



- Analog sensor less influenced by color or gloss of object
- Analog output available
- 2-stage comparator for long and short ranges for high-precision control (DLA-S300, -S1000, DSM-500)

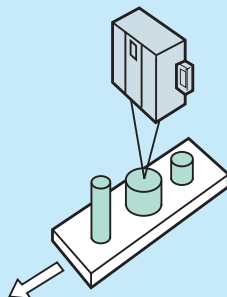
### Type

Type/detection method		Detecting distance	Model	Operation mode	Output mode
Analog output	Diffuse-reflective type	50~150mm	<b>DLA-S150</b>	Output in proportion to distance	Analog output
		150~300mm	<b>DLA-S300</b>		Analog output/comparator output
		0.2~1m	<b>DLA-S1000</b>		
	Reflector type	0.5~6m	<b>DSM-500</b>		

### Dimensions (in mm)

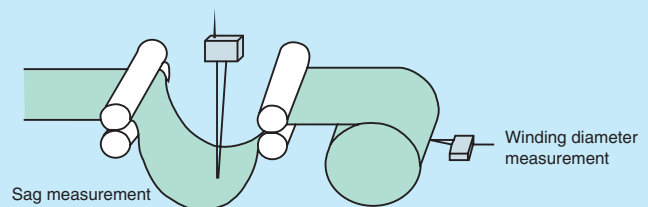
#### • Height check

Works sorted according to height



#### • Film winding control

"Sag" and "winding diameter" of film measured to be used for inverter control for winding film at constant torque



## Rating/Performance/Specification

Type	Distance measurement			Reflector measurement		
	Short-range	Medium-range	Long-range	Long-range		
Model	DLA-S150	DLA-S300	DLA-S1000	DSM-500		
Rating/performance	Detection method	Diffuse-reflective type			Reflector type	
	Detecting distance	50-150mm *	150-300m *	0.2-1m *	0.5-6m	
	Power supply	24V DC $\pm$ 5% / Ripple 10% or less				
	Current consumption	60mA max.	70mA max.	100mA max.	70mA max.	
	Output mode	Analog output	1 – 10V DC (output impedance: 1 K $\Omega$ )		3 – 9V DC (output impedance: 1 K $\Omega$ )	2 – 7.5V DC (output impedance: 1 K $\Omega$ )
		Comparator output	—	NPN open collector 2 outputs Rating: sink current 50 mA (30 V) max.		
	Operation mode	Output in proportion to distance				
	Light source	Infrared LED				
	Light-sensitive element	PSD				
	Specification	Indicator	Power supply indicator (red LED)	Power supply indicator: green LED Operation indicator: red LED $\times$ 4 Provided on front and back panels(CH1 / CH2)		
Volume (VR)		—	For CH 1: short range For CH 2: long range			
Connection		Permanently attached cord ( $\phi$ 4) 2 m	Permanently attached cord ( $\phi$ 6) 2 m			
Mass		100g max.	350g max.			
Notes		*With white and black paper			Reflector provided (model MR5)	

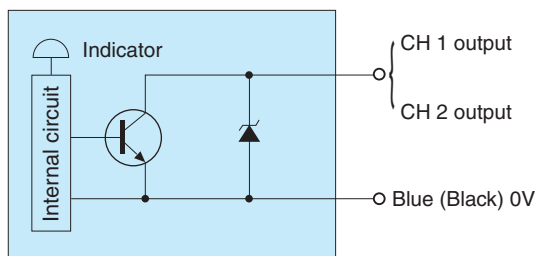
## Environmental Specification

Environment	Ambient light	1,000 lx max. (DSM500: 4000lx)
	Ambient temperature	-10 - +55°C (non-freezing)
	Ambient humidity	35-85%RH (non-condensing)
	Vibration	10-55 Hz / 1.5 mm amplitude / 2 hours each in 3 directions
	Shock	147 m/s <sup>2</sup> / 3 times each in 3 directions
	Protective structure	IP40 (DLA-S150) IP66 (DLA-S300, -S1000) IP65 (DSM-500)

# DLA

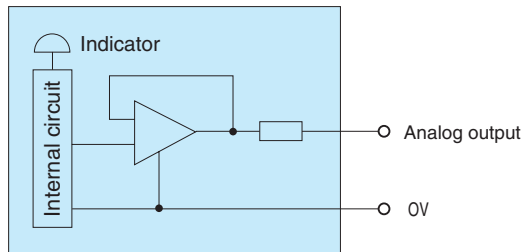
## Input/Output Circuit and Connection

(Comparator output)



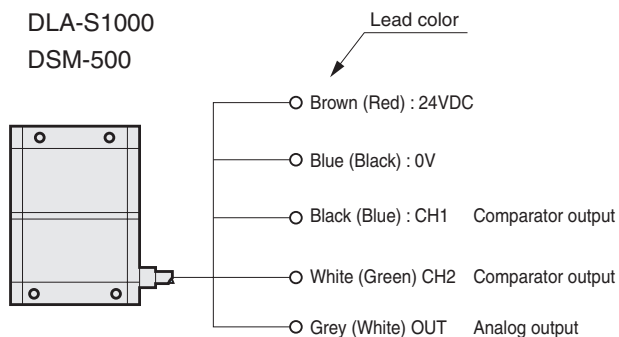
(CH 1 and 2 are two outputs sharing one circuit.)

(Analog output)



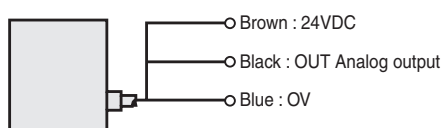
## Connection

DLA-S300  
DLA-S1000  
DSM-500



(Colors in parentheses show lead colors for DSM-500.)

DLA-S150

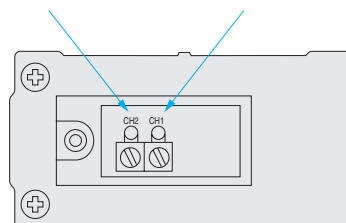


(DLA-S150 does not have a comparator output.)

## Comparator Output Adjustment (DLA-S300, -S1000, DSM-500)

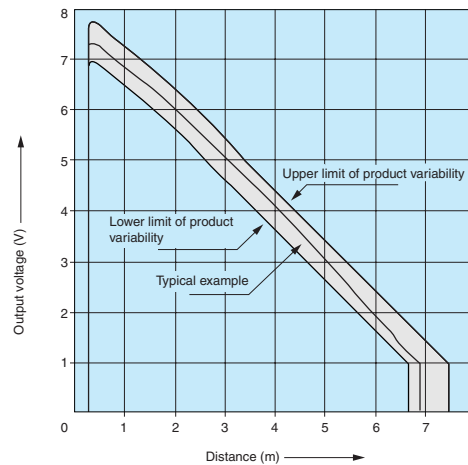
Provide the detection object at the intended position and turn the adjustment for CH 1 until the LED for CH 1 is illuminated.  
CH 1 stays activated at the position or closer to the sensor.  
Adjust CH 2 in the same way.

Indicator and adjustment for CH 2 comparator adjustment (for long range)  
Indicator and adjustment for CH 1 comparator adjustment (for short range)



## Distance-Output Characteristics (Model DSM-500)

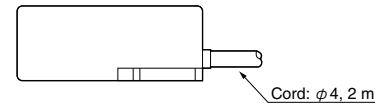
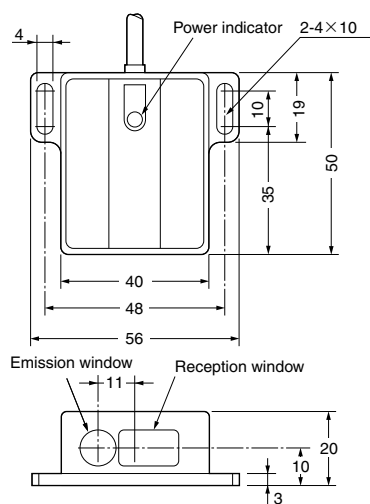
The plot at the center of the chart shows typical output characteristics. The range marked by the lines above and below shows that the output variation among different products is within the range. While the output at the same distance may vary within this range depending on the product, there is little output variation in repetitive operation of one product.



## Dimensions (in mm)

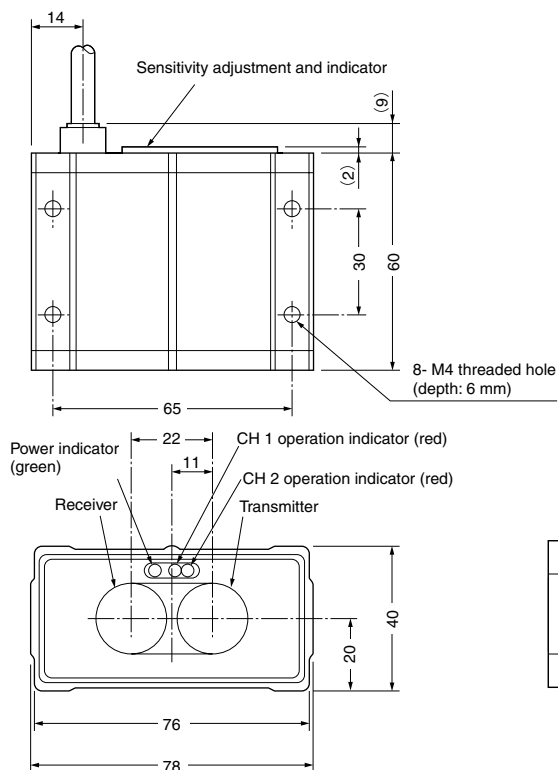
DLA-S150

CAD



DLA-S300  
DLA-S1000  
DSM-500

CAD



(Reflector for DSM500: model MR5)

