

# EZ-TORQ III TORQUE ANALYZER OPERATING INSTRUCTIONS

Rev 1.0 (12/20/2019)



# EZ-TorQ III User Manual

Version 1.1(12/20/2019)

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## 1. Product

### 1.1. Models

Model	Item	Torque Capacity Lbf.In.
EZ-TorQIII-10i	070810	1 - 10
EZ-TorQIII-50i	070811	5 - 50
EZ-TorQIII-100i	070812	10 - 100
EZ-TorQIII-150i	070813	15 - 150
EZ-TorQIII-300i	070814	30 - 300

### 1.2. Specifications

No.	Feature	Specification
1	Power	DC3.7V 5,000mAh Li-ion rechargeable battery
2	Battery charger	DC5V 2A with USB B - Mini USB pin cable
3	Power consumption & Battery run time	LCD brightness and power consumption 100% = 600mA ( 6 hours ) 75% = 500mA ( 8 hours ) 50% = 450mA ( 9 hours ) 25% = 330mA ( 11 hours )
4	LCD display	5" Color LCD Touch Screen (800x480px)
5	Battery charging time	6 hours for full charging
6	Torque range	10i, 50i, 100i, 150i, 300i
7	Accuracy	Accuracy $\pm$ 0.5% of reading from 20% to 100% of full scale Accuracy $\pm$ 1% of reading from 10% to 20% of full scale
8	Low pass filter selections	180 / 500 / 1000 Hz
9	Operation Modes	Track, Peak, First Peak
10	Torque units	ozf.in. / lbf.in / lbf.ft / cN.m / N.m / Kgf.m / Kgf.cm
11	Data memory	Memory SD Card, 8GB
12	Multi Language	English, Spanish, French, German, Chinese & Portuguese
13	test statistics:	SPC data and CMK
14	Reading history	10 last readings
15	Display reset	Manual or Auto clear
16	OK/NG judgement	By tolerance setting from target

### 1.3. Care

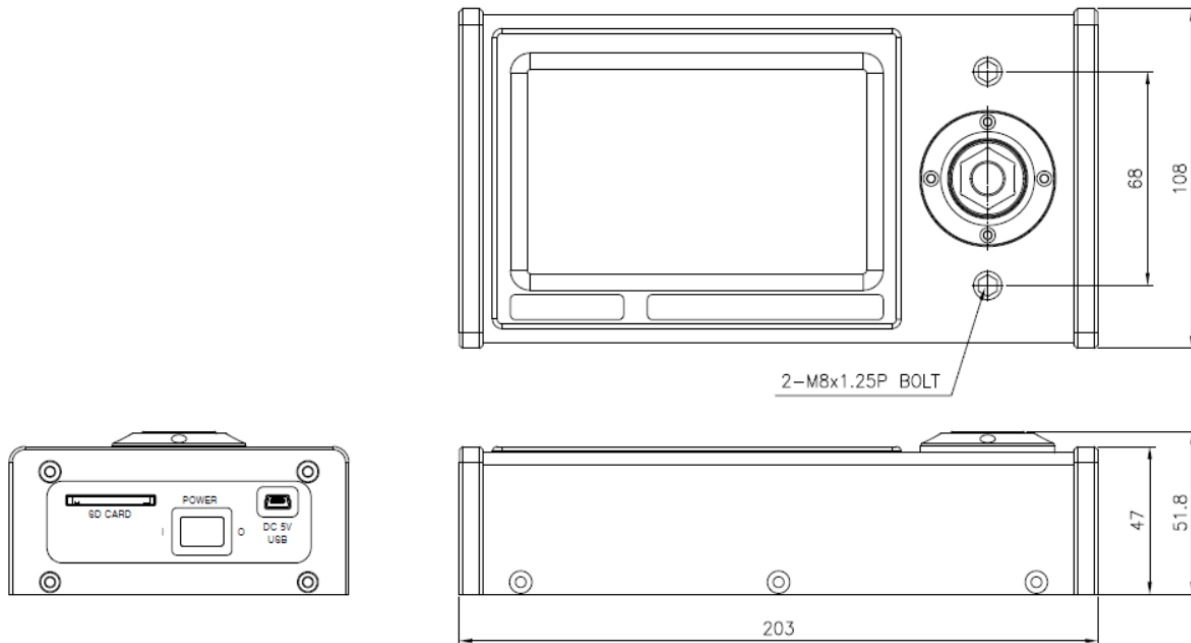
- Make sure you always use the original USB 2A charging cable that came with Tester.
- Turn OFF Tester before connecting or disconnecting USB Cable.
- For safety purposes, please make sure tester is mounted on surface before using it.

### 1.4. Layout



- 8Mb SD card for test data saving with auto folder creating of Year, Month
- Mini USB port is used for battery charging and data download
- Mounting bolts (two built in M8 bolts )

### 1.5. Dimensions



### 1.6. Rundown Adapter



<b>TORQUE CAPACITIES FOR</b>	<b>(M2)</b> 1 - 4 lbf.in.	<b>(M3)</b> 4 - 10 lbf.in.	<b>(M4)</b> 10-50 lbf.in.	<b>(M6)</b> 10-100 lbf.in.	<b>(M8)</b> 15 - 150 Lbf.in.	<b>(M12)</b> 30 - 300 Lbf.in.
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Torque meter comes with Indicated Rundown Screw Block Adaptor and 1/4" Hex Male TEST Bit for each (except 300i)	<b>EZTorQIII-10i</b>	<b>EZTorQIII-50i</b>	<b>EZTorQIII-100i</b>	<b>EZTorQIII-150i</b>	<b>EZTorQIII-300i</b>
	<b>M2, M3</b>	<b>M3, M4</b>	<b>M4, M6</b>	<b>M4, M8</b>	<b>M8, M12</b>

### Item Numbers










Screw RDA - M2 (Allen Hex 1.5mm)	070820
Screw RDA - M3 (Allen Hex 2.5mm)	070821
Screw RDA - M4 (Allen Hex 3mm)	070822
Screw RDA - M6 (Allen Hex 5mm)	070823
Screw RDA - M8 (Allen Hex 6mm)	070824
Screw RDA - M12 (Allen Hex 10mm)	070825

**NOTES:**

- 1) **DO NOT EXCEED TORQUE TESTER CAPACITY**
- 2) **RDA'S ARE FOR REFERENCE ONLY**

### 1.7. Case Content

Standard Items Included in CASE :

ALL MODELS:							
TORQUE METER (1)	120V POWER CORD WITH 230V ADAPTER (1)	1/4 HEX MALE TEST BITS (2), and EXTRA SCREWS	1/4" FEMALE SQ.DR. TO 17MM MALE HEX ADAPTER (1)	1/4" HEX MALE TO 1/4" SQ.DR. MALE ADAPTER (1)	Data Download USB WHITE Cable (1)	Battery Charging USB BLACK Cable (1)	SD MEMORY CARD 8 GB (1)
							
ONLY EZTORQIII-300i MODEL: 3/8" SQ.DR. FEMALE TO 10MM HEX MALE ADAPTER							

## 2. Quick Menu Structure

### Operation

- Advanced View
- Basic View



### Graph

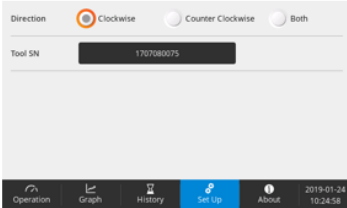
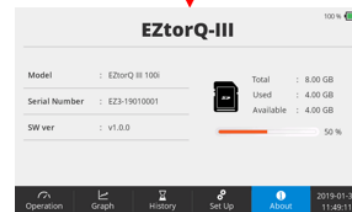
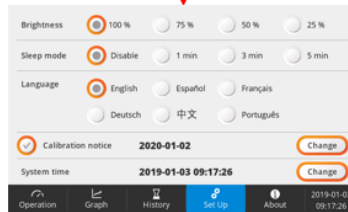
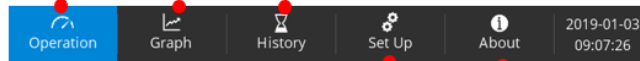
- Real-time torque monitoring



### History

- Display last 10 torque data

No	OK/NG	Time	Torque	Unit	Target	Tol(%)
1	●	2018-11-23 16:17:59	10.64	Kgf.cm	10.00	10%
2	●	2018-11-23 16:18:02	10.84	Kgf.cm	10.00	10%
3	●	2018-11-23 16:18:10	10.57	Kgf.cm	10.00	10%
4	●	2018-11-23 16:18:18	10.53	Kgf.cm	10.00	10%
5	●	2018-11-23 16:18:27	10.38	Kgf.cm	10.00	10%
6	●	2018-11-23 16:18:42	10.34	Kgf.cm	10.00	10%
7	●	2018-11-23 16:18:50	10.70	Kgf.cm	10.00	10%
8	●	2018-11-23 16:18:59	10.50	Kgf.cm	10.00	10%
9	●	2018-11-23 16:19:08	11.21	Kgf.cm	10.00	10%
10	●	2018-11-23 16:19:22	11.45	Kgf.cm	10.00	10%



### About

- Model
- Serial number
- SW version
- SD state & usage

### Setting

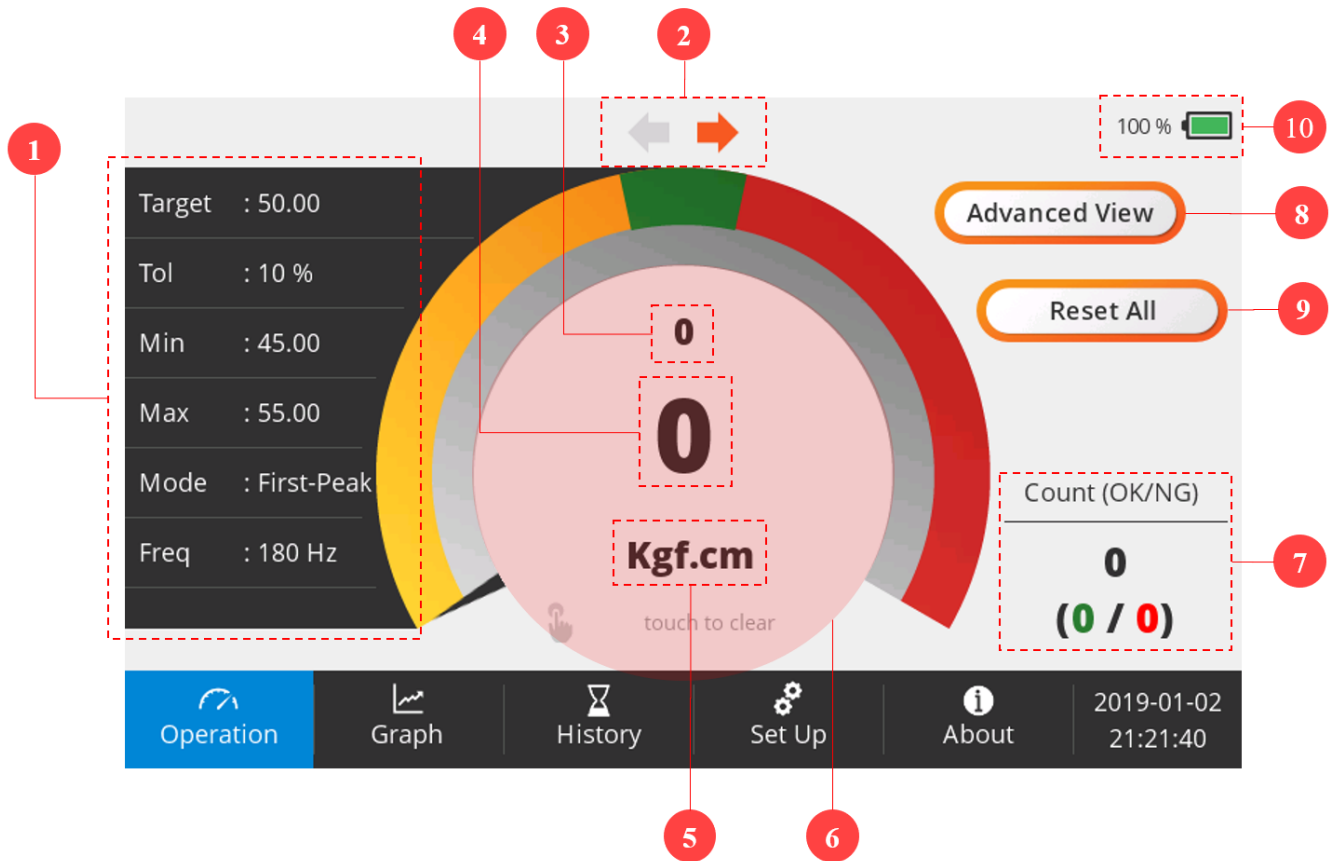
- Target torque & Tolerance
- Auto clear time
- Torque unit
- Mode (Peak, First-Peak, Track)
- Low Pass Filter Frequency
- Direction (CW,CCW,Both)
- Tool SN

### System

- Brightness
- Sleep mode
- Language
- Calibration notice
- System time
- Buzzer (On/Off)
- SD Format

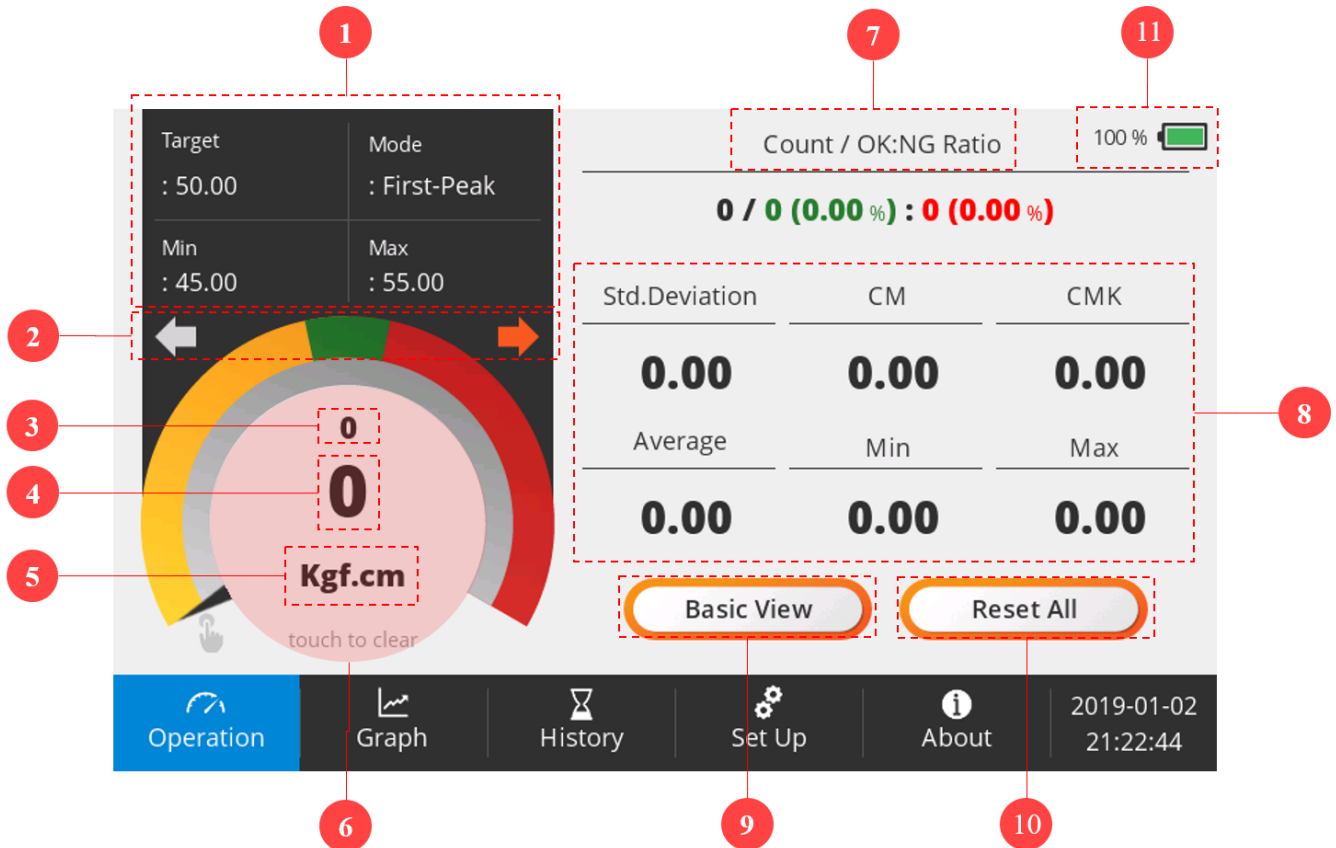
### 3. Operation

#### 3.1. Basic View



No	Item	Description
1	Parameters	Quick view of test parameters
2	Rotation Direction	Counterclockwise (←) Clockwise (→) Both Directions(←→)
3	Final peak(only First-Peak mode)	Final torque value while in the First-Peak mode.
4	Torque Reading	Peak torque, Track torque or First-peak torque while in each mode
5	Torque unit	Torque unit ( Kgf.cm, Kgf.m, Nm, cN.m, ozf.in, lbf.in, lbf.ft )
6	Manual reset	Clear the display by touching the circle area of no.6
7	Count	Number of times torque was applied After setting the target torque it displays the number of OK (green)& NG (Red).
8	Switch to Advanced View	Display switches to advanced view when pressed
9	Reset All	Reset the number of counts, history and all statistic data(Average, Std. Dev, CM, CMK)
10	Battery Level Indicator	Battery level percentage

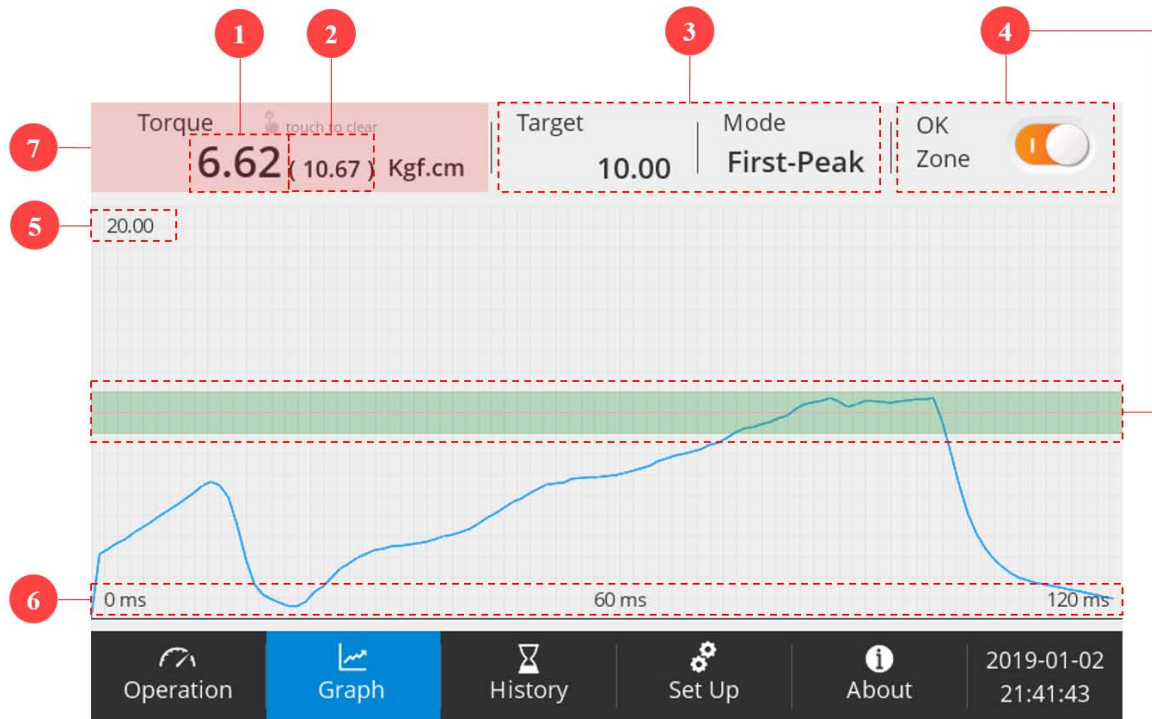
### 3.2. Advanced View



No	Item	Description
1	Parameters	Quick view of test parameters.
2	Rotation Direction	Counterclockwise (←) Clockwise (→) Both Directions (←→)
3	Final peak (only First-Peak)	Final torque value while in the First-Peak mode.
4	Torque Reading	Peak torque, Track torque or First-peak torque while in each mode
5	Torque unit	Torque unit ( Kgf.cm, Kgf.m, Nm, cNm, Ozf.in, Lbf.in, Lbf.ft )
6	Manual reset	Reset the display by touching the circle area of no.6
7	Count	Number of times torque was applied After setting the target torque it displays the number of OK (green) & NG (Red).
8	Statistics	Statistic data display (Std. Dev, CM, CMK...)
9	Switch to basic view	Display switches to basic view when pressed
10	Reset All	Reset the number of count, history and all statistic data(Average, Std.Dev, CM, CMK)
11	Battery Level Indicator	Battery level percentage

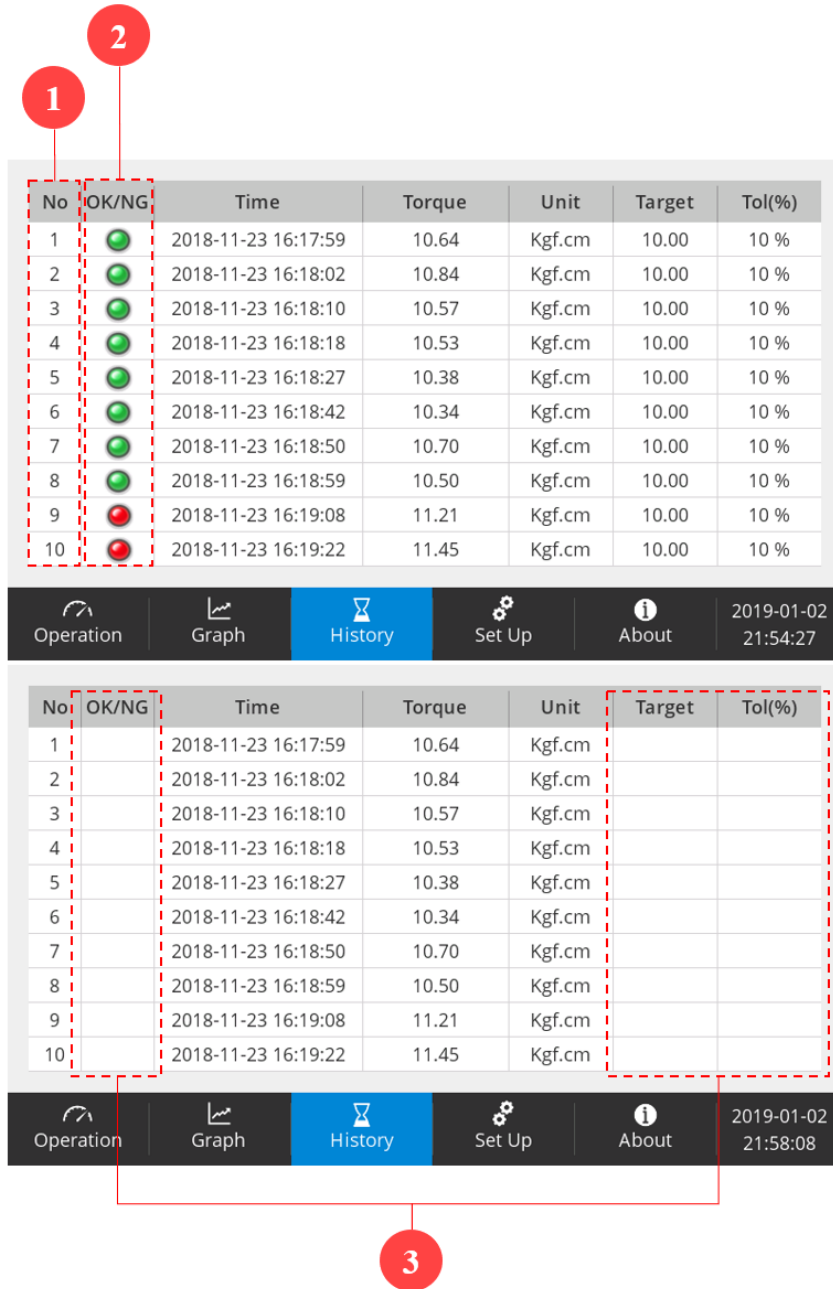


## 4. Graph



No	Item	Description
1	Torque	Peak torque, Track torque or First-peak torque at each mode
2	Final peak (only First-Peak)	Final torque value on the First-Peak mode.
3	Parameters	Parameters on the advanced view operation.
4	OK Zone	OK zone can be created by the ON/OFF switch when there is a target torque set. The target torque setting is the red line. The Min/Max tolerance from the target will create the green zone on the graph
5	Y-axis max torque	Y-axis shows the max torque, The max torque applied is refreshed by real-time monitoring. X,Y scale is automatically rescaled by the collected data.
6	X-axis time (ms)	X-axis shows the time in ms (milli-second). Sampling rate is 1ms.200 total data points can be captured without data compression. A total of 5,000 data points ( 5 seconds) can be compressed and displayed
7	Manual reset	Clear the display by touching the circle area

## 5. History



The screenshot shows the History screen with a table of test results. Callout 1 points to the 'No' column, callout 2 points to the 'OK/NG' column, and callout 3 points to the 'Target' and 'Tol(%)' columns.

No	OK/NG	Time	Torque	Unit	Target	Tol(%)
1	●	2018-11-23 16:17:59	10.64	Kgf.cm	10.00	10 %
2	●	2018-11-23 16:18:02	10.84	Kgf.cm	10.00	10 %
3	●	2018-11-23 16:18:10	10.57	Kgf.cm	10.00	10 %
4	●	2018-11-23 16:18:18	10.53	Kgf.cm	10.00	10 %
5	●	2018-11-23 16:18:27	10.38	Kgf.cm	10.00	10 %
6	●	2018-11-23 16:18:42	10.34	Kgf.cm	10.00	10 %
7	●	2018-11-23 16:18:50	10.70	Kgf.cm	10.00	10 %
8	●	2018-11-23 16:18:59	10.50	Kgf.cm	10.00	10 %
9	●	2018-11-23 16:19:08	11.21	Kgf.cm	10.00	10 %
10	●	2018-11-23 16:19:22	11.45	Kgf.cm	10.00	10 %

Navigation bar: Operation | Graph | History | Set Up | About | 2019-01-02 21:54:27

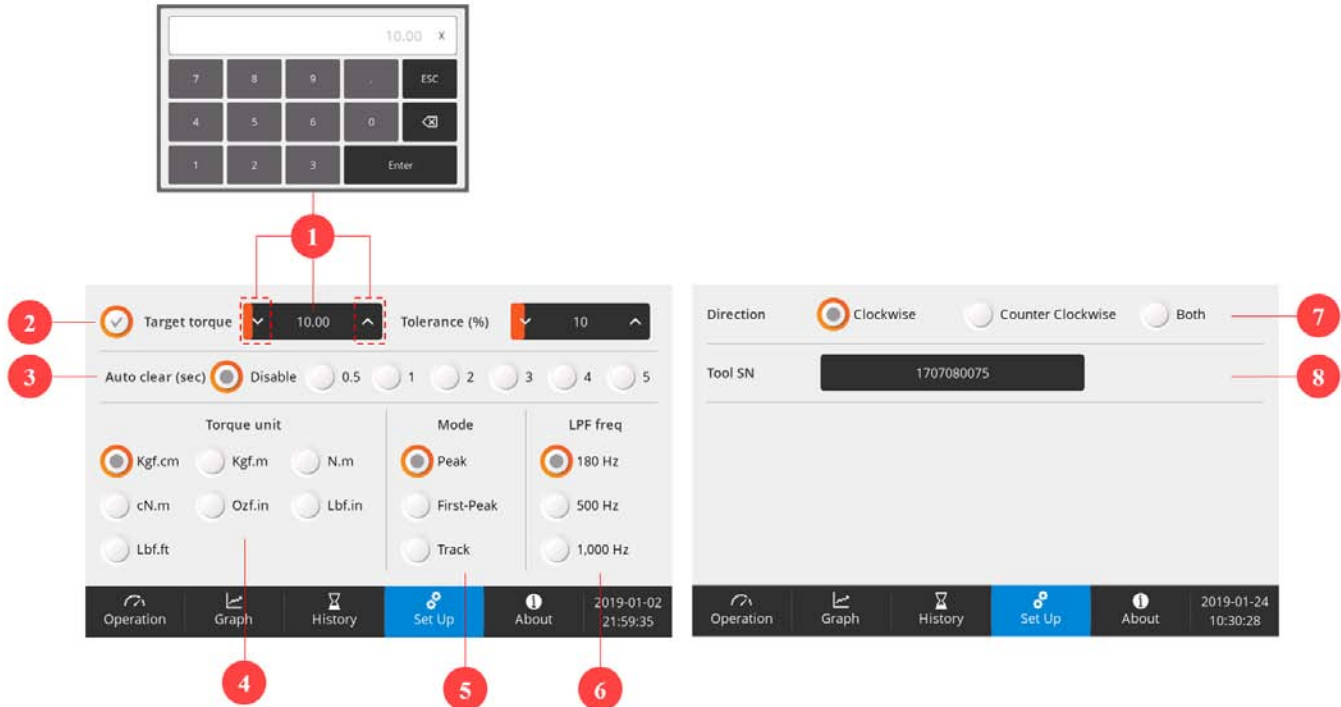
No	OK/NG	Time	Torque	Unit	Target	Tol(%)
1		2018-11-23 16:17:59	10.64	Kgf.cm		
2		2018-11-23 16:18:02	10.84	Kgf.cm		
3		2018-11-23 16:18:10	10.57	Kgf.cm		
4		2018-11-23 16:18:18	10.53	Kgf.cm		
5		2018-11-23 16:18:27	10.38	Kgf.cm		
6		2018-11-23 16:18:42	10.34	Kgf.cm		
7		2018-11-23 16:18:50	10.70	Kgf.cm		
8		2018-11-23 16:18:59	10.50	Kgf.cm		
9		2018-11-23 16:19:08	11.21	Kgf.cm		
10		2018-11-23 16:19:22	11.45	Kgf.cm		

Navigation bar: Operation | Graph | History | Set Up | About | 2019-01-02 21:58:08

No	Description
1	The last 10 data points are saved and refreshed.
2	Test result are displayed in Green for OK and Red for NG.
3	If there is not a target torque set OK/NG, Target, and Tolerance data columns are not used.

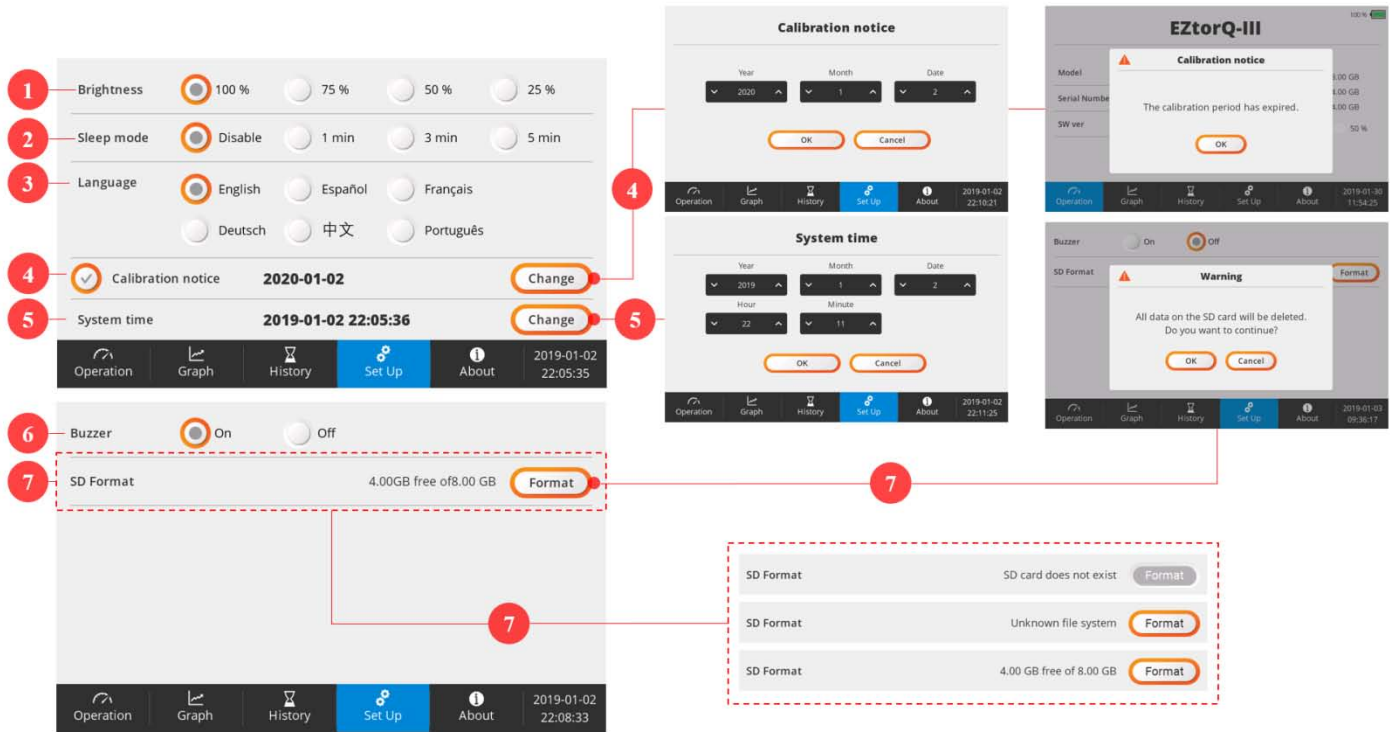
## 6. Set Up

### 6.1. Setting



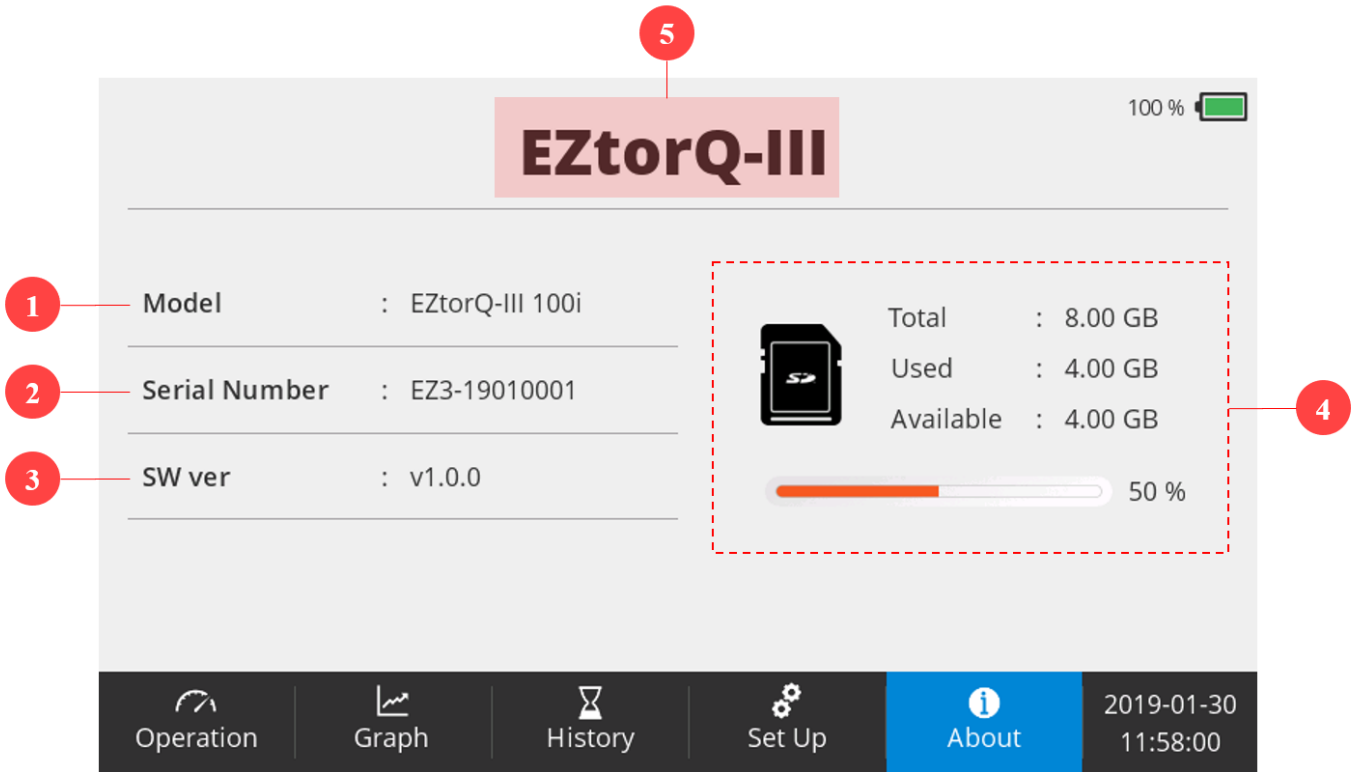
No	Item	Description
1	Up/Down & Numeric key pad	Target torque can be selected by the UP and DOWN arrow. Touch the center of target torque to open the numeric key pad.
2	Target Torque & Tolerance	Check on/off to apply the target torque and tolerance settings.
3	Auto clear (sec)	Select amount of time (seconds) to clear the test data displayed. Or disable to manually clear data
4	Torque Unit	Torque unit of measure (Kgf.cm, Kgf.m, Nm, cNm, Ozf.in, Lbf.in, Lbf.ft)
5	Mode	Peak torque, Track torque or First-peak torque
6	LPF (Low Pass Filter) freq	LPF (Low Pass Filter) frequency setting. ISO standard is 500Hz
7	Direction	Rotation direction selection Clockwise, Counterclockwise or Both directions
8	Tool SN	You can enter the serial number of the tool you want to measure. This serial number is stored on the SD card along with the testdata

## 6.2. System



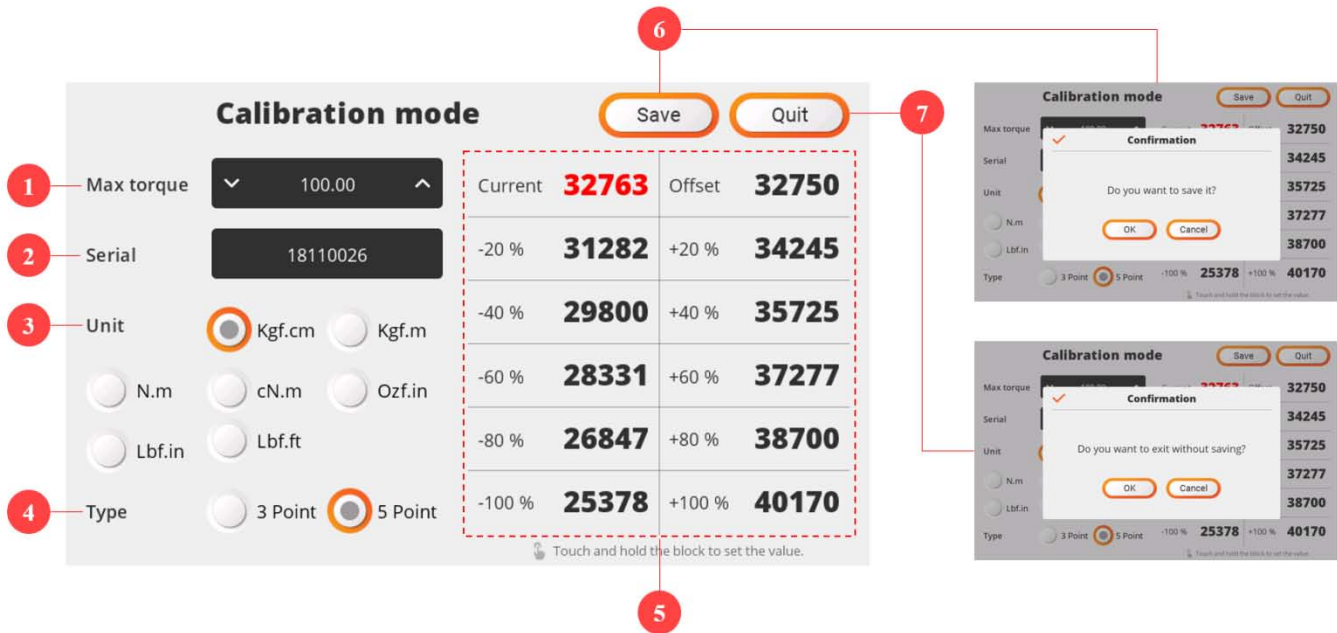
No	Item	Description
1	Brightness	LCD brightness adjustment
2	Sleep mode	Timer turns off LCD display when not being used. When the LCD screen is touched unit will wake up. (1,3 and 5 mins)
3	Language	Language selection (English, Spanish, French, Germany, Chinese, Portuguese)
4	Calibration notice	Calibration expired/reminder notice. Turn off/disable by unchecking circle
5	System time	System clock adjustment
6	Buzzer	Buzzer On/Off setting
7	SD format	SD card information and format option If the SD card has not been formatted to FAT32, it displays "Unknown file system". Formatting needs to be performed prior to storing any data on SD card

## 7. About



No	Item	Description
1	Model	Torque tester model information
2	Serial number	Product serial no. YY,MM,0000 (2 digits for year, 2 digits for month, 4 digits for sequence)
3	SW version	Software version
4	SD status& usage	SD card information (total, used and available memory).
5	Calibration mode	Tap 5 times on the EZ-TORQ III area to enter into the calibration mode. Calibration password is "5809".

## 8. Calibration Mode

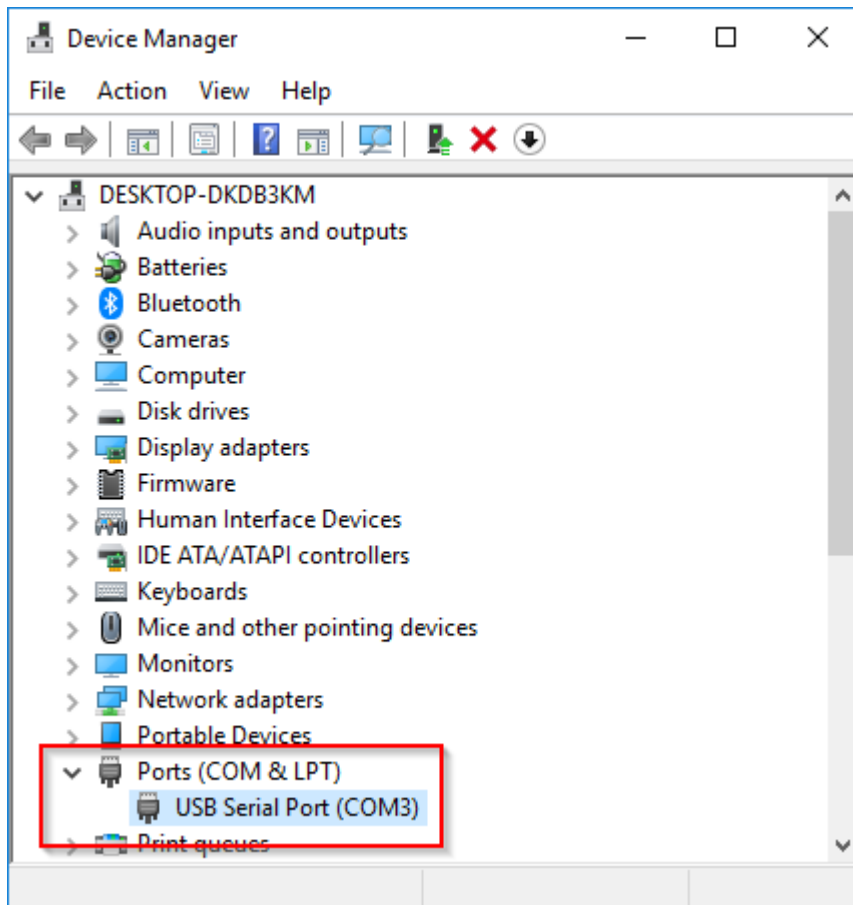


No	Item	Description
1	Max torque	Max torque of the range
2	Serial number	Serial no. YY,MM,0000 (2 digits for year, 2 digits for month, 4 digits for sequence)
3	Unit	Unit of measure for calibration mode.
4	Type	Select the amount calibration data points (3 points or 5 points).
5	ADC Value	In order to save the AD/calibration value, press and hold the test pointfield for 2 seconds.
6	Save	When pressed all input calibration data will be saved, unit will automatically exit calibration mode
7	Quit	Finish the Calibration mode without saving data.

## 9. Data Download: Real Time - HyperTerminal

- A. Connect the PC and EZ-TorQ III with a USB cable.
- B. Make sure “USB Serial Port” is recognized in windows device manager.

\*The COM port number may differ depending on the user environment.



- C. Run a terminal emulator program on your PC.

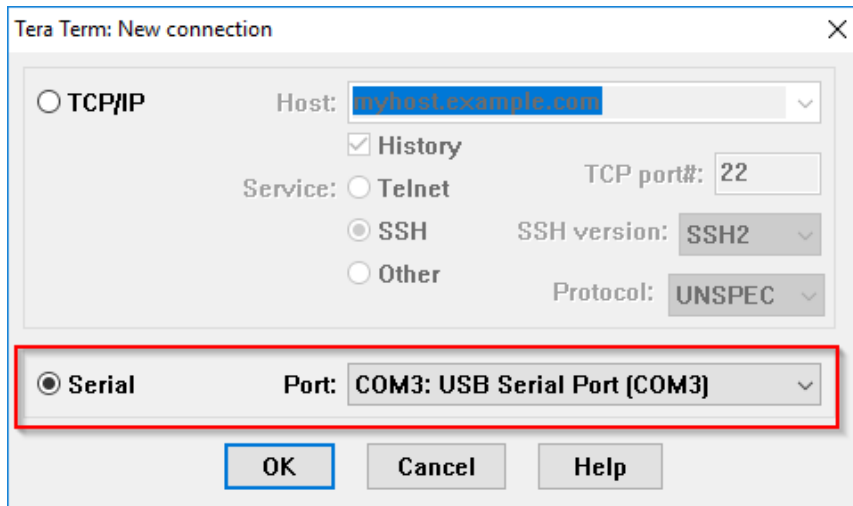
There are various terminal programs. (e.g. Windows HyperTerminal, Putty, TeraTerm ...)

Here is the manual for TeraTerm.

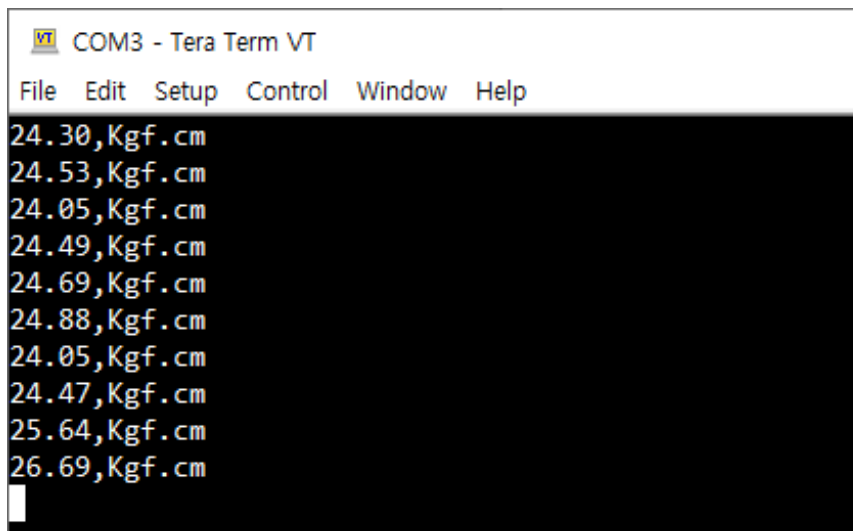
- Download link : <https://osdn.net/projects/ttssh2/releases/>

D. In menu, select [File] → [New connection].

When the following screen appears, select Serial and COM port.



E. The test result is displayed as shown below right after torque testing.



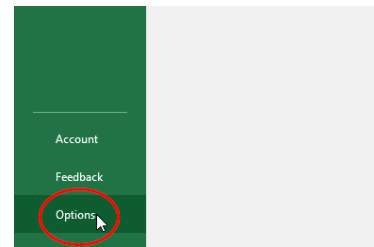
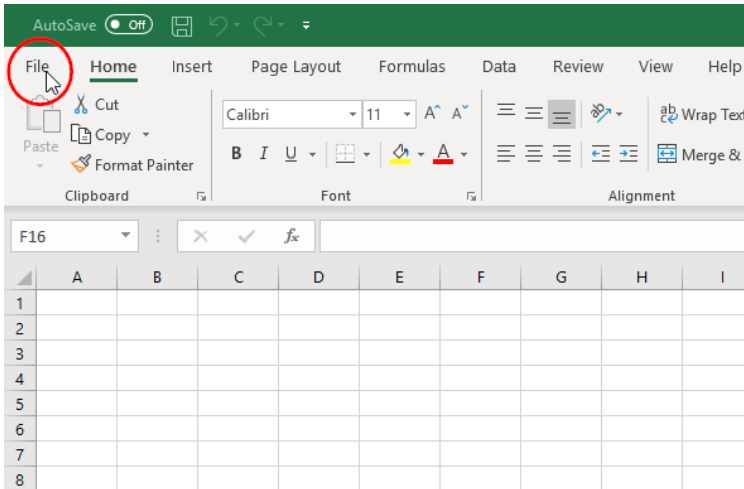


## 10. Data Download: using Excel data streamer

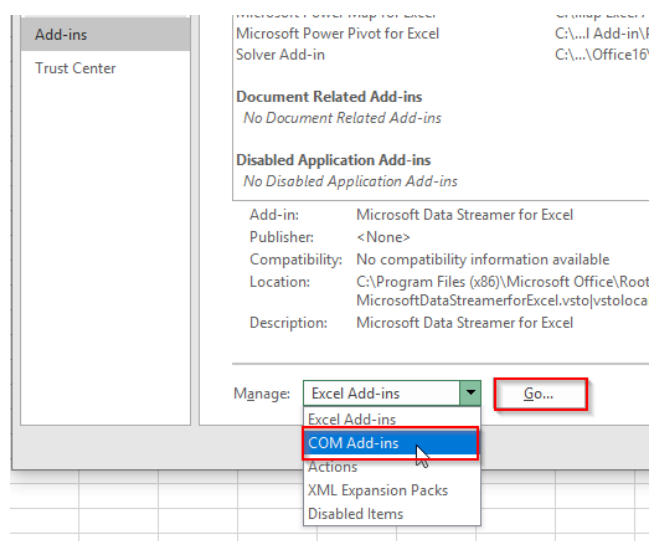
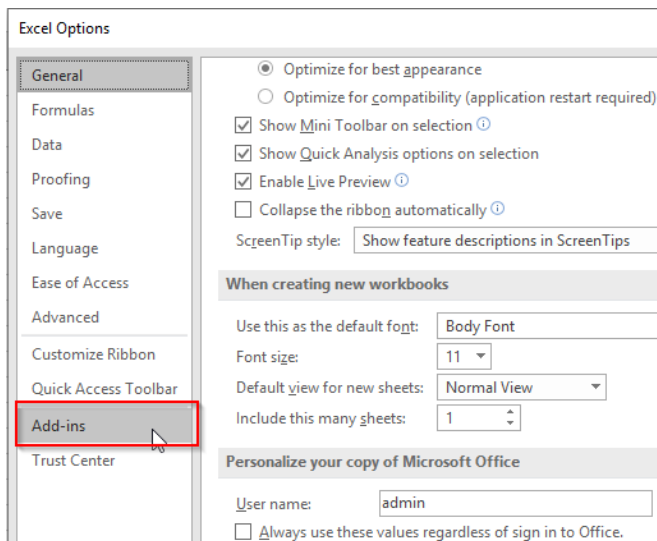
**Note:**

- Data Streamer add-in is available only for Microsoft Office 365 users.

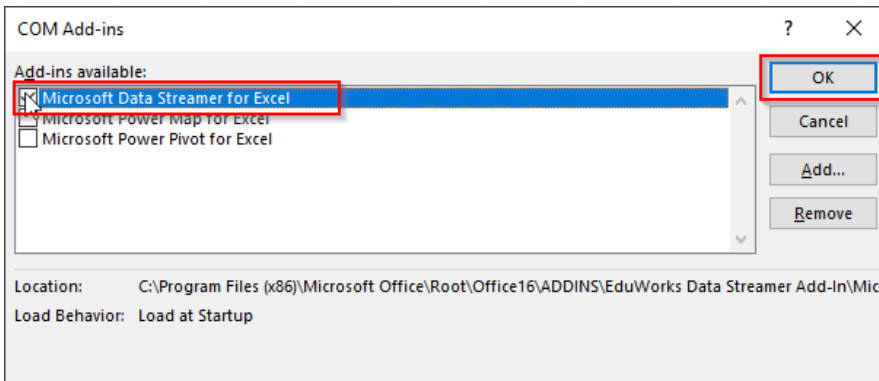
A. Click on “File” menu and select Options.



B. Select the “Add-ins”, than Select the “COM Add-ins”, than Press the “Go” button.

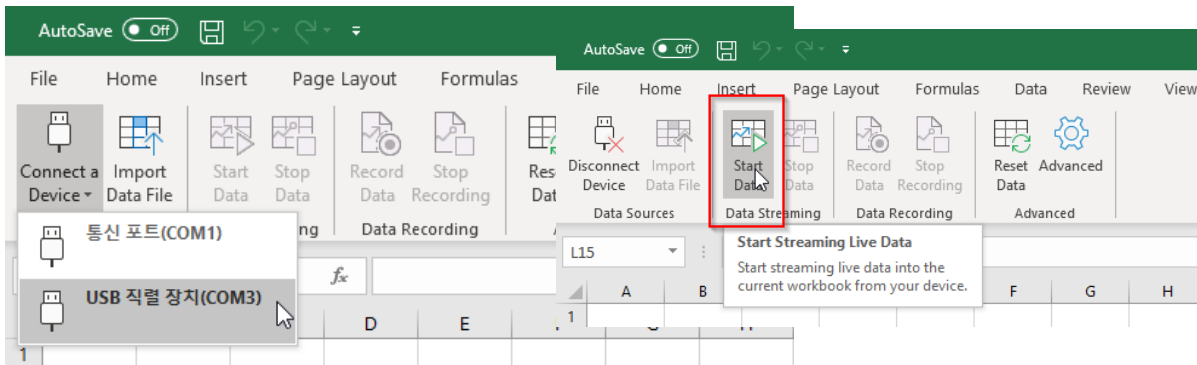


C. Check “Microsoft Data Streamer for Excel” item and click OK.

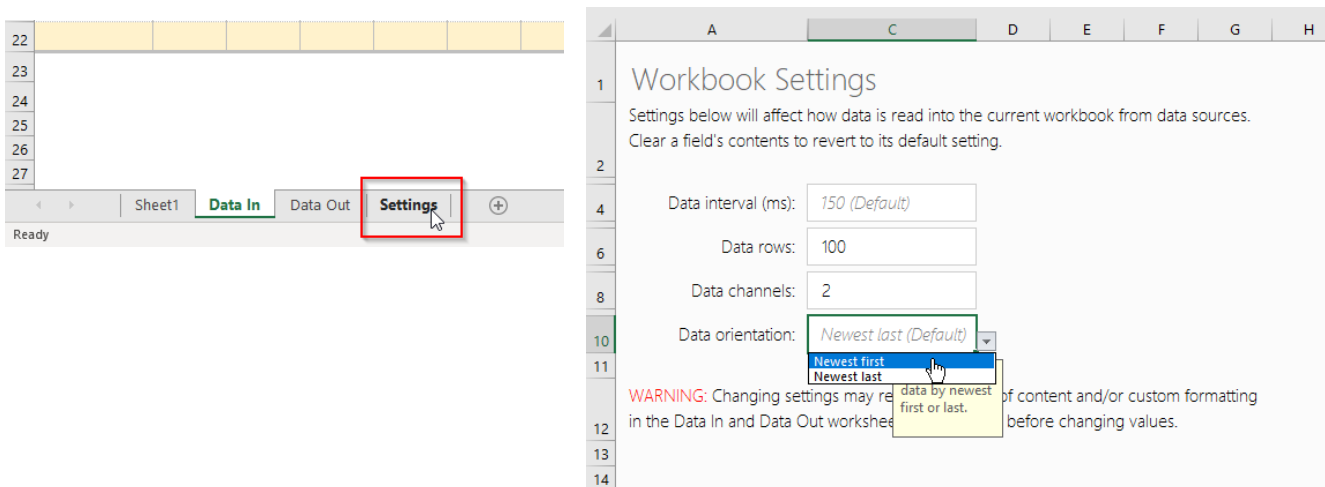


D. On your Excel application, a new column called “Data Streamer” will show up. Click on “Data Streamer” Menu

E. On the left side of the screen, click on “connect to device”. Then click on “Start Data”



F. Go down on the screen and click on “settings” tab. Change to the following settings:



G. Go down on the screen and click on “data in” tab to see torque data readings been loaded on the page. It should look like this:

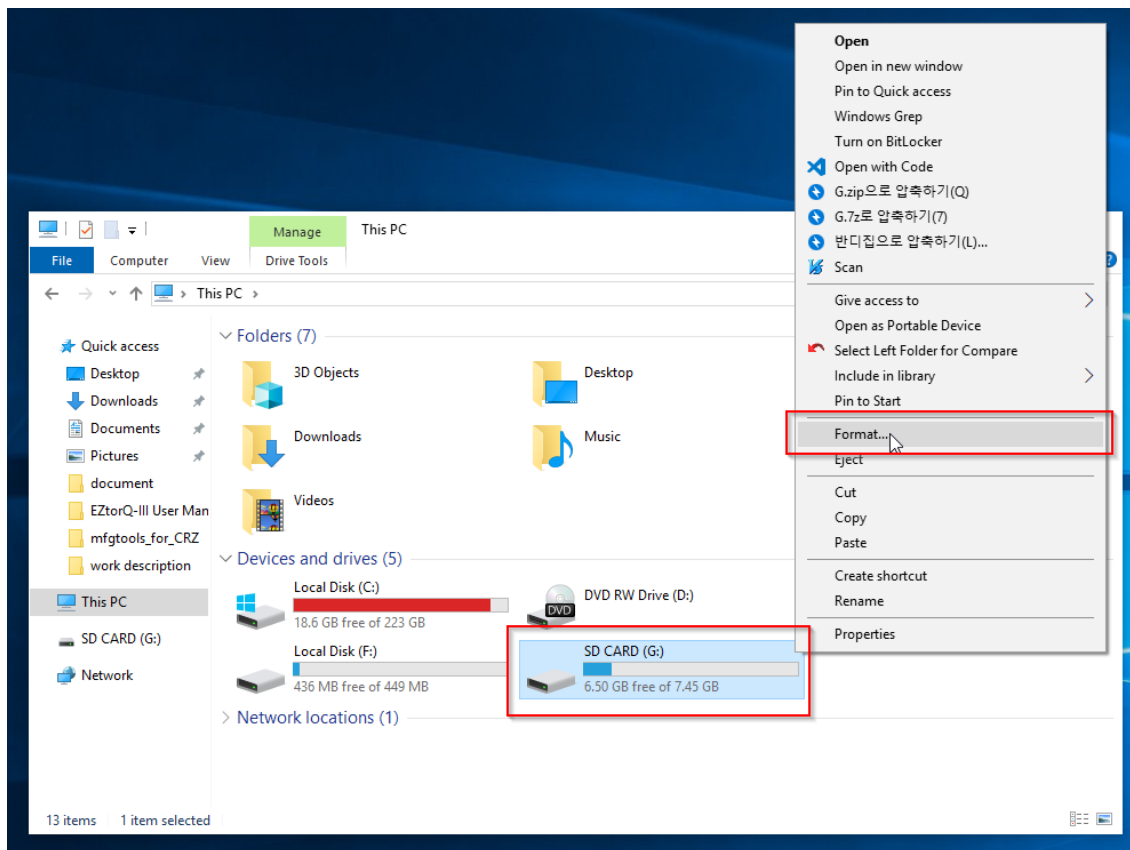
Data In (From Source)							
Data coming from the current data source will appear below as it is received.							
Current Data							
Time	CH1	CH2	CH3	CH4	CH5	CH6	CH7
57:09.3	28.65	Kgf.cm					
Historical Data							
Time	CH1	CH2	CH3	CH4	CH5	CH6	CH7
57:09.3	28.65	Kgf.cm					
57:07.0	23.44	Kgf.cm					
57:04.8	27.29	Kgf.cm					
57:03.0	26.26	Kgf.cm					
57:01.0	31.57	Kgf.cm					
56:58.7	34.01	Kgf.cm					
56:56.5	38.05	Kgf.cm					
56:54.2	41.96	Kgf.cm					
56:51.7	40.73	Kgf.cm					
56:49.1	42.1	Kgf.cm					

## 11. SD Memory Card Usage

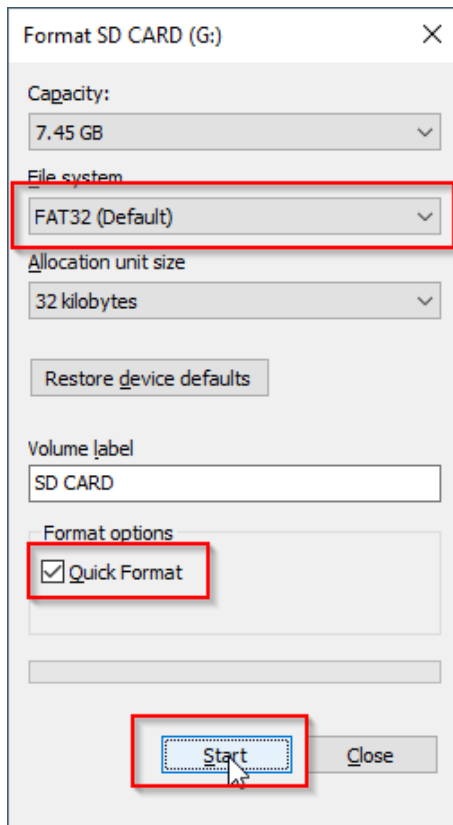
SD Memory Card can be formatted two ways: From PC or from EZ-TorQ-III Tester.

### 11.1. Formatting SD card on your PC

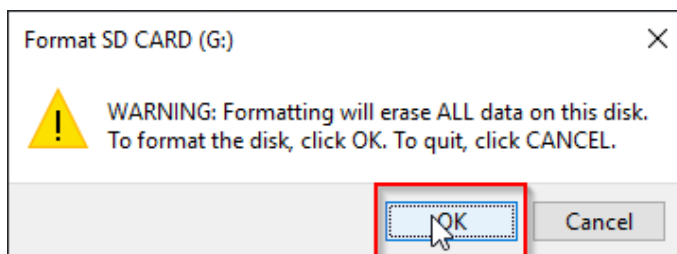
- A. Insert the SD card into your computer.
- B. Open windows explorer.
- C. Find the drive letter for your SD card.
- D. Right-click, and when the menu appears click Format.



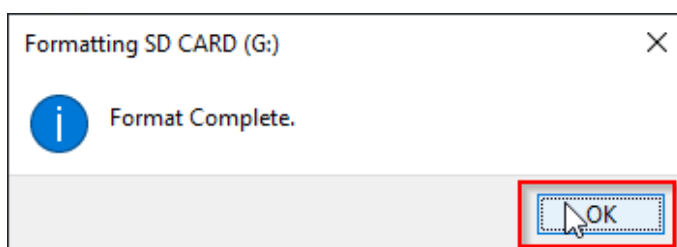
- E. In the Format window, file system should be set to FAT32.
- F. Check “Quick Format”.
- G. Click Start.



- H. When the warning appears, select OK.

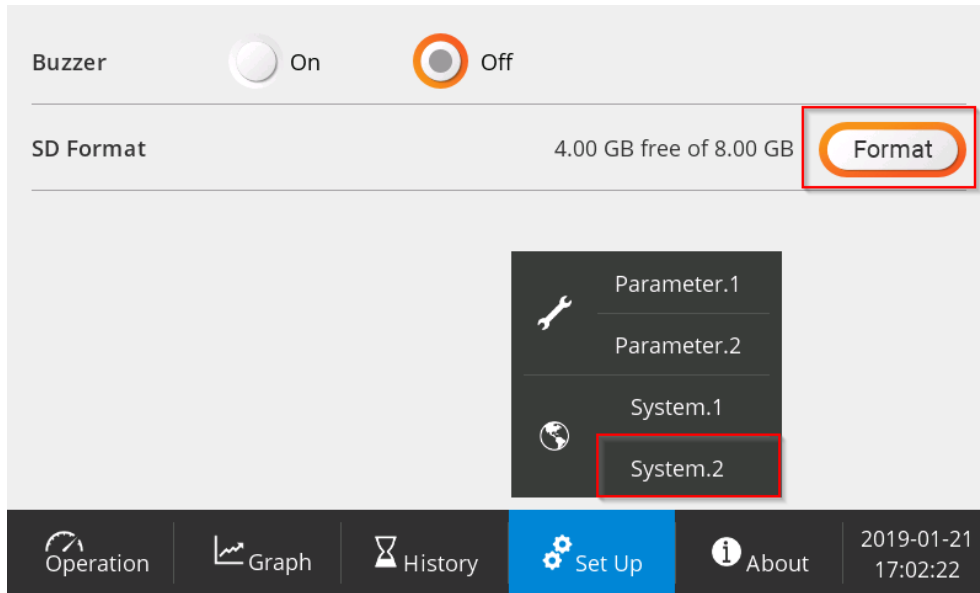


- I. Once the formatting is complete, you can close the window.  
Now you can use the SD card in EZtorQ-III.

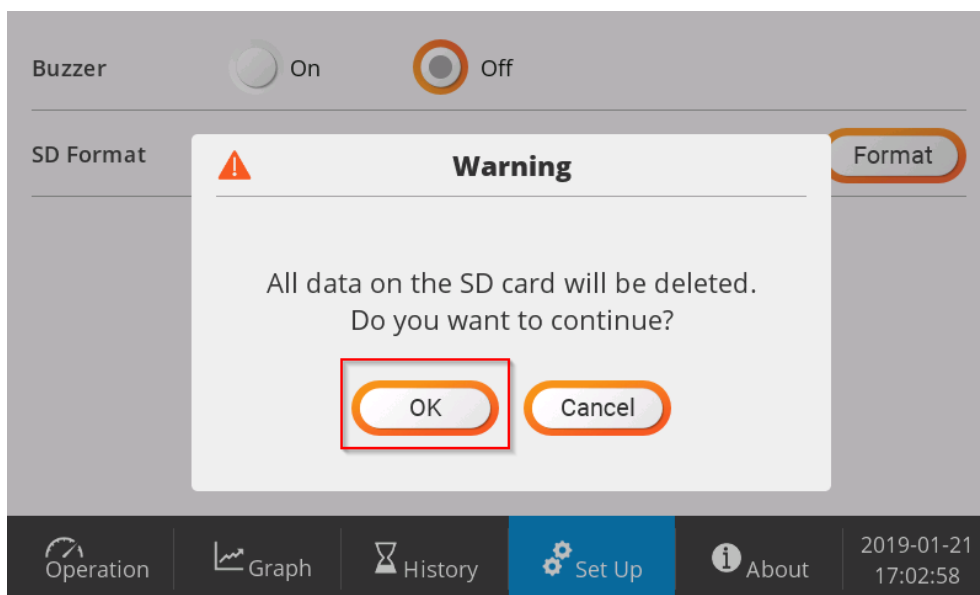


## 11.2. Formatting SD card on EZ-TorQ III

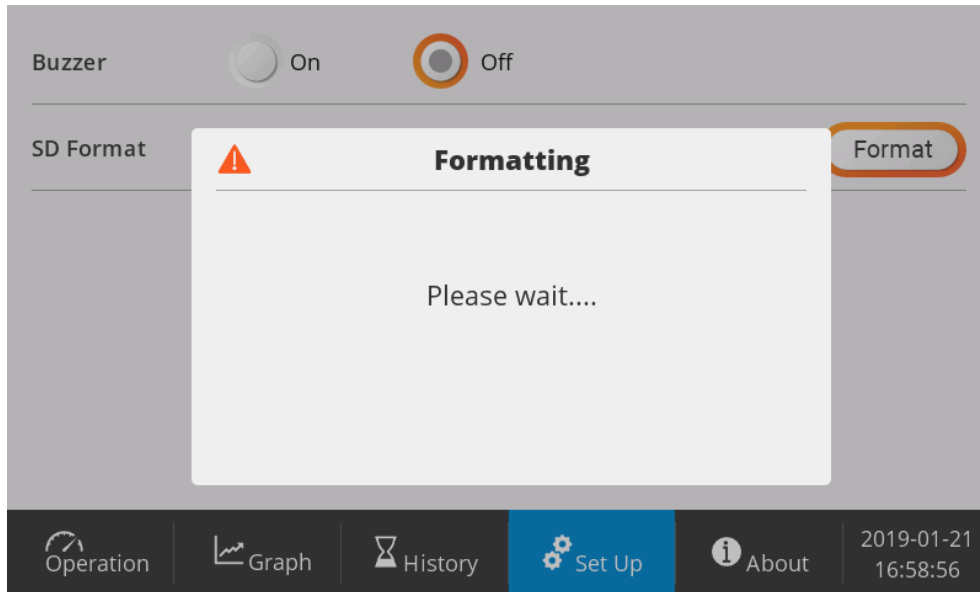
- A. Insert the SD Card into EZtorQ-III.
- B. Go to [Set Up] → [System.2] screen.
- C. Select the “Format” button.



- D. When the warning appears, select OK.



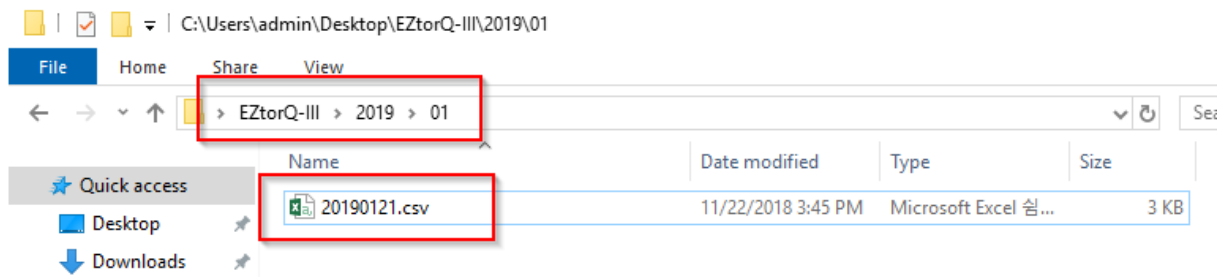
E. Please wait for the format to complete.



F. Now you can use the SD card in EZ-TorQ-III.

### 11.3. Reading SD Memory Card Data

- A. Insert the SD Card into Your Computer.
- B. Open Windows Explorer.
- C. Enter the SD card drive.
- D. Folders are created in order of year→month.
- E. The file is generated in yyyyymmdd.csv format. (y: year, m: month, d: day)



F. You can view the data using excel or a text editor.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Tool SN	No	Result	Time	Mode	Torque	Unit	Target	Tol(%)	Avg	Min	Max	Std.Dev	CM	CMK	
2	1707080075	1	OK	2019-01-24 10:36:58	Peak	27.18	Kgf.cm	25	10	27.18	27.18	27.18	0	0	0	
3	1707080075	2	OK	2019-01-24 10:37:00	Peak	25.52	Kgf.cm	25	10	26.35	25.52	27.18	0.83	1.01	0.46	
4	1707080075	3	OK	2019-01-24 10:37:02	Peak	24.15	Kgf.cm	25	10	25.61	24.15	27.18	1.24	0.67	0.51	
5	1707080075	4	OK	2019-01-24 10:37:04	Peak	24.36	Kgf.cm	25	10	25.3	24.15	27.18	1.2	0.69	0.61	
6	1707080075	5	OK	2019-01-24 10:37:06	Peak	25.7	Kgf.cm	25	10	25.38	24.15	27.18	1.09	0.77	0.65	
7	1707080075	6	OK	2019-01-24 10:37:08	Peak	24.59	Kgf.cm	25	10	25.25	24.15	27.18	1.03	0.81	0.73	
8	1707080075	7	OK	2019-01-24 10:37:10	Peak	25.9	Kgf.cm	25	10	25.34	24.15	27.18	0.98	0.85	0.73	
9	1707080075	8	OK	2019-01-24 10:37:12	Peak	24.72	Kgf.cm	25	10	25.26	24.15	27.18	0.94	0.88	0.79	
10	1707080075	9	OK	2019-01-24 10:37:14	Peak	24.88	Kgf.cm	25	10	25.22	24.15	27.18	0.9	0.93	0.85	
11	1707080075	10	OK	2019-01-24 10:37:15	Peak	24.58	Kgf.cm	25	10	25.16	24.15	27.18	0.87	0.95	0.89	
12																

```

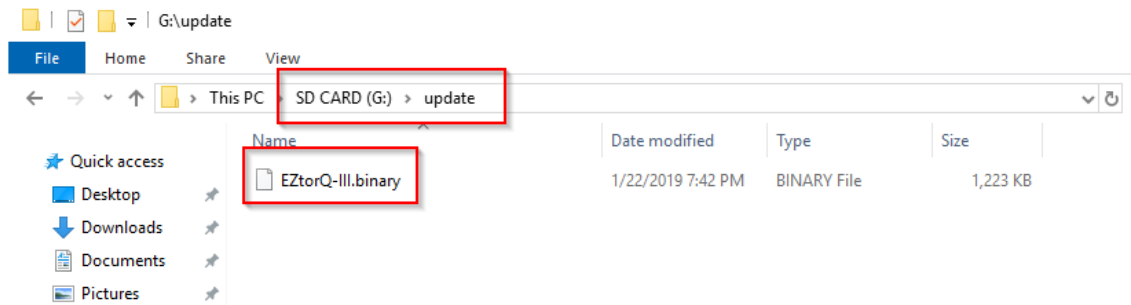
1 Tool SN,No,Result,Time,Mode,Torque,Unit,Target,Tol(%) ,Avg,Min,Max, Std.Dev, CM, CMK
2 1707080075,1,OK, 2019-01-24 10:36:58,Peak,27.18,Kgf.cm,25.00,10,27.18,27.18,27.18,0.00,0.00,0.00
3 1707080075,2,OK, 2019-01-24 10:37:00,Peak,25.52,Kgf.cm,25.00,10,26.35,25.52,27.18,0.83,1.01,0.46
4 1707080075,3,OK, 2019-01-24 10:37:02,Peak,24.15,Kgf.cm,25.00,10,25.61,24.15,27.18,1.24,0.67,0.51
5 1707080075,4,OK, 2019-01-24 10:37:04,Peak,24.36,Kgf.cm,25.00,10,25.30,24.15,27.18,1.20,0.69,0.61
6 1707080075,5,OK, 2019-01-24 10:37:06,Peak,25.70,Kgf.cm,25.00,10,25.38,24.15,27.18,1.09,0.77,0.65
7 1707080075,6,OK, 2019-01-24 10:37:08,Peak,24.59,Kgf.cm,25.00,10,25.25,24.15,27.18,1.03,0.81,0.73
8 1707080075,7,OK, 2019-01-24 10:37:10,Peak,25.90,Kgf.cm,25.00,10,25.34,24.15,27.18,0.98,0.85,0.73
9 1707080075,8,OK, 2019-01-24 10:37:12,Peak,24.72,Kgf.cm,25.00,10,25.26,24.15,27.18,0.94,0.88,0.79
10 1707080075,9,OK, 2019-01-24 10:37:14,Peak,24.88,Kgf.cm,25.00,10,25.22,24.15,27.18,0.90,0.93,0.85
11 1707080075,10,OK, 2019-01-24 10:37:15,Peak,24.58,Kgf.cm,25.00,10,25.16,24.15,27.18,0.87,0.95,0.89
12

```

## 12. How to update EZ-TorQ III Firmware

- Insert the SD Card into your computer.
- Open windows explorer.
- Enter the SD card drive.
- Create an “update” folder at the top.
- Copy the firmware file to the update folder.

NOTE: Firmware Update will be provided by Mountz Inc





- F. Insert the SD Card into EZtorQ-III.
- G. When you turn on the power, the firmware upgrade will proceed automatically.
- H. When the update is complete, it will boot automatically.

**Note:**

- There should be only one firmware file in the update folder.
- When the update is complete, delete the update folder from the SD card.

### 13. Calibration and Repairs

Mountz Inc. features an experienced calibration and repair staff. Our trained technicians can calibrate and repair most any tool. Mountz provides rapid service with quality that you can trust as we offer two state-of-the-art calibration lab and repair facilities that can calibrate up to 20,000 lbf.ft. Since 1965, Mountz Inc. has proven in-depth knowledge of torque is reflected in our tool's craftsmanship and our ability to provide solutions to both common and uncommon torque applications.

We perform calibrations in accordance with ANSI/NCSL-Z540. Mountz is dedicated solely to the manufacturing, marketing and servicing of high quality torque tools.

#### Tool Service & Repair Capability Torque Wrenches:

- Click, Dial, Beam, Cam-Over & Break-Over Torque Screwdrivers
- Dial, Micrometer, Preset & Adjustable Torque Analyzers/Sensors
- Electric Screwdrivers: All brands
- Air Tools: All brands
- Impact Wrenches, Drills, Pulse Tools, Grinders, Percussive Tools, Air Screwdrivers, Nutrunners, DC Controlled Nutrunners: All brands
- Torque Multipliers: All brands