

EE-SPX613

CSM_EE-SPX613_DS_E_5_2

Liquid Level Photomicrosensor with operation mode and sensitivity selectors for easy application.

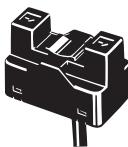
- Operation mode selector allows modes to be switched easily.
- Sensitivity selector is suitable for any 6- to 13-mm-diameter transparent or semi-transparent pipe with a wall thickness of 1 mm.
- Uses a clean (with no powder parting agent) cable.
- Operating voltage range: 12 to 24 VDC



Be sure to read *Safety Precautions* on page 3.

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Ordering Information

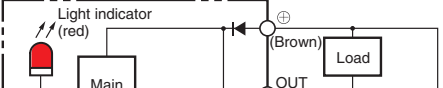
Appearance	Sensing method	Output type	Output configuration	Cable length	Model
	Through-beam type	NPN output	Dark-ON or Light-ON (selectable)	1 m	EE-SPX613 1M

Ratings and Specifications

Item	Models	EE-SPX613
Applicable pipe		Any 6- to 13-mm-diameter pipe with a wall thickness of 1 mm that is made of FEP or any other material as transparent as FEP.
Sensing object		Liquids in pipes (High-viscosity liquids or liquids with floating materials may not be detected.)
Light source		GaAs infrared LED with a peak wavelength of 940 nm
Indicator		Light indicator GaP (Red LED: Peak wavelength of 700 nm)
Supply voltage		12 to 24 VDC $\pm 10\%$, ripple (p-p): 5% max.
Current consumption		Average: 30 mA max., Peak: 80 mA max.
Control output		NPN open collector: Load power supply voltage: 5 to 24 VDC Load current: 100 mA max. OFF current: 0.5 mA max. 100 mA load current with a residual voltage of 0.8 V max. 40 mA load current with a residual voltage of 0.4 V max.
Ambient illumination		3,000 lx max. with incandescent light or sunlight on the surface of the receiver
Ambient temperature range		Operating: -10 to $+55^{\circ}\text{C}$ Storage: -25 to $+65^{\circ}\text{C}$ (with no icing or condensation)
Ambient humidity range		Operating: 5% to 85% Storage: 5% to 95% (with no condensation)
Vibration resistance		Destruction: 10 to 500 Hz, 1.0-mm single amplitude or 150 m/s^2 in X, Y, and Z directions 3 times and for 11 min each
Shock resistance		Destruction: 500 m/s^2 for 3 times each in X, Y, and Z directions
Degree of protection		IEC 60529 IP50
Connecting method		Pre-wired (Standard length: 1 m)
Weight (packed state)		Approx. 55 g
Material	Case	Polycarbonate
	Cover	
Accessories		Support belt (2), slip protection tube (2), Instruction Manual

I/O Circuit Diagrams

NPN Output

Model	Output configuration	Timing charts	Operation mode selector	Output circuit
EE-SPX613	Dark-ON	Incident (with no liquid)  Interrupted (with liquid)  Light indicator (red) ON OFF  Output transistor ON OFF  Load Operates Releases 	D-ON (DARK ON)	
	Light-ON	Incident (with no liquid)  Interrupted (with liquid)  Light indicator (red) ON OFF  Output transistor ON OFF  Load Operates Releases 	L-ON (LIGHT ON)	