OMB-DBK43A 8-Channel Strain-Gage Module for OMB-DAQBOARD-2000 Series and OMB-LOGBOOK

Model OMB-DBK43A

$2799

The OMB-DBK43A, $2599, shown smaller than actual size, provides 8 channels of strain-gage input for the OMB-LOGBOOK and OMB-DAQBOARD-2000 Series

- **Provides Eight Channels of Strain-Gage Input**
- **Accommodates Most Bridge-Type Sensors, Including 4-Element Full and 3-Wire Quarter Bridges**
- **Individual Excitation Regulator Per Channel**
- **User-Selected Low Pass Filter**

The OMB-DBK43A eight-channel strain-gage expansion module for TRODEKS's OMB-LOGBOOK and OMB-DAQBOARD-2000 Series data acquisition systems accommodates the connection of most strain-gage types, from single-element, 3-wire quarter-bridges to 4-element full bridges. The OMB-DBK43A also includes provisions for bridge completion resistors and provides four externally accessible adjustments on each of its eight channels, including excitation voltage, input gain, offset nulling, and output scaling. Up to thirty-two OMB-DBK43A modules can be connected to a single OMB-LOGBOOK or OMB-DAQBOARD-2000 Series, for up to 256 strain-gage channels.

The OMB-DBK43A includes a built-in DC/DC converter, allowing the unit to be operated from an external power source while drawing very little power from the data acquisition system. The external power source can be the included AC adaptor, the OMB-DBK30A rechargeable battery/excitation module, a car battery, or any 9 to 18 Vdc source.

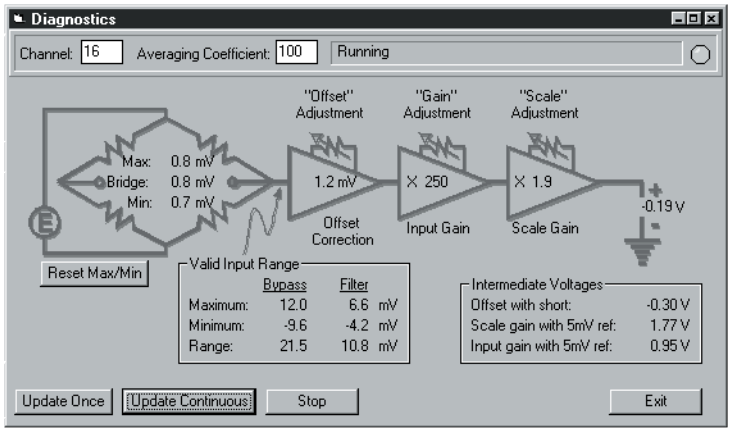
The DC/DC converter also provides excitation voltages for all channels. Each of its eight on-board excitation regulators can be externally adjusted from 1.5 to 10.5 Vdc. The regulator outputs have remote sensing terminals and feature 50 mA current limiting to prevent damage from short-circuits or overloads. The wide regulator voltage range lets you incorporate virtually any resistive or semi-conductive gage type in your system.

Input Amplifier

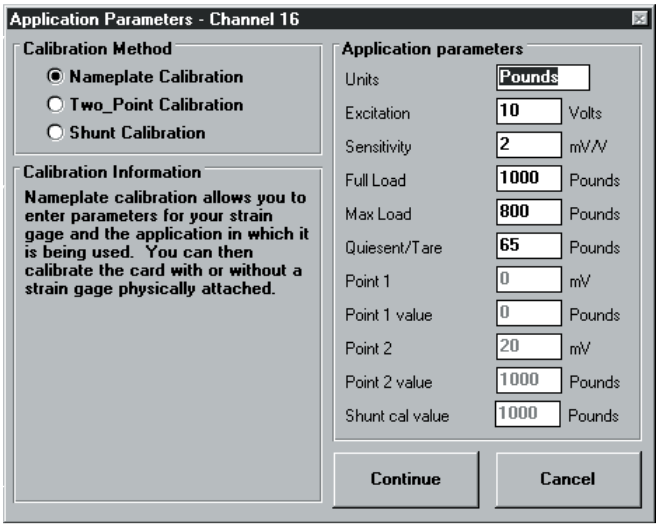
The OMB-DBK43A's input amplifiers provide an input gain range of x100 to 1250.

Offset & Scaling Gain

The OMB-DBK43A's 0 to 5 Vdc offset adjustment range and output-gain scaling permit nulling of large quiescent loads and expansion of dynamic range for maximum resolution. This is an important feature because strain gages typically exhibit pre-load or quiescent output, leading to a non-zero output prior to the application of the load to be measured.



You can easily configure the OMB-DBK43A using its Windows software.



The OMB-DBK43A's software supports three calibration methods: nameplate, two-point and shunt

Software

The OMB-DBK43A includes a Windows program that enables you to easily configure, calibrate, and set up your strain- gage application.

Shunt-Calibration Feature

The OMB-DBK43A offers locations in each channel amplifier for user-supplied shunt calibration resistors. This feature allows you to simulate, under software control, a pre-set bridge disturbance to aid in calibration and verification of each channel setting.

Coupling & Filtering

Each OMB-DBK43A channel features user-selectable AC or DC coupling between the input amplifier circuits, and a selectable 3-pole, low-pass filter with customizable cut-off frequency.

Bridge-Completion Resistors

Physical locations are provided for up to four bridge-completion resistors per channel, allowing you to accommodate virtually any type of external configuration without having to attach bridge completion resistors to the strain gage.

Specifications

Connector: DB37 male, mates with P1 pinout on the OMB-LOGBOOK or OMB-DAQBOARD-2000 Series; mini-DIN 6 provided separately for each strain-gage & external excitation connection

Number of Channels: 8

Excitation Voltage Adjustment Range: 1.50 to 10.50 Vdc @ 50 mA

Input Gain Range: x100 to 1250; separate instrumentation amplifier for each channel

Accommodated Bridge Types:

- Full bridge, Kelvin excitation (6-wire)
- Full bridge (4-wire)
- Half bridge (3-wire)
- Quarter bridge (2-wire)

Input Type: Differential

Input Impedance: 100 MΩ parallel with 100 pF

CMRR: 115 dB (dc to 60 Hz)

Input Power Source: User supplied 9 to 18 Vdc @ 600 mA max

Excitation Current Output: 50 mA max (current limited @ 60 mA)

Excitation Sensing: Local or remote

Input Offset: 200 µV max

Offset Drift: 4 µV/C°

Output Offset: 4 mV

Offset Drift: 6 µV/C°

Offset Adjustment: 0 to 100% of range, 0 to 5.00 Vdc

Full-Scale Sensitivity Range:

At 5.00 Vdc excitation: 0.8 to 10 mV/V

At 10.00 Vdc excitation: 0.4 to 5 mV/V

Scaling Amplifier Gain Range: x1 to 10 (15-turn trimpot)

Low-Pass Filter: 3-pole, user selectable; corner frequency (Fc) set by user-supplied component; attenuation -3 dB at Fc; gain x2 (10 Hz installed)

Dimensions: 221 x 285 x 35 mm (8.5 x 11 x 1.375")

Weight: 1.3 kg (3 lb)

Cables: Use OMB-CA-37-x for OMB-LOGBOOK and OMB-DAQBOARD-2000 Series

AVAILABLE FOR FAST DELIVERY!

To Order *(Specify Model Number)*

Model Number	Price	Description
OMB-DBK43A	**$2799**	8-channel strain-gage module
OMB-CA-132	**103**	Set of 8 MINI-DIN 6 connectors with 1.8 m (6') cable (connects strain gages to OMB-DBK43A)

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