MD0052 / E18-D80NK

Infrared Obstacle Distance

Instruction Guide

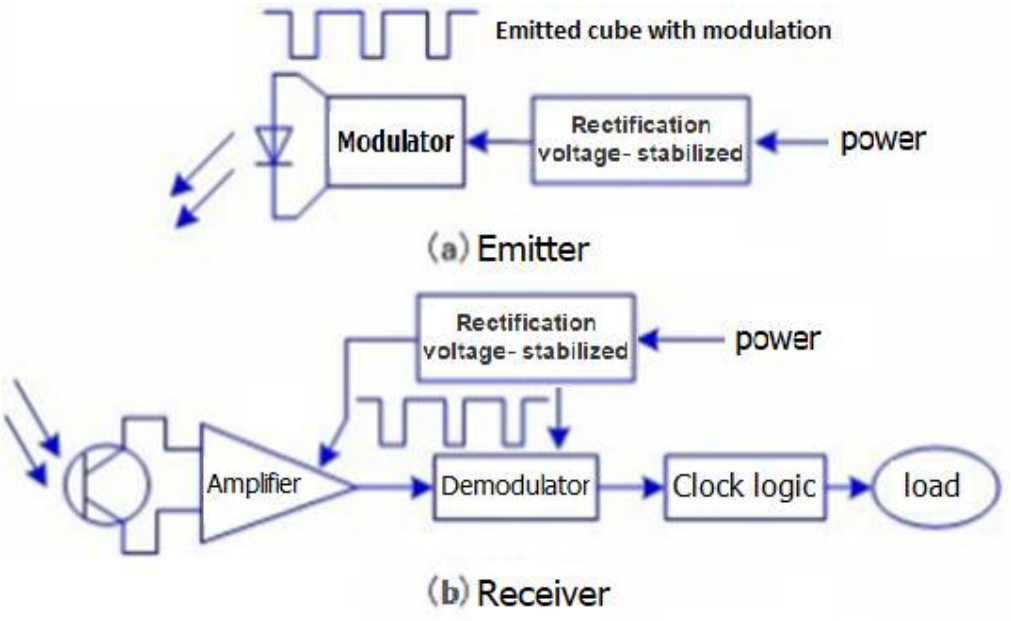
E18-D80NK-N is upgraded version of E18-D80NK. The altered part is internal circuit board and external wiring. The dupont head is added at the end of sensor, which is convenient for user.
E18-D80NK-N is the photoelectric sensor that integrates emitting and receiving . The emitted light is sent through modulation, and the receiving head modulates and outputs the reflected light,which effectively avoid the interference of visible light. The use of the lens makes this sensor can detect the distance of 80cm at the farthest(due to the features of infrared light , the maximum distance detected of different color objects is distinct. The distance that white objects detect is farthest and for black objects, the detected distance is closest).
The distance to detect obstacles can be adjusted by the potentiometer knob at the rear as required. Widely used in many occasions such as robot obstacle avoidance and counting number on production lines , the sensor has the characteristics of long detection distance, small interference by visible light, low price, easy assembly and convenient use.

Electrical characteristics:

Red: VCC; Black: GND; Blue: OUT.
Working voltage: 5VDC
Working current: 10-15mA
Drive current: 100mA
Sensing range: 3-80cm
Sensing object: Translucency, opaque
Supply voltage: DC5V
Output operation: Normally open(O)
Output: DC three-wire system(NPN)

Note: wire the lead correctly please, otherwise the sensor will be damaged.

Schematic Diagram



Mechanical properties

Color: Orange
Diameter: 18mm
Length: 45mm
Lead length: 20cm, with DuPont head

Applications:

1.Automatic counting equipment for production line
2.Multi-purpose reminder
3.Robot walking the maze
Note: When wiring, please avoid the fault of wiring power supply to ground. This operation may cause permanent damage to the sensor; please add a pull-up resistor at the signal output end
In order to guarantee the reliability and long life service of sensor. please use it under the specificated condition. Although this sensor is water-resistant structure, please avoid it contact with water, water-soluble cutting oil and chemicals especially in strong alkali, acid, nitric acid, Ming acid, hot concentrated sulfuric acid and other gases, which can efficiently improve reliability and life service.

Q & A

1. Q: Is it a digital sensor or an analog sensor?
A: This is an NPN type photoelectric switch; the output state is 0,1, which is the high and low level in the digital circuit.
2. Q: What is the level output of the detected target object?
A: The detected target is low level output, and the normal state is high level output;
3. Q: Can it be connected to the IO port of the microcontroller?
A: It can be connected to the IO port by adding a pull-up resistor.

4. Q: What is the resistance of the pull-up resistor?
A: The resistance is generally around 1K