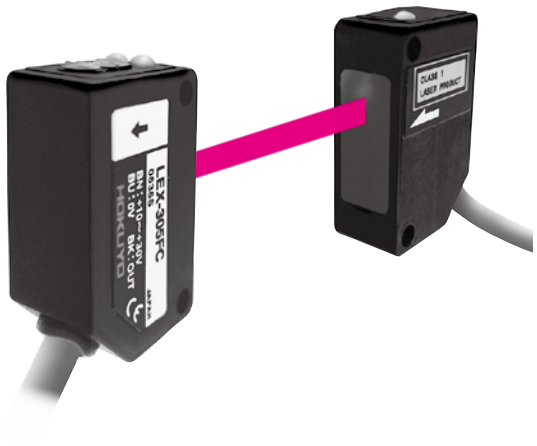
Small size

Built-in amplifier type laser sensor

LEX SERIES CE



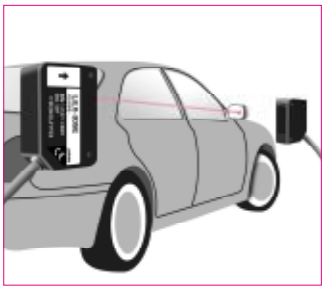
Long distance! Visible laser beam with small spot!
4 kinds of sensor are line-up

- Easy to install because of visible laser spot.
- High response time 0.25msec or less.
- Water-proof structure,IP67.
- Close installation available because of interference prevention function.
- BGS typs is available.

Typical application

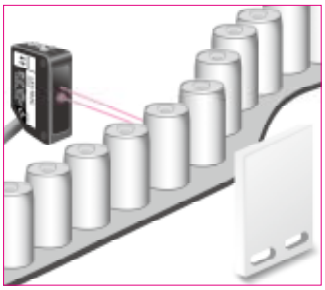
Through-beam type

Objects with 2 ϕ can be detected at 5m.



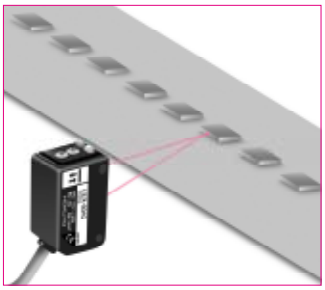
Retro-reflection type

Small space between the objects in the high speed line can be detected.



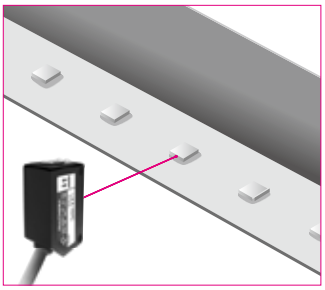
Diffuse-reflection type

Small objects can be detected because of small spot and thin beam.

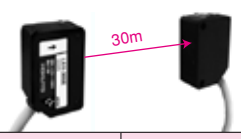
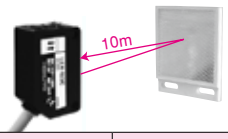
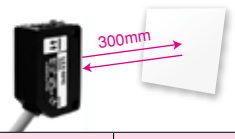
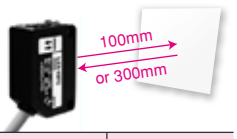


BGS type

It is less affected by background because of BGS function and it is possible to make a severe setting.



Specifications

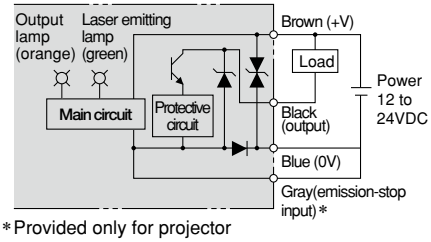
Kinds	Through-beam		Retro-reflection		Diffuse-reflection		BGS function	
Appearance								
Model No.	LEX-305C	LEX-305A	LEX-103C	LEX-103A	LEX-031C	LEX-031A	LEX-107C	LEX-307C
Power source	12 to 24VDC (10 to 30V including ripple 10%)							
Current consumption	Projector/receiver:15mA or less		20mA or less				30mA or less	
Light source	Visible red semiconductor laser 650nm							
Laser class	JIS/IEC class1		JIS/IEC class2				JIS/IEC class1	
Max.power	390 μW		3mW				4.7mW	
Laser life	Approx.50,000 hours (50℃)							
Detecting distance	30m		0.1 to 10m*1		300mm*2		5 to 100mm*2	10 to 300mm*2
Spot diameter*3	Approx. ϕ 30mm (at 30m)		Approx. ϕ 12mm (at 10m)		Approx. ϕ 1.5mm (at 300mm)		Approx. ϕ 1mm (at 100mm)	Approx. ϕ 1.5mm (at 300mm)
Hysteresis	———				20% or less		3% or less*2	5% or less*2
Operating mode	Changeover switch (L: Light-ON, D: Dark-ON)							
Output	NPN	PNP	NPN	PNP	NPN	PNP	NPN	
Control output	100mA or less for NPN/PNP open-collector output, 30VDC or less, residual voltage 1.8V							
Response time	0.25msec or less							
Sensitivity adjuster	Provided (not provided to projector of through-beam type)							
Indication lamps	Laser emission lamp (stable lamp only for receiver of through-beam type): Green LED,output lamp: orange LED							
Connection	Cable: ϕ 3.8mm, 2m long, 3 cores (projector of through-beam type: 2 cores,BGS type: 4 cores)							
Ambient illuminance	Incandescent lamp: 3,000lux or less, sun light: 10,000lux or less							

Ambient temperature/humidity	-10 to +50℃ (-25 to +70℃ at stored)*4, 35 to 85%RH (35 to 95% at stored) Not icing, not condensing		
Insulation resistance	20MΩ(500VDC) or more		
Vibration resistance	Double amplitude 1.5mm, 10 to 55Hz, each 2 hour in X, Y and Z directions		
Impact resistance	500m/s², each 3 time in X, Y and Z directions		
Withstand voltage	1,000VAC/min.		
Protective structure	IP67 (IEC standard)		
Case materials	Case:ABS resin, lens (front cover): PMMA resin		
Weight (including cable)	Projector: approx.45g Receiver: approx.50g	Approx. 50g	
Accessory	Fitting screw, fitting metal	Fitting screw, fitting metal, reflector	Fitting screw,fitting metal

*1. Combination of attached reflector.
*2. Detectable object is white paper with 100×100.
*3. This is defined by 1/e² (13.5%) of center strength.
*4. In case of BGS function type,-10 to +55℃ (-40 to +70℃ at stored).

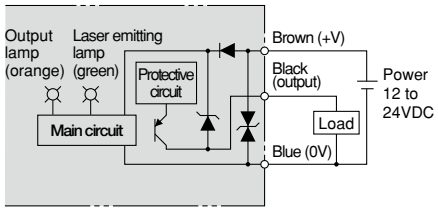
Output circuit

NPN output

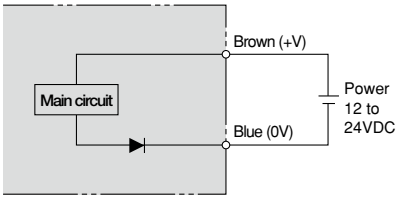


*Provided only for projector

PNP output



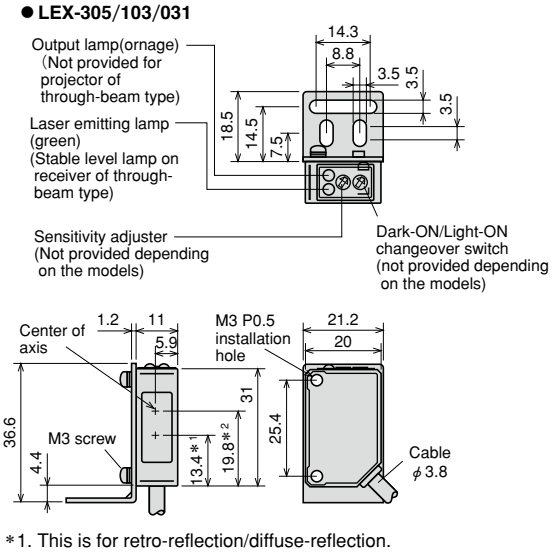
Projector of through-beam type



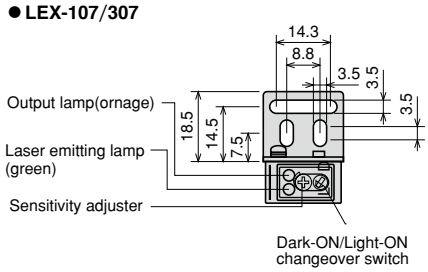
External dimension

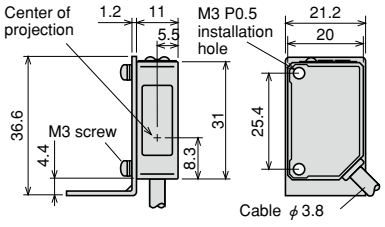
Sensor

● **LEX-305/103/031**



● **LEX-107/307**

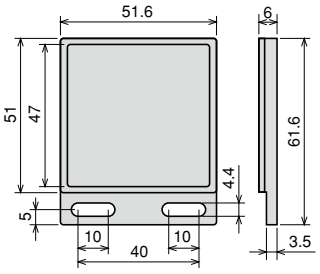




*1. This is for retro-reflection/diffuse-reflection.
*2. This is for projection/reception of through-beam/reception of retro-reflection/diffuse-reflection.

Reflector

● **RRL-51S（RRRL002）**
（Attached to LEX-103）



Cautions for Laser Product

This product is radiating the infrared laser beam and is classified as Class 1/2 by JIS C6802:2005/IEC 60825-1 Laser Safety Standard. Refer to Page 159.

Warning Don't view the laser beam directly or expose it to human eyes. It may injure human eyes or damage health.

Projector of through-beam

Retro-reflection/ diffuse-reflection/ BGS type