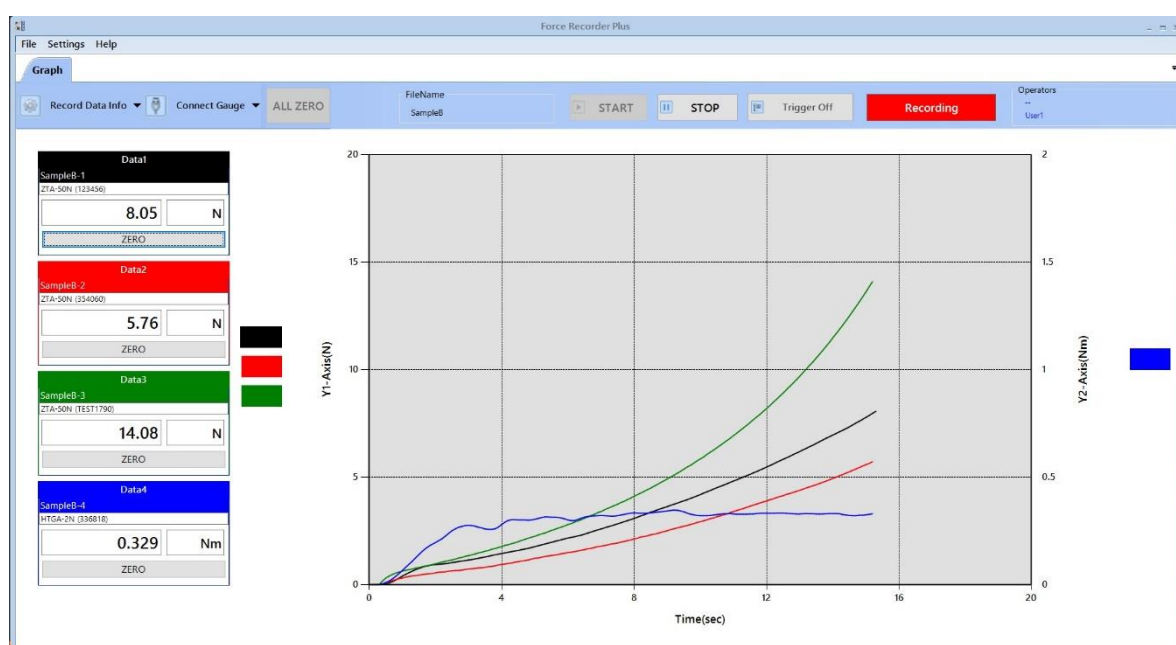


# Multiple Force-Time (Torque-Time) Graphing Software

## Force Recorder Plus

- Data Graphing of up to 4pcs devices simultaneously
- Displays different units (eg: force N and torque Nm) on the same window
- Up to 10 graphs can be overlaid for visual analysis
- Operation history tracking and password protection possible for security



Graphing image

### Application images

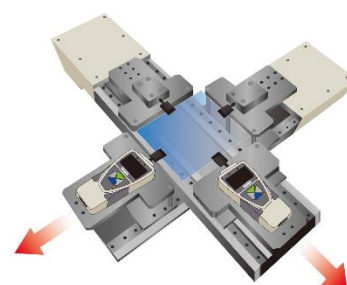
- Data graphing of multiple devices simultaneously



- Test torque and force simultaneously



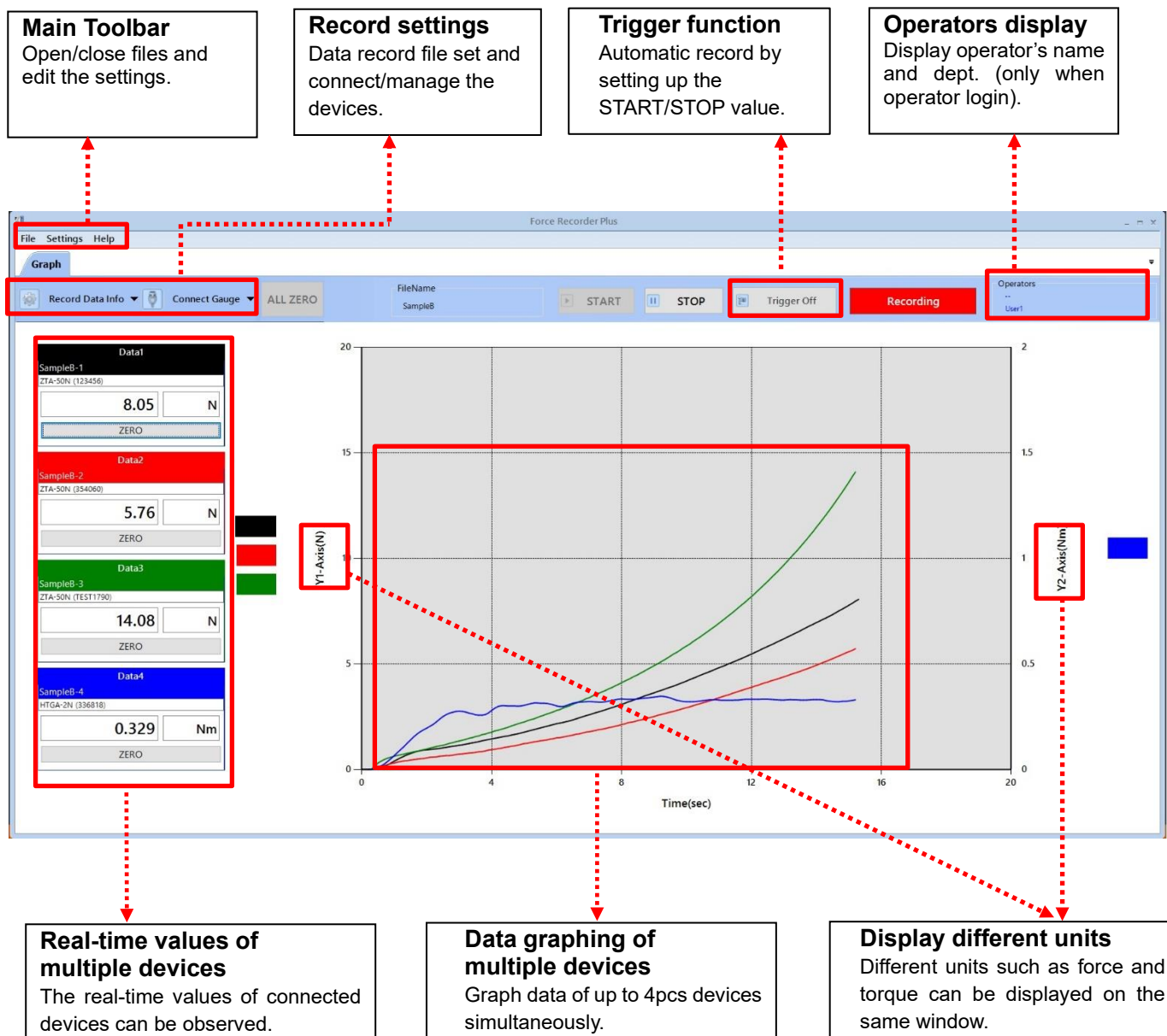
- Data analysis of force from 2 directions on 1 sample



Common functions of Force Recorder Series	
<b>Graph scaling function</b>	The graph can be zoomed in/out, or scroll to check the details.
<b>Statistical calculation</b>	Max/min/average values are automatically calculated.
<b>Print</b>	Graph and statistics value can be printed out as report format.
<b>CSV file converting function</b>	Recorded data can be converted into CSV format.
<b>Preview saving function</b>	Graph can be saved in various format. (e.g. Word, Excel and PDF)
<b>Device setting</b>	The setting of device can be changed via software.

Main functions of Force Recorder Plus	
<b>Data graphing of multiple devices</b>	It can graph data of up to 4pcs devices simultaneously.
<b>Display different units / ranges</b>	Different units (eg: force and torque) / ranges (eg: 5N and 5000N) can be displayed on the same window by setting the Y1-Axis and Y2-Axis.
<b>Graph overlay</b>	Up to 10 graphs can be overlaid for visual analysis.
<b>Trigger function</b>	Data from multiple devices can be recorded automatically at the same time by setting up the START/STOP value.
<b>Area select function</b>	Extract the desired part of the graph, then the new statistical value will be calculated.
<b>Average and total value display as graph</b>	When overlay the graphs, the average and total value of all the graphs can be displayed as graph.
<b>Management of devices</b>	Register each device by its serial No., and manage its name and calibration date, etc.
<b>Operation history tracking</b>	Operation history can be recorded by log settings.
<b>Password function</b>	To avoid unnecessary login, user ID and password is required when login.

## [Main window]



## [Graph viewing window]

### Tab Toolbar

Save/edit/zoom the data and graph.  
Graph viewing buttons

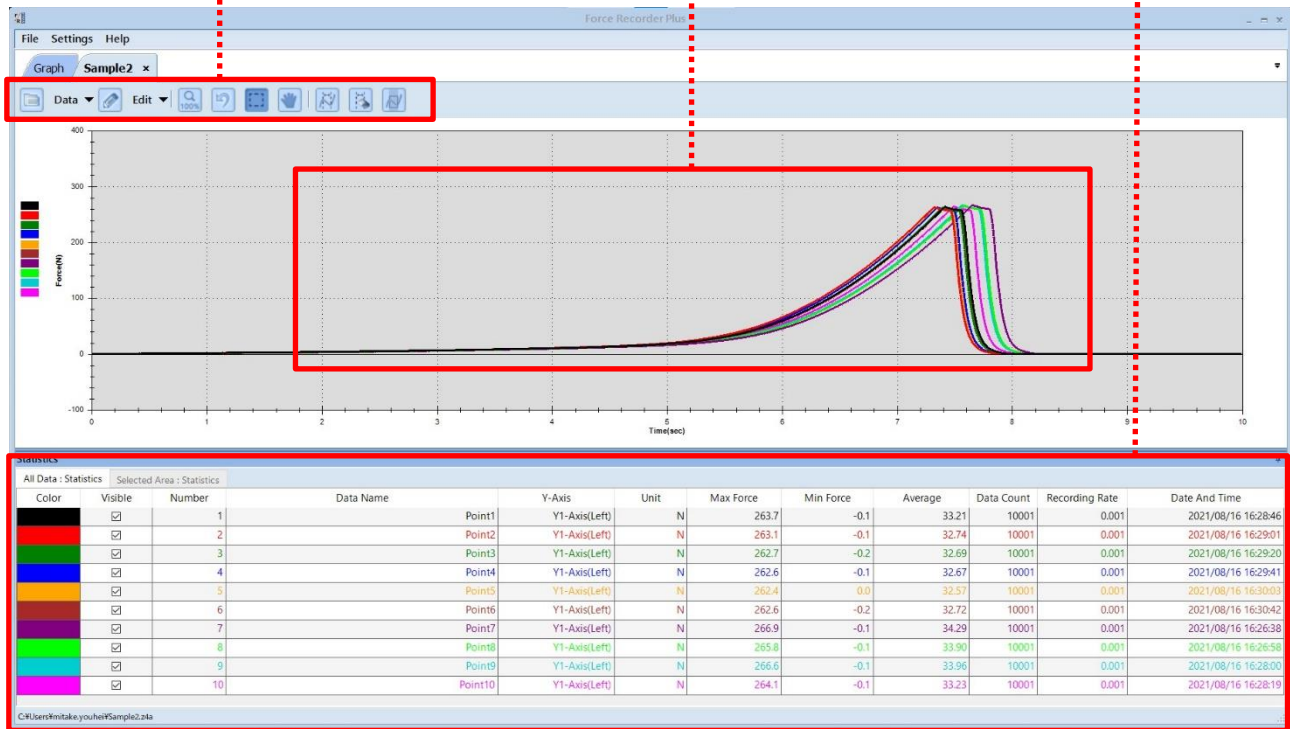


### Graph overlay

Up to 10 graphs can be overlaid for visual analysis.

### Statistics display

Shows statistics including the Max, Min, and Ave. values.



## [Management of devices]

### Device registration

Automatic registration of its serial No. and model.

### Detailed information

Enables you to input its name, responsible person and department.

### Calibration information

Allows calibration date registration.

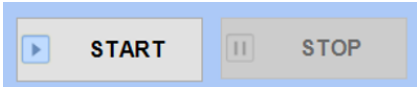
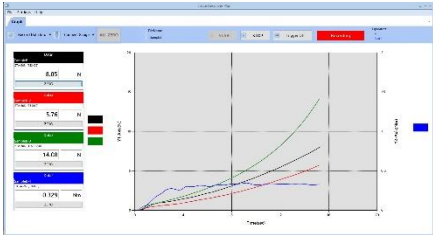
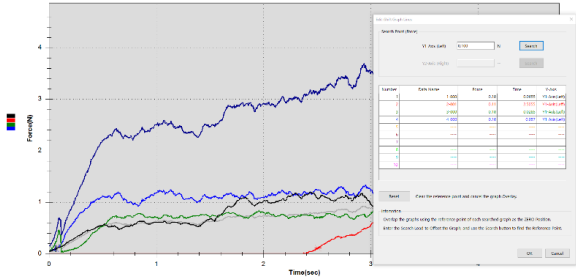

Model	Serial No.	Name	Data No.	Department	Manager	Purchase Date	Calibration Schedule	Note
HTGS-10N	355227	For Checking	1	Development	Jack	2021/07/12	2022/07/29	
ZTS-20N	353085	Left	1	Manufacturing #1	Andrew	2021/08/26	2022/01/06	Repaired
ZTA-50N	354060	Grace Only	2	Top measurment	Grace	2021/08/26	2022/01/27	Grace Only
ZTS-20N	000000	Material #2	3	Research	Mike	2021/07/15	2022/03/25	
ZTA-50N	123456	For Manager	4	Group #1	Johnson	2021/07/12	2023/03/01	Maintainenc

**Note**  
Notes such as repair records can be input.

**Edit**  
Allows revision of registered contents. (\*)

\*This button is displayed only administrator login.

## [Main Functions]

Force-Time (torque-time) Graphing	Graph Analyzing
<ol style="list-style-type: none"> <li>Simply press START/STOP buttons for recording.   <p>(Start/Stop buttons)</p> </li> <li>It is easy to see force transitions as the real-time values and graphing are displayed on the same window.   <p>(Graphing image)</p> </li> <li>Data from multiple devices can be recorded automatically according to the set value. (Trigger function) * e.g. The software will start recoding when force reaches 1N, and stop after 10 sec.</li> </ol>	<ol style="list-style-type: none"> <li>Extract the desired part of the graph, and the new statistical value will be calculated. (Area select function)</li> <li>Adjust the starting position of the graph for easy comparison by using shift graph line function.   <p>(Shift graph line)</p> </li> </ol>
Graph Viewing	Output and Print
<ol style="list-style-type: none"> <li>You can zoom in/out or scroll easily to check the details of the recorded graph. (Graph scaling function)   <p>(Graph viewing buttons)</p> </li> <li>Up to 10 graphs can be overlaid for visual analysis. (Graph overlay function)</li> </ol>	<ol style="list-style-type: none"> <li>Print the graph and statistical values in report format.</li> <li>Select and enlarge the desired area of graph and paste to the clipboard.</li> <li>Recorded data can be converted into CSV format. (CSV file converting function)</li> </ol>

Force Recorder Series Main Functions Comparison				
Model	Light	Standard	Professional	Plus
Feature	Graphing only	With editing functions	Force-displacement graphing	<b>Multiple graphing</b>
Graphing	Force-time	Force-time	Force-time / displacement	<b>Force-time</b>
Data transferring speed (Max)	2000 data/sec	2000 data/sec	2000 data/sec	<b>1000 data/sec</b>
Recording data point (Max)	7.2 million	7.2 million	7.2 million	<b>0.3 million</b>
Displacement output	N/A	N/A	√	<b>N/A</b>
Graph overlaying	N/A	√ (Max 5)	√ (Max 5)	√ ((Max 10)
Trigger function	N/A	√	√	√
Point marking	N/A	√	√	<b>N/A</b>
Border line function	N/A	√	√	<b>N/A</b>
Capture function	N/A	√	√	√
Graph scaling	√ (Automatic)	√ (Automatic)	√ (Automatic)	√ (Automatic and Manual)
Statistics output	√	√	√	√
Comment	√	√	√	<b>N/A</b>
Print	√	√	√	√
CSV file converting	√	√	√	√
Preview saving (PDF/Word/Excel)	√	√	√	√
Force gauge setting	√	√	√	√
Operation history tracking	N/A	N/A	N/A	√
Password	N/A	N/A	N/A	√

\* Refer to the specification of each product for details.

Specifications	
Model	<b>Force Recorder Plus</b>
Data transferring speed (Max)	1000 data/sec
Resolution	Determined by force gauge's capacity. (Signed 4-digit) (eg: 0.001N when using 5N range.)
Output	CSV format conversion, Printing
Languages	Japanese, English
Compatible devices	Digital Force-gauges: ZTS/ZTA series Digital Torque-gauges: HTGS/HTGA series, DTXS/DTXA series Desktop Amplifier: FA Plus2 series Sensor Interchangeable Amplifier: eZT、eFA Plus2
Required cable	Supplied USB cable for force gauge






\* USB hub is required when using multiple devices simultaneously.



Connect Devices NO.	USB hub type	Notes
1~2 pcs	Self-powered type or bus-powered type	Supply current per port: 250mA or higher
3~4 pcs	Bus-powered type	

Operating Environment	
<b>Model</b>	Force Recorder Plus
<b>Operating environment</b>	Windows 8.1/10/11
<b>Hardware</b>	CPU : 1GHz or higher Memory : 4GB or more Hard disk : 10GB (Data Storage) or larger
<b>Platform</b>	.NET Framework4.8 or higher
<b>Image size</b>	Resolution 1920x1080 pixel or greater (*1)

\*1 For Windows10, you may need to adjust the resolution if it is not displayed properly.

\* 2 We do not guarantee operation in USB 3.0.

Compatible Devices For Force-Time (Torque-Time) graph		
Digital Force Gauge <b>ZTS/ZTA series</b>	Sensor Interchangeable Amplifier <b>eZT</b>	Desk Type Load Cell Amplifier <b>FA Plus2/eFA Plus2</b>
		
For Torque-Time graph		
Handy Type Torque Gauge <b>HTGS/HTGA series</b>	Screw Cap Torque Tester <b>DTXS/DTXA series</b>	
		

Related Products	
<p>Motorized Test Stand <b>MX/MX2/MH/MH2/EMX series</b></p>	<p>Optional Cable <b>CB-528</b></p>
<p>The motorized test stand can be operated by switch to perform measurement.</p>	<p>By combining with ZT series force gauge and test stand, it activates the motion control and overload-preventing functions.</p>
	

### [Cautions]

- Information in this document is subject to change without prior notice.
- This document is product descriptions and handling precautions, and do not guarantee various characteristics or safety.
- This product is designed for force measurement purpose only.
- Do not copy and use this content without authorization.
- A force gauge (sold separately) is required to use this product.
- This product is protected by Universal Copyright Convention and Japanese Copyright Act.
- Returns are not acceptable. Check the specification, working conditions and operating environment before purchase.

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