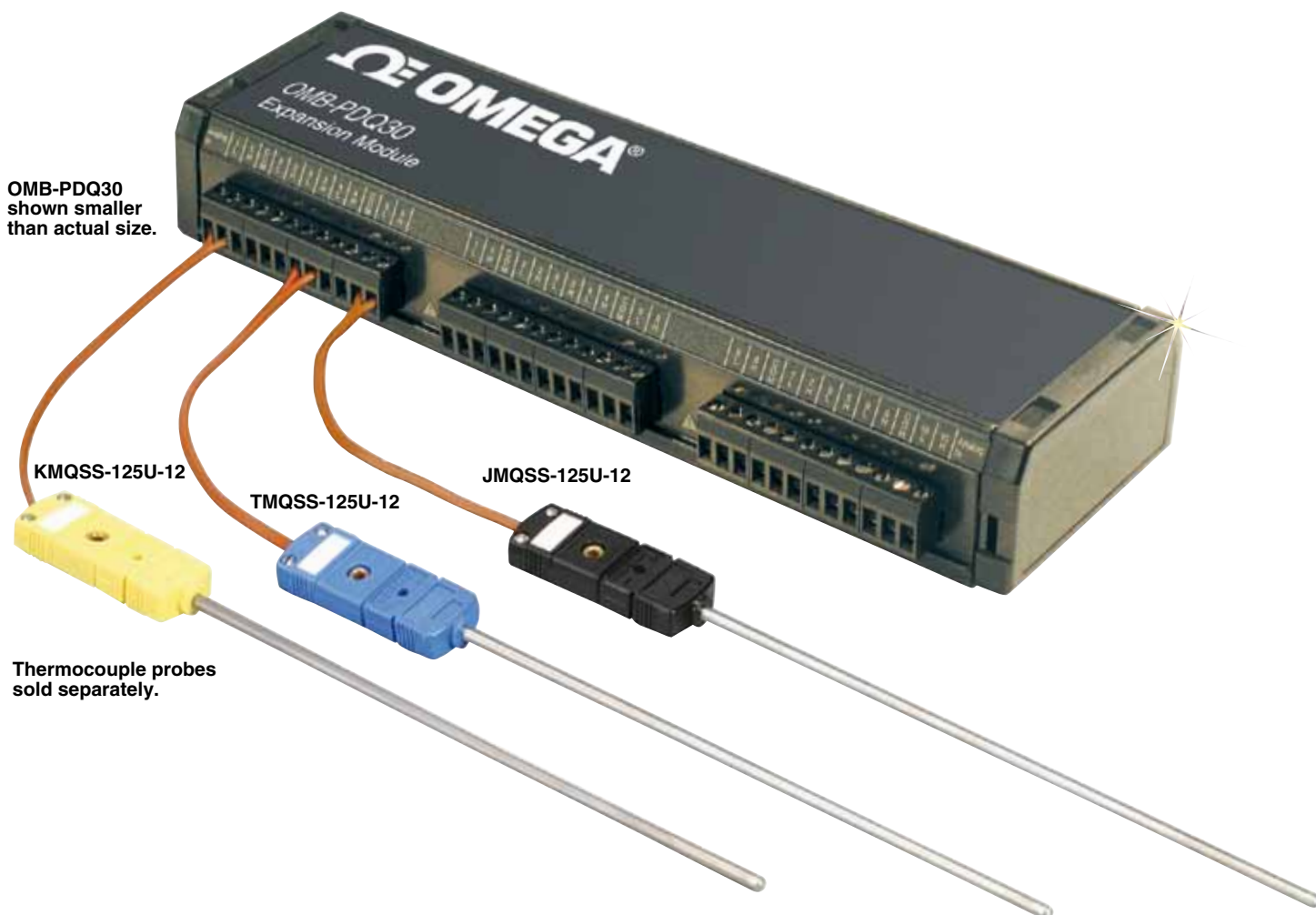


Analog Input Expansion Module

for OMB-DAQ-3000 Series and OMB-DAQBOARD-3000 Series



OMB-PDQ30



- ✓ Adds 24 Differential/48 Single-Ended Inputs to OMB-DAQBOARD-3000 Series PCI Boards and OMB-DAQ-3000 Series Personal Daq USB Data Acquisition Modules
- ✓ Any Input Can be a Voltage or a Thermocouple
- ✓ Convenient Removable Screw-Terminal Connections

The OMB-PDQ30 analog input expansion module increases total channel capacity of an OMB-DAQBOARD-3000 Series PCI bus data acquisition board or OMB-DAQ-3000 Series Personal Daq USB data acquisition module to a total of 32 differential or 64 single-ended analog inputs.

The OMB-PDQ30 attaches to an OMB-DAQBOARD-3000 Series board via an optional OMB-CA-266-3 cable, and to the OMB-DAQ-3000 Series either by plugging directly into the Personal Daq module with included clips, or via an optional OMB-CA-96 cable if it is necessary to have some distance between devices. Voltage measurements via the OMB-PDQ30 have the same ranges as the host OMB-DAQBOARD-3000 Series PCI board or OMB-DAQ-3000 Series Personal Daq USB module.

When used with either host, the OMB-PDQ30 also adds thermocouple measurement capability, in which the A/D operates in a programmable, over-sample/digital filtering mode to provide low-noise and stable temperature measurements.



TC TYPES AND ACCURACY ¹

Thermocouple	Temperature Range °C	Accuracy (±°C)	Noise (±°C)
J	-200 to 760	1.1	0.2
K	-200 to 1200	1.2	0.2
T	-200 to 400	1.1	0.2
E	-270 to 650	1.0	0.2
R	-50 to 1768	2.5	0.2
S	-50 to 1768	2.6	0.2
B	50 to 1780	3.3	0.2
N	-270 to 1300	1.5	0.2

¹ Assumes 256 average mode applied, CMV = 0.0V, 30 minute warm-up and 25°C ambient temperature. Excludes thermocouple errors.

Voltage Range*	Accuracy ± (% of Reading + % Range) 23°C ± 10°C, 1 year	Temperature Coefficient ± (ppm of Reading + ppm Range) /°C 0 to 13°C and 33 to 60°C	Noise** (cts RMS)
10 V	0.031% + 0.008%	14 + 8	2
5 V	0.031% + 0.009%	14 + 9	2
2 V	0.031% + 0.010%	14 + 10	2
1 V	0.031% + 0.012%	14 + 12	3
500 mV	0.031% + 0.018%	14 + 18	5
200 mV	0.036% + 0.012%	14 + 12	9
100 mV	0.042% + 0.018%	14 + 18	17

* Specifications assume differential input single channel scan, 1-MHz scan rate, unfiltered, CMV = 0.0V, 30 minute warm-up.

** Noise reflects 10,000 samples at 1-MHz, typical, differential short.

Specifications

GENERAL

Operating Temperature:
-30 to 70°C (-22 to 158°F)

Storage Temperature:
-40 to 80°C (-40 to 176°F)

Warm-Up: 30 min to rated specifications

Relative Humidity:
0 to 95%, non-condensing

Vibration: MIL STD 810E, category 1 and 10

Communications Connector: 25-pin DSUB

Signal I/O Connector:
6 removable screw-terminal blocks (12 connections each)

Dimensions:
269 W x 92 D x 45 mm H
(10.6 x 3.6 x 1.6")

Weight: 400 g (0.88 lb)

Power: Supplied by OMB-DAQBOARD-3000 Series PCI board or OMB-DAQ-3000 Series Personal Daq USB module; 400 mW max

ANALOG INPUTS

Channels: 48 single-ended inputs, 24 channels of differential inputs

Voltage Measurement Speed:
1 µs per channel

Temperature Measurement Speed: Programmable from 100 µs to 20 ms per channel

Ranges: ±10V, ±5V, ±2V, ±1V, ±500 mV, ±200 mV, ±100 mV, universal thermocouple

Total Harmonic Distortion:
-80 dB typical for ±10 V range, 1 kHz fundamental

Signal to Noise and Distortion:
72 dB typical for ±10 V range, 1 kHz

Fundamental Input Impedance: 10 MΩ (single-ended); 20 MΩ (differential)

Bias Current:

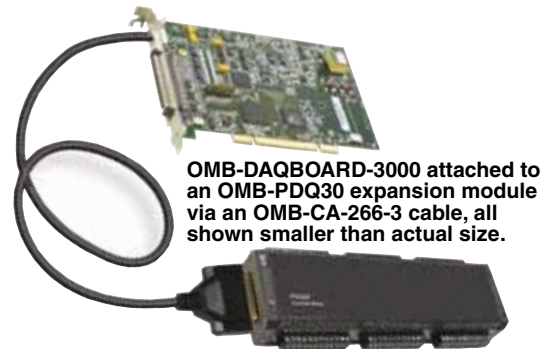
40 pA typical (0 to 35°C)

Over-Voltage Protection:

±30V

Ranges: Software or sequencer selectable on a per-channel basis

Crosstalk: -90 dB DC to 60 Hz; 86 dB @ 10 kHz, typical



OMB-DAQBOARD-3000 attached to an OMB-PDQ30 expansion module via an OMB-CA-266-3 cable, all shown smaller than actual size.



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

To Order	
Model No.	Description
OMB-PDQ30	Analog input expansion module, adds 24DE/48SE channels to OMB-DAQ-3000 Series acquisition modules and OMB-DAQBOARD-3000 Series PCI bus data acquisition cards
OMB-CA-266-3	OMB-DAQBOARD-3000 Series to OMB-PDQ30 cable, 0.9 m (3')

Ordering Example: OMB-PDQ30 analog input expansion module and OCW-1 OMEGACARESM 1-year extended warranty (adds 1-year to standard 1-year warranty) for OMB-PDQ30.