

Ethernet-Based Temperature, Voltage and Strain Measurement Modules



OMB-NET6000 Series

OMB-NET6220 shown smaller than actual size.



- ✓ 12 Analog Inputs
- ✓ 8 Digital I/O
- ✓ Simultaneous Sampling
- ✓ Multiple Trigger Modes
- ✓ Compact Modular Design
- ✓ Expandable Using Multiple OMB-NET6000 Series Modules

The OMB-NET6000 Series with Encore software combines accurate, Ethernet-based DAQ modules with powerful, easy-to-use software. OMB-NET6000 Series devices feature integrated signal conditioning and a modular design with built-in channel expansion capability (by adding additional OMB-NET6000 Series modules).

Because the OMB-NET6000 Series uses an Ethernet connection, devices can be connected directly to a PC or used in remote configurations utilizing multiple devices. Devices are offered for voltage, thermocouple, or direct strain inputs.

Each device includes 12 analog input channels. The OMB-NET6220 offers 12 voltage inputs, BNC connectors, 16-bit resolution, and a 100 kHz per channel sample rate. The OMB-NET6222 is a 12-channel, 24-bit thermocouple input device. The OMB-NET6224 offers direct strain gage inputs, 24-bit resolution, and a 50 kHz per channel sample rate.

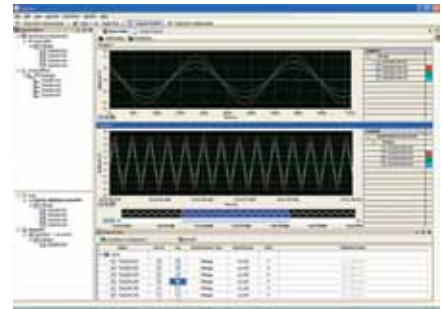
The OMB-NET6230 and OMB-NET6231 are high-speed, isolated voltage input devices. Each device also includes 8 digital I/O channels. Included with each OMB-NET6000 Series device is new Encore interactive measurement software. Encore combines an intuitive user interface with robust functionality. It allows users to quickly configure hardware, develop and customize data displays, analyze data with built-in analysis tools, and provides the ability to develop comprehensive test reports.

Utilizing the connectivity of an Ethernet based system, multiple OMB-NET6000 series devices can be combined to build expandable,

mixed signal systems. These systems can be used in a central location, or in distributed or remote configurations.

ANALOG INPUTS OMB-NET6220

The OMB-NET6220 is equipped with 12 analog input channels with a $\pm 10V$ range. Each analog input provides 16-bit resolution with a maximum 100 kHz per channel sample rate. All channels are sampled simultaneously.



Encore measurement and analysis software

Feature	OMB-NET6000 Series Device Overview				
	OMB-NET6220	OMB-NET6222	OMB-NET6224	OMB-NET6230	OMB-NET6231
Analog Input type	Voltage	Thermocouple	Strain gage/bridge	Voltage	Voltage
Analog Inputs	12	12	12	12	12
Digital I/O	8	8	8	8	8
Resolution	16-bit	24-bit	24-bit	24-bit	24-bit
Sample Rates	100 kHz	2 Hz	50 kHz	50 kHz	50 kHz
Voltage Input Range	$\pm 10V$	± 80 mV	± 25 mV/V	± 10 V	± 60 V
Connector Type	BNC	Screw-terminal	RJ50	Screw-terminal	Screw-terminal
Ch-to-ch Isolation	-	-	-	Yes	Yes

All models shown smaller than actual size.



OMB-NET6224

OMB-NET6222

OMB-NET6222

The OMB-NET6222 is equipped with 12 thermocouple input channels. Inputs are also equipped with a ± 80 mV range. Each analog input provides 24-bit resolution with a 2 S/s sample rate per channel. All inputs are sampled simultaneously.

OMB-NET6224

DIRECT STRAIN GAGE INPUTS

The OMB-NET6224 is equipped with 12 analog input channels capable of measuring full-, half-, or quarter-bridge sensors. Each of the 12 analog channels has its own 24-bit ADC and input amplifier allowing all 12 channels to be sampled simultaneously.

The OMB-NET6224 also includes anti-aliasing filters. All strain input signals are attached via 12 RJ50 connectors mounted on the front of the module.

The OMB-NET6224 features direct strain gage inputs. Half or full-bridge sensors are supported. Quarter-bridge sensors are also supported using an external resistor. The OMB-NET6224 is also 100% software programmable. Excitation, auto-zero, and shunt calibration are each adjusted in software without relying on manually adjusted trimpots which can cause increased error and drift. Excitation is provided by the OMB-NET6224 and can be software selected for 2.5V, 3.3V, 5V, or 10V. For excitation values beyond those listed, an external excitation source may be used. Connectors are provided on the front of the unit for excitation source wiring.

SHUNT CALIBRATION

Shunt calibration enables each channel to be put into a known imbalance condition to set or verify channel calibration. Shuntcal allows a full scale gain to be set without physically loading the bridge to capacity.

REMOTE SENSING

Remote sensing automatically and continuously corrects for voltage drop errors in excitation leads.

SIGNAL CONNECTIONS

The 12 strain gage inputs on the OMB-NET6224 are accessed via 12 RJ50 front panel connectors. 12 user specified connector modules are included with the OMB-NET6224.

FULL- AND HALF-BRIDGE CONFIGURATIONS

The OMB-NET6224 supports full- and half-bridge configurations directly. Users can connect to the RJ50 front panel connectors or use the OMB-NET-CN-268 12-pin screw terminal break-out connector module.

QUARTER-BRIDGE CONFIGURATIONS

For quarter-bridge configurations the OMB-NET-CN-269 and OMB-NET-CN-270 feature 120 Ω and 350 Ω internal bridge completion resistors respectively. The OMB-NET-CN-269 and OMB-NET-CN-270 feature an RJ50 female connector one end and screw terminals on the other. One module is required for each channel.

OMB-NET6230 and OMB-NET6231

The OMB-NET6230 is equipped with 12 analog input channels with a ± 10 V range. The OMB-NET6231 includes a ± 60 V range. Each analog input features a 24-bit ADC with a maximum 50 kHz sample rate per channel. All channels are sampled simultaneously. The OMB-NET6230 and OMB-NET6231 also include 250 Vrms channel-to-channel isolation for increased signal integrity and protection.

DIGITAL I/O

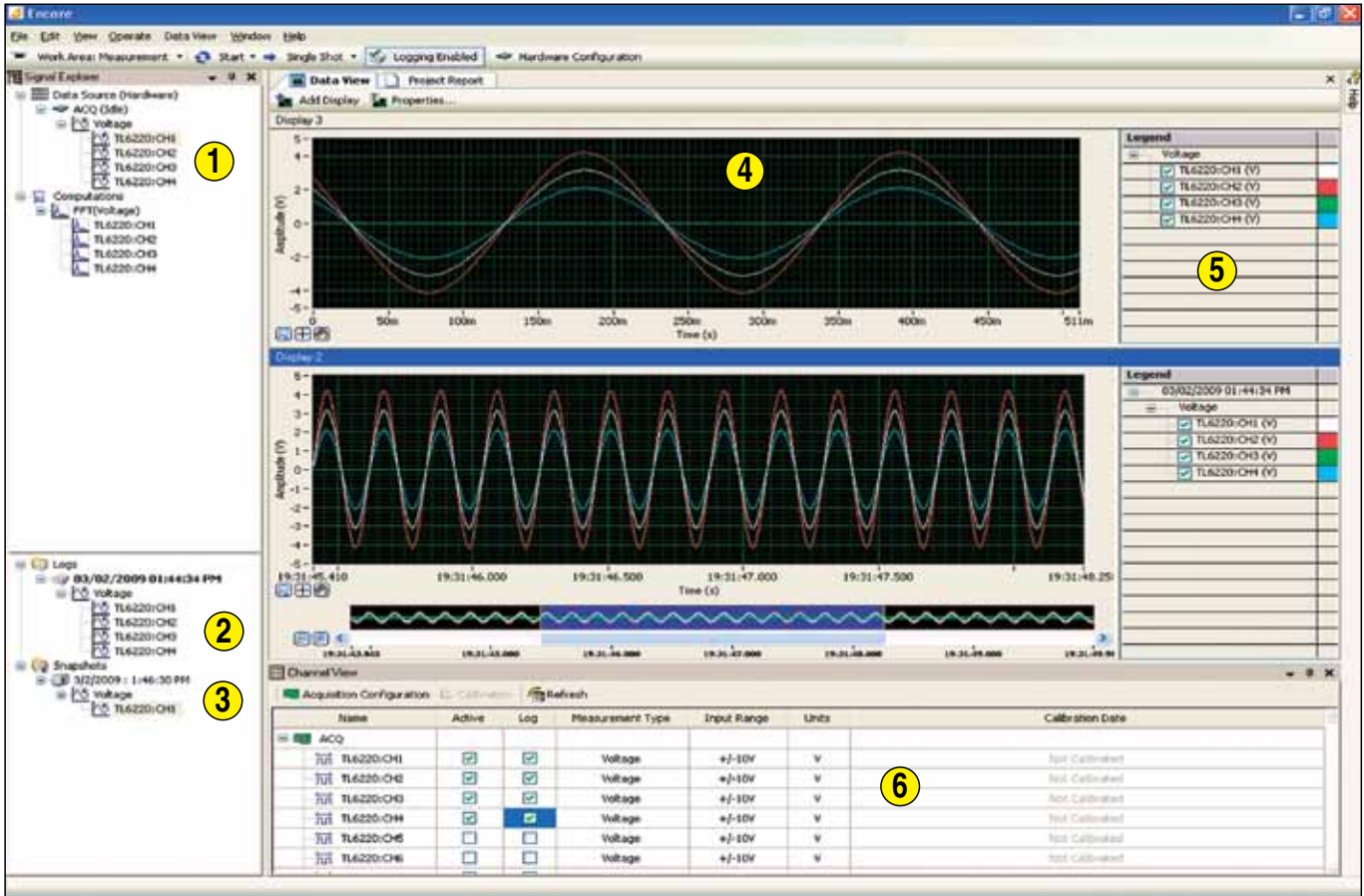
OMB-NET6000 Series modules include eight digital I/O lines. All eight lines are accessible via a 9-pin female DSUB connector located on the rear panel of the unit. Each digital I/O bit can be programmed individually to be either an input or an output.

COUNTERS

There are four 32-bit counters built into each OMB-NET6000 Series module. They are accessed through the 9-pin female DSUB connector located on the rear of the unit. Each counter has a maximum 20 MHz input frequency and can be used in counter or encoder (A, B, and Z) modes.

TRIGGERING

A variety of trigger modes are supported by the OMB-NET6000 Series. A wide selection of programmable analog and digital trigger modes are available for starting an acquisition. All trigger modes, along with the number of scans and the sample rate for pre- and post-trigger data, are software programmable prior to the start of a scan sequence.



ENCORE SOFTWARE FEATURES (Refer to Screen Capture Above)

1. Signal Explorer displays the data sources, computations, snapshots and logs available for your project. It also allows you to select and drag signals into the Data View. Signals can also be dragged directly into Excel.

2. Log Window displays a list of a projects logged data (including snapshots) sorted by the time at which you recorded the log or took the snapshot.

3. Snapshots allow you to save a record of the current values of any signal in your project. You can use snapshots as a reference signal to compare data within the same or another project.

4. Data View tab allows you to view your data by dragging signals directly from the Signal Explorer or the Log Window. The Data View tab can display signals in several formats, including graphs, charts, and various numeric representations. When you drag a signal to the Data View tab, the signal appears in a new or existing display depending on whether a display showing that type of data already exists.

5. Legend (Graph Legend) lists every signal displayed in the graph and also shows its corresponding plot color.

6. Channel View is a table-style section which gives you an overview of all your channels and their settings. You can enable (or disable) channels, select the measurement type, enable (or disable) logging, perform mx+b calculation, and more. You can also use the Channel View toolbar to quickly jump to Acquisition Configuration or (system) Calibration windows.



OMB-NET6231



OMB-NET6230

All models shown smaller than actual size.

SYSTEM POWER CONNECTION

The OMB-NET6000 Series modules offer the flexibility to be powered either directly from a 19 V to 30 Vdc source, or via the included OMB-NET-TR-60U AC power adaptor.

ETHERNET FEATURES

The OMB-NET6000 Series transfers acquired data to the PC via 10/100BaseT Ethernet, allowing a continuous stream of data to be collected and stored in a PC's memory or hard drive. The most common and highest performance connection is with dedicated, point-to-point Ethernet link between the PC and the OMB-NET6000 Series module. With an enterprise-wide Ethernet network connection, any number of OMB-NET6000 Series modules can be connected to the network.

MULTI-UNIT SYNCHRONIZATION

Multiple OMB-NET6000 Series modules can be synchronized via the rear-panel SYNC ports on each unit. After connecting each module to an Ethernet port, simply connect multiple OMB-NET6000 Series modules together using SYNC cables (OMB-CA-74-1). Encore software provides the capability of setting one of the OMB-NET6000 Series modules as the master and the others as slaves. The sampled data phase relationship among channels between multiple devices is dependent on the "Channel SYNC Skew" specification for each device.

ENCORE SOFTWARE Overview

Encore is a premier data acquisition software package and is included with each OMB-NET6000 Series module. Encore combines ease of use with advanced functionality, including customizable data layouts, powerful analysis, and reporting capabilities. Instead of having a program to log data, another to analyze, and a third to develop report data, Encore includes the functionality of all three into one package, thus shortening the learning curve, and saving time and cost.

CONFIGURATION

Easy-to-use set-up wizards provide rapid hardware configuration. Encore allows you to go from setup to taking measurements in minutes. Users can select one or more available devices from Encore's Hardware Configuration dialog. Encore allows you to configure the basic acquisition or generation options, such as channel selection, acquisition rate, number of points, and input range. You can also configure start and stop triggers. In addition, within the Channel View table, users can enable (or disable) channels, select measurement type, enable logging, perform mx+b calculation, and more. Channel View configurations can also be shared among multiple projects.

MEASUREMENT

Encore allows you to develop data displays quickly with an intuitive, drag-and-drop interface. Encore also offers the ability to easily change plot colors, overlay channels (including previously recorded data), and access multiple devices. You can also display data in a variety of ways including; charts and graphs, meters, gauges, and tanks. Additionally, you can export data to other formats including Excel, ASCII and DIAdem.

TRIGGERING

A variety of programmable analog and digital trigger conditions are available for starting and stopping an acquisition within Encore. Analog triggers include Rising Edge, Falling Edge (with hysteresis), Above Level, Below Level, Inside Window, and Outside Window. Digital triggers include Rising Edge, Falling Edge, Level High, or Level Low. In addition, the Duration trigger may be used to stop an acquisition after a specified time.

ANALYSIS

Included analysis options make Encore an advanced software package. Features include FFT, power spectrum, statistics, peak value, and RMS calculation. In addition, you can also create custom formulas using Encore's Create Calculated Signal function. Data can also be viewed in the playback work area. Analysis can be computed on live data as well as logged data (post processing).

ANALYSIS OPTIONS INCLUDE:

- Statistics: Standard Deviation, Mean, and Variance
- Peak: +Peak, -Peak, and Peak-Peak
- RMS
- DC
- FFT
- Power Spectrum
- Minimum
- Maximum

EXPORT TO EXCEL®

Signals can be exported from Encore to Microsoft Excel. When exporting signals from Encore to Microsoft Excel, the following information is exported:

- Signal name
- Export date and time
- Signal units
- Data values

Encore offers sophisticated, built-in test reporting capability which provides the ability to present data in a professional manner. With Encore's test report capability, users can easily develop in-depth test reports. Within Encore's Project Report tab users can drag signals from the application directly into the report and then enter text, change fonts, import images and print or export reports. Once the report is complete, you even have the ability to acquire new data and easily update any previous report, without re-creating the report. The report can be edited throughout the life of the project.



SPECIFICATIONS

ANALOG INPUTS

OMB-NET6220 VOLTAGE INPUT MODULE

Number of Analog Channels: 12

ADC Resolution: 16-bits

Type of ADC: Successive approximation register (SAR)

Input Range: $\pm 10.0V$ nominal; overflow will occur if $|V_{in}| \geq (10.2V \text{ to } 10.6V)$

Sampling Mode: Simultaneous

Data Rates (fs): 1 S/s to 100 kS/s (16 selectable rates)

Multiple Device, Channel Sync Skew: 10 μs

Single Device, Channel-to-Channel Matching (Calibrated): 100 ns typical

Overvoltage Protection: $\pm 30V$

Gain Error (% of R_{dg})/Offset Error: Calibrated, maximum (-40 to 50°C); 0.2%/ ± 8.5 mV: calibrated, typical (25°C, $\pm 5^\circ C$); 0.02%/ ± 1.4 mV

STABILITY

Gain Drift: 10 ppm/ $^\circ C$

Offset Drift: 60 $\mu V/^\circ C$

CMRR (fin=60 Hz): -73 dB minimum

Input Bandwidth (-3 dB): 420 kHz minimum

INPUT IMPEDANCE

Resistance Between any Two AI-Terminals: 200 k Ω

Input Bias Current: 10 nA

INPUT NOISE

RMS: 1.2 LSB

Peak-to-Peak: 7 LSB

Crosstalk: -80 dB

SETTLING TIME [TO 2 LSBS]

10V Step: 25 μs

20V Step: 35 μs

OMB-NET6222

THERMOCOUPLE INPUT MODULE

Number of Channels:

12 thermocouple channels;
3 internal cold-junction compensation channels

ADC Resolution: 24-bits

Type of ADC: Delta-Sigma

Voltage Measurement Range: ± 80 mV

Common-Mode Range

Channel-to-COM: $\pm 1.5V$

Common-to-Earth Ground: $\pm 250V$

Common-Mode Rejection Ratio (0 to 60 Hz)

Channel-to-COM: 95 dB

Common-to-Earth Ground: > 170 dB

OMB-NET6222

Thermocouple Types and Ranges

Type	Range
J	-210 to 1200°C (-346 to 2192°F)
K	-270 to 1372°C (-454 to 2501.6°F)
T	-270 to 400°C (-454 to 752°F)
E	-270 to 1000°C (-454 to 1832°F)
R	-50 to 1768°C (-58 to 3214.4°F)
S	-50 to 1768°C (-58 to 3214.4°F)
B	0 to 1820°C (-32 to 3308°F)
N	-270 to 1300°C (-454 to 2372°F)

Cold-Junction Compensation

Accuracy (Using Provided Connectors and Properly Installed Backshells): 0 to 50°C: 0.6°C (1.1°F) typical, 1.3°C (2.3°F) maximum; -40 to 50°C:

1.7°C (3.1°F) maximum

Data Rate (fs): 2 S/s

Input Bandwidth (-3 dB): 15 Hz

Noise Rejection: 85 dB min at 50/60 Hz

Overvoltage Protection: $\pm 30V$

between any input and common

Differential Input Impedance: 20 M Ω

Input Current: 50 nA

Input Noise: 1 μV_{rms}

Gain Error (Using Provided Connectors and Properly Installed Backshells): 0.05% maximum at 25°C (77°F), 0.06% typical at

-40 to 50°C, 0.1% maximum at -40 to 50°C (-40 to 122°F)

Offset Error (Using Provided Connectors and Properly Installed Backshells): 15 μV typical, 20 μV maximum

Gain Error from Source

Impedance: 0.05 ppm per Ω source impedance due to input impedance

Offset Error from Source

Impedance: 0.05 μV typ, 0.07 μV maximum per Ω source impedance due to input current

Safety Voltage (Channel-to-COM): $\pm 30V$ maximum

Isolation (Channel-to-Channel):

Within each four channel internal module, no isolation between channels; between each four channel internal module, 250V isolation

OMB-NET-6224 STRAIN MEASUREMENT MODULE

Number of Analog Channels: 12

Bridge Completion

Full and Half: Internal

Quarter: External

ADC Resolution: 24-bits

Type of ADC: Delta-sigma (with analog pre-filtering)

Sampling Mode: Simultaneous

Data Rates (fs): (50 kS/s)/n, n = 1, 2 to 31

Multiple Device, Channel SYNC

Skew: 1 sample period

Single Device, Channel-to-Channel Matching (Calibrated): 350 nS (maximum)

Master Timebase (Internal)

Frequency: 12.8 MHz

Accuracy: ± 100 ppm maximum

Nominal Full-Scale Range: ± 25 mV/V

Scaling Coefficient: 2.9802 nV/V per LSB

Overvoltage Protection Between any Two Terminals: $\pm 30V$

Accuracy (Excluding Offset Null or Shunt Calibration): Calibrated maximum [-40 to 50°C (-40 to 122°F)], 0.20% of rdg, 0.0625 mV/V offset; Calibrated typical (25°C, $\pm 15^\circ C$), 0.05% of rdg, 0.0125 mV/V offset

Gain Drift: 10 ppm/ $^\circ C$ maximum

Offset Drift

2.5V Excitation: 0.6 $\mu V/V$ per $^\circ C$

3.3V Excitation: 0.5 $\mu V/V$ per $^\circ C$

5V Excitation: 0.3 $\mu V/V$ per $^\circ C$

10V Excitation: 0.2 $\mu V/V$ per $^\circ C$

Channel-to-Channel Matching (Calibrated): 0 to 1 kHz, 0.15% gain typical, 0.3% gain maximum; 1 to 20 kHz, 0.4% gain typical, 1.1% gain maximum

Common-Mode Voltage

All Signals to Earth Ground:

± 60 Vdc

Common-Mode Rejection Ratio (CMRR)

Relative to Earth Ground

Measured with a Balanced Cable): -140 dB @ 0 to 60 Hz

Relative to EX-: -85 dB @ 0 to 1 kHz

Excitation Noise: 0.1 mV/Vrms

Crosstalk

1 kHz: -110 dB

10 kHz: -100 dB

Shunt Calibration

Resistance: 100 k Ω

Resistor Accuracy: 25°C (77°F): ± 110 Ω , -40 to 50°C (-40 to 122°F): ± 200 Ω

Excitation

Internal Voltage: 2.5V, 3.3V,

5.0V, 10.0V

Internal Power: 450 mW maximum

External Voltage: 2 to 10V



OMB-NET6230 shown smaller than actual size.

OMB-NET6230, OMB-NET6231 HIGH SPEED ISOLATED VOLTAGE INPUT MODULES

Number of Analog Channels: 12

ADC Resolution: 24-bits

Type of ADC: Delta-Sigma (with analog pre-filtering)

Sampling Mode: Simultaneous

Data Rate Range (fs)

Minimum: 1.613 kS/s

Maximum: 50 kS/s

Data Rates (fs): (50 kS/s)/n,
n = 1, 2 to 31

Multiple Device, Channel Sync

Skew: Sample period

Single Device, Channel-to-Channel Matching (Calibrated)

OMB-NET6230: 208 nS (maximum)

OMB-NET6231: 125 nS (maximum)

Master Timebase (Internal)

Frequency: 12.8 MHz

Accuracy: ±100 ppm maximum

Operating Voltage Range:

OMB-NET6230: ±10 Vdc nominal,

±10.52 Vdc typical ±10.3 Vdc min

OMB-NET6231: ±60 Vdc nominal,

±62.64 Vdc typical, ±61.5 Vdc min

Overvoltage Protection: ±100V

Input Coupling: DC

Input Impedance (AI+ to AI-): 1 MΩ

Accuracy (OMB-NET6230

Typical Range ±10.52 Vdc):

Calibrated maximum (-40 to 50°C),

0.13% of rdg, ±6.31 mV offset;

calibrated typical (25°C, ±5°C),

0.03% of rdg, ±842 μV offset

Accuracy (OMB-NET6231 Typical

Range ±62.64 Vdc): Calibrated

maximum (-40 to 50°C), 0.13% of

rdg, ±31.3 mV offset; calibrated

typical (25°C, ±5°C), 0.03% of rdg,

±5.01 mV offset

Input Noise

OMB-NET6230: 70 μVrms

OMB-NET6231: 320 μVrms

Stability

Gain Drift: ±5ppm/°C

Offset Drift

OMB-NET6230: ±24 μV/°C

OMB-NET6231: ±150 μV/°C

Post Calibration Gain Match

(Ch-to-Ch, 20 kHz): 0.22 dB maximum

Crosstalk (1 kHz): -130 dB

CMRR (fin = 60 Hz)

OMB-NET6230: 126 dB

OMB-NET6231: 116 dB

Isolation: Channel-to-earth ground

(continuous); 250 Vrms: channel-to-

channel, (continuous); 250 Vrms

DIGITAL I/O

Channels: 8 digital I/O,

programmable as a single port, or as

individual lines

Power-Up Mode: Inputs pulled low

Connector: DB-9 female

Programmable Input Scanning

Modes

Asynchronous: Under program

control at any time relative to analog

scanning

Synchronous: Data captured

synchronously with the analog

channels

Input Levels

Low: 0 to 0.8V

High: 2.0 V to 5.0V

Input Voltage Range without

Damage:

-0.6V to 5.6V maximum

Input Pull-Down Resistor:

10 kΩ

Output Voltage Range: 0 to 3V

(may be externally pulled up to 5.6V

without damage)

Output Resistance: 40 Ω

Output Levels:

Refer to OMB-NET6000 Series

digital output graph

Sampling: 1 MHz maximum

continuous

Output Timing: Outputs are always

written asynchronously

COUNTERS

Channels: Up to 4 independent

Resolution: 32-bit

Input Frequency: 20 MHz maximum

Input Characteristics: 10 kΩ

pull-down

Trigger Level: TTL

Minimum Pulse Width:

25 ns high, 25 ns low

Programmable Modes:

Counter, encoder

Encoder Resolution:

x1 (default), x2, and x4

Encoder Sources: There are 3

encoder sources (A, B, and Z) that

be assigned to any digital pin x

Counter Source: Internal clock,

timer 1, timer 2, and digital pin x;

one source can be used in multiple

counters

Counter Mode Options: Totalize,

clear on read, rollover, stop at the

top, increment, decrement, rising

edge, falling edge

Counter Gate Options: Unused,

internal clock, timer 1, timer 2, and

digital pin x; one gate can be used in

multiple counters

GENERAL

Operating Ambient: -40 to 50°C

(-40 to 122°F), 10 to 90% RH

non-condensing

Storage: -40 to 75°C

(-40 to 167°F), 5 to 95% RH

Ingress Protection: IP 40

Power Consumption:

OMB-NET6220, OMB-NET-6230,

OMB-NET6231: 5.5 W typical,

6 W maximum;

OMB-NET6222: 4.1 W maximum;

OMB-NET6224: 6.3 W typical, 6.6 W

maximum

Dimensions:

30.5 H x 276.9 W x 169.8 mm D

(1.2 x 10.9 x 6.7")

Weight:

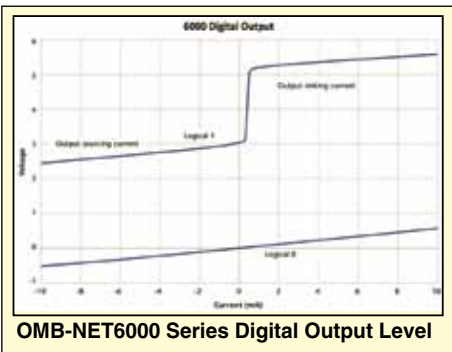
OMB-NET-6220: 1.36 Kg (3 lbs);

OMB-NET-6222: 1.22 Kg (2.7 lbs);

OMB-NET6224: 1.3 Kg (2.88 lbs);

OMB-NET6230 and

OMB-NET6231: 1.24 Kg (2.7 lbs)



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 Visit omega.com/omb-net6000_series for Pricing and Details

Model Number	Description
OMB-NET6220	12-channel, 16-bit ethernet-based voltage measurement module with BNC connectors (USA version)
OMB-NET6220-EUR	12-channel, 16-bit ethernet-based voltage measurement module with BNC connectors (European version)
OMB-NET6222	12-channel, 24-bit ethernet-based thermocouple input module with screw terminal connections. Includes 3 sets of OMB-NET-CN-271 backshell connector kits (USA version)
OMB-NET6222-EUR	12-channel, 24-bit ethernet-based thermocouple input module with screw terminal connections. Includes 3 sets of OMB-NET-CN-271 backshell connector kits (European version)
OMB-NET6224-FULL	12-channel, 24-bit ethernet-based strain measurement module for full or half-bridge configurations. Includes 3 sets of OMB-NET-CN-268 (USA version)
OMB-NET6224-FULL-EUR	12-channel, 24-bit ethernet-based strain measurement module for full or half-bridge configurations. Includes 3 sets of OMB-NET-CN-268 (European version)
OMB-NET6224-120	12-channel, 24-bit ethernet-based strain measurement module for 120 Ω quarter-bridge configurations. Includes 3 sets of OMB-NET-CN-269 RJ50, 120 Ω quarter-bridge connectors, and also 3 sets of OMB-CA-272-01 RJ50 to RJ50 M/M, 1 m (3') cables (USA version)
OMB-NET6224-120-EUR	12-channel, 24-bit ethernet-based strain measurement module for 120 Ω quarter-bridge configurations. Includes 3 sets of OMB-NET-CN-269 RJ50, 120 Ω quarter-bridge connectors, and also 3 sets of OMB-CA-272-01 RJ50 to RJ50 M/M, 1 m (3') cables (European version)
OMB-NET6224-350	12-channel, 24-bit ethernet-based strain measurement module for 350 Ω quarter-bridge configurations. Includes 3 sets of OMB-NET-CN-270 RJ50, 350 Ω quarter-bridge connectors, and also 3 sets of OMB-CA-272-01 RJ50 to RJ50 M/M, 1 m (3') cables (USA version)
OMB-NET6224-350-EUR	12-channel, 24-bit ethernet-based strain measurement module for 350 Ω quarter-bridge configurations. Includes 3 sets of OMB-NET-CN-270 RJ50, 350 Ω quarter-bridge connectors, and also 3 sets of OMB-CA-272-01 RJ50 to RJ50 M/M, 1 m (3') cables (European version)
OMB-NET6230	12-channel, 24-bit ethernet-based high speed $\pm 10V$ isolated voltage input module with screw terminal connections (USA version)
OMB-NET6230-EUR	12-channel, 24-bit ethernet-based high speed $\pm 10V$ isolated voltage input module with screw terminal connections (European version)
OMB-NET6231	12-channel, 24-bit ethernet-based high speed $\pm 60V$ isolated voltage input module with screw terminal connections (USA version)
OMB-NET6231-EUR	12-channel, 24-bit ethernet-based high speed $\pm 60V$ isolated voltage input module with screw terminal connections (European version)

OMB-NET6000 Series USA versions include OMB-NET-TR-60U universal power supply and OMB-CA-1 cable. European versions include the OMB-NET-TR-60U universal power supply and OMB-CA-216 cable. All models include the Encore software and user manual on CD.

Ordering Example: OMB-NET6000, 12-channel Ethernet-based thermocouple module and OCW-1 OMEGACARESM 1 year extended warranty (adds 1 year to standard 1 year warranty).

Accessories and Cables

Model Number	Description
OMB-NET-TR-60U	Universal power supply, 24 Vdc @ 0.8 A max, requires additional cable (OMB-CA-1 USA version, OMB-CA-216 European version)
OMB-CA-1	Required cable for use with OMB-NET-TR-60U, 120V USA version
OMB-CA-216	Required cable for use with OMB-NET-TR-60U, 220V European version
OMB-CA-74-1	RJ12 shielded cable, 6 conductor, SYNC, 0.3 m (1'). ¹
OMB-CA-192-7C	Ethernet crossover cable, 2.133 m (7'). ² and ³
OMB-CA-242	Ethernet patch cable, 0.457 m (1.5'). ²
OMB-CA-242-7	Ethernet patch cable, 2.133 m (7'). ²
OMB-NET-SPK	Stacking plate kit

1: Up to nine units can be synchronized. The total length of the SYNC cable is not to exceed 2.438 m (8').

2: Ethernet cable length must be <3 m (9.8') in order for the system to be CE compliant.

3: Ethernet crossover cables should only be used for direct network connections. In particular, attempting to connect a device to a Hub using a crossover cable may prevent that network link from functioning. Some modern routers have become an exception by including logic to detect the crossover cable and allow the network to function.

Replacement Terminals and Connectors

Model Number	Description
OMB-NET-CN-268	RJ50, 12-pin screw-terminal connector, full and half bridge completion, 4 packs (for OMB-NET6224-FULL)
OMB-NET-CN-269	RJ50, 120 Ω quarter-bridge connector, 4 packs (for OMB-NET6224-120)
OMB-NET-CN-270	RJ50, 350 Ω quarter-bridge connector, 4 packs (for OMB-NET6224-350)
OMB-NET-CA-272-01	RJ50 to RJ50 M/M, 1 m (3') cable, 4 packs (for OMB-NET6224-FULL, OMB-NET6224-120, OMB-NET6224-350)
OMB-NET-CN-271	Backshell connector kit for OMB-NET6222