



GL-R12L

Main Unit, Body-protection Type, 12 Optical Axes



*Please note that accessories depicted in the image are for illustrative purposes only and may not be included with the product.

Specifications

Model			GL-R12L
Detection capability			ø1.77" ø45 mm
Total length			18.90" 480mm
No. of beam			12
Detection height			17.32" 440mm
Protection height			20.67" 525mm
Beam axis spacing/Lens diameter			40 mm / ø5 1.57" / ø0.20"
Detecting distance			0.66 to 49.21' 0.2 to 15 m*1
Effective aperture angle			Max. ±2.5° (When operating distance is 9.84' 3 m or more)
Light source			Infrared LED (870 nm)
Response time (OSSD) (ms)	Wire synchronization, One-line or Optical synchronization system (Channel 0)	ON→OFF	6.6
		OFF→ON	48.7*2
		All blocked→ON	63.1*3
	Optical synchronization system (Channel A or B)	ON→OFF	7.4
		OFF→ON	49.9*2
		All blocked→ON	66.3*3
Detection mode			Turns on when no interruptions are present in the detection zone
Synchronization between the transmitter and receiver			Optical synchronization or Wire synchronization (Determined by wiring)
Light interference prevention function			Prevents mutual interference in up to two GL-R systems. Optical synchronization: prevented by Channel A and B with setting switch Wire synchronization: prevented automatically
Control output (OSSD output)	Output	2 transistor outputs. (PNP or NPN is determined by the cable type)	
	Max. load current	500 mA*4	
	Residual voltage (during ON)	Max. 2.5 V (with a cable length of 16.40' 5 m)	
	OFF state voltage	Max. 2.0 V (with a cable length of 16.40' 5 m)	
	Leakage current	Max. 200 µA	
	Max. capacitive load	2.2 µF	
	Load wiring resistance	Max. 2.5 Ω	
Supplemental output (Non-safety-related output)	AUX	transistor outputs. (PNP or NPN is determined by the cable type)	
	Error output	Load current: Max. 50 mA, Residual voltage: Max. 2.5 V (with a cable length of 16.40' 5 m)	
	Muting lamp output	Incandescent lamp (24 VDC, 1 to 5.5 W) LED lamp (load current: 10 to 230 mA) can be connected.	
External input	When using a PNP output cable	EDM input Wait input Reset input Muting input 1, 2	ON voltage: 10 to 30 V OFF voltage: Open or 0 to 3 V Short circuit current: Approx. 2.5 mA (Approx. 10 mA with EDM input only)

	When using an NPN output cable	Override input	ON voltage: 0 to 3 V OFF voltage: Open or 10 V or more Up to the power voltage Short circuit current: Approx. 2.5 mA (Approx. 10 mA with EDM input only)
Power supply	Power voltage		24 VDC $\pm 20\%$, ripple (P-P) 10% or less, Class 2
	Current consumption (Max.) (mA)	Transmitter	46
		Receiver	70
Protection circuit			Reverse current protection, short-circuit protection for each output, surge protection for each output
Approved standards	EMC	EMS	IEC61496-1, EN61496-1, UL61496-1
		EMI	EN55011 ClassA, FCC Part15B ClassA, ICES-003 ClassA
	Safety		IEC61496-1, EN61496-1, UL61496-1 (Type 4 ESPE) IEC61496-2, EN61496-2, UL61496-2 (Type 4 AOPD) IEC61508, EN61508 (SIL3), IEC62061, EN62061 (SIL CL3) EN ISO13849-1:2015 (Category 4, PLe) UL508 UL1998
Environmental resistance	Enclosure rating		IP65/IP67 (IEC60529)
	Overvoltage category		II
	Ambient light		Incandescent lamp: 3,000 lux or less., Sunlight: 20,000 lux or less
	Operating ambient temperature		-10 to +55 °C 14 to 131 °F (No freezing)
	Storage temperature		-25 to +60 °C -13 to 140 °F (No freezing)
	Operating relative humidity		15 to 85 % RH (No condensation)
	Storage relative humidity		15 to 95 % RH
	Vibration resistance		10 to 55 Hz, Double amplitude 0.7 mm 0.03" , 20 sweeps in each of the X, Y, and Z directions
	Shock resistance		100 m/s ² (Approx. 10 G), 16 ms pulse, 1,000 times in each of the X, Y, and Z directions
Material	Main unit case		Aluminum
	Upper case/lower case		Nylon (GF 30%)
	Front cover		Polycarbonate, SUS304
Weight	Transmitter		660 g
	Receiver		

*1 When the option front protection cover is installed on the one of transmitter or receiver, the Operating distance is shortened by **1.64'** 0.5 m. When the front covers are installed on both of the transmitter and receiver, the Operating distance is shortened by **3.28'** 1.0 m.

*2 If the interruption is present in the detection zone for less than 80 ms, the response time (OFF to ON) will be 80 ms or more to ensure that the OSSD maintains the OFF state for more than 80 ms.

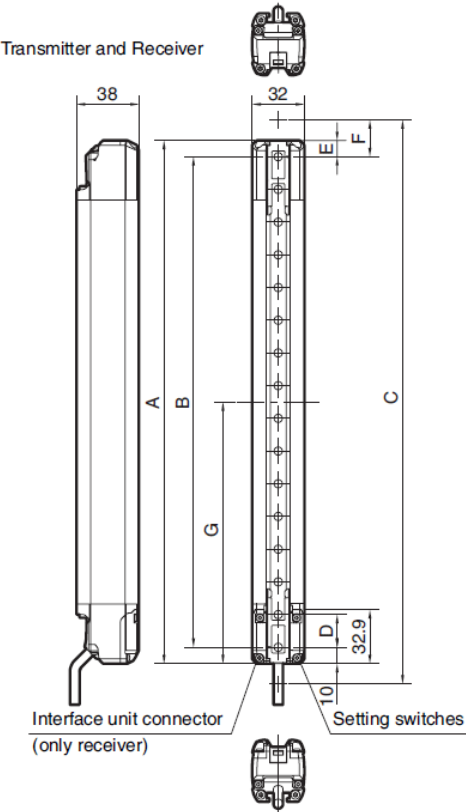
*3 "All blocked" means the situation where the GL-R operates in optical synchronization system and the transmitter and receiver is not synchronized (top and bottom beam axes are both blocked). In this situation, the response time is longer because the GL-R synchronizes the transmitter and receiver first and then determines the clear or blocked.

*4 When the GL-R is used under surrounding air temperatures between 50 to 55°C **122°F to 131°F**, the Maximum load current should not exceed 350 mA.

Dimensions

* Download CAD file or product manual for larger image/text and more detail.

■ GL-RL



Units: mm

Model	Beam axes	A: Length	B: Detection height	C: Protection height	D: Beam axis pitch	E	F	G
GL-R04L	4	160	120	205	40	30	42.5	80
GL-R06L	6	240	200	285				120
GL-R08L	8	320	280	365				160
GL-R10L	10	400	360	445				200
GL-R12L	12	480	440	525				240
GL-R14L	14	560	520	605				280
GL-R16L	16	640	600	685				320
GL-R18L	18	720	680	765				360
GL-R20L	20	800	760	845				400
GL-R22L	22	880	840	925				440
GL-R24L	24	960	920	1005				480
GL-R26L	26	1040	1000	1085				520
GL-R28L	28	1120	1080	1165				560
GL-R30L	30	1200	1160	1245				600
GL-R32L	32	1280	1240	1325				640