

CE



- Equipped with inverter light suppression circuit
- Perforated objects reliably detected with large-diameter light spot (GM-S Series)

Applications

- Lead frame detection
- PDB detection
- Board detection

Embedded Amplifier Photo Sensors

Type

Detection method	Detecting distance	Model		Operation mode	Output mode
		NPN type	PNP type		
Wide-angle diffuse-reflective type	50mm	GM-S5RT(-J)	GM-S5RTPN(-J)	Light-ON	Open collector
Limited zone-reflective type		GM-Z5RT(-J)	GM-Z5RTPN(-J)		

Optional Parts

Type	Model	Shape
Cord with M8 connector	FBC-4R2S	Straight (2 m)
	FBC-4R2L	Angled (2 m)

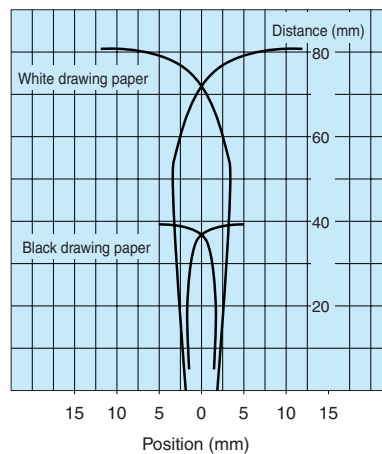
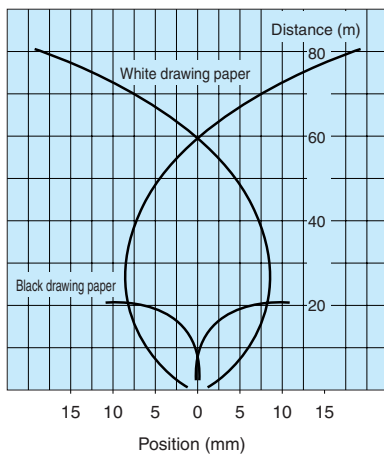
M8 connector type (-J)



Directional characteristics (Typical Example)

• GM-S5RT

• GM-Z5RT

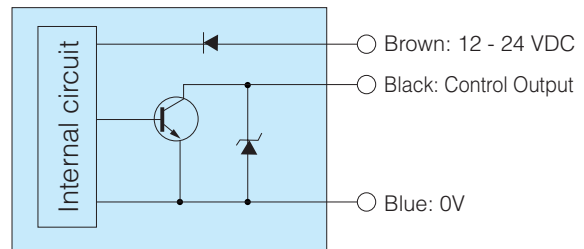


Rating/Performance/Specification

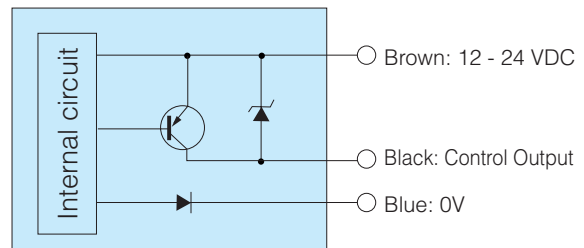
Model	NPN type	GM-S5RT	GM-Z5RT
	PNP type	GM-S5RTPN	GM-Z5RTPN
Rating/performance	Detection method	Wide-angle diffuse-reflective type	Limited zone-reflective type
	Detecting distance	50mm (Standard detecting object: 100 x 100 mm white drawing paper)	50mm (Standard detecting object: 50 x 50 mm white drawing paper)
	Power supply	12-24V DC $\pm 10\%$ / Ripple 10% max.	
	Current consumption	32mA max.	30mA max.
	Emitted light spot diameter	About 20 mm (at 20 mm)	About 4 mm (at 20 mm)
	Control output	Open collector output	
	Rating	NPN type: Sink current 100 mA (30 VDC) max. / Residual voltage: 1 V or less PNP type: Sink current 100 mA (30 VDC) max. / Residual voltage: 1 V or less	
	Operation mode	Light-ON	
	Response time	1ms max	
	Light source	Red LED (644nm)	
Rating / Performance	Indicator	Operation indicator (orange LED) Stability indicator (green LED)	
	Volume	SENS: sensitivity adjustment volume	
	Short circuit protection	Provided	
	Connection	Permanently attached cord (outer dimension: dia. 3.9mm) 0.2 sq. 3 core 2 m length Connector type with M8 connector (-J at the end of model No.)	
	Mass	About 50g (permanently attached cord)	About 10g (M8 connector type)
	Accessory	Screwdriver for adjustment, operation manual	

Input/Output Circuit and Connection

• (NPN output)



• (PNP output)

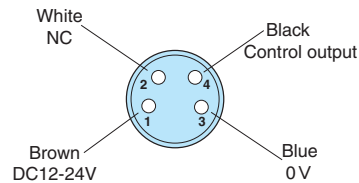


- The output transistor turns off when load short circuits or an overload occurs.
Check the load and turn the power back on.

Environmental Specification

Environment	Ambient light	5,000 lx max.
	Ambient temperature	-25 - +55 °C (non-freezing)
	Ambient humidity	35-85%RH (non-condensing)
	Protective structure	IP67
	Vibration	10-55 Hz / 1.5 mm amplitude / 2 hours each in 3 direction
	Shock	500 m/s ² / 3 times each in 3 directions
	Dielectric withstanding	1,000 VAC for 1 minute
Insulation resistance	500 VDC, 20 M Ω or higher	

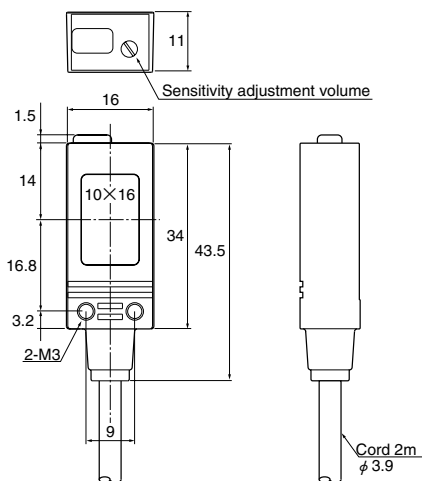
M8 connector type (-J) connection



- The colors show lead colors for use in combination with the optional cord with M8 connector.
- White line (NC) is unused.

Dimensions (in mm)

Permanently attached cord



M8 connector type (-J)

