

IQ-TRH, IQ-TRH-40

Relative Humidity and Ambient Temperature Data Logger



Functional Description

The IQ-TRH data logger is a rugged and versatile device designed for remote, battery-operated monitoring. The unit measures both relative humidity and ambient temperature and saves these readings in internal, nonvolatile memory. To use the IQ-TRH, simply set up the logger using your PC's serial port and the IQ Wizard software. Then, disconnect it, deploy it where it's desired, and start the logger. When the recording session is complete, reconnect to your PC and download the data directly into an Excel worksheet.

The IQ-TRH, when logging a single RH channel, can hold 31,920 samples. The IQ-TRH-40 version can hold 64,680 RH samples. With 64,680 samples, you can sample relative humidity once a minute for 45 days or once every 15 minutes for over 22 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 acquire samples and overwrite old 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-TRH	RH and Ambient Temp. Logger - 21K Samples
IQ-TRH-40	RH and Ambient Temp. Logger - 43K Samples
IQ-PCIK	IQ family PC Interface Kit

Features

- Acquires up to 64,680 RH samples (IQ-TRH-40)
- Fast and easy setup, data-downloads and analysis with IQ Wizard™ and Excel™.
- Four start-sampling modes (Immediate, key, time, single sample)
- Temperature Conversion to °C (default), °F, or K.
- User-replaceable lithium battery lasts up to 10 years
- 12-bit resolution
- Status LED on logger indicates four operational/alarm conditions
- Rugged construction of ABS Plastic
- Small size

Performance & Specifications

Data Logging

Type	Relative humidity & 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	

	IQ-TRH	IQ-TRH-40
Maximum sample size		
Relative humidity only		
Single time-stamped sample	5,320 samples	10,780 samples
Periodic samples	31,920 samples	64,680 samples
Temp. and RH		
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	10 minutes in still air (to 63%)

Internal Relative Humidity Sensor

Type:	Capacitive
Operating range:	-40 to 125°C (-40 to 257°F)
Resolution:	~1% RH over 15 to 90% RH range
Relative accuracy:	±2%, 15 to 90% at 25°C
Response time	21 minutes in still air (to 63%)

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

Power Consumption

Battery	3.6 V lithium, 2.1 AH	
Battery life	Sample Period	Battery Life
	0.125 second	219 days
	1.0 second	3.5 years
	>8 seconds	9.5 years

Environmental

Operating/storage temperature range	-40 to 85°C (-40 to 185°F)
Humidity	0 to 100% noncondensing