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Data Sheet

August 15, 2026

DWYER/OMEGA

DWYEROMEGA / OMEGA OMB-DAQ-56 Personal DAQ USB Data Acquisition Module

Dwyer/Omega Data Acquisition Systems (DAQ). Current: 120 dB @ 60 Hz, Channel: to-channel crosstalk: $\pm 0.5^{\circ}\text{C}$.



MODEL

**Dwyer/Omega
OMB-DAQ-56**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

OMB-DAQ-56

LISTING

<https://aumictechlabs.com/products/omb-daq-56-3/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The OMB-DAQ-56 is a USB-powered personal data acquisition module engineered for portable signal capture and real-world measurement tasks. Built around a 22-bit A/D converter, It has 20 single-ended and 10 differential analog input channels within a compact form factor. Direct thermocouple measurement with integrated cold junction compensation supports eight industry-standard thermocouple types across temperature ranges from -200°C to $+1400^{\circ}\text{C}$. Powered exclusively from the USB bus, the module requires no external power supplies and communicates via high-speed USB up to 5 m from the host PC. Scalability is inherent - up to 100 modules cascade through USB hubs to deliver 8000 total measurement channels from a single computer. Technical Specifications Analog Input 22-bit A/D converter resolution 20 single-ended input channels 10 differential input channels Programmable voltage ranges: $\pm 31\text{ mV}$ to $\pm 20\text{ V}$ full scale Input resistance: $>10\text{ M}\Omega$ (single-ended), $>20\text{ M}\Omega$ (differential) Bias current: 120 dB @ 60 Hz

Channel-to-channel crosstalk: <-120 dB (DC to 100 Hz) Thermocouple Measurement Cold junction compensation accuracy: $\pm 0.5^{\circ}\text{C}$ Type J: -100 to 700°C , $\pm 1.1^{\circ}\text{C}$ Type K: -200 to 1200°C , $\pm 1.2^{\circ}\text{C}$ Type T: -100 to 400°C , $\pm 1.1^{\circ}\text{C}$ Type E: -100 to 500°C , $\pm 1.0^{\circ}\text{C}$ Type R: -400 to 1400°C , $\pm 2.5^{\circ}\text{C}$ Type S: 400 to 1400°C , $\pm 2.6^{\circ}\text{C}$ Type B: 700 to 1400°C , $\pm 3.3^{\circ}\text{C}$ Type N: -100 to 700°C , $\pm 1.5^{\circ}\text{C}$ Interface & Power USB connectivity; bus-powered operation Optional external supply: 6 to 16 Vdc when using bus-powered hubs Maximum cable distance: 5 m (16.4 feet) Multi-module capacity: up to 100 modules per PC, 8000 total channels Key Features Doubles the I/O capacity of the OMB-DAQ-55 in identical physical dimensions Direct thermocouple support eliminates external signal conditioning High input impedance and low bias current minimize loading effects Exceptional channel isolation and common-mode rejection Zero external power infrastructure required Typical Applications Industrial temperature monitoring and data logging Multi-point voltage acquisition and transducer interfacing Portable environmental and thermal testing Research instrumentation requiring flexible channel expansion Field diagnostics and system validation Compatibility & Integration The module operates as a USB device requiring only driver software and standard hub infrastructure. Cascading up to 100 units through commercial USB hubs eliminates the need for specialized expansion chassis or external power distribution systems.

OMBDAQ Characteristics / Specifications

PARAMETER	VALUE
Model	OMB-DAQ-56
Instrument Type	22 bit USB data acquisition module
Analog Channels	20 single ended or 10 differential
Digital Io Lines	16
Frequency Pulse Channels	4
Adc Resolution	22 bit RMS at 610 ms duration
Fast Resolution	15 bit RMS at 12.5 ms duration
Voltage Accuracy	0.015 percent of reading plus 0.002 percent of range
Programmable Ranges	plus or minus 31 mV to plus or minus 20 V full scale
Isolation	500 V optical isolation from PC
Input Resistance Se	greater than 10 megohm
Input Resistance De	greater than 20 megohm
Bias Current	less than 1 nA (0 to 35 C)
Overvoltage Protection	plus or minus 45 V relative to analog Lo
Ac Cmr	greater than 120 dB at 60 Hz
Crosstalk	less than minus 120 dB DC to 100 Hz
ThermocoupleJAccuracy	plus or minus 1.1 C very slow 22 bit including CJC
ThermocoupleKAccuracy	plus or minus 1.2 C
ThermocoupleTAccuracy	plus or minus 1.1 C
Cjc Accuracy	plus or minus 0.5 C
Frequency Response	DC to 1 MHz
Frequency Input Range	plus or minus 15 V absolute, low less than 1.3 V, high greater than 3.8 V
Pull Up	27 kohm to 5 V
Totalize	up to 2 to the 32 counts per scan
Digital Output Current	150 mA continuous per output, 150 mA per bank of 8

PARAMETER	VALUE
Usb Cable Length	up to 5 m (16.4 ft) from PC
Hub Repeat Distance	up to 30 m (98.4 ft) with hubs
External Hub Power	6 to 16 Vdc when used with bus powered hub
Operating Temperature	0 C to 50 C
Humidity	95 percent RH noncondensing
Dimensions	92 by 182 by 45 mm (3.6 by 7.1 by 1.6 inch)

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to 50 C
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Humidity	95 percent RH noncondensing
Dimensions	92 by 182 by 45 mm (3.6 by 7.1 by 1.6 inch) Notes Numeric rows from Omega/Iotech OMB-DAQ-54/55/56 Personal Daq datasheet for OMB-DAQ-56. OMB-DAQ-55 has 10 analog / 8 DIO / 2 frequency; do not mix 55 channel counts onto 56.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.