New product launching information

BGS Reflective Type Photoelectric Sensors - BJ Series

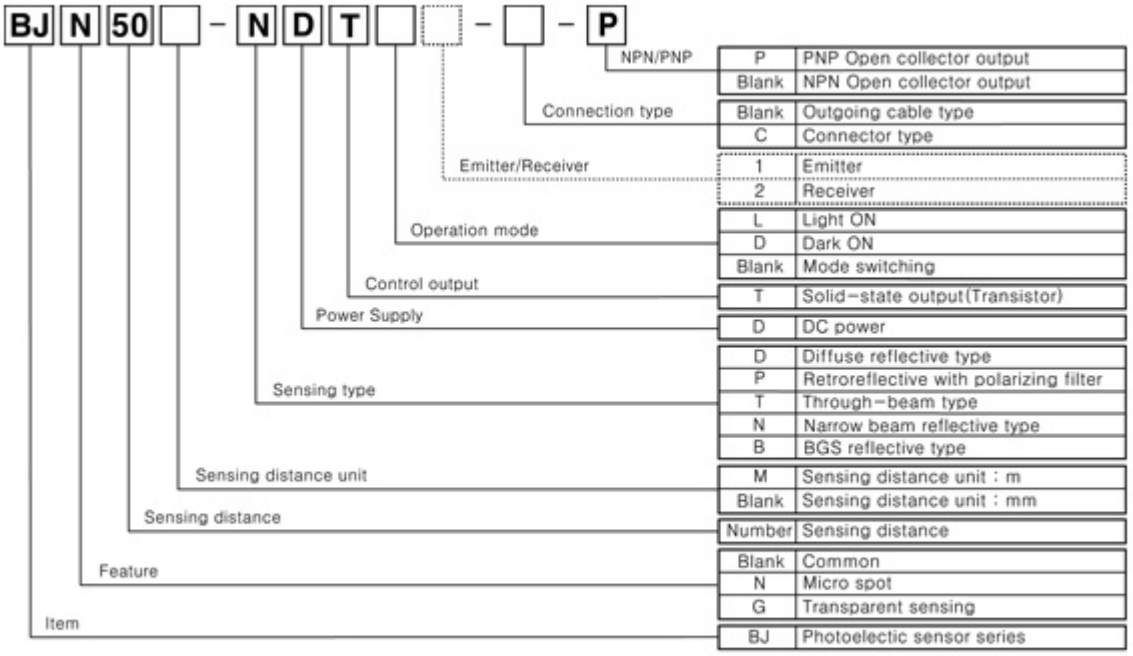
Model	BJ Series (BGS reflective type)
Launching Date	Available Now
Product Overview	 **No effects of background object with Background Suppress(B.G.S) function** BGS reflective type for BJ Series is released to allow more diverse user-selection with long sensing distance connector type. BGS reflective type reduces the effect of the background with Background Suppress function realizing more stable and improved detection performance by minimizing error range caused by color and material of sensing objects. (100mm detection distance model will be released soon.)

	Also, connector type model makes maintenance and wiring work easier than cable outgoing type; in addition, high performance can be realized with IP67 rated waterproof structure BJ Series realizes long sensing distance due to newly developed optical lens and superior noise-resistance characteristics. Also, the series implements world-best class sensing performance by minimizing the effect of inverter disturbance light. In addition, it makes adjacent installation possible with mutual interference prevention function and its compact size perfectly supports narrow space installation. A wide range of model line-up including long distance detection type, BGS reflective type, micro spot type and transparent glass sensing type make possible to support more various user¡¯s applications.
Approval	CE
Major Features	**▣Features** **●Common Features** * Compact size: W20¡¿H32¡¿L10.6mm * Protection structure : IP65(IEC standard) / IP67(BJ-C) * Light ON/Dark ON selectable(Except BJG30-DDT) * Sensitivity adjustment VR incorporated(Except BJG30-DDT) * Reverse polarity, Output short-circuit protection circuit * Auto mutual interference prevention function * Improved noise resistance and minimize effect of inverter disturbance light **●Long distance sensing type** * Long sensing distance with high quality lens :Detects up to 15m(Through-beam type), Diffuse reflective type 1m, Polarized retroreflective type 3m(MS-2A) * M.S.R(Mirror Surface Rejection) function minimizing sensing errors

	(Polarized retroreflective type) * Compact size: W20¡¿H32¡¿L10.6mm * Protection structure IP65/IP67(IEC standard) ●**BGS reflective type** * No effects of background object with Background Suppress(B.G.S) function * Superior sensing performance guaranteed comparing to diffuse reflective type * Sensing distance setting via volume * Narrow sensing width * Easy to check sensing location with visible micro spot * Stable sensing to minimize error range regardless of color and material of sensing objects management program. ●**Transparent glass sensing type / Micro spot type** * Stable sensing for transparent object(LCD, PDP, glass etc) by BJG30-DDT * Suitable for sensing small objects(Min. sensing object:¨Ï¨£0.2mm pure copper wire)

Ordering Information

▣Ordering information



※□ This information is intended for product management of transmitted type models.
(No need to refer when selecting a model)
※When choosing a model, please check the specification first.

Spec. Table

▣Specifications

※The model name with '-C' is connector type.

Type		Long distance sensing type						
Model	NPN Open collector output	BJ15M-TDT BJ15M-TDT-C	BJ10M-TDT BJ10M-TDT-C	BJ7M-TDT	BJ3M-PDT BJ3M-PDT-C	BJ1M-DDT BJ1M-DDT-C	BJ300-DDT BJ300-DDT-C	BJ100-DDT BJ100-DDT-C
	PNP Open collector output	BJ15M-TDT-P BJ15M-TDT-C-P	BJ10M-TDT-P BJ10M-TDT-C-P	BJ7M-TDT-P	BJ3M-PDT-P BJ3M-PDT-C-P	BJ1M-DDT-P BJ1M-DDT-C-P	BJ300-DDT-P BJ300-DDT-C-P	BJ100-DDT-P BJ100-DDT-C-P
Sensing type		Through-beam			Polarized retroreflective	Diffuse reflective		
Sensing distance		0 to15m	0 to 10m	0 to 7m	(•1) 0.1 to 3m (MS-2A)	1m (Non-glossy white paper 300×300mm)	300mm (Non-glossy white paper 100×100mm)	100mm (Non-glossy white paper 100×100mm)
Sensing target		Opaque material over ϕ12mm		Opaque material over ϕ8mm	Opaque material over ϕ7.5mm	Translucent, Opaque materials		
Hysteresis		———				Max. 20% at sensing distance		
Response time		Max. 1ms						
Power supply		12-24VDC ±10%(Ripple P-P : Max.10%)						
Current consumption		Emitter/Receiver : Max. 20mA			Max. 30mA			
Light source		Infrared LED (850nm)	Red LED (660nm)	Red LED (650nm)	Red LED (660nm)	Infrared LED (850nm)	Red LED (660nm)	Infrared LED (850nm)
Sensitivity adjustment		Built-in VR						
Operation mode		Light ON/Dark ON mode selectable						
Control output		NPN or PNP open collector output • Load voltage : Max. 26.4VDC • Load current : Max. 100mA • Residual voltage☞NPN : Max. 1V, PNP : Min. (Power voltage -2.5V)						
Protection circuit		Reverse polarity protection, Output short-circuit protection			Reverse polarity protection, Interference prevention function, Output short-circuit protection			
Indicator		Operation : Red, Stable : Green(Emitter's power indicator : Green)						
Connection		**BJ** ☞ Outgoing cable type, **BJ-C** ☞ M8 Connector						
Insulation resistance		Max. 20MΩ (at 500VDC megger)						
Dielectric strength		1000VAC 50/60Hz for 1minute						
Vibration		1.5mm or 300mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 2 hours						
Shock		500m/s² X, Y, Z directions for 3 times						
Ambient illumination		Sunlight : Max. 11,000ℓx, Incandescent lamp : Max. 3,000ℓx(Receiver illumination)						
Ambient temperature		Operation : -25 to 55℃, Storage : -40 to 70℃(at non-freezing, at non-dew status)						
Ambient humidity		Operation & Storage : 35 to 85%RH(at non-dew status)						
Protection		**BJ** ☞ IP65(IEC standard), **BJ-C** ☞ IP67(IEC standard)						
Material		Case : PC+ABS, Lens : PMMA, LED Cap : PC						
Cable		(•2) **BJ** ☞ ϕ3.5mm, 3P, Length : 2m(Emitter of through-beam type : ϕ3.5mm, 2P, Length : 2m) (24AWG, Core wire diameter: 0.08mm, No. of core wire: 40, Insulator diameter: 1mm)						
Accessory	Common	Mounting bracket, Bolt, Nut, VR adjustment driver						
	Individual	———			Reflector(MS-2A)	———		
Approval		CE						
Unit weight		**BJ** ☞ Approx. 90g, **BJ-C** ☞ Approx. 20g			**BJ** ☞ Approx.60g, **BJ-C** ☞ Approx.30g	**BJ** ☞ Approx. 45g, **BJ-C** ☞ Approx. 10g		

※(•1) The sensing distance is extended to 0.1~4m or 0.1~5m when using optional reflector MS-2S or MS-3S.

※(•2) M8 connector cable is sold separately.
(Cable ☞ 22AWG, Core wire diameter: 0.08mm, No. of core wire: 60, Insulator diameter: 1.25mm)

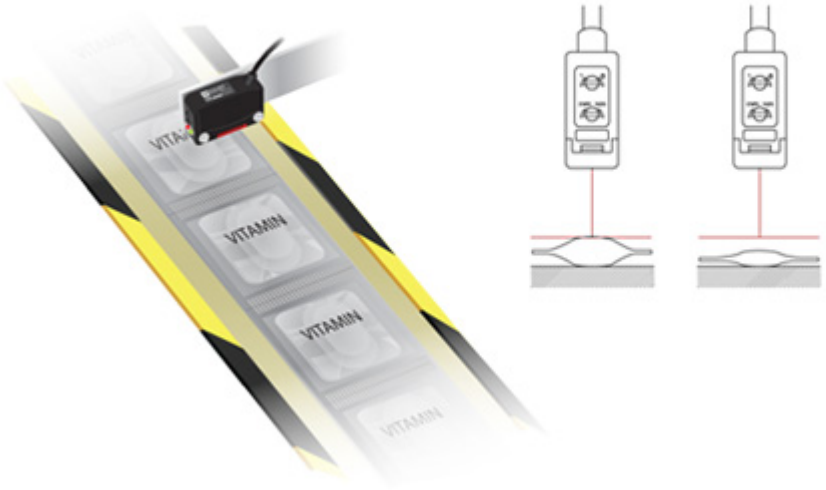
Type		Transparent glass sensing type		BGS reflective type			Micro spot type	
Model	NPN open collector output	BJG30-DDT		BJ30-BDT	BJ50-BDT	BJ100-BDT	BJN50-NDT	BJN100-NDT
	PNP open collector output	———		BJ30-BDT-P	BJ50-BDT-P	BJ100-BDT-P	BJN50-NDT-P	BJN100-NDT-P
Sensing type		Diffuse reflective		BGS reflective			Narrow beam reflective	
Sensing distance		0 to 30mm	0 to 15mm	10 to 30mm (Non-glossy white paper 50×50mm)	10 to 50mm (Non-glossy white paper 50×50mm)	10 to 100mm (Non-glossy white paper 100×100mm)	30 to 70mm	70 to 130mm
Sensing target		100×100mm Non-glossy white paper	Transparent glass 50×50mm (t=3.0mm)	Translucent, Opaque materials			Translucent, Opaque materials	
Min.diameter of transmitting SPOT		———		Approx. ϕ5.0mm	Approx. ϕ4.5mm	Approx. ϕ6.5mm	Approx. ϕ2.0mm	Approx. ϕ2.5mm
Min.sensing target		———		———			Approx. min. ϕ 0.2mm(Copper wire)	
Hysteresis		Max. 20% at sensing distance		Max. 10% at sensing distance			Max. 25% at sensing distance	Max. 20% at sensing distance
Response time		Max. 1ms		Max. 1.5ms			Max. 1ms	
Power supply		12-24VDC ±10%(Ripple P-P : Max.10%)						
Current consumption		Max. 30mA						
Light source/Wavelength		Infrared LED(850nm)		Red LED(660nm)			Red LED(650nm)	
Control output		NPN Open collector output • Load voltage : Max. 26.4VDC • Load current : Max. 100mA • Residual voltage : Max. 1V		NPN or PNP Open collector output • Load voltage : Max. 26.4VDC • Load current : Max. 100mA • Residual voltage ☞ NPN : Max. 1V, PNP : Min. (Power voltage -2.5V)				
Sensitivity adjustment		———		Built-in VR				
Operation mode		Light ON mode fixed		Light ON / Dark ON mode selectable(Short rotator adjuster)				
Protection circuit		Reverse polarity protection, Output short-circuit protection, Interference prevention function						
Indicator		Operation indicator : Red, Stability indicator : Green						
Connection		Outgoing cable type						
Insulation resistance		Min. 20MΩ (at 500VDC megger)						
Dielectric strength		1,000VAC 50/60Hz for 1minute						
Vibration		1.5mm or 300m/s² amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 2 hours						
Shock		500m/s² X, Y, Z directions for 3 times						
Ambient illumination		Sunlight : Max. 11,000lx, Incandescent lamp : Max. 3,000lx(Receiver illumination)						
Ambient temperature		Operation:-25 to 55℃, Storage:-40 to 70℃(at non-freezing, non-dew status)						
Ambient humidity		Operation & Storage : 35 to 85%RH(at non-dew status)						
Protection		IP65(IEC standard)						
Material		Case : PC+ABS, Lens : PMMA, LED CAP : PC						
Cable		ϕ3.5mm, 3P, Length : 2m						
Accessory		Mounting bracket, Bolt		Mounting bracket, Bolt, Adjustment driver				
Approval		CE						
Unit weight		Approx. 45g		Approx. 50g			Approx. 45g	

Operation Manual

Click here to view / download the manual

Applications

- **Defect inspection in drug packaging process**



Literatures to be provided	[X] Leaflet [O] Catalog [X] Poster [O] Brochure
Other Promotion Materials	None
Sales Promotion Events	None
Remarks	None