

# 8 or 16 Channel Universal Input Touch Screen Data Logger

OM-DAQXL



OM-DAQXL shown smaller than actual size.

Stylus (included).

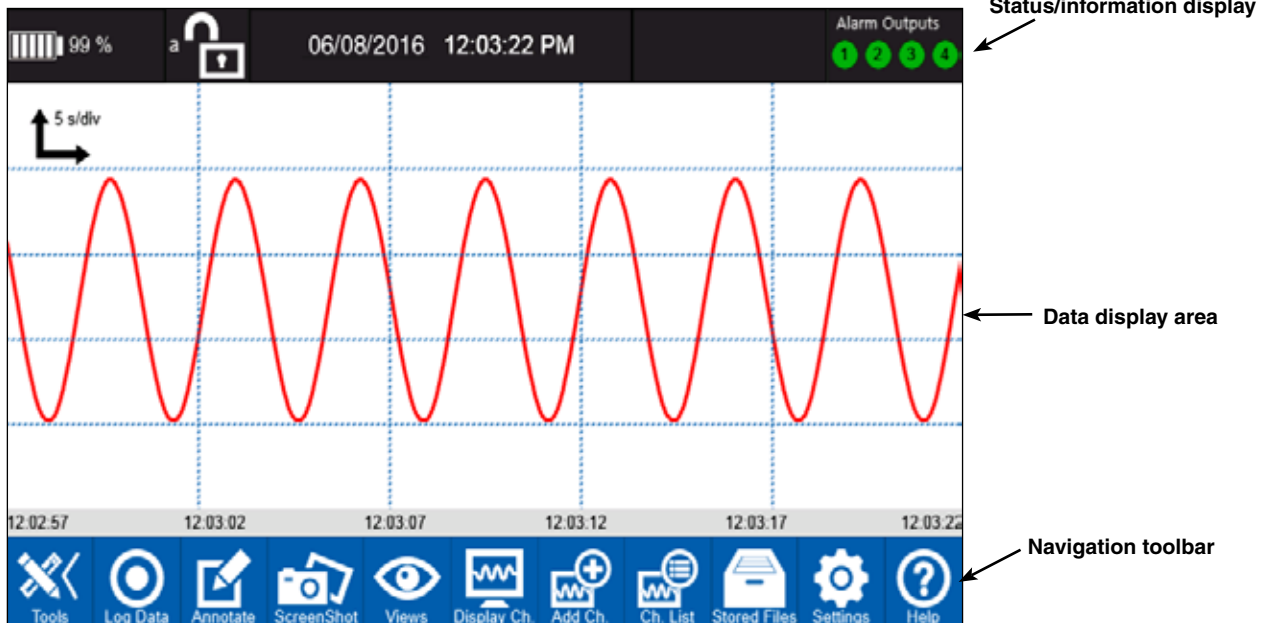
- ✓ 7" Touch Screen TFT Display
- ✓ 8 or 16 Analog Channel Inputs
- ✓ 8 Digital I/O (4 Inputs, 4 Outputs)
- ✓ IIoT-Ready Through OPC UA/DA via Omega Enterprise Gateway
- ✓ Cloud-Ready Through MQTT via Omega Enterprise Gateway
- ✓ Measures Voltage, Current, Thermocouples, RTDs, Thermistors, Strain Gage, Frequency and Pulse
- ✓ 24-Bit Analog Input Resolution
- ✓ Fast Sampling Rate—125 Samples/Sec (1 Channel)
- ✓ 4 Alarm Outputs
- ✓ Large Data Storage: 1 GB Internal Memory, 32 GB SD Card or 32 GB USB Drive
- ✓ USB Device (PC Communication) and USB Host (USB Drive, Mouse, etc.)
- ✓ Powers from Rechargeable Lithium-Ion Battery and/or AC Adaptor
- ✓ Benchtop or Wall Mount Enclosure with Protective Rubber Boot Design

OM-DAQXL is an 8 or 16 channel analog input portable data logger with a 7 inch resistive touch color display. All inputs are programmable and can be configured for millivolts, volts, milliamps, thermocouple, RTD, thermistor, strain gauge, or frequency. All the menus, selections, and configurations can be done from the display touch screen. The unit also has 4 digital inputs, 4 digital outputs, 4 alarm outputs, one USB host port and one USB device port. The unit also has 3 LEDs for different indications (Power, Alarm and Logging).

The OM-DAQXL comes complete with protective rubber boot, rechargeable lithium ion battery, 32 GB SD card, one plastic stylus, 1 GB USB thumb drive, 1.8 m (6') USB cable, 1.8 m (6') digital I/O cable, alarm/excitation terminal block, universal AC adaptor, screwdriver, quick start guide, set of 5 PTFE insulated Type K thermocouples, set of 5 ferrites to install on the thermocouple inputs (for noise reduction) and crimp-on ground lug. The unit can be wall mounted using the provided keyhole mount or operated on a bench using the tilt stand. The USB Wi-Fi Dongle will come in a separate package for '-EW' Models.

## Home Screen

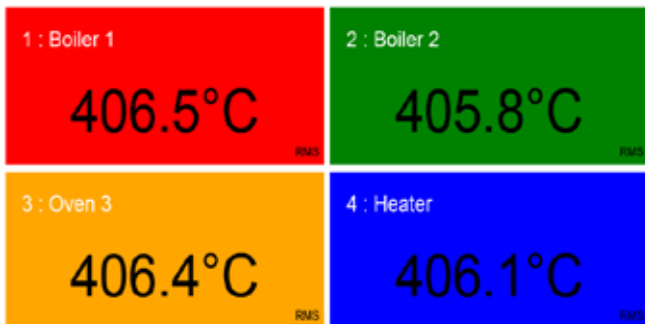
The home screen is the main screen of the data logger's user interface. It is divided into 3 distinct sections as shown below.



Line graph display.

## Digital Display View

**Status/Information Display:** This status bar provides information such as Battery Charge percentage, System Clock (displays current Time & Date), Lock/Unlock data logger, status of the 4 Alarm Outputs, and Logging Mode indication.



Digital display.

**Data Display Area:** This is the area where different inputs (up to 4 Channels) are displayed vs. time. The data is displayed in 4 different ways: Waveform, Waveform & Table, Table only, and Digital. In the Digital view, each channel name and number are displayed along with the value.

**Navigation Toolbar:** This toolbar provides access to all the functions and menus of the data logger. You can extend or retract the toolbar by pressing the Tool button. The following flow chart shows all the functionalities of the buttons of the toolbar.



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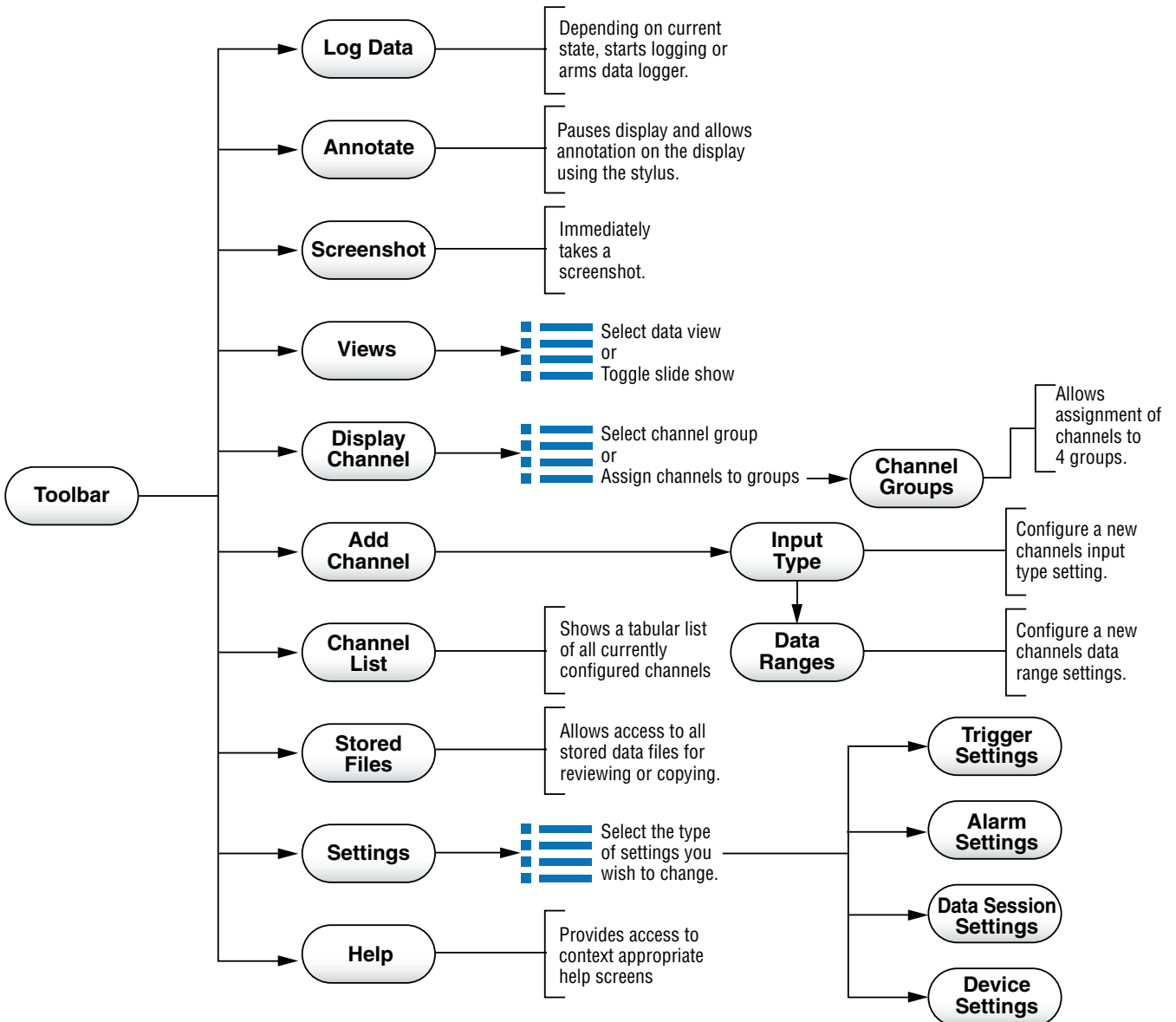
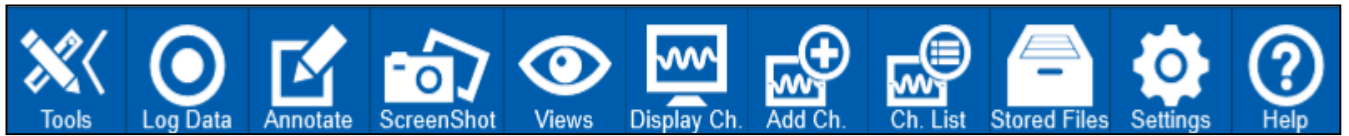


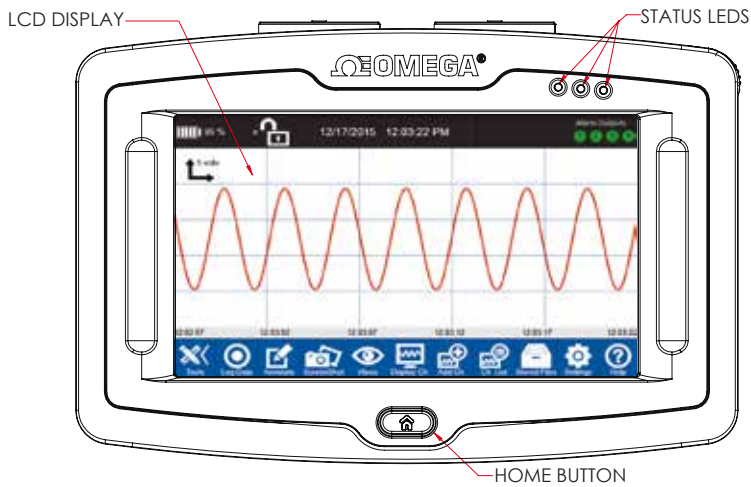
OM-DAQXL shown smaller than actual size.

### Standalone Operation

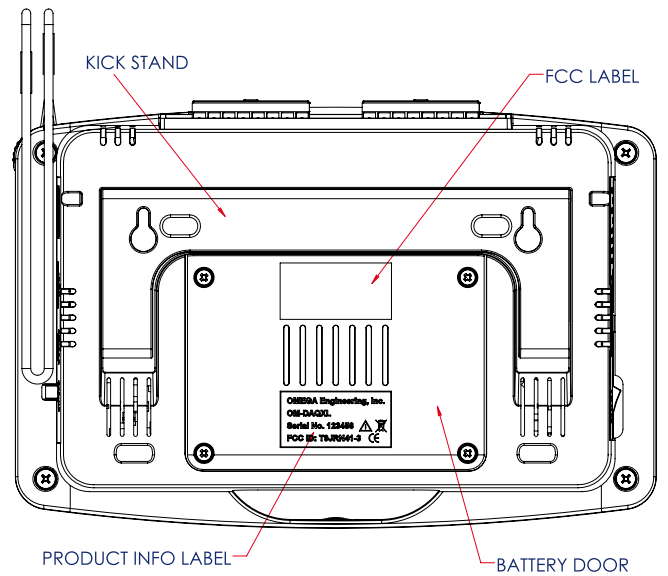
The OM-DAQXL's touch screen user interface (UI) makes configuring the data logger for operation straight forward and simple. Recorded data files can easily be reviewed and analyzed on the OM-DAQXL. For data analysis on a computer, simply transfer the data file from the SD card or USB thumb drive to the PC and open the selected data file into Excel® or other data analysis software.

Toolbar Flowchart

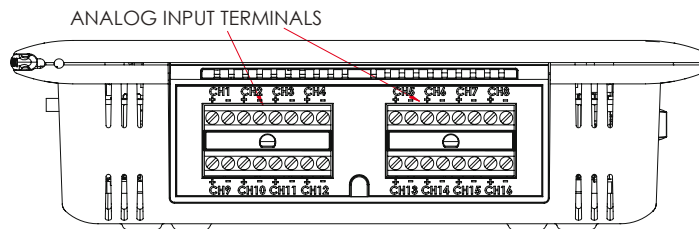




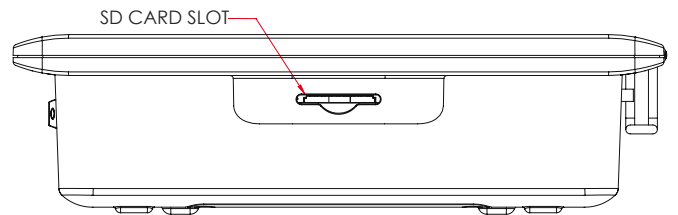
Front view, OM-DAQXL



Back view, OM-DAQXL

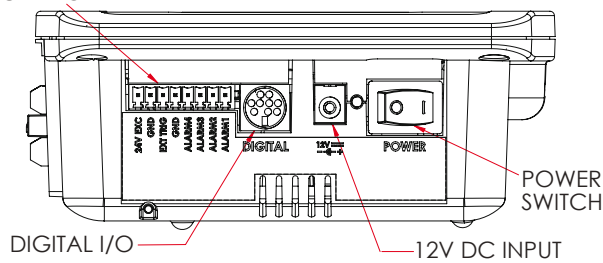


Top view, OM-DAQXL



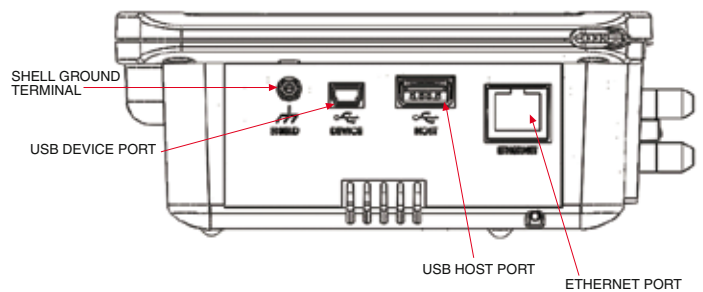
Bottom view, OM-DAQXL

ALARM, EXTERNAL TRIGGER & 24V  
EXCITATION TERMINAL



Left side view, OM-DAQXL

Ethernet Port only available for -EW models



Right side view, OM-DAQXL

## Specifications

**Screen:** 7 inch, TFT, resistive touch comes with plastic stylus

**Rubber Boot:** Black

**Analog Input Type:** Thermocouple, thermistor, RTD, strain gauge, DC voltage, DC current

**Digital Input Type:** Pulse/Frequency

**Thermocouple Types:** J, K, T, E, R, S, B, C, N

T/C Type	Range (°C)	Range (°F)
J	-200 to 1100°C	-328 to 2012°F
K	-200 to 1370°C	-328 to 2300°F
T	-200 to 400°C	-328 to 752°F
E	-200 to 1000°C	-328 to 1832°F
R	0 to 1760°C	32 to 3200°F
S	0 to 1760°C	32 to 3200°F
B	500 to 1820°C	932 to 3308°F
C	0 to 2315°C	32 to 4200°F
N	-100 to 1300°C	-148 to 2372°F

T/C Type	Measurement Accuracy
J	±(0.15% of reading + 1.1°C)
K	
T	
E	±(0.15% of reading + 1.7°C)
N	
R	
S	±(0.15% of reading + 2.0°C)
B	
C	

**Frequency/Pulse Input:** 0 to 250 KHz

**Frequency Accuracy:** ±2 Hz

**Strain Gauge Type:** 100Ω full bridge, 350 Ω full bridge

**Strain Gauge Excitation:** 5V, 10V

**Sampling Rate:** 125 s/sec (Max) to 1 s/hour (Min)

**Maximum Sampling Rate per Number of Channels (Analog and Digital):**

1 Channel: 125 s/sec

2 Channels: 50 s/sec

4 Channels: 25 s/sec

8 Channels: 10 s/sec

16 Channels: 5 s/sec

**Logging Rate:** 125 s/sec (Max) to 1 s/hour (Min)

**Maximum Logging Rate per Number of Channels (Analog and Digital):**

1 Channel: 125 s/sec

2 Channels: 50 s/sec

4 Channels: 25 s/sec

8 Channels: 10 s/sec

16 Channels: 5 s/sec

**Excitation to Power External Transmitter:** 24 Vdc @ 50 mA output-set in data session setting

**Filter Options:** Per channel selectable moving average filter: None, 2, 5, 10, 20 or 50 samples

**Number of Samples for Moving Average Filter per Channel:** Up to 50 samples

**Math (Virtual) Channels:** 8 or 16

**Digital Inputs:** 4 Schmitt trigger based inputs

Range: 0 to 24 Vdc single-ended

Logic High Threshold: 2.5V

Logic Low Threshold: 1.5V

**Digital Outputs:** 4 channels, open collector, 5V @ 50 mA

Thermistor Type	
Thermistor Type	2252Ω/10 KΩ
Range (2252Ω)	-30 to 150°C (-22 to 302°F)
Range (10 KΩ)	-5 to 150°C (23 to 302°F)
Resolution	0.1°C
Accuracy	±1°C

RTD Types	
2-, 3- or 4-Wire RTD Sensor Standard	Lead wire compensation
2-, 3- or 4-Wire RTD Sensor Standard	Pt 100, Pt 500, Pt 1000 (0.00385 curve)
2-, 3- or 4-Wire RTD Sensor Standard	Pt 100, Pt 500, Pt 1000 (0.00392 curve)
Range (0.00385 curve)	-200 to 850°C (-328 to 1562°F)
Range (0.00392 curve)	-200 to 660°C (-328 to 1220°F)
Accuracy	±(0.25% of reading +1°C)
Resolution	0.1°C

DC Voltage Input		
Voltage Range	Measurement Range	Accuracy
50 mV	-50 to 50 mV	±0.1% of FS
100 mV	-100 to 100 mV	
1V	-1.00 to 1.00V	
5V	-5.00 to 5.00V	
10V	-10.00 to 10.00V	
20V	-20.00 to 20.00V	
50V	-50.00 to 50.00V	

DC Current Input		
Current Range	Measurement Range	Accuracy
20 mA	-20 to 20 mA	±0.1% of FS

**Alarm Output:** 4, Open collector, 30V @ 500 mA

**Alarms per Channel:** Two

**Alarm Types:** High, low, windows in, windows out, open sensor

**Alarm Latching:** Settable in alarm menu

**On Alarm Event:** Map to 4 alarm outputs, take screen shot, sound buzzer

**Logging Conditions:** On command or based on trigger conditions

**Start and Stop Trigger Conditions:** Timer, date and time, weekday and time, alarm output, external trigger

**Memory:**

Internal: 1 GB

SD Card: 32 GB

USB Drive: 32 GB

**USB Ports:** One host and one device

**Ethernet\*:** 10/100 Base-T, TCP/IP

**USB Wi-Fi Dongle\*:** 802.11 b/g/n, USB 2.0 interface, up to 150 Mbps, WEP and WPA/WPA2 encryption schemes

*\*Only available on -EW models.*

**Battery:** Rechargeable lithium-ion; 7.2V @ 4.8 Ah

**Battery Life:** 4 to 8 hours based on display setting

**DC Adaptor:** 12 Vdc @ 5A

**Operating Environment:** 0 to 50°C (32 to 122°F), 0 to 95% RH non-condensing

**General Dimensions:** 28.6 L x 15.24 H x 6.35 cm D (9 x 6 x 2.5")

**Note:** Measurement accuracy is at room temperature after 30 minutes of warm-up.

Country Code	AC Power Cord Included
NA	North America
UK	UK
EU	Europe
CN	China
JP	Japan
KR	Korea
SEA	Southeast Asia
SAA	Australia
SN	Singapore
BR	Brazil
MX	Mexico



To Order	
Model	Description
OM-DAQXL-1-*	8-channel touch screen data logger with USB host/device
OM-DAQXL-2-*	16-channel touch screen data logger with USB host/device
OM-DAQXL-1-EW-*	8-channel data logger with USB host/device, Ethernet and Wi-Fi
OM-DAQXL-2-EW-*	16-channel data logger with USB host/device, Ethernet and Wi-Fi

\* Insert country code.

Comes complete with hard carrying case, protective rubber boot, 32 GB SD card, 1 GB USB thumb drive, 1.8 m (6') USB cable, 1.8 m (6') digital I/O cable, alarm/excitation terminal block, universal AC adaptor, screwdriver, quick start guide, set of 5 PTFE insulated Type K thermocouples and crimp-on ground lug. USB Wi-Fi dongle will come in a separate package for -EW models.

Ordering Example: OM-DAQXL-1-NA, 8-channel touch screen data logger with USB host/device.

### Accessories

Model No.	Description
OM-DAQXL-RB	Spare rubber boot
SD32GB	Spare 32 GB SD card
OM-DAQXL-USB	Spare USB cable, 1.8 m (6')
OM-DAQXL-CABLE6	Spare digital I/O cable, 1.8 m (6')
OM-DAQXL-TB8	Spare alarm/excitation terminal block
5TC-TT-K-20-36	Spare set of 5 Type K thermocouples with stripped leads
PT-USB-1	Spare 1 GB thumb drive
OM-DAQXL-RF	Spare ferrite for thermocouple input
OM-DAQXL-ADAPTOR-*	Spare 12 Vdc, 5A power adaptor
OM-DAQXL-BATTERY	Spare rechargeable battery pack
OM-DAQXL-STYLUS	Spare stylus
USB-WIFI	USB Wi-Fi Dongle certified for US, EU and Canada
USB-WIFI-AP	USB Wi-Fi Dongle certified for US, Japan and China

\* Insert country code

-EW models are compatible with USB Wi-Fi dongles that support Windows Embedded Compact 7.0.