GL-R23F

Main Unit, Finger-protection Type, 23 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-R23F
Detection capability			ø0.55" ø14 mm
Total length			9.45" 240mm
No. of beam			23
Detection height			8.66" 220mm
Protection height			9.61" 244mm
Beam axis spacing/Lens diameter			10 mm 0.39" / ø4 ø0.16"
Detecting distance			0.66 to 32.81' 0.2 to 10 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	6.9
		OFF→ON	49.2*2
		All blocked→ON	64.4*3
	Optical synchronization system (Channel A or B)	ON→OFF	9.3
		OFF→ON	52.7*2
		All blocked→ON	74*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) Load current: Max. 50 mA, Residual voltage: Max. 2.5 V (with a cable length of 16.40' 5 m)
	Error output		
	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)

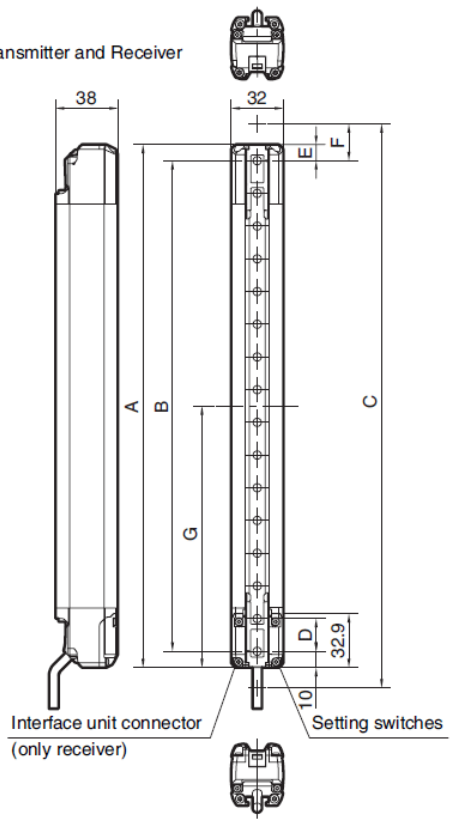
	When using an NPN output cable	Override input	ON voltage: 0 to 3 V OFF voltage: Open or 10 V or more Up to the power voltage Short circuit current: Approx. 2.5 mA (Approx. 10 mA with EDM input only)
Power supply	Power voltage		24 VDC ±20%, ripple (P-P) 10% or less, Class 2
	Current consumption (Max.) (mA)	Transmitter	50
		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/s² (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		320 g
	Receiver		330 g

*1 When the option front protection cover is installed on the one of transmitter or receiver, the Operating distance is shorten by 1.64' 0.5 m. When the front covers are installed on both of the transmitter and receiver, the Operating distance is shorten 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 fi rst 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-RF**



Units: mm

Model	Beam axes	A: Length	B: Detection height	C: Protection height	D: Beam axis pitch	E	F	G
GL-R23F	23	240	220	244	10	10	12	120
GL-R31F	31	320	300	324				160
GL-R39F	39	400	380	404				200
GL-R47F	47	480	460	484				240
GL-R55F	55	560	540	564				280
GL-R63F	63	640	620	644				320
GL-R71F	71	720	700	724				360
GL-R79F	79	800	780	804				400
GL-R87F	87	880	860	884				440
GL-R95F	95	960	940	964				480
GL-R103F	103	1040	1020	1044				520
GL-R111F	111	1120	1100	1124				560
GL-R119F	119	1200	1180	1204				600
GL-R127F	127	1280	1260	1284				640