LT20R/LD-S33R series

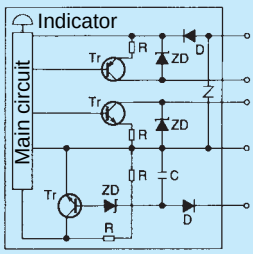
PHOTO SENSORS
LASER TYPE

- A Red Semiconductor laser (class 2) is used!
- A fine object of (4mm is detectable over the long distance of 20m.
- Compact design by high density mounting.
  (LD-S33R)
- A fine mark can be detected from a great distance.

Implement safety measures according to the instruction manual.

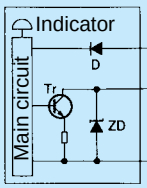
■ OUTPUT CIRCUIT

LD-S33R



Brown 12-24VDC
White PNP out put
Black NPN out put
Blue 0V
Pink Test input
(Input for stop light source)

LT20RB



Brown 12-24VDC
Black Out put
Blue 0V

- Loaded short circuit or overload shuts off the output transistor is off.
  Turn the power back on after checking the loaded condition.

Note = Needless wires to be isolated

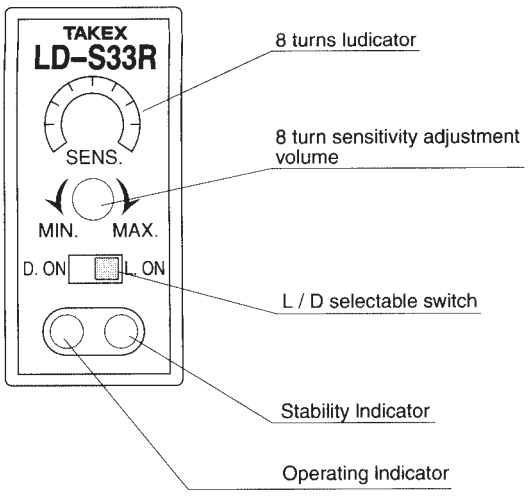
■ SPECIFICATIONS

Model	LD-S33R	LT20RB
Detection	Diffuse Reflecton	Through beam
Range	300mm±100mm	20m
Power supply	12－24VDC ±10% Ripple 10% Max.	
Current Consumption	38mA(Max.)	100mA(Max.)
Output mode	Open collector NPN／PNP 2 output Rating : 100mA, DC30V Max.	Open collector NPN output Rating : Sink current (100mA, DC30V Max.)
Operating mode	Light-on／Dark-on selectable	
Response time	0.5msec(Max.)	
Spot diameter	Φ2mm(at range 300mm)	—
Minimum object's mark width	0.5mm(Black mark on the white paper at range 300mm)	—
Light source (wave length)	Red Laser Diode(650nm) Class 2	Red semiconductor laser wave length(670mm)
Indicator	Operation:Red, Stability : Green	
Sensitivity volume	8 turn non-stopper potentiometer	—
Short circuit protection	Built-in	
Material	Body:Zinc dicast & Alminum Head : ABS Indicator panel : Polycarbonate Lens : Glass	Case : Polyfcarbonate Lens : Acrylic Head : PBT
Connection	Flying lead 2m(outer dia Φ4.5mm) 0.25sq×5 cores	Flying lead 3m (outer dia Φ 4.2mm) Trns : 0.3sq×2 cores , Rcvr : 0.35q×3 cores
Weight	300g(Max.)	Trns : 150g , Rcvr : 100g (Max.)

■ ENVIRONMENT

Ambient Light	Sunlight : 10,000lx(Max.) Incandescent : 3,000lx(Max.)
Operating temp.	－10～＋40℃
Humidity	35～85%RH
Protection	LD-S33R : IP66 , LT20RB : IP64
Vibration	10Hz to 55Hz, 1.5mm Amplitude, 2 hours 3 directions
Shock resistance	AC1,000V 1min
Insulation resistance	20MΩ Min.(DC500VM)

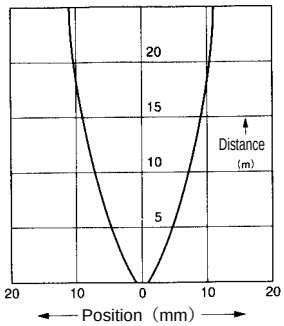
■ PANEL DESCRIPTION (LD-S33R)



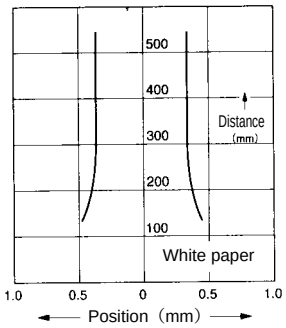
- SENS : 8-turn trimmer Adjustment Volume it enables delicate detection.
- 8 turn indicator : It is possible to confirm the position for 8 turns.
- L.ON/D.ON : Operating mode selectable switch (Light-on/Dark-on)
- Green LED : Stability indicator
  (It lights when the light quantity of receiver has 120% sufficient margin and 80% insufficient.)
- Red LED : Operation indicator
  (It lights when Output transistor becomes ON.)

■ ACTIVE BEAM WIDTH

LT20RB



LD-S33R

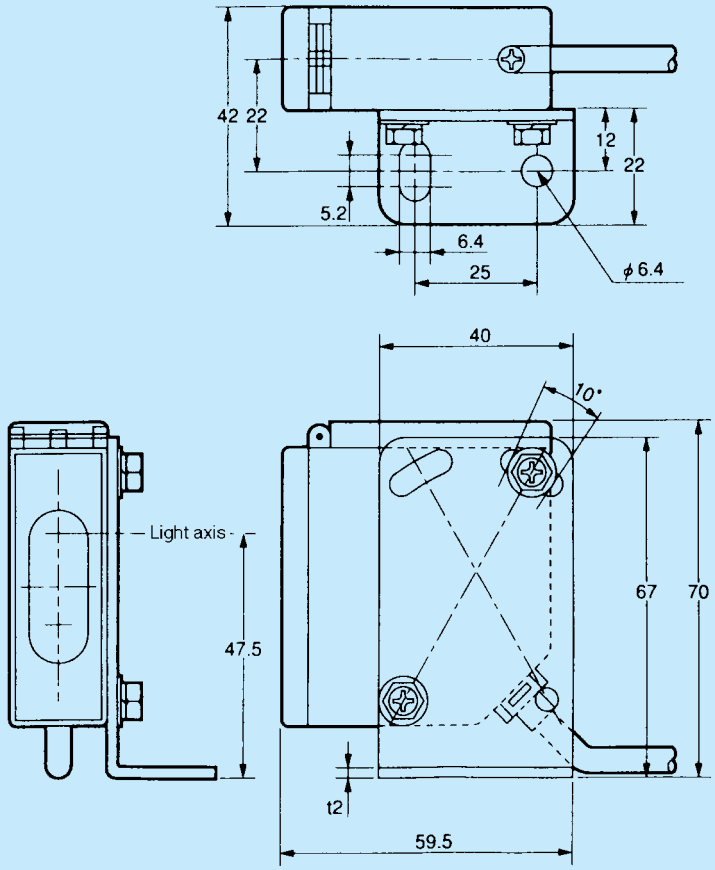


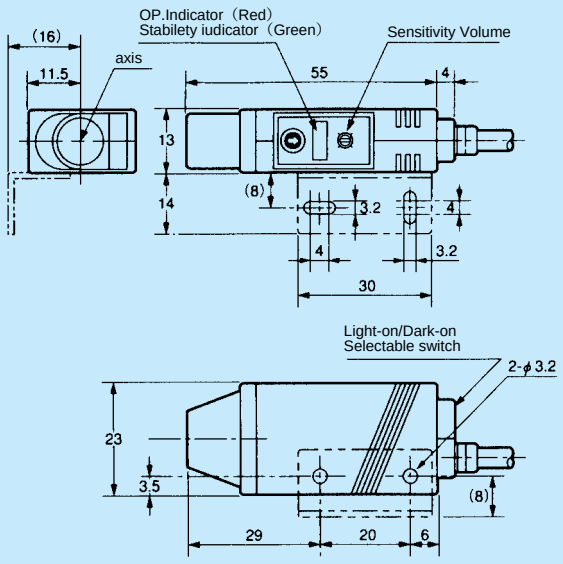
■ CAUTION for Laser Products

- (Class 2: The semiconductor lasers used in these products are applicable to the following classes of JISC6802 "Radiation Safety Standard of a Laser product".
  - Class 1: (Intrinsically safe by their technological designs)
  - Class 2: (Visible light and of sufficiently low output so that physical damage can be avoided by the human protection reaction)
- Because laser light is non-divergent, never expose your eyes to laser light. Never look into the laser radiation port of the sensor when it is connected to the power box. Direct exposure to laser light may cause damage to your eyes. Be careful to never let the laser light shine into your eyes.
- This laser product has the following warning and instruction labels on the unit in order to inform users of the dangers. Do not remove the labels. After installing the sensor, attach the labels onto places that are easily visible.
- The laser radiates in an oval form due to a feature of the semi-conductor laser. Also, it shows the following diffraction pattern due to the light diffraction phenomena.
- This product is highly subject to deterioration or destruction by current surge or static electricity as it uses a semiconductor laser.
- The laser diode has a circuit to maintain brightness built in, and therefore as the output reduces, the current increase to maintain the brightness at a certain level. Therefore, give sufficient allowance to the power supply.
- Do not turn the power ON/OFF rapidly.

■ DIMENSIONS

LD-S33R



Mounting blacket : NE-B1 attached

LT20RB