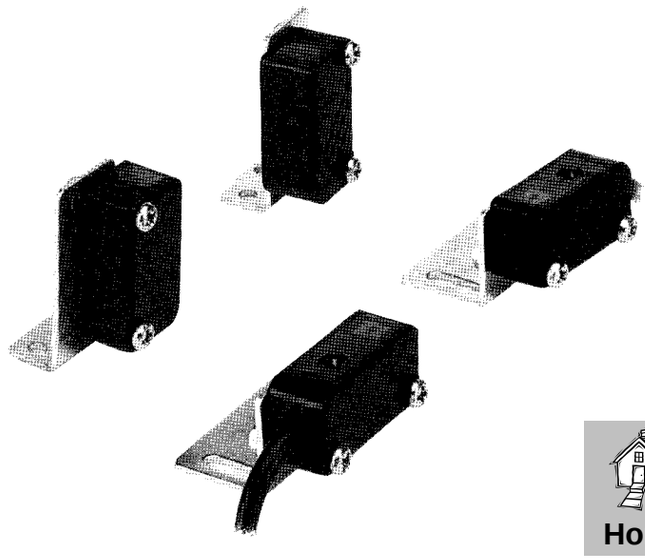
Photoelectric sensor detecting the target by syncronizing frequency.

■Features

- Compact size.W12×H16×D30mm
- minimizing the mulfunction from extraneous light by sycronizing frequency method.
- Built-in protection circuit against reverse power porarity and over current.
- High response:1mS Max.



Home

■Ordering information

Type		Detecting distance	Model	Operating voltage	Operating mode	Output
Through	⇑ ⇓	500mm	**BY500-TDT** (Sleeping type)	DC ⊣⊢	Dark ON	NPN open collector
			BYS500-TDT (Standing type)			

■Specification

Type	Through	
Model	Sleeping type	Standing type
	BY500-TDT	**BYS500-TDT**
Detecting distance	500mm	
Detecting target	Opaque materials of Min. ϕ5mm	
Response time	Max. 1mS	
Power supply	12 to 24VDC ±10% (ripple P-P:Max. 10%)	
Power consumption	Max. 30mA	
Source of light	Infrared LED	
Operating mode	Dark ON	
Control output	NPN open collector output ☞ load voltage Max. 30V,load current Max. 100mA, residual voltage Max. 1V	
Protection circuit	Short-circuit protection, Reverse polarity protection	
Indicator	Operating indicator : red LED	
Connection	Cable connection	
Insulation resistance	Min. 20MΩ(500VDC)	
Noise strength	Power line ±240V at pulse band 1μs of noise simulation	
Dielectric strength	1,000VAC 50/60Hz for 1minute	
Vibration	1.5mm amplitude at frequency of 10 to 55Hz in each of X,Y,Z directions for 2 hours	
Shock	500m/s² (50G) in X,Y,Z directions for 3 times	
Ambient operating illumination	Sunlight:11,000 Lux. Max., Incandescent lamp:3,000 Lux. Max.	
Ambient temperature	Operating:-10 to 60℃(non-freezing condition), Storage:-25 to 70℃	
Humidity	35 to 85% RH, Storage:35 to 85% RH	
Structure of protection	IP64(IEC specification)	
Material	Case:ABS, Lens:Acryl	
Cable	4P, ϕ4mm, length:2m	
Weight	About 150g	
Accessories	Mounting Bracket, Bolts/Nuts	

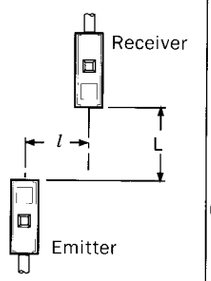
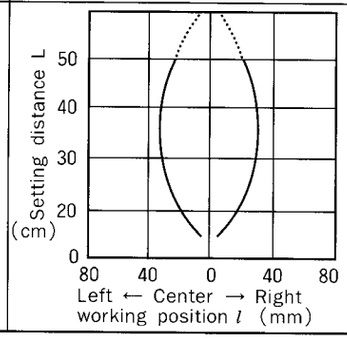
※The weight of above chart is net weight.

■Detecting characteristics

◎Through type

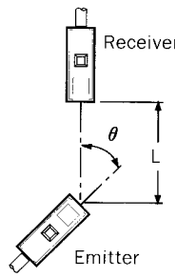
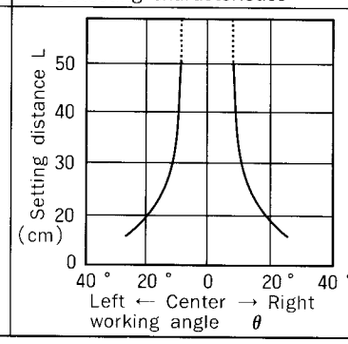
● BY500-TDT ● BY S500-TDT

The charactor in parallel transfer

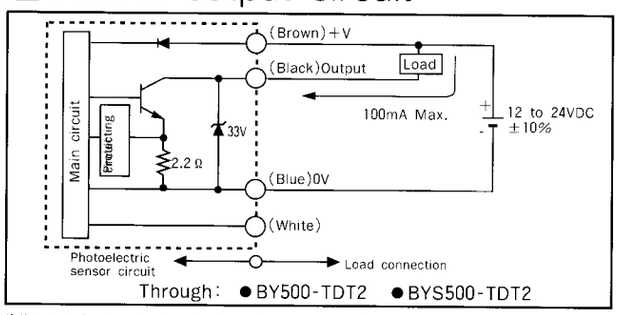
Detecting method	Detecting characteristics
	

● BY500-TDT ● BYS500-TDT

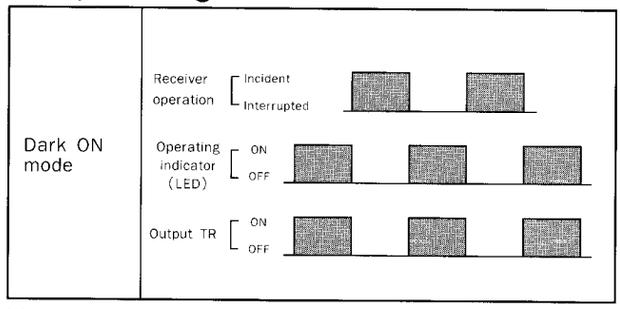
The charactor in angular transfer

Detecting method	Detecting characteristics
	

■Control output circuit

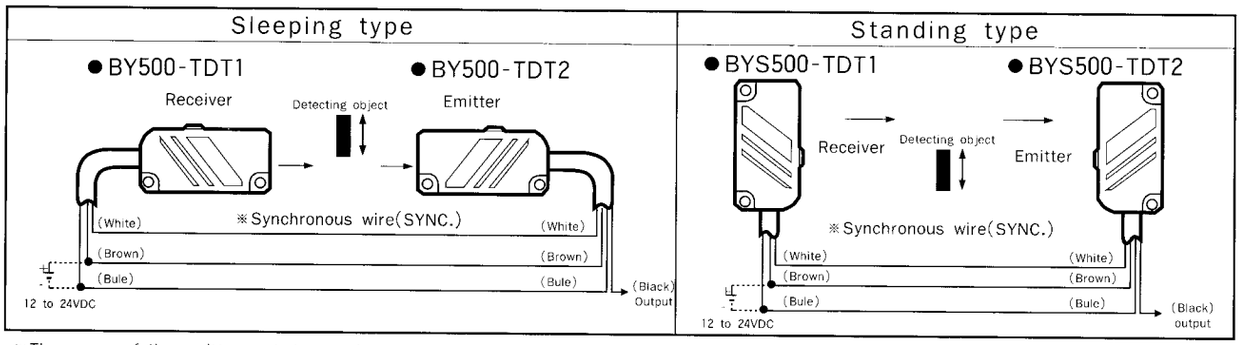


■Operating mode and time chart



If the control output is short-circuit or the over current flow in the output circuit, the control signal dose not output romally because the protection circuit operates.

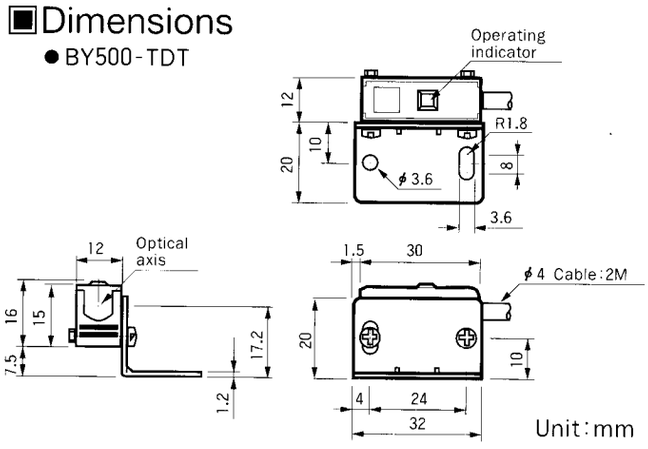
■Connections



※The power of the emitter and the receiver must be used with the same line.
※Synchronnous wire(white) of the receiver must be connected with that of the emitter.
※Non-using wires must be insulated.

■Dimensions

● BY500-TDT



● BYS500-TDT