

Product Discontinuation

Smart Muting Actuator



F3W-MA0□00P series



Recommended Replacement

Compact Photoelectric Sensor with Built-in Amplifier

E3Z-□86(A) series

Smart Muting Actuator Bracket



**F39-LGMAL
F39-LGMAT**



**No recommended replacement
No recommended replacement**

[Final order entry date]

December 18, 2026

[Date of The Last Shipping]

January 19, 2027

[Scheduled data of maintenance close]

December 18, 2027

[Difference from discontinued product]

Recommended replacement Model	Body Color	Dimensions	Wire connection	Mounting Dimensions	Characteristics	Operation ratings	Operation methods
E3Z-R86	--	--	--	--	--	--	--
E3Z-T86A	--	--	--	--	--	--	--

** : Compatible

* : The change is a little/Almost compatible

-- : Not compatible

- : No corresponding specification

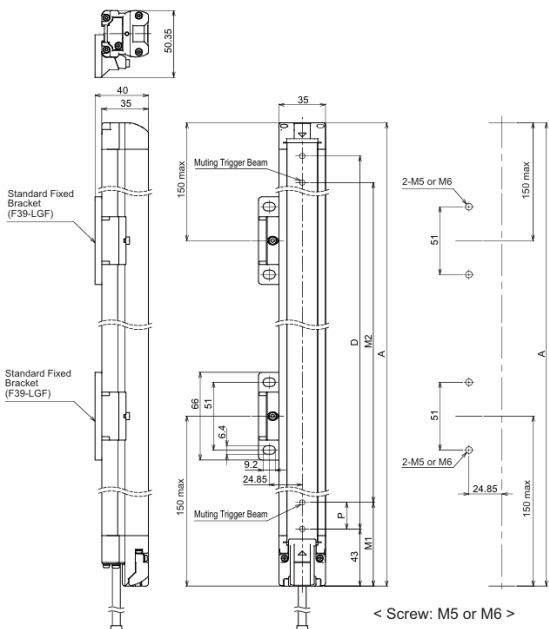
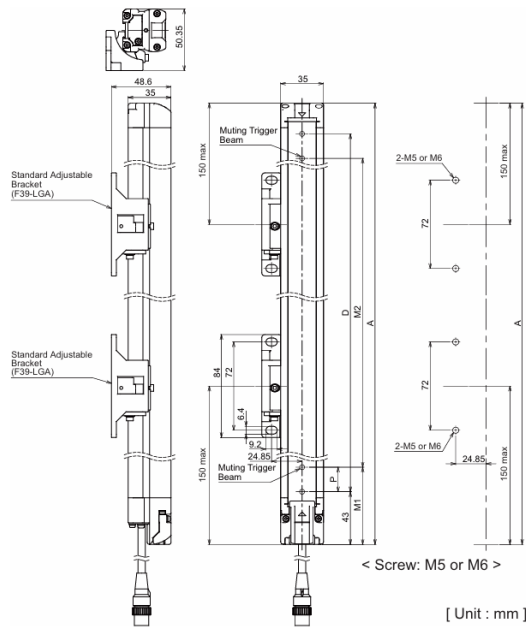
[Product Discontinuation and recommended replacement]

Product discontinuation	Recommended replacement
F3W-MA0100P	E3Z-R86
	E3Z-T86A
F3W-MA0300P	E3Z-R86
	E3Z-T86A
F39-LGMAL	No recommended replacement
F39-LGMAT	No recommended replacement

[Body color]

Product discontinuation Model F3W-MA0□00P	Recommendable replacement Model E3Z-□86(A)
F3W-MA0□00P •Housing: Yellow •Cap: Black •Cable (Emitter): Gray •Cable (Receiver): Black 	E3Z-□86(A) •Housing: Black •Lens section: Transparent (E3Z-T86A), Red (E3Z-R86). 

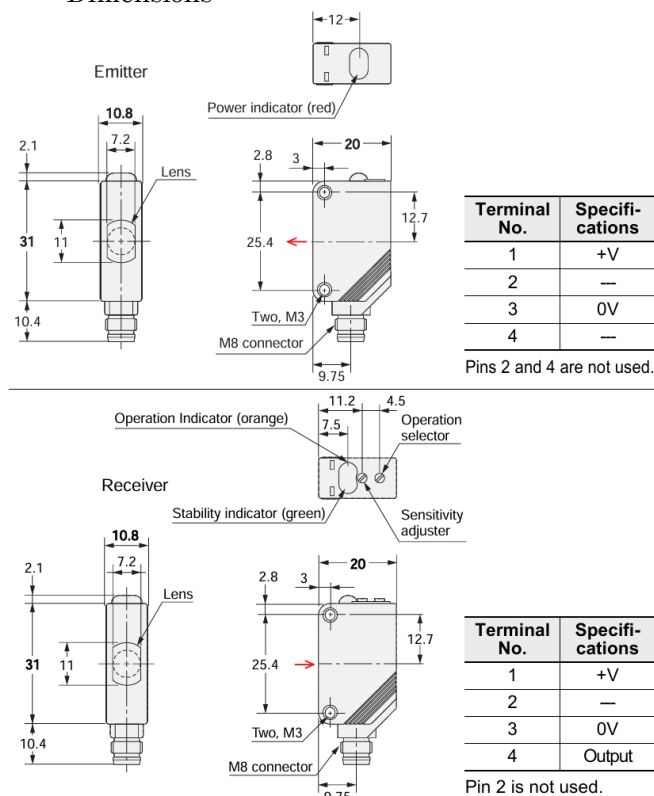
[Dimensions]

Product discontinuation Model F3W-MA0□00P																																												
F3W-MA0□00P Backside Mounting with Fixed Brackets (F39-LGF).	F3W-MA0□00P Backside Mounting with Standard Adjustable Brackets (F39-LGA).																																											
 [Unit : mm] <table border="1"> <thead> <tr> <th>Model</th><th>F3W-MA0100P</th><th>F3W-MA0300P</th></tr> </thead> <tbody> <tr> <td>Dimension A</td><td>208</td><td>448</td></tr> <tr> <td>Dimension M1</td><td>63</td><td>83</td></tr> <tr> <td>Dimension M2</td><td>100</td><td>300</td></tr> <tr> <td>Dimension D</td><td>140</td><td>380</td></tr> <tr> <td>Dimension P</td><td>20</td><td>20</td></tr> <tr> <td>Number of Standard Adjustable Brackets *1</td><td>2 *2</td><td>2</td></tr> </tbody> </table> *1. The number of brackets required to mount either one of emitter and receiver. *2. Mounting an emitter or receiver with one bracket is possible. In this case, locate this bracket at half the Dimension A (or at the center of the sensor length).	Model	F3W-MA0100P	F3W-MA0300P	Dimension A	208	448	Dimension M1	63	83	Dimension M2	100	300	Dimension D	140	380	Dimension P	20	20	Number of Standard Adjustable Brackets *1	2 *2	2	 [Unit : mm] <table border="1"> <thead> <tr> <th>Model</th><th>F3W-MA0100P</th><th>F3W-MA0300P</th></tr> </thead> <tbody> <tr> <td>Dimension A</td><td>208</td><td>448</td></tr> <tr> <td>Dimension M1</td><td>63</td><td>83</td></tr> <tr> <td>Dimension M2</td><td>100</td><td>300</td></tr> <tr> <td>Dimension D</td><td>140</td><td>380</td></tr> <tr> <td>Dimension P</td><td>20</td><td>20</td></tr> <tr> <td>Number of Standard Adjustable Brackets *1</td><td>2 *2</td><td>2</td></tr> </tbody> </table> *1. The number of brackets required to mount either one of emitter and receiver. *2. Mounting an emitter or receiver with one bracket is possible. In this case, locate this bracket at half the Dimension A (or at the center of the sensor length).	Model	F3W-MA0100P	F3W-MA0300P	Dimension A	208	448	Dimension M1	63	83	Dimension M2	100	300	Dimension D	140	380	Dimension P	20	20	Number of Standard Adjustable Brackets *1	2 *2	2	
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Recommendable replacement Model E3Z-□86(A)

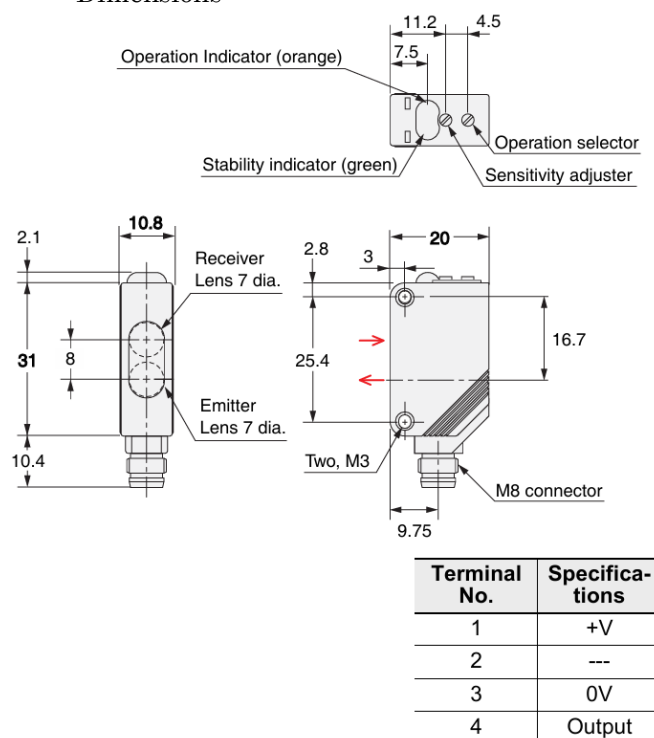
E3Z-T86A

Dimensions



E3Z-R86

Dimensions

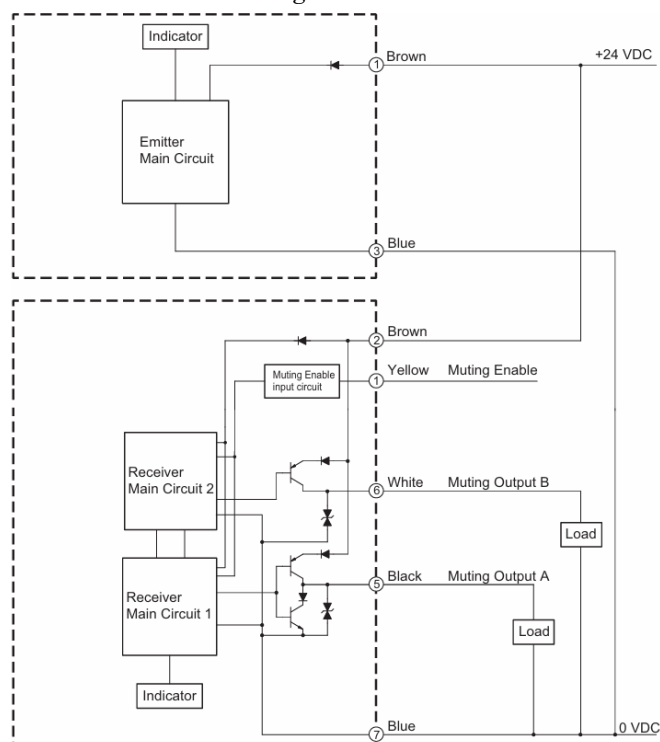


[Wire connection]

Product discontinuation Model F3W-MA0□00P

Input/Output Circuit

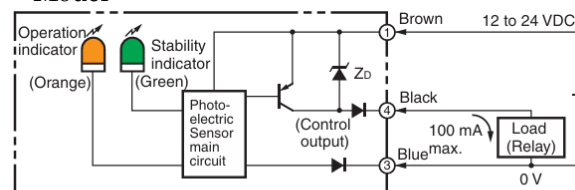
Entire Circuit Diagram.



Recommendable replacement Model E3Z-□86(A)

Output circuit

Through-beam Receivers, Retro-reflective Model

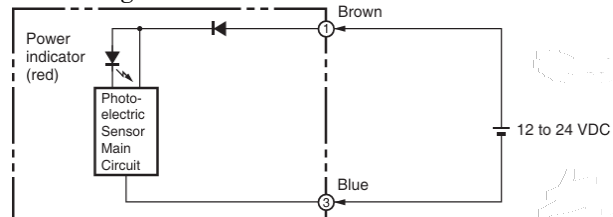


Connector Pin Arrangement



Pin 2 is not used.

Through-beam Emitter



Connector Pin Arrangement



Pins 2 and 4 are not used.

[Characteristics]

Item	Product discontinuation Model F3W-MA0□00P	Recommendable replacement Model E3Z-□86(A)
Number of Beams	【F3W-MA0100P】 8 【F3W-MA0300P】 20	1
Standard Sensing Object	Opaque: 30mm dia. Min	【E3Z-T86A】 Opaque:12mm dia. Min 【E3Z-R86】 Opaque:75mm dia. Min
Sensing Distance	【Long】 0.3 to 20.0 m 【Short】 0.3 to 7.0 m	【E3Z-T86A】 10m 【E3Z-R86】 4m(100mm)*1(when using E39-R1S) *1. Values in parentheses indicate the minimum required distances between the Sensors and Reflectors.
Response Time	【Operate】 13ms max. 【Reset】 26ms max. (Synchronized) 78ms max. (Not synchronized)	【Operate】 1ms max. 【Reset】 1ms max.
Light Source (wavelength)	Infrared LED (870 nm)	Red LED (660 nm)
Current consumption	【F3W-MA0100P】 Emitter: 35mA max. Receiver: 75mA max. 【F3W-MA0300P】 Emitter: 45mA max. Receiver: 75mA max.	【E3Z-T86A】 Emitter: 15mA max. Receiver: 20mA max. 【E3Z-R86】 30mA max.
Protection Circuits	- Output short protection - Power supply reverse polarity protection	【E3Z-T86A】 - Reversed power supply polarity protection - Output short-circuit protection - Reversed output polarity protection 【E3Z-R86】 - Reversed power supply polarity protection - Output short-circuit protection - Mutual interference prevention - Reversed output polarity protection
Degree of protection	IP65 and IP67	IP67
Material	- Housing: Aluminum - Cap: PBT - Front Window: PMMA - Cable: Oil resistant PVC - FE plate: SUS	【E3Z-T86A】 - Case: PBT (polybutylene terephthalate) - Lens: Modified polyarylate 【E3Z-R86】 - Case: PBT (polybutylene terephthalate) - Lens: Methacrylic resin
Weight (packed state)	【F3W-MA0100P】 1800g max. 【F3W-MA0300P】 2800g max.	【E3Z-T86A】 Approx. 30g 【E3Z-R86】 Approx. 20g

[Wiring Example]

Product discontinuation

Model F3W-MA0□00P

Example1. Standard Muting Mode with F3SG-R (T-Shaped Configuration with 4-Joint Connector)

The following is the example of F3SG-RA with Scan Code B, External Device Monitoring disabled, Auto Reset mode, PNP output and External Test in 24 V Active, and F3W-MA with Scan Code A, Chattering and Void Space Prevention 1, Off-Delay 100 ms and Muting Enable disabled.

- DIP Switch settings*1

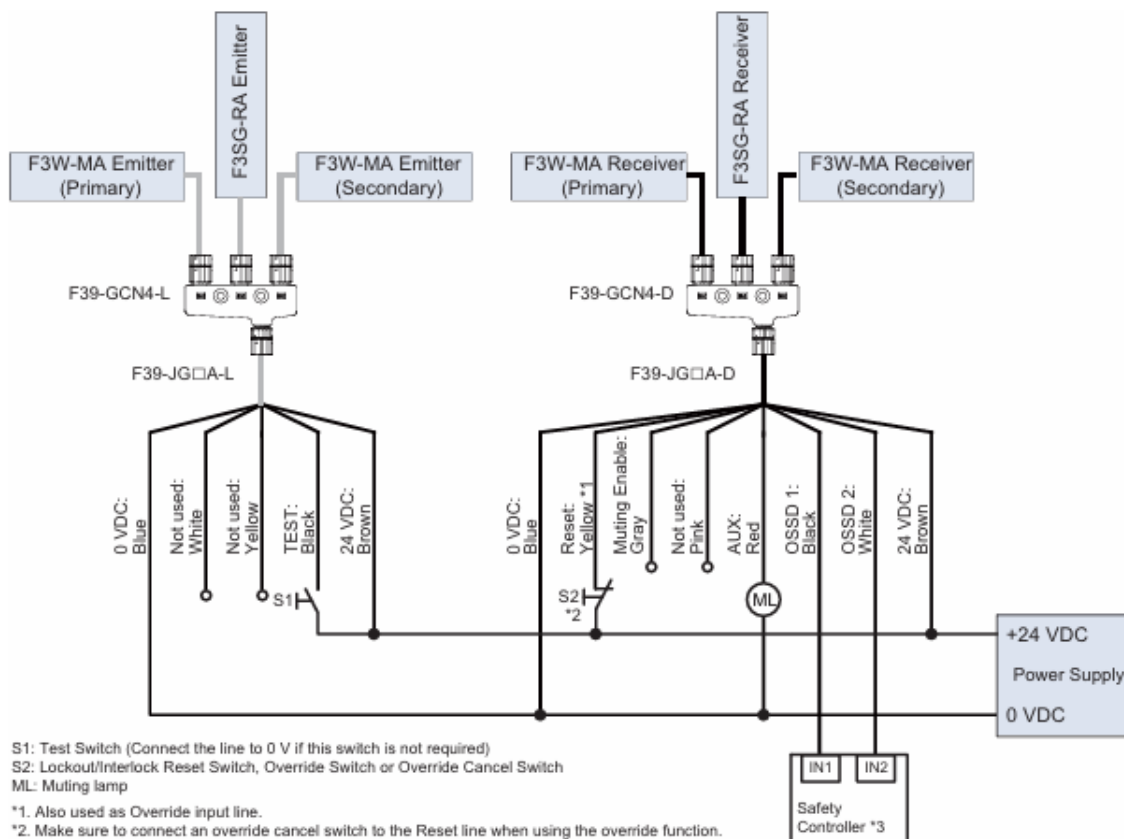
		Function	DIP-SW1	DIP-SW2
F3SG-RA	Receiver	Scan Code B	1  ON	1  ON
		EDM Disabled (factory default setting)	2  ON	2  ON
		Auto Reset (factory default setting)	3  ON	3  ON
			4  ON	4  ON
	PNP (factory default setting)	7  ON	7  ON	
	Emitter	Scan Code B	1  ON	-
External Test: 24 V Active (factory default setting)		4  ON	-	
F3W-MA Primary	Receiver	Scan Code A	1  ON	1  ON*2
		Chattering and Void Space Prevention 1	2  ON	2  ON*2
			3  ON	3  ON*2
		Off-Delay 100 ms	4  ON	4  ON*2
	5  ON		5  ON*2	
	Muting Enable Disabled (factory default setting)	6  ON	6  ON*2	
Emitter	Scan Code A	1  ON	-	
F3W-MA Secondary	Receiver Emitter	-	No setting required	No setting required

☐: Indicates a switch position.

*1. Configure functions with the DIP Switches before wiring. For the DIP Switch of the F3W-MA, refer to *Chapter 2 Setting with DIP Switch*. For the DIP Switch of the F3SG-RA, refer to the *Safety Light Curtain F3SG-R Series User's Manual*.

*2. DIP Switch Bank 2 of F3W-MA receiver is not used.

- Wiring example



S1: Test Switch (Connect the line to 0 V if this switch is not required)

S2: Lockout/Interlock Reset Switch, Override Switch or Override Cancel Switch

ML: Muting lamp

*1. Also used as Override input line.

*2. Make sure to connect an override cancel switch to the Reset line when using the override function.

Otherwise the override state may not be released by the override cancel switch, resulting in serious injury.

*3. Refer to Safety Light Curtain F3SG-R Series User's Manual for more information on connectable safety controller units.

Product discontinuation
Model F3W-MA0□00P

Example2. Standard Muting Mode with F3SG-R (T-Shaped Configuration with 4-Joint Connector)

The following is the example of F3SG-RA with Scan Code B, External Device Monitoring disabled, Auto Reset mode, PNP output and External Test in 24 V Active, and F3W-MA with Scan Code A, Chattering and Void Space Prevention 1, Off-Delay 100 ms and Muting Enable disabled.

▪ **DIP Switch settings*1**

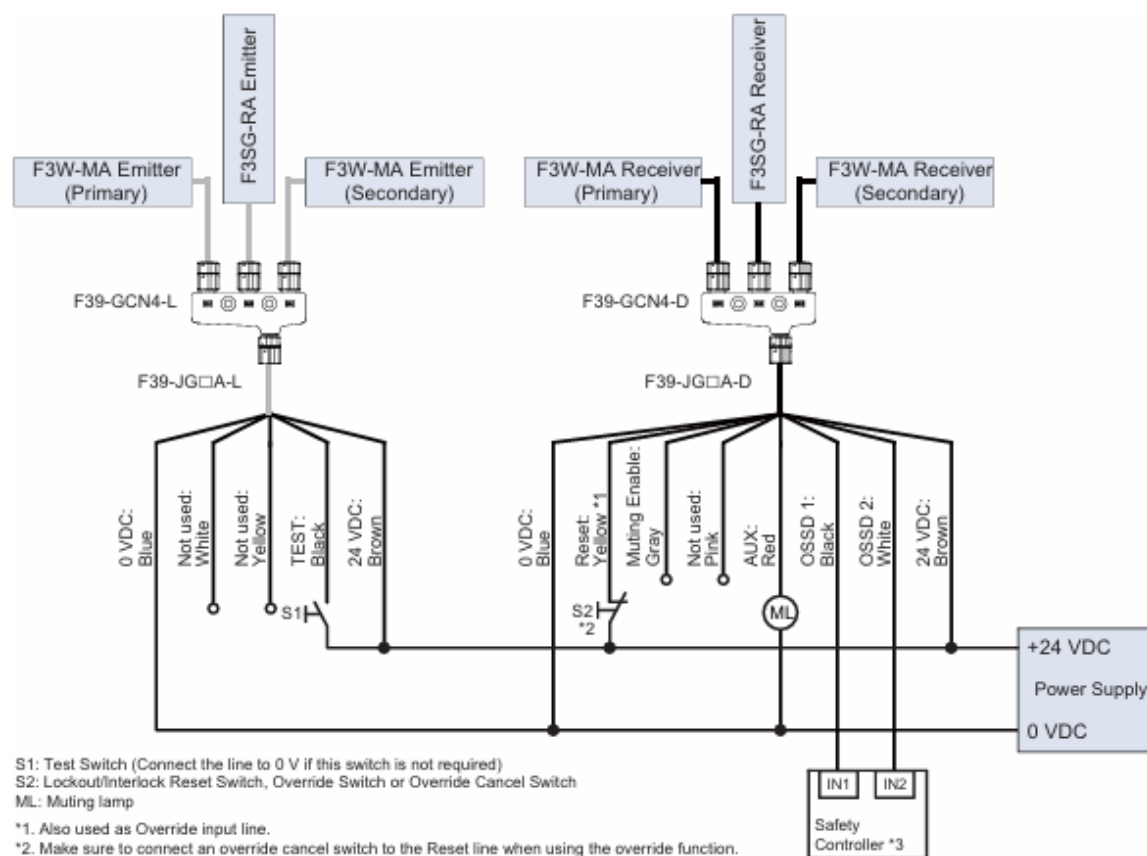
		Function	DIP-SW1	DIP-SW2
F3SG-RA	Receiver	Scan Code B	1 ☐ ON	1 ☐ ON
		EDM Disabled (factory default setting)	2 ☐ ON	2 ☐ ON
		Auto Reset (factory default setting)	3 ☐ ON	3 ☐ ON
			4 ☐ ON	4 ☐ ON
		PNP (factory default setting)	7 ☐ ON	7 ☐ ON
	Emitter	Scan Code B	1 ☐ ON	-
		External Test: 24 V Active (factory default setting)	4 ☐ ON	-
F3W-MA Primary	Receiver	Scan Code A	1 ☐ ON	1 ☐ ON*2
		Chattering and Void Space Prevention 1	2 ☐ ON	2 ☐ ON*2
			3 ☐ ON	3 ☐ ON*2
		Off-Delay 100 ms	4 ☐ ON	4 ☐ ON*2
			5 ☐ ON	5 ☐ ON*2
		Muting Enable Disabled (factory default setting)	6 ☐ ON	6 ☐ ON*2
	Emitter	Scan Code A	1 ☐ ON	-
F3W-MA Secondary	Receiver	-	No setting required	No setting required
	Emitter	-	No setting required	No setting required

□: Indicates a switch position.

*1. Configure functions with the DIP Switches before wiring. For the DIP Switch of the F3W-MA, refer to Chapter 2 Setting with DIP Switch. For the DIP Switch of the F3SG-RA, refer to the Safety Light Curtain F3SG-R Series User's Manual.

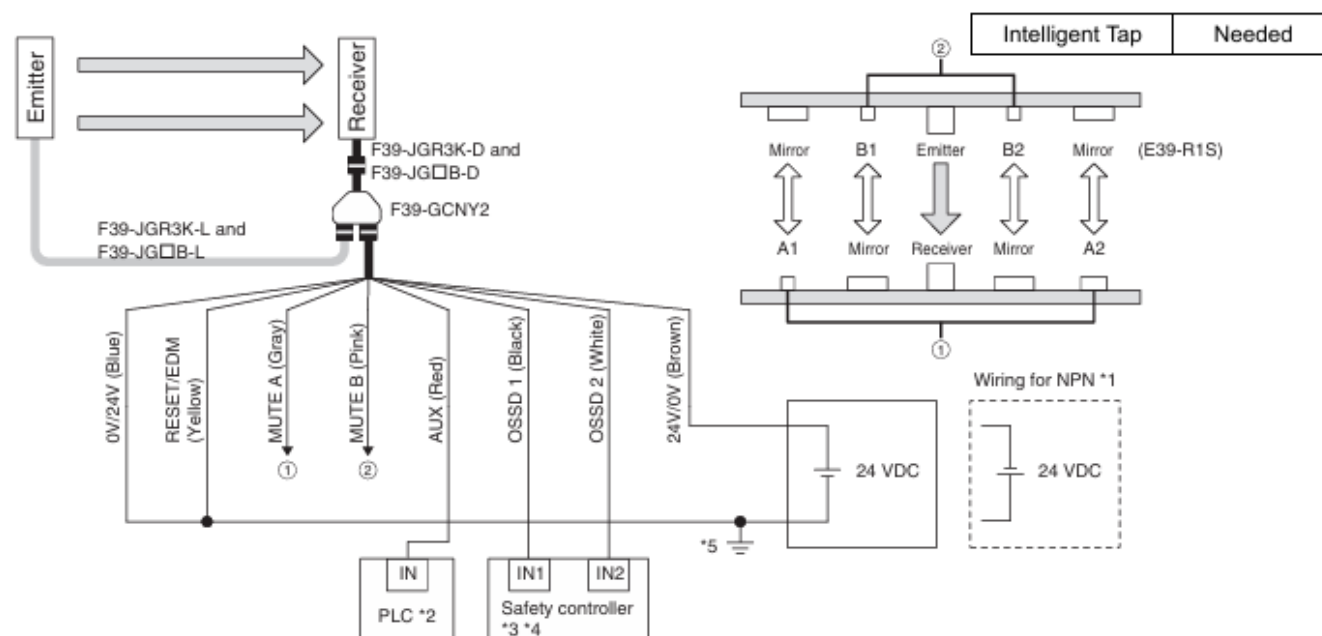
*2. DIP Switch Bank 2 of F3W-MA receiver is not used.

▪ **Wiring example**



Recommendable replacement
Model E3Z-□86(A)

Example1. Standard Muting Mode/Exit-Only Muting Mode with Y-Joint Plug

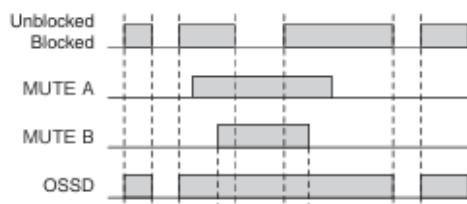


PLC: Programmable logic controller (Used for monitoring only. NOT related to safety system.)

A1, A2, B1, B2: Muting sensor (E3Z-R□6)

Function	Setting	
	DIP switch	SD Manager 3
EDM	EDM Disabled (factory default setting)	
	-	[External device monitoring] : Disable *6
Interlock	Auto Reset (factory default setting)	
	-	[Start interlock] : Disable [Restart interlock] : Disable *6
Operating Range Selection	Long (factory default setting)	
Standard Muting Mode	When not using the Intelligent Tap or the SD Manager 3, perform wiring according to the wiring diagram.	
	N/A	[Muting] : Enable [Muting mode] : Standard Muting (Installation Example1/2) *6
Exit-Only Muting Mode	N/A	[Muting] : Enable [Muting mode] : Exit-Only Muting *6
External Test not used	N/A	
Optical Synchronization	Connect the wires according to the diagram above.	

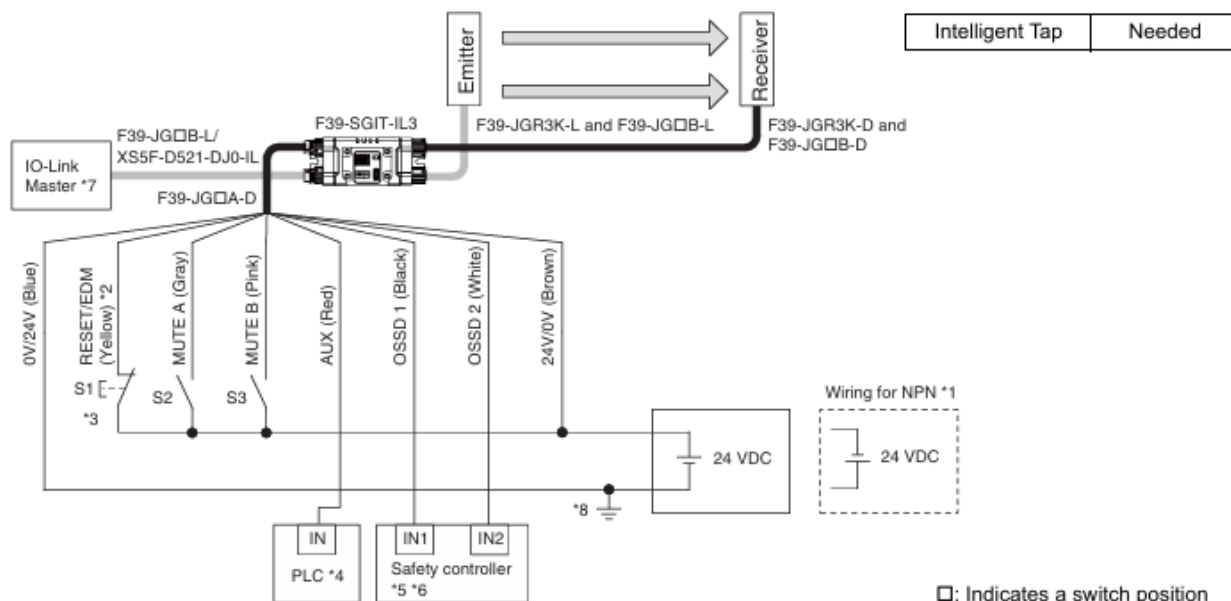
Timing chart



- *1. Reverse the polarity of the power supply when using in the NPN system. Select a PLC and a safety controller of PNP or NPN type according to the system of your application.
- *2. When connecting to the PLC, the output mode must be changed with the SD Manager 3 according to your application. Refer to *Chapter 4 Setting with SD Manager 3* for more information on setting this function by the SD Manager 3.
- *3. Refer to 6-3. *Connectable Safety Controllers* for more information.
- *4. The safety controller and the F3SG-SR/PG must share the power supply or be connected to the common terminal of the power supply.
- *5. This is the case for a PELV circuit.
- *6. When using the Exit-Only Muting, set the function with the SD Manager 3, restore the settings to the F3SG-SR, and perform wiring according to the wiring diagram.

**Recommendable replacement
Model E3Z-□86(A)**

Example2. Standard Muting Mode/Exit-Only Muting Mode with Intelligent Tap



Function	Setting	
	DIP switch	SD Manager 3
EDM *10	EDM Disabled 3  ON	[External device monitoring] : Disable
Interlock *10	Auto Reset 4  ON	[Start interlock] : Disable
	5  ON	[Restart interlock] : Disable
Operating Range Selection *11	Long 8  ON	[Operating Range Selection] : Long mode
Standard Muting Mode	N/A	[Muting] : Enable [Muting mode] : Standard Muting (Installation Example1/2)
Exit-Only Muting Mode	N/A	[Muting] : Enable [Muting mode] : Exit-Only Muting
Test Input	N/A	
Wired Synchronization	Connect the emitter and receiver with the Intelligent Tap.	

S1: Lockout reset switch, override switch or override cancel switch
S2, S3: Muting sensor
PLC: Programmable logic controller
(Used for monitoring only. NOT related to safety system.)

*1. Reverse the polarity of the power supply when using in the NPN system. Select a PLC and a safety controller of PNP or NPN type according to the system of your application.

*2. Also used as OVERRIDE INPUT line.

*3. Make sure to connect an override cancel switch to the RESET line when using the override function. Otherwise the override state may not be released by the override cancel switch, resulting in serious injury.

*4. When connecting to the PLC, the output mode must be changed with the SD Manager 3 according to your application. Refer to *Chapter 4 Setting with SD Manager 3* for more information on setting this function by the SD Manager 3.

*5. Refer to 6-3, *Connectable Safety Controllers* for more information.

*6. The safety controller and the F3SG-SR/PG must share the power supply or be connected to the common terminal of the power supply.

*7. For connecting with the IO-Link Master unit, refer to an instruction manual of the IO-Link Master unit you use.

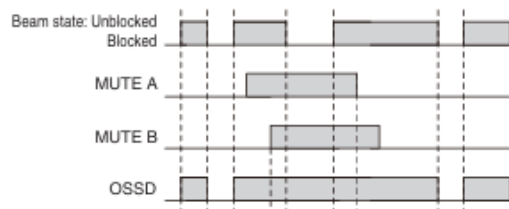
*8. This is the case for a PELV circuit.

*9. To use F3SG-PGA-C, wire the receiver side of the emitter/receiver of F3SG-PGA-C as shown in the above figure. Wiring of the emitter side is not needed.

*10. Make settings using the DIP Switch of the intelligent tap or SD Manager 3.

*11. To use F3SG-SR and F3SG-PGA-L in Short Mode, set the function with the DIP Switch of the intelligent tap or SD Manager 3, restore to F3SG-SR/PG, and perform wiring according to the wiring diagram. F3SG-PGA-A/-C does not support the Operating Range Selection function.

Timing chart



Specifications and prices in this product news are as of the issue date and are subject to change without notice.

Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, datasheets, product specifications, instructions, and manuals for precautions and necessary information when using products.

The information on the recommended substitute products from other companies is what our company is aware of as of the issuance of this notice. Regarding the end of production timing for the recommended alternative product, the possibility of continuing supply, the specifications, compatibility, and others, as well as other details, please inquire with your business partner and make your own decision at your company on whether to adopt the recommended alternative product.