Remote I/O Unit with Connectors for Light Curtain CC-Link Safety System

SF-CL1T264T

Related Information
■ General terms and conditions..... F-17
■ SF-C10 ..... P.633~
■ SF4B..... P.553~
■ General precautions P.1405

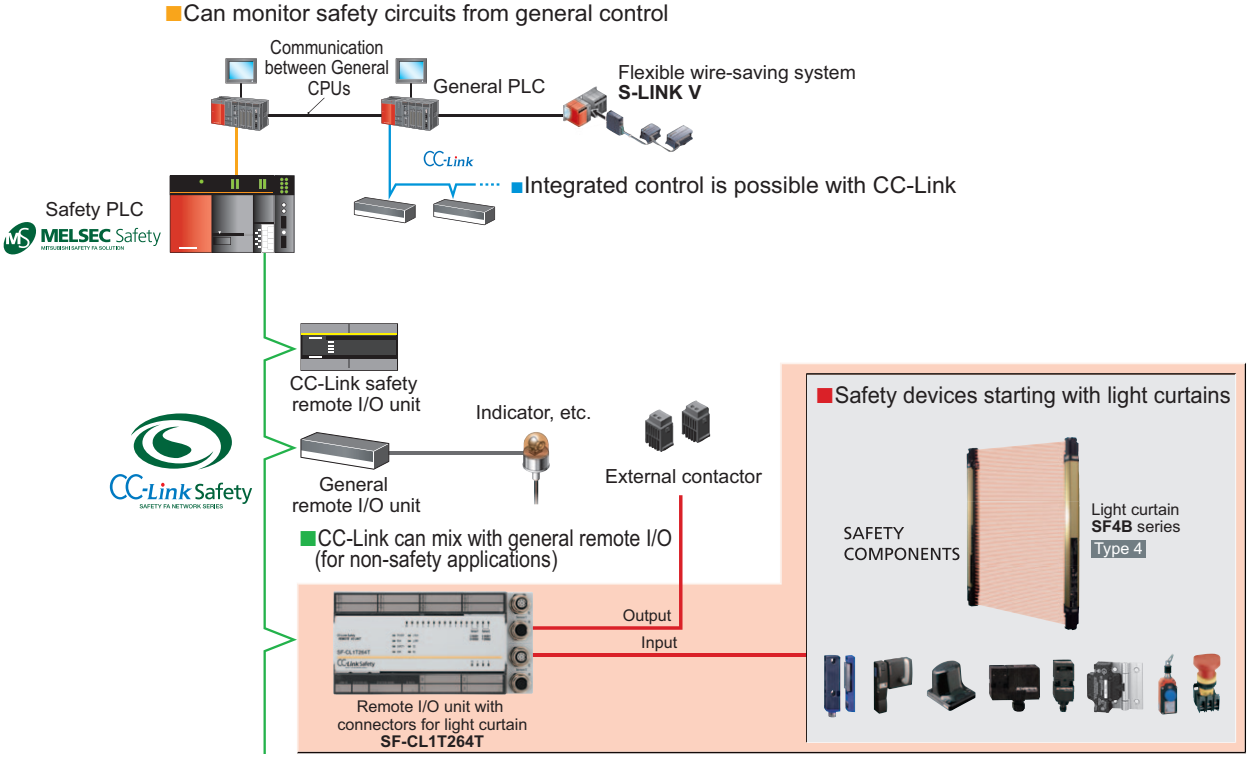
Conforming to Machine & EMC Directive

panasonic-electric-works.net/sunx

Combining light curtains and safety components into a single network with less wiring

Network control is possible for light curtains and safety devices

Light curtains and safety devices can be controlled with a network by connecting them to the safety field network CC-Link Safety.



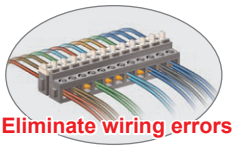
CC-Link Safety is an expanded safety field network which reinforces the communication error sensing function of CC-Link field network to provide greater equipment safety features. It complies with Category 4 control as specified in the ISO 13849-1 (JIS B 9705-1) international standard.

Wire-saving! Easy connection to the SF4B series of light curtains

Up to two sets of the **SF4B** series of light curtains can be easily connected using connectors. (If a terminal block is used, more than two sets can be connected.)

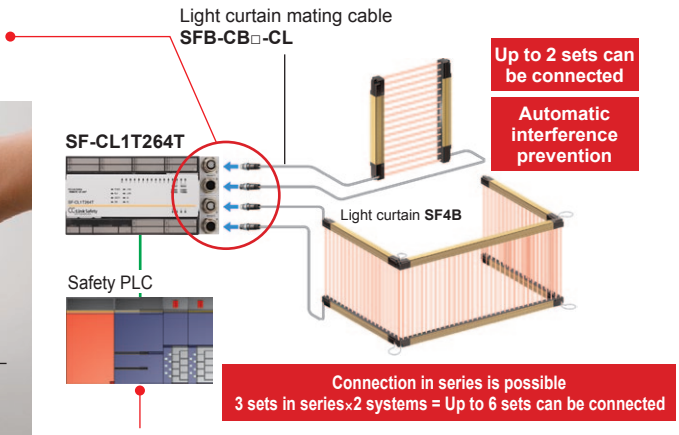
■Quick connection

Wiring for every two sets of light curtains can be easily connected with connectors.



<Previous>
Connected using
approx. 20 lead wires

Eliminate wiring errors



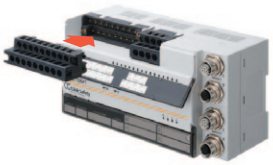
■Safety PLC parameters have been set for light curtains

The parameters in the CSP file have already been default set to values such as “Do not carry out input dark test” to make operation of the light curtains easy

* The CSP file can be downloaded from our website.
In addition, refer to the instruction manual for details on parameter settings.

Terminal block can be installed and removed

Because the terminal block can be installed and removed with the cables still attached, the man-hours required for maintenance is greatly reduced.

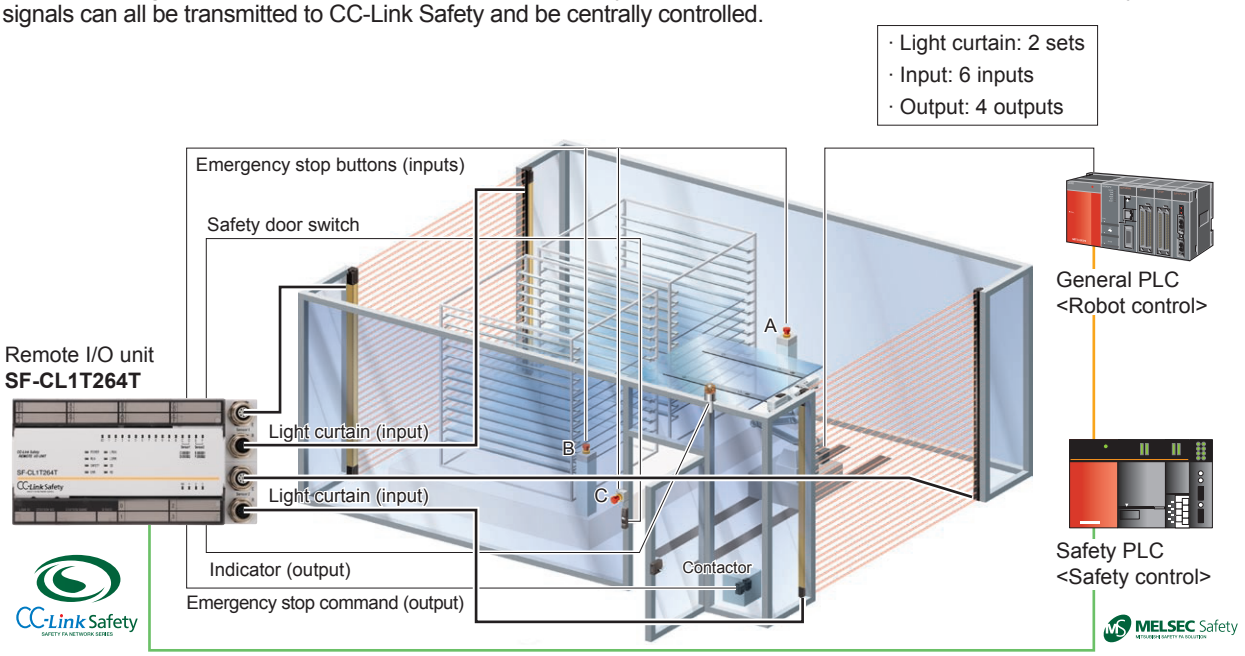


Cost reduction

It contributes to the cost reduction due to shortening of the time for development, design change and maintenance, and saving wiring.

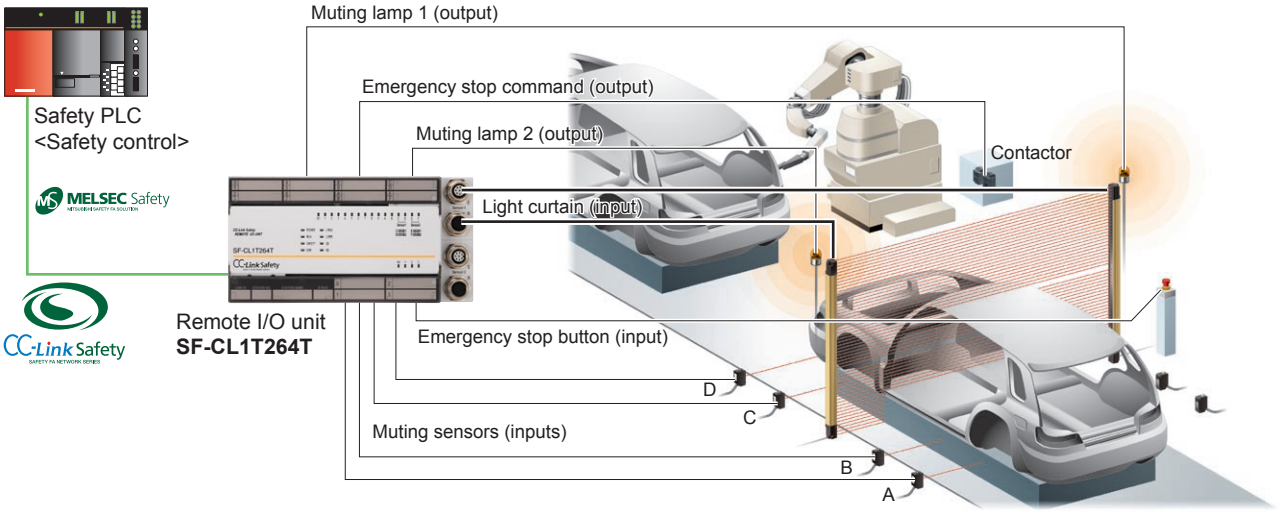
Connect all your safety components to a single network

In addition to light curtains, peripheral I/O units such as safety components can also be connected so that safety circuit signals can all be transmitted to CC-Link Safety and be centrally controlled.



Muting control can also be set using sequence program

Light curtain muting can also be controlled by means of a program, so that the line will only stop when a person passes through, and will not stop when a workpiece passes through.



Muting control

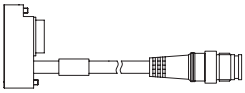
This carries out control so that the line will not be stopped when a workpiece passes in between the emitter and receiver of the light curtain. The line will be stopped when a person passes between them. When two or more of the four muting sensors are interrupted simultaneously, the cause is judged to be a workpiece passing through. This prevents the line from stopping when a workpiece passes through the light curtain, thereby maintaining productivity. Refer to **SF4B** series pages for details.

ORDER GUIDE

Remote I/O unit

Designation	Appearance	Model No.	Connectable light curtains
CC-Link Safety system I/O unit with connectors for light curtain		**SF-CL1T264T**	**SF4B** series

Light curtain mating cable

Type		Appearance	Model No.	Description	
Bottom cap cable			**SFB-CB05-CL**	Length: 0.5 m 1.640 ft Net weight 110 g approx. (2 cables)	Used for connecting to the **SF4B** series and to the **SF-CL1T264T** or an extension cable. Two cables per set for emitter and receiver. Cable outer diameter: ø6 mm ø0.236 in Connector outer diameter: ø14 mm ø0.551 in max. Cable color: Gray (for emitter), Gray with black line (for receiver) Min. bending radius: R6 mm R0.236 in
			SFB-CB5-CL	Length: 5 m 16.404 ft Net weight 620 g approx. (2 cables)	
			SFB-CB10-CL	Length: 10 m 32.808 ft Net weight 1,200 g approx. (2 cables)	
Extension cable	For emitter		**SFB-CCJ10E-CL**	Length: 10 m 32.808 ft Net weight 560 g approx. (1 cable)	Used for connecting to an extension cable. One cable per set for emitter and receiver. Cable outer diameter: ø6 mm ø0.236 in Connector outer diameter: ø14 mm ø0.551 in max. Cable color: Gray (for emitter), Gray with black line (for receiver) Connector color: Gray (for emitter), Black (for receiver) Min. bending radius: R6 mm R0.236 in
	For receiver		**SFB-CCJ10D-CL**	Length: 10 m 32.808 ft Net weight 640 g approx. (1 cable)	

SPECIFICATIONS

Item \ Designation		CC-Link Safety system I/O unit with connectors for light curtain
Item \ Model No.		**SF-CL1T264T**
Connectable light curtain		**SF4B** series
Applicable standard		IEC 61508 SIL 3
Control category		ISO 13849-1 (EN 954-1, JIS B 9705-1) compliance up to Category 4
Unit power (Note 2)	Supply voltage	24 V DC ±10 % Ripple P-P 10 % or less
	Current consumption	140 mA or less (24 V DC, with all points ON)
	Protective function	Unit power overvoltage / overcurrent protection function
	Fuse	0.8 A (Not replaceable)
	Momentary power failure period	10ms or less
Input specifications	No. of input points (Note 3)	Input of light curtain: 2 points (with interference prevention function), Input of terminal block: 6 points (input terminals: 12 points)
	Insulation method	Photocoupler
	Rated input voltage	24 V DC
	Rated input current	4.6 mA approx.
	Operating voltage range	24 V DC ±10 % Ripple P-P 10 % or less
	Max. simultaneous input points	100 %
	ON voltage / ON current	15 V DC or more / 2 mA or more
	OFF voltage / OFF current	5 V DC or less / 0.5 mA or less
	Input resistance	5.6 kΩ approx.
	Input type	Negative common
	Response time	OFF → ON: 0.4 ms or less (at 24 V DC, excluding connecting device), ON → OFF: 0.4 ms or less (at 24 V DC, excluding connecting device)
	Safety remote station input response time	32 ms or less + filter-out time (1 ms, 5 ms, 10 ms, 20 ms, 50 ms)
Output specifications	No. of output points	4 points (source + sink type), 2 points (source + source type)
	Insulation method	Photocoupler
	Rated load voltage	24 V DC
	Rated load voltage range	24 V DC ±10 % Ripple P-P 10 % or less
	Max. load current	0.5 A / point
	Inrush current	1.0 A (10 ms or less)
	Leakage current	0.5 mA or less
	Residual voltage	1.0 V DC or less
	Protective function	Output short-circuit protection function
	Output type	Source + sink type, Source + source type
	Response time	OFF → ON: 0.4 ms or less (at 24 V DC), ON → OFF: 0.4 ms or less (at 24 V DC)
	Safety remote station input response time	32 ms or less
	Surge protection	Incorporated (Zener diode)
External power supply (For external device) (Note 3)	Voltage	24 V DC ±10 % Ripple P-P 10 % or less
	Current	60 mA (24 V DC, with all points ON, excluding external load current)
	Protective function	External power supply overvoltage / overcurrent protection function
	Fuse	8 A (Not replaceable)
Wiring method for common		16 input points / common, 4 output points / common (Terminal block 2-wire type)
Common current		Max. 4 A (Total of inputs and outputs)
No. of stations occupied		1 station
No. of access to nonvolatile memory		10^{12} times
Safety refresh response processing		38 ms
Overvoltage category		Ⅱ
Pollution degree		2
Environmental resistance	Protection	IP20
	Ambient temperature	0 to +55 °C +32 to +131 °F (No dew condensation), Storage: -40 to +75 °C –40 to +167 °F
	Ambient humidity	5 to 95 % RH, Storage: 5 to 95 % RH
	Dielectric withstand voltage	500V AC between all external DC terminals and ground, for 1 minute
	Insulation resistance	10 MΩ or more between all external DC terminals and ground, by a 500 V DC insulation resistance tester
	Vibration resistance / Shock resistance	Conforming to JIS B 3502, IEC 61131-2
Material		Enclosure: ABS
External connection system		Terminal block, 2 crimp-style terminals or less
Cable		0.3 to 2.0 mm^2
Applicable crimp-style terminal		RAV1.25-3 (Conforming to JIS B 2805) (Applicalbe wire size: 0.3 to 1.25 mm^2)
Weight		Net weight: 0.7 kg 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 power supply connected to this product must satisfy the following conditions:
① SELV (Safety Extra Low Voltage): Reinforced insulated from hazardous potential part (48 V or more)
② Compliance with the LVD (Low Voltage Directive)
③ Output voltage within 21.6 V to 26.4 V DC (Ripple P-P: 10 % or less.)
3) Total number of input points is 8 points, and use 2 points for control output (OSSD 1, 2) of 2 light curtains. Two inputs terminals are assigned for each input since dual wiring is supported.

PRECAUTIONS FOR PROPER USE

Refer to General precautions.

- When installing this product to a control panel, provide clearance of at least 60 mm 2.362 in between the unit's top / bottom and any other structure or component to ensure proper airflow and to make unit replacement easy.

DIMENSIONS (Unit: mm in)

The CAD data in the dimensions can be downloaded from our website.