

Mitsubishi Safety Controller
MELSEC Safety

New Product Release

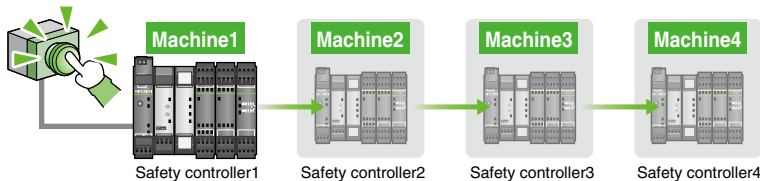
No. 324E-A

WS0-CPU1
(EFI version) CPU module

**Easily achieve low-cost safety communications between safety controllers.
No special communications modules are required. Simply connect the CPU modules.**

Before Communication between independent devices is lacking

Several devices require a form of safety communication to cooperate with each other.



I'd like to have cooperation between devices and send a warning to the next process when an abnormal operation occurs.



I'd like to have an easy way to connect several devices...

But, I need to keep costs in check.

System designer

New!
Support for Flexi Link¹
(supports EFI interface)



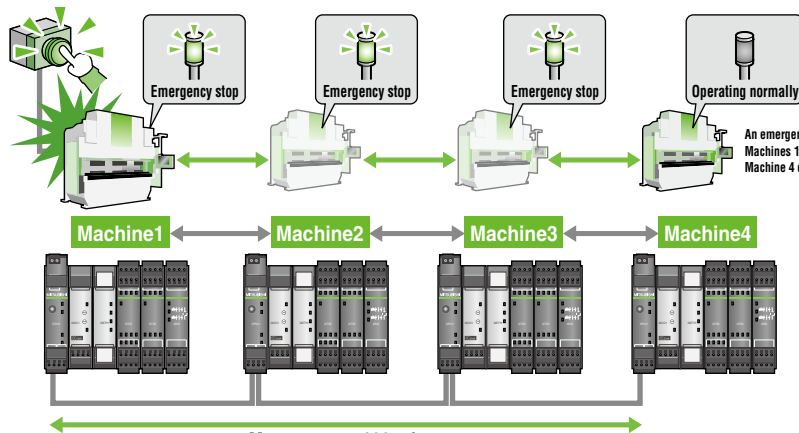
WS0-CPU1

Powered by SICK

*1) Flexi Link, developed by SICK AG, is a safety communication network for use between safety controllers. EFI is a communication interface for configuring and monitoring safety equipment made by SICK.

After The Flexi Link cable connection between CPU modules enables safety communication

The Flexi Link cable connection between safety controllers allows the control of devices. Furthermore, configuration of safety communication processing and devices is easy.



Up to 4 safety controllers may be connected!

Establish low-cost communications between safety controllers!

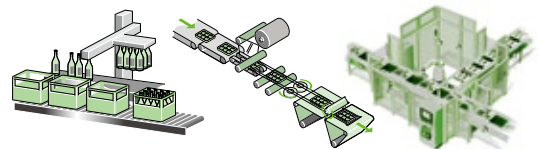
Safety communication is established using Flexi Link!
It is perfect for the coordination of 2 to 4 devices!

Cooperation between devices and processes enables improvements to the safety of production systems.



System designer

Flexi Link enables the cooperation of safety controllers!
It is useful for variety of production environments!



Main features



WS0-CPU1

Firmware version
V2.00 (revision 2.xx)

- The EFI interface^{*1} enables up to 4 safety controllers to establish safety data communication.
- Using Flexi Link^{*2} it is possible to share process data, I/O points, logic results, etc. between safety controllers.
- Send and receive up to 52 bits of information per station.
(Each EFI interface can use up to 26 bits.)
- Each bit may be assigned a global tag name.
- Using the Setting and Monitoring Tool, an arbitrary station can be used to configure address specifications and other settings of the entire system.

*1) EFI is a communications interface for configuration and monitoring of SICK brand safety equipment.

*2) Flexi Link, made by the German company SICK, is a safety communications network for safety controllers.

System requirements

Flexi Link is supported by WS0-CPU1 CPU modules of firmware version V2.00 (revision 2.xx) or later.

Note) It is possible to confirm the firmware version of the CPU module by looking at the model label in the software version column. It is not possible using the WS0-CPU0.

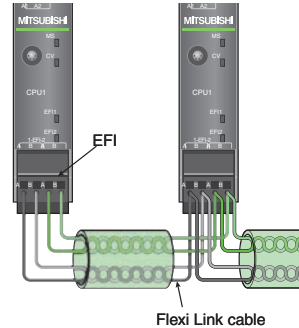
System component	Version
Hardware	Firmware version V2.00 (revision 2.xx) or later WS0-CPU1
Software	Setting and Monitoring Tool Ver.1.3.0 or later

Flexi Link cable

Using Flexi Link cable, up to four safety controller CPU modules (EFI interfaces) can be connected.

Note) For purchasing and inquiries about the Flexi Link cable, please contact SICK Ltd.

Cable type	Specification
Shielded twisted-pair (STP) cable	2 × 2 × 0.34 mm ² , Max. 100 m



Connection method

There are two methods for connections between safety controllers: using only EFI interface 1, and using EFI interface 1 and 2.

The number of process data bits a Flexi Link connected safety controller can use is different depending on the connection method.

Note) When Flexi Link is used, EFI equipment cannot be connected.

Connection method	Number of process bits available for each station
EFI1	26 bits
EFI1/EFI2	52 bits

Product summary

Product name	Model	Summary
CPU module (EFI version)	WS0-CPU1	Program capacity: 255 function blocks, RS-232 interface, EFI (communication interface for safety equipment configuration, made by SICK Ltd.), compatible with Flexi Link NEW
CPU module	WS0-CPU0	Program capacity: 255 function blocks, RS-232 interface
CPU module memory plug	WS0-MPL	Necessary for the saving of CPU module programs and parameters
Safety input module	WS0-XTDI	Safety inputs: 8 points (individual inputs)
Safety I/O combined module	WS0-XTIO	Safety inputs: 8 points (individual inputs), safety outputs: 4 points (individual outputs) Output current: up to 2 A, clamp/spring type terminal block, high speed output stop (fast shut off function, response performance of 8ms)
Safety relay output module	WS0-4RO	Safety outputs: 4 points relay output (individual outputs), output current: up to 6 A
Setting and monitoring tool	SW1DNN-WS0ADR-B	Setting and monitoring tool for safety controller

Jointly developed and manufactured with the German safety equipment maker SICK Ltd. Please note that the product guarantee differs from other sequencer products.
SICK AG - www.sick.com - Phone: +49 7681 202-0

Country/Region	Sales office	Tel/Fax	Country/Region	Sales office	Tel/Fax
USA	Mitsubishi Electric Automation Inc. 500 Corporate Woods Parkway Vernon Hills, IL 60061, USA	Tel : +1-847-478-2100 Fax : +1-847-478-2253	South Africa	Circuit Breaker Industries Ltd. 9 Derrick Road, Spartan, Gauteng PO Box 100, Kempton Park 1620, South Africa	Tel : +27-11-977-0770 Fax : +27-11-977-0761
Brazil	MELCO-TEC Rep. Com.e Assessoria Tecnica Ltda. Av Paulista, 1439-Cj, 72 Cerqueira Cesar CEP 01311-200, Sao Paulo, SP, CEP:01311-200, Brazil	Tel : +55-11-3146-2200 Fax : +55-11-3146-2217	China	Mitsubishi Electric Automaiton (China) Ltd. No.1386 Honggiao Road, Mitsubishi Electric Automation Center Shanghai China	Tel : +86-21-2322-3030 Fax : +86-21-2322-3000
Germany	Mitsubishi Electric Europe B.V. German Branch Gothaer Strasse 8 D-40880 Ratingen, Germany	Tel : +49-2102-486-0 Fax : +49-2102-486-1120	Taiwan	Setsuyo Enterprise Co., Ltd. 6F., No.105, Wugong 3rd, Wugou Dist, New Taipei City 24889, Taiwan, R.O.C.	Tel : +886-2-2299-2499 Fax : +886-2-2299-2509
UK	Mitsubishi Electric Europe B.V. UK Branch Travellers Lane, Hatfield, Hertfordshire., AL10 8XB, UK	Tel : +44-1707-276100 Fax : +44-1707-278695	Korea	Mitsubishi Electric Automation Korea Co., Ltd. 1480-6, Gayang-dong, Gangseo-ku Seoul 157-200, Korea	Tel : +82-2-3660-9530 Fax : +82-2-3664-8372
Italy	Mitsubishi Electric Europe B.V. Italian Branch Viale Colleoni 7-20041 Agrate Brianza (Milano), Italy	Tel : +39-039-60531 Fax : +39-039-6053312	Singapore	Mitsubishi Electric Asia Pte. Ltd. 307 Alexandra Road #05-01/02, Mitsubishi Electric Bulding Singapore 159943	Tel : +65-6470-2480 Fax : +65-6476-7439
Spain	Mitsubishi Electric Europe B.V. Spanish Branch Carretera de Rubi 76-80 E-08190 Sant Cugat del Valles(Barcelona), Spain	Tel : +34-93-565-3131 Fax : +34-93-589-2948	Thailand	Mitsubishi Electric Automation (Thailand) Co., Ltd. Bang-Chan Industrial Estate No.111 Soi Serithai 54, T.Kannayao, A.Kannayao, Bangkok 10230 Thailand	Tel : +66-2-906-3238 Fax : +66-2-906-3239
France	Mitsubishi Electric Europe B.V. French Branch 25,Boulevard des Bouvets, F-92741 Nanterre Cedex, France	Tel : +33-1-5568-5568 Fax : +33-1-5568-5757	Indonesia	P.T. Autoteknindo Sumber Makmur Muara Karang Selatan Block A/Utara No.1 Kav. No.11 Kawasan Industri/Pergudangan Jakarta-Utara 14440, P.O Box5045 Jakarta 11050, Indonesia	Tel : +62-21-663-0833 Fax : +62-21-663-0832
Czech Republic	Mitsubishi Electric Europe B.V.-o.s.-Czech office Avenir Business Park, Radlická 714/113a CZ-158 00 Praha 5	Tel : +420-251-551-470 Fax : +420-251-551-471	India	Mitsubishi Electric India Pvt. Ltd. 2nd Floor, DLF Building No.9B, DLF Cyber City Phase III, Gurgaon 122002, Haryana, India	Tel : +91-124-4630300 Fax : +91-124-4630399
Poland	Mitsubishi Electric Europe B.V. Polish Branch ul. Krakowska 50 32-083 Balice, Poland	Tel : +48-12-630-47-00 Fax : +48-12-630-47-01	Australia	Mitsubishi Electric Australia Pty.Ltd. 348 Victoria Road, Rydalmere, N.S.W 2116, Australia	Tel : +61-2-9684-7777 Fax : +61-2-9684-7245
Russia	Mitsubishi Electric Europe B.V. Russian Branch St.Petersburg office Sverdlovskaya emb., bld "Sch", BC "Benua", office 720; 195027, St.Petersburg, Russia	Tel : +7-812-633-3497 Fax : +7-812-633-3499			



HEAD OFFICE: TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
NAGOYA WORKS: 1-14, YADAMINAMI 5, HIGASIKU, NAGOYA, JAPAN