

# Honeywell

## Interactive Catalog Replaces Catalog Pages

Honeywell Sensing and Control has replaced the PDF product catalog with the new **Interactive Catalog**. The **Interactive Catalog** is a power search tool that makes it easier to find product information. It includes more installation, application, and technical information than ever before.



**Click this icon to try the new  
Interactive Catalog.**

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**Sensing and Control**  
Honeywell Inc.  
11 West Spring Street  
Freeport, Illinois 61032



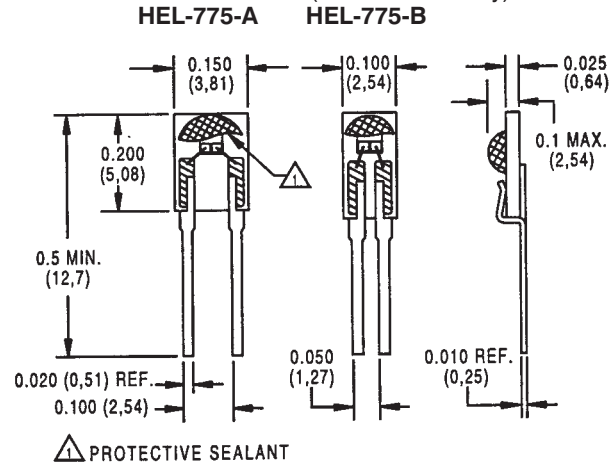
- HVAC – 100m, duct and refrigerant equipment
- Instrument and probe assemblies
- Electronic assemblies – temperature compensation
- Process control – temperature regulation

The 1000Ω, 0.00375 α/Ω version, provides 10x greater sensitivity and signal-to-noise. The 0.050" lead space models are ideal for probes.

### ORDER GUIDE

<b>HEL-775-A</b>	Ceramic SIP pkg. 0.100" lead spacing
<b>HEL-775-B</b>	Ceramic SIP pkg. 0.050" lead spacing
<b>-U</b>	1000Ω, 0.00375 Ω/Ω/°C
<b>-T</b>	100Ω, 0.00385 Ω/Ω/°C, DIN specification
<b>-0</b>	±0.2% Resistance Trim (Standard)
<b>-1</b>	±0.1% Resistance Trim (Optional)

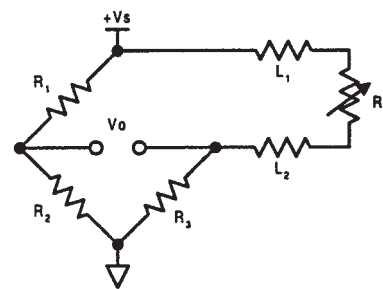
### MOUNTING DIMENSIONS (for reference only) mm/in.



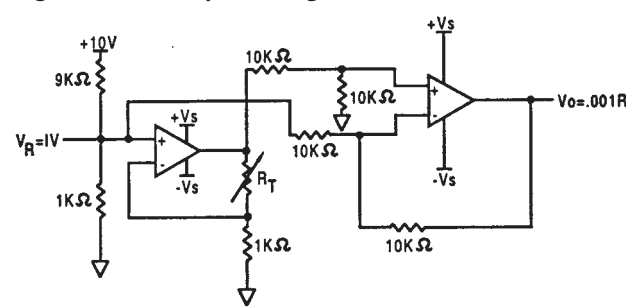
### CAUTION PRODUCT DAMAGE

The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation, take normal ESD precautions when handling this product.

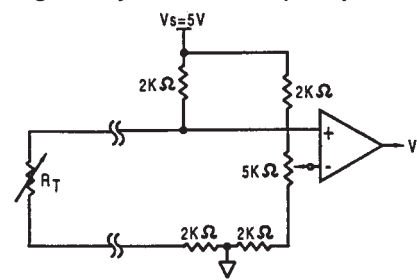
**Fig. 1: Wheatstone Bridge 2-Wire Interface**



**Fig. 2: Linear Output Voltage**



**Fig. 3: Adjustable Point (Comparator) Interface**



Temperature

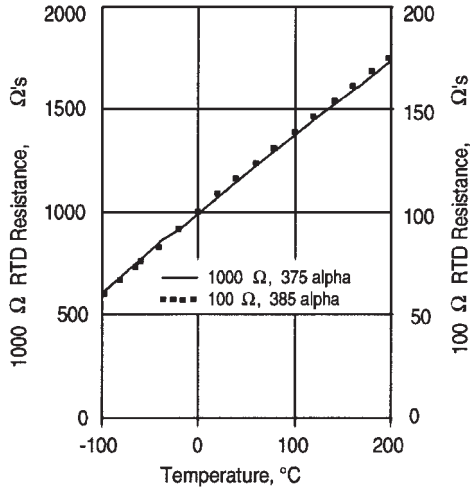
<b>Delta, <math>\delta</math> (<math>^{\circ}\text{C}</math>)</b>	$1.605 \pm 0.009$	$1.4999 \pm 0.007$
<b>Beta, <math>\beta</math> (<math>^{\circ}\text{C}</math>)</b>	0.16	0.10863
<b>A (<math>^{\circ}\text{C}^{-1}</math>)</b>	$3.81 \times 10^{-3}$	$3.908 \times 10^{-3}$
<b>B (<math>^{\circ}\text{C}^{-2}</math>)</b>	$-6.02 \times 10^{-7}$	$-5.775 \times 10^{-7}$
<b>C (<math>^{\circ}\text{C}^{-4}</math>)</b>	$-6.0 \times 10^{-12}$	$-4.183 \times 10^{-12}$

Both  $\beta = 0$  and  $C = 0$  for  $T > 0^{\circ}\text{C}$

200	5.6	1.6	4.3	1.2
300	8.2	2.4	6.2	1.8
400	11.0	3.2	8.3	2.5
500	12.5	4.0	9.6	3.0
600	15.1	4.8	10.4	3.3

\* 1000 $\Omega$  RTD. Divide  $\Delta R$  by 10 for 100 $\Omega$  RTD.

## RESISTANCE VS TEMPERATURE CURVE



## SPECIFICATIONS

Sensor Type	Thin film platinum RTD: $R_0 = 1000 \Omega @ 0^{\circ}\text{C}$ ; $\alpha = 0.00375 \Omega/\Omega/^{\circ}\text{C}$ $R_0 = 100 \Omega @ 0^{\circ}\text{C}$ ; $\alpha = 0.00385 \Omega/\Omega/^{\circ}\text{C}$
Temperature Range	$-55^{\circ}$ to $+150^{\circ}\text{C}$ ( $-67^{\circ}$ to $+302^{\circ}\text{F}$ )
Temperature Accuracy	$\pm 0.5^{\circ}\text{C}$ or 0.8% of temperature, $^{\circ}\text{C}$ ( $R_0 \pm 0.2\%$ trim), whichever is greater $\pm 0.3^{\circ}\text{C}$ or 0.6% of temperature, $^{\circ}\text{C}$ ( $R_0 \pm 0.1\%$ trim), whichever is greater (optional)
Base Resistance and Interchangeability, $R_0 \pm \Delta R_0$	$1000 \pm 2 \Omega$ ( $\pm 0.2\%$ ) @ $0^{\circ}\text{C}$ or $100 \pm 0.2 \Omega$ ( $\pm 0.2\%$ ) @ $0^{\circ}\text{C}$ $1000 \pm 1 \Omega$ ( $\pm 0.1\%$ ) @ $0^{\circ}\text{C}$ or $100 \pm 0.2 \Omega$ ( $\pm 0.2\%$ ) @ $0^{\circ}\text{C}$ (optional)
Linearity	$\pm 0.15\%$ of full scale for temperatures spanning $-55^{\circ}$ to $150^{\circ}\text{C}$
Time Constant	<10 sec. in air at 10 ft./sec.
Operating Current	1 mA maximum in still air for $<0.3^{\circ}\text{C}$ ( $0.5^{\circ}\text{F}$ ) self heating
Stability	$<0.05^{\circ}\text{C}$ per 5 years in occupied environments
Self Heating	HEL-775-A 9.7mW/ $^{\circ}\text{C}$ nominal in air at 10ft/sec, 4.3mW/ $^{\circ}\text{C}$ nominal in enclosed still air HEL-775-B 6.8mW/ $^{\circ}\text{C}$ nominal in air at 10ft/sec, 3.0mW/ $^{\circ}\text{C}$ nominal in enclosed still air
Insulation Resistance	$>50 \text{ M}\Omega @ 50 \text{ VDC @ } 25^{\circ}\text{C}$
Construction	Alumina substrate with epoxy protection
Lead Material	Phosphor bronze with bright tin lead 60/40 plating
Lead Configuration	2-wire

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