Panasonic **INSTRUCTION MANUAL**

Sensor-PLC Connection System **SC** Series

Connector input extension unit	Connector I/O mixed extension unit
SC-T□J(-P)	**SC-TP□J**

CMJE-SCT8J No.0037-51V

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 with a device for personnel protection.

Be sure to use this product in combination with the main unit **SC-MIL** (optional).
For details of **SC-MIL**, please refer to the instruction manual enclosed with **SC-MIL**.

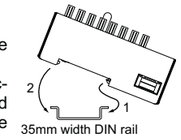
1 OUTLINE

- The connector input extension unit is used to connect various input units such as beam sensor, proximity sensor, limit switch, etc. to the main unit **SC-MIL**. The connector I/O mixed extension unit is used to connect various input units and commercially available output unit such as beam sensor, proximity sensor, limit switch, etc. to the main unit **SC-MIL**.
- It is possible for 1-channel connector input extension unit **SC-T1J**(**-P**) to connect the input unit (1 channel), for 8-channel connector input extension unit **SC-T8J**(**-P**) to connect the input unit (8 channels), and for 8-channel connector I/O mixed extension unit **SC-TP8J** to connect the I/O units (8 channels). Besides, it is also possible for **SC-T1J** and **SC-T8J** to meet the NPN output, and for **SC-T1J-P** and **SC-T8J-P** to meet the PNP output.

2 MOUNTING

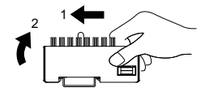
How to mount the unit

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



How to remove the unit

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



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

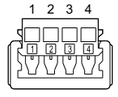
3 CONNECTION

<Connection of the non-line connector CN-70>

- Make sure to connect or disconnect the non-line connector **CN-70** in the power supply off condition.
- The 1-channel connector input extension unit **SC-T1J**(**-P**) should be used in combination with the non-line connector **CN-70**.
- For connecting-method of the non-line connector **CN-70**, please refer to the instruction manual enclosed with the main unit **SC-MIL** or the separate unit **SC-MIL-S**.

<Connection of the snap male connector SL-CP1/CP2>

- Make sure to connect or disconnect the snap male connector **SL-CP1**/**CP2** in the power supply off condition.
- Since the terminal No. 3 and 4 of the snap male connector **SL-CP1**/**CP2** differ depending on the extension unit, take care not to make a wrong connection. Further, if there are any unused wires, please insulate them.
- The cable length of the connected input devices should be less than 10m.



	SC-T1J(-P), SC-T8J(-P)	SC-TP8J
1	12 to 24V DC ±10%	5 to 24V DC ±10% (Note 1)
2	0V	0V
3	Input 1	Input
4	Input 2 (Note 2)	Not connected

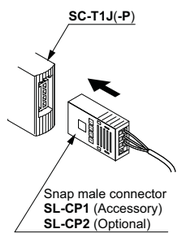
Notes: 1) Depends on the supply voltage from the **SC-MIL**.
2) This can be used for **SC-T1J**(**-P**) only.

- For details of hook-up procedure etc. of the snap male connector **SL-CP1**/**CP2**, please refer to the instruction manual enclosed with the snap male connector.

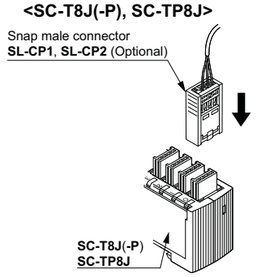
Connection method

1. Insert the **SL-CP1**/**CP2** with the cable connected, with holding its body, to each connector of the unit reliably.

<SC-T1J(-P)>



<SC-T8J(-P), SC-TP8J>



Disconnection method

1. Pull the **SL-CP1**/**CP2** out, with holding its body, from the unit vertically [horizontally for **SC-T1J**(**-P**)].

Note: Take care that if the connector is pulled by holding the cable, the cable may break.

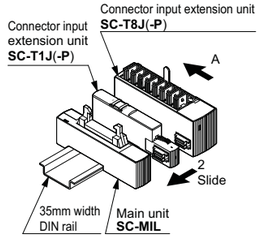
4 CASCADING UNITS

- Make sure to add or remove the units in the power supply off condition.
- After mounting all units in cascade, make sure to mount the end plates **MS-DIN-E** (optional) at both ends to hold the units between their flat sides.
- The sensor-PLC connection system **SC** series can be connected up to 16 channels (max.).
- When connecting the extension unit **SC-T1J**(**-P**), **SC-T8J**(**-P**) or **SC-TP8J** to the horizontal connecting connector type sensor amplifier in cascade, make sure to mount identical models together.

For mounting and removing the amplifier, refer to "**2** **MOUNTING**."

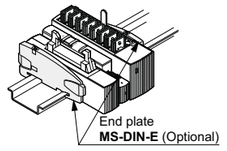
Cascading method

1. Mount **SC-MIL** with the extension unit, sensor amplifier and / or **SC-MIL-S**, as required, to the 35mm width DIN rail. When attaching these units, be sure that the **SC-MIL** is located to the leftmost position as shown in the diagram right.
(For details of **SC-MIL**, **SC-MIL-S** and sensor amplifier, refer to the instruction manual enclosed with each product.
2. Slide the extension unit, sensor amplifier and / or **SC-MIL-S**, installed in the direction of **SC-MIL** at step 1 and mount each connector closely without any gap between them.



Note: Pressing the units towards direction "A" in the diagram shown right makes them easier to slide.

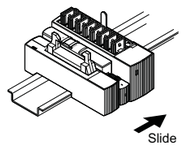
3. Mount the end plates **MS-DIN-E** (optional) at both ends to hold the units between their flat sides.
4. Tighten the screws to fix **MS-DIN-E**.



Note: In case the extension unit is located at the final end of the cascaded units, make sure to stick the connector protection seal enclosed with **SC-MIL** or **SC-MIL-S** to the unit.
For details, please refer to the instruction manual enclosed with **SC-MIL** or **SC-MIL-S**.

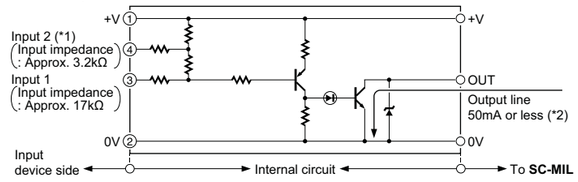
Dismantling method

1. Loosen the screws of **MS-DIN-E**. Slide the extension unit, sensor amplifier and **SC-MIL-S** and remove them one by one.



5 INPUT CIRCUIT (per channel)

<SC-T1J, SC-T8J>



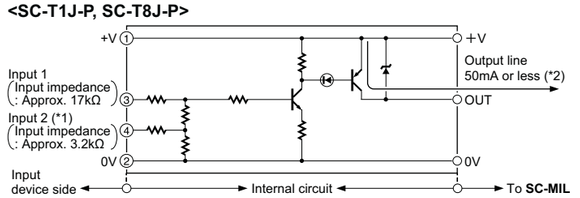
*1 (This can be used for **SC-T1J** only.)

For DC 2-wire type input device (24V DC only)
Leak current: 1mA or less (when the power is OFF)
Offset voltage: 3V or less (when the power is ON)
The product of which the load current range contains 5 to 8mA.

*2

Residual voltage: 1V or less (at 50mA sink current)

<SC-T1J-P, SC-T8J-P>



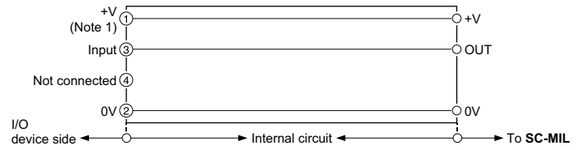
*1 (This can be used for **SC-T1J-P** only.)

For DC 2-wire type input device (24V DC only)
Leak current: 1mA or less (when the power is OFF)
Offset voltage: 3V or less (when the power is ON)
The product of which the load current range contains 5 to 8mA.

*2

Residual voltage: 1V or less (at 50mA source current)

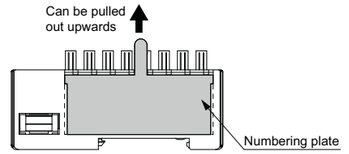
<SC-TP8J>



Notes: 1) Depends on the supply voltage from the **SC-MIL**.
2) When DC 2-wire type input device is used, connect a load recommended for the device externally.

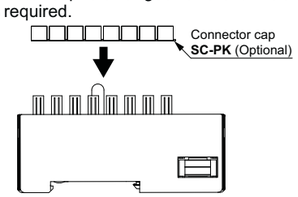
6 NUMBERING PLATE [SC-T8J(-P), SC-TP8J only]

- The connected device can be noted on the enclosed index seal, and when the index seal is attached to the numbering plate for **SC-T8J**(**-P**) or **SC-TP8J**, the connected unit can be confirmed at a glance.
When more index seal is required, purchase the optional index seal **SC-MA1** (10 pcs./set) separately.
Since it is possible to remove the numbering plate from the unit, it is readily possible to confirm the contents of unit connected.



7 CONNECTOR CAP (OPTIONAL) [SC-T8J(-P), SC-TP8J only]

- The connector cap **SC-PK** (optional) is used to protect the open connectors on **SC-T8J**(**-P**) and **SC-TP8J**.
Since the connector cap is arranged for 8 channels continuously, use it by cutting it as required.



8 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, even for the connected input device or I/O device, is within the rating.
- 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 (0.5 sec.) after the power supply is switched on.
- This sensor is suitable for indoor use only.
- If this product is used as a device conforming to CE (European Standard EMC Directive), depending on the connected device, it is recommended that a ferrite-core is connected on the signal line of the connected device.
- When the units are used in a condition that the connector part of the unit located at the final end in cascade connection is exposed, there may be malfunction or electric shock. Therefore, make sure to stick the connector protection seal enclosed with **SC-MIL** or **SC-MIL-S** on the connector part of the unit at the final end.

9 SPECIFICATIONS

<SC-T1J(-P), SC-T8J(-P)>

Item \ Model No.	Connector input extension unit			
	For NPN output type		For PNP output type	
	1 channel	8 channels	1 channel	8 channels
	SC-T1J	**SC-T8J**	**SC-T1J-P**	**SC-T8J-P**
Supply voltage	12 to 24V DC ±10%			
Current consumption (when all indicators light up) (Note 1)	Max. 20mA or less	Max. 60mA or less	Max. 20mA or less	Max. 60mA or less
Signal channel No.	1 input	8 inputs (Note 2)	1 input	8 inputs (Note 2)
Connectable device	NPN open collector output or DC 2-wire type sensor, or switch etc. (Note 3)	NPN open collector output sensor of switch etc. (Note 4)	PNP open collector output, or DC 2-wire type sensor, or switch etc. (Note 3)	PNP open collector output sensor of switch etc. (Note 4)
Supply current for units (Note 5)	100mA or less	800mA or less (At a total of 8 channels)	100mA or less	800mA or less (At a total of 8 channels)
Input impedance	Input 1: Approx. 17kΩ, Input 2: Approx. 3.2kΩ			
Power indicator	Green LED (Lights up when the power is ON)			
Input indicator	Green LED [**SC-T8J**(**-P**): 8 pcs.] (Lights up when each channel input is ON)			
Ambient temperature	-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 Frame: Polycarbonate	Enclosure: Heat-resistant ABS	Enclosure: Heat-resistant ABS Frame: Polycarbonate	Enclosure: Heat-resistant ABS
Weight	Approx. 10g	Approx. 40g	Approx. 10g	Approx. 40g
Accessory	**SL-CP1** (Snap male connector): 1 pc.	Index seal: 1 pc. (Note 6)	**SL-CP1** (Snap male connector): 1 pc.	Index seal: 1 pc. (Note 6)

Notes: 1) The current consumption and input current of input unit connected are not included.
2) The signal for 8 channels is occupied regardless of number of input units connected.
3) When using the DC 2-wire type input unit, connect the input wire to the terminal No. 4 (input 2) of **SL-CP1**/**CP2**. For terminal arrangement of **SL-CP1**/**CP2**, refer to the "**3** **CONNECTION**."
4) DC 2-wire type sensor and switch etc. cannot be connected.
5) Set the maximum current passing through input / output line, to 50mA or less.
6) The index seal can be stuck on the numbering plate. For numbering plate, refer to "**6** **NUMBERING PLATE**."

<SC-TP8J>

Item \ Model No.	Connector I/O mixed extension unit
	8 channels
	SC-TP8J
Supply voltage	5 to 24V DC ±10% (Note 1)
Current consumption (Note 2)	7mA or less
Signal channel No.	8 inputs / outputs (Note 3)
Connectable device	Commercial I/O devise
Supply current for units (Note 4)	800mA or less (At a total of 8 channels)
Power indicator	Green LED (Lights up when the power is ON)
Ambient temperature	-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. 40g
Accessory	Index seal: 1 pc. (Note 5)

Notes: 1) It depends on the power supply from **SC-MIL**.
2) The current consumption and input current of input unit connected are not included.
3) The signal for 8 channels is occupied regardless of number of I/O units connected.
4) Set the maximum current passing through input / output line, to 50mA or less.
5) The index seal can be stuck on the numbering plate. For numbering plate, refer to "**6** **NUMBERING PLATE**."

10 INTENDED PRODUCTS FOR CE MARKING

- The models listed under "**9** **SPECIFICATIONS**" come 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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