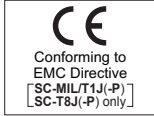
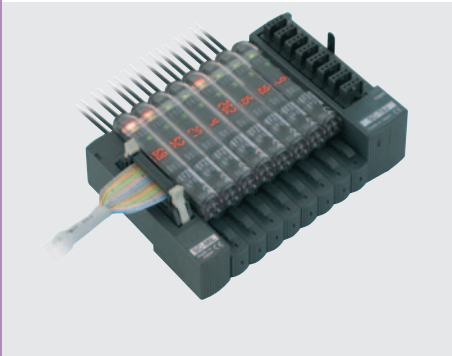


# SC SERIES

Related Information

- General terms and conditions..... F-7
- FX-500 / FX-300 / FX-410 / FX-311.....P.73~ / P.139~ / P.167~ / P.183~
- LS-500 / LS-400 / DPS-400 / GA-311 .....P.241~ / P.253~ / P.767~ / P.875~
- General precautions ..... P.1501



- 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.

[panasonic.net/id/pidsx/global](http://panasonic.net/id/pidsx/global)

## Up to 16 I/O devices can be connected at once using MIL connectors



### ORDER GUIDE

Designation	Appearance	Model No.	Description	
Main unit		<b>SC-MIL</b>	The MIL connector allows up to 16 input / output device connections to a PLC or custom circuit board, in a single step.	
Separate unit		<b>SC-MIL-S</b>	Distributed installations are possible through the use of a main unit and MIL connectors.	
1-channel connector input extension unit		<b>SC-T1J</b>	For NPN output devices	Allows the connection of input device, such as sensor or switch. Incorporates a power indicator and an input signal indicator (1 ch).
		<b>SC-T1J-P</b>	For PNP output devices	
8-channel connector input extension unit		<b>SC-T8J</b>	For NPN output devices	Allows the connection of input devices, such as sensors or switches. Incorporates a power indicator and input signal indicators (8 ch).
		<b>SC-T8J-P</b>	For PNP output devices	
8-channel connector I/O mixed extension unit		<b>SC-TP8J</b>	Allows the connection of a variety of input and output devices. This unit does not contain input / output signal indicators.	
Non-line connector		<b>CN-70</b>	This one-touch connector is used to connect the main unit to the following devices: The <b>FX-501/502/301/305/311</b> and <b>FX-411/412</b> fiber sensor, the <b>LS-401/403</b> laser sensor, digital pressure sensor <b>DPS-401/402</b> , the <b>GA-311</b> compact inductive proximity sensor, the <b>FX-CH(-P)</b> bank selection unit and the <b>SC-T1J(-P)</b> 1-channel connector input extension unit. (Note 1, 2)	

Notes: 1) The non-line connector now can be used with 4-pin types, such as the **FX-305** and **LS-401**, since its production run starting in August 2004.  
 2) Only the output 1 (OUT1) for the **FX-502/305**, **LS-401/403** and **DPS-401/402** can be output from the **SC-MIL**. There is no connection for output 2 (OUT2).

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- FA COMPONENTS
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- UV CURING SYSTEMS
- Upper Communication Unit
- MIL Connector Plug-in
- SC

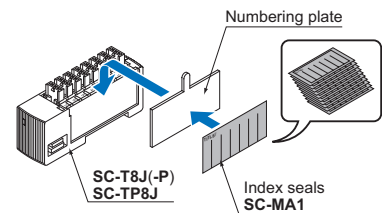
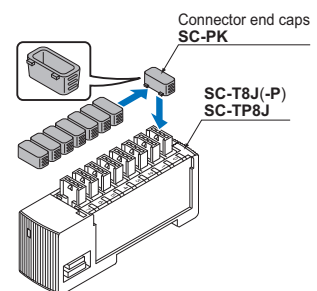
**ORDER GUIDE**

Designation	Appearance	Model No.	Description
4-pin type snap male connector (Note)		<b>SL-CP1 (White)</b> 10 pcs. per set	For 0.08 to 0.2 mm <sup>2</sup> (Conductor cross-section area) Wire diameter: $\phi 0.7$ to $\phi 1.2$ mm $\phi 0.028$ to $\phi 0.047$ in
		<b>SL-CP2 (Black)</b> 10 pcs. per set	For 0.3 mm <sup>2</sup> (Conductor cross-section area) Wire diameter: $\phi 1.1$ to $\phi 1.6$ mm $\phi 0.043$ to $\phi 0.063$ in
		<b>SL-CP3 (Greenish blue)</b> 10 pcs. per set	For 0.5 mm <sup>2</sup> (Conductor cross-section area) Wire diameter: $\phi 1.7$ to $\phi 2.5$ mm $\phi 0.067$ to $\phi 0.098$ in
End plates		<b>MS-DIN-E</b> 2 pcs. per set	After the SC series units have been attached to the DIN rail, all these devices must be secured firmly together by placing end plates at each of the ends and sandwiching the devices in between. Ensure that these end plates are used for this purpose.

Note: Exclusive pliers are also available. Refer to the sensor & wire-saving link system **S-LINK** pages for details.

**OPTIONS**

Designation	Model No.	Description
Index seals	<b>SC-MA1</b> 10 sheets per set	An identifier for each connector should be marked on each seal, then the seals should be applied to the numbering plates attached to both the 8-channel connector input unit and the 8-channel connector input / output unit.
Connector end caps	<b>SC-PK</b> 8 pcs. per set	Utilized to protect the unconnected ends of connectors, for both the 8-channel connector input unit and the 8-channel connector input / output unit.

**Index seals**• **SC-MA1****Connector end caps**• **SC-PK**

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**SC**

## SPECIFICATIONS

### Sensor units

Type	Main unit	Separate unit
Item	Model No.	SC-MIL-S
Supply voltage	12 to 24 V DC $\pm 10\%$ (Note 2) (In combination with <b>SC-TP8J</b> , the unit can be also used with a power supply of 5 to 24 V DC $\pm 10\%$ .)	Depends on the supply voltage from <b>SC-MIL</b>
Allowable through current (Note 3)	2 A or less (Same as maximum permissible current consumption of all units connected to <b>SC-MIL</b> .)	1 A or less (Same as maximum permissible current consumption of all units connected to <b>SC-MIL-S</b> .)
Signal channel No.	Connectable up to 16 channels (The signal from up to 16th point (counting from unit adjacent to <b>SC-MIL</b> ) of all units connected to <b>SC-MIL</b> is transferred.) However, the signal thereafter is not transferred. Note that <b>SC-MIL</b> and <b>SC-MIL-S</b> do not occupy any signal point.	
Max. distance between units	10 m <b>32.808 ft</b> or less (the distance between <b>SC-MIL</b> and PLC and that between <b>SC-MIL</b> and <b>SC-MIL-S</b> put together)	
Pollution degree	3 (Industrial environment)	
Ambient temperature	-10 to +45 °C <b>+14 to +113 °F</b> (No dew condensation or icing allowed), Storage: -20 to +70 °C <b>-4 to +158 °F</b>	
Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH	
Material	Enclosure: Heat-resistant ABS	
Weight	Net weight: 25 g approx.	Net weight: 20 g approx.
Dimensions	W16 × H39.5 × D85 mm <b>W0.630 × H1.555 × D3.346 in</b>	W20.15 × H39.5 × D85 mm <b>W0.793 × H1.555 × D3.346 in</b>
Accessory	Connector protection seal: 1 pc.	

- Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C **+68 °F**.  
 2) The plug-in sensor main unit **SC-MIL** incorporates a cable lead-out connector in addition to the MIL connector, which allows to receive the supply voltage from the separate power supply.  
 3) Same as maximum permissible current consumption of all units connected to **SC-MIL**. When either the permissible current amount of power supply unit or the permissible current amount of cable to be connected is 2 A or less, adjust the current to the smallest value.

### Non-line connector

Type	Non-line connector
Item	Model No.
Applicable unit	Refer to the list of " <a href="#">Applicable unit of non-line connector</a> "
Supply voltage	Depends on the supply voltage from <b>SC-MIL</b>
Supply current for units	100 mA or less
Signal channel No.	1 channel
Ambient temperature	-10 to +45 °C <b>+14 to +113 °F</b> (No dew condensation or icing allowed) Storage: -20 to +70 °C <b>-4 to +158 °F</b>
Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH
Material	Enclosure: ABS
Weight	Net weight: 4 g approx.

- Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C **+68 °F**.  
 2) The non-line connector now can be used with 4-pin types, such as the **FX-305** and **LS-401**, since its production run starting in August 2004.

### Applicable unit of non-line connector

Designation	Model No.	Description
1-channel input extension units	<b>SC-T1J</b>	For NPN output devices
	<b>SC-T1J-P</b>	For PNP output devices
	<b>FX-501/502</b>	For NPN output devices
	<b>FX-501P/502P</b>	For PNP output devices
Digital fiber sensors (Note)	<b>FX-301(B/G/H)</b> <b>FX-301-HS</b>	For NPN output devices
	<b>FX-301(B/G/H)P</b> <b>FX-301P-HS</b>	For PNP output devices
	<b>FX-305</b>	For NPN output devices
	<b>FX-305P</b>	For PNP output devices
	<b>FX-411(B/G)</b> <b>FX-412(B/G)</b>	For NPN output devices
	<b>FX-411(B/G)P</b>	For PNP output devices
Manually set fiber sensors	<b>FX-311(B/G)</b>	For NPN output devices
	<b>FX-311(B/G)P</b>	For PNP output devices
Digital fiber sensors for leak detection fiber / liquid detection fiber	<b>FX-301-F</b>	For NPN output devices
	<b>FX-301P-F</b>	For PNP output devices
Digital laser sensors (Note)	<b>LS-501</b>	For NPN output devices
	<b>LS-501P</b>	For PNP output devices
	<b>LS-401/403</b>	For NPN output devices
	<b>LS-401P</b>	For PNP output devices
Digital pressure sensor	<b>DPS-401/402</b>	For NPN output devices
Compact inductive proximity sensor	<b>GA-311</b>	For NPN output devices
Bank selection unit	<b>FX-CH</b>	For NPN input devices
	<b>FX-CH-P</b>	For PNP input devices

Note: Only the output 1 (OUT1) for the **FX-502/305**, **LS-401/403** and **DPS-401/402** can be output from the **SC-MIL**. There is no connection for output 2 (OUT2).

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**SPECIFICATIONS****Connector extension units**

Item	Model No.	Connector input extension unit				Connector I/O mixed extension unit
		For NPN output devices		For PNP output devices		
		1 channel	8 channels	1 channel	8 channels	8 channels
		<b>SC-T1J</b>	<b>SC-T8J</b>	<b>SC-T1J-P</b>	<b>SC-T8J-P</b>	<b>SC-TP8J</b>
Supply voltage		12 to 24 V DC $\pm 10\%$				5 to 24 V DC $\pm 10\%$ (Note 2)
Current consumption (Note 3)		20 mA or less (when all indicators light up)	60 mA or less (when all indicators light up)	20 mA or less (when all indicators light up)	60 mA or less (when all indicators light up)	7 mA or less
Signal channel No.		1 input	8 inputs (Note 4)	1 input	8 inputs (Note 4)	8 inputs / outputs (Note 5)
Connectable device		NPN open-collector, or DC 2-wire output type sensor, or switch etc.	NPN open-collector output sensor or switch etc. (Note 6)	PNP open-collector, or DC 2-wire output type sensor, or switch etc.	PNP open-collector output sensor or switch etc. (Note 6)	Commercially available I/O device including DC 2-wire type sensor
Supply current for units (Note 7)		100 mA or less	800 mA or less (At a total of 8 channels)	100 mA or less	800 mA or less (At a total of 8 channels)	800 mA or less (At a total of 8 channels)
Power indicator		Green LED (Lights up when the power is ON)				
Input indicator		Green LED [ <b>SC-T1J(-P)</b> : 1 No., <b>SC-T8J(-P)</b> : 8 Nos.] (Lights up when each channel input is ON)				—————
Ambient temperature		-10 to +45 °C +14 to +113 °F (No dew condensation or icing allowed), Storage: -20 to +70 °C -4 to +158 °F				
Ambient humidity		35 to 85 % RH, Storage: 35 to 85 % RH				
Material		Enclosure: Heat-resistant ABS				
Net weight		10 g approx.	40 g approx.	10 g approx.	40 g approx.	
Dimensions		W10 × H27.5 × D64.5 mm W0.394 × H1.083 × D2.539 in	W29.15 × H39.65 × D85 mm W1.148 × H1.561 × D3.347 in	W10 × H27.5 × D64.5 mm W0.394 × H1.083 × D2.539 in	W29.15 × H39.65 × D85 mm W1.148 × H1.561 × D3.347 in	W29.15 × H39.65 × D85 mm W1.148 × H1.561 × D3.347 in
Accessories		<b>SL-CP1</b> (Snap male connector): 1 pc.	Index seal: 1 pc.	<b>SL-CP1</b> (Snap male connector): 1 pc.	Index seal: 1 pc.	

- Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C +68 °F.  
2) It depends on the power supply from **SC-MIL**.  
3) The current consumption and input current of the input unit connected are not included.  
4) The signal for 8 channels is occupied regardless of number of input units connected.  
5) The signal for 8 channels is occupied regardless of number of I/O units connected.  
6) DC 2-wire type sensor and switch etc. cannot be connected.  
7) Set the maximum current passing through input / output line to 50 mA or less.

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