

**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



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

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

Ordering Information

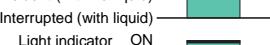
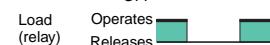
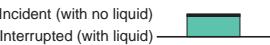
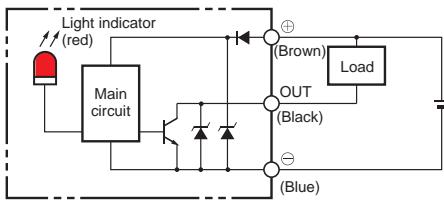
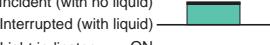
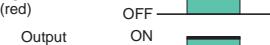
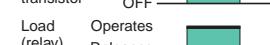
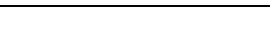
Appearance	Sensing method	Output type	Output configuration	Cable length	Model
	Through-beam type	NPN output	Dark-ON or Light-ON (selectable)	1 m	EE-SPX613 1M

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°C Storage: -25 to +65°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	
	Cover	Polycarbonate
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 ON (red) OFF  Output transistor ON OFF  Load (relay) Operates Releases 	D-ON (DARK ON)	
	Light-ON	Incident (with no liquid) Interrupted (with liquid)  Light indicator ON (red) OFF  Output transistor ON OFF  Load (relay) Operates Releases 	L-ON (LIGHT ON)	

Dimensions

Tolerance class IT16 applies to dimensions in this datasheet unless otherwise specified.

EE-SPX613