

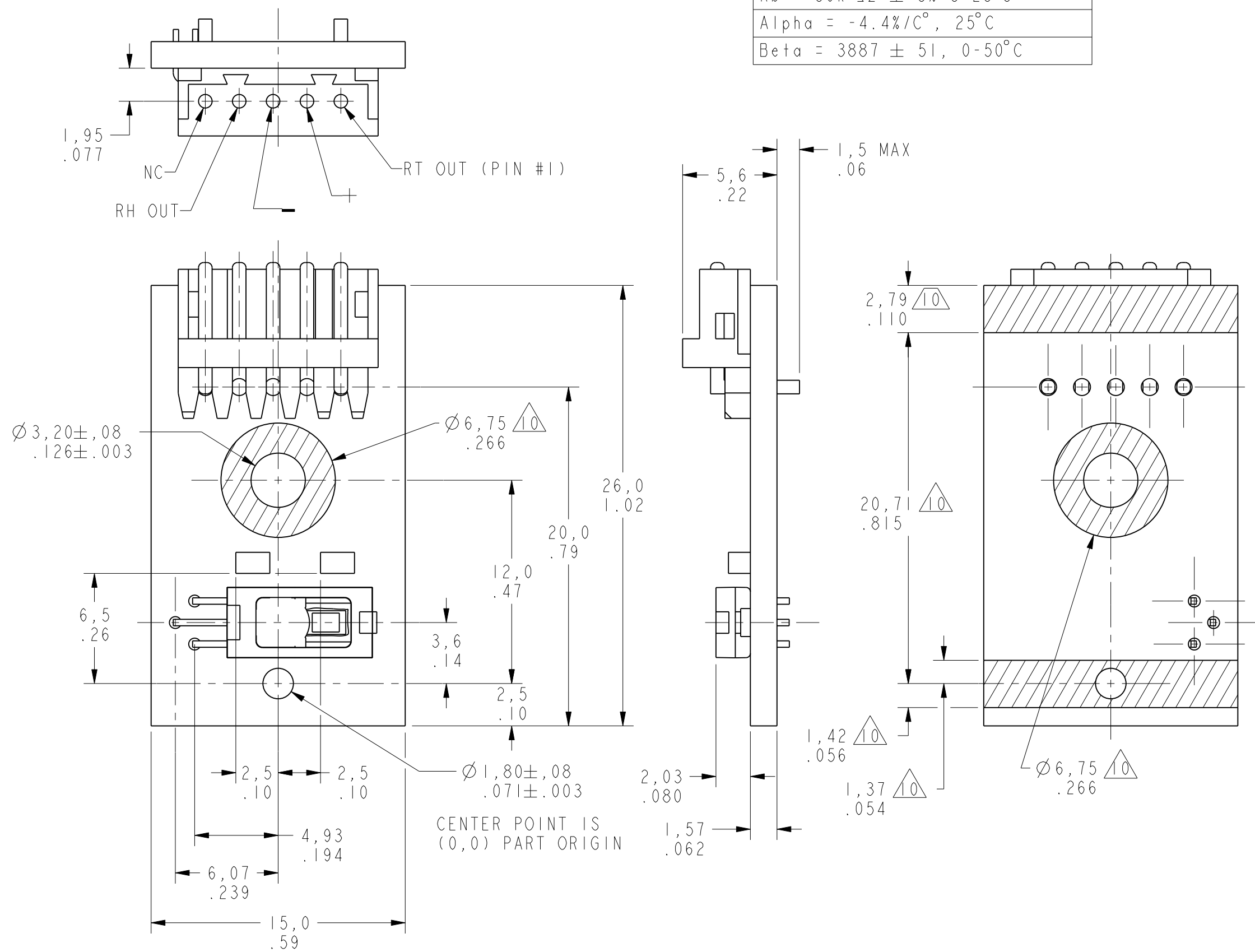
HONEYWELL  
PART NUMBER  
HIH-4101-001

TEMPERATURE SENSOR  
NTC THERMISTOR  
Rb = 30k Ω ± 5% @ 25°C  
Alpha = -4.4%/C°, 25°C  
Beta = 3887 ± 51, 0-50°C

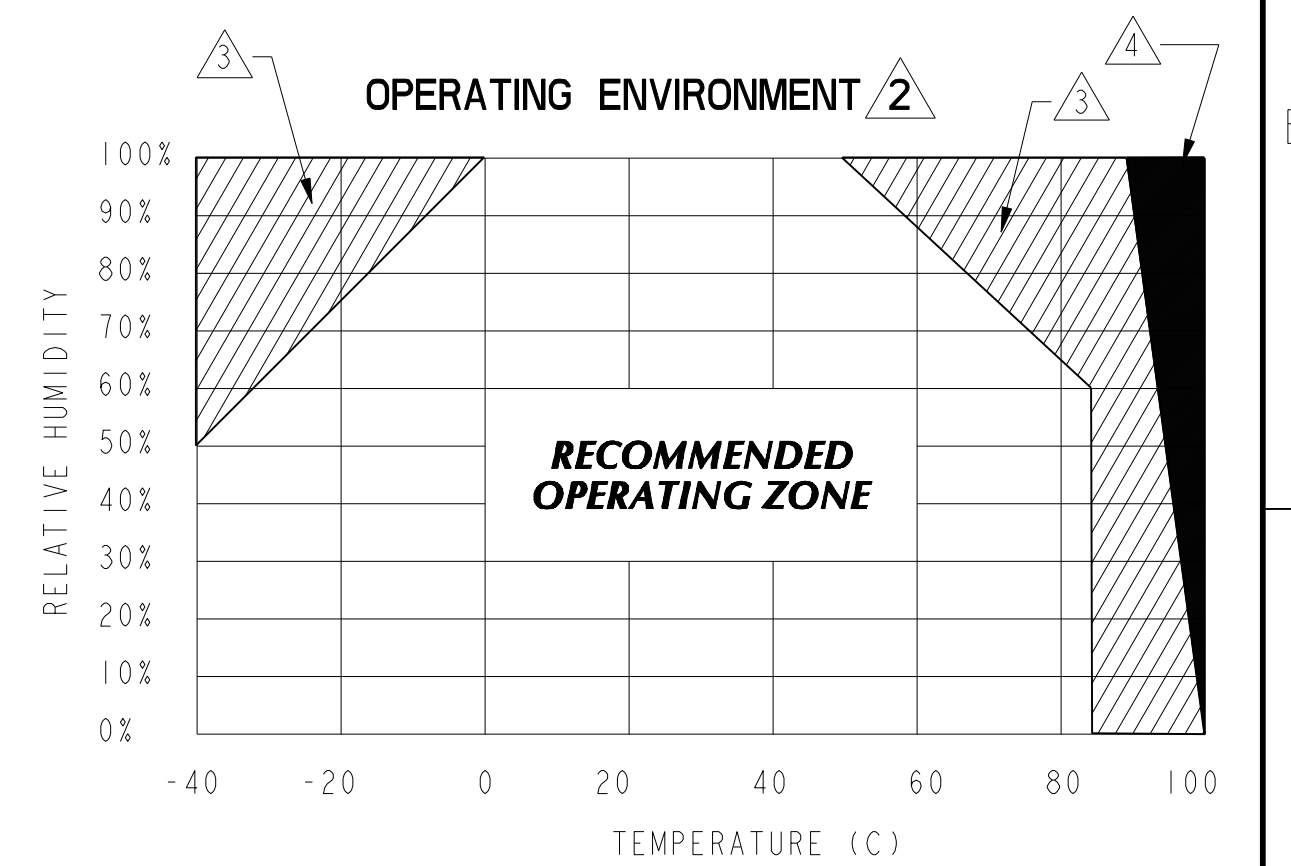
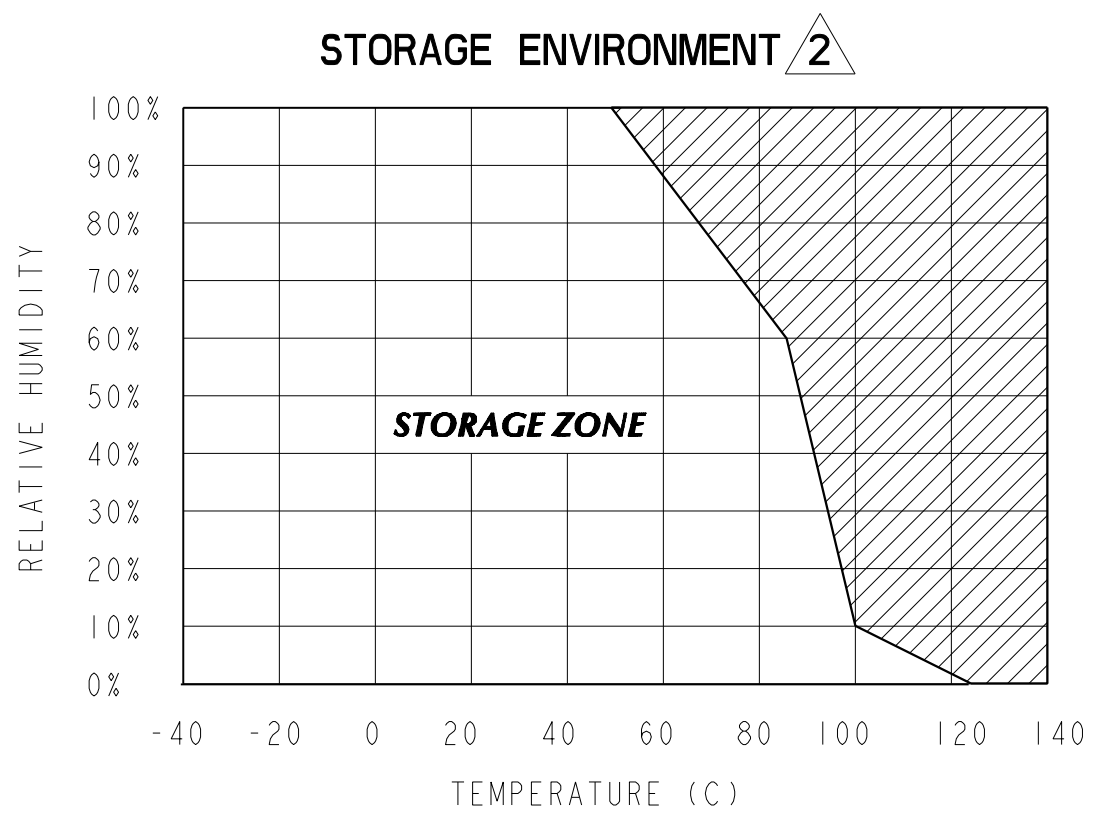
REV	DOCUMENT	CHANGED BY	CHECK
A	0012971	KR 05MAY05	AK

**OPERATING CHARACTERISTICS**  
at 5.0 VDC AND 25°C UNLESS OTHERWISE NOTED

SPECIFICATION	MIN	TYP	MAX	UNITS
INTERCHANGEABILITY				
	0 to 60%RH	-5	5	% RH
	60% to 100%RH	-8	8	% RH
ACCURACY, (BFSL)		±3.5		% RH
ACCURACY, (2nd ORDER CURVE)		±2.5		% RH
HYSTERESIS		3		% RH
REPEATABILITY		±0.5		% RH
SETTLING TIME			70	mS
RESPONSE TIME, 1/e IN SLOW MOVING AIR		50		Sec.
STABILITY, AT 50%RH IN 1 YEAR <sup>⑤</sup>		±1.2		% RH
STABILITY, AT 50%RH IN 1 YEAR <sup>⑥</sup>		±0.5		% RH
POWER REQUIREMENTS				
	VOLTAGE SUPPLY	4	5.8	VDC
CURRENT SUPPLY		500		μA
VOLTAGE OUTPUT, 1st ORDER CURVE FIT <sup>①</sup>	V <sub>out</sub> =(V <sub>supply</sub> )(0.0062(SENSOR RH)+0.016) TYP at 25°C			
VOLTAGE OUTPUT, 2nd ORDER CURVE FIT	V <sub>out</sub> =0.00003(SENSOR RH) <sup>2</sup> +0.0281(SENSOR RH)+0.820, TYP at 25°C			
TEMPERATURE COMPENSATION	V <sub>out</sub> =(0.0305+0.000044T-0.000011T <sup>2</sup> )(SENSOR RH)+(0.9237-0.0041T+0.000040T <sup>2</sup> ), T=TEMPERATURE IN °C			
OPERATING TEMPERATURE	-40	SEE CHART	85	°C
OPERATING HUMIDITY <sup>②</sup>	0	SEE CHART	100	% RH
STORAGE TEMPERATURE	-50		125	°C
STORAGE HUMIDITY <sup>②</sup>	SEE CHART			% RH



- NOTES
- ① - DEVICE IS TESTED AT 5 VDC AND 25°C
  - ② - NONCONDENSING ENVIRONMENT
  - ③ - OPERATING ZONE LIMITED TO <50 HOURS
  - ④ - NO SPECIFICATION ZONE
  - ⑤ - INCLUDES TESTING OUTSIDE OF THE RECOMMENDED OPERATING ZONE
  - ⑥ - INCLUDES TESTING WITHIN THE RECOMMENDED OPERATING ZONE ONLY
  - 7 - DEVICE IS RATIO-METRIC TO SUPPLY VOLTAGE
  - 8 - EXTENDED EXPOSURE TO >=90% CAUSES A REVERSIBLE SHIFT OF 3% RH
  - 9 - THIS SENSOR IS LIGHT SENSITIVE AND SHOULD BE SHIELDED FROM BRIGHT LIGHT TO ACHIEVE BEST PERFORMANCE
  - ⑩ - INDICATES COMPONENT AND TRACE KEEP OUT ZONE
  - 11 - MATING CONNECTOR TYCO P/N 292253-5
  - 12 - SHORT CIRCUIT OUTPUT CURRENT; 10 -100μA



**CAUTION**  
ELECTROSTATIC SENSITIVE DEVICES  
DO NOT OPEN OR HANDLE  
UNTIL AFTER  
STATIC FREE MONITORING

ESD SENSITIVITY:  
CLASS 3

DESIGN UNITS: MM  
TOLERANCES UNLESS NOTED:

NO PLACE	X	±	1.000
ONE PLACE	.X	±	0.4
TWO PLACE	.XX	±	0.15
THREE PLACE	.XXX	±	0.005
FOUR PLACE	.XXXX	±	0.0050
ANGLES	X	±	3

DRAWN KR 05MAY05  
CHECK AK 05MAY05

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INTERPRET PER ASME Y14.5M-1994 OTHER HONEYWELL ENGINEERING STANDARDS MAY APPLY

Pro/ENGINEER 3D

**Honeywell**

TITLE  
**SENSOR, ASSEMBLY (RH)**

SIZE <b>C</b>	TYPE <b>I</b>	DRAWING NAME <b>HIH-4101-001</b>	REV <b>A</b>
SCALE -	SHEET 1 OF 1		