

# F3SJ-A

## Safety Light Curtains

- Resolution: 14 mm (0.55 in.), 20 mm (0.79 in.), 25 mm (1.01 in.), 30 mm (1.18 in.), or 55 mm (2.17 in.)
- Range: 7 m (23 ft.) or 9 m (29.5 ft.) dependent on minimum object resolution and protected height
- Protected heights: 14 mm protected heights from 245 to 1631 mm (9.6 to 64 in.), 20 mm, 25 mm and 30 mm protected heights from 245 to 2495 mm (9.6 to 98 in.), 55 mm from 270 to 2470 mm (10.6 to 97 in.)
- Very compact size – 30 x 24 mm (1.18 x 0.94 in.)
- Cascaded designs possible – 4 segments, up to 400 beams
- Partial muting and position detection muting
- Cross-talk prevention



## Description

### Position Detection Muting Function

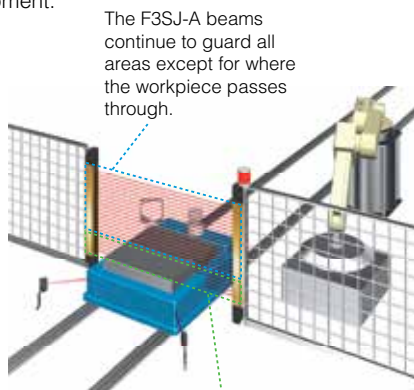
Position Detection Muting Function is used in applications where the workpiece is set in position each time by an operator, and a turntable or positioning robot then moves the workpiece to the area where the work is performed. A limit switch or other means is used to detect when the robot is in a safe position and muting is then applied.



### Partial Muting Function

Muting temporarily disables the F3SJ-A when an object must pass through the detection zone, such as when supplying a workpiece to your equipment.

Partial muting increases the level of safety by only muting the beams of the safety light curtain where the workpiece passes through, while preventing muting in all other areas.



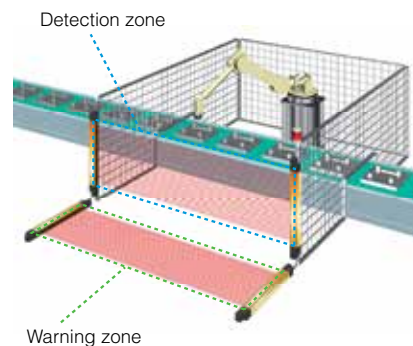
Only the beams of the safety light curtain interrupted by the workpiece are muted.

### Warning Zone Function

With the F3SJ-A, part of the detection zone can be used as warning zone to generate an alarm when someone approaches the danger zone. If the person then enters the danger zone the F3SJ-A will send a stop signal to the guarded machine. In addition, the auxiliary output can be used to activate a flashing lamp to alert the person in the warning zone.

The detection zone for a single F3SJ-A can be divided into two zones or set a single warning zone for multiple, cascaded F3SJ-A units.

#### Dividing the zone between series-connected sensors



## SD Manager Software

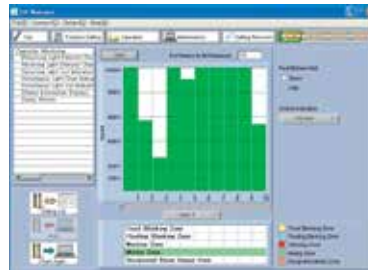
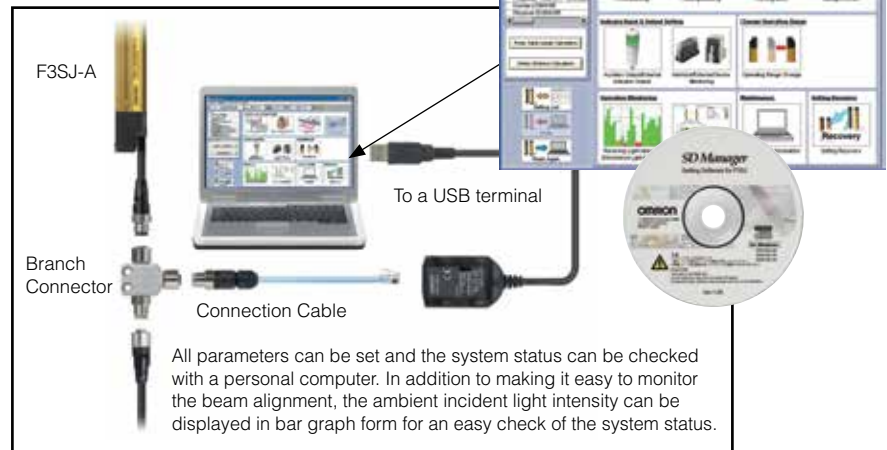
Using the SD Manager software, all features of the F3SJ-A can be set and checked. Features include:

- Display of system specifications:
  - Model
  - Number of beams
  - Minimum object resolution
  - Response time
- Settings for:
  - Fixed blanking
  - Floating blanking
  - Warning zone configuration
  - Muting – Both partial and position detection
  - External indicator function
  - Auxiliary outputs
  - EDM parameters
  - Operating range
- Monitoring of received and ambient light intensity
- Maintenance information:
  - Power on time
  - OSSD switching frequency
- Recovery of settings
- Safety distance calculations based on parameters for connected system

### Setting Console

When you don't want to take a computer into the field with you the F39-MC21 setting console is a convenient way to set parameters and check the system status.

### "SD Manager" PC Setting Software



### Beam Alignment is Easier

The incident light level can be displayed in a bar graph for each beam.

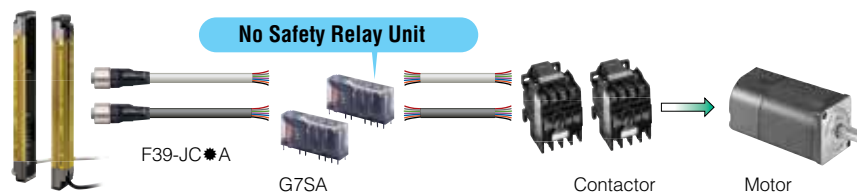
## Applications

With built-in muting and blanking functions, the F3SJ-A can be employed in a wide variety of applications from robotic work cells to small machines. The potential for cascaded design and a broad selection of minimum object resolutions adds to this versatility.

### Selecting the Best Configuration

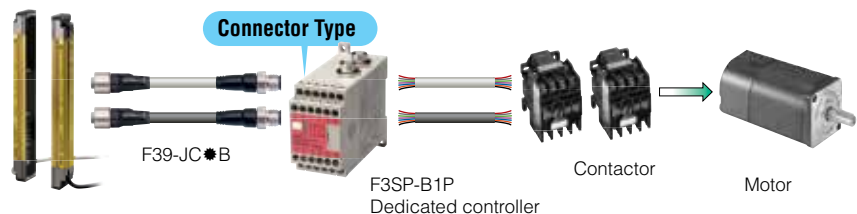
#### Space Efficient and Low Cost

The built-in external device monitoring function eliminates the need for a safety relay unit.



#### Reduced Wiring and Easy Maintenance

Cables with connectors on both ends simplify connections and prevent wiring errors.



## Specifications

<b>Performance</b>	
Resolution:	14 mm, 20 mm, 25 mm, 30 mm, 55 mm
Protected Height:	14 mm – 245 to 1631 mm (9.6 to 64.2 in.) 20 mm, 25 mm and 30 mm – 245 to 2495 mm (9.6 to 98.2 in.) 55 mm – 270 to 2470 mm (10.6 to 97.2 in.)
Operating Range:	0.2 to 9 m for all protective heights up to 1640 mm (64.6 in.) 0.2 to 7 m for all protective heights longer than 1640 mm (64.6 in.):
Effective Aperture Angle:	±2.5° maximum, transmitter and receiver at operating range greater than 3 m (9.8 ft.)
Response Time:	For 14 mm resolution systems up to 983 mm (38.7 in.) protected height ≤17.5 ms For 14 mm resolution systems above 983 mm (38.7 in.) protected height ≤25 ms For 20 mm resolution systems up to 1205 mm (47.4 in.) protected height ≤15 ms For 20 mm resolution systems above 1205 mm (47.4 in.) protected height ≤22.5 ms For 25 mm resolution systems up to 1600 mm (63.0 in.) protected height ≤15 ms For 25 mm resolution systems above 1600 mm (63.0 in.) protected height ≤20.0 ms For 30 mm resolution systems, all protected heights ≤17.5 ms For 55 mm resolution systems, all protected heights ≤13 ms
Safety Output Rating:	Two 24 VDC PNP outputs sourcing 300 mA max.
Auxiliary (Non-Safety) Output Ratings:	One 24 VDC PNP output sourcing 300 mA max.
Light Source:	Infrared LED, 870 nm
Indicators:	Transmitter: 5 LED Light Level Indicators, 3 LED Error Indicators, Power, Interlock, EDM, Blanking/Test Receiver: 5 LED Light Level Indicators, 3 LED Error Indicators, Machine Run, Machine Stop
<b>Mechanical</b>	
Enclosure:	Anodized aluminum housing
Cable Length:	Optional cables are available up to 20 m (65.6 ft.) in length
Transmitter and Receiver Cable Connections:	M12, 8-pin
<b>Electrical</b>	
Power Supply:	24 VDC ± 20%
<b>Environmental</b>	
Protection Rating:	IP65
Operating Temperature:	-10 to 55°C (14 to 131°F)
Storage Temperature:	-30 to 70°C (-22 to 158°F)
Relative Humidity:	35 to 85% non-condensing
Vibration:	10 to 55 Hz, double amplitude of 0.7 mm, 20 sweeps in X, Y, and Z directions
Shock:	100 m/s <sup>2</sup> , 1000 times each in X, Y and Z directions
<b>Approvals</b>	
ESPE Type 4 (IEC 61496-1/-2) Category 4 / PL e (EN ISO 13849-1) SIL3 / SIL3 CL3 (IEC 61508)UL508, UL1998, CAN/CSA-C22.2 No. 14, CAN/CSA-C22.2 No. 0.8	

Specifications are subject to change without notice.

### F3SP-B1P Control Unit

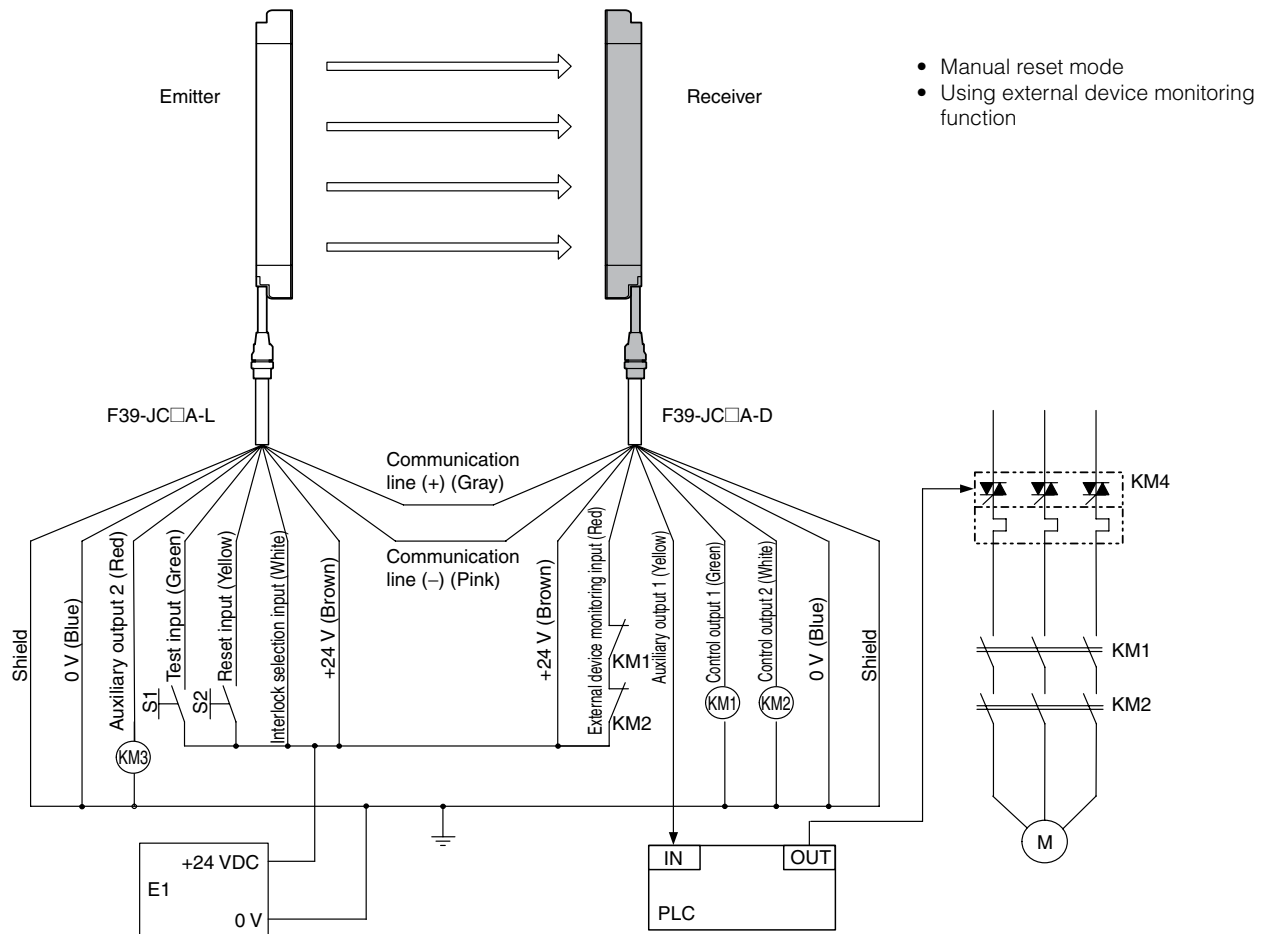
Power Supply Voltage:	24 VDC ±10%
Power Consumption:	DC1.7 W max (not including sensor's current consumption)
Operation Time:	100 ms max. (not including the sensor's response time)
Response Time:	10 ms max. (not including the sensor's response time)
<b>Relay Output</b>	
Number of Contacts:	3 N.O., 1 N.C.
Rated Load:	250 VAC 5 A (cos = 1); 30 VDC 5 A L/R = 0 ms
Rated Current:	5 A
<b>Connection Type</b>	
Between Sensors:	M12 connector (8-pin)
Others:	Terminal block
Weight:	Approx. 280 g (9.9 oz.)

Specifications are subject to change without notice.

## Wiring

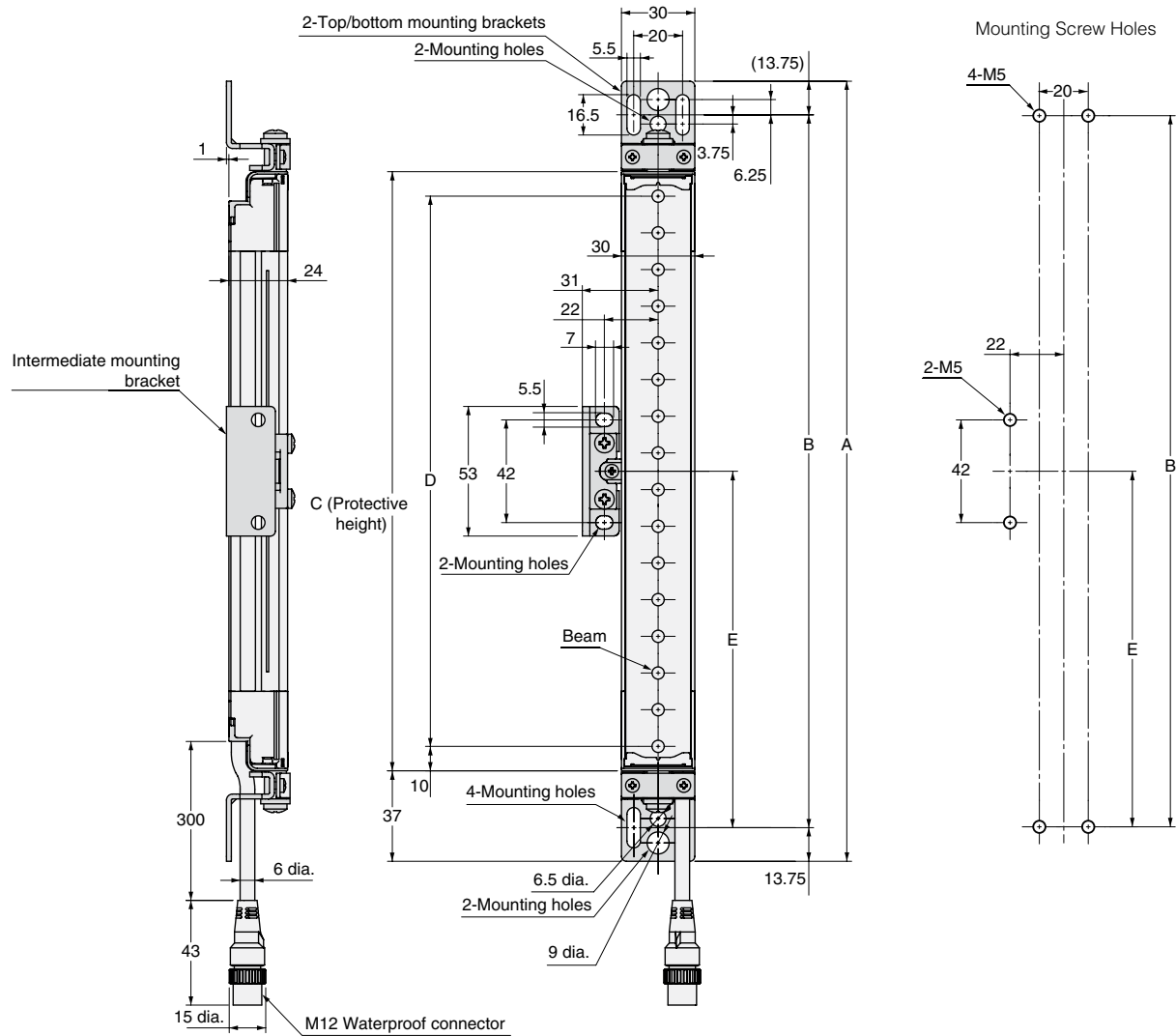
## Wiring for Single F3SJ-A Application

Detection of a welded relay contact is possible without a controller relay unit.



(mm)

## Dimensions



### How to Calculate Your System Dimensions:

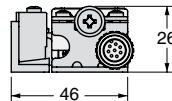
C (protective height) = 4-digit number in the table

$$A = C + 74$$

$$B = C + 46.5$$

$$D = C - 20$$

E = see chart below



Protective Height	Number of Intermediate Brackets	E*
245 to 596 mm (9.6 to 23.5 in.)	0	—
600 to 1130 mm (23.6 to 44.5 in.)	1	$E = B/2$
1136 to 1658 mm (44.7 to 65.3 in.)	2	$E = B/3$
1660 to 2180 mm (65.4 to 85.8 in.)	3	$E = B/4$
2195 to 2500 mm (86.4 to 98.4 in.)	4	$E = B/5$

\*Use E = 530 or less when none of the E values shown above are used.

## Ordering

The minimum components required for an F3SJ-A system are a emitter receiver set and a set of single or double-ended connector cables. See the table below for an overview of the versions available. The pages which follow provide specific part numbers and accessory descriptions.

### Safety Light Curtain F3SJ-A

Designator	Protection	Detection	Beam Gap	Operating Range	No. of Beams	Protective Height
F3SJ-A□□□□P14 <sup>1</sup>	Finger	14 mm	9 mm	0.2 to 9 m (0.7 to 29.5 ft.)	26 to 197	245 to 1784 mm (9.6 to 70.2 in.)
F3SJ-A□□□□P20 <sup>1</sup>	Finger/Hand	20 mm	15 mm	0.2 to 9 m (0.7 to 29.5 ft.)	16 to 100	245 to 1505 mm (9.6 to 59.3 in.)
F3SJ-A□□□□P20 <sup>1</sup>	Finger/Hand	20 mm	15 mm	0.2 to 7 m (0.7 to 23.0 ft.)	110 to 166	1655 to 2495 mm (65.2 to 98.2 in.)
F3SJ-A□□□□P20-TS <sup>2</sup>	Finger/Hand	20 mm	15 mm	0.2 to 9 m (0.7 to 29.5 ft.)	16 to 100	245 to 1505 mm (9.6 to 59.3 in.)
F3SJ-A□□□□P20-TS <sup>2</sup>	Finger/Hand	20 mm	15 mm	0.2 to 7 m (0.7 to 23.0 ft.)	110 to 166	1655 to 2495 mm (65.2 to 98.2 in.)
F3SJ-A□□□□P25 <sup>1</sup>	Hand	25 mm	20 mm	0.2 to 9 m (0.7 to 29.5 ft.)	13 to 79	260 to 1580 mm (10.2 to 62.2 in.)
F3SJ-A□□□□P25 <sup>1</sup>	Hand	25 mm	20 mm	0.2 to 7 m (0.7 to 23.0 ft.)	87 to 125	1740 to 2500 mm (68.5 to 98.4 in.)
F3SJ-A□□□□P25-TS <sup>2</sup>	Hand	25 mm	20 mm	0.2 to 9 m (0.7 to 29.5 ft.)	13 to 79	260 to 1580 mm (10.2 to 62.2 in.)
F3SJ-A□□□□P25-TS <sup>2</sup>	Hand	25 mm	20 mm	0.2 to 7 m (0.7 to 23.0 ft.)	87 to 125	1740 to 2500 mm (68.5 to 98.4 in.)
F3SJ-A□□□□P30 <sup>1</sup>	Hand/arm	30 mm	25 mm	0.2 to 9 m (0.7 to 29.5 ft.)	10 to 65	245 to 1620 mm (9.6 to 63.8 in.)
F3SJ-A□□□□P30 <sup>1</sup>	Hand/arm	30 mm	25 mm	0.2 to 7 m (0.7 to 23.0 ft.)	70 to 100	1745 to 2495 mm (68.7 to 98.2 in.)
F3SJ-A□□□□P55 <sup>1</sup>	Leg/body	55 mm	50 mm	0.2 to 9 m (0.7 to 29.5 ft.)	6 to 33	270 to 1620 mm (10.6 to 63.8 in.)
F3SJ-A□□□□P55 <sup>1</sup>	Leg/body	55 mm	50 mm	0.2 to 7 m (0.7 to 23.0 ft.)	36 to 50	1770 to 2470 mm (69.7 to 97.2 in.)

Notes: Connection cables are not included with the products and must be purchased separately as needed.

### Specific Model Numbers

Model	No. of Beams	Protective Height (mm)	Model	No. of Beams	Protective Height (mm)	Model	No. of Beams	Protective Height (mm)	Model	No. of Beams	Protective Height (mm)
<b>F3SJ-A14 Series</b>			F3SJ-A0839P14	92	839	F3SJ-A0470P20	31	470	F3SJ-A1040P20	69	1040
F3SJ-A0245P14	26	245	F3SJ-A0875P14	96	875	F3SJ-A0485P20	32	485	F3SJ-A1055P20	70	1055
F3SJ-A0254P14	27	254	F3SJ-A0911P14	100	911	F3SJ-A0500P20	33	500	F3SJ-A1070P20	71	1070
F3SJ-A0263P14	28	263	F3SJ-A0920P14	101	920	F3SJ-A0515P20	34	515	F3SJ-A1085P20	72	1085
F3SJ-A0281P14	30	281	F3SJ-A0983P14	108	983	F3SJ-A0530P20	35	530	F3SJ-A1100P20	73	1100
F3SJ-A0290P14	31	290	F3SJ-A1055P14	116	1055	F3SJ-A0545P20	36	545	F3SJ-A1115P20	74	1115
F3SJ-A0299P14	32	299	F3SJ-A1127P14	124	1127	F3SJ-A0560P20	37	560	F3SJ-A1145P20	76	1145
F3SJ-A0308P14	33	308	F3SJ-A1199P14	132	1199	F3SJ-A0575P20	38	575	F3SJ-A1175P20	78	1175
F3SJ-A0317P14	34	317	F3SJ-A1235P14	136	1235	F3SJ-A0590P20	39	590	F3SJ-A1205P20	80	1205
F3SJ-A0335P14	36	335	F3SJ-A1271P14	140	1271	F3SJ-A0605P20	40	605	F3SJ-A1220P20	81	1220
F3SJ-A0353P14	38	353	F3SJ-A1325P14	146	1325	F3SJ-A0620P20	41	620	F3SJ-A1235P20	82	1235
F3SJ-A0371P14	40	371	F3SJ-A1343P14	148	1343	F3SJ-A0635P20	42	635	F3SJ-A1250P20	83	1250
F3SJ-A0389P14	42	389	F3SJ-A1415P14	156	1415	F3SJ-A0665P20	44	665	F3SJ-A1265P20	84	1265
F3SJ-A0407P14	44	407	F3SJ-A1487P14	164	1487	F3SJ-A0695P20	46	695	F3SJ-A1310P20	87	1310
F3SJ-A0425P14	46	425	F3SJ-A1559P14	172	1559	F3SJ-A0710P20	47	710	F3SJ-A1325P20	88	1325
F3SJ-A0443P14	48	443	F3SJ-A1631P14	180	1631	F3SJ-A0725P20	48	725	F3SJ-A1355P20	90	1355
F3SJ-A0452P14	49	452	F3SJ-A1784P14	197	1784	F3SJ-A0740P20	49	740	F3SJ-A1385P20	92	1385
F3SJ-A0461P14	50	461	F3SJ-A2117P14	234	2117	F3SJ-A0755P20	50	755	F3SJ-A1445P20	96	1445
F3SJ-A0479P14	52	479	<b>F3SJ-A20, F3SJ-A20-TS<sup>2</sup> Series</b>			F3SJ-A0785P20	52	785	F3SJ-A1460P20	97	1460
F3SJ-A0497P14	54	497	F3SJ-A0245P20	16	245	F3SJ-A0800P20	53	800	F3SJ-A1475P20	98	1475
F3SJ-A0515P14	56	515	F3SJ-A0260P20	17	260	F3SJ-A0815P20	54	815	F3SJ-A1490P20	99	1490
F3SJ-A0533P14	58	533	F3SJ-A0275P20	18	275	F3SJ-A0830P20	55	830	F3SJ-A1505P20	100	1505
F3SJ-A0551P14	60	551	F3SJ-A0290P20	19	290	F3SJ-A0845P20	56	845	F3SJ-A1595P20	106	1595
F3SJ-A0569P14	62	569	F3SJ-A0305P20	20	305	F3SJ-A0875P20	58	875	F3SJ-A1655P20	110	1655
F3SJ-A0578P14	63	578	F3SJ-A0335P20	22	335	F3SJ-A0890P20	59	890	F3SJ-A1715P20	114	1715
F3SJ-A0587P14	64	587	F3SJ-A0350P20	23	350	F3SJ-A0905P20	60	905	F3SJ-A1790P20	119	1790
F3SJ-A0605P14	66	605	F3SJ-A0365P20	24	365	F3SJ-A0920P20	61	920	F3SJ-A1805P20	120	1805
F3SJ-A0623P14	68	623	F3SJ-A0380P20	25	380	F3SJ-A0935P20	62	935	F3SJ-A1955P20	130	1955
F3SJ-A0659P14	72	659	F3SJ-A0395P20	26	395	F3SJ-A0965P20	64	965	F3SJ-A2105P20	140	2105
F3SJ-A0695P14	76	695	F3SJ-A0410P20	27	410	F3SJ-A0980P20	65	980	F3SJ-A2255P20	150	2255
F3SJ-A0731P14	80	731	F3SJ-A0425P20	28	425	F3SJ-A0995P20	66	995	F3SJ-A2405P20	160	2405
F3SJ-A0767P14	84	767	F3SJ-A0440P20	29	440	F3SJ-A1010P20	67	1010	F3SJ-A2495P20	166	2495
F3SJ-A0803P14	88	803	F3SJ-A0455P20	30	455	F3SJ-A1025P20	68	1025			

(Continued on next page)

Notes: Connection cables are not included with the products and must be purchased separately as needed.

\* The suffix "-TS" is attached to the model number of models with fixed auto reset.

<sup>1</sup> Models with S-mark certification have an

"-S" at the end of the model number. S-mark certification is for equipment sold in South Korea. Example: F3SJ-A0245P14-S.

<sup>2</sup> Models with fixed auto reset (-TS).

Parameters cannot be set using the F39-MC21 Setting Console or F39-GWUM "SD Manager" Support Software for F3SJ-A.

## Ordering (continued)

Model	No. of Beams	Protective Height (mm)	Model	No. of Beams	Protective Height (mm)	Model	No. of Beams	Protective Height (mm)	Model	No. of Beams	Protective Height (mm)
<b>F3SJ-A25, F3SJ-A25-TS* Series</b>			<b>F3SJ-A30 Series</b>								
F3SJ-A0260P25	13	260	F3SJ-A0245P30	10	245	F3SJ-A1270P30	51	1270	F3SJ-A1020P55	21	1020
F3SJ-A0300P25	15	300	F3SJ-A0270P30	11	270	F3SJ-A1295P30	52	1295	F3SJ-A1070P55	22	1070
F3SJ-A0340P25	17	340	F3SJ-A0295P30	12	295	F3SJ-A1320P30	53	1320	F3SJ-A1120P55	23	1120
F3SJ-A0380P25	19	380	F3SJ-A0320P30	13	320	F3SJ-A1345P30	54	1345	F3SJ-A1170P55	24	1170
F3SJ-A0400P25	20	400	F3SJ-A0345P30	14	345	F3SJ-A1395P30	56	1395	F3SJ-A1220P55	25	1220
F3SJ-A0460P25	23	460	F3SJ-A0370P30	15	370	F3SJ-A1420P30	57	1420	F3SJ-A1270P55	26	1270
F3SJ-A0480P25	24	480	F3SJ-A0395P30	16	395	F3SJ-A1445P30	58	1445	F3SJ-A1320P55	27	1320
F3SJ-A0500P25	25	500	F3SJ-A0420P30	17	420	F3SJ-A1470P30	59	1470	F3SJ-A1370P55	28	1370
F3SJ-A0540P25	27	540	F3SJ-A0445P30	18	445	F3SJ-A1495P30	60	1495	F3SJ-A1420P55	29	1420
F3SJ-A0600P25	30	600	F3SJ-A0470P30	19	470	F3SJ-A1520P30	61	1520	F3SJ-A1470P55	30	1470
F3SJ-A0620P25	31	620	F3SJ-A0495P30	20	495	F3SJ-A1545P30	62	1545	F3SJ-A1520P55	31	1520
F3SJ-A0660P25	33	660	F3SJ-A0520P30	21	520	F3SJ-A1570P30	63	1570	F3SJ-A1570P55	32	1570
F3SJ-A0700P25	35	700	F3SJ-A0545P30	22	545	F3SJ-A1620P30	65	1620	F3SJ-A1620P55	33	1620
F3SJ-A0740P25	37	740	F3SJ-A0570P30	23	570	F3SJ-A1695P30	68	1695	F3SJ-A1670P55	34	1670
F3SJ-A0760P25	38	760	F3SJ-A0595P30	24	595	F3SJ-A1745P30	70	1745	F3SJ-A1720P55	35	1720
F3SJ-A0780P25	39	780	F3SJ-A0620P30	25	620	F3SJ-A1770P30	71	1770	F3SJ-A1770P55	36	1770
F3SJ-A0860P25	43	860	F3SJ-A0645P30	26	645	F3SJ-A1795P30	72	1795	F3SJ-A1820P55	37	1820
F3SJ-A0880P25	44	880	F3SJ-A0670P30	27	670	F3SJ-A1820P30	73	1820	F3SJ-A1870P55	38	1870
F3SJ-A0900P25	45	900	F3SJ-A0695P30	28	695	F3SJ-A1870P30	75	1870	F3SJ-A1920P55	39	1920
F3SJ-A0940P25	47	940	F3SJ-A0720P30	29	720	F3SJ-A1895P30	76	1895	F3SJ-A1970P55	40	1970
F3SJ-A0960P25	48	960	F3SJ-A0745P30	30	745	F3SJ-A1920P30	77	1920	F3SJ-A2020P55	41	2020
F3SJ-A0980P25	49	980	F3SJ-A0770P30	31	770	F3SJ-A1995P30	80	1995	F3SJ-A2070P55	42	2070
F3SJ-A1020P25	51	1020	F3SJ-A0795P30	32	795	F3SJ-A2120P30	85	2120	F3SJ-A2120P55	43	2120
F3SJ-A1060P25	53	1060	F3SJ-A0820P30	33	820	F3SJ-A2245P30	90	2245	F3SJ-A2170P55	44	2170
F3SJ-A1100P25	55	1100	F3SJ-A0845P30	34	845	F3SJ-A2370P30	95	2370	F3SJ-A2220P55	45	2220
F3SJ-A1180P25	59	1180	F3SJ-A0870P30	35	870	F3SJ-A2495P30	100	2495	F3SJ-A2270P55	46	2270
F3SJ-A1220P25	61	1220	F3SJ-A0895P30	36	895	<b>F3SJ-A55 Series</b>			F3SJ-A2320P55	47	2320
F3SJ-A1260P25	63	1260	F3SJ-A0920P30	37	920	F3SJ-A0270P55	6	270	F3SJ-A2370P55	48	2370
F3SJ-A1280P25	64	1280	F3SJ-A0945P30	38	945	F3SJ-A0320P55	7	320	F3SJ-A2420P55	49	2420
F3SJ-A1340P25	67	1340	F3SJ-A0970P30	39	970	F3SJ-A0370P55	8	370	F3SJ-A2470P55	50	2470
F3SJ-A1420P25	71	1420	F3SJ-A0995P30	40	995	F3SJ-A0420P55	9	420			
F3SJ-A1500P25	75	1500	F3SJ-A1020P30	41	1020	F3SJ-A0470P55	10	470			
F3SJ-A1580P25	79	1580	F3SJ-A1045P30	42	1045	F3SJ-A0520P55	11	520			
F3SJ-A1740P25	87	1740	F3SJ-A1070P30	43	1070	F3SJ-A0570P55	12	570			
F3SJ-A1820P25	91	1820	F3SJ-A1095P30	44	1095	F3SJ-A0620P55	13	620			
F3SJ-A1900P25	95	1900	F3SJ-A1120P30	45	1120	F3SJ-A0670P55	14	670			
F3SJ-A2060P25	103	2060	F3SJ-A1145P30	46	1145	F3SJ-A0720P55	15	720			
F3SJ-A2220P25	111	2220	F3SJ-A1170P30	47	1170	F3SJ-A0770P55	16	770			
F3SJ-A2380P25	119	2380	F3SJ-A1195P30	48	1195	F3SJ-A0820P55	17	820			
F3SJ-A2420P25	121	2420	F3SJ-A1220P30	49	1220	F3SJ-A0870P55	18	870			
F3SJ-A2500P25	125	2500	F3SJ-A1245P30	50	1245	F3SJ-A0920P55	19	920			
						F3SJ-A0970P55	20	970			

Notes: Connection cables are not included with the products and must be purchased separately as needed.

\* The suffix "-TS" is attached to the model number of models with fixed auto reset.

<sup>1</sup> Models with S-mark certification have an "-S" at the end of the model number. S-mark certification is for equipment sold in South Korea. Example: F3SJ-A0245P14-S.

<sup>2</sup> Models with fixed auto reset (-TS). Parameters cannot be set using the F39-MC21 Setting Console or F39-GWUM "SD Manager" Support Software for F3SJ-A.



## Ordering (continued)

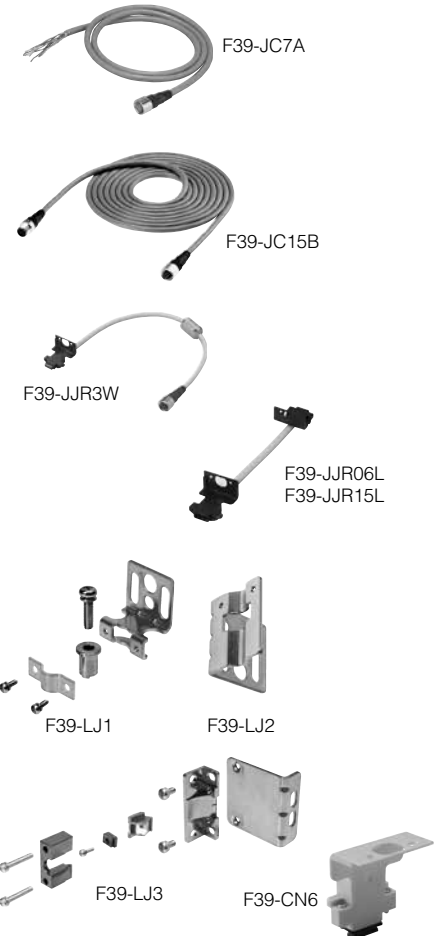
### Accessories

Model	Description
<b>Single-End Connector Cable</b> (2 cables per set, for emitter and receiver) For wiring with safety circuit such as single safety relay, safety relay unit, and safety controller	
F39-JC3A	M12 connector (8-pin), 3 m (9.8 ft.)
F39-JC7A	M12 connector (8-pin), 7 m (23.0 ft.)
F39-JC10A	M12 connector (8-pin), 10 m (32.8 ft.)
F39-JC15A	M12 connector (8-pin), 15 m (49.2 ft.)
F39-JC20A	M12 connector (8-pin), 20 m (65.6 ft.)
<b>Double-End Connector Cable</b> (2 cables per set, for emitter and receiver) For connection with F3SP-B1P control unit, and for extension when series-connected. Note: To extend the cable length under series connection, use F39-JJR3W and F39-JC□B in combination.	
F39-JCR5B	M12 connector (8-pin), 0.5 m (1.6 ft.)
F39-JC1B	M12 connector (8-pin), 1 m (3.3 ft.)
F39-JC3B	M12 connector (8-pin), 3 m (9.8 ft.)
F39-JC5B	M12 connector (8-pin), 5 m (16.4 ft.)
F39-JC7B	M12 connector (8-pin), 7 m (23.0 ft.)
F39-JC10B	M12 connector (8-pin), 10 m (32.8 ft.)
F39-JC15B	M12 connector (8-pin), 15 m (49.2 ft.)
F39-JC20B	M12 connector (8-pin), 20 m (65.6 ft.)
<b>Series Connection Cable</b> (2 cables per set, for emitter and receiver)	
F39-JJR3W	Series connection cable <sup>3</sup> or when using water-resistant case <sup>4</sup> , 0.3 m (1.0 ft.)
F39-JC□B	Extension cable, 0.5 to 15 m (1.6 to 49.2 ft.) To change series connection length in combination with F39-JJR3W
F39-JJR06L	Side-by-side series connection cable, 0.06 m (2.4 in.) Dedicated series connection cable with minimum length, used in place of the sensor's cable with connector
F39-JJR15L	Side-by-side series connection cable, 0.15 m (5.9 in.) Dedicated series connection cable with minimum length, used in place of the sensor's cable with connector
<b>Sensor Mounting Brackets (spare parts)</b>	
F39-LJ1	Standard mounting bracket (for top/bottom), included with F3SJ system, 2 for emitter and 2 for receiver (total of 4 per set)
F39-LJ2	Flat side mounting bracket, Use these small-sized brackets when performing side mounting with standard mounting brackets so that they do not protrude from the detection surface, 2 for emitter and 2 for receiver (total of 4 per set)
F39-LJ3	Free-location mounting bracket (also used as standard intermediate bracket), Use these brackets for mounting any place without using standard bracket, 1 set with 2 pieces
<b>Key Cap for Muting</b>	
F39-CN6	Cap attaches to the main unit to enable muting function, attach to either an emitter or a receiver, orange case
<b>Setting Tools<sup>5</sup></b>	
F39-GWUM	SD Manager Software Accessories: SD Manager CD-ROM, F39-CN1 Branch Connector, Connector Cap, 2 m Dedicated Cable, 0.3 m Dedicated Cable with Plug, Instruction Manual
F39-MC21	Setting Console Accessories: F39-CN1 Branch Connector, Connector Cap, 2 m Dedicated Cable, 0.3 m Dedicated Cable with Plug, Instruction Manual
F39-JC2M	Spare cable for F39-GWUM and F39-MC21

<sup>3</sup>Total cable length of series connection is 0.6 m to connect to connector cable of the main sensor unit. For series connection with minimum length, use the F39-JJR06L or F39-JJR15L.

<sup>4</sup>When using the F39-EJ□□□□-L/D water-resistant case in series connection configurations, use the special series connection cables for the water-resistant case.

(Continued on next page)





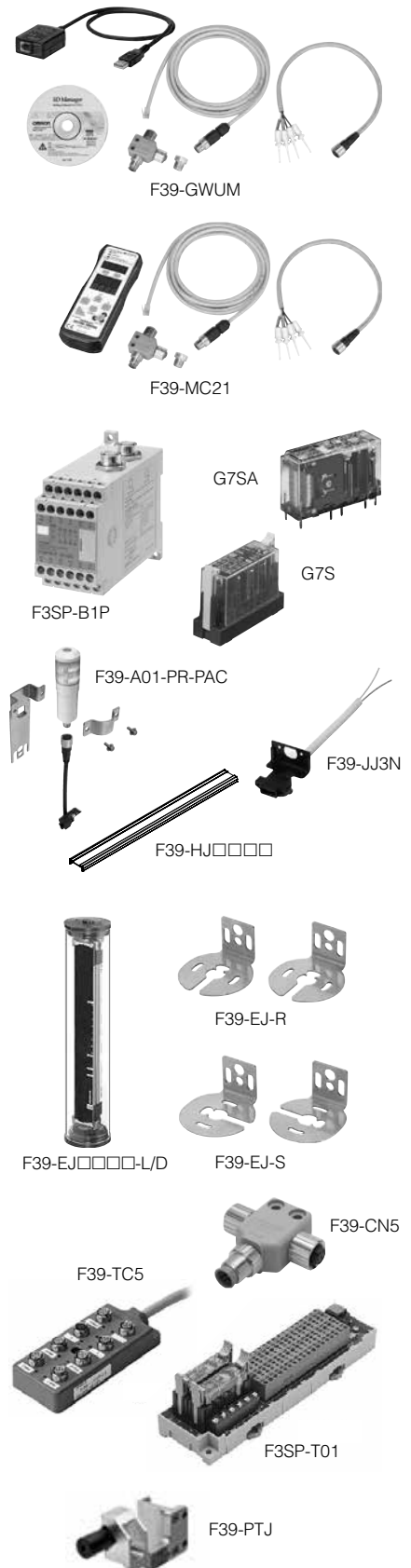
## Ordering (continued)

### Accessories (continued)

Model	Description
<b>Setting Tools<sup>5</sup></b>	
F39-GWUM	SD Manager Software Accessories: SD Manager CD-ROM, F39-CN1 Branch Connector, Connector Cap, 2 m Dedicated Cable, 0.3 m Dedicated Cable with Plug, Instruction Manual
F39-MC21	Setting Console Accessories: F39-CN1 Branch Connector, Connector Cap, 2 m Dedicated Cable, 0.3 m Dedicated Cable with Plug, Instruction Manual
F39-JC2M	Spare cable for F39-GWUM and F39-MC21
<b>Control Unit</b>	
F3SP-B1P	Relay, 3 N.O. + 1 N.C. output, for connection with F3SJ-A, use an F39-JC□B double-end connector cable
<b>Force-Guided Relays</b>	
G7SA-2A2B	4 contacts, 2 N.O. + 2 N.C., Rated switch load: 250 VAC 6 A, 30 VDC 6 A
G7SA-3A1B	4 contacts, 3 N.O. + 1 N.C., Rated switch load: 250 VAC 6 A, 30 VDC 6 A
G7S-4A2B-E	6 contacts, 4 N.O. + 2 N.C., Rated switch load: 250 VAC 10 A, 30 VDC 10 A
G7S-3A3B-E	6 contacts, 3 N.O. + 3 N.O., Rated switch load: 250 VAC 10 A, 30 VDC 10 A
<b>Dedicated External Indicator Set</b> (Can be connected to either an emitter or a receiver)	
F39-A01PR-PAC	Indicator (red), mounting bracket (1 set), and dedicated connection cable (0.1 m)
F39-A01PG-PAC	Indicator (green), mounting bracket (1 set), and dedicated connection cable (0.1 m)
F39-A01PY-PAC	Indicator (yellow), mounting bracket (1 set), and dedicated connection cable (0.1 m)
<b>General External Indicator Cable</b>	
F39-JJ3N	Cable to connect top of the main unit and an off-the-shelf external indicator (2-wire), 3 m (9.8 ft.)
<b>Spatter Protection Cover</b>	
F39-HJ□□□□	For F3SJ-A series sensor, reduces operating range by 10%, includes two pieces for emitter and receiver
<b>Water-Resistant Case</b> (Set of 1 tube, packing, and dedicated connector cable) When using for both emitter and receiver, order two sets.	
F39-EJ□□□□-L	Water-resistant case for emitter, includes gray cable for emitter
F39-EJ□□□□-D	Water-resistant case for receiver, includes black cable for receiver
F39-EJ-R <sup>6</sup>	Rear mounting brackets, top/bottom 1 each, total of 2
F39-EJ-S <sup>6</sup>	Side mounting brackets, top/bottom 1 each, total of 2
F39-JJR3WE-L	Series connection cable for emitter, purchase additionally for series connection when using the water-resistant case
F39-JJR3WE-D	Series connection cable for receiver, purchase additionally for series connection when using the water-resistant case
<b>Branch Connector for F3SX</b> (F39-JC□T to F39-JC□B)	
F39-CN5	Branch connector for F3SX
<b>Wire-Saving Devices</b>	
F39-CN8	Short-circuit connector
F39-TC5P01	Connector terminal box with muting sensor output mode (PNP)
F39-TC5P02	Connector terminal box with override mode (PNP)
F39-TC5N01	Connector terminal box with muting sensor output mode (NPN)
F39-TC5N02	Connector terminal box with override mode (NPN)
F3SP-T01	Safety terminal relays for F3SJ-A_-B_
<b>Laser Alignment Tool</b>	
F39-PTJ	Laser alignment tool for the F3SJ

<sup>5</sup> The setting tools described above can be connected only to F3SJ-A models with built-in software of Ver. 2 or later. Note that the setting tools cannot be used with products shipped prior to December 2005. The setting tools cannot be used for setting parameters on the F3SJ-A□-TS series, but the monitoring function can be used.

<sup>6</sup> Be sure to purchase brackets with the case to match the mounting direction (rear or side).



# Terms and Conditions of Sale

1. **Offer; Acceptance.** These terms and conditions (these "Terms") are deemed part of all quotes, agreements, purchase orders, acknowledgments, price lists, catalogs, manuals, brochures and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronics LLC and its subsidiary companies ("Omron"). Omron objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
2. **Prices; Payment Terms.** All prices stated are current, subject to change without notice by Omron. Omron reserves the right to increase or decrease prices on any unshipped portions of outstanding orders. Payments for Products are due net 30 days unless otherwise stated in the invoice.
3. **Discounts.** Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Omron's payment terms and (ii) Buyer has no past due amounts.
4. **Interest.** Omron, at its option, may charge Buyer 1-1/2% interest per month or the maximum legal rate, whichever is less, on any balance not paid within the stated terms.
5. **Orders.** Omron will accept no order less than \$200 net billing.
6. **Governmental Approvals.** Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
7. **Taxes.** All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Omron or required to be collected directly or indirectly by Omron for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Omron.
8. **Financial.** If the financial position of Buyer at any time becomes unsatisfactory to Omron, Omron reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Omron may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.
9. **Cancellation; Etc.** Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Omron against all related costs or expenses.
10. **Force Majeure.** Omron shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
11. **Shipping; Delivery.** Unless otherwise expressly agreed in writing by Omron:
  - a. Shipments shall be by a carrier selected by Omron; Omron will not drop ship except in "break down" situations.
  - b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
  - c. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Omron), at which point title and risk of loss shall pass from Omron to Buyer; provided that Omron shall retain a security interest in the Products until the full purchase price is paid;
  - d. Delivery and shipping dates are estimates only; and
  - e. Omron will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
12. **Claims.** Any claim by Buyer against Omron for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Omron within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Omron in the condition claimed.
13. **Warranties.** (a) **Exclusive Warranty.** Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied. (b) **Limitations.** OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) **Buyer Remedy.** Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty. See <http://www.omron247.com> or contact your Omron representative for published information.
14. **Limitation on Liability; Etc.** OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY. Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.
15. **Indemnities.** Buyer shall indemnify and hold harmless Omron Companies and their employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Omron is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Products. Without limiting the foregoing, Buyer (at its own expense) shall indemnify and hold harmless Omron and defend or settle any action brought against such Companies to the extent based on a claim that any Product made to Buyer specifications infringed intellectual property rights of another party.
16. **Property; Confidentiality.** Any intellectual property in the Products is the exclusive property of Omron Companies and Buyer shall not attempt to duplicate it in any way without the written permission of Omron. Notwithstanding any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Omron. All information and materials supplied by Omron to Buyer relating to the Products are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.
17. **Export Controls.** Buyer shall comply with all applicable laws, regulations and licenses regarding (i) export of products or information; (ii) sale of products to "forbidden" or other proscribed persons; and (iii) disclosure to non-citizens of regulated technology or information.
18. **Miscellaneous.** (a) **Waiver.** No failure or delay by Omron in exercising any right and no course of dealing between Buyer and Omron shall operate as a waiver of rights by Omron. (b) **Assignment.** Buyer may not assign its rights hereunder without Omron's written consent. (c) **Law.** These Terms are governed by the law of the jurisdiction of the home office of the Omron company from which Buyer is purchasing the Products (without regard to conflict of law principles). (d) **Amendment.** These Terms constitute the entire agreement between Buyer and Omron relating to the Products, and no provision may be changed or waived unless in writing signed by the parties. (e) **Severability.** If any provision hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (f) **Setoff.** Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice. (g) **Definitions.** As used herein, "including" means "including without limitation"; and "Omron Companies" (or similar words) mean Omron Corporation and any direct or indirect subsidiary or affiliate thereof.

## Certain Precautions on Specifications and Use

1. **Suitability of 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 but the following is a non-exhaustive list of applications for which particular attention must be given:
  - (i) Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.
  - (ii) Use in consumer products or any use in significant quantities.
  - (iii) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
  - (iv) Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this Product.
 NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON'S PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
2. **Programmable Products.** Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.
3. **Performance Data.** Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.
4. **Change in Specifications.** Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.
5. **Errors and Omissions.** Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

**OMRON AUTOMATION AND SAFETY • THE AMERICAS HEADQUARTERS** • Hoffman Estates, IL USA • 847.843.7900 • 800.556.6766 • [www.omron247.com](http://www.omron247.com)

**OMRON CANADA, INC. • HEAD OFFICE**

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • [www.omron247.com](http://www.omron247.com)

**OMRON ELECTRONICS DE MEXICO • HEAD OFFICE**

México DF • 52.55.59.01.43.00 • 01-800-226-6766 • [mela@omron.com](mailto:mela@omron.com)

**OMRON ELECTRONICS DE MEXICO • SALES OFFICE**

Apodaca, N.L. • 52.81.11.56.99.20 • 01-800-226-6766 • [mela@omron.com](mailto:mela@omron.com)

**OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE**

São Paulo, SP, Brasil • 55.11.2101.6300 • [www.omron.com.br](http://www.omron.com.br)

**OMRON ARGENTINA • SALES OFFICE**

Cono Sur • 54.11.4783.5300

**OMRON CHILE • SALES OFFICE**

Santiago • 56.9.9917.3920

**OTHER OMRON LATIN AMERICA SALES**

54.11.4783.5300

**OMRON EUROPE B.V.** • Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. • +31 (0) 23 568 13 00 • [www.industrial.omron.eu](http://www.industrial.omron.eu)

*Authorized Distributor:*

**Automation Control Systems**

- Machine Automation Controllers (MAC) • Programmable Controllers (PLC)
- Operator interfaces (HMI) • Distributed I/O • Software

**Drives & Motion Controls**

- Servo & AC Drives • Motion Controllers & Encoders

**Temperature & Process Controllers**

- Single and Multi-loop Controllers

**Sensors & Vision**

- Proximity Sensors • Photoelectric Sensors • Fiber-Optic Sensors
- Amplified Photomicrosensors • Measurement Sensors
- Ultrasonic Sensors • Vision Sensors

**Industrial Components**

- RFID/Code Readers • Relays • Pushbuttons & Indicators
- Limit and Basic Switches • Timers • Counters • Metering Devices
- Power Supplies

**Safety**

- Laser Scanners • Safety Mats • Edges and Bumpers • Programmable Safety Controllers • Light Curtains • Safety Relays • Safety Interlock Switches



**Стандарт  
Электрон  
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331