sub-E | Sub-E | - | - |
| EXT-40 | CO1 Terminal selection | AM1 Mode | 0 (Frequency)<br>1 (Current)<br>2 (Voltage)<br>3 (DC link Vtg)<br>4 (EXT. PID Out) | 0 | O |
| EXT-41 | CO1 Gain adjustment | AM1 Adjust | 10 - 200 [%] | 100[%] | O |
| EXT-42 | CO1 Offset adjustment | AM1 Offset | 0 - 100 [%] | 0 [%] | O |
| EXT-43 | CO2 Terminal selection | AM2 Mode | 0 (Frequency)<br>1 (Current)<br>2 (Voltage)<br>3 (DC link Vtg)<br>4 (EXT. PID Out) | 3 | O |
| EXT-44 | CO2 Gain adjustment | AM2 Adjust | 10 - 200 [%] | 100 [%] | O |
| EXT-45 | CO2 Offset adjustment | AM2 Offset | 0 - 100 [%] | 0 [%] | O |

### 4) Installation

As the below, connect a connector of control board(CN5) To SUB-E CARD.

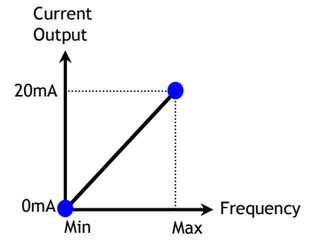



### 5) Example for Current Output "adjust and offset" (When set to output frequency)

☛ **When current output is valid, set "Offset" first and "Adjust".**

**a) When setting current output for 0 ~ 20mA**

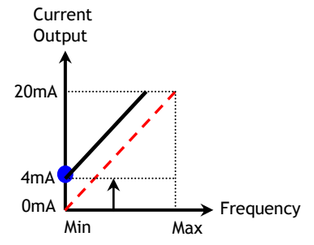
Adjust "Offset" first in order to 0mA output from Min frequency and confirm 4mA output. And then set Max frequency once more and adjust "adjust" in order to 20mA output.




**b) When setting current output for 4 ~ 20mA**

Adjust "Offset" first in order to 4mA output from Min frequency and confirm 4mA output. And then set Max frequency once more and adjust "adjust" in order to 20mA output.

(Step 1) Adjust "Offset"(approximately 20%) in order to 4mA output from Min Freq.




(Step 2) Set Max freq. and adjust "adjust"(approximately 80%) in order to 20mA output.