TAKEX

ANALOG SENSOR
with built-in amplifier

IR3AN Instruction Manual

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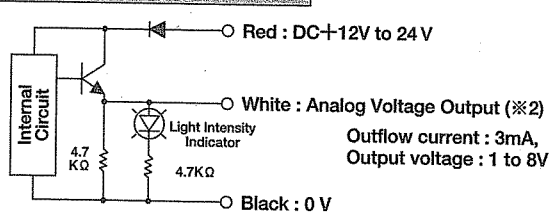
● Thank you for using **TAKEX** products. ● Please read this manual carefully prior to sensor use.

RATING/PERFORMANCE/SPECIFICATIONS

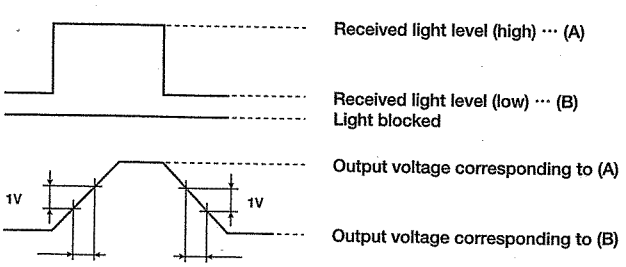
Model	IR3AN
Detecting Method	Diffuse Reflection
Detecting Range	40−300㎜ (※1)
Light Source (Light Wave Length)	Infrared LED (860nm)
Power Supply	12−24VDC ±5% / Ripple 2% max.
Current Consumption	30mA max.
Operate Configuration	Voltage output in proportion to reflective light intensity
Output Configuration	Effective voltage range : 1 to 8V (NPN emitter follower) (※2)
Rating	Current consumption 3mA max.
Slew Rate	1V / ms max.
Temperature Drift	0.15% / ℃ max.
Output Ripple	80mV max.
Ambient Light	10,000 l x max. (※3)
Indicators	Light intensity (Red)
Volume (VR)	Sensitivity adjustment volume provided (variable)
Ambient Temperature	−10−+55℃ (non-freezing)
Relative Humidity	35−85%RH (non-condensing)
Protective Structure	I P 66
Vibration	10−55Hz / 1.5㎜ amplitude / 2 hours each in 3 directions
Shock	1,000m/s² / twice each in 3 directions
Case Material	Zinc alloy die-cast
Connection	Permanently attached cord (outer dimension : dia.4.2), 0.3sq.× 3−core
Mass	Approx. 120g
Accompaniment	Mounting bracket, Instruction manual

(※1) 100㎜×100㎜ White paper (※3) The output fluctuates by 10% under the illuminance.

INPUT & OUTPUT CIRCUIT



EXPLANATION OF SLEW RATE



※ Above figure indicates that it takes 1ms per 1V to generate the voltage output corresponding to the change of received light level.

TEMPERATURE DRIFT

● The voltage of the output changes 0.15% per 1℃ for variation of the temperature. In case that output voltage is 5V and the temperature changes by 50℃, the output will vary by 5×0.0015×50=0.375V by calcuration.

OUTPUT CONFIGURATION

● The voltage output is indicated from 1 to 8V.
This means "1 to 8V" is an effective range for output.
Some products may output 9V occasionally. It is caused by dispersion of electrial parts and not an abnormality of the product.
● Do not use the output less than 1V due to unstable range.

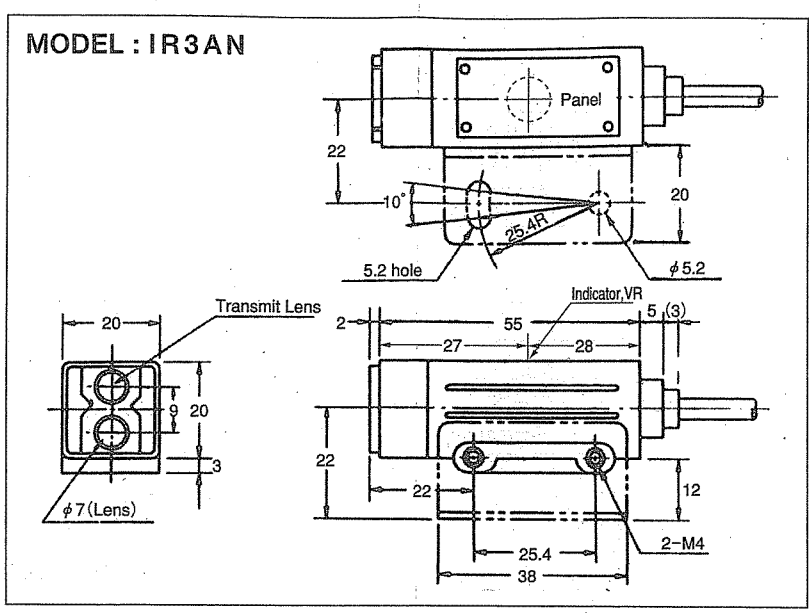
OUTPUT RIPPLE

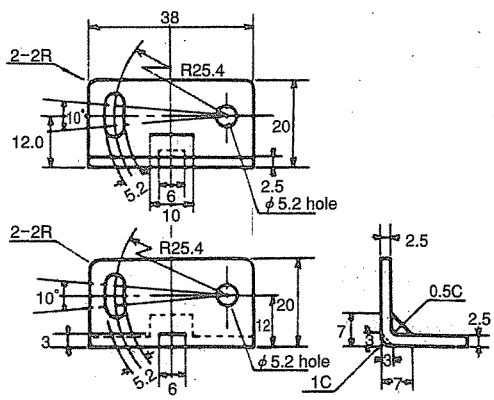
● It is 80mV at maximum. This value is necessary to determine the hysteresis of the comparator. The ripple increases when the output voltage becomes low, and it falls in proportion that the output voltage rises up.
It is less than 50mV at around middle point.

NOTE

- Clean the lens by a soft and dry cloth, periodically.
- Do not install and wire the sensor where strong electromagnetic noises are generated, like the periphery of power lines.
- When using a DC power unit with an insulated transformer or a switching regulator, be sure to ground the frame ground (FG) terminal.
- Limit the current of the power supply to 2A in accordance with the size of the sensor cable.
- If the attached mounting bracket is not used, insulate the sensor in order to prevent inductive noises.
- M4 screw must be used for installation and the tightning torque should be 1N.m or less.

DIMENSIONS (in mm)





- This sensor is designed to detect a specific object. It is not provided with control functions for prevention of injuries or accidents in itself.
- Takex will not held responsible for any damage or loss incurred due to accidents, faulty installation, abuse, misuse, improper maintenance or acts of God including lightning surge.
- Specifications and dimensions may be subject to change without notice.