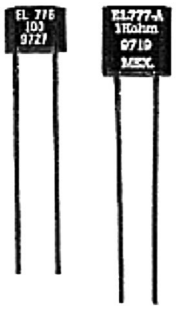
Honeywell

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.

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



FEATURES
- Linear resistance vs temperature
- Accurate and Interchangeable
- Excellent stability
- Small size
- Printed circuit mountable
- Ceramic SIP package

TYPICAL APPLICATIONS
- HVAC – room, duct and refrigerant equipment
- Instrument and probe assemblies
- Electronic assemblies – temperature compensation
- Process control – temperature regulation

HEL-776 and HEL-777 platinum RTDs are designed to measure temperatures from −55° to +150°C (−67° to 302°F) in printed circuit boards, temperature probes, or other lower temperature applications. Solderable leads in 0.050″ or 0.100″ spacing provide strong connections for wires or printed circuits.

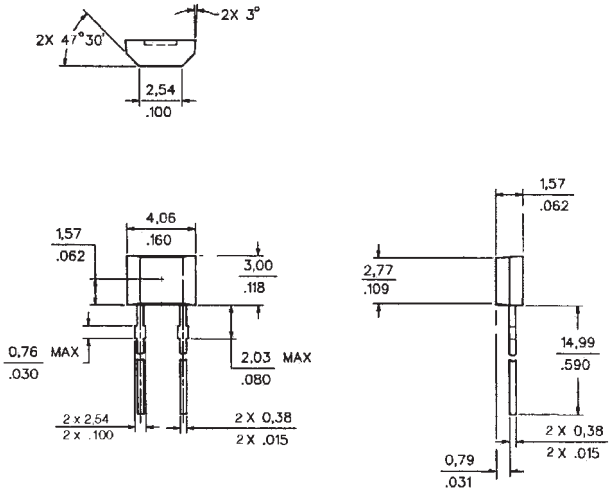
The 1000Ω, 375 alpha version, provides 10x greater sensitivity and signal-to-noise. Both are ideal for air temperature sensing.

ORDER GUIDE

HEL-776-A	Molded SIP pkg. 0.100″ lead spacing		
HEL-777-A	Molded SIP pkg. 0.100″ lead spacing		
	-U	1000Ω, 0.00375 Ω/Ω/°C	
	-T	100Ω, 0.00385 Ω/Ω/°C	
		-0	±0.2% Resistance Trim (Standard)
		-1	±0.1% Resistance Trim (Optional)

MOUNTING DIMENSIONS (for reference only) mm/in.

HEL-776-A



HEL-777-A

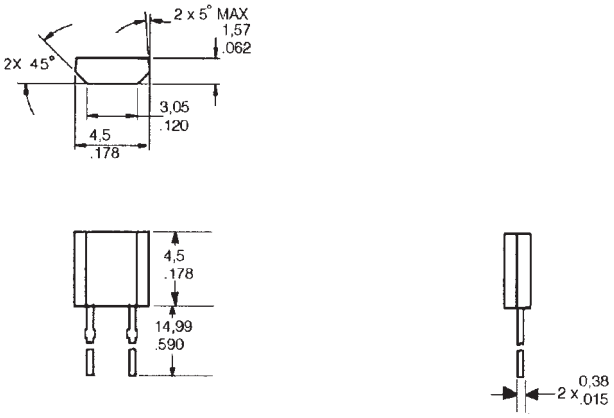


Fig. 1: Wheatstone Bridge 2-Wire Interface

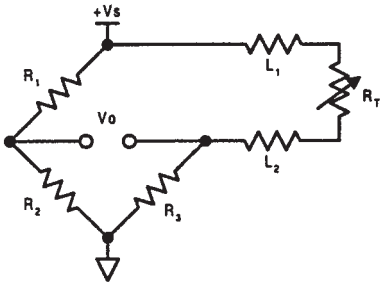


Fig. 2: Linear Output Voltage

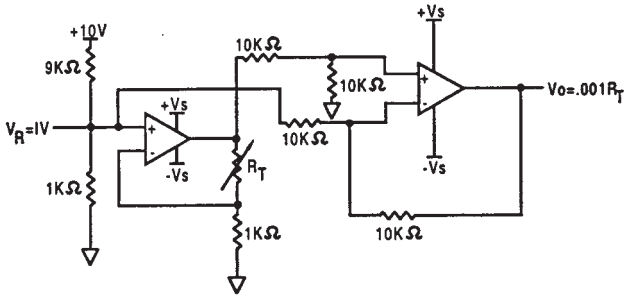
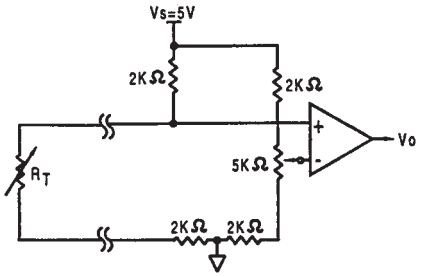


Fig. 3: Adjustable Point (Comparator) Interface



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.

Temperature

Platinum RTDs

FUNCTIONAL BEHAVIOR

$R_T = R_0(1+AT+BT^2-100CT^3+CT^4)$
RT = Resistance (Ω) at temperature T (°C)
R_0 = Resistance (Ω) at 0°C
T = Temperature in °C

$$A = \alpha + \frac{\alpha\,\delta}{100} \qquad B = \frac{-\alpha\,\delta}{100^2} \qquad C_{T<0} = \frac{-\alpha\,\beta}{100^4}$$

CONSTANTS

Alpha, α (°C^{-1})	0.00375 ±0.000029	0.003850 ±0.000010
Delta, δ (°C)	1.605 ± 0.009	1.4999 ± 0.007
Beta, β (°C)	0.16	0.10863
A (°C^{-1})	3.81×10^{-3}	3.908×10^{-3}
B (°C^{-2})	-6.02×10^{-7}	-5.775×10^{-7}
C (°C^{-4})	-6.0×10^{-12}	-4.183×10^{-12}

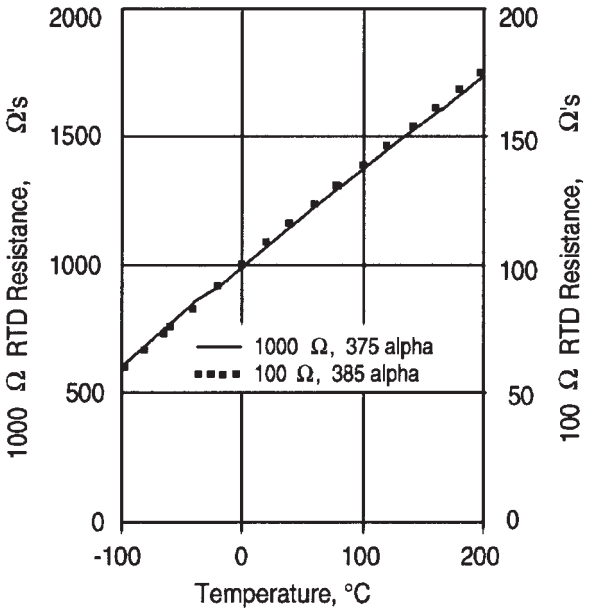
Both β = 0 and C = 0 for T>0°C

ACCURACY VS TEMPERATURE

Tolerance	Standard ±0.2%		Optional ±0.1%	
Temperature (°C)	±ΔR* (Ω)	±ΔT (°C)	±ΔR* (Ω)	±ΔT (°C)
−200	6.8	1.6	5.1	1.2
−100	2.9	0.8	2.4	0.6
0	2.0	0.5	1.0	0.3
100	2.9	0.8	2.2	0.6
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

* 1000Ω RTD. Divide ΔR by 10 for 100Ω RTD.

RESISTANCE VS TEMPERATURE CURVE



SPECIFICATIONS

Sensor Type	Thin film platinum RTD: R_0 = 1000 Ω @ 0°C; alpha = 0.00375 Ω/Ω/°C R_0 = 100 Ω @ 0°C; alpha = 0.00385 Ω/Ω/°C
Temperature Range	TFE Teflon: −200° to +260°C (−320° to +500°F) Fiberglass: −75° to +540°C (−100° to +1000°F)
Temperature Accuracy	±0.5°C or 0.8% of temperature °C (R_0 ±0.2% trim), whichever is greater ±0.3°C or 0.6% of temperature °C (R_0 ±0.1% trim), whichever is greater (optional)
Base Resistance and Interchangeability, $R_0 \pm \Delta R_0$	1000 ± 2 Ω (±0.2%) @ 0°C or 100 ± 0.2 Ω (±0.2%) @ 0°C 1000 ± 1 Ω (±0.1%) @ 0°C or 100 ± 0.2 Ω (±0.2%) @ 0°C (optional)
Linearity	±0.1% of full scale for temperatures spanning −40° to 125°C ±2.0% of full scale for temperatures spanning −75° to 540°C
Time Constant	<0.5 sec, 0.85 inch O.D. in water at 3 ft/sec; <1.0 sec, 0.85 inch O.D. in still water
Operating Current	2 mA maximum for self heating errors of <1°C; 1 mA recommended
Stability	<0.25°C/year; 0.05°C per 5 years in occupied environments
Self Heating	<15mW/°C for 0.85 O.D. typical
Insulation Resistance	>50 MΩ @ 50 VDC @ 25°C
Construction	Alumina case; Epoxy potting (Teflon leads); Ceramic potting (fiberglass leads)
Lead Material	Nickel coated stranded copper, Teflon or Fiberglass insulated

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:
moschip.ru
moschip.ru_4
moschip.ru_6
moschip.ru_9