



Industry's First ^{*1}

IO-Link Communication Unit For "visualization" of safety light curtains ^{*2}

^{*1} As of June 2018, in-company survey
^{*2} SF4D series only



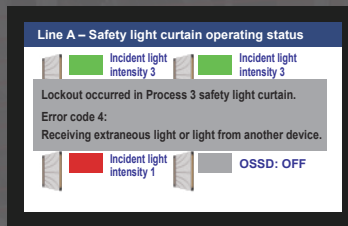
Easy add-on!
No alteration of safety circuit necessary

Remote monitoring of safety light curtain status



Confirmation of light intensity margin

Incident light intensity information enables the determination of whether maintenance is necessary or not. This helps prevent shut-down of the line due to light beam deviation or dirty sensor. The information is also useful in conducting remote inspection or the like at the start of work.



Confirmation of error history

If an error occurs, the source of the error and its detail can be checked remotely, thus facilitating the identification of the problem location and analysis of the cause.

Storage of setting data, restoration of settings

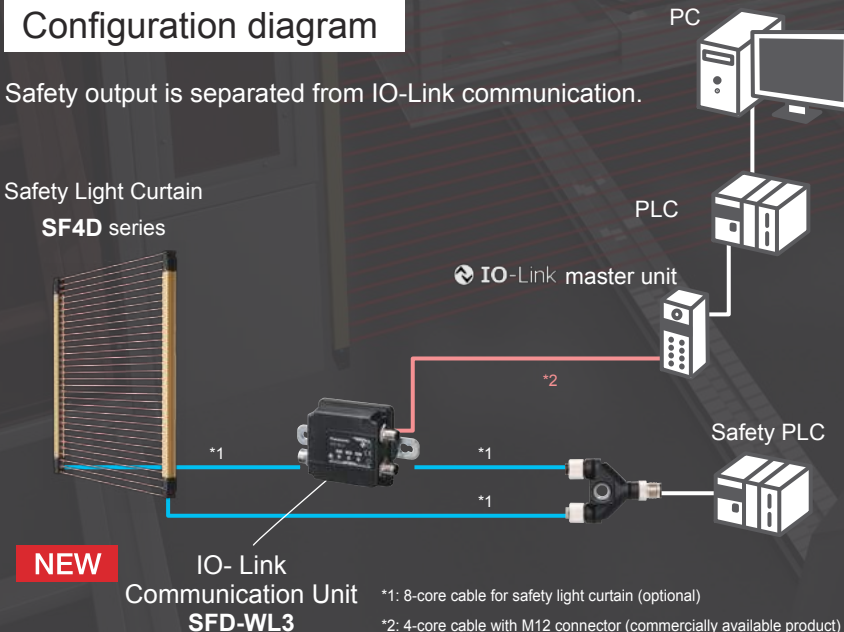


One-touch setting after replacement

The setting data stored in the communication unit allows one-touch restoration of the settings when the safety light curtain is replaced.

Configuration diagram

Safety output is separated from IO-Link communication.



Example of IO-Link data output

Process data

- Light received / blocked information
- Stable / unstable incident light information
- Extraneous light information
- Emitter / receiver lockout information
- Incident light intensity information (OFF, 1, 2, 3)
- OSSD output information
- Communication control status
- Number of units in series connection

Service data

- Safety light curtain main unit information
- SFD-WL3 main unit information
- Incident light intensity information of individual beams (32 levels)
- Error code

Note: The product and IO-Link master unit must be connected with a cable of 0.3 mm² or more. The total length of the cable must not exceed 20 m 65.517 ft.

SPECIFICATIONS

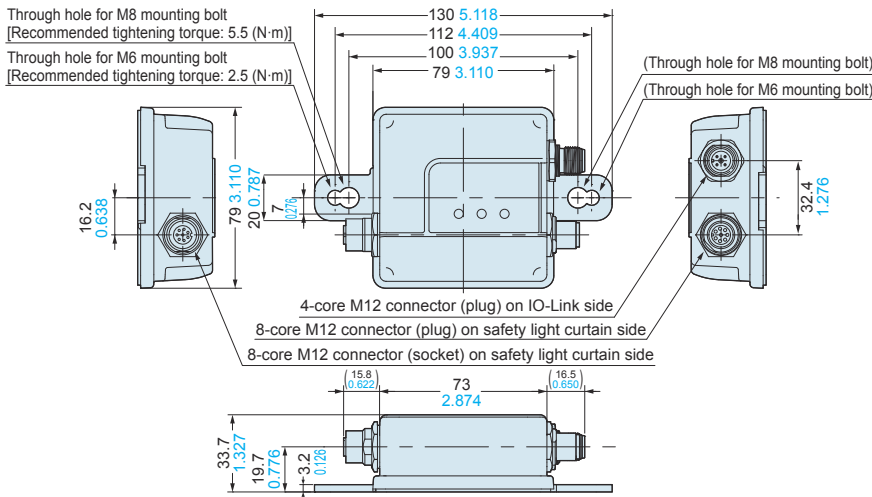
Product name		IO-Link communication unit for safety light curtain SF4D series		Degree of protection		IP64	
Model No.		SFD-WL3		Excess voltage category		1	
Regulatory compliance		EMC Directive, RoHS Directive		Pollution degree		3	
Communication method	Safety light curtain communication side	RS-485 bidirectional communication (dedicated protocol)		Operating altitude		2,000 m 6561.68 ft or less (Note 2)	
	IO-Link communication side	IO-Link specifications: Ver. 1.1		Ambient temperature		-10 to +55°C 14 to 131°F (No dew condensation or icing allowed), Storage: -25 to +60°C -13 to 140°F	
		Baud rate: COM3 (230.4 kbps)		Ambient humidity		30 to 85% RH, Storage: 30 to 95% RH	
		Data length: 18 bytes, process data (PD)		Connection method	Safety light curtain communication side	8-core cable for safety light curtain (optional)	
		Minimum cycle time: 1.5 ms			IO-Link communication side	4-core cable with M12 connector (commercially available product)	
Supply voltage	Safety light curtain communication side	24V DC $+20_{-30}$ % Ripple P-P 10 % or less		Material		Main unit case: PA66 (with glass) Base plate: SPCC + Plating Product model nameplate: Polyester External connection connector: Brass + Plating	
	IO-Link communication side	24V DC $+20_{-25}$ % Ripple P-P 10 % or less				Weight	
Current consumption	Safety light curtain communication side	15 mA or less		Functions			
	IO-Link communication side	30 mA or less					
Number of connectable units		This product	1 unit		Environmental resistance		
		Safety light curtains in series connection	Up to 5 units (total number of beam channels 256 or less)				
		Dielectric strength voltage	1,000 V AC for one minute, between all supply terminals connected together and enclosure		Shock resistance		
		Insulation resistance	20 MΩ or more, with 500 V DC megger, between all supply terminals connected together and enclosure				
		Vibration resistance	10 to 55 Hz, 0.75 mm 0.030 in double amplitude in X, Y, and Z directions for two hours each Malfunction resistance 10 to 55 Hz, 0.75 mm 0.030 in double amplitude in X, Y, and Z directions twenty times each				
		Shock resistance	300 m/s ² acceleration (30 G approx.) in X, Y, and Z directions three times each Malfunction resistance 100 m/s ² acceleration (10 G approx.) in X, Y, and Z directions 1,000 times each				

Use the safety light curtain monitoring information obtained via IO-Link only for diagnostic purposes. Do not use it for safety control purposes.

- Notes: 1) • The internal memory (nonvolatile) of this product has a service life. Settings cannot be configured more than 100,000 times.
 • This product cannot be used to directly enter settings from the IO-Link master unit to a safety light curtain using IO-Link communication.
 • The safety light curtain setting data copy function is designed only for use in maintenance / replace of safety light curtains.
 Use the copy function only for loading the setting data of the previous safety light curtain to a new unit. Loading the data to a device other than a newly installed safety light curtain may result in improper device operation.
 • This function cannot be used unless the product is connected with the IO-Link master unit and IO-Link communication is used.
 2) Do not use or store in an environment pressurized to atmospheric pressure or higher at an altitude of 0 m.

DIMENSIONS (Units: mm in)

The CAD data can be downloaded from our website.



Regarding the information of the safety light curtain **SF4D** series, please see our catalog.

Visit our website for details!



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