

DL-S3R/DL-S10R series

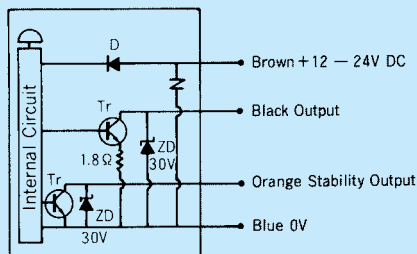
BACKGROUND SUPPRESSION
PHOTO SENSORS

- Self diagnosis function
 - The sensor itself can detect the presence of a fault caused by the reduction of level of received light.
 - "dirt on the lens surface" or "optical axis moved out of alignment" will not present a problem anymore. Easy maintenance.
- IP67, waterproof enough to be washed in water.
 - When the production line is washed, the sensor can be washed as well.
- The smallest size and highest speed.
- Visible transmitted spot (visible red LED)



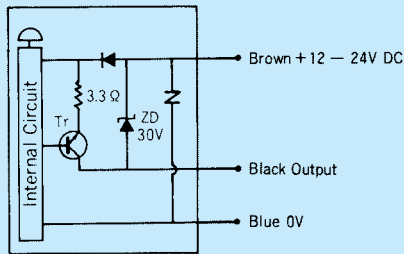
OUTPUT CIRCUIT

NPN OUTPUT



- Built-in short circuit protection.
- Stability output is not built-in short circuit protection.

PNP OUTPUT



- PNP output type is not built-in stability output.

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

DL-S3R/DL-S10R series

SPECIFICATIONS

Type	Red LED			Infrared LED			Red LED	Infrared LED			
Model	DL-S3R	DL-S4R	DL-S5R	DL-S3	DL-S4	DL-S5	DL-S10R	DL-S10	DL-S15	DL-S20	
Detection method	Distance convergent beam						Distance convergent beam				
Range 1	VR(Max.)	10 ~ 30mm	10 ~ 40mm	10 ~ 50mm	10 ~ 30mm	10 ~ 40mm	10 ~ 50mm	10 ~ 100mm	10 ~ 100mm	10 ~ 150mm	10 ~ 200mm
	VR(Min.)	15 ~ 24mm	20 ~ 32mm	25 ~ 40mm	15 ~ 24mm	20 ~ 32mm	25 ~ 40mm	3	3	3	3
Power supply	12-24VDC ± 10% Ripple 10%(Max.)						12-24VDC ± 10% Ripple 10%(Max.)				
Current consumption	27mA(Max.)						30mA(Max.)				
Output mode	Output	Open collector, NPN output, Rating : Sink current 100mA, DC30V(Max.) 2					Open collector, NPN output, Rating : Sink current 100mA, DC30V(Max.) 2				
	Stability	Open collector, NPN output, Rating : Sink current 50mA, DC30V(Max.) 2					Open collector, NPN output, Rating : Sink current 50mA, DC30V(Max.) 2				
Mode operating	Light-on/Dark-on selectable(By exclusive switch)						Light-on/Dark-on selectable(By exclusive switch)				
Response time	0.35msec(Max.)						0.35msec(Max.)				
Hysteresis	5%(Max.)						5%(Max.)				
Light source wave length	Red LED(700nm)			Infrared LED(880nm)			Red LED(700nm)	Infrared LED(880nm)			
Sensing cell	Half-dividing photodiode						Half-dividing photodiode				
LED indicator	Operating LED : Red LED, Stability LED : Green LED						Operating LED : Red LED, Stability LED : Green LED				
Adjuster volume	Potentiometer VR						Potentiometer VR				
Switch	Light-on/Dark-on selectable switch						Light-on/Dark-on selectable switch				
Circuit protection	Built-in short circuit protection(Output only)						Built-in short circuit protection(Output only)				
Material	Case or Lens : Poliyarate						Case : ABS, resin Lens : Polyether resin				
Connection	Flying lead(Outer dia. 3mm \varnothing m length, 0.15 × 4C Black						Flying lead(Outer dia. 4mm \varnothing m length, 0.2 × 4C Black				
Weight	50g(Max.)						80g(Max.)				

1 50 × 50mm White paper

2 All models have PNP output type.

Add PN to the model number, -For example, DL-S3RPN

PNP output type is not built-in Stability output

3 Adjuster MAX. 100 × 100mm White paper

All models have PNP output type.

Add PN to the model number, -For example, DL-S10RPN

PNP output type is not built-in Stability output

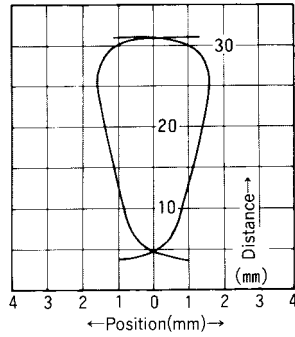
ENVIRONMENT

Ambient light	Withstands 5,000 lx
Operating temp.	- 25 ~ + 55
Humidity	35 ~ 85% RH
Case protection	IP67
Vibration	10 ~ 55Hz, 1.5mm Amplitude, 2 hours, X.Y.Z. direction
Impact	500m/S ² (Approx. 50G) 3 times, X.Y.Z. direction

OPERATING AREA CHARACTERISTICS

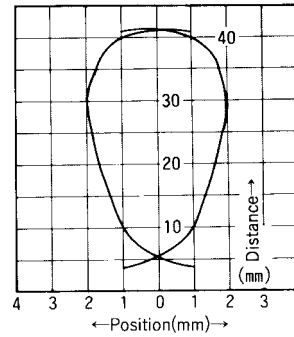
MODEL DL-S3

50mm x 50mm White paper



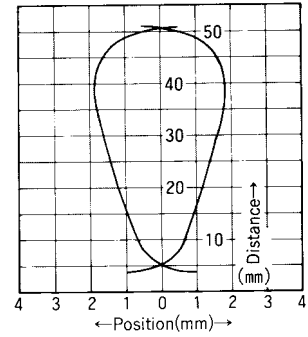
MODEL DL-S4

50mm x 50mm White paper



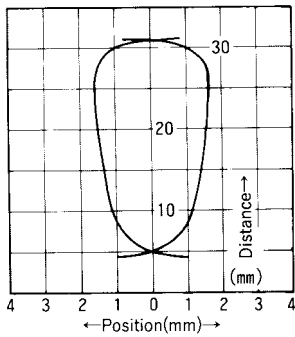
MODEL DL-S5

50mm x 50mm White paper



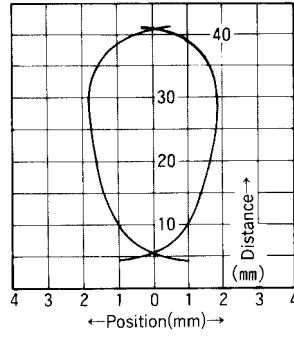
MODEL DL-S3R

50mm x 50mm White paper



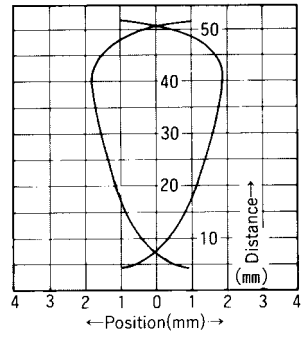
MODEL DL-S4R

50mm x 50mm White paper



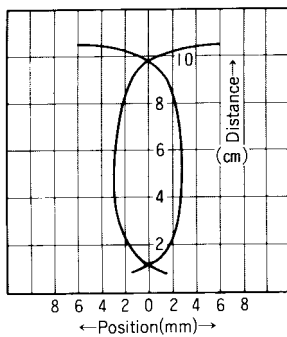
MODEL DL-S5R

50mm x 50mm White paper



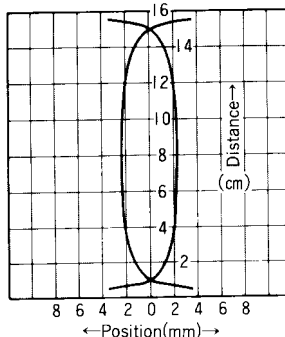
MODEL DL-S10R • DL-S10

100mm x 100mm White paper



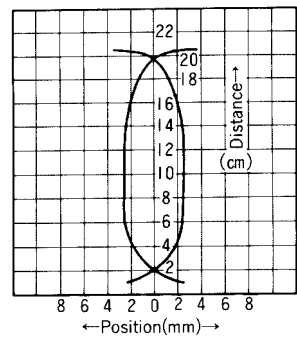
MODEL DL-S15

100mm x 100mm White paper



MODEL DL-S20

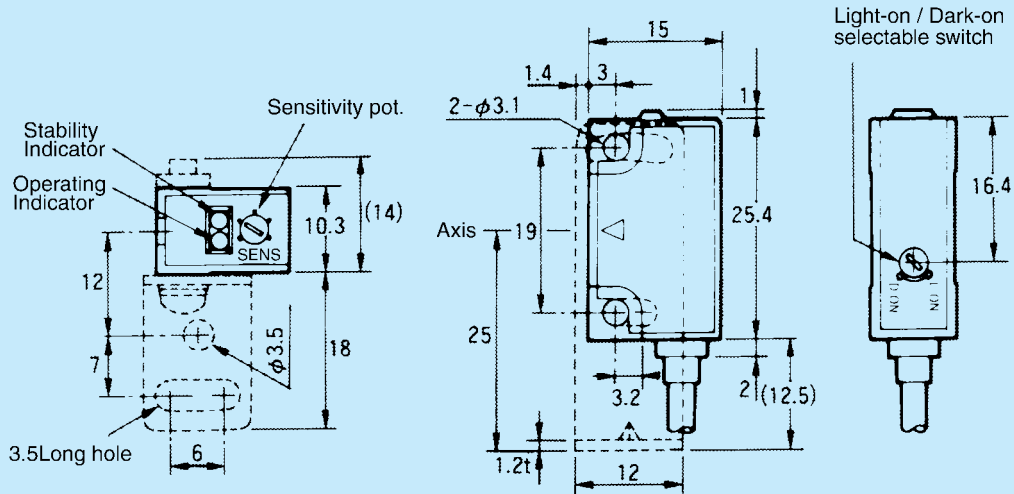
100mm x 100mm White paper



DL-S3R/DL-S10R series

DIMENSIONS

MODEL: DL-S3R, DL-S3
DL-S4R, DL-S4
DL-S5R, DL-S5



MODEL: DL-S10
DL-S10R
DL-S15
DL-S20

