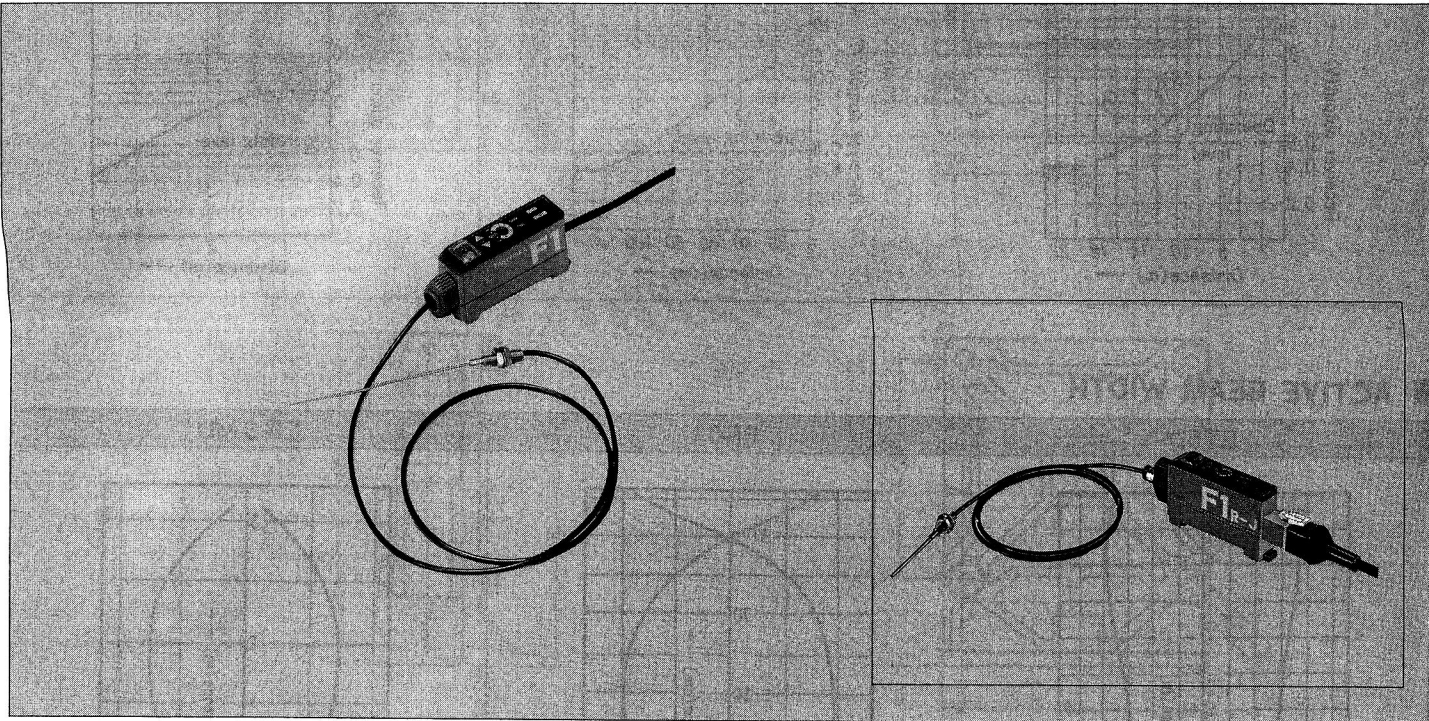


F series

FIBER OPTIC SENSOR
F1

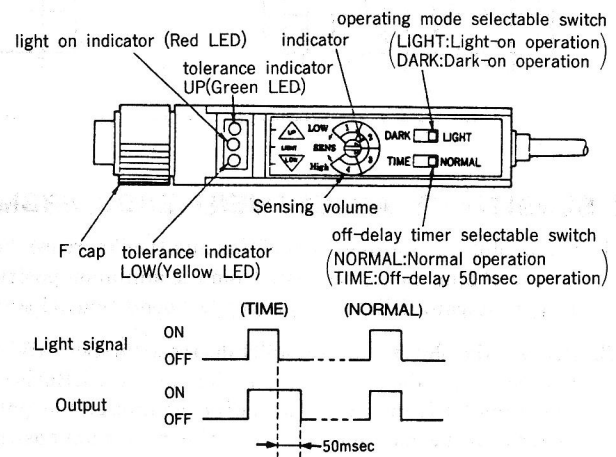
- The fiber optic sensor consists of a photosensor body and fiber optic cable.



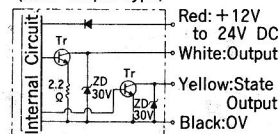
FEATURES

- One-touch On/Off DIN-rail mounting.
- Short circuit protection built-in.
- 4-turn potentiometer enables a broad sensitivity setting.
- 500 μ sec response and 50 msec Off-delay output can be used for various kinds of applications such as sequencers.
- Dual output allows either Light-on or Dark-on output.
- The fiber optic can be mounted to sensor with one touch.

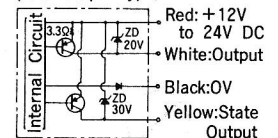
PANEL OPERATION AND OUTPUT CIRCUIT



(NPN Output type)



(PNP Output type)



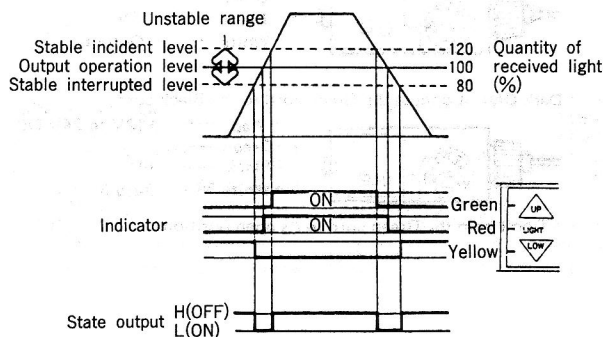
- Loaded short circuit or overload shuts off, the output transistor is off Turn the power back on after checking the loaded condition.
- State output has no short circuit protection built-in.

SPECIFICATIONS

Models	F1R	F1G	F1	F1RPN	F1GPN	F1PN
Light source (wavelength)	Red LED (660nm)	Green LED (570nm)	Infrared LED (950nm)	Red LED (660nm)	Green LED (570nm)	Infrared LED (950nm)
Power supply	DC 12V to 24V $\pm 10\%$, Ripple 10% (Max.)					
Current consumption (Max.)	35mA					
Operating mode	Light/Dark-ON Selectable Timer functions selectable					
Delay time	50msec					
Output mode	Open collector, NPN			Open collector, PNP		
Rating	Sink current 100mA at 30VDC, Short circuit protection built-in					
State output	Open collector, NPN			Open collector, PNP		
Rating	Sink current 100mA at 30VDC					
Hysteresis	10% (Reflection)					
Response time	500 μ sec (Max.)					
Ambient light	Withstands 3,000Lux					
LED indicators	Light (Red) Tolerance UP(Green), Low(Yellow)					
Sensitivity	4 Turns VR with indicator					
Operating temp.	-25°C to $+55^{\circ}\text{C}$					
Humidity	Withstands 85% RH					
Case protection	IP40 (IEC), ABS resin					
Vibration	10~55Hz, 1.5mm Amplitude, 2HR, 3Directions					
Connection	Flying lead, 2m Length					
Cable	4 Wire					
Weight (Max.)	60g					
Recommended power units	IP1N, IP1F, IP2F					

INDICATOR AND DIMENSIONS

- The tolerance indicator lights when the quantity of received light has a sufficient margin in regards to the output operation level at the time light is interrupted or not interrupted.



When the quantity of received light is higher than the detectable limit for light-reception operation or lower than the detectable limit for light-interruption operation, the photosensor can stable operate without being influenced by environmental factors such as ambient temperature.

State Output (Refer to the timechart shown above.)

- The state output indicates the detection status, which is turned to the ON status when the quantity of received light is within the unstable range. This output detects a decrease in the quantity of received light caused by contaminants or misalignment of the light axis. The output can also detect an increase in the quantity of received light caused by background reflection when a reflection-type fiber unit is used, or when an increase is caused by diffraction. Thus, the state output can function as a self-diagnostic unit.

