

# SY-DS-1 Series

Dew Sensor



**SY-DS-1L**



**SY-DS-1N**

## Scope of application

These specifications are applicable to the dew sensor SY-DS-1 series.

## Type

### 1) SY-DS-1N

SY-DS-1 harness type without metal plate.

### 2) SY-DS-1L

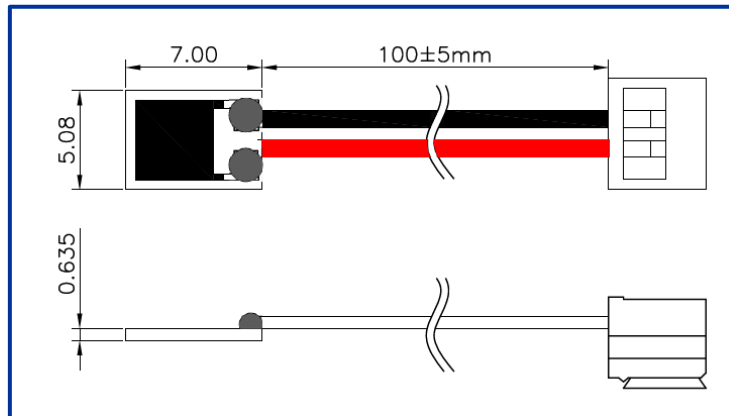
SY-DS-1 Lead pin type.

## Electrical characteristics

Rated voltage	: DC AC 0.8V Max.
Operating temperature range	: 0°C ~ +60°C
Operating humidity range	: 0%RH ~ 100%RH
Storage condition range	: -20°C ~ 85°C
Standard characteristic	: 10kΩ Max. at 80%RH
	: 100kΩ Max. at 93%RH
	: 200kΩ Max. at 98%RH

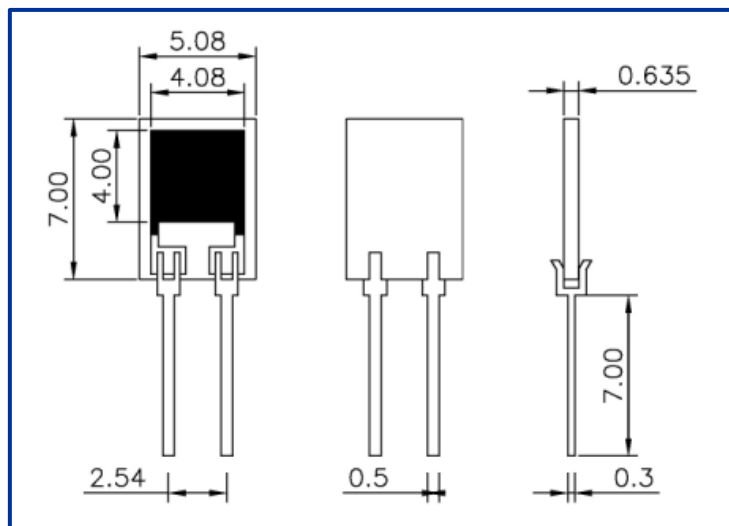
## Dimension and Component Parts

**SY-DS-1N**



No	Component parts	Material
1	Dew sensor	Alumina substrate (t=0.64mm)
2	Harness	UL 1061 #26, 100mm
3	Connector	YH200-02

**SY-DS-1L**



No.	Component parts	Material
1	Dew sensor	Alumina substrate (t=0.64mm)
2	Lead pin	Pb-free Lead pin

\* The tolerance is in compliance with control standard of supplier.

## Reliability

### 1) Temperature cycle

Here, one cycle shall be to leave for 30 minutes under  $-40^{\circ}\text{C}$ , continue to leave for 30 minutes under  $+85^{\circ}\text{C}$ . Temperature changing time is 60 minutes repeat such 5 cycles. Thereafter, to be satisfied with characteristics specification.

### 2) Dew cycle

Here, one cycle shall be to leave 1 minute under wetting at room temperature, continue to leave for 57 minutes under natural drying at room temperature. Repeat such 50 cycles. Thereafter, to be satisfied with characteristics specification.

### 3) Humidity resistance

Leave for 1,000 hours in the environment of  $40^{\circ}\text{C}$  and 95%RH.  
Thereafter, to be satisfied with characteristics specification.

### 4) Heat resistance

Leave for 1,000 hours in the environment of  $85^{\circ}\text{C}$ .  
Thereafter, to be satisfied with characteristics specification.

### 5) Humidity loaded

Load the voltage of DC 0.8V for 1,000 hours in the environment of  $40^{\circ}\text{C}$ , 90 to 95%RH.  
Thereafter, to be satisfied with characteristics specification.

### 6) High temperature loaded

Load the voltage of DC 0.8V for 1,000 hours in the environment of  $60^{\circ}\text{C}$ .  
Thereafter, to be satisfied with characteristics specification.

## Remarks on using

### Protection of humidity sensitive part

- ◆ Don't scratch it.
- ◆ Don't touch it with bare hands.
- ◆ Don't stain it with adhesive agent, flux, grease, oil.
- ◆ Don't expose it more than  $85^{\circ}\text{C}$  for a long time.
- ◆ Don't wash it with ionized water.
- ◆ Don't touch it with organic solvents.

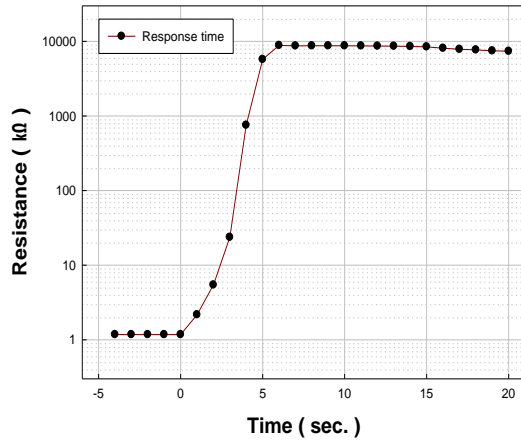
### Caution in mounting

- ◆ Don't remount harness or lead pin. It is possible that electrode may be broken.
- ◆ Don't pull the harness or lead pin powerfully. It is possible that electrode may be stripped off, or lead pin may be torn.
- ◆ Don't shock and force it. It cracks because sensor board is a ceramics.

## Characteristic Chart

### Response characteristics

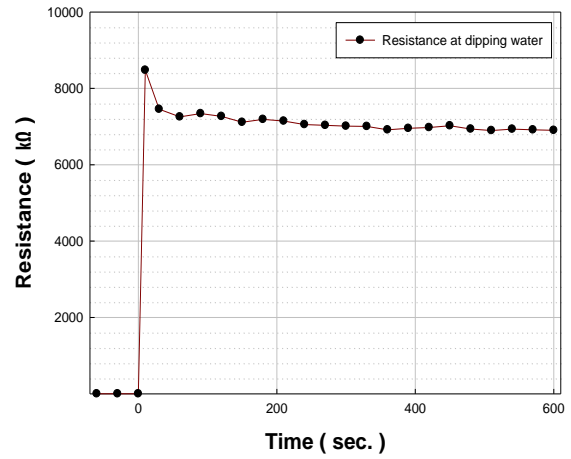
※ Test condition : 25°C, 75%RH → 25°C  
Dew condition (Dipping water)



**Fig 1.** Response time

### Resistance characteristics at dipping water

※ Test condition : 25°C Dew condition  
(Dipping water)



**Fig 2.** Characteristics

## Revision History

Date	Version	Page(s)	Changes
03 AUG 2016	1.5		First Release
06 JAN 2017	1.6		Complete Revision (Characteristics, Dimension, Reliability, Layout)

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