

深圳市能點科技有限公司

SHENZHEN EPT TECHNOLOGY CO., LTD.

## SPECIFICATION



**FS-IR1902D**

Single-point photoelectric level sensor



Version : **A**

Date : **2019.03.10**

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## 1. Application

Medical devices or equipment

Electrical equipment

Electrical appliances and equipment's etc. requiring liquid-level control□

## 2. Product features

No mechanical moving components and with high reliability

Strong corrosion resistance

High liquid level control precision and can be installed from any direction

The sensor itself satisfies RoHS requirements

Waterproofing standard IP68

## 3. Electrical Specification ( Ta=25°C )

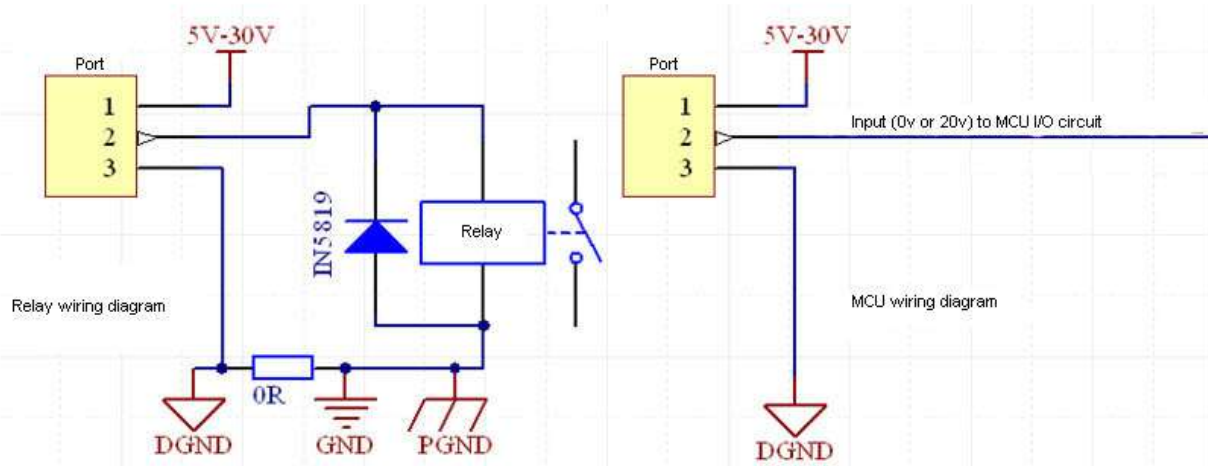
	Parameter	Symbol	Condition	Min	Typ	Max	Units
direct-current characteristic	Working Voltage	VDD		5	24	25	V
	current	IDD	VDD = 24V in water	—	<15	—	mA
			VDD = 24V in air	—	<15	—	mA
	power consumption	PD	VDD = 24V in water	—	<360	—	mW
VDD = 24V in air			—	<360	—	mW	
output characteristic	output voltage in water	VO1	VDD = 24V Ta = 25°C	—	<0.30	—	V
	output voltage in air	VO2	VDD = 24V Ta = 25°C	—	>20	—	V
	output current	IOL	VDD = 24V Ta = 25°C	—	<2	—	mA
	output current	IOH	VDD = 24V Ta = 25°C	—	<200	—	mA
	response time		VDD = 24V Ta = 25°C	—	<1	—	S
limit value	Operating Temperature	Topr	VDD = 24V	-20	—	125	°C
	Storage Temperature	Tstg	—	-40	—	135	°C
	Working Time	Wt	VDD = 24V Totg = 25°C	—	50000	—	h
	pressure range			-10	5	10	bar

## 4. Recommended Application Circuit



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This specification is the standard for the operation of the corresponding products. It will be used as the basis for production and supply after confirmation by the customer. If you have special requirements, please contact our sales and issue an acknowledgement.



**Note:**

1. When the output signal of the sensor connected to an external inductive load, it must Parallel IN5819 Schottky diodes. Or the chip may be burnt out.
2. The current can't be over 200mA.
3. When drawing PCB layout, there should be an 0R resistance between DGND and GND
4. When the PGND current is too big, connecting it to GND can't avoid the influence on sensor, then the sensor need to be powered independently.

The output signal is suggest to be Optocoupler drive

**5. Application & Detection**

Install level sensor according to one of the mentined modes and connect it according to above circuit, the signal end will output voltage signal consistent with the water level, the signal will be accessed to MCU or I/O port. When the level is over the critical level and the sensor body is submerged, output signal is high votage; When the level is below the critical level and the sensor body is exposed, output signal is low voltage. Please refer to specific parameters as above table.

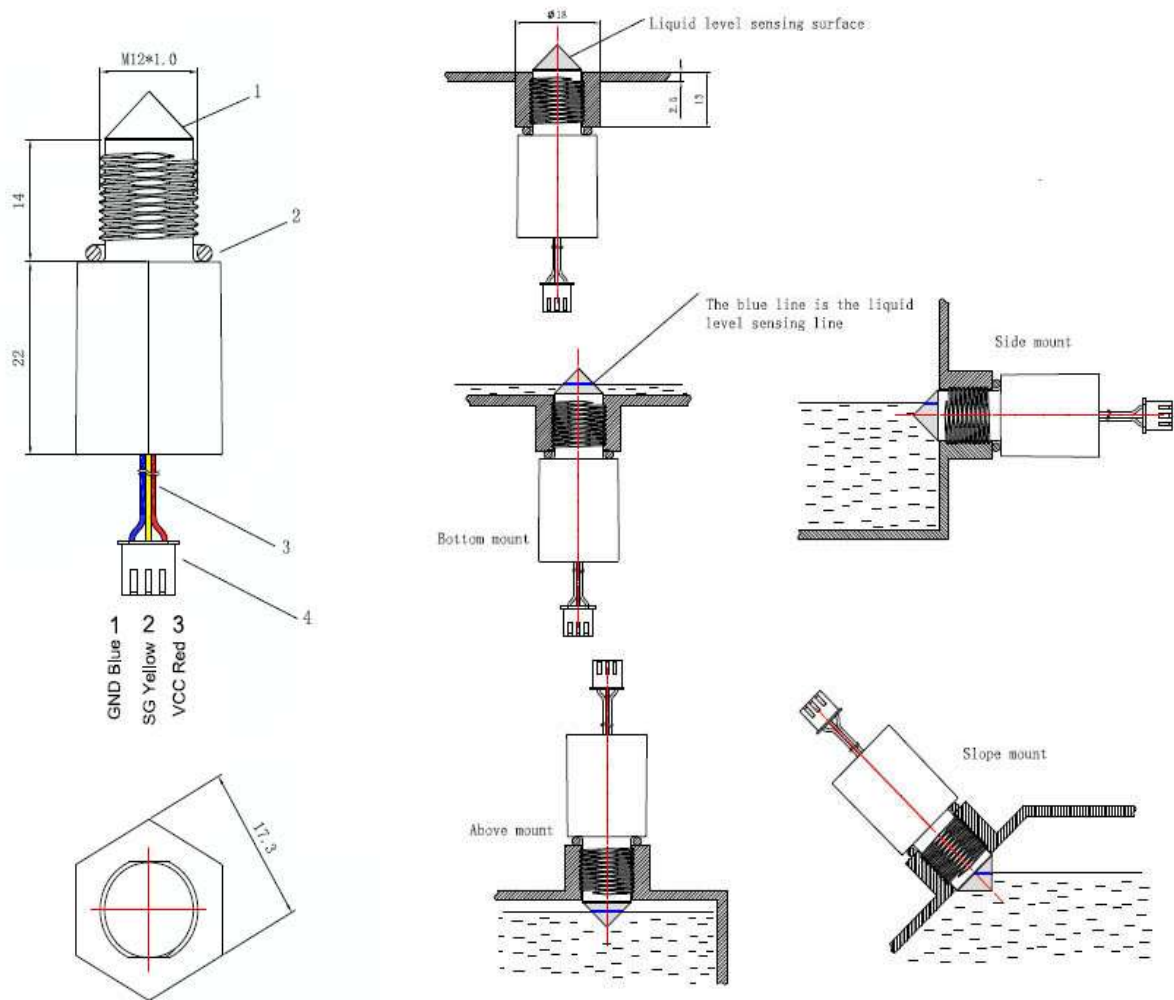
1. In the long-term of using, the surface of the sensor is dirty due to liquid impurities, slight dirt will not affect the performance of the sensor. If dirt would cover all the surface of sensor, please inform us the particularity in advance, our technical department can optimize the treatment.
2. The sensor will be effected when exposed to direct sunlight. Please install it away from direct sunlight.
3. The sensor installed in the transparent water tank will be disturbed. Please avoid installing it on the transparent water tank.

**6. Outline Drawing and Recommended installation**



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