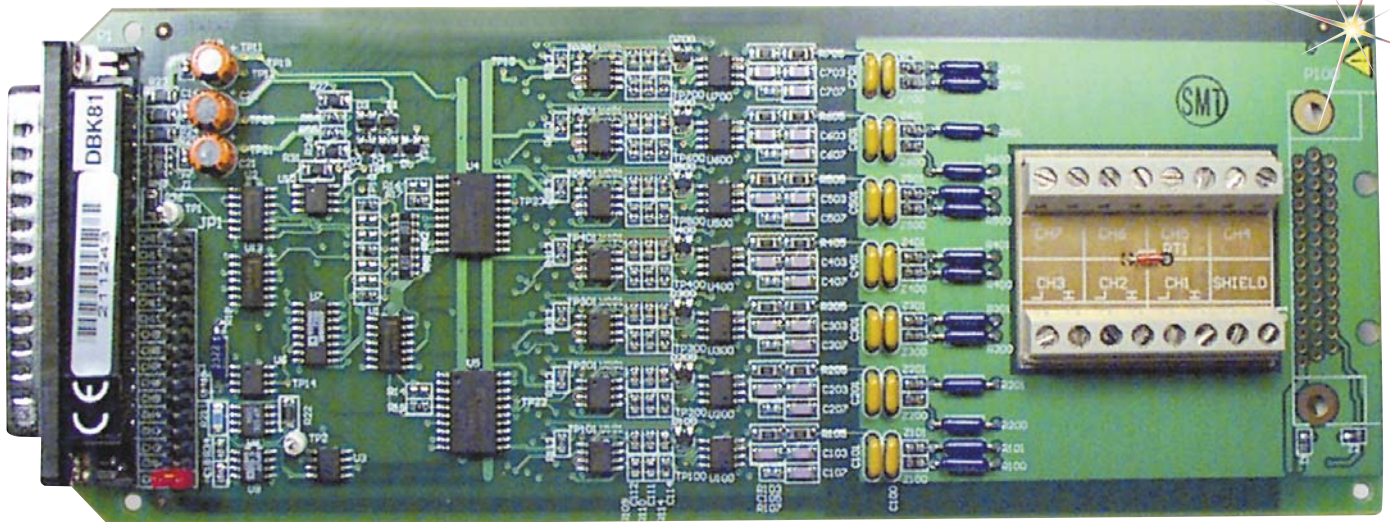


# OMB-DBK81, OMB-DBK82, OMB-DBK83, OMB-DBK84 7 & 14 Channel Low-Noise, High Accuracy, Thermocouple and mV Expansion Options for the OMB-LOGBOOK & OMB-DAQBOARD-2000 Series



Model OMB-DBK81

**\$549**



- ✓ Measures Type J, K, T, E, R, S, B & N Thermocouples as well as Voltage up to  $\pm 100\text{mV}$
  - ✓ Low Noise, High Accuracy, High Stability 100 kHz Maximum Scan Rate, Compatible with all OMB-LOGBOOK and OMB-DAQBOARD-2000 Series Operating at Maximum Sampling Rates
  - ✓ High Noise Immunity
  - ✓ Open Thermocouple Detection Per Channel
  - ✓ Over-Voltage Protection
- Available in Four Different Form-Factors:**
- ✓ 7 Channel Card with On-Board Screw-Terminals, Model OMB-DBK81

OMEGACARE<sup>SM</sup> extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE<sup>SM</sup> covers parts, labor and equivalent loaners.

- ✓ 14 Channel Card with On-Board Screw-Terminals, Model OMB-DBK82
- ✓ 14 Channel Card with External Signal Connection "Pod" with Removable Screw-Terminals, Model OMB-DBK83
- ✓ 14 Channel Module (Metal Housing with Mini-Thermocouple Connections)

The new OMB-DBK81/82/83/84 are designed to provide very low noise thermocouple and milli-volt measurements, with high accuracy and very close tracking between channels. These new models provide thermocouple accuracy of better than  $0.5^{\circ}\text{C}$ , and noise that is typically less than  $0.2^{\circ}\text{C}$  p-p, with no digital averaging required.

The performance of these new OMB-DBK cards is enabled through their use of very low-noise amplifiers on every channel. Built-in cold junction

OMB-DBK81, \$549, shown smaller than actual size

compensation and software-based linearization automatically provides you with quiet and stable temperature measurements, with no need to deal with the usual complexities associated with thermocouple measurements.

All software that supports the OMB-DAQBOARD-2000 Series and OMB-LOGBOOK also support these new OMB-DBK options, providing you with accurate and stable temperature readings on every channel. Four different models are offered so you can choose the one that best fits your application.

The OMB-DBK81 provides 7 differential thermocouple/mV inputs, and installs into any OMB-LOGBOOK and OMB-DBK enclosure. The OMB-DBK81 provides on-board screw-terminals for connection of thermocouple/ mV signals directly to the card.

The OMB-DBK82 provides 14 differential channels of thermocouple/mV inputs, and is physically taller than other OMB-DBK cards. The OMB-DBK82 installs into an OMB-DBK60 where it can be wired directly to the mini-thermocouple connector panels. Note that the OMB-DBK82 will not install into a single-height slot in the OMB-DBK10. Further, the OMB-DBK82 consumes two expansion slots in the OMB-DBK41 10-slot enclosure.

OMB-DBK84, \$1099,



The OMB-DBK83 provides 14 differential channels of input (like the OMB-DBK82), but instead of on-board screw-terminals, it includes an external thermocouple/mV connection pod with removable screw-terminals. This allows the OMB-DBK83 to install into single-slot housings, including the OMB-DBK10 and the OMB-DBK41. The OMB-DBK83 also allows thermocouple connections to reside away from the OMB-LOGBOOK or OMB-DAQBOARD-2000, reducing the length of thermocouple wire required. The OMB-DBK83 also makes it easy to remove all signal connections by disconnecting one cable from the pod, or by removing the 15-pin screw-terminal connection. A 1 meter (3ft) cable is included with the OMB-DBK83.

The OMB-DBK84 is a 14-channel module with built-in mini-thermocouple connectors. The OMB-DBK84 can mechanically attach directly to any OMB-LOGBOOK or OMB-DBK modules or enclosures. The OMB-DBK84 is best suited for applications where mini-thermocouple connectors are in use, and where quick attachment and removal of thermocouples is desired.



OMB-DBK82, \$849,

OMB-DBK83, \$999

## Specifications

**System Connector:** All OMB-DBK options have a DB37 male, which mates with P1 on the OMB-DAQBOARD-2000 or OMB-LOGBOOK or other OMB-DBK options.

**Thermocouple/mV Connector:**

**OMB-DBK81:** Board-mounted screw-terminals

**OMB-DBK82:** Board-mounted screw-terminals

**OMB-DBK83:** External pod-mounted removable screw-terminals

**OMB-DBK84:** Mini-thermocouple connectors

**Input Types:** thermocouple types J, K, T, E, R, S, B, N; x100 (voltage)

**Inputs:**

**OMB-DBK81:** 7 differential thermocouple/mV inputs

**OMB-DBK82/83/84:** 14 differential thermocouple/mV inputs

**Input Voltage Range:** ±100mV\*

**Input Impedance:** 40MΩ (differential); 20MΩ (single-ended)

**Input Bandwidth:** 4 Hz

**Input Bias Current:** 10nA typ

**CMRR:** 100dB typ

**Maximum Working Voltage**

**(signal + common mode):** ±10V

**Over-Voltage Protection:** ±40V

**Power Requirements:**

**OMB-DBK81:** 35mA max from ±15V; 2mA max from ±5V

**OMB-DBK82:** 60mA max from ±15V; 2mA max from ±5V

**OMB-DBK83:** 60mA max from ±15V; 2mA max from ±5V

**OMB-DBK84:** 60mA max from ±15V; 2mA max from ±5V

**Operating Temperature:** 0 to 50°C (32 to 122°F)

**Voltage Accuracy:** ±(0.2% of rdg + 50 mV)

**Minimum Resolution:** 0.1°C for all thermocouple types

**Thermocouple Accuracy:** Valid for one year, 18 to 28°C (see table)

## Thermocouple Accuracy at Measurement Temperature in °C (±°C)

Type	Min	Max	-100	100	300
J	-200	760	0.6	0.5	0.6
K	-200	1200	0.7	0.6	0.7
T	-200	400	0.7	0.6	0.6
E	-270	650	0.6	0.5	0.5
S	-50	1768	—	1.8	1.5
R	-50	1768	—	1.6	1.5
B	50	1780	—	—	3.7
N28	-270	400	0.9	0.7	0.7
N14	0	1300	—	0.7	0.7
Type	500	700	900	1100	1400
J	0.7	0.7	—	—	—
K	0.8	0.8	0.9	1.0	—
T	—	—	—	—	—
E	0.6	—	—	—	—
S	1.5	1.4	1.5	1.6	1.6
R	1.4	1.4	1.3	1.4	1.5
N	2.4	2.1	1.8	1.7	1.5
N28	—	—	—	—	—
N14	0.8	0.8	0.9	1.0	—

\* ±100mV with an OMB-LOGBOOK; ±50mV with an OMB-DAQBOOK or DAQBOARD

\*\*Accuracy conditions: using a DAQBOARD calibrated within 1 year; accuracy numbers reflect total system absolute accuracies, including accuracy of the CJC and DAQBOARD; exclusive of thermocouple errors; exclusive of noise; VCM=0

**AVAILABLE FOR FAST DELIVERY!**

## To Order (Specify Model Number)

Model No.	Price	Description
OMB-DBK81	\$549	7-channel thermocouple/mV card with screw-terminal connections
OMB-DBK82	849	14-channel thermocouple/mV card with screw-terminal connections
OMB-DBK83	999	14-channel thermocouple/mV card with external screw-terminal pod and 1 m (3') cable
OMB-DBK84	1099	14-channel thermocouple/mV module with mini thermocouple input connectors
OMB-POD-1	199	Extra screw-terminal pod for OMB-DBK83
OMB-CA-239	41	Extra 1 m (3') cable for OMB-DBK83

**Ordering Example:** OMB-DBK82 14-channel thermocouple/mV card with screw-terminal connections and OMEGACARE<sup>SM</sup> 1-year extended warranty for OMB-DBK82 (adds 1 year to standard 1-year warranty), \$849 + 83 = \$932.



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