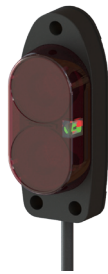


IMS



Model BA-□□□□

INSTRUCTION MANUAL

! WARNING

Thank you for selecting IMS product. This sheet primarily describes precautions required in installing and operating the product. Before operating the product, read the sheet thoroughly to acquire sufficient knowledge of the product. For your convenience, keep the sheet at your disposal.

! CAUTION

Failure to follow these instructions may result in serious injury or death :
Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
Failure to follow these instructions may result in product damage :
Do not use this unit over rated voltage ;
Do not use this unit where there is flammable or explosive gas ;
Do not use this unit where there is vibration or impact ;
In cleaning the unit, do not use water or an oil-based detergent.

■ Features

- High performance ASIC based advance sensor
- Response time : 1ms
- Long product life time, 5us modulated pulse with 1/10 duty cycle reduced aging of LED
- Build in 100ms power on delay, self-recover short circuit protection, reverse polarity, over voltage protection
- Excellent noise immunity to DC light with modulated light source and CDS signal process technology
- Mode selection for light on and dark on

■ Ordering information

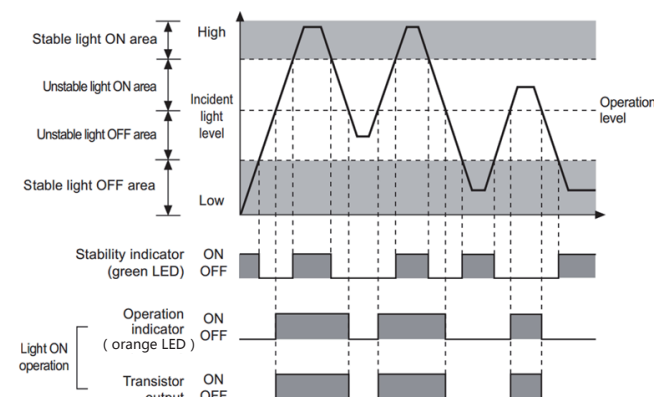
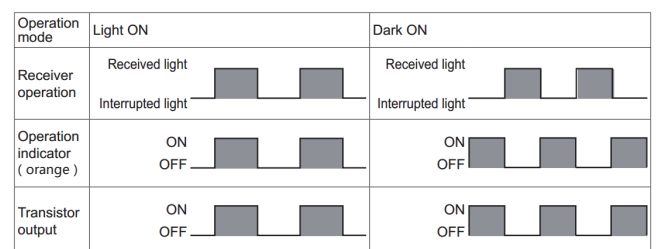
BA D I M - N L T - C - (Light source code)

Connection type	L	Cable type
	C	Connector type
Response time		1ms
	M	0.25ms
Sensitivity	T	available
		Fixed
Operation mode	L	Light on
	D	Dark on
	S	Selectable
Output	N	NPN
	P	PNP
	O	NPN+PNP
	D	5V
	C	Relay
	A	Analog
Sensing distance unit		Unit : mm
Sensing distance (slot series use 30/50 to refer slot distance)	M	Unit : m
	Number	Sensing distance
Sensing method (slot series is none)	T	Through-beam
	D	Diffuse reflective
	R	Retro reflective
	V	Convergent reflective
	B	Polarization-opaque
Item	BA	Photoelectric sensor

■ Specifications

Sensing method	Diffuse reflective	
Model	NPN	BAD500-NSL
	PNP	BAD500-PSL
Sensing distance	500mm(Non-glossy white paper300*300mm)	
Hysteresis	Max. 20% at rated sensing distance	
Directional angle	—	
Light source	Red LED (624nm)	
Power supply	10~30VDC (including voltage ripple of 10%(p-p)max.)	
Current consumption	Max. 25mA	
Output	NPN/PNP (open collector)	
Load current	Max.100mA (Residual voltage : Max. 3V) , Load voltage : Max.26.4VDC	
Operation mode	Selectable Light ON or Dark ON by control cable	
Indicators	Operation indicator : Orange , stability indicator : Green	
Circuit protection	Power supply reverse polarity protection, Output short-circuit protection, output reverse polarity protection	
Response time	Max. 1ms	
Sensitivity adjustment	One turn knob	
Ambient illumination	Incandescent lamp : Max. 3 , 000lx /Sunlight : Max. 10 , 000lx	
Ambient temperature	Operation : -25 ~ 65 °C/Storage : -25 ~ 70 °C (with no icing and condensation)	
Ambient humidity	Operation : 45 ~ 85 %/Storage : 35%~95%(with no condensation)	
Insulation resistance	Min. 20MΩ (500VDC)	
Dielectric strength	1,000 VAC at 50/60 Hz for 1 min. between current-carrying parts and case	
Vibration resistance	1.5mm amplitude at frequency of 10 to 55Hz in each of X,Y,Z direction for 2 hours	
Shock resistance	500m/s ² in X,Y,Z directions for 3 times	
Degree of protection	IEC : IP64	
Connection	Cable (length: 1.5m)	
Line color definition	Brown: 10~30V, Blue : GND, Black : NPN, White : NO/NC	
Weight	Approx. 23g	
Material	Case	ABS
	Lens	PMMA
Accessory	Instruction	

■ Operating timing diagram



※ The waveforms of " Operation indicator " and " Transistor output " are for Light on mode.

