IQ-VmA, IQ-VmA-40

Voltage/milliAmp Input and Ambient Temperature Data Logger

Functional Description

The IQ-VmA voltage/milliamp input and ambient temperature data logger is a rugged and versatile device designed for remote, battery-operated data recording. One channel can be used for voltage or current logging (mutually-exclusive) and one channel can be used for ambient temperature logging. To use the IQ-VmA, simply set up the logger using your PC's serial port and the IQ Wizard software. Then, disconnect from the PC, deploy it where needed, and start the logger. When your recording session is complete, reconnect to your PC and download the data directly into an Excel worksheet.

A standard IQ-VmA logging a single channel holds over 21,280 samples, while the IQ-VmA-40 holds 43,120 samples. With 43,120 samples, you can sample once a minute for 30 days or once every 15 minutes for over 14 months!

Typically, the logger is connected to the PC only for initial setup, testing, and uploading data. However, while connected to the PC, data can also be displayed in real time. All data is stored in nonvolatile memory so in the unlikely event of battery failure, your data is available after a new battery is installed.

Sampling can be started:
- Immediately after configuration,
- by pressing the start button after deployment,
- at a programmed time and date,
- by pressing the start button to acquire a single sample

Sampling can be programmed to stop when the memory is full, or by pressing the logger button. If not programmed to stop on a full memory, the logger will continue to sample and will overwrite the oldest data.

You will need an IQ-PCIK PC Interface Kit to communicate with your IQ logger. The kit includes IQ-Wizard software and a serial cable/adapter. The kit is sold separately and once owned, can be used with any number of data loggers.

Ordering Guide

IQ-VmA	V/mA & Ambient Temp. Logger - 21K Samples
IQ-VmA-40	V/mA & Ambient Temp. Logger - 43K Samples
IQ-PCIK	IQ family PC Interface Kit

Performance & Specifications

Data Logging

Type	Temperature from probe & ambient
A/D resolution	12-bits
Sampling rates	8 Hz to 1 per 24 hours, S/W- selectable
Clock accuracy	±2 seconds per day
Memory type	nonvolatile

Maximum sample size	**IQ-VmA**	**IQ-VmA-40**
Voltage/current only		
Single time-stamped sample	4,560 samples	9,240 samples
Periodic samples	21,280 samples	43,120 samples
Voltage/current and ambient temp		
Single time-stamped sample	3,990 samples	8,085 samples
Periodic samples	10,640 samples	21,560 samples

Internal Temperature Sensor

Type	Semiconductor
Range	-40 to 85°C (-40 to 185°F)
Resolution / relative accuracy	0.03°C / ±0.5°C over entire range
Response time	11.6 minutes in still air (to 63%)

External Voltage/Current Input

Range	Resolution	Absolute Accuracy*	Typical Accuracy
0 to 20mA	5uA	±30uA	±15uA
±30V	15.8mV	±95mV	±47.4mV
0 to 30V	7.8mV	±47mV	±23.4mV
±10V	5.2mV	±31mV	±15.6mV
0 to 10V	2.6mV	±16mV	±7.8mV
±5V	2.6mV	±17mV	±7.8mV
0 to 5V	1.26mV	±7.6mV	±3.8mV
±1.2V	610uV	±3.6mV	±1.8mV
0 to 1.2V	310uV	±2.0mV	±1.0mV
0 to 333mV	97uV	±750uV	±380uV

* At 25°C _and not connected to the computer.

Maximum Input	±6 Vdc

Power Consumption

Battery	3.6 V lithium, 2.1 AH

Battery life	**Sample Period**	**Battery Life**
	0.125 second	185 days
	1.0 second	2.9 years
	>10 seconds	8.0 years

Environmental

Operating/storage temperature range	-40 to 85°C (-40 to 185°F)
Humidity	0 to 95% noncondensing