



EC Declaration of Conformity

We hereby declare that the following products are in conformity with the requirements of the following EC Directive:

Product:	Safety Light Curtain	
Type:	F3SJ-E series F3SJ-B series	
Title and No. of Directive:	EMC Directive	2004/108/EC
	Machinery Directive	2006/42/EC

These products are designed and manufactured in accordance with the following standards.

EMC Directive:

EMI (Electromagnetic Interference):
EN 61000-6-4: 2007/A1:2011

EMS (Electromagnetic Susceptibility):
EN 61496-1:2004/A1: 2008

Machinery Directive:

Electro-sensitive protective equipment:
EN 61496-1:2004/A1: 2008

Active opto-electronic protective devices:
IEC 61496-2: 2006

Description of Product:

The F3SJ-E/B series are electro-sensitive device designed specifically to detect persons in order to ensure their safety. The F3SJ-E/B Type 4 series are ESPE Type 4 according to EN 61496-1:2004/A1:2008 & AOPD Type 4 according to IEC 61496-2:2006 and can be used as a safeguard for personal protection at machinery and other hazardous areas, which require safeguards according to Category B, 1, 2, 3, 4 and "PL e" according to EN ISO 13849-1:2008.

Certificate:

Machinery Directive - Certificate for EC Type-Examination (No.: M6A 11 08 39656 227)
Notified Body: TÜV SÜD Product Service GmbH
Address: Zertifizierstelle, Ridlerstrasse 65, 80339, München, Germany
Notified Body identification No.: 0123

Responsible Person for Documentation:

J.J.P.W. Vogelaar OMRON EUROPE B.V.
Zilverenberg 2, 5234 GM, 's-Hertogenbosch, The Netherlands

Manufacturer:

Name: OMRON Corporation, Industrial Automation Company,
Safety Division
Address: Shiokoji-horikawa, Shimogyo-ku, Kyoto, 600-8530, JAPAN

Date: Dec. 17. 2013

Signed: Eiji Bando
Eiji Bando Business Development Dept.

Representative in EU:

Name: OMRON Europe B.V.
Address: Zilverenberg 2, 5234 GM, 's-Hertogenbosch, THE NETHERLANDS

Date: Jan 6, 2014

Signed: J.J.P.W. Vogelaar
J.J.P.W. Vogelaar European Quality & Environment Operations Manager

Products Covered

Type: F3SJ-E, F3SJ-B Series

F3SJ - $\frac{(\quad)}{\text{I}}$ $\frac{(\quad)}{\text{II}}$ $\frac{(\quad)(\quad)(\quad)(\quad)}{\text{III}}$ $\frac{(\quad)}{\text{IV}}$ $\frac{(\quad)(\quad)}{\text{V}}$ - $\frac{(\quad)}{\text{VI}}$ - $\frac{(\quad)(\quad)(\quad)}{\text{VII}}$

- I : Blank
- II : E or B
- III : 0185 to 2065
- IV : P, N, or Blank
- V : 25
- VI : Blank, L, or D
- VII : Blank, or additional letter(s), number(s), and/or dash



CERTIFICATE

No. **Z10 11 06 39656 234**

Holder of Certificate: **Omron Corporation**
Shiokoji Horikawa, Shimogyo-ku
Kyoto
600-8530 JAPAN

Certification Mark:



Product: **Electro-Sensitive Protective Equipment (AOPD) Type 4**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.: 717503902

Date, 2011-06-15 (Jürgen Blum)

Page 1 of 4



**CERTIFICATE**

No. Z10 11 06 39656 234

Model(s):**F3SJ-B**
F3SJ-E

For Nomenclature of Product type see attachment

Parameters:

Power supply:	24Vdc +/- 20%
Current consumption:	max. 58mA Emitter [Easy] max. 51mA Receiver [Easy] max. 101mA Emitter [Basic] max. 69mA Receiver [Basic]
Detection capability:	25mm
Operating range:	0,2 - 7m
Operating temperature:	-10°C +55°C
Protection class:	IP65
Response time:	max. 15ms

**Tested
according to:**

IEC 61508-1:2010 (SIL1-3)
IEC 61508-2:2010 (SIL1-3)
IEC 61508-3:2010 (SIL1-3)
EN 61508-1:2010 (SIL1-3)
EN 61508-2:2010 (SIL1-3)
EN 61508-3:2010 (SIL1-3)
IEC 61496-1:2008
IEC 61496-2/Ed.2:2006
EN 61496-1/A1:2008
CLC/TS 61496-2:2006
ISO 13849-1:2006 (Cat. 4, PL e)
EN ISO 13849-1:2008 (Cat. 4, PL e)
EN 61000-6-2:2005
EN 61000-6-4:2007
EN 50178:1997

Factory(ies):

48774

ATTACHMENT

to certificate

No. Z10 11 06 39656 234

1. Nomenclature of **F3SJ-B, F3SJ-E**

F3SJ – □ □ □ □ □ □ □ □ □ □ – □ – □ □ □
I II III IV V VI VII VIII

- I. Product classification
F3SJ : Safety light curtain
- II. Type classification
Blank : Type 4 ESPE/ AOPD
- III. Model Classification
E : Easy model
B : Basic model
- IV. Protective height (PH)
[Basic model]
4 figures from 0185 to 2065: PH is calculated with the following formula.
$$PH \text{ (mm)} = 20 \times (\text{Number of beams} - 1) + 45$$

[Easy model]
4 figures from 0185 to 1105: PH is calculated with the following formula.
$$PH \text{ (mm)} = 20 \times (\text{Number of beams} - 1) + 45$$
- V. Output
P : PNP transistor output (for receiver or set of emitter and receiver)
N : NPN transistor output (for receiver or set of emitter and receiver)
– : None (for emitter)
- VI. Detection capability
25 : 25 mm
- VII. Emitter or Receiver
Blank : Set of Emitter and Receiver
L : Emitter
D : Receiver



VIII. Additional suffix

Blank : Standard type

Additional letter(s), number(s), and/or dash: The following specification changes are indicated by this additional suffix.

- 1) Cable length within maximum length specification
- 2) Connector-less cable/ Connector cable
- 3) Factory settings of the selectable functions
- 4) Appearance of the enclosure, and /or additional markings
- 5) Packaging style and/or contained accessories
- 6) Name of the indicators, inputs, and/or outputs

2. Factory settings of the selectable functions

- 1) Enabling/ disabling the EDM function, the start interlock function, and/or the reset interlock function
- 2) Enabling/ disabling the Muting key enable function
- 3) Reversing input logic of external test function
- 4) Changing the muting state time limit to be infinite
- 5) Changing the auxiliary output mode to be OSSD inverted, muting/ override state, or lockout state

Department: TR-RA/MUC
Date: 2011-06-15



EC-Type Examination Certificate

No. **M6A 11 06 39656 233**

Holder of Certificate: Omron Corporation
Shiokoji Horikawa, Shimogyo-ku
Kyoto
600-8530 JAPAN

Product: Electro-Sensitive Protective Equipment
(AOPD) Type 4

Model(s): **F3SJ-B**
F3SJ-E
For Nomenclature of Product type see attachment

Parameters:

Power supply:	24Vdc +/- 20%
Current consumption:	max. 58mA Emitter [Easy] max. 51mA Receiver [Easy] max. 101mA Emitter [Basic] max. 69mA Receiver [Basic]
Detection capability:	25mm
Operating range:	0,2 - 7m
Operating temperature:	-10°C +55°C
Protection class:	IP65
Response time:	max. 15ms

This EC Type Examination Certificate is issued according to Article 12(3) b or 12(4) a of Council Directive 2006/42/EC relating to machinery. It confirms that the listed Annex-IV equipment complies with the principal protection requirements of the directive. It refers only to the sample submitted to TÜV SÜD Product Service GmbH for testing and certification. See also notes overleaf.

Test report no.: 717503902

Valid until: 2016-06-14

Date, 2011-06-15 (Jürgen Blum)



TÜV SÜD Product Service GmbH is Notified Body according to Council Directive 2006/42/EC relating to machinery, notified by publication in the Official Journal of the EC with identification No. 0123.

Page 1 of 3



ATTACHMENT

to certificate

No. M6A 11 06 39656 233

1. Nomenclature of **F3SJ-B, F3SJ-E**

F3SJ – □ □ □ □ □ □ □ □ – □ – □ □ □
I II III IV V VI VII VIII

- I. Product classification
F3SJ : Safety light curtain
- II. Type classification
Blank : Type 4 ESPE/ AOPD
- III. Model Classification
E : Easy model
B : Basic model
- IV. Protective heigh (PH)
[Basic model]
4 figures from 0185 to 2065: PH is calculated with the following formula.
$$PH \text{ (mm)} = 20 \times (\text{Number of beams} - 1) + 45$$

[Easy model]
4 figures from 0185 to 1105: PH is calculated with the following formula.
$$PH \text{ (mm)} = 20 \times (\text{Number of beams} - 1) + 45$$
- V. Output
P : PNP transistor output (for receiver or set of emitter and receiver)
N : NPN transistor output (for receiver or set of emitter and receiver)
– : None (for emitter)
- VI. Detection capability
25 : 25 mm
- VII. Emitter or Receiver
Blank : Set of Emitter and Receiver
L : Emitter
D : Receiver



VIII. Additional suffix

Blank : Standard type

Additional letter(s), number(s), and/or dash: The following specification changes are indicated by this additional suffix.

- 1) Cable length within maximum length specification
- 2) Connector-less cable/ Connector cable
- 3) Factory settings of the selectable functions
- 4) Appearance of the enclosure, and /or additional markings
- 5) Packaging style and/or contained accessories
- 6) Name of the indicators, inputs, and/or outputs

2. Factory settings of the selectable functions

- 1) Enabling/ disabling the EDM function, the start interlock function, and/or the reset interlock function
- 2) Enabling/ disabling the Muting key enable function
- 3) Reversing input logic of external test function
- 4) Changing the muting state time limit to be infinite
- 5) Changing the auxiliary output mode to be OSSD inverted, muting/ override state, or lockout state

Department: TR-RA/MUC
Date: 2011-06-15



EC-Type Examination Certificate

No. M6A 11 06 39656 232

Holder of Certificate: Omron Corporation
Shiokoji Horikawa, Shimogyo-ku
Kyoto
600-8530 JAPAN

Product: Electro-Sensitive Protective Equipment
(AOPD) **Type 2**

Model(s): **F3SJ-2B**
F3SJ-2E
For Nomenclature of Product type see attachment

Parameters:

Power supply:	24Vdc +/- 20%
Current consumption:	max. 58mA Emitter [Easy] max. 51mA Receiver [Easy] max. 101mA Emitter [Basic] max. 69mA Receiver [Basic]
Detection capability:	25mm
Operating range:	0,2 - 4m
Operating temperature:	-10°C +55°C
Protection class:	IP65
Response time:	max. 15ms

This EC Type Examination Certificate is issued according to Article 12(3) b or 12(4) a of Council Directive 2006/42/EC relating to machinery. It confirms that the listed Annex-IV equipment complies with the principal protection requirements of the directive. It refers only to the sample submitted to TÜV SÜD Product Service GmbH for testing and certification. See also notes overleaf.

Test report no.: 717503902

Valid until: 2016-06-14

Date, 2011-06-15

(Jürgen Blum)



TÜV SÜD Product Service GmbH is Notified Body according to Council Directive 2006/42/EC relating to machinery, notified by publication in the Official Journal of the EC with identification No. 0123.

Page 1 of 3



ATTACHMENT

to certificate

No. M6A 11 06 39656 232

1. Nomenclature of **F3SJ-2B, F3SJ-2E**

F3SJ – – –
I II III IV V VI VII VIII

- I. Product classification
F3SJ : Safety light curtain
- II. Type classification
2 : Type 2 ESPE/ AOPD
- III. Model Classification
E : Easy model
B : Basic model
- IV. Protective height (PH)
[Basic model]
4 figures from 0185 to 2065: PH is calculated with the following formula.
$$PH \text{ (mm)} = 20 \times (\text{Number of beams} - 1) + 45$$

[Easy model]
4 figures from 0185 to 1105: PH is calculated with the following formula.
$$PH \text{ (mm)} = 20 \times (\text{Number of beams} - 1) + 45$$
- V. Output
P : PNP transistor output (for receiver or set of emitter and receiver)
N : NPN transistor output (for receiver or set of emitter and receiver)
– : None (for emitter)
- VI. Detection capability
25 : 25 mm
- VII. Emitter or Receiver
Blank : Set of Emitter and Receiver
L : Emitter
D : Receiver



VIII. Additional suffix

Blank : Standard type

Additional letter(s), number(s), and/or dash: The following specification changes are indicated by this additional suffix.

- 1) Cable length within maximum length specification
- 2) Connector-less cable/ Connector cable
- 3) Factory settings of the selectable functions
- 4) Appearance of the enclosure, and /or additional markings
- 5) Packaging style and/or contained accessories
- 6) Name of the indicators, inputs, and/or outputs

2. Factory settings of the selectable functions

- 1) Enabling/ disabling the EDM function, the start interlock function, and/or the reset interlock function
- 2) Enabling/ disabling the Muting key enable function
- 3) Reversing input logic of external test function
- 4) Changing the muting state time limit to be infinite
- 5) Changing the auxiliary output mode to be OSSD inverted, muting/ override state, or lockout state

Department: TR-RA/MUC

Date: 2011-06-15



NIPF.E199694 Active Opto-electronic Protective Devices

[Page Bottom](#)

Active Opto-electronic Protective Devices

[See General Information for Active Opto-electronic Protective Devices](#)**OMRON CORP**

E199694

SAFETY STANDARDS GROUP
IAB GLOBAL QUALITY CENTER
SHIOKOJI HORIKAWA
SHIMOGYO-KU, KYOTO 600-8530 JAPAN

Control unit, Model F3SP-B1P.

Type 2 or 4 light curtain systems+, emitters and receivers, Model F3SJ, followed by Blank or 2, followed by E or B, followed by 0185-2065, followed by N, P or -, followed by 25, may be followed by L or D, may be followed by additional suffixes.

Type 4 control unit, Model+ F3SX followed by N, E, H, M, NR, ER, HR, MR, followed by R, R1, R2, L1, L2, L4, M1, D1, P1, P2 and B1, followed by additional suffixes.

Type 2 single beam system, Model+ E3FS-10, for use only with the Model F3SX control unit.

Type 2 or Type 4 light curtain, Model+ F3SJ-A or F3SJ-2A, followed by 0245-2495, followed by P or N, followed by 14, 20, 25, 30, 35, 55 or 65, may be followed by L or D, may be followed by TS, 01TS, 01T, may be followed by additional suffixes.

Model F3SJ-AM+, followed by 2-4, followed by P or N, followed by 300, 400 or 500, may be followed by L or D, may be followed by additional suffixes.

Type 2 single beam sensor, Model + E3ZS followed by T, followed by 8, followed by 1, followed by A, followed by D, L or blank, followed by additional suffixes.

Type 4 light curtain systems+, emitters and receivers, Model F3SN-A followed by xxxx, followed by P or N, followed by 12, 14, 25, 40, 55 or 70, may be followed by S, SS, H, HS or HSS, followed by L, D or blank, may be followed by additional numbers and/or letters; Model F3SH-A followed by xx, followed by P or N, followed by xx, may be followed by S or SS, followed by L, D or blank, may be followed by additional numbers and/or letters.

Type 2 light curtain systems+, emitters and receivers, Model F3SN-B followed by xxxx, followed by P or N, followed by 12, 14, 25, 40, 55 or 70, may be followed by S, SS, H, HS or HSS, followed by L, D or blank, may be followed by additional numbers and/or letters.

Type 2 light curtain systems+, emitters and receivers, Model F3SH-B followed by xx, followed by P or N, followed by xx, may be followed by S or SS, followed by L, D or blank, may be followed by additional numbers and/or letters.

Type 2 and Type 4 Light Curtain System, Model F3SR followed by 2 or 4, followed by 30, followed by B, followed by four numbers, may be followed by L or D, may be followed by additional numbers and/or letters.

+Also complies with UL 1998, the Standard for Safety Related Software.

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[Page Bottom](#)

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E199694

SAFETY STANDARDS GROUP
 IAB GLOBAL QUALITY CENTER
 SHIOKOJI HORIKAWA
 SHIMOGYO-KU, KYOTO 600-8530 JAPAN

Control unit, Model F3SP-B1P.

Type 2 or 4 light curtain systems+, emitters and receivers, Model F3SJ, followed by Blank or 2, followed by E or B, followed by 0185-2065, followed by N, P or -, followed by 25, may be followed by L or D, may be followed by additional suffixes.

Type 4 control unit, Model+ F3SX, followed by N, E, H, M, NR, ER, HR, MR, followed by R, R1, R2, L1, L2, L4, M1, D1, P1, P2 and B1, followed by additional suffixes.

Type 2 single beam system, Model+ E3FS-10, for use only with the Model F3SX control unit.

Type 2 or Type 4 light curtain, Model+ F3SJ-A or F3SJ-2A, followed by 0245-2495, followed by P or N, followed by 14, 20, 25, 30, 35, 55 or 65, may be followed by L or D, may be followed by TS, 01TS, 01T, may be followed by additional suffixes.

Model F3SJ-AM+, followed by 2-4, followed by P or N, followed by 300, 400 or 500, may be followed by L or D, may be followed by additional suffixes.

Type 2 single beam sensor, Model + E3ZS followed by T, followed by 8, followed by 1, followed by A, followed by D, L or blank, followed by additional suffixes.

Type 4 light curtain systems+, emitters and receivers, Models F3SN-A followed by xxxx, followed by P or N, followed by 12, 14, 25, 40, 55 or 70, may be followed by S, SS, H, HS or HSS, followed by L, D or blank, may be followed by additional numbers and/or letters; Model F3SH-A followed by xx, followed by P or N, followed by xx, may be followed by S or SS, followed by L, D or blank, may be followed by additional numbers and/or letters.

Type 2 light curtain systems+, emitters and receivers, Model F3SN-B followed by xxxx, followed by P or N, followed by 12, 14, 25, 40, 55 or 70, may be followed by S, SS, H, HS or HSS, followed by L, D or blank, may be followed by additional numbers and/or letters.

Type 2 light curtain systems+, emitters and receivers, Model F3SH-B followed by xx, followed by P or N, followed by xx, may be followed by S or SS, followed by L, D or blank, may be followed by additional numbers and/or letters.

Type 2 and Type 4 Light Curtain System, Model F3SR followed by 2 or 4, followed by 30, followed by B, followed by four numbers, may be followed by L or D, may be followed by additional numbers and/or letters.

+Also complies with UL 1998, the Standard for Safety Related Software.

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