



## GL-S20FH

Flat type 20 beam 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-S20FH	
Type		Flat type	
Detection capability		ø25 mm ø0.98"	
Total length		419.5 mm 16.52"	
No. of beam		20	
Detection height		380mm 14.96"	
Protection height		426mm 16.77"	
Beam axis spacing		20 mm 0.79"	
Operating distance		0.1 to 2 m 0.3' to 6.6'	
Effective aperture angle		Max. ±3.75° (when the operating distance is 2 m 6.6')	
Light source		Infrared LED (870 nm)	
Response time(ms)	Wire synchronization, one-line, or optical synchronization system (channel 0)	ON→OFF	6.6 *1
		OFF→ON	48.7 *1 *2
		All blocked→ON	63.1 *1 *3
	Optical synchronization system (channel A or B)	ON→OFF	8.8 *1
		OFF→ON	52.0 *1 *2
		All blocked→ON	71.9 *1 *3
OSSD operation		Turns on when no interruptions are present in the detection zone	
Synchronization between the transmitter and receiver		Optical synchronization or wire synchronization (determined by the wiring)	
Light interference prevention function		Optical synchronization: prevented by Channel A and B with setting switch Wire synchronization: prevented automatically	
Control output (OSSD output)	Output type		2 transistor outputs (PNP or NPN output is determined by the cable type.)
	Max. load current		Max. 300 mA
	Residual voltage (when ON)		Max. 2.5 V (with a cable length of 5 m 16.4')
	OFF state voltage		Max. 2.0 V (with a cable length of 5 m 16.4')
	Leakage current		Max. 200 μA
	Max. load capacitance		2.2 μF
	Load wiring resistance		Max. 2.5 Ω
Inputs 1 and 2		Short-circuit current: approx. 1 mA	
Power supply	Current consumption(mA)	When the center indicator is ON	Transmitter 39*4
		Receiver	62*4

		When the center indicator is OFF	Transmitter	28*4
			Receiver	50*4
	Power voltage			24 VDC $\pm$ 20%, ripple (P-P) 10% or less, Class 2
Protection circuit				Reverse current protection, short-circuit protection and 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 GB/T4584	
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 +50 °C 14 to 122 °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 <sup>2</sup> (Approx. 10 G), 16 ms pulse, 1,000 times in each of the X, Y, and Z directions	
Material	Main unit case		Polyarylate	
Weight	Transmitter		185 g	
	Receiver		190 g	

\*1 If the response time (ON to OFF) exceeds 18 ms, this unit cannot be used as a certified product based on the Chinese standard GB/T4584 “压力机用光电保护装置技术条件”.

In the case of series connection, if the total number of beam axes exceeds 100, the response time must be limited to 30 ms or less.

When the GL-S units are connected in series, the response time is calculated according to the following steps;

1. Sum up the response time of all unit.
2. Subtract the following time from the result of previous step.

(ON → OFF)

One sub unit connected: 2 ms

Two sub units connected: 4.2 ms

(When using Optical synchronization system and Channel A or B)

One sub unit connected: 2.7 ms

Two sub units connected: 5.7 ms

(OFF → ON)

One sub unit connected: 42 ms

Two sub units connected: 84 ms

\*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.

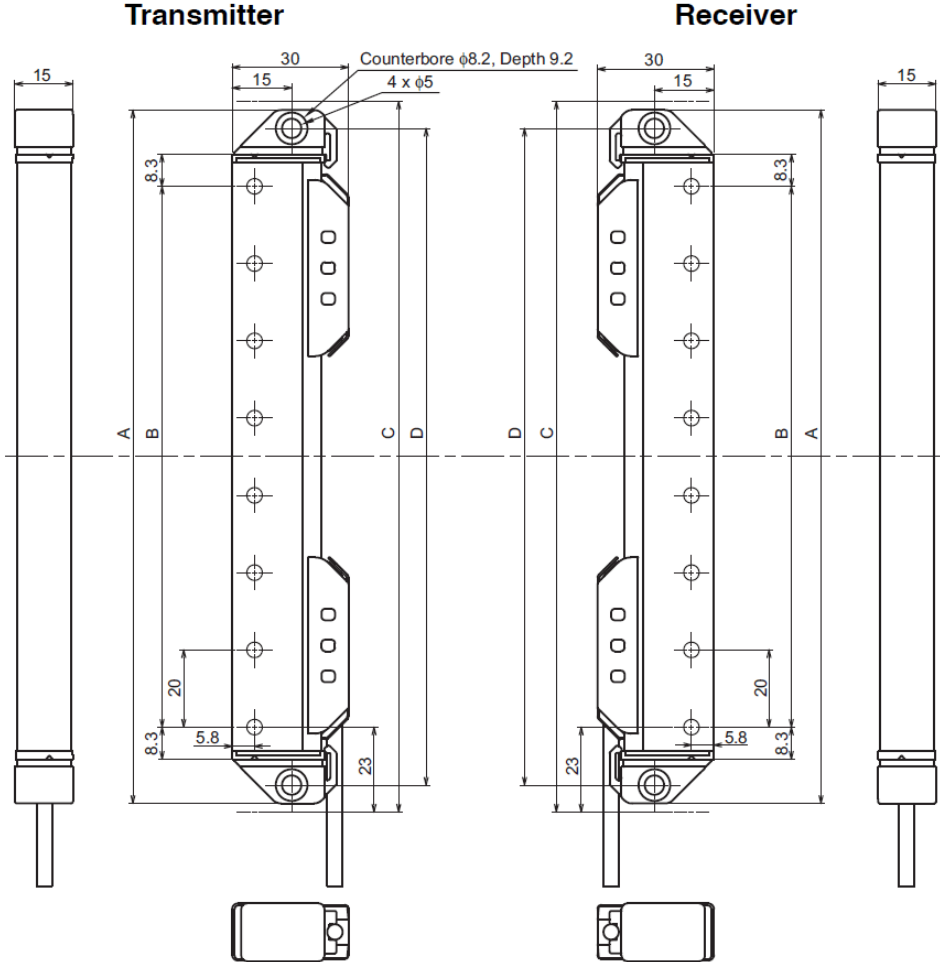
\*3 “All blocked” means the situation where the GL-S operates in optical synchronization system and the transmitter and receiver is not synchronized (top and bottom beam axes are both blocked).

In this situation, the response time is longer because the GL-S synchronizes the transmitter and receiver first and then determines the clear or blocked.

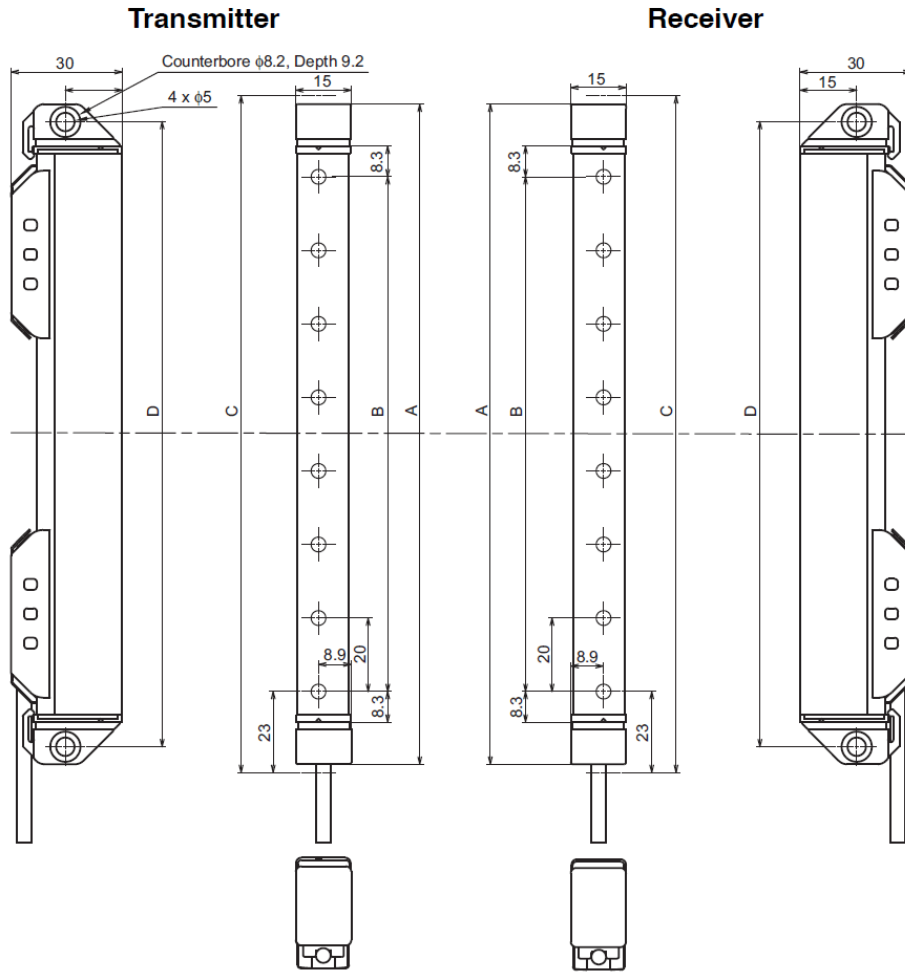
\*4 The control output (OSSD) current is not included. When inputs are turned ON, the current consumption increases by 1 mA per input.

# Dimensions

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



Model		Number of axes	A: Total length	B: Detection height	C: Protection height	D: Mounting pitch
Slim type	Flat type					
GL-S08SH	GL-S08FH	8	179.5	140	186	170
GL-S12SH	GL-S12FH	12	259.5	220	266	250
GL-S16SH	GL-S16FH	16	339.5	300	346	330
GL-S20SH	GL-S20FH	20	419.5	380	426	410
GL-S24SH	GL-S24FH	24	499.5	460	506	490
GL-S28SH	GL-S28FH	28	579.5	540	586	570
GL-S32SH	GL-S32FH	32	659.5	620	666	650
GL-S36SH	GL-S36FH	36	739.5	700	746	730
GL-S40SH	GL-S40FH	40	819.5	780	826	810



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