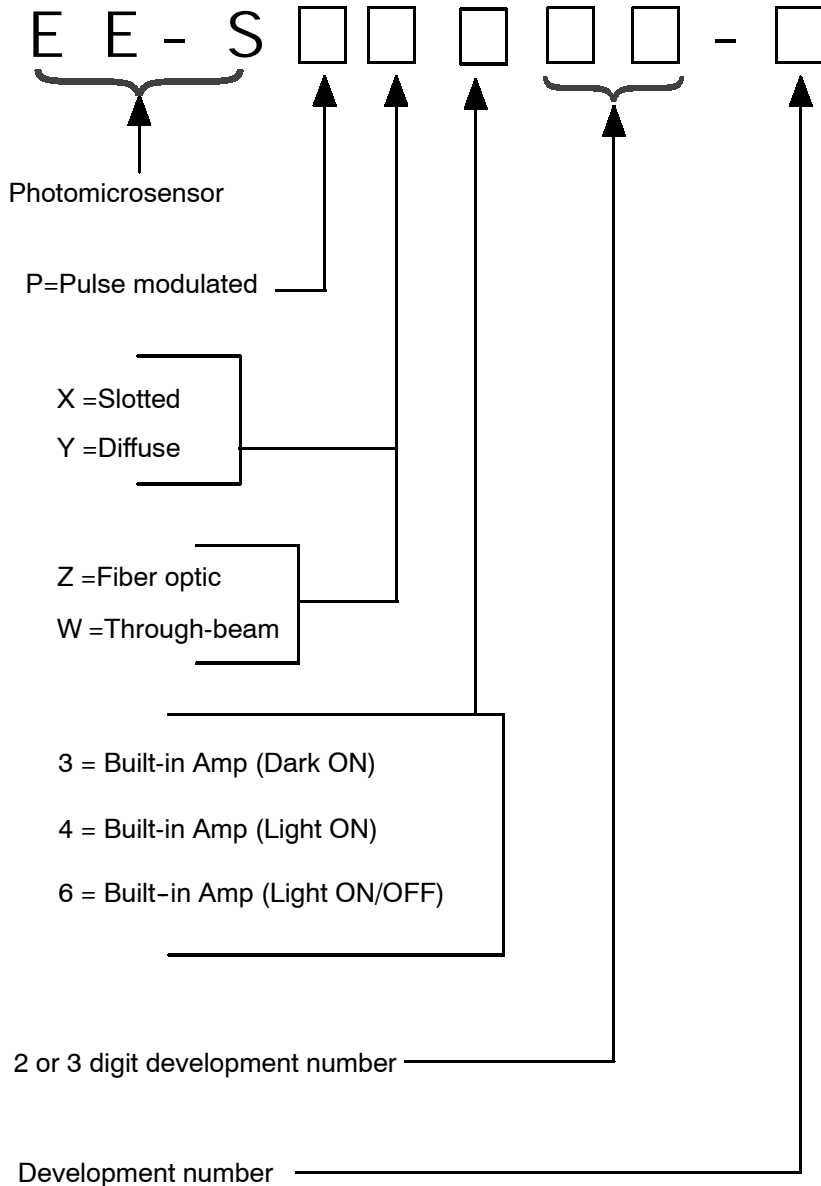


Introduction

The tables on the following pages provide information to assist in your selection of the Omron photomicrosensor that best meets your requirements. The part number key on this page provides a breakdown of component information included in the part number itself. For example, if your requirements call for a photomicrosensor that is pulse-modulated and slotted, you would limit your search to the EE-SPX numbers, and use the tables to find specific information about slot width, dimensions, and modulation types.



Amplified Photomicrosensors

■ SLOT (TRANSMISSIVE)



Slot width	Appearance and dimensions (mm)	Model	Output	Optical modulation	Aperture width (mm) and orientation	Page	
3.6 mm		EE-SPX740	Dark-ON	Modulated		24	
		EE-SPX840	Light-ON			24	
		EE-SPX301	Dark-ON			58	
		EE-SPX401	Light-ON			58	
		EE-SPX306-W2A	Dark-ON			30	
		EE-SPX406-W2A	Light-ON			30	
		EE-SPX742	Dark-ON			24	
		EE-SPX842	Light-ON			24	
		EE-SPX302-W2A	Dark-ON			30	
		EE-SPX402-W2A	Light-ON			30	
		EE-SPX743	Dark-ON			24	
		EE-SPX843	Light-ON			24	
		EE-SPX304-W2A	Dark-ON			30	
		EE-SPX404-W2A	Light-ON			30	
	5.0 mm		EE-SPX741			Dark-ON	24
			EE-SPX841			Light-ON	24
		EE-SPX305-W2A	Dark-ON	30			
		EE-SPX405-W2A	Light-ON	30			
13.0 mm		EE-SPX303	Dark-ON	54			
		EE-SPX303-1		54			
		EE-SPX403	Light-ON	54			

(This table continues on the next page.)

Slot (transmissive) - continued from previous page

Slot width	Appearance and dimensions (mm)	Model	Output	Optical modulation	Aperture width (mm) and orientation	Page
5.0 mm		EE-SX670	Light-ON/Dark-ON	Non-modulated		38
		EE-SX670A				46
		EE-SX470	Light-ON			38
		EE-SX671	Light-ON/Dark-ON			38
		EE-SX671A				46
		EE-SX471	Light-ON			38
		EE-SX672	Light-ON/Dark-ON			38
		EE-SX672A				46
		EE-SX472	Light-ON			38
		EE-SX673	Light-ON/Dark-ON			38
		EE-SX673A				46
		EE-SX473	Light-ON			38
		EE-SX674	Light-OFF/ON			38
		EE-SX674A				46
		EE-SX474	Light-ON			38
		EE-SX770	Dark-ON			34
		EE-SX770A				
		EE-SX870	Light-ON			
		EE-SX870A				
		EE-SX771	Dark-ON			34
		EE-SX771A				
		EE-SX871	Light-ON			
		EE-SX871A				
		EE-SX772	Dark-ON			34
EE-SX772A						
EE-SX872		Light-ON				
EE-SX872A						

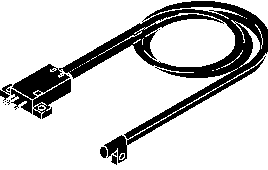

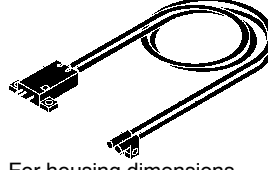
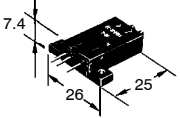


Sensing distance	Sensing method	Appearance and dimensions (mm)	Model	Output	Optical modulation	Features	Page
5.0 mm	Diffuse reflective	Horizontal model	EE-SPY301	Dark-ON	Modulated	Wide operating voltage range (5 to 24 VDC) Built-in LED indicator Control output: 80 mA	64
			EE-SPY401	Light-ON			64
		Vertical model	EE-SPY302	Dark-ON			64
			EE-SPY402	Light-ON			64
1 to 5 mm		Horizontal model	EE-SY671	Light-ON/Dark-ON	Non-modulated	Built-in sensitivity adjuster Wide operating voltage range (5 to 24 VDC) Output mode selectable	72
			EE-SY672	Light-ON/Dark-ON			72
		EE-SB5M	EE-SB5M	Light-ON			68
			EE-SB5MC	Dark-ON			68
			EE-SB5V	Light-ON			68
			EE-SB5VC	Dark-ON			68
			EE-SB5V-E	Light-ON			68
19 mm (3/4")					Incorporated filter cuts off visible light	68	
					Sensitivity adjustment terminals incorporated	68	
2 to 6 mm (approx. 1/4")	Convergent reflective	Horizontal model	EE-SPY311	Dark-ON	Modulated	Detects objects against mirror-like surfaces at a distance of 20 mm or more. Detects minute or black objects.	76
			EE-SPY411	Light-ON			76
		Vertical model	EE-SPY312	Dark-ON			76
			EE-SPY412	Light-ON			76
200 mm	Diffuse retro-reflective	EE-SPZ301-A	EE-SPZ301-A	Dark-ON		Long-distance detection with the E39-R1 Reflector	80
			EE-SPZ401-A	Light-ON			80

Note: The maximum detectable distance of each reflective photomicrosensor is based on detecting a piece of white paper with a reflection factor of 90%.

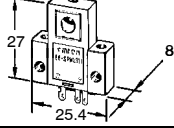
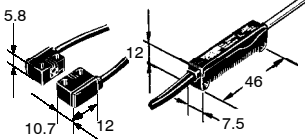
■ FIBER-OPTIC



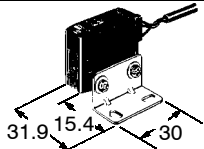
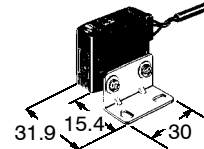
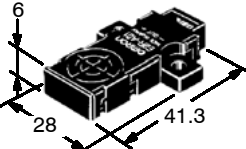
Sensing distance	Sensing method	Appearance and dimensions (mm)	Model	Output	Optical modulation	Features	Page
1 to 3 mm	Reflective	 <p>For housing dimensions, see EE-SPZ301/SPZ401 below.</p>	EE-SPZ301Y-01	Dark-ON	Modulated	Wide operating voltage range (5 to 24 VDC) Built-in LED indicator Control output: 80 mA	112
			EE-SPZ401Y-01	Light-ON			112
5.0 mm	Transmissive	 <p>For housing dimensions, see EE-SPZ301/SPZ401 below.</p>	EE-SPZ301W-02	Dark-ON			112
			EE-SPZ401W-02	Light-ON			112
30.0 mm		 <p>For housing dimensions, see EE-SPZ301/SPZ401 below.</p>	EE-SPZ301W-01	Dark-ON			112
			EE-SPZ401W-01	Light-ON			112
Transmissive: 150 mm Reflective: 1 to 6 mm	Standard fiber connection		EE-SPZ301	Dark-ON		Standard E32 series fibers (with length adjustable) can be connected.	108
			EE-SPZ401	Light-ON			108

■ THROUGH-BEAM

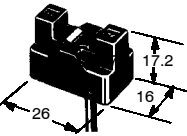
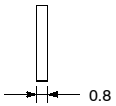


Sensing distance	Appearance and dimensions (mm)	Model	Output	Optical modulation	Detectable object (mm)	Page	
1 m		EE-SPW311	Dark-ON	Modulated	Opaque: 5 dia. min.	86	
		EE-SPW411	Light-ON			86	
30 cm		EE-SPW321(-A)	Dark-ON			Opaque: 2 dia. min.	90
		EE-SPW421(-A)	Light-ON				90

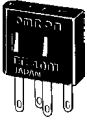
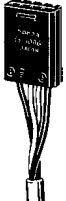
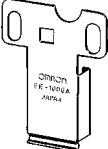

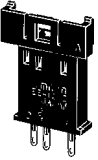

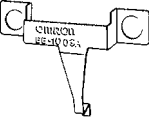

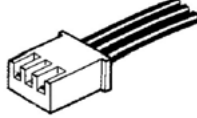
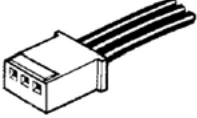
Specialty Photomicrosensors

Sensing Distance	Sensing Method	Appearance and dimensions (mm)	Model	Output	Optical modulation	Features	Page
4 mm	Reflective		Z4D-F04A	Analog	Non-modulated	Resolution down to 5 μm.	102
4 mm	Reflective		Z4D-F04D	ON/OFF		Resolution down to 5 μm.	102
5 mm	Inductive sensing (unshielded)		E2R-A01	NPN open collector	None	High response frequency of 5 kHz minimum.	98

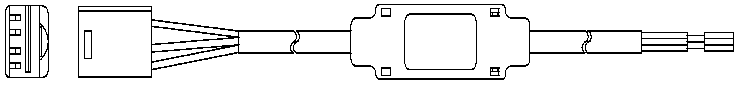
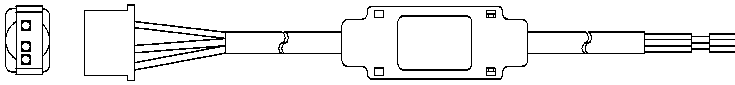
■ LIQUID LEVEL SENSOR

Slot width	Appearance and dimensions (mm)	Model	Output	Optical modulation	Aperture width (mm) and orientation	Page
13.0 mm		EE-SPX613	Light-ON/Dark-ON	Modulated		96

CONNECTORS

Model	Appearance	Applicable sensors
EE-1001		EE-SX470/470P/670/670P EE-SX471/471P/671/671P EE-SX472/472P/672/672P EE-SX473/473P/673/673P EE-SX474/474P/674/674P EE-SX670A/670R EE-SX671A/671R EE-SX672A/672R EE-SX673A/673R EE-SX674A/674R EE-SPX303/303-1/403 EE-SY671/672 EE-SB5M(C)/SB5V(C) EE-SB5V-E EE-SPY311/411/312/412 EE-SPW311/411
EE-1006	 The connector incorporates a 2-m wire harness.	EE-SX470/470P/670/670P EE-SX471/471P/671/671P EE-SX472/472P/672/672P EE-SX473/473P/673/673P EE-SX474/474P/674/674P EE-SX670A/670R EE-SX671A/671R EE-SX672A/672R EE-SX673A/673R EE-SX674A/674R EE-SPX303/303-1/403 EE-SY671/672 EE-SB5M(C)/SB5V(C) EE-SB5V-E EE-SPY311/411/312/412 EE-SPW311/411
EE-1006A Connector Holder		When using the EE-1006 connector
EE-1006D, 1006L	 The connector incorporates a 2-m wire harness.	EE-SPW311/411
EE-1002		EE-SPX301/-SPX401, EE-SPY301/-SPY401, EE-SPY302/-SPY402, EE-SPZ301-A/-SPZ401-A, EE-SPZ301Y-01/-SPZ401Y-01, EE-SPZ301W-01/-SPZ401W-01, EE-SPZ301W-02/-SPZ401W-02, EE-SPZ301/-SPZ401
EE-1003	 The connector incorporates a 1-m wire harness.	
EE-1003A Connector Holder		
EE-1010D		Z4D
EE-1013		EE-SPX740/840
E22-01		E2R-A01

■ NPN-PNP OUTPUT CONVERTER

Model	Appearance	Applicable sensor	Page
EE-2001		EE-SPX301, EE-SPX401, EE-SPY301, EE-SPY401, EE-SPY302, EE-SPY402 EE-SPZ301-A, EE-SPZ401-A, EE-SPZ301Y-01, EE-SPZ401Y-01, EE-SPZ301W-01 EE-SPZ401W-01 EE-SPZ301W-02, EE-SPZ401W-02, EE-SPZ301, EE-SPZ401	120
EE-2002		EE-SX670, EE-SX670-A, EE-SX671, EE-SX671-A, EE-SX672, EE-SX672-A, EE-SX673, EE-SX673-A, EE-SX470, EE-SX471, EE-SX472, EE-SX473, EE-SPY311, EE-SPY312, EE-SPY411, EE-SPY412, EE-SY671, EE-SY672, EE-SPX303, EE-SPX403, EE-SPW311, EE-SPW411, EE-SB5V, EE-SB5V-E, EE-SB5VC, EE-SB5M, EE-SB5MC	120