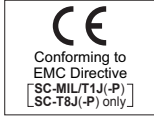
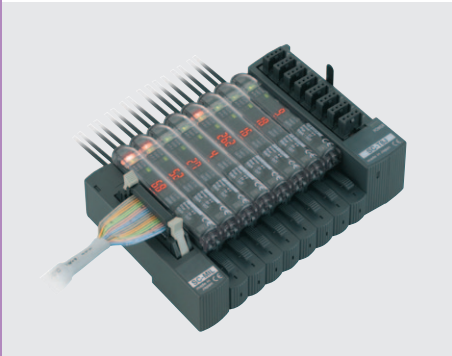


SC SERIES

- FIBER SENSORS
- LASER SENSORS
- PHOTOELECTRIC SENSORS
- MICRO PHOTOELECTRIC SENSORS
- AREA SENSORS
- LIGHT CURTAINS
- PRESSURE / FLOW SENSORS
- INDUCTIVE PROXIMITY SENSORS
- PARTICULAR USE SENSORS
- SENSOR OPTIONS

Related Information

- General terms and conditions..... F-17
- FX-500 / FX-300 / FX-410 / FX-311... P.115~ / P.177~ / P.205~ / P.223~
- LS / DPS-400 / GA-311 P.265~ / P.699~ / P.821~
- General precautions P.1405



- 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.

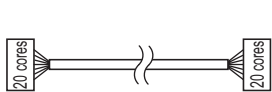
panasonic-electric-works.net/sunx

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

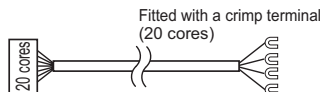
ORDER GUIDE

Designation	Appearance	Model No.	Description	
Main unit	 (Note 1)	SC-MIL	The MIL connector allows up to 16 input / output device connections to a PLC or custom circuit board, in a single step.	
Separate unit	 (Note 1)	SC-MIL-S	Distributed installations are possible through the use of a main unit and MIL connectors.	
1-channel connector input extension unit		SC-T1J	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).
		SC-T1J-P	For PNP output devices	
8-channel connector input extension unit		SC-T8J	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).
		SC-T8J-P	For PNP output devices	
8-channel connector I/O mixed extension unit		SC-TP8J	Allows the connection of a variety of input and output devices. This unit does not contain input / output signal indicators.	
Non-line connector		CN-70	This one-touch connector is used to connect the main unit to the following devices: The FX-501/502/301/305/311 and FX-411/412 fiber sensor, the LS-401/403 laser sensor, digital pressure sensor DPS-401/402 , the GA-311 compact inductive proximity sensor, the FX-CH(-P) bank selection unit and the SC-T1J(-P) 1-channel connector input extension unit. (Note 2, 3)	

Notes: 1) For device connections, using the Panasonic Electric Works Co., Ltd. MIL connector attached cable is most recommended. Connect in a way so that the 20-core connector links up with the 16-channel unit. Please consult with the maker directly for details.



Double-end MIL connector attached cable (20 cores)
Panasonic Electric Works Co., Ltd.
AY15840, etc.
PC relay terminal / PC terminal additional mounting cable





One-end MIL connector attached cable (20 cores)
Panasonic Electric Works Co., Ltd.
AY15853, etc.
Multi-core crimp terminal cable for relays

Compatible with Panasonic Electric Works Co., Ltd. MIL connector relay terminal pin arrangement.
Contact our office for details.

- 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.
- 3) 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).

- SIMPLE WIRE-SAVING UNITS
- WIRE-SAVING SYSTEMS
- MEASUREMENT SENSORS
- STATIC CONTROL DEVICES
- ENDOSCOPE
- LASER MARKERS
- PLC / TERMINALS
- HUMAN MACHINE INTERFACES
- ENERGY CONSUMPTION VISUALIZATION COMPONENTS
- FA COMPONENTS
- MACHINE VISION SYSTEMS
- UV CURING SYSTEMS
- Upper Communication Unit
- MIL Connector Plug-in
- SC**

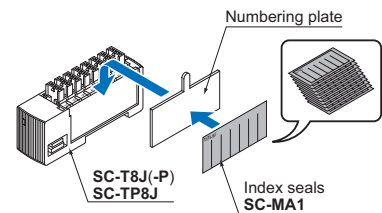
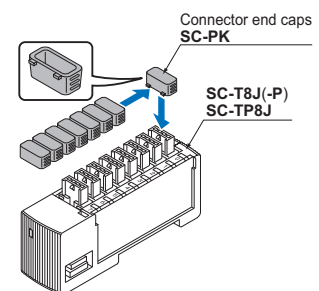
ORDER GUIDE

Designation	Appearance	Model No.	Description
4-pin type snap male connector (Note)		SL-CP1 (White) 10 pcs. per set	For 0.08 to 0.2 mm ² (Conductor cross-section area) Wire diameter: $\phi 0.7$ to $\phi 1.2$ mm $\phi 0.028$ to $\phi 0.047$ in
		SL-CP2 (Black) 10 pcs. per set	For 0.3 mm ² (Conductor cross-section area) Wire diameter: $\phi 1.1$ to $\phi 1.6$ mm $\phi 0.043$ to $\phi 0.063$ in
		SL-CP3 (Greenish blue) 10 pcs. per set	For 0.5 mm ² (Conductor cross-section area) Wire diameter: $\phi 1.7$ to $\phi 2.5$ mm $\phi 0.067$ to $\phi 0.098$ in
End plates		MS-DIN-E 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	SC-MA1 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	SC-PK 8 pcs. per set	Connector end caps are 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**FIBER
SENSORSLASER
SENSORSPHOTO-
ELECTRIC
SENSORSMICRO
PHOTO-
ELECTRIC
SENSORSAREA
SENSORSLIGHT
CURTAINSPRESSURE /
FLOW
SENSORSINDUCTIVE
PROXIMITY
SENSORSPARTICULAR
USE
SENSORSSENSOR
OPTIONSSAMPLE
WIRESAVING
UNITSWIRESAVING
SYSTEMSMEASURE-
MENT
SENSORSSTATIC
CONTROL
DEVICES

ENDSCOPE

LASER
MARKERSPLC /
TERMINALSHUMAN
MACHINE
INTERFACESENERGY
CONSUMPTION
VISUALIZATION
COMPONENTSFA
COMPONENTSMACHINE
VISION
SYSTEMSUV
CURING
SYSTEMSUpper
Communication Unit
MIL Connector
Plug-in**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 SC-TP8J , the unit can be also used with a power supply of 5 to 24 V DC $\pm 10\%$.)	Depends on the supply voltage from SC-MIL
Allowable through current (Note 3)	2 A or less (Same as maximum permissible current consumption of all units connected to SC-MIL .)	1 A or less (Same as maximum permissible current consumption of all units connected to SC-MIL-S .)
Signal channel No.	Connectable up to 16 channels (The signal from up to 16th point (counting from unit adjacent to SC-MIL) of all units connected to SC-MIL is transferred.) However, the signal thereafter is not transferred. Note that SC-MIL-S does not occupy any signal point.	
Max. distance between units	10 m 32.808 ft or less (the distance between SC-MIL and PLC and that between SC-MIL and SC-MIL-S put together)	
Pollution degree	3 (Industrial environment)	
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	
Weight	Net weight: 25 g approx.	Net weight: 20 g approx.
Dimensions	W16 × H39.5 × D85 mm W0.630 × H1.555 × D3.346 in	W20.15 × H39.5 × D85 mm W0.793 × H1.555 × D3.346 in
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 " Applicable unit of non-line connector "
Supply voltage	Depends on the supply voltage from SC-MIL
Supply current for units	100 mA or less
Signal channel No.	1 channel
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: 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	SC-T1J	For NPN output devices
	SC-T1J-P	For PNP output devices
	FX-501/502	For NPN output devices
	FX-501P/502P	For PNP output devices
Digital fiber sensors (Note)	FX-301(B/G/H) FX-301-HS	For NPN output devices
	FX-301(B/G/H)P FX-301P-HS	For PNP output devices
	FX-305	For NPN output devices
	FX-305P	For PNP output devices
	FX-411(B/G) FX-412(B/G)	For NPN output devices
	FX-411(B/G)P	For PNP output devices
Manually set fiber sensors	FX-311(B/G)	For NPN output devices
	FX-311(B/G)P	For PNP output devices
Digital fiber sensors for leak detection fiber / liquid detection fiber	FX-301-F	For NPN output devices
	FX-301P-F	For PNP output devices
Digital laser sensors (Note)	LS-401/403	For NPN output devices
	LS-401P	For PNP output devices
Digital pressure sensor	DPS-401/402	For NPN output devices
Compact inductive proximity sensor	GA-311	For NPN output devices
Bank selection unit	FX-CH	For NPN input devices
	FX-CH-P	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).

FIBER SENSORS

LASER SENSORS

PHOTO-ELECTRIC SENSORS

MICRO PHOTO-ELECTRIC SENSORS

AREA SENSORS

LIGHT CURTAINS

PRESSURE / FLOW SENSORS

INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS

SIMPLE WIRE-SAVING UNITS

WIRE-SAVING SYSTEMS

MEASURE-MENT SENSORS

STATIC CONTROL DEVICES

ENDOSCOPE

LASER MARKERS

PLC / TERMINALS

HUMAN MACHINE INTERFACES

ENERGY CONSUMPTION VISUALIZATION COMPONENTS

FA COMPONENTS

MACHINE VISION SYSTEMS

UV CURING SYSTEMS

Upper Communication Unit

MIL Connector Plug-in

SC

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
		SC-T1J	SC-T8J	SC-T1J-P	SC-T8J-P	SC-TP8J
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)	Commercial I/O device
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 [SC-T1J(-P) : 1 No., SC-T8J(-P) : 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.	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		SL-CP1 (Snap male connector): 1 pc.	Index seal: 1 pc.	SL-CP1 (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.

FIBER
SENSORSLASER
SENSORSPHOTO-
ELECTRIC
SENSORSMICRO
PHOTO-
ELECTRIC
SENSORSAREA
SENSORSLIGHT
CURTAINSPRESSURE /
FLOW
SENSORSINDUCTIVE
PROXIMITY
SENSORSPARTICULAR
USE
SENSORSSENSOR
OPTIONSSIMPLE
WIRESAVING
UNITSWIRESAVING
SYSTEMSMEASURE-
MENT
SENSORSSTATIC
CONTROL
DEVICES

ENDOSCOPE

LASER
MARKERSPLC /
TERMINALSHUMAN
MACHINE
INTERFACESENERGY
CONSUMPTION
VISUALIZATION
COMPONENTSFA
COMPONENTSMACHINE
VISION
SYSTEMSUV
CURING
SYSTEMSUpper
Communication UnitMIL Connector
Plug-in

SC