

**OPTEX
FA**

Fiberoptic Sensor
JRF-T
· JRF-T□□

INSTRUCTION MANUAL

- Confirm if the item meets your needs.
- Before the use, you should first thoroughly read this manual and operate correctly as mentioned.
- You should keep this manual at hand for proper use.

4 AMPLIFIER UNIT / FIBER OPTICS

- Amplifier unit
 - Assembling
 - ① Latch the front on DIN Rail or Bracket.
 - ② Push the tail down until there is a distinct snap.
 - Removing
 - ① Pull off the lever (black) of the tail by ⊖ screw-driver.
 - ② Push the sensor toward ⇐ and lift the front.
- Fiberoptics
 - Assembling
 - Push the fiberoptic gently until Insertion Indicator raised and check the locking lever was locked.
 - Removing
 - Push the release lever to pull off the fiberoptic.

2 Maximum sensitivity setting (Hi positon)

- 1 Set the Mode Selector to SET position.
- 2 Through-beam-Press the Setting Button with detecting object, Diffuse-Reflection-Press the setting button without detecting object.

Through-beam

Light interrupted.

Diffuse-Reflection

Red indicator come up with a buzzer.
- 3 Set the Mode Selector to Run position. Now sensitivity setting is completed.
(note) If Mode Selector is set to Max position, Response time is fixed at 600μs regardless of the position of Response time selector.

3 Sensitivity setting

- 1 Place the fiber units within the scanning distance.
- 2 Set the Mode Selector to SET position.
- 3 Press the Setting Button with detecting object.
- 4 Operation indicator (Red) lights up with buzzer sounds.
- 5 Press again the setting button without detecting object.
- 6 Stability indicator (Green) lights up with buzzer sounds.

※Setting error is informed by the buzzer with both red and green LED flashing.

<How to reset>

- 1) Set the Mode selector to RUN position.
- 2) Set the Mode selector to SET position.
- 3) Resetting is completed. Adjust positioning of the object and try it again.

4 Setting with a moving object.

- 1 Set the Mode Selector to SET position.
- 2 Press the Setting Button once without detecting object.
- 3 Keep on pressing the button (3sec or more) while the object is running.
 - ※This sensor will decide the proper sensitivity judging from incident quantity given during the button pressed.
- 4 Release the Setting Button.
 - ※If sensitivity can not be set, repeat step 1-5 after reset (refer to section 3-6)
- 5 Set the Mode Selector to RUN position.

8 REMOTE SET FUNCTION

A remote adjustment of sensitivity is available without pressing Set Button.

- 1 Set the Mode Selector to RUN position.
- 2 Provide following Signal conditions.

NPN

PNP

Sensitivity Setting

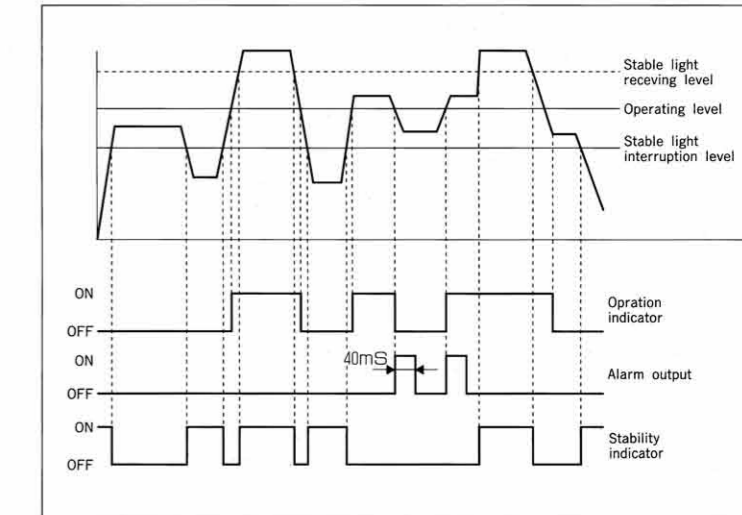
T₁: 1~3sec, T₂: 3~5sec, T₃: 1sec or longer

Maximum Sensitivity setting

T₁: 1~3sec

9 ALARM OUTPUT FUNCTION

Allowances for the received light amount are shown by stability indicator, also giving an output signal.



10 OPTICAL ALIGNMENT (THROUGH-BEAM)

When through-beam fiber unit are used, possible to search the adequate alignment by knowing a peak quantity of optics.

- 1 Set the Mode selector to SET position.
- 2 Move the fiber unit while pressing the setting button. (3 sec or more)
- 3 Stability indicator (Green) lights up.
 - Then move the fiber unit till Stability Indicator goes off.
 - Try to find the point which Stability indicator flashes.
 - Then try to find the point at which Stability Indicator stop flashing but lights up.
- 4 Release the setting button.
- 5 Set the Mode selector to MAX position.
- 6 Set the Mode Selector to SET position.
- 7 Try the sensitivity adjustment. (refer to section 7)

• Specifications and equipment are subject to change without any obligations on the part of manufacture.

• For more information, questions and comments regarding products, please contact us below.

Manufactured and sold by:
OPTEX FA CO., LTD.
600-8815 Kyoto, Shimogyo, Awata Chudoji 93, Japan
TEL: +81-(0)75-325-2920
FAX: +81-(0)75-325-2921
Website: <http://www.optex-fa.com>

1 SPECIFICATION

	Cable type	M 8 Connector type
Type	JRF-T (N,P)	JRF-TC (N,P)
Supply voltage	DC12~24V including 10% of ripple	
Current consumption	50mA Max	
Response time	300/600μs selectable by switch	
Light source	Red LED	
Indicator	Operation (Red) / Stability (Green) indicator	
Control output	open collector Max 100 mA/DC30V	
Alarm output	Open collector Max 30mA/DC30V	Not equipped
Timer function	OFF delay fixed at 40ms ※ 1	
Remote set function	Equipped	
Circuit protection	Reverse protection, Over current protection	
Ambient temperature	-25~55°C / 35~85% (no freezing)	
Environmental illuminance	Sunlight : 10000lx max. Incandescent light : 3000lx max.	
Protection category material	IEC IP66 Case : ABS cover : PC	

※ 1 OFF delay timer can be turned off by switch.

2 WIRING

※No Alarm output function is involved in Connector types.

NPN output

Pins configuration

Pins No.
① 12~24VDC
② Remote Set
③ 0V
④ Control output

PNP output

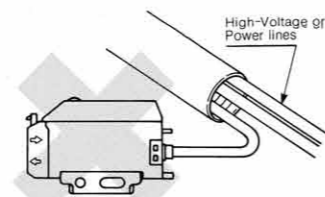
Caution

○ When alarm output is not used, tape the lead wire to avoid other electrical contact.

○ When Remote set is not used, connect the lead wire to 12~24 VDC (NPN) or to 0V (PNP). Otherwise tape it to avoid other electrical contact.

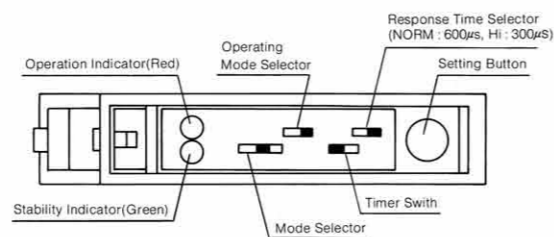
5 OTHER PRECAUTIONS

- Be careful not to install the sensor at the following locations, as it may otherwise malfunction.
 - Where a lot of dust, Vapor, or the like is present.
 - Where corrosive gas is produced.
 - Where water, oil or the like flies directly onto the sensor.
 - Where strong vibration or shock is caused to the sensor.
- Do not use organic solvent, such as thinner, to remove contaminants from the body case, lid, and lens which are all of plastics. Using a dry rag, just wipe clean.
- When a switching regulator is to be used with a power supply, be sure to ground the Frame Ground Terminal.
- Do not use the sensor in a transient state at power on. (about 100ms)
- Do not run sensor cable near a high-voltage lines, or power lines or put them together in the same raceway. This warning should be strictly observed to prevent malfunctions caused by inductive interference.



⚠ Must not use this item as safety equipment for the purpose of human body protection.

6 NAME OF PARTS



7 SENSITIVITY ADJUSTMENT

- ※ At first, set the Response Time Selector to Hi position or NORM position. (Notice)
- Scanning distance will be shorten to 70~80% of maximum capability with Response Time Selector at Hi position.

1 Maximum Sensitivity setting. (NORM position)

- 1 Set the Mode selector to the MAX position. Now the sensitivity setting is completed.

3 DIMENSIONS

