

IQ-Event, IQ-Event-40

Event Counting/Time-Stamping, and Ambient Temperature Logger



Functional Description

The IQ-Event, time-stamping and ambient temperature data logger is a rugged and versatile device designed for remote, battery-operated monitoring. It can be used in a wide variety of counting and time/date stamping applications. To use the IQ-Event, simply set up the logger using your PC's serial port and the IQ Wizard software. Then, deploy it where desired and start the logger. When your recording session is complete, reconnect it to your PC and download one or two channels of the data directly into an Excel worksheet.

When counting events, an IQ-Event logger can hold 15,960 samples. The IQ-Event-40 can hold 32,340 samples or 2.1×10^9 events! If counting events and monitoring temperature, the IQ-Event holds 7,980 samples, while the IQ-Event-40 version holds 16,170 samples.

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, or
- 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/adaptor. The kit is sold separately and once owned, can be used with any number of data loggers.

Ordering Guide

IQ-Event	Event / Time-Stamp Logger - 16K samples
IQ-Event-40	Event / Time-Stamp and Logger - 32K Samples
IQ-PCIK	IQ family PC Interface Kit

Features

- 16-bit Counter for Event Recording (65,535 events per sample)
- Records up to 32,340 event/samples with IQ-Event-40
- User-replaceable lithium battery lasts up to 10 years
- Fast and easy setup and analysis with IQ Wizard and Excel™
- 12-bit resolution for Temperature
- Temperature Conversion to °C (default), °F, or °K.
- Four start-sampling modes (Immediate, key, time, single sample)
- Status LED indicates operational or alarm conditions
- Small size: 3.1 x 2.5 x 1.0 inches (79 x 64 x 25mm)

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-Event	IQ-Event-40
Event only		
Single time-stamped sample	6,384 samples	12,936 samples
Periodic samples	15,960 samples	32,340 samples
Event and ambient temp		
Single time-stamped sample	4,560 samples	9,240 samples
Periodic samples	7,980 samples	16,170 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	10 minutes in still air (to 63%)

Event Input

Modes:	
Event counting:	16-bit counter
Event time stamp:	1 time stamp max once per 0.125 sec.
Input impedance:	1 Megohm
Inputs:	
Switch closure:	1 kilohm max
Voltage input:	±60V max
Thresholds:	S/W-selectable, 1.18V, 0.58V, or 0.29V (each range with ±50mV hysteresis)
Debounce time constant	t = 13.8 ms, S/W-enabled
Trigger (software-selectable):	rising/switch open or falling/switch closed
Minimum duration:	250us Event only* 330us Event and Temp*

*Multitasking timing inaccuracies may cause missed pulses while communicating to PC.

Power Consumption

Battery	3.6 V lithium, 2.1 AH	
Battery life	Sample Period	Battery Life
	0.125 second	250 days
	1.0 second	1.0 years
	>3 seconds	1.1 years

Environmental

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