IQ-TC, IQ-TC-40

Thermocouple and Ambient Temperature Data Logger

Features

- Acquires up to 21,560 Thermocouple samples (IQ-TC-40)
- Supports J, K, T, and E thermocouples
- Filtering for 50, 60 or 120 Hz rejection can be selected
- 12-bit resolution
- User-replaceable lithium battery lasts up to 10 years
- Fast and easy setup, data-downloads and analysis with IQ Wizard™ and Excel™.
- Temperature Conversion to °C (default), °F, or °K.
- Four start-sampling modes (Immediate, key, time, single sample)

Functional Description

The IQ-TC Thermocouple input data logger is a rugged and versatile device designed for remote, battery-operated monitoring. The unit measures temperature for a wide variety of thermocouple types as well as logging ambient temperature. To use the IQ-TC, set up the logger via your PC's serial port and the IQ Wizard software. Then, disconnect and 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 IQ-TC holds 10,640 thermocouple samples, and the IQ-TC-40 holds 21,560 samples. An IQ-TC-40 can sample once a minute for 15 days or once every 15 minutes for over 7 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-TC	TC and Ambient Temp. Logger - 21K Samples
IQ-TC-40	TC and Ambient Temp. Logger - 43K Samples
IQ-PCIK	IQ family PC Interface Kit

Performance & Specifications

Data Logging

Type	Thermocouple & amb. temperature
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-TC	IQ-TC-40
Sampling TC and amp 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	0.03°C
Relative accuracy	±0.5°C over entire range
Response time	11.6 minutes in still air (to 63%)

External Thermocouple Sensor

				Temperature Accuracy*	
Type	**Range °C**	**Resolution**	**Accuracy**	**0°C to+FS**	**Entire range**
E	-200 to 900	22.6uV	±92uV	±1.6°C	±3.8°C
J	-200 to 750	15.6uV	±63uV	±1.3°C	±3.1°C
K	-200 to 1250	17.1uV	±69uV	±1.8°C	±4.7°C
T	-200 to 350	8.6uV	±40uV	±1.0°C	±2.5°C

*Does not include thermocouple or cold junction error.

Power Consumption

Battery	3.6V Lithium, 2.1 AH	
Battery life	**Sample Period**	**Battery Life**
	0.125 second	150 days
	1.0 second	2.4 years
	>8 seconds	7.2 years

General

Size	3.1 x 2.5 x 1.0 inches (79 x 64 x 25mm)
Weight	2.8 ounces (80g)
Case	Heavy duty ABS plastic
Front panel	Start/stop button, status/alarm LED

Environmental

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

Please see our large selection of thermocouples