

OPTICAL WIDE SENSOR SST100 SERIES

INSTRUCTION MANUAL

TAKENAKA ELECTRONIC INDUSTRIAL CO.,LTD.

Head office, factory : 20-1 Narano-cho, Shinomiya, Yamashina-ku, Kyoto, Japan, Zip code 607-8032
 Telephone : (075) 581-7111
 FAX : (075) 501-6877

- Thank you for using **TAKEX** products.
- Please read this manual carefully prior to sensor use.

SPECIFICATIONS

Model	SST104	SST108	SST112	SST116	SST120	SST124	
Transmitter	SST104L	SST108L	SST112L	SST116L	SST120L	SST124L	
Receiver	SST104R	SST108R	SST112R	SST116R	SST120R	SST124R	
Detection	Throughbeam						
Range	10m						
Object resolution	φ 60mm (Min) Opaque object (Refer to the chart below right)						
No. of optical axis	4	8	12	16	20	24	
Detecting width	120mm	280mm	440mm	600mm	760mm	920mm	
Optical axis pitch	40mm						
Power supply	12-24VDC ±10%, Ripple 10% (Max)						
Current consumption	25mA	40mA	55mA	70mA	85mA	100mA	
Output mode	Voltage / Current						
Rating	Voltage : Output impedance 4.7kΩ Current : Sink current 100mA, DC30V (Max)						
Operating mode	Light-On / Dark-On Selectable						
Response time	15ms (Max)						
Light source	Infrared LED, Wavelength 900nm						
Sensing cell	Photo-transistor						
LED indicator	Trns : Power (Green), Rcvr : Operation (Red), Light stable (Green)						
Switch	Light/Dark-On selectable switches (SW1, SW2) (Dark-On) (Light-On) (All Light-On) (All Dark-On) SW1...ON SW1...OFF SW1...ON SW1...OFF SW2...ON SW2...ON SW2...OFF SW2...OFF						
Material	Case : Aluminum, Lens : Plastic						
Connection	Connector, Trns : 3 pins, Rcvr : 4 pins Cabel, Trns : VCT 0.75mm ² ×3C, Rcvr : VCT 0.5mm ² ×4C, 5m each						
Weight (Max)	Transmitter	350 g	480 g	610 g	740 g	870 g	1,000 g
	Receiver	350 g	480 g	610 g	740 g	870 g	1,000 g

AMBIENT CONDITIONS

Ambient light (Max)
Withstands 6,000 lx

Operating temperature
-10 to +55°C

Operating humidity
Withstands 85%RH (Max)

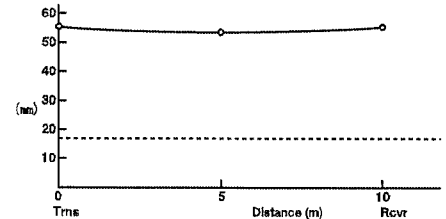
Case protection
IP 42 (IEC)

Vibration
10 to 55Hz, 1.5mm Amplitude
2Hr., 3 Directions

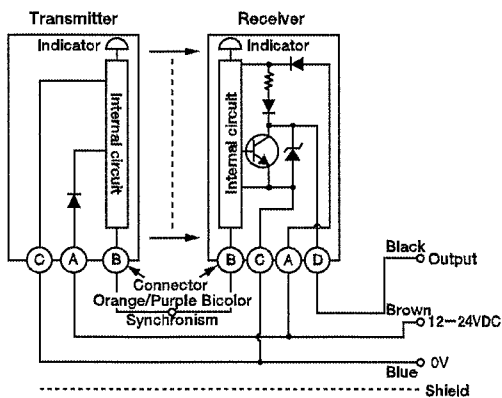
MINIMUM OBJECT DIAMETER

Data refers to the measurement of a continuous Dark-on object at three points : immediately before the light source, immediately before the light receiver, and halfway, when the setting distance is 10m.

- The table below indicates the following : object detection is :



OUTPUT CIRCUIT & WIRING

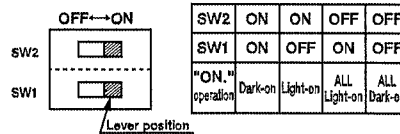


R = 4.7kΩ

- The output is a transistor (open collector) circuit with zener diode of 30V.
- Never reverse or short-circuit "Brown" and "Blue". The unit may be damaged.

OPERATING MODE SELECTION

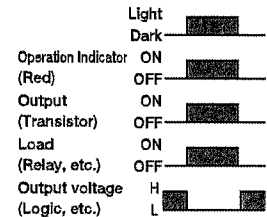
- Remove the mounted lid in the rear panel of a receiver unit.
- Using switches 1 and 2, the following operating modes can be selected : When the mounted lid in the rear panel has been removed :



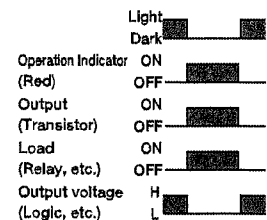
- (1) Dark-on operation
Outputs "ON" with Dark-on signal of 1 LED (light axis) or more.
● Use for the detecting of the passage of an indefinite object on an indefinite travel line.
- (2) Light-on operation
Outputs "ON" only with Light-on signal of all (light axis) or more.
● Use for detecting transparent sheet, holes in boards, and tears on webs.
- (3) All Light-on operation
Outputs "ON" only with Light-on signal of all LED's (light axis) received.
● Use to detect intrusion of specific height objects into an area.
- (4) All Dark-on operation
"ON" signal with Dark-on of all LED's.

OPERATING MODE & TIMING CHART

1. Light-On Operation (SW1 : OFF & SW2 : ON)



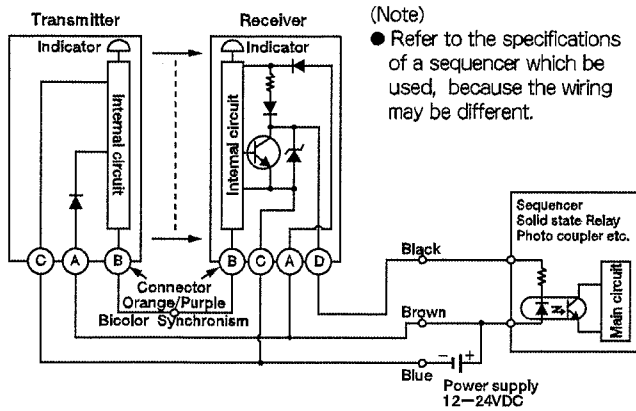
2. Dark-On Operation (SW1 : ON & SW2 : ON)



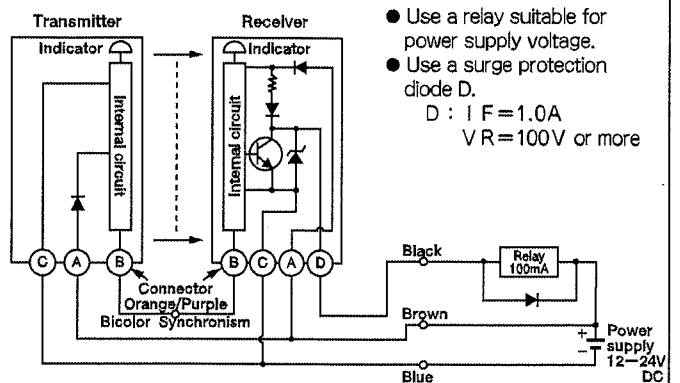
WIRING

The description within () indicates the old cable's color.

● Sequencer output connection

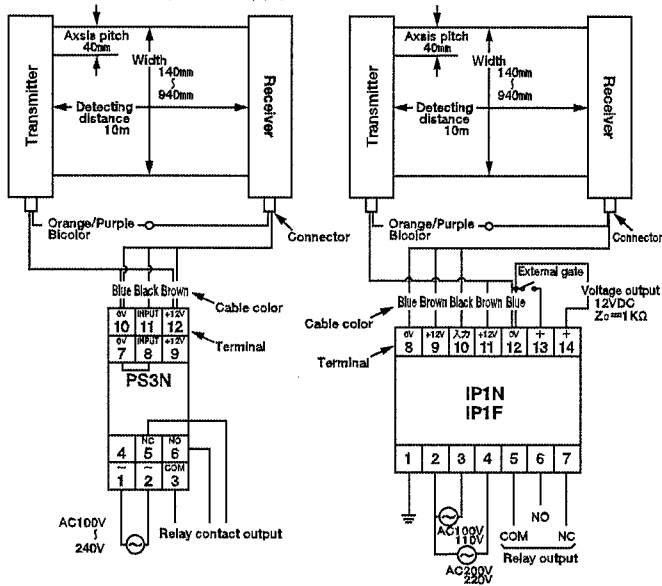


● Relay output connection

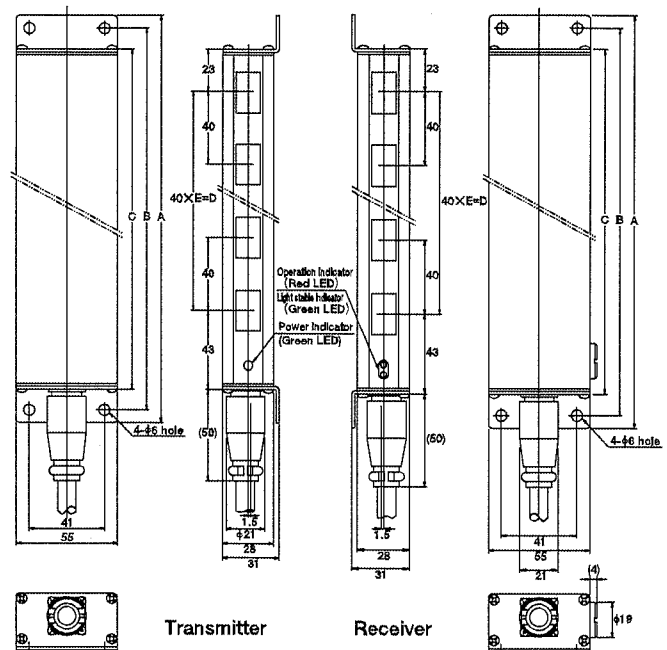


● Connection to PS3N / IP1N, IP1F power unit

- Use the available power unit when timer operation is required or no DC power supply is available.



DIMENSIONS (unit : mm)



NOTES

- Operating mode has been set in All Light-On operation. Select the mode required with removing the mounted lid on the rear panel of a receiver unit.
- Warm-up time delay of 1-2 sec. occurs after power is on.
- Never cycle on/off continually.
- Not use an auto-transformer but use an insulated transformer.
- Don't wire together with power line or high voltage line. Individual sensor wiring is required.
- When a commercial available switching regulator is used, ground the FG (frame ground) terminal.
- Avoid the installation of sensor near by high frequency equipment such as a fluorescent light or inverter.
- Available cable is $\phi 3\text{mm}$ (Min), within 30m length for extension.
- Use a soft, dry cloth for cleaning the lens and housing and wipe it off gently. Never use solvents such as thinner or alcohol.
- In case of using this product as UL approved equipment, use UL Class 2 power supply.

Models	A	B	C	D	E
SST104	223mm	209mm	186mm	120mm	3
SST108	383mm	369mm	346mm	280mm	7
SST112	543mm	529mm	506mm	440mm	11
SST116	703mm	689mm	666mm	600mm	15
SST120	863mm	849mm	826mm	760mm	19
SST124	1023mm	1009mm	986mm	920mm	23

Specifications and external dimensions described herein may be subject to change without notice, if necessary for the purpose of improvements.