Portable Data Logger

OM-SQ2010

1 YEAR WARRANTY CE

- **4 to 8 Universal Analog Inputs (Current, Voltage, Resistance, Temperature) Plus 8 Digital Inputs**
- **16 Derived/Calculated Channels**
- **2 Alarm Outputs and 2 Pulse Counter Inputs (1 at 64 KHz, 1 at 100 Hz)**
- **0.1% Accuracy**
- **Up to 1.8 Million Readings**
- **Large Easy-to-Read Graphical Display**
- **Includes Windows® Software for Data Logger Setup and Data Transfer to PC**
- **USB Connectivity**
- **RS-232 Output For Modem and Wireless Connection (Via Interface Modules)**

OM-SQ2010 data logger shown smaller than actual size.

The OM-SQ2010 is a versatile general purpose data logger with 4 to 8 analog input channels to measure current, voltage, resistance and temperature, plus 8 digital channels to automatically trigger or stop logging. An RS-232 port is included, allowing connection to modems and other networking devices.

This is a portable data logger which is also suitable for benchtop and fixed installations. The unit is easily programmed via the four integral push buttons and large graphical display or via the included Windows® software. The OM-SQ2010 is able to fulfill many routine data logging needs, including more demanding applications requiring up to ten readings per second on one channel.

Comprehensive Software Configuration:

The OM-SQ-SOFT software (supplied with the OM-SQ2010 series data loggers) allows logger configuration, data download and data export while giving the user full control over the OM-SQ2010. The optional OM-SQ-SOFT-PLUS software gives the user access to many advanced data analysis and data archiving/transfer features.

The optional OM-SQ-SOFT-PLUS software lets you quickly and easily analyze the data from your OM-SQ2010 data logger in a familiar windows explorer style interface. Data can be displayed with 2 different auto scaling Y-axis. This is particularly useful when displaying widely varying data from different sensors on one graph.

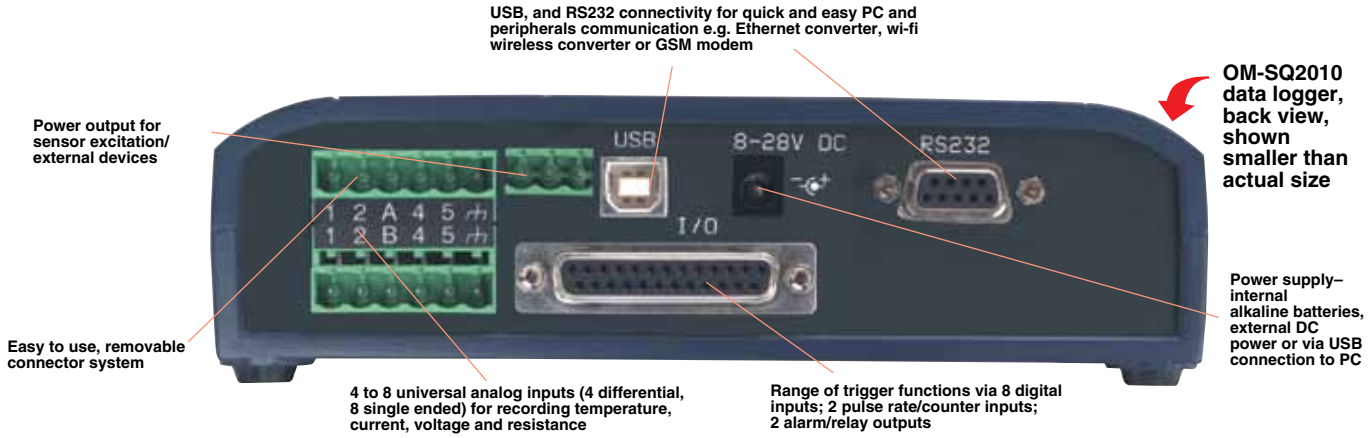
You can also zoom in on areas of interest, use a cursor to pick out exact values, times and dates, get a statistical summary of your data, set high and low alarm thresholds and, using the calculation function, you can create new virtual channels from existing channels.

The OM-SQ-SOFT-PLUS software also incorporates a report generation facility, which allows you to create custom report templates consisting of a title page with descriptive text, headers and footers, graphs, tabular list of data, statistics and data logger setup information.

Templates can be setup with any of these combinations and saves time when preparing similar presentations of data

Specifications

No. of Analog Channels:
8 single ended or 4 differential inputs. The OM-SQ2010 data logger has a single analog to digital converter (A/D) which corresponds to inputs on blocks A and B. Each connection block will accept up to 2 differential inputs or up to 4 single ended inputs (it is not possible to mix single ended and differential inputs on a block).
Analog Input Connections:
Detachable screw terminal blocks
Channel Expansion: No
Universal Input: Yes
Voltage Ranges (Differential and Single Ended):
-6 to 25, -0.6 to 2.4, ±0.3V, -0.15 to 0.15, -0.075 to 0.075, -6 to 12, -6 to 6, -3 to 3, -0.6 to 1.2, -0.6 to 0.6
Common Mode: 25V
Current Ranges, Differential (Requires External 10 Ω Shunt):
4 to 20 mA, ±30 mA



Thermocouple Ranges (Differential and Single Ended):
- **Type J:** -200 to 1200°C (-328 to 2192°F)
- **Type K:** -200 to 1372°C (-328 to 2502°F)
- **Type T:** -200 to 400°C (-328 to 752°F)
- **Type N:** -200 to 1300°C (-328 to 2372°F)
- **Type R:** -50 to 1768°C (-58 to 3214°F)
- **Type S:** -50 to 1768°C (-58 to 3214°F)

Resistance Ranges (All 2 Wire): 0 to 1250 Ω, 0 to 5000 Ω 0 to 20,000 Ω, 0 to 300,000 Ω

Thermistor Ranges:
- **U & UU-Type:** -50 to 150°C (-58 to 302°F)
- **Y-Type:** -50 to 150°C (-58 to 302°F)
- **S-Type:** -30 to 150°C (-22 to 302°F)

User-Defined Thermistor: Enter Steinhart-Hart coefficients or RT pairs

Pt100/1000 (2-wire): -200 to 850°C (-328 to 1562°F)

A/D Resolution: 24-bit

Accuracy: See table

Internal Reference Temperature: -50 to 150°C (-58 to 302°F)

Pulse Count Ranges: 0 to 100 Hz (1 input); 0 to 64 kHz (1 input); 0 to 16,000,000 count

Digital State/Event Ranges: 8 state inputs or 1 x 8 bit binary

Digital/Alarm Outputs: 2 open drain FETs, 18V, 0.1A

Digital I/O Connections: DB25F connector

Clock Resolution/Accuracy:
- **1s/10 ppm Normal Mode:** Each input sampled at a max rate of 1 rdg per second
- **Double-Speed (Mains Reject Off):** One input can be sampled at 10 rdgs per second and all others are sampled at a max rate of 1 rdg per second

No of Intervals: 4

Data Scaling: Included in standard OM-SQ software

Data Statistics: Calculated within OM-SQ-SOFT-PLUS software

Calculated Channels: Up to 16

Memory Internal: 16 M (1 to 1.8 million readings)

Display/Keypad: 128 x 64 dot graphical display, 4 button keypad

Power: 2 C cells internal (included), or external 8 to 28 Vdc via AC adaptor and USB when plugged in

Battery Life: Up to 5 days with continuous usage while sampling all channels once per second

Sensor Power Output: 5 V at 50 mA, external 8 to 28V at 100 mA (when connected)

Networking: Via RS-232 to Ethernet adaptor (Model No. OM-SQ-NET-ADAP)

Modem Support : Via RS-232 modem (GSM modem kit Model No. OM-SQ-GSM-KIT)

PC Setup: Complete data logger set up possible via OM-SQ software; software compatible with WIN XP/VISTA (32-bit & 64-bit)/7 (32-bit & 64-bit)

Front Panel Setup: Via 4 integral 4 keys. All essential functionality available via key pad e.g. channel configuration, start/stop logging etc. Other advanced functions e.g. calculated channels and channel descriptions are available via connection to a PC running OM-SQ data logger software

Stored Setups: 6

Operating Temperature: -20 to 65°C (-4 to 149°F)

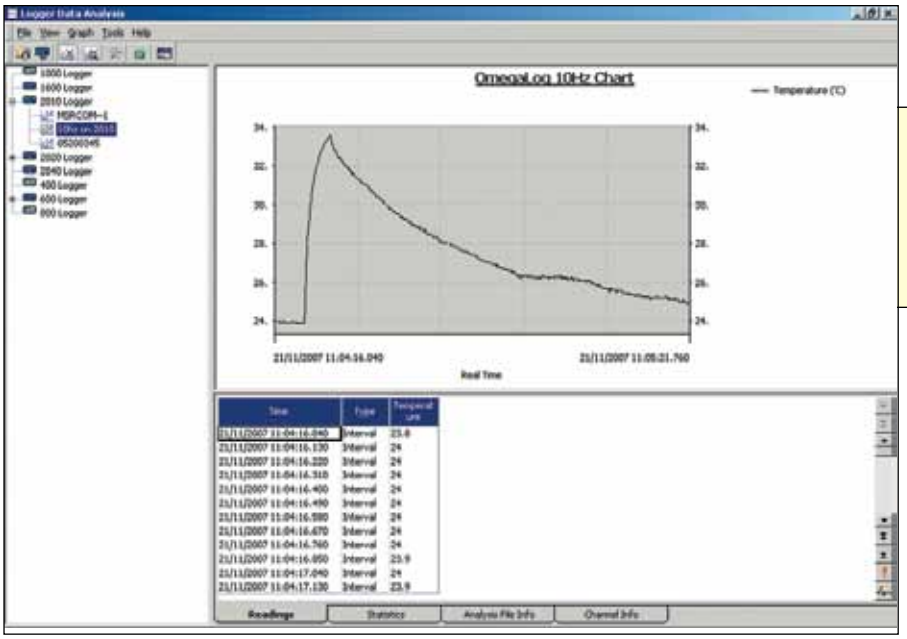
Dimensions: 135 H x 175 W x 55 mm D (5.3 x 6.9 x 2.2")

Weight: 0.7 kg (1.5 lb)

Enclosure: ABS plastic

Input Channels	Accuracy @ 23°C
Differential voltage	±(0.1% of reading + 0.05% of full scale)
Single-ended voltage	±(0.1% of reading + 0.1% of full scale)
Differential current	±(0.1% of reading + 0.1% of full scale)
Resistance (up to 200 Ω)	±(0.1% of reading + 0.1% of full scale)
Thermistors (up to 130°C)	±(0.15% of reading + 0.1% of full scale)
Pt100/1000 RTD	±(0.15% of reading + 0.1% of full scale)
Differential J, K and N thermocouples (above -50°C) *	±0.1% of full scale
Differential R, S and T thermocouples (above -50°C) *	±0.2% of full scale
Single-ended J, K and N thermocouples (above -50°C) *	±0.15% of full scale
Single-ended R, S and T thermocouples (above -50°C) *	±0.25% of full scale
Pulse count and rate	±(0.0011% of reading +1)

** Includes cold junction compensation (CJC) error. Data logger held at constant temperature*



OM-SQ-SOFT, Windows software (included with OM-SQ2010 data loggers) displays data in graphical or tabular format.

OM-SQ2010 data logger shown smaller than actual size.

OMEGACARE℠ Extended Warranty Program

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

To Order *Visit omega.com/om-sq2010 for Pricing and Details*

Model No.	Description
OM-SQ2010	Portable handheld data logger including carrying case, 2 C cell batteries, input terminal blocks, 4 current shunts, screw driver, USB cable and OM-SQ-SOFT software
OM-SQ2010-KIT	Same as OM-SQ2010 plus OM-SQ-SOFT-PLUS software and 120 Vac adaptor
OM-SQ-SOFT-PLUS	OM-SQ2010 plus software

*To order data logger with calibration certificate, add suffix **"-CAL"** to model number.*

***Ordering Example: OM-SQ2010-KIT** portable data logger kit includes data logger, carrying case, 2 C cell batteries, 3 input terminal blocks, 4 current shunts, screw driver, USB cable, 120 Vac adaptor and **OM-SQ-SOFT-PLUS** software and **OMEGACARE℠** 1-year extended warranty for **OM-SQ2010-KIT** (adds 1 year to standard 1 year warranty).*

Accessories

Model No.	Description
OM-SQ2010-CASE	Carrying case for OM-SQ2010
OM-SQ-NET-ADAP	Serial/ethernet converter kit
OM-SQ-GSM-KIT	GSM modem kit
OM-SQ-RF-ADAP	Wireless network adaptor
OM-SQ-UNIV-ADAP	Universal power pack
OM-SQ-UNIV-ADAP-1	Universal power pack with 1 m (3.2') flying lead
OM-SQ-CS	Spare current shunts (package of 4)
OM-SQ-SER-CABLE	OM-SQ data logger to PC serial port cable
OM-SQ-USB-CABLE	pare OM-SQ data logger to PC USB port cable
OM-SQ-TB3	Spare 3-way terminal block with cable restraint
OM-SQ-TB4	Spare 4-way terminal block with cable restraint
OM-SQ-TB6	Spare 6-way terminal block with cable restraint
OM-SQ-SOFT-PLUS	OM-SQ2010 PLUS software
OM-SQ-SOFT-PLUS-LIC	OM-SQ2010 PLUS software mulit-user license

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- **pH and Conductivity**

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

- **Data Acquisition**

Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485, Ehernet and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

- **Pressure, Strain and Force**

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- **Heaters**

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters