

Thank you very much for purchasing Panasonic products. Read this Instruction Manual carefully and thoroughly for the correct and optimum use of this product. Kindly keep this manual in a convenient place for quick reference.

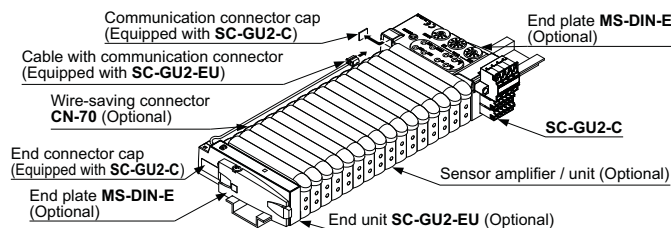
WARNING

- Never use this product in a device for personnel protection.
- In case of using devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

For details of the communication commands etc. of the communication unit for CC-Link **SC-GU2-C**, refer to "Product specification" or "Communication specification."

1 OUTLINE

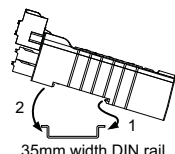
- This product is a communication unit which can output the output signal (in case of 2-output type, only the output 1) of a sensor amplifier / unit (NPN output type) that is connectable to wire-saving connector **CN-70** (optional), as the communication data of CC-Link.
- This product enables to connect max. 16 units of sensor amplifier (FX-300 series or LS-400 series, etc.) as well as sensor unit (SC-T□J or SC-T1JA).
- This product can output all the output signals of the connected sensor amplifiers / units to PLC (Programmable Logic Controller), etc.
- When using optional end unit **SC-GU2-EU**, settings and controls can be done for the optically communicable sensor amplifiers / units which are cascaded to this product. As for the end unit, refer to the instruction manual enclosed with the end unit.



2 MOUNTING AND CASCADING

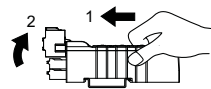
How to mount

1. Fit rear part of the mounting section of the product on a 35mm width DIN rail.
2. Press down rear part of the mounting section of the product on the 35mm width DIN rail and fit the front part of the mounting section to the DIN rail.



How to remove

1. Push the product forward.
2. Lift up the front part of the product to remove it.

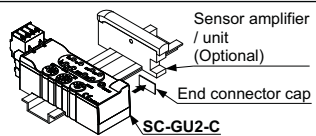


Note: Take care that if the front part is lifted without pushing the product forward, the hook on the rear portion of the mounting section is likely to break.

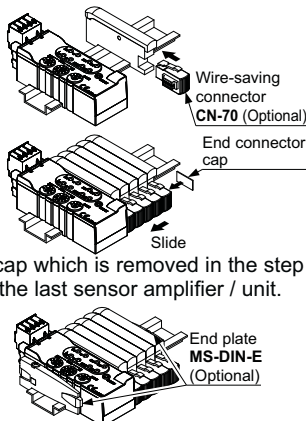
How to cascade

- Be sure that the power supply is OFF while mounting / cascading the product and sensor amplifiers / units, or connecting / disconnecting the wire-saving connector **CN-70** (optional).
- Make sure to mount the end plates **MS-DIN-E** (optional) at both ends of the product and the cascaded sensor amplifiers / units to hold them between the flat sides of the plates.
- Up to maximum 16 sensor amplifiers / units can be cascaded.
- In case two different models of sensor amplifier / unit are cascaded, be sure to mount identical models together.
- For the cautions of the sensor amplifiers / units, refer to the instruction manuals enclosed with the amplifiers / units.

1. Mount this product and sensor amplifiers / units (optional), one by one, on the 35mm width DIN rail. When mounting, remove the end connector cap which is attached to the connector area for cascading of this product.

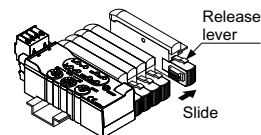


2. Insert the wire-saving connector (optional) to the sensor amplifier / unit.
3. Slide the sensor amplifier / unit in the step 2 to the product side and insert the wire-saving connector to the product's connector area for cascading, then set them close to each other. In doing so, attach the end connector cap which is removed in the step 1 to the connector area for cascading of the last sensor amplifier / unit.
4. Mount the end plates (optional) at both ends to hold the amplifiers / units between their flat sides.
5. Tighten the screws to fix the end plates.



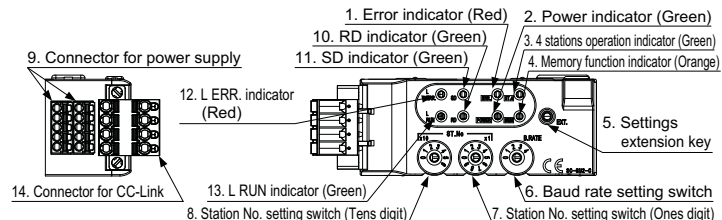
How to remove

1. Loosen the screws of the end plates.
2. Remove the end plates.
3. Slide the sensor amplifiers / units and remove them one by one.
4. Pressing the release lever of the wire-saving connector, pull out the connector.



Note: When removing the wire-saving connector, take care that if the connector is pulled out without pressing the release lever, the release lever can break. Do not use a wire-saving connector whose release lever has broken.

3 FUNCTIONAL DESCRIPTION



Designation	Function
1 Error indicator (Red)	Lights up when a communication halt occurs in CC-Link. Blinks when an optical communication error occurs.
2 Power indicator (Green)	Lights up when power is ON.
3 4 stations operation indicator (Green)	Lights up when 4 stations operate.
4 Memory function indicator (Orange)	Lights up when using the memory function. Blinks when connecting a sensor amplifier whose set contents are different from the sensor amplifier stored in the product (even though the model is identical to the one stored, it blinks), or connecting a sensor amplifier whose model is different from the one stored in the product.
5 Settings extension key (Note)	Press this key when: • Using the memory function or canceling the function. • Switching the number of occupied stations to 1 or 4 stations. • Releasing a communication error between the product and sensor amplifiers / units.
6 Baud rate setting switch	Sets baud rate of CC-Link. (Other than the following numbers: Error) 0: 156kbps 3: 5Mbps 1: 625kbps 4: 10Mbps 2: 2.5Mbps
7 Station No. setting switch (Ones digit)	Sets station No. of CC-Link. Setting is possible in the range of 1 to 64 (0 / 65 or more: Error)
8 Station No. setting switch (Tens digit)	As for number displays on switches, refer to each switch.
9 Connector for power supply (Allowable passing current: 6A)	Upper side (For cascade wiring) Bottom side (For main wiring) Each vertical terminal is internally connected.
10 RD indicator (Green)	Displays receiving state of CC-Link data. Lights up while receiving the data.
11 SD indicator (Green)	Displays sending state of CC-Link data. Lights up while sending the data.
12 L ERR. indicator (Red)	Lights up or blinks when an error occurs in CC-Link.
13 L RUN indicator (Green)	Displays communication state of CC-Link. Lights up when connecting to the network.
14 Connector for CC-Link	Terminal No. Description 1 DA connecting terminal 2 DB connecting terminal 3 DG connecting terminal 4 SLD connecting terminal 2 systems for cascade wiring

Note: When pressing the key, use a tool whose tip is round. Take care that if a sharp-pointed tool is used or the key is strongly pressed, the key can break.

4 SELECTION OF NUMBER OF OCCUPIED STATIONS (1 / 4 STATIONS)

- In case of using the end unit **SC-GU2-EU** (optional), if the number of occupied stations is set to 4 stations, the control can be easily done.
- In case of not using the end unit, it is recommended to set the number of occupied stations to 1 station.

<Selecting procedures>

1. Turn ON the power while holding down the settings extension key.
2. Every time you conduct the operation in procedure 1, the number of occupied stations switches to 1 station or 4 stations. In case the number of occupied stations is set to 4 stations, the 4 stations operation indicator (green) lights up.
3. After confirming the switching of the number of stations, turn OFF the power once, then turn ON the power again.

5 MEMORY FUNCTION

- Memory function can be used only when connecting the optically communicable sensor amplifier and the end unit **SC-GU2-EU** (optional).
- This function enables to store the set contents of the connected sensor amplifiers in this product by each amplifier, then send the stored contents to the identical sensor amplifiers which are newly connected. For example, the set contents of the first sensor amplifier can be sent to the first sensor amplifier which is newly connected.

<When storing set contents>

1. Turn ON the power in the condition that the sensor amplifiers are connected to this product.
2. Storing starts when holding down the settings extension key for approx. 2 sec. In case of releasing the memory function, hold down the settings extension key for approx. 2 sec. again.
3. When the storing to this product is complete, the memory function indicator (orange) lights up. (Note)

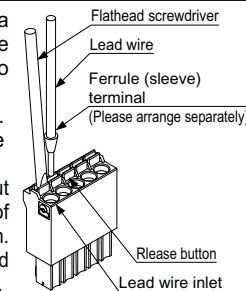
<When sending the stored set contents>

1. Turn OFF the power of this product.
2. Remove the sensor amplifiers that are connected to this product and mount new sensor amplifiers to which the set contents are transmitted.
3. When turning ON the power of this product, memory function indicator (orange) blinks. However, if the setting contents of the connected sensor amplifiers are same as the one that are stored in this product, it lights up.
4. When pressing the settings extension key, transmission of the set contents is started.
5. When the transmission is complete, the memory function indicator (orange) turns to light up from blinking. (Note)

Note: Be sure not to turn OFF the power until the memory function indicator (orange) lights up, as this can cause a memory contents corruption.

6 CONNECTION WITH UPPER COMMUNICATION

- Make sure that the power is OFF while wiring.
- Be sure to use the specified communication cable.
- The communication distance should be within the specification.
- When connecting to the terminal block, insert a solid wire or twisted wire (lead wire) with a ferrule (sleeve) terminal (please arrange separately) into the hole as shown in the figure at the right. The wire is locked when it is properly inserted. However, do not pull the wire with excessive force, as this can cause a cable break.
- When connecting the twisted wire (lead wire) without a ferrule (sleeve), insert the wire to the innermost of the connecting hole while pressing the release button.
- When releasing the solid wire or the twisted wire (lead wire), pull the wire while pressing the release button.
- The following solid wire and twisted wire (lead wire) are recommended. Power supply line side: 0.2 to 1.0mm² (AWG 24 to 16) CC-Link line side: 0.2 to 2.5mm² (AWG 24 to 12)
- Use the CC-Link-specified cable (shielded twist-pair cable). Make sure to ground the shielded cable.
- When mounting the CC-Link connector, the tightening torque should be 0.2N·m or less.



7 CAUTIONS

- This product has been developed / produced for industrial use only.
- Make sure that the power supply is OFF while wiring and cascading.
- Take care that wrong wiring will damage the product.
- Verify that the supply voltage variation is within the rating including the sensor amplifier / unit.
- In case noise generating equipment (switching regulator, inverter motor, etc.) is used in the vicinity of this product, connect the frame ground (F.G.) terminal of the equipment to an actual ground.
- Do not use during the initial transient time (1 sec.) after the power supply is switched ON.
- This product is suitable for indoor use only.
- This product cannot be used in an environment containing inflammable or explosive gases.
- Never disassemble or modify the product.

- For details of CC-Link, refer to "CC-Link Manual" prepared by Mitsubishi Electric Corporation.
- Any protective devices or safety circuits against system malfunction should be designed to be external to the system.
- In case the EMC Directive is to be satisfied with this product being incorporated into your system, install this product in a conducting box as per User's Manual (issued by Mitsubishi Electric Corporation) of the PLC.
- This product adopts EEPROM. Settings cannot be done 100 thousand times or more, because of the EEPROM's lifetime.

8 ERROR INDICATION

- In case of errors, attempt the following measures.

Indicator	State	Cause	Remedy
Error Indicator (Red)	Lights up	CC-Link communication shuts down.	Check that the CC-Link connector is connected.
	Lights up Power indicator (green) turns OFF	EEPROM data error or EEPROM reading error	• When holding down the settings extension key for approx. 5 sec., the error indicator (red) turns OFF and the EEPROM data will be cleared. Then, conduct settings again. • If the product does not operate correctly even if conducting the above remedy, contact our office.
L ERR. Indicator (Red)	Blinks (Note)	Optical communication is not correctly performed.	• Check the connection status of the connected sensor amplifiers / units as well as the connection of the cable with communication connector of the end unit. • Check the optical communication command and the transmitted data. For details, refer to "Product specification" or "Communication specification." • When pressing the settings extension key, the error indicator (red) turns OFF.
	Lights up	Baud rate or station No. is not correctly set.	Check that the baud rate and station No. setting are within the specifications. For the setting method, refer to "FUNCTIONAL DESCRIPTION."
L ERR. Indicator (Red)	Blinks	Baud rate or station No. setting has been changed since the power-ON.	Restore the baud rate and station No. setting to the state when power-ON, or turn ON the power again.

Note: In case the cable with communication connector of the end unit is not connected to the communication connector area of this product when power is turned ON, the indicator does not blink as the communication function does not work.

9 SPECIFICATIONS

Designation	Communication unit for CC-Link
Item	Model No. SC-GU2-C
Applicable sensor amplifier / unit	Sensor amplifier / unit (NPN output type) that can connect the wire-saving connector CN-70 (optional)
Number of connectable units	Max. 16 units per SC-GU2-C
Supply voltage	24V DC $\pm 10\%$ Ripple P-P10% or less
Current consumption	110mA or less (excluding cascaded sensor amplifiers / units)
Allowable passing current (Note 1)	Total: 2A or less
Communication method	CC-Link Ver.1.10
Number of occupied stations	Switchable 1 / 4 stations
Baud rate	156kbps, 625kbps, 2.5Mbps, 5Mbps and 10Mbps (Set at SC-GU2-C)
Station No. setting	1 to 64 (0 / 65 or more: Error)
Remote station type	Remote device station
Ambient temperature	-10 to +55°C (If 4 to 7 units are cascaded: -10 to +50°C, if 8 to 16 units are cascaded: -10 to +45°C) (No dew condensation or icing allowed), Storage: -20 to +70°C
Ambient humidity	35 to 85% RH, Storage: 35 to 85% RH
Material	Enclosure: Heat-resistant ABS
Weight	Approx. 60g

Notes: 1) It is the value that can supply to this product or the sensor amplifiers / units cascaded to this product.
2) For optical communicable sensor amplifiers / units, refer to "Product specification" or "Communication specification."

10 INTENDED PRODUCTS FOR CE MARKING

- The model listed under "SPECIFICATIONS" comes with CE Marking. As for all other models, please contact our office.
- Contact for CE
<Until June 30 ,2013>
Panasonic Electric Works Europe AG
Rudolf-Diesel-Ring 2, D-83607 Holzkirchen, Germany
<From July 1 ,2013>
Panasonic Marketing Europe GmbH Panasonic Testing Center
Winsbergring 15, 22525 Hamburg, Germany

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