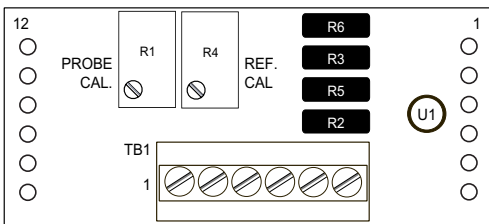# DMS-EB-HTB

High-Accuracy Temperature Sensor Boards DMS-30PC/LCD-0 Meters

Actual Size

Order online at www.datel.com

Features

- **Accepts inputs from user-supplied solid-state temperature sensors**
- **Available in °C or °F output readings**
- **6-wire screw-type terminal block**
- **Measures temperatures from –55 to +150°C (–67 to +199.9°F)**
- **Use with DMS-30PC/LCD-0 meters**

Description: The DMS-EB-HTB Application Boards accept inputs from user-supplied, AD590 solid-state temperature sensors. The boards can be used with any of DATEL's ±200mV, 5V-powered DMS-30PC/LCD-0 Series, 3½ Digit, LED/LCD Display, Digital Panel Voltmeters — although better performance can be achieved with either LCD or low-power LED models. This meter/board combination provides extremely accurate (±0.3°C) temperature measurements over the range of –55 to +150°C(with DMS-EB-HTBC) or –67 to +199.9°F (DMS-EB-HTBF). Individual reference-adjust and probe-adjust potentiometers allow for "fine tuning" the AD590 output to precisely match the selected meter. A 6-wire, screw-type terminal block provides for quick, reliable, signal and power connections.

Calibration: R4 (Reference Adjust) is factory-calibrated to +459.8mV for °F and +273.2mV for °C (do not readjust). This measurement is taken between TB1 (pin 6) and pin 12 of the DMS-30PC/LCD-0. R1 (Probe Adjust) requires customer adjustment since every sensor has a slightly different zero offset. Calibration is simple: connect the sensor leads to TB1 and adjust R1 until the DMS-30's display matches a selected reference temperature indicator.

Functional Specifications (T_A = 25°C, VCC = +5V)

Measurement Range:	
DMS-EB-HTBC	–55 to +150°C
DMS-EB-HTBF	–67 to +199.9°F
Sensor Type	AD590 active linear device
Accuracy:	
Typical	±0.3°C (or °F)
Maximum	±1.0°C (or °F)
Operating Voltage Range	+5V (±10%)
Input Current (Board only):	
Typical	+0.8mA
Maximum	+1.0mA
Sensor Lead Length	3 feet, maximum
Operating Temperature Range	0 to +60°C
Storage Temperature Range	–20 to +75°C
Humidity (non-condensing)	0 to 95%,
Dimensions	2.02" (51.31mm)L 0.83"(21.08mm)W

Ordering Information

DMS-EB-HTBC	High-accuracy temperature probe board, Celsius
DMS-EB-HTBF	High-accuracy temperature probe board, Fahrenheit
DMS-BZL1	Bezel assembly
DMS-BZL2	Bezel assembly with sealing gasket

	HTBF	HTBC
R2	1.74k	953
R3	6.65k	8.66k
R5	4.53k	2.74k
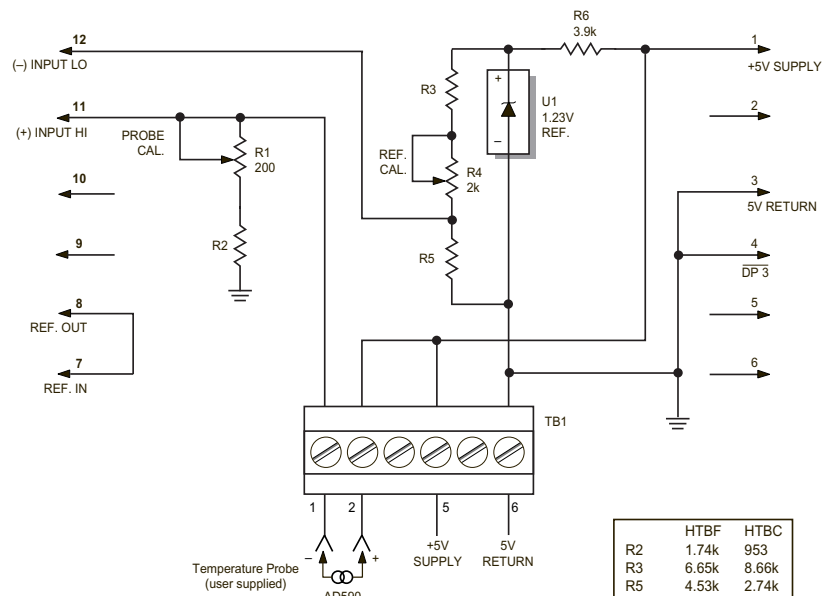
Figure 1. DMS-EB-HTB Schematic Diagram