

# DMS-EB-TCJ/TCK

## Thermocouple Input Application Boards for DMS-30PC/LCD Meters

### Features

- Displays -50 to +200°C range
- Interfaces with type J or K type thermocouples
- Typical accuracies as low as ±1.5°C
- Use with:  
DMS-30PC-1-RL  
DMS-30LCD-1-5

### Functional Specifications

(TA = +25°C, VCC = +5V)

#### Sensors

Type J and K thermocouples

#### Temperature Measurement Range

-50 to +200°C

#### Accuracy:

DMS-EB-TCJ

-50 to 0°C ±6°C typ., ±10°C max.  
0 to +200°C ±4°C typ., ±8°C max.

DMS-EB-TCK

-50 to 0°C ±6°C typ., ±10°C max.  
0 to +200°C ±1.5°C typ., ±3°C max.

#### Primary Operating Power

+5V (±5%)

#### Input Current (Board only)

+0.6mA typ., +1mA max.

#### Operating Temperature Range

0 to +60°C

#### Storage Temperature Range

-20 to +75°C

#### Humidity

0 to 95%, non-condensing

#### Dimensions

2.02" (51.31mm)L x 0.83" (21.08mm)W

### Ordering Information

- |            |                                    |
|------------|------------------------------------|
| DMS-EB-TCJ | Type J thermocouple input board    |
| DMS-EB-TCK | Type K thermocouple input board    |
| DMS-BZL1   | Bezel assembly                     |
| DMS-BZL2   | Bezel assembly with sealing gasket |

### Technical Notes

**Description:** The DMS-EB-TCJ and DMS-EB-TCK Application Boards interface type J or K thermocouples to DATEL's low-power, ±2V input, DMS-30PC-1-RL or DMS-30LCD-1-5 digital voltmeters. These low-cost add-on boards provide a quick easy method of displaying temperature (in degrees Celsius only) within a -50 to +200°C range.

**Installation:** A screw-type terminal block (TB1) accepts direct thermocouple inputs and provides quick connection for the +5V power supply. All necessary I/O connections for the meter — including activation of the correct decimal point — are built-in. Simply solder the board to the meter, connect the appropriate thermocouple, and the installation is complete. Using low-power meters, with either LCD or LED displays, will maintain uniform temperatures across the board and keep temperature-gradient induced errors to a minimum.

**Accuracy:** As the accuracy specifications indicate, the DMS-EB-TCJ and TCK boards are for general purpose temperature monitoring over the range -50 to +200°C. However, fairly high accuracy can be obtained with K thermocouples from 0 to +200°C. For high accuracy temperature readings, see the DMS-EB-HTB.

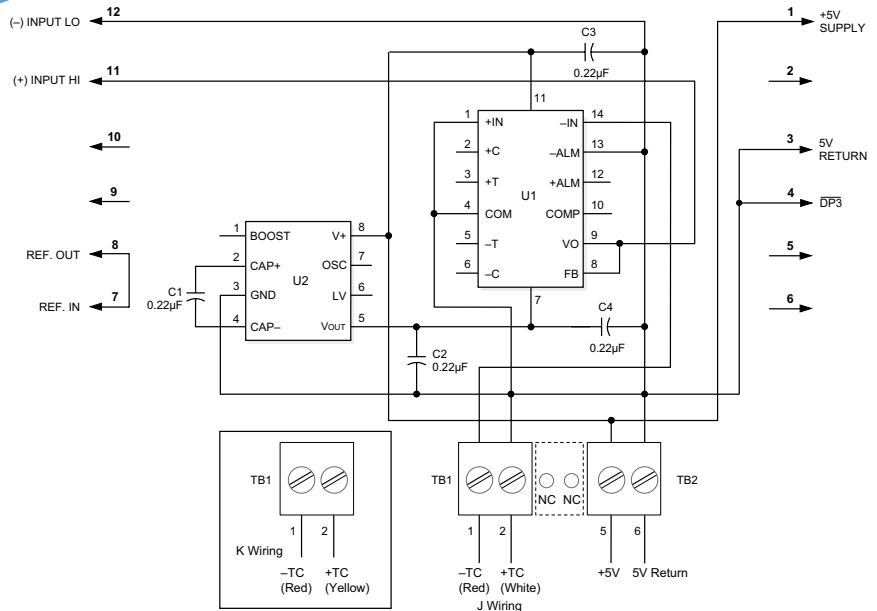
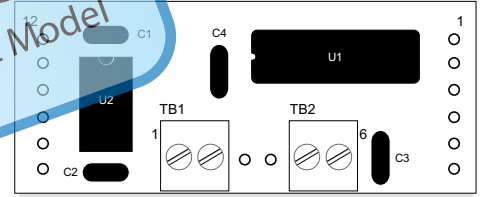


Figure 1. DMS-EB-TCJ/TCK Schematic Diagram