

Multi-beam Safety Sensor F3SJ-AM□P□□□ Series

Quick Installation Manual



Relevant manual	Cat. No.
Multi-beam Safety Sensor F3SJ-AM Series User's Manual	SCHG-716

Introduction

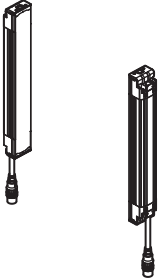

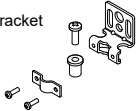
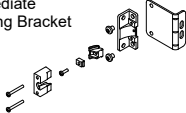
Thank you for purchasing the F3SJ-AM□□□□ Series Multi-beam Safety Sensor (hereinafter referred to as the "F3SJ-AM"). This document is a brief description from wiring to pre-operation checklists / maintenance checklists of F3SJ-AM. For details, download and read F3SJ-AM user's manual from Omron's website. If you Login / Signup, you can download the PDF of the Manual.


<http://www.omron.com.au/products/family/1581/download/manual.html>

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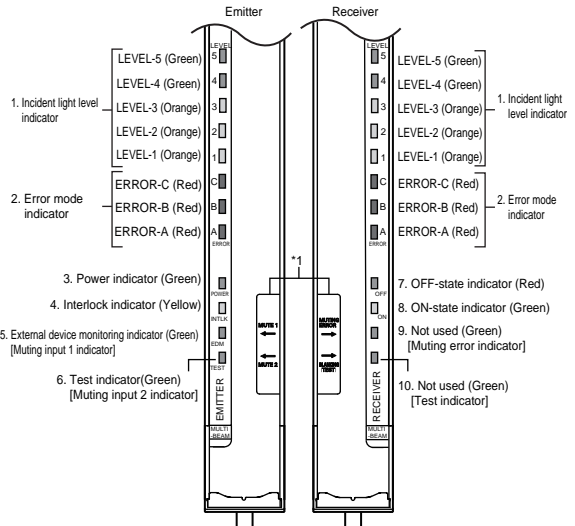
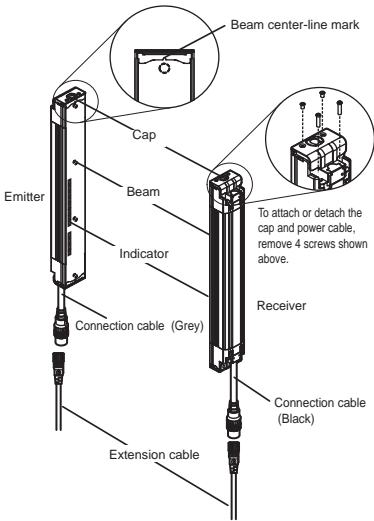
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1. What is Included

Product	Quantity																
F3SJ-AM□□□□ main unit 	Emitter x 1, Receiver x 1 Functional Settings <table border="1"> <thead> <tr> <th>Function</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>External Test</td> <td>Enabled when 9V to Vs*1 applied</td> </tr> <tr> <td>Interlock</td> <td>Switching between manual reset mode and auto reset mode is available by wiring</td> </tr> <tr> <td>External Device Monitoring (EDM)</td> <td>Switching between enable/disable is available by wiring</td> </tr> <tr> <td>Auxiliary Output</td> <td>Auxiliary Output 1: Control Output Information (NOT output mode: Enabled) Auxiliary Output 2: Total Power ON Time Information (ON when 30000 hours passed) Functional settings can be changed by the setting tool (option)</td> </tr> <tr> <td>External Indicator</td> <td>Enabled when External indicator set (F39-A01P□-PAC)/ Universal indicator cable (F39-JJ3N) attached In case of Basic System External Indicator 1: Control Output Information (NOT output mode: Enabled) External Indicator 2: Error/Lockout Information In case of Muting System External Indicator 1: Muting/Override Information External Indicator 2: Muting/Override Information</td> </tr> <tr> <td>Muting</td> <td>Enabled when muting Key Cap F39-CN6 attached</td> </tr> <tr> <td>Override</td> <td>Enabled when muting Key Cap F39-CN6 attached</td> </tr> </tbody> </table> <p>*1 Vs here means the voltage value under use environment.</p> <p> For details, refer to <i>F3SJ-AM series user's manual</i>.</p>	Function	Setting	External Test	Enabled when 9V to Vs*1 applied	Interlock	Switching between manual reset mode and auto reset mode is available by wiring	External Device Monitoring (EDM)	Switching between enable/disable is available by wiring	Auxiliary Output	Auxiliary Output 1: Control Output Information (NOT output mode: Enabled) Auxiliary Output 2: Total Power ON Time Information (ON when 30000 hours passed) Functional settings can be changed by the setting tool (option)	External Indicator	Enabled when External indicator set (F39-A01P□-PAC)/ Universal indicator cable (F39-JJ3N) attached In case of Basic System External Indicator 1: Control Output Information (NOT output mode: Enabled) External Indicator 2: Error/Lockout Information In case of Muting System External Indicator 1: Muting/Override Information External Indicator 2: Muting/Override Information	Muting	Enabled when muting Key Cap F39-CN6 attached	Override	Enabled when muting Key Cap F39-CN6 attached
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Top/Bottom Mounting Bracket 	4																
Intermediate Mounting Bracket 	The number of brackets to be included in the product depends on the model. F3SJ-AM2P300: Not included F3SJ-AM3P300: 1 set included F3SJ-AM4P300: 1 set included F3SJ-AM2P400: Not included F3SJ-AM3P400: 1 set included F3SJ-AM4P400: 2 sets included F3SJ-AM2P500: Not included																
Error Mode Label	1																
Operation Manual	2																
Quick Installation Manual (this document)	1																

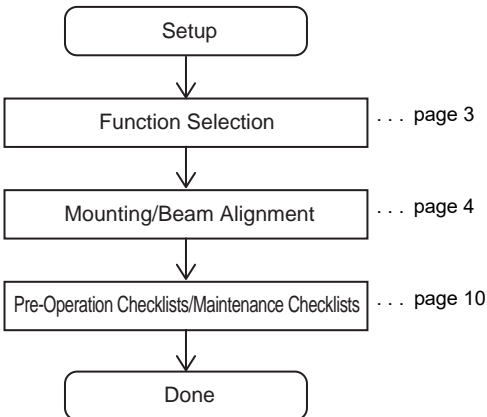
 For ratings/specifications, input/output circuit, LED indicator status and troubleshooting, refer to *F3SJ-AM Series User's Manual*.

2. System Components



A set of square brackets, [], indicates name of an indicator under muting system.
 *1 This label comes with the F39-CN6 key cap for muting. Affix this label when a keycap is used.

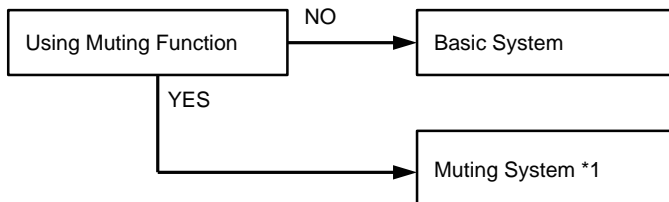
3. Light Curtain Setup Flow





4. Function Selection Flow Chart

Required system configuration depends on functions to be used. Use the following flow chart to determine the system. To change the functional settings, use the setting tool (option).



*1 Muting Key Cap (F39-CN6) is necessary.



For configuration and setting changes to use the muting function, refer to *F3SJ-AM series user's manual*.



5. Mounting and Beam Alignment



For brackets other than those included in the product (F39-LJ1/F39-LJ3) as well as external dimensions and mounting, refer to F3SJ-AM series user's manual.

5-1. Mutual Interference Prevention

■ Series Connection

Series connection can prevent mutual interference when multiple sensors are used. Up to 4 sets, 400 beams, can be connected. The emission of series-connected F3SJ-AM is time-divided, so mutual interference does not occur and safety is ensured.

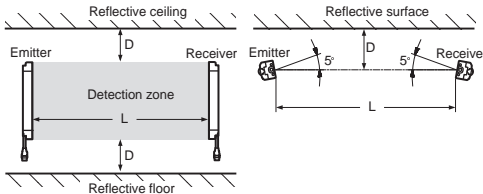
■ No Connection

Mutual interference is prevented in up to 3 sets, using interference light avoidance algorithm. If 4 or more sets of F3SJ-AM are installed and are not connected to each other, arrange them so that mutual interference does not occur. If 2 sets are installed near each other, reflection from the surface of the F3SJ-AM may cause mutual interference. When mutual interference occurs, the safety outputs are turned OFF in a moment or the F3SJ-AM enters lockout. Combining countermeasures 1 to 4 shown below is effective.

1. Install a physical barrier between 2 sets
2. Alternate the direction of emission between 2 sets (alternation) If 2 sets are installed near each other, reflection from the surfaces may cause mutual interference. For such a case, it can be improved by reducing operating range through the setting tool (see Step 3).
3. Reducing operating range (setting change by the setting tool is required)
4. Keep sufficient distance between the F3SJ-AMs so that mutual interference does not occur

5-2. Distance from Reflective Surfaces

Install the sensor system at distance D or further from highly reflective surfaces such as metallic walls, floors, ceilings, or workpieces, as shown below.



Distance between an emitter and a receiver (operating range L)	Allowable installation distance D
For 0.2 to 3m	0.13m
For 3m or more	$L/2 \times \tan 5^\circ = L \times 0.044$ (m)

5-3. Safety Distance

How to calculate the safety distance specified by International Standard ISO 13855(European standard EN ISO 13855)(Reference)

■ If a person approaches the detection zone of the F3SJ-AM perpendicularly

$$S = K \times T + C \dots \text{Formula (1)}$$

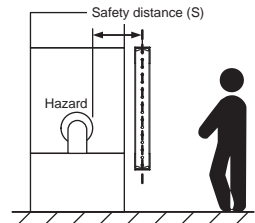
- S: Safety distance
- K: Approach speed to the detection zone
- T: Total response time of the machine and F3SJ-AM
- C: Additional distance calculated by the detection capability of the F3SJ-AM
Calculate by using Formula (1) with $K = 1,600\text{mm/s}$ and $C = 850\text{mm}$:

$$S = 1,600\text{mm/s} \times (T_m + T_s) + 850 \dots \text{formula (4)}$$

S = Safety distance (mm)

T_m = Response time of the machine (s)

T_s = F3SJ-AM's response time from ON to OFF (s)



Please refer to the user's manual for calculation of following safety distance.

■ Possible circumventing by reaching over the detection zone

■ How to calculate the safety distance specified by American standard ANSI B11.19(reference)

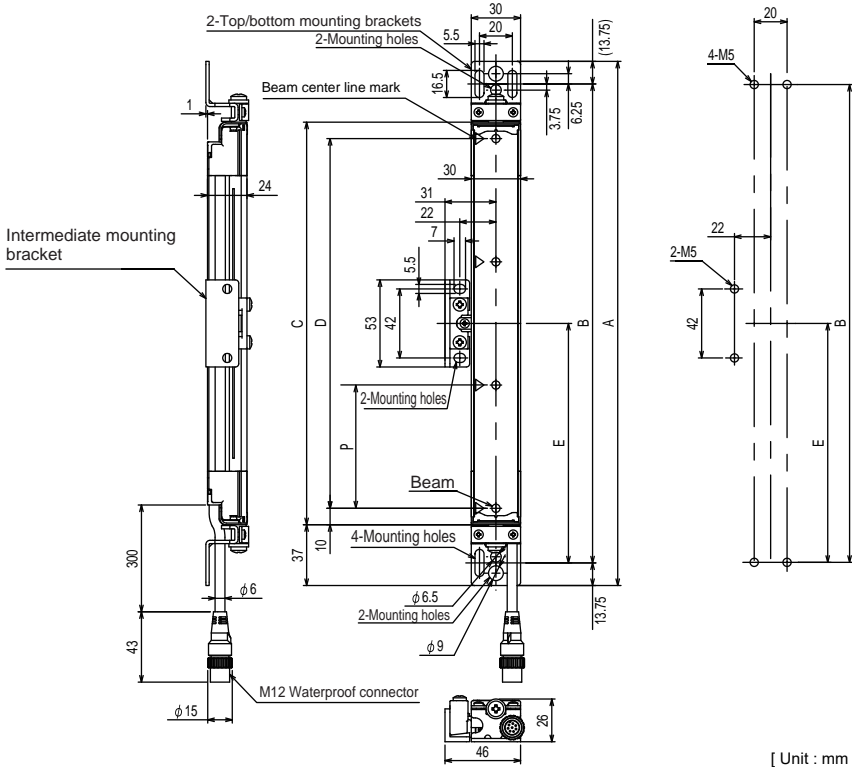


5-4. External dimensions to attach the brackets included in the product (F39-LJ1/F39-LJ3)

■ Dimensions (Check position)

[Backside mounting]

Step1
Check position
↓
Step2
Mount
↓
Step3
Align beams



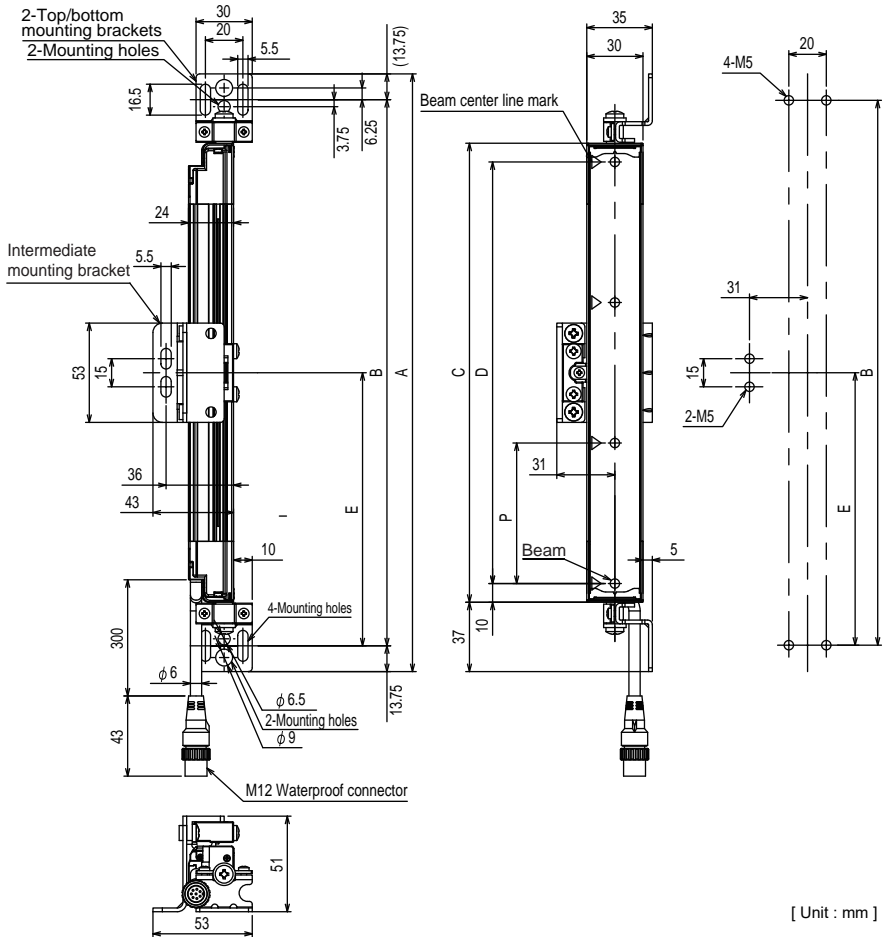
Dimensions A to E and P

Model name	Number of beams	A	B	C	D	E	P	Number of intermediate mounting brackets
F3SJ-AM2P300	2	394	366.5	320	300	-	300	0
F3SJ-AM3P300	3	694	666.5	620	600	B/2	300	1
F3SJ-AM4P300	4	994	966.5	920	900	B/2	300	1
F3SJ-AM2P400	2	494	466.5	420	400	-	400	0
F3SJ-AM3P400	3	894	866.5	820	800	B/2	400	1
F3SJ-AM4P400	4	1294	1266.5	1220	1200	B/3	400	2
F3SJ-AM2P500	2	594	566.5	520	500	-	500	0



■ Dimensions (Check position)

[Side mounting]



Step1

Check
position

Step2

Mount



Step3

Align
beams

Dimensions A to E and P

Model name	Number of beams	A	B	C	D	E	P	Number of intermediate mounting brackets
F3SJ-AM2P300	2	394	366.5	320	300	-	300	0
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F3SJ-AM4P300	4	994	966.5	920	900	B/2	300	1
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F3SJ-AM2P500	2	594	566.5	520	500	-	500	0



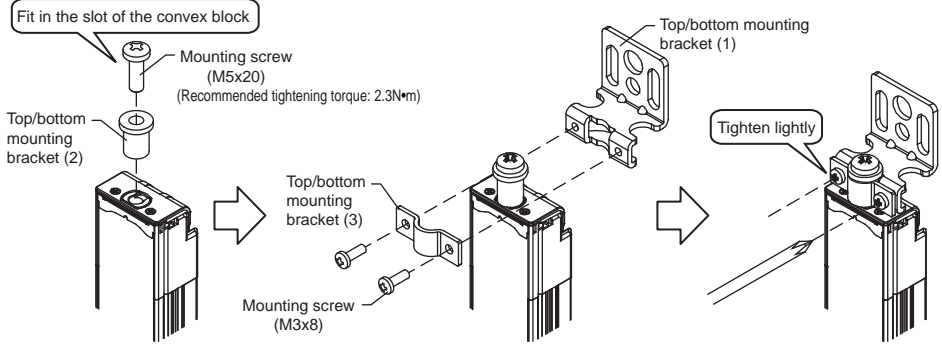
For dimensional drawing of mounting brackets other than those included in the product (F39-LJ1/F39-LJ3), refer to *F3SJ-AM series user's manual*.



5-5. Mounting and Beam Alignment

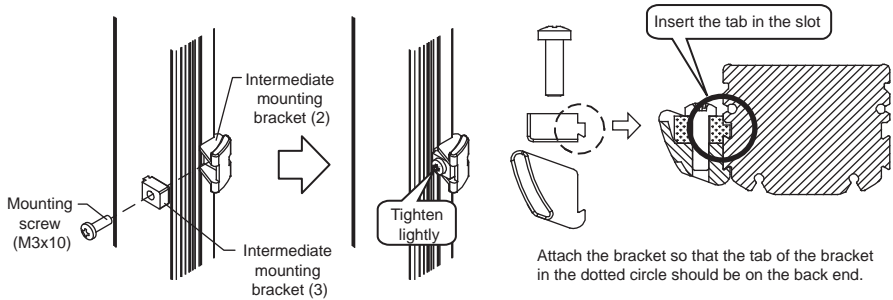
Step1
Check position
↓
Step2
Mount
↓
Step3
Align beams

1. Attach the top/bottom brackets.



Tightening with torque exceeding the recommended value too much may lead to a failure.

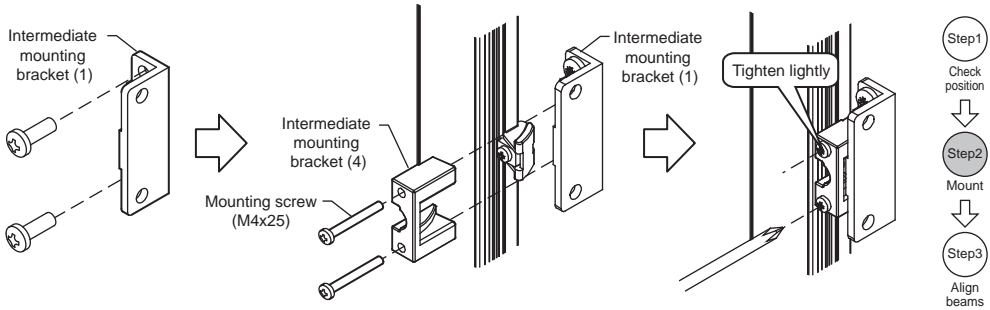
2. Attach the intermediate mounting brackets (2) and (3).



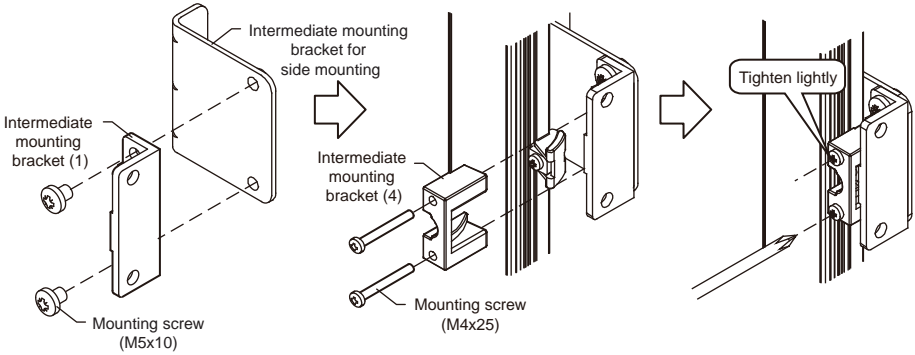
For mounting positions of the intermediate mounting brackets (2) and (3), refer to 5-4 E dimensions.



3. <On back end mounting> Attach the intermediate mounting brackets (1) and (4).



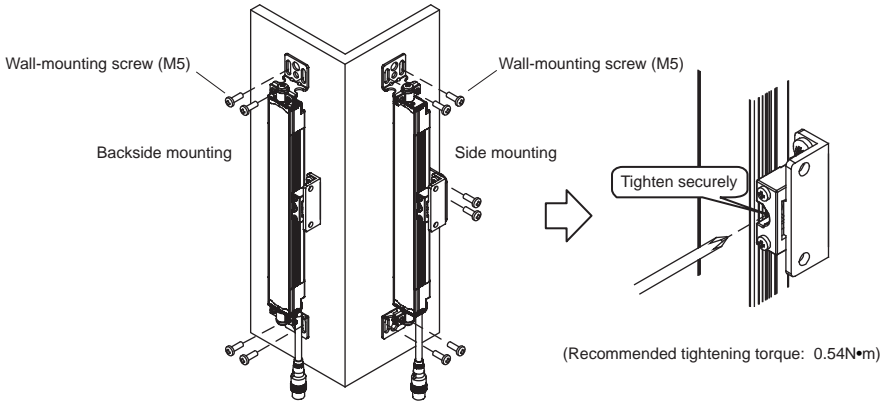
4. <On side mounting> Attach the intermediate mounting brackets (1) and (4) as well as the side-mounting intermediate mounting bracket.



(Recommended tightening torque: 2.3N•m)

5. Fix the unit on the wall.

- Step1
Check position
↓
Step2
Mount
↓
Step3
Align beams

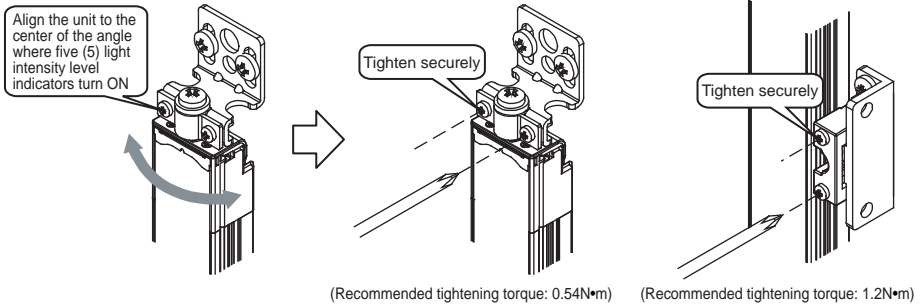


Tightening with torque exceeding the recommended value too much may lead to a failure.

Wall-mounting screws are not included.

6. Align beams based on the indicators.

Please refer to instruction sheet about wiring examples.



■ Display Patterns of the Incident Light Level Indicator



incident light level indicator						
Safety Output	ON	ON	ON	OFF	OFF	OFF
Incident light level	170% or higher	Less than 170% ~ 130%	Less than 130% ~ 100%	Less than 100% ~ 75%	Less than 75% ~ 50%	Less than 50%

Operation is possible with incident light level of 100% or more, but to ensure stability, operate when all incident light level indicators.

Please do not tighten each screw one by one. Fully tighten all of them in a balanced manner at all places.

The angle adjustment range of mounting bracket F39-LJ3 is +/-10 degrees.



6. Pre-Operation Checklists / Maintenance Checklists

After wiring, mounting and beam alignment are done, check the operation of the F3SJ-AM.

Pre-Operation Checklists

After installation, the highest level administrator must use the following checklist to verify the operation, placing a check mark in each of the boxes.

■ Checklists

- Installation Condition Check

- The machine itself does not prevent the operation of safety functions such as stopping.
- The hazardous part of a machine cannot be reached without passing through the detection zone of the F3SJ-AM.
- The system is configured so that the F3SJ-AM can always detect a worker who is working in the hazardous zone.
- The interlock reset switch is installed in a location that provides a clear view of the entire hazardous zone and it cannot be activated from within the hazardous zone.
- Safety distance has been calculated. Calculated distance: $S = ()$ mm
- The actual distance is equal to or greater than the calculated distance. Actual distance = $()$ mm
- Reflective surfaces are not installed in prohibited zones.
- Not installed in a reflective configuration.
- When muting function is used, a muting sensor must be installed so that muting state should not occur when a human body enters a detection zone of F3SJ-AM by mistake.
- When muting function is used, a muting sensor must be installed so that muting state should not occur when a human body enters a hazardous zone of a machine.
- When muting function is used, muting state can be checked from where a worker operates or adjust the machine.
- A muting sensor consists of 2 independent devices.
- It is not used in flammable or explosive atmosphere.

- Wiring Check Before Power Is Turned ON

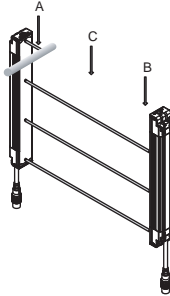
- When the power supply unit is connected to multiple devices, the power supply unit must have tolerance against total rated current of the devices.
- The power supply unit is a 24 VDC unit that conforms to the EMC Directive, Low-voltage Directive, and output holding specifications.
- The power supply polarity is not connected in reverse.
- Emitter/receiver cables are properly connected to the respective emitters/receivers.
- Double insulation is used between I/O lines and the hazard potential (commercial power supplies, etc.).
- Outputs are not short-circuited to +24V line.
- Loads are not connected to the +24V line.
- All lines are not connected to commercial power source.
- F3SJ-AM's power supply connector and series connection connector must not be attached upside down.
- Model of emitter and receiver must be the same.
- When 2 or more sets of F3SJ-AM are used, series connection is made or mutual interference prevention measures are taken.
- When 2 or more sets of F3SJ-AMs are used in series connection, PNP output type and NPN output type must not be connected.
- A secondary sensor farthest from its power supply has either of the followings:
 - Cap
 - Key cap for muting
 - Muting lamp (set of lamp and cable)
- Neither connector, cap, or bracket must be loose.
- Auxiliary outputs 1 and 2, and external indicator outputs 1 and 2 must not be used as safety output.
- Power supply's 0V must be grounded.
- Wiring must not be bent, cracked, nor damaged.

- Operation Check While the Machine Is Stopped

- A checkup detection object (opaque bar or plate) with width of 10mm or wider must be provided by a user.



- When a checkup detection object is inserted along the beam center line mark (mark) so that it should interrupt beams, the sensor must be under interrupted status (all 5 incident light level indicators turn OFF, and the OFF output indicator turns ON). Detection must be checked for 3 points shown below:
 - Right in front of an emitter (A)
 - Right in front of a receiver (B)
 - In the middle of an emitter and a receiver (C)



- When the external test function is used:
 - The OFF-state indicator turns ON when the test input line is short-circuited to 9V to Vs.
- When the external device monitoring function is used:
 - When the F3SJ-AM is blocked and the external device monitoring input terminal is open, it enters a lock-out state.
- When the start interlock function is used:
 - After the F3SJ-AM is turned ON, the OFF-state indicator remains turned ON, even if the F3SJ-AM is receiving light. The reset switch input turns ON the ON-state indicator.
- When the restart interlock function is used:
 - While the ON-state indicator is ON, the OFF-state indicator remains turned ON, even when the F3SJ-AM is blocked and then receives light again. The reset switch input turns ON the ON-state indicator.
- When muting function is used, minimum muting time limit required must be set.
- When muting function's operation mode is exit only muting mode, minimum muting waiting time required must be set.
- Under muting state, a signal that indicates muting state must be output from either of the followings:
 - External Indicator 1 or 2
 - Auxiliary Output 1
- When override function is used, minimum override time limit required must be set.
- Under override state, a signal that indicates override state must be output from either of the followings:
 - External Indicator 1 or 2
 - Auxiliary Output 1

-Checking that Hazardous Parts Stop While the Machine Operates

- The hazardous parts stop immediately when a checkup detection object interrupted any beam at 3 positions: "directly in front of the emitter", "directly in front of the receiver", and "between the emitter and receiver".
- The hazardous parts remain stopped as long as the checkup detection object keeps interrupting a beam.
- The hazardous parts stop when the power of the F3SJ-AM is turned OFF.
- The actual response time of the whole machine is equal to or less than the calculated value.

Maintenance Checklists

To ensure safety, keep a record of the inspection results. When the user is a different person from those who installed or designed the system, he/she must be properly trained for maintenance.

■Checklists

-Inspection at Startup and When Changing Operators

- There is no approach route other than through the detection zone of the F3SJ-AM.
- Part of the operator's body always remains in the detection zone of the F3SJ-AM when working around the machine's hazardous part.
- The actual safety distance is equal to or greater than the calculated value.



- There must be no dirt on or damage to the optical surface, spatter protection cover (F39-HJ, sold separately), or environment-resistant casing (F39-EJ, sold separately) of the F3SJ-AM.
- OFF output indicator must be turned ON when test input line is short-circuited to 9V to Vs.
- When muting function is used, muting lamp must not be clear due to dirt or degradation.
- The checkup detection object is not deformed.
- When the start interlock function is used:
 - After the F3SJ-AM is turned ON, the OFF output indicator must remain turned ON, even if the F3SJ-AM is receiving light. The reset switch input must turn ON the ON output indicator.
- When the restart interlock function is used:
 - While the ON output indicator is ON, the OFF output indicator must remain turned ON, even when the F3SJ-AM is blocked and then receives light again. The reset switch input must turn ON the ON output indicator.
- When the power of the F3SJ-AM is turned ON while nothing is in the detection zone, it must operate as follows:
 - If start interlock is not used: Power indicator and ON output indicator must turn ON within 2 seconds (2.2 seconds in case of series connection). If start interlock is used: Power indicator and OFF output indicator must turn ON within 2 seconds (2.2 seconds in case of series connection).
- Nothing should exist in the detection zone and 5 incident light level indicators must turn ON at power on.
- A checkup detection object (opaque bar or plate) with width of 10mm or wider must be provided by a user.
- When a checkup detection object is inserted along the beam center line mark (mark) so that it should interrupt beams, the sensor must be under interrupted status (all 5 incident light level indicators turn OFF, and the OFF output indicator turns ON). Detection must be checked for 3 points same as Pre-Operation Checklists:
 - Right in front of an emitter (A)
 - Right in front of a receiver (B)
 - In the middle of an emitter and a receiver (C)
- When muting function is used, installation condition of muting sensor must not be changed.
- When muting function is used, muting status can be checked from where a worker operates or adjust the machine.
- Neither connector, cap, or bracket must be loose.

-Checking that Hazardous Parts Stop While the Machine Operates

- The hazardous parts are movable when nothing is in the detection zone.
- The hazardous parts stop immediately when a checkup detection object is inserted into the detection zone at 3 positions: "directly in front of the emitter", "directly in front of the receiver", and "between the emitter and receiver".
- The hazardous parts remain stopped as long as the test rod is in the detection zone.
- The hazardous parts stop when the power of the F3SJ-AM is turned OFF while nothing is in the detection zone.

-Items to Inspect Every 6 Months or When Machine Settings Are Changed

In addition to inspection item at operation start, following items must also be verified.

- The outputs of the F3SJ-AM and the machine are properly wired.
- The total number of times that the control relays/contactors have switched is significantly lower than their design lives.
- There is no disturbance light.
- When muting function setting is changed, a muting sensor must be installed so that muting state should not occur when a human body enters a detection zone of F3SJ-AM by mistake.
- When muting function setting is changed, a muting sensor must be installed so that muting state should not occur when a human body enters a hazardous zone of a machine.
- When muting function setting is changed, a muting sensor must consist of 2 independent devices.
- When F3SJ-AM is connected again, a secondary sensor farthest from its power supply has either of the followings:
 - Cap
 - Key cap for muting
 - Muting lamp (set of lamp and cable)
- Power supply's 0V must be grounded.
- Wiring must not be bent, cracked, nor damaged.

Suitability for Use

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

See also Product catalog for Warranty and Limitation of Liability.

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In the interest of product improvement, specifications are subject to change without notice.

マルチビームセーフティセンサ
F3SJ-AM□P□□□ シリーズ

クイックインストールマニュアル



関連マニュアル	マニュアル番号
マルチビームセーフティセンサ F3SJ-AM シリーズ ユーザーズマニュアル	SCHG-716

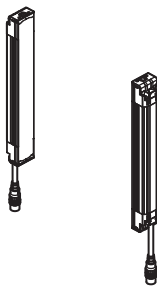
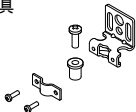
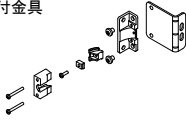
はじめに


このたびはマルチビームセーフティセンサ形 F3SJ-AM □ P □ □ □ シリーズ（以下 F3SJ-AM と呼びます）をお買い上げいただき、ありがとうございます。
 本書は F3SJ-AM の配線から動作チェックまでの流れを示した簡易説明書です。
 詳細については F3SJ-AM のユーザーズマニュアルを当社ウェブサイトからダウンロードし、よくお読みください。
<http://www.fa.omron.co.jp>

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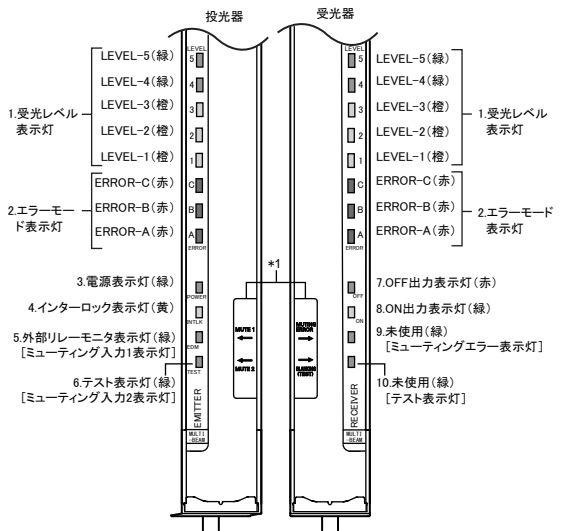
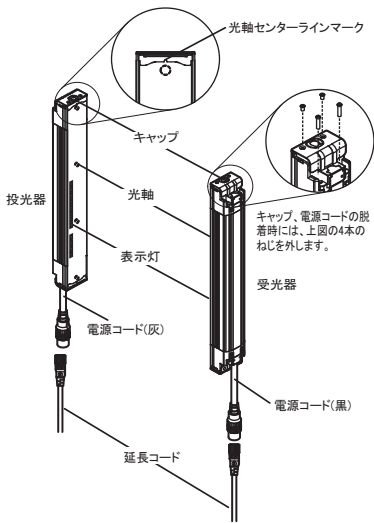
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1. 同梱物のご確認

製品	数量																
形F3SJ-AM□P□□□本体 	投光器 × 1、受光器 × 1 各種機能設定 <table border="1"> <thead> <tr> <th>機能</th> <th>設定</th> </tr> </thead> <tbody> <tr> <td>外部テスト</td> <td>9V~Vs*1 印加時有効</td> </tr> <tr> <td>インターロック</td> <td>配線にてマニュアルリセットモード、オートリセットモード切り替え可能</td> </tr> <tr> <td>外部リレーモニタ(EDM)</td> <td>配線にて有効/無効の切り替え可能</td> </tr> <tr> <td>補助出力</td> <td>補助出力1：制御出力情報(反転出力モード：有効) 補助出力2：通電時間情報(30000時間経過時ON) 設定ツール(別売りアクセサリ)にて機能設定変更可能</td> </tr> <tr> <td>外部表示灯</td> <td>大型表示灯セット(形F39-A01P□-PAC)、汎用表示灯コード(形F39-JJ3N)装着時有効 ベーシックシステム時 外部表示灯1：制御出力情報(反転出力モード：有効) 外部表示灯2：エラー/ロックアウト情報 ミューティングシステム時 外部表示灯1：ミューティング/オーバーライド情報 外部表示灯2：ミューティング/オーバーライド情報</td> </tr> <tr> <td>ミューティング</td> <td>ミューティング用キーキャップ形F39-CN6装着時有効</td> </tr> <tr> <td>オーバーライド</td> <td>ミューティング用キーキャップ形F39-CN6装着時有効</td> </tr> </tbody> </table> <p>*1 ここでVsとは使用環境での電圧値です</p>	機能	設定	外部テスト	9V~Vs*1 印加時有効	インターロック	配線にてマニュアルリセットモード、オートリセットモード切り替え可能	外部リレーモニタ(EDM)	配線にて有効/無効の切り替え可能	補助出力	補助出力1：制御出力情報(反転出力モード：有効) 補助出力2：通電時間情報(30000時間経過時ON) 設定ツール(別売りアクセサリ)にて機能設定変更可能	外部表示灯	大型表示灯セット(形F39-A01P□-PAC)、汎用表示灯コード(形F39-JJ3N)装着時有効 ベーシックシステム時 外部表示灯1：制御出力情報(反転出力モード：有効) 外部表示灯2：エラー/ロックアウト情報 ミューティングシステム時 外部表示灯1：ミューティング/オーバーライド情報 外部表示灯2：ミューティング/オーバーライド情報	ミューティング	ミューティング用キーキャップ形F39-CN6装着時有効	オーバーライド	ミューティング用キーキャップ形F39-CN6装着時有効
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オーバーライド	ミューティング用キーキャップ形F39-CN6装着時有効																
上下取付金具 	4セット																
中間取付金具 	同梱される金具の数量は形式によって異なります。 形F3SJ-AM2P300…付属しません 形F3SJ-AM3P300…1セット付属 形F3SJ-AM4P300…1セット付属 形F3SJ-AM2P400…付属しません 形F3SJ-AM3P400…1セット付属 形F3SJ-AM4P400…2セット付属 形F3SJ-AM2P500…付属しません																
エラーモードラベル	1																
取扱説明書	2																
クイックインストールマニュアル(本紙)	1																

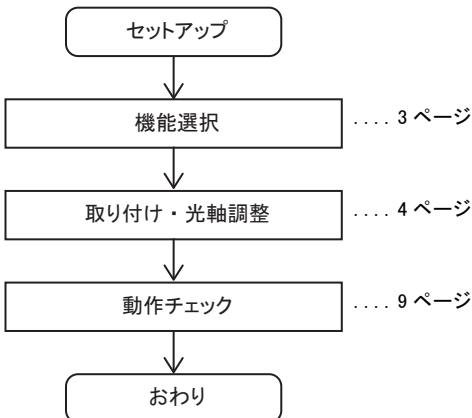
 定格/性能、入出力回路、LED表示灯の点灯パターン、トラブルシューティングについては、F3SJ-AMシリーズユーザーズマニュアルを参照してください。

2. 各部の名称



[]内はミーティングシステム時の表示灯名称です。
 *1 ミューティング用キーキャップ形F39-CN6に添付されています。
 キーキャップ装着時にこのシールを貼付してください。

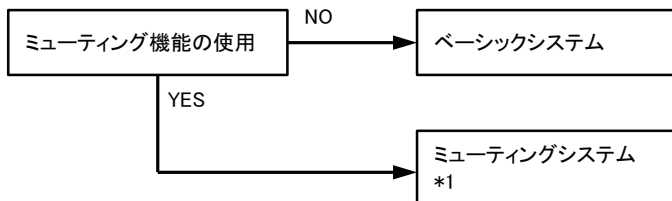
3. ライトカーテンセットアップの流れ





4. 機能選択フローチャート

使用する機能により必要なシステム構成が変わってきます。以下のフローチャートに従い、どのシステムが必要か決定してください。各種機能の設定を変更する場合、設定ツール（別売りアクセサリ）を使用してください。



*1 ミュート用キーキャップ(形F39-CN6)が必要です。



ミュート機能を使用する場合の構成、各種設定変更についてはF3SJ-AMシリーズユーザーズマニュアルを参照してください。

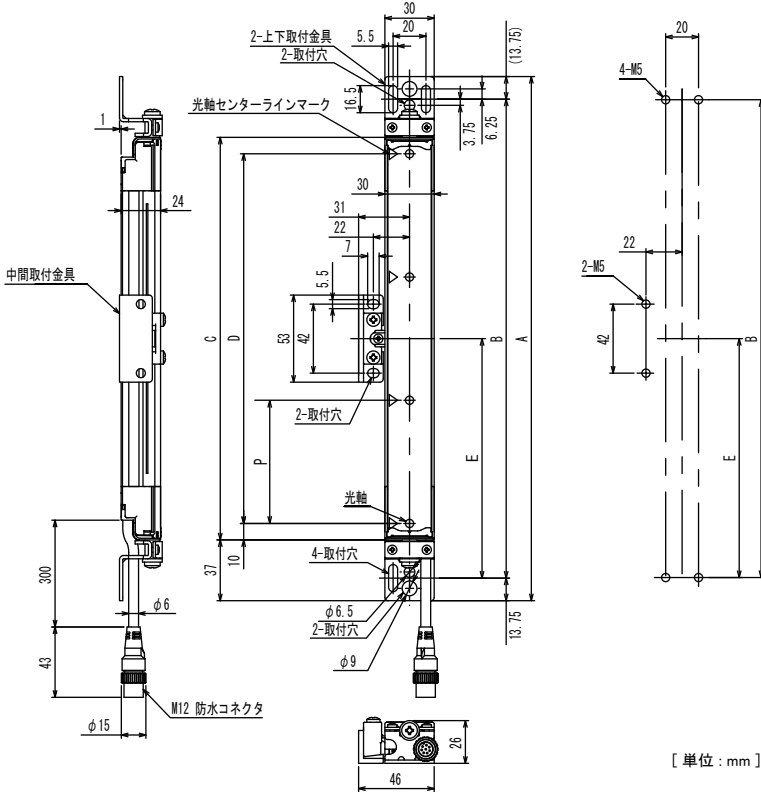


5. 取り付け・光軸調整

同梱されている金具(形F39-LJ1、形F39-LJ3)以外の金具、外形寸法および取り付け方法については、F3SJ-AMシリーズユーザーズマニュアルを参照してください。

5-1. 同梱されている金具(形 F39-LJ1、形 F39-LJ3) を取り付ける場合の外形寸法 ■外形寸法図(取り付け位置確認)

[背面取り付け時]



寸法A～E、Pについて

形式	光軸数	寸法A	寸法B	寸法C	寸法D	寸法E	寸法P	中間取付金具の数
形F3SJ-AM2P300	2	394	366.5	320	300	-	300	0
形F3SJ-AM3P300	3	694	666.5	620	600	B/2	300	1
形F3SJ-AM4P300	4	994	966.5	920	900	B/2	300	1
形F3SJ-AM2P400	2	494	466.5	420	400	-	400	0
形F3SJ-AM3P400	3	894	866.5	820	800	B/2	400	1
形F3SJ-AM4P400	4	1294	1266.5	1220	1200	B/3	400	2
形F3SJ-AM2P500	2	594	566.5	520	500	-	500	0

Step1

取り付け位置確認



Step2

取り付け



Step3

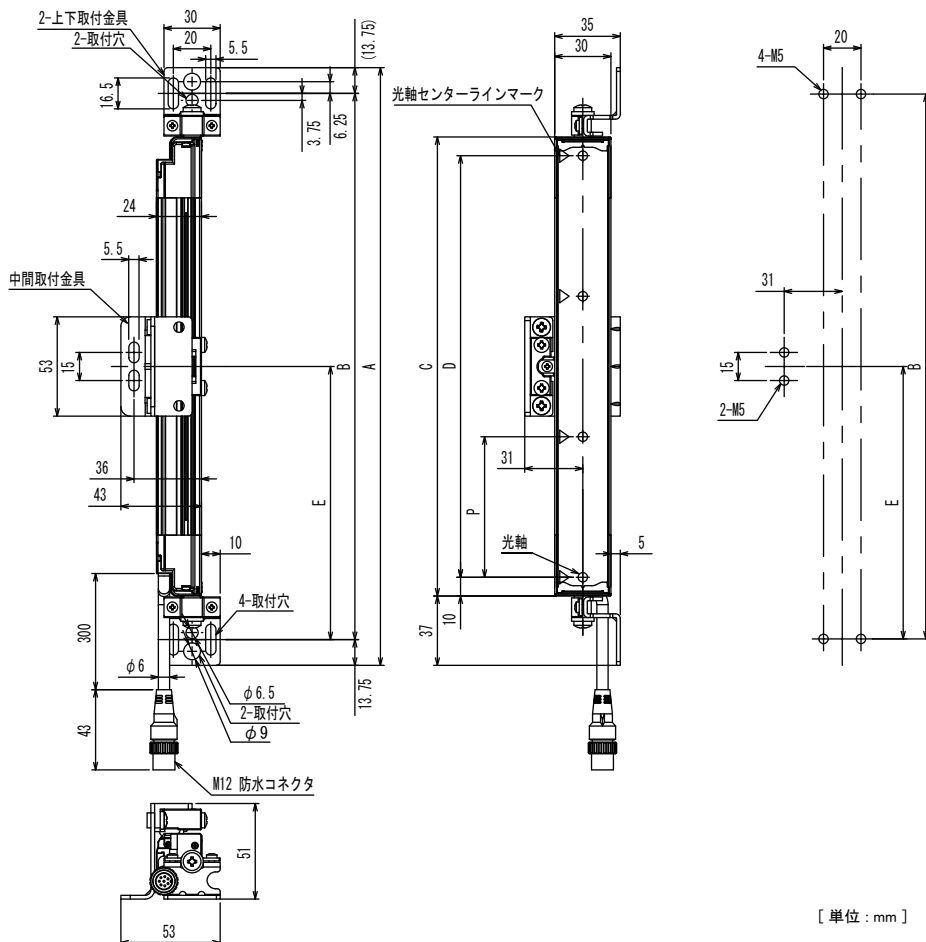
光軸調整



■外形寸法図（取り付け位置確認）

[側面取り付け時]

- Step1
取り付け位置確認
- ↓
- Step2
取り付け
- ↓
- Step3
光軸調整



[単位: mm]

寸法A~E、Pについて

形式	光軸数	寸法A	寸法B	寸法C	寸法D	寸法E	寸法P	中間取付金具の数
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同梱されている金具(形F39-LJ1、形F39-LJ3)以外の取付金具の外形寸法図については、F3SJ-AMシリーズユーザーズマニュアルを参照してください。



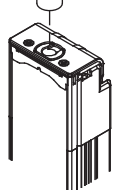
5-2. 取り付け方法と光軸調整

1. 上下取付金具を取り付けます。

凸部筐体の溝に合わせて入れる

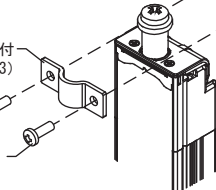
取付ねじ
(M5x20)
(推奨締め付けトルク : 2.3N・m)

上下取付
金具 (2)



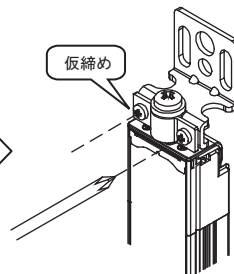
上下取付
金具 (3)

取付ねじ
(M3x8)



上下取付
金具 (1)

仮締め

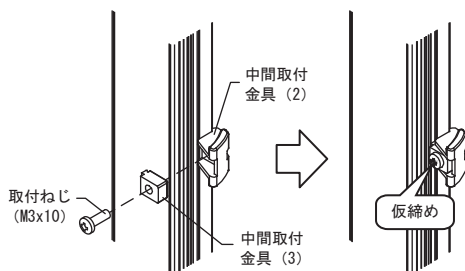


Step1
取り付け
位置確認
↓
Step2
取り付け
↓
Step3
光軸調整

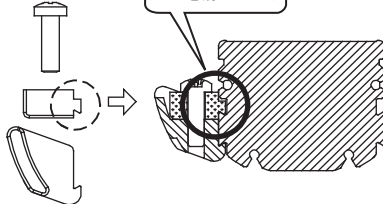


推奨値を大きく超えるトルクで固定すると故障の原因となります。

2. 中間取付金具 (2) と (3) を取り付けます。



ツメを溝に入れる



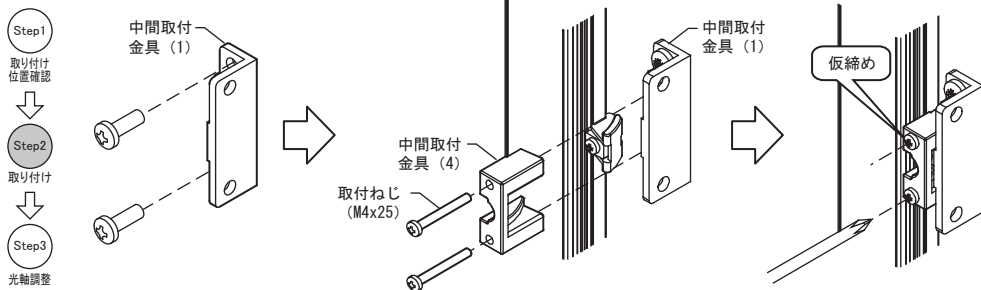
点線内の金具のツメが背面側になるように
取り付けてください。



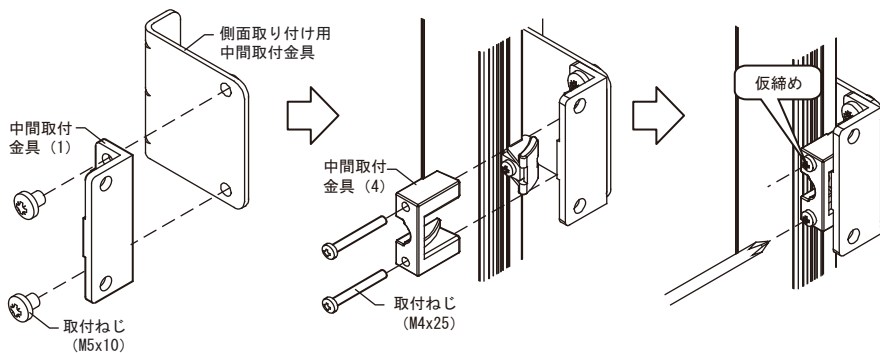
中間取付金具(2)(3)の取り付け位置は本紙5-1項E寸法をご確認ください。



3. <背面取り付け時> 中間取付金具(1)と(4)を取り付けます。

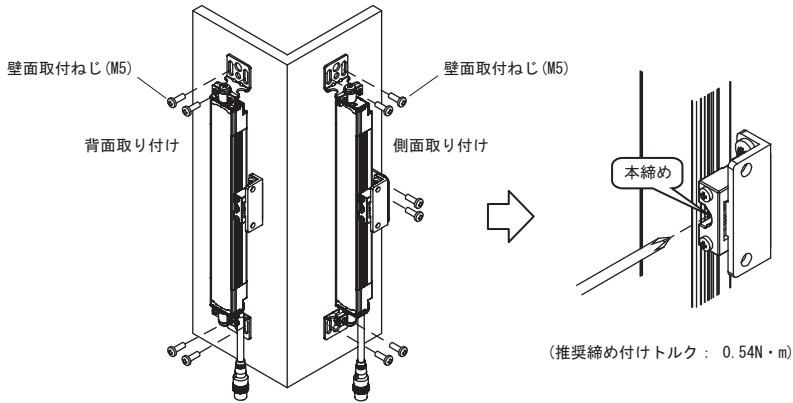


4. <側面取り付け時> 中間取付金具(1)と(4)、側面取り付け用中間取付金具を取り付けます。



(推奨締め付けトルク : 2.3N・m)

5. 壁面へ固定します。

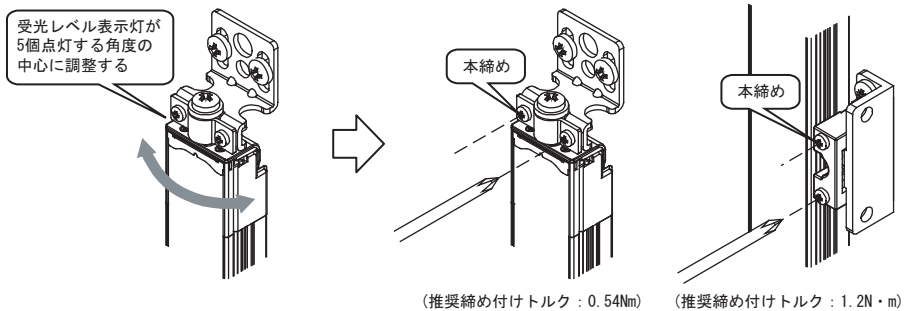


Step1
取り付け位置確認
↓
Step2
取り付け
↓
Step3
光軸調整

💡 推奨値を大きく超えるトルクで固定すると故障の原因となります。

💡 壁面との取り付けねじは付属していません。

6. 表示灯を参考に光軸を調整します。



■ 受光レベル表示灯の点灯パターン

☐ 点灯 ■ 消灯

受光レベル表示灯	5	☐	■	■	■	■
	4	☐	☐	■	■	■
	3	☐	☐	☐	■	■
	2	☐	☐	☐	☐	■
	1	☐	☐	☐	☐	☐
制御出力	ON	ON	ON	OFF	OFF	OFF
受光レベル	170%以上	170%未満 130%	130%未満 100%	100%未満 75%	75%未満 50%	50%未満

💡 受光レベル100%以上で動作しますが、安定して使用するには5個点灯した状態で使用してください。

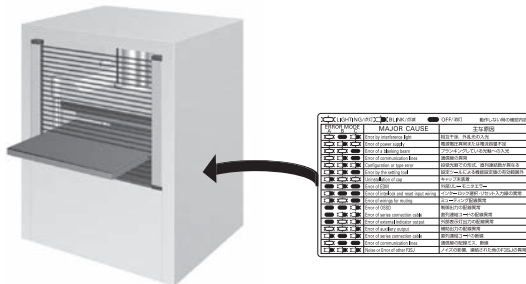
💡 各ねじは1ヶ所ずつ締めるのではなく、全ヶ所でバランスよく本締めしてください。

💡 取付金具形F39-LJ3の角度調整範囲は±10°です。



6. 動作チェック

配線、取り付け・光軸調整が終わったら、F3SJ-AMの動作チェックを実施してください。必要に応じて添付のエラーモードラベルを形F3SJ-AMの近くに貼ってください。



トラブルシューティングについては、F3SJ-AMシリーズユーザーズマニュアルを参照してください。

動作チェックはF3SJ-AMシリーズユーザーズマニュアル記載のチェックリストに従い実施してください。

ご承諾事項

当社商品は、一般工業製品向けの汎用品として設計製造されています。従いまして、次に掲げる用途での使用を意図しておらず、お客様が当社商品をこれらの用途に使用される際には、当社は当社商品に対して一切保証をいたしません。ただし、次に掲げる用途であっても当社の意図した特別な商品用途の場合や特別の合意がある場合は除きます。

- 高い安全性が必要とされる用途 (例: 原子力制御設備、燃焼設備、航空・宇宙設備、鉄道設備、昇降設備、娯楽設備、医用機器、安全装置、その他生命・身体に危険が及びうる用途)
- 高い信頼性が必要な用途 (例: ガス・水道・電気等の供給システム、24時間連続運転システム、決済システムほか権利・財産を取扱う用途など)
- 厳しい条件または環境での用途 (例: 屋外に設置する設備、化学的汚染を被る設備、電磁的妨害を被る設備、振動・衝撃を受ける設備など)
- カタログ等に記載のない条件や環境での用途

* (a) から (d) に記載されている他、本カタログ等記載の商品は自動車 (二輪車含む。以下同じ) 向けではありません。自動車に搭載する用途には利用しないで下さい。自動車搭載用商品については当社営業担当者にご相談ください。

* 上記は適合用途の条件の一部です。当社のベスト、総合カタログ、データシート等最新版のカタログ、マニュアルに記載の保証・免責事項の内容をよく読んでご使用ください。

オムロン株式会社 インダストリアルオートメーションビジネスカンパニー

●製品に関するお問い合わせ先

お客様相談室

フリーダイヤル 0120-919-066

携帯電話・PHS・IP電話などではご利用いただけませんので、下記の電話番号へおかけください。

電話 **055-982-5015** (通話料がかかります)

■営業時間: 8:00~21:00

■営業日: 365日

●FAXやWebページでもお問い合わせいただけます。

FAX **055-982-5051** / www.fa.omron.co.jp

●その他のお問い合わせ

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