System-level Photoelectric Switch

Introduction

System-level photoelectric switch is controlled by microprocessor (MCU). It can be meet the application requirements and use scenarios for different customers. This product integrates infrared receiver, transmitter, MCU, signal processing unit and output control unit. It has strong anti-photoelectric interference ability, stable and reliable performance and small size.
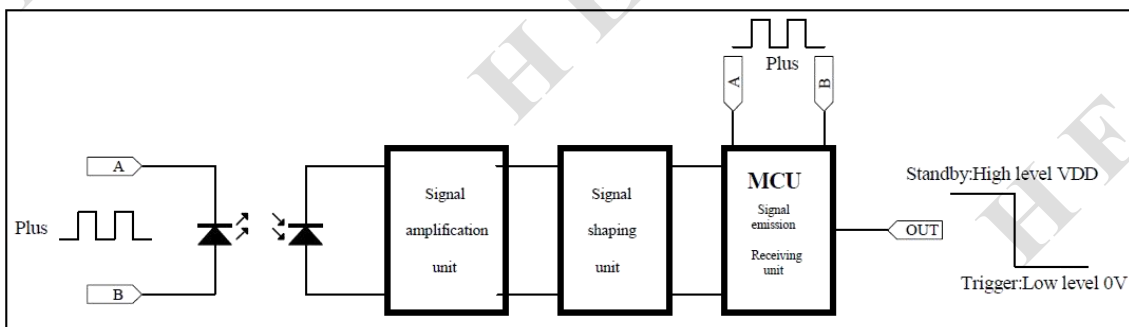
This product is suitable for various household appliances, such as multi-gesture logic function control, lighting fixture switch and brightness control, display backlight control, toys, intelligent trash cans, object motion direction recognition and other consumer products and other induction control scenes.

The dimensions of this product can be customized according to customer requirements.
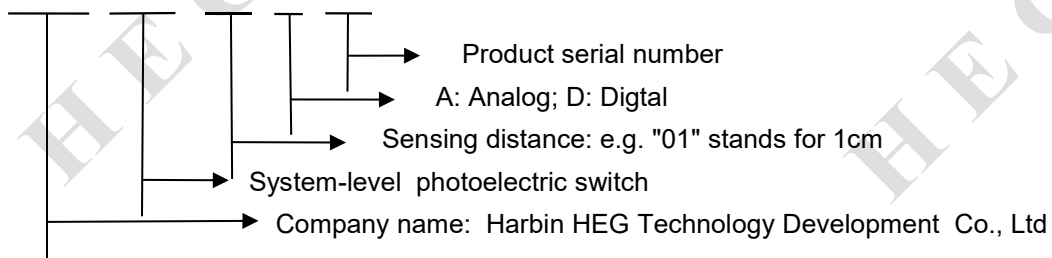
Working Principle

The infrared transmitter emits coded infrared signals. When the detection direction encounters an obstacle (reflecting surface), the reflected infrared light is received by the receiving module, processed by the signal processing unit, and then enters the MCU for calculation and processing. When it is determined that there is an obstacle in front, the output signal line changes from the original high-level signal to the low-level signal, which is connected with the MCU IO port or other control interfaces of the customer product. By detecting the level signal of the signal line, peripheral control or other applications can be realized.

Functional Block Diagram

Model Naming Rules

HEG-SPS-XX-X-XX

→ Product serial number
→ A: Analog; D: Digtal
→ Sensing distance: e.g. "01" stands for 1cm
→ System-level photoelectric switch
→ Company name: Harbin HEG Technology Development Co., Ltd

Product Features

1、Volume: 14mm×8.5mm×3.75mm;

2、Sensing distance: 5-100cm,High sensitivity; See test method for details;

3、Light immunity: strong immunity to ambient light.

Product Appearance Picture

HEG-SPS-XX-D-01

Main Technical Parameters of Products

Main Parameter	Numerical Value	Unit	Remarks
Operating Voltage (DC)	3.0-5.5	V	Recommend:VDD=3.3V-5.0V
Signal Output Mode	GPIO	/	During standby: the pin signal is high level VDD; When triggered: the pin signal is changed from high level VDD Change to low level signal 0V;(customizable)
Output Drive Current	≤10.0	mA	Test condition:VDD=3.3V
Outline Dimension	L*W*H 14*8.5*3.75	mm	Customizable
Port	8Pin	mm	8 Patch pin

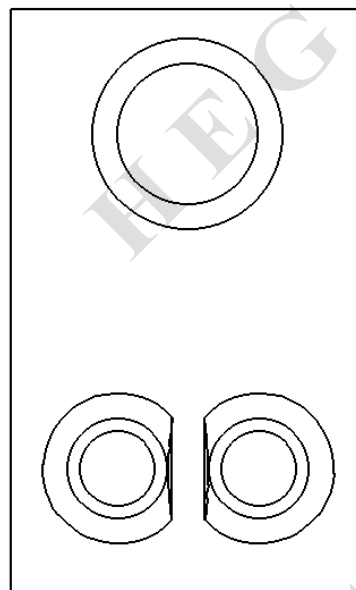|			
Inductive Distance	d=5-100	cm	Test condition:VDD=3.3V; See below for test methods; When transparent glass or infrared transparent panel is set in front of the sensor, the distance between the sample and the panel ≤1mm; (customizable)
Sensing Angle	< 30	degree	/

Test Method
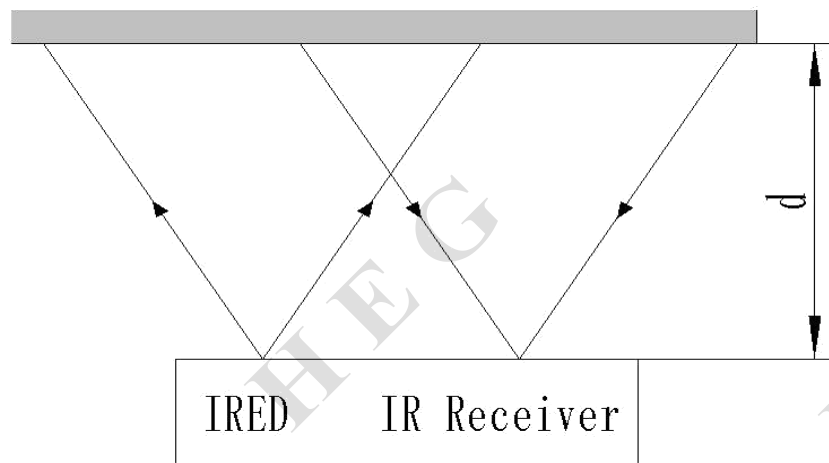
HEG-SPS-XX-D-01

Instructions for Product Use

OUT 1   8 GND

NC 2   7 NC

VDD 3   6 NC

NC 4   5 VDD

Pin Number	Pin Name	Description
1	OUT	Signal output
2	NC	NC
3	VDD	Dc power supply positive terminal
4	NC	NC
5	VDD	Dc power supply positive terminal
6	NC	NC
7	NC	NC
8	GND	Dc power supply negative terminal

Overall Dimension Drawing (unit: mm)

1、Unit：mm；

2、Dimensional tolerance：±0.05mm；