

# DAQ10K Acquisition Software User Manual

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#### 1 Overview

The DAQ10K program is acquisition software developed for the TorqueTrak 10K system. It provides a means for observing, recording, and analyzing the digital output of the TT10K receiver via USB connection to a computer.

#### 2 USB Connection to a PC

The RS-232 digital output of the TT10K receiver (RX10K) connects to a USB port of the computer via any conventional USB to RS-232 converter.

#### 3 System Requirements

The DAQ10K software is optimized for Microsoft Windows 10 and 11 operating systems.

Do not perform background operations while logging data such as browsing the internet or running other heavy resource operations or data corruption can occur.

#### 4 DAQ10K Program Installation

Insert the USB drive into the computer and unzip the contents of the XXXXX. ZIP file into a temporary folder. Open the XXXXX folder and run the DAQ10K.msi file to start the installation and the following window will open.

Click "Next" to begin the installation.

🛃 DAQ10K — 🗆 X		# DAQ10K − □ X
Welcome to the DAQ10K Setup Wizard		Select Installation Folder
The installer will guide you through the steps required to install DAQ10K on your computer.		The installer will install DAQ10K to the following folder. To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse". Folder:
	Press "Cancel" at any time to stop the installation.	C-VProgram Files (x86)/DAQ10K\ Bgowse Disk Cost
WARNING: This computer program is protected by copyright law and international treaties. Unaufhorced duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.		Install DAQ10K for yourself, or for anyone who uses this computer: O Everyone © <u>Just me</u>
< Back Next > Cancel		< <u>Back</u> <u>Next</u> Cancel

Select where you want to install the software and click "Next" to continue and then follow the prompts to complete the installation.

#### 5 Running the Software

After installation, there will be a DAQ10K icon on the desktop. Simply click the icon to start the program.



If you see the following error, you can either download the file or run the windowsdesktop-runtime-6.0.36-winx86.exe installation file from the unzipped installation folder.



## 5.1 License Key

When the program is first run you will be prompted to enter a license key to run the software. Enter your email address and click the "Save Request" button.

DAQ10K	
This program is unlicensed, and mus to be used. Please enter your email, Binsfeld with your license request file	t be licensed then contact e to receive a
Email	
support@binsfeld.com	Save
Binsfeld Enginering Inc.	Request
4571 West MacFarlane Rd	bead
USA	License
(+1) 231-334-4383	
www.binsfeld.com	Close

A dialog box will open prompting you to choose where to save the request file. Once it is saved, email it to <u>Support@Binsfeld.com</u>.

Upon receipt of the request, Binsfeld will provide an appropriate license key for your software.

## 5.2 Enter License Key

When you receive the license key from Binsfeld, re-open the software and the license dialog box will open again.

DAQ10K										
This program is unlicensed, and must be licensed to be used. Please enter your email, then contact Binsfeld with your license request file to receive a										
Email										
support@binsfeld.com Binsfeld Enginering Inc.	Save Request									
4571 West MacFarlane Rd Maple City, Michigan 49664 USA	Load License									
(+1) 231-334-4383 www.binsfeld.com	Close									

Enter your email address if it is not already entered and click the "Load License" button. A dialog box will appear where you can navigate to the license key. Upon successful verification you will be prompted with a window indicating you are now licensed.



#### 6 Main Screen

When the program is executed, the main screen will open.

DAQ10K UNLICENSED	-		×
Settings Start Update Graph Start Log			
Current Value			
Load File			
Export to Excel			
Smooth Graph			
Graph Upper Limit			
29,735			
Graph Lower Limit			
-29,735			
Limits in ft-Ib			
Auto Fit Graph			
Reset Graph			
J.9.16	Disconnected	COM1	0.5 sec

#### 6.1 Status Display

The lower right of the main program window displays the current connection status of the COM port and if necessary, will display any COM port errors. Additionally, the length of time of the graph is displayed based on the Display Tab settings.

### 7 Configuration

The Settings button opens the Settings screen which allows configuration of the torque, serial port, display, logging, and export features.

### 7.1 Torque Tab

Torque	Serial Port	Display	Logging	Export	Lice	nse	About		
Unit Se	lection		English	(ft-lb)	~				
Outer Diameter (Do) Inner Diameter (Di) Gage Factor (GF)				5.000			inches inches (0 for solid shaft		
			2.000			(supplied with gages)			
Modul	Modulus Of Elasticity (E)			30.0			Mpsi		
Poisso	n's Ratio (v)			0.3			(0.3 for steel)		
Transm	iitter Gain (G	xmt)	4000		~				
Full Sci	ale Torque			23,5	99.70	ft-ll	b		
Chang Also, ti	ing Units will he graph will	convert be reset.	diameters,	but set E	to de	fault.			

The Torque tab is used to configure the shaft properties and gain setting. The default units are English ft-lb, but English in-lb, and Metric units can be selected from the drop-down Unit Selection menu at the top.

The Full-Scale Torque is calculated automatically from the input shaft and gain parameters. This value is then used to create the default scale for the display graph. The overall torque display is approximately 20 percent larger than the full-scale torque to allow viewing of signal dropouts and errors.

## 7.2 Serial Port Tab

Settin	gs						
Torque	Serial Port	Display	Logging	Export	License	About	
Serial F	fort		COM1 COM12 COM12 COM13 COM14		V	Refr	esh
					0		Cancel

Use the Serial Port tab to select the serial port corresponding to the port your USB to RS422 adapter is connected. If you do not see your serial port listed, use the Refresh button. It may be necessary to restart the program if you are still unable to see the correct port listed.

## 7.3 Display Tab

	Serial Port	Display	Logging	Export	License	About	
Sample	Rate						
2400			1.1				
2400 sp	is in the		1222		_		
Sample	to Display		1200				
Display	Duration: 0.	5 seconds					
Logge	d Data Displ	ay					
I I	apsed Time						
ОТ	mestamns						
0							

The display tab lets you choose 9 separate incoming Sample Rates from 2400 to 9.375 samples per second.

The Samples to Display input allows you to choose how many samples you would like to display on the graph.

The Logged Data Display button allows you to choose the horizontal time base of imported data as an elapsed time from the beginning of the test or as a timestamp starting from the moment the sample was taken.

## 7.4 Logging Tab

Les Cite Ma				and and			
Log File Na	ne						
							Browse
Log File Du	ration	Days	0	÷ Es	t. File Size	: 140.7 kB	3
	HH:I	MM : SS	0	: 1	• :	0	
What to d	o when file	e exists?-					
O Overw	rite every f	time					
⊖ Appen	d a count	er to the f	ilename				
Ask us	er						

The logging tab provides a means for you to log the data for later retrieval.

You can choose how long you want to log from one second up to thirty days.

Enter the name you want for the log file and browse to the folder you desire. The "Documents" folder is the default. If there is an existing file by the same name as you have entered, you have the option to overwrite the file or append a numerical digit to the end of the file name. You will receive an error message if there is not enough storage space for the file size you specify.

The log files are limited to 999,989 data points. If your specified log time exceeds this amount the system will automatically append an increasing digit to the log file name.

## 7.5 Export Tab

Jettin	92						
Torque	Serial Port	Display	Logging	Export	License	About	
Expo	orted Data						
	aw Values						
00	alculated To	rque					
• B	oth						

The export tab sets up the parameters for the Excel .csv file. It allows you to choose whether you want to export the Raw Values from the RX10K, the Calculated Torque from the shaft parameters, or both. You also have the choice to have column headers appended to the data.

## 7.6 License Tab

When the license has been successfully entered the License Tab shows the unique device ID, and email account the program is licensed to as well as the duration of the license. It also allows you to install a new license.

Torque Ser	ial Port	Display	Logging	Export	License	About
Device ID	XXXX-	xxxx-xx	ox-xxxx-x	XXX-XXX	(-XXXX-XX)	x
Email	randy	@binsfeld	l.com			
License In	fo Lic	ense valid	through 2	/21/2025		
				Save F	Request	Load License
				Save F	Request ile	Load License File
				Save F	Request ile	Load License File
				Save F	Request ile	Load License File
				Save F	Request ile	Load License File

## 8 Operation

When all the parameters are configured, press the OK button to return to the main window.

DAQ10K UNLICENSED	-		×
Settings Start Update Graph Start Log			
Current Value			
Load File			
Export to Excel			
Smooth Graph			
Graph Upper Limit			
29,735			
Graph Lower Limit			
-29,735			
Limits in ft-Ib			
Auto Fit Graph			
Reset Graph			
9.16	Disconnected	COM1	0.5 rec

## 8.1 Start Graph

Be sure to check the Update Graph button if it is not already checked and then press the Start button to start viewing the incoming torque data.



## 8.2 Start Log

This button will start logging data with the options and file name specified on the logging tab.

## 8.3 Stop

The Stop button will stop displaying the graph data.

## 8.4 Current Value

This window shows the current data sample as torque calculated according to the inputs on the Torque tab of the settings screen.

## 8.5 Load File

To view a previously saved log file, press the Load File button. Once activated it will open a standard Windows file explorer window that allows you to navigate to your previously saved log files. Once the log file is selected, a notification window will open with details of the file.

Please note that large, saved files will take longer to open. Disrupting the loading of the file will increase this time.



## 8.5.1 Zooming Captured Data

Once the file loaded screen is closed you will see the entire saved log file on the screen.



The mouse center wheel can be used to zoom into the captured data, or you can left click and drag any area of the data to zoom in. Each consecutive zoom action will minimize the number of samples displayed.

### 8.5.2 Navigating the Graph

Once you have zoomed into the graph, a navigation panel will be added to the graph as shown below. The left and right arrow keys will scroll the graph in descending and ascending time. The far-left button beside the left arrow key will make the graph zoom out to the point that the entire data will be displayed. It will do so in reverse increments of which it was zoomed.



### 8.6 Smooth Graph

This box is used to interpolate data between actual data points to make a more sinusoidal display. See below example.





### 8.7 Graph Upper and Lower Limit

These boxes allow you to set the upper and lower limits of the torque displayed on the graph. The default is 20% higher than the full-scale torque calculated from the Torque tab.

### 8.8 Auto Fit Graph

This button will resize the graph to provide the best vertical resolution.

## 8.9 Reset Graph

This Reset Graph button will return the graph to the default state.

## 8.10 Export to Excel

This will open an explorer window for you to navigate to where you would like to save the current data on the graph display to a comma separated value file format.