

For Reference Only

# Product Specifications

## HSU – 07 Series

Humidity Sensor Unit

**HOKURIKU ELECTRIC INDUSTRY CO.,LTD.**

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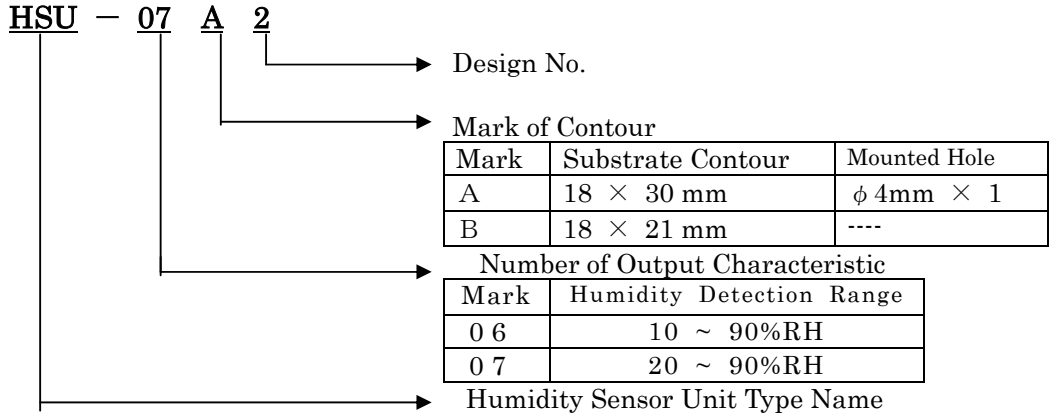
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# 1. Application

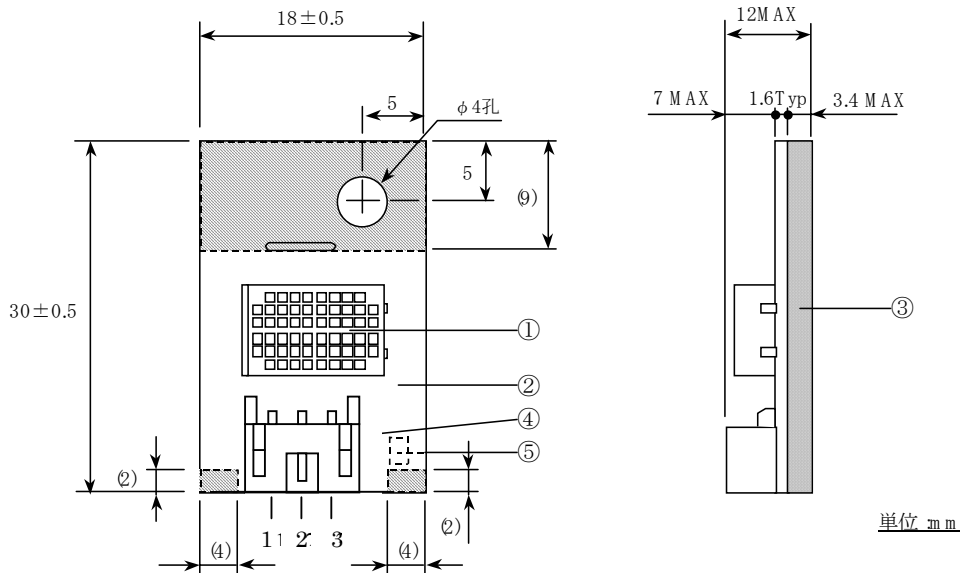
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This specification shall be applied to the relative humidity sensor [HSU-07].

## 2. Type Designation



## 3. Outline Dimensions



※斜線部は部品実装禁止領域とする。

Mounting of a part is prohibited on the hatched area.

Connector Pin Arrangement

No.	Name	Mark
1	Power Source Terminal	Vcc
2	Output Terminal	Vout
3	Ground Terminal	GND

Parts Component Table

Parts No.	Name	Material and Specification
①	Humidity Sensor	HIS-06
②	Printed Circuit Board	Paper Phenol UL94V-0 t=1.6mm
③	SMD Mount Surface	
④	Connector	CT connector S3B-PH-K-S, 2mm pitch, 3 Pin manufactured by JST

## 4. Absolute Maximum Ratings

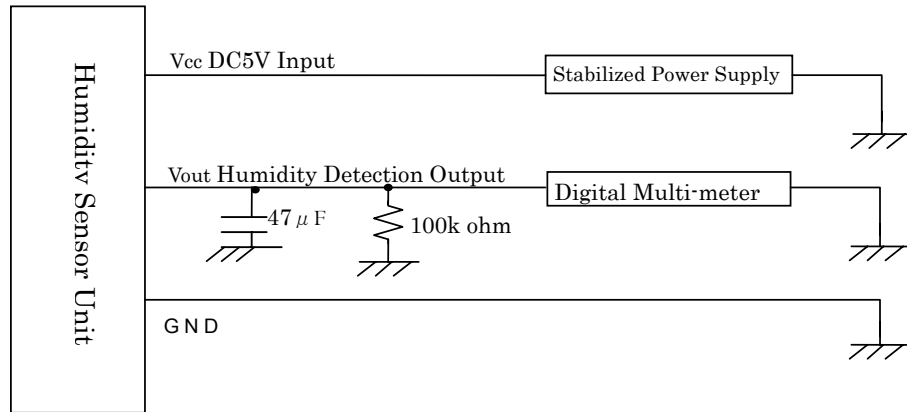
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No.	Item	Rated Value
1	Rated Voltage	DC 0 ~ 7 V
2	Operating Temp. Range	-20 ~ +60 °C
3	Operating Humidity Range	20 ~ 90 %RH
4	Storage Temp. Range	-25 ~ +70 °C
5	Storage Humidity Range	0 ~ 90 %RH (Do not let it have dewdrops.)

## 5. Recommended Line Voltage Range

DC:5V +/- 0.25V

## 6. Measuring Circuit



## 6. Electrical Characteristics

The condition regarding the table below is 25deg.C in temperature and operating voltage 5V.  
(The one for the output shift caused by the line voltage variation is not included.)

Item		Conditions	Min.	Typ	Max.	Unit
Humidity Detection Output (Accuracy)	40%RH	-----	1.578 (-5%RH)	1.744	1.888 (+5%RH)	V
	60%RH	-----	2.120 (-5%RH)	2.220	2.318 (+5%RH)	V
Consumption Current	I cc	60%RH		1.30		mA
Hysteresis Characteristics		30 ~ 90 %RH		+/- 1		%RH
Humidity Response Characteristics		30%RH⇔90%RH Wind speed 1.2 cm/sec. (90% arrival)	-----	3.5	-----	minutes

## 8. Reliability Tests

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No.	Test Item	Test Condition	Criteria
1	Drop Test	Drop the test piece one time from the height of 1m in each of X, Y and Z directions onto the lauan material of 30 mm thickness.	The sample shall not have any abnormality in the appearance and the humidity detection output shall be in the electric characteristics of item 7.
2	Heat Shock	The samples are subjected to 10 cycles of 2 hours' exposure of each of -25deg.C and +70deg.C (Do not let it have dewdrops.)	The variation of the humidity detection output shall be within +/- 5% against the initial value.
3	Exposure to High Temperature	The samples are exposed to a temp. of +70deg.C for 1000 hrs.	
4	Exposure to High Humidity	The samples are exposed to a temp. of +40deg.C with 95%RH for 1000 hrs.	
5	Exposure to Low Temperature	The samples are exposed to a temp. of -25deg.C for 1000 hrs.	
6	Load Life	The samples are subjected to a consecutive electric load in the normal temperature and humidity for 1000 hrs.	

\*1)The measurement of the humidity detection output is done after 15 minutes has passed with the advantage way-type precision humidity producing device after the temperature humidity setting.

\*2)The measurement of the reliability test parts is done after they are left for more than two hours in the normal temperature and the normal humidity.

## 9. Notes for Use

(1)Do not get the product wet in the water, and do not let it have dewdrops.  
Characteristics may change permanently.

(2)Do not make foreign materials such as a solvent, oil and fat stick to the humidity sensor. It may stop fulfilling normal features.

(3)Do not use for medical apparatus (application involving risk of affecting life).

# 10. Temperature Humidity Characteristics of HSU-07 (for Reference)

