OMRON

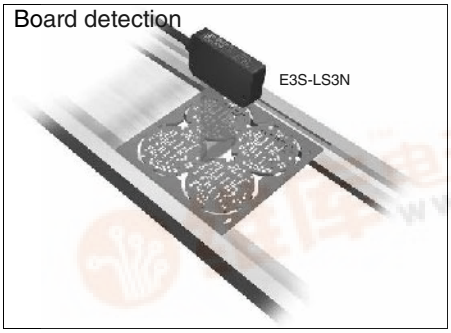
Printed Circuit Board Sensor

E3S-LS3N

Printed circuit board sensor capable of stable detection without being affected by holes or notches.

- Suitable for incorporation in devices (E3S-LS3N).
- Wide range is suitable for component boards with high or irregularly shaped components (E3S-LS3NW).

Applications



Ordering Information

Infrared light

Sensor type	Shape	Connection method	Detection distance *	Output form	Model
Limited reflective		Pre-wired	20 to 35 mm	Light ON	E3S-LS3N
			10 to 60 mm		NEW E3S-LS3NW

* Using 80 x 80 mm white art paper

PNP output models will be available soon. Please contact your OMRON sales representative.

Rating/performance

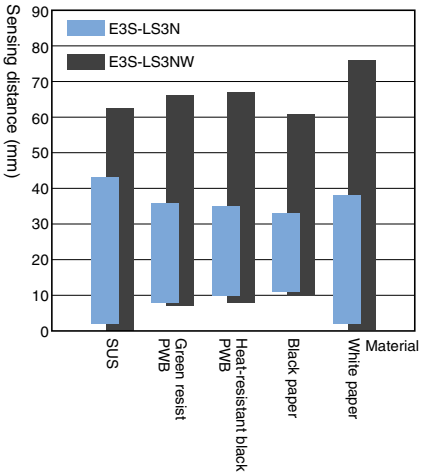
Item	Sensor / Model	Limited reflective	
		E3S-LS3N	E3S-LS3NW
Sensing	White art	20 to 35 mm	10 to 60 mm
	Black paper	20 to 30 mm	15 to 50 mm
Light source (wave length)		Red LED (660 nm)	
Power supply voltage		12 to 24 V DC ±10%, ripple (p-p) 10% or less	
Current consumption		25 mA max.	
Control output		Load supply voltage: 24 VDC or less; load current: 50 mA or less (residual voltage 1 V or less); NPN open collector output type	
Response time		Operation or reset: 1 ms max.	
Ambient illuminance		Incandescent lamp: 5,000 lux max.	
Ambient temperature		Operating: -10° to 55°, Storage: -25° to 70°C (with no icing or condensation)	
Ambient humidity		Operating: 35% to 85%RH, Storage: 35% to 95%RH (with no condensation)	
Insulation resistance		20 M Ω min. at 500 VDC	
Dielectric strength		1,000 VAC at 50/60 Hz for 1 minute	
Vibration resistance		10 to 55 Hz, 1.5-mm double amplitude for 2 hours each in X, Y, and Z directions	
Shock resistance		Destruction: 500 m/s^2 for 3 times each in X, Y, and Z directions	
Protective structure		IEC Standard IP40	
Connection method		Pre-wired models (standard length: 2 m)	
Weight (Packed state)		Approx. 50 g	
Material	Case	Heat-resistant ABS resin	
	Lens	Acrylics	
Accessories		Instruction manual	

* At 80 x 80 mm

Characteristic data (typical)

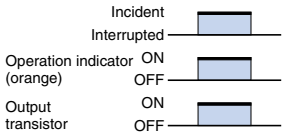
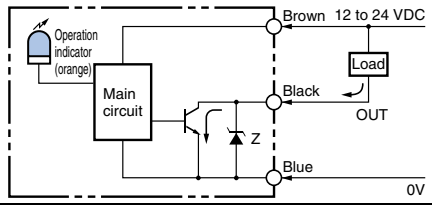
Detection range - material properties

E3S-LS3N/E3S-LS3NW



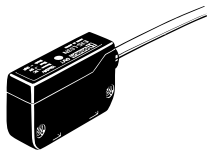
Output Circuit Diagram

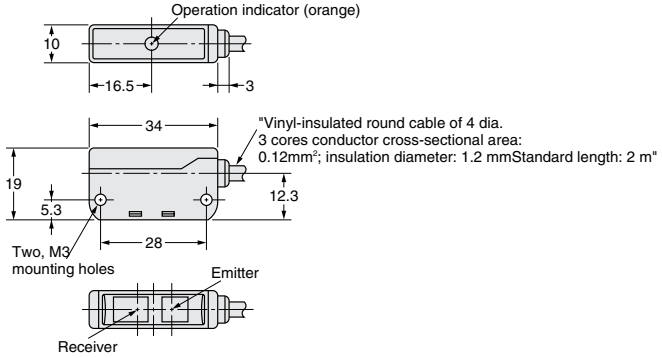
NPN output (PNP output will be available soon)

Model	Operating status of output transistor	Timing chart	Output circuit
E3S-LS3N E3S-LS3NW	Light ON		

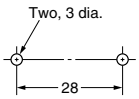
Dimensions (Unit: mm)

E3S-LS3N
E3S-LS3NW





Mounting Holes



CAD file E3S_51