SCHMIDT
control instruments
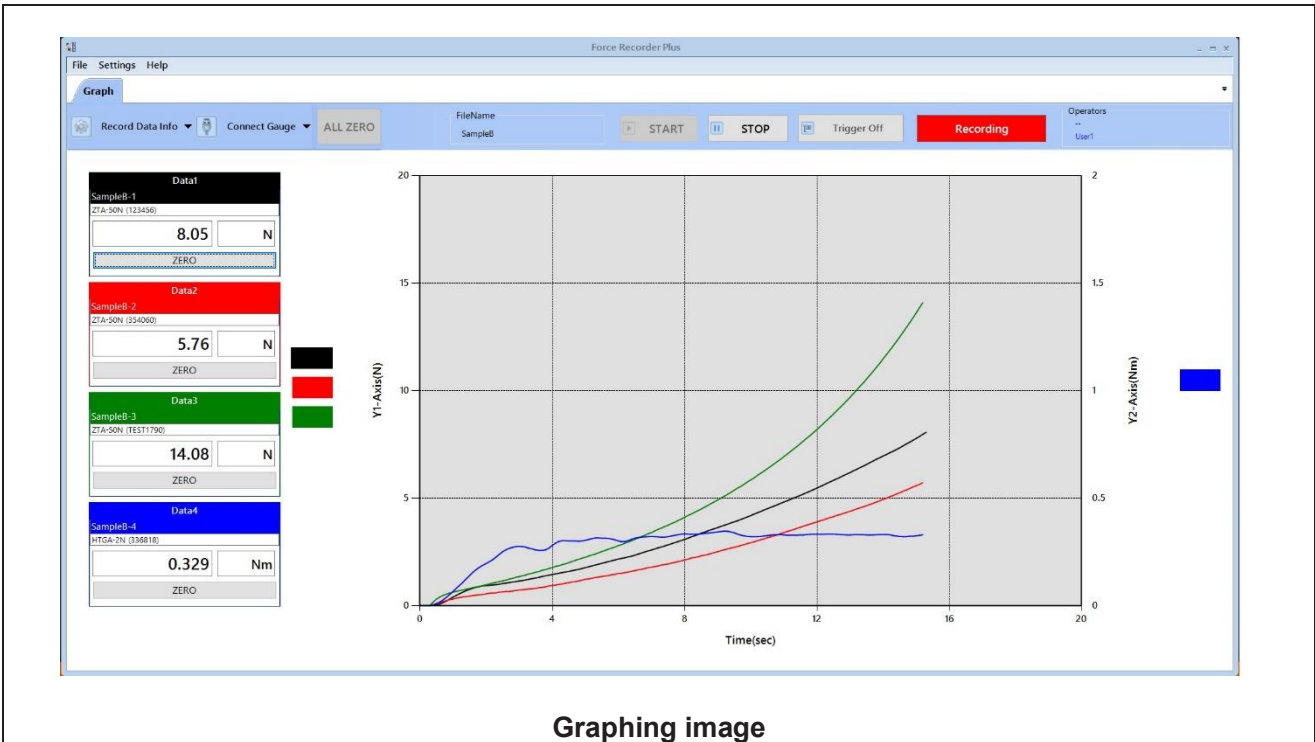
Multiple Force-Time (Torque-Time) Graphing Software
Force Recorder Plus

-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

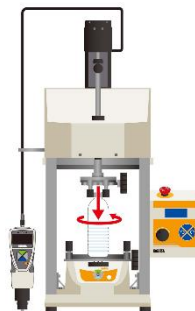- Operation history tracking and password protection possible for security

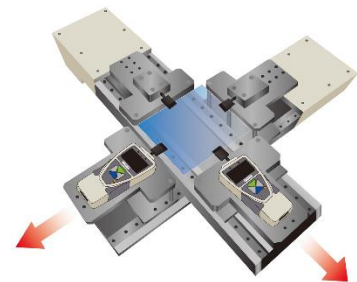**Graphing image**

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

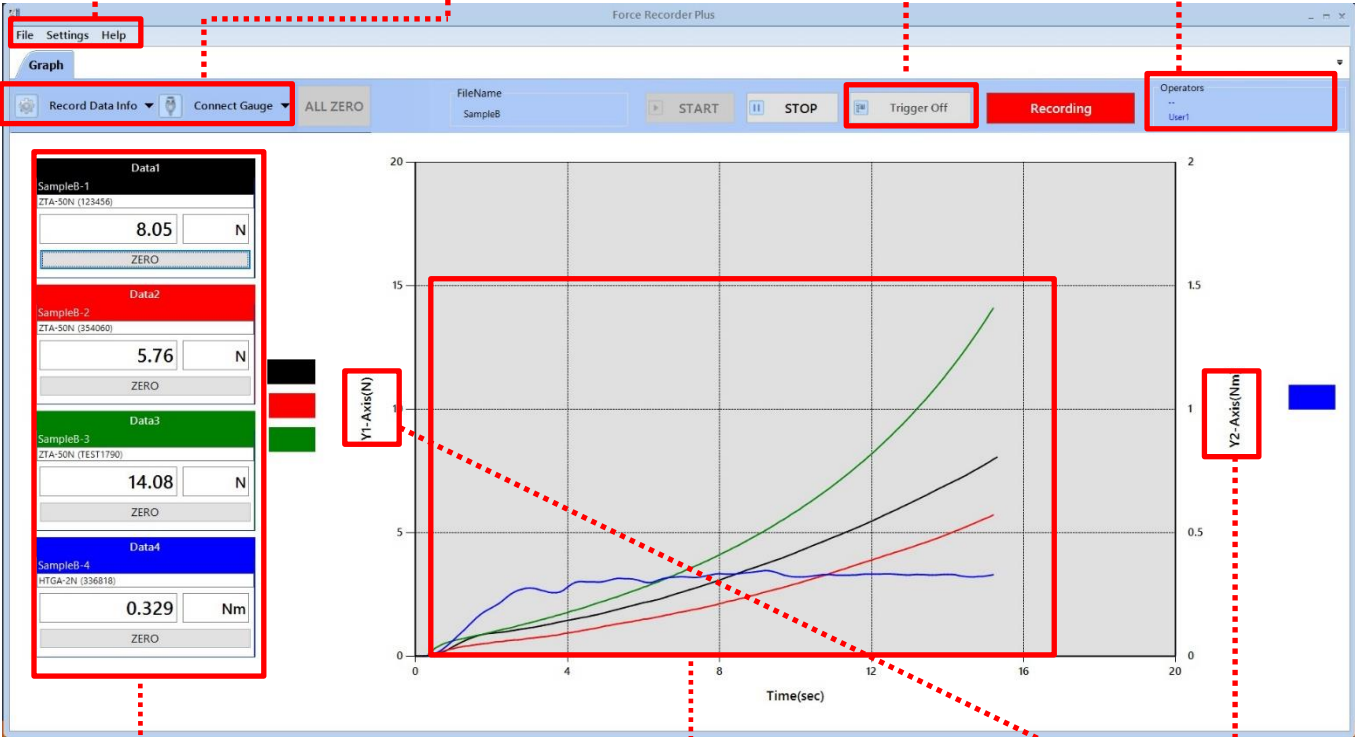| Main functions of Force Recorder Plus	
Data graphing of multiple devices	It can graph data of up to 4pcs devices simultaneously.
Display different units / ranges	Different units (eg: force and torque) / ranges (eg: 5N and 5000N) can be displayed on the same window by setting the Y1-Axis and Y2-Axis.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

[Main window]

Main Toolbar
Open/close files and edit the settings.

Record settings
Data record file set and connect/manage the devices.

Trigger function
Automatic record by setting up the START/STOP value.

Operators display
Display operator's name and dept. (only when operator login).

Real-time values of multiple devices
The real-time values of connected devices can be observed.

Data graphing of multiple devices
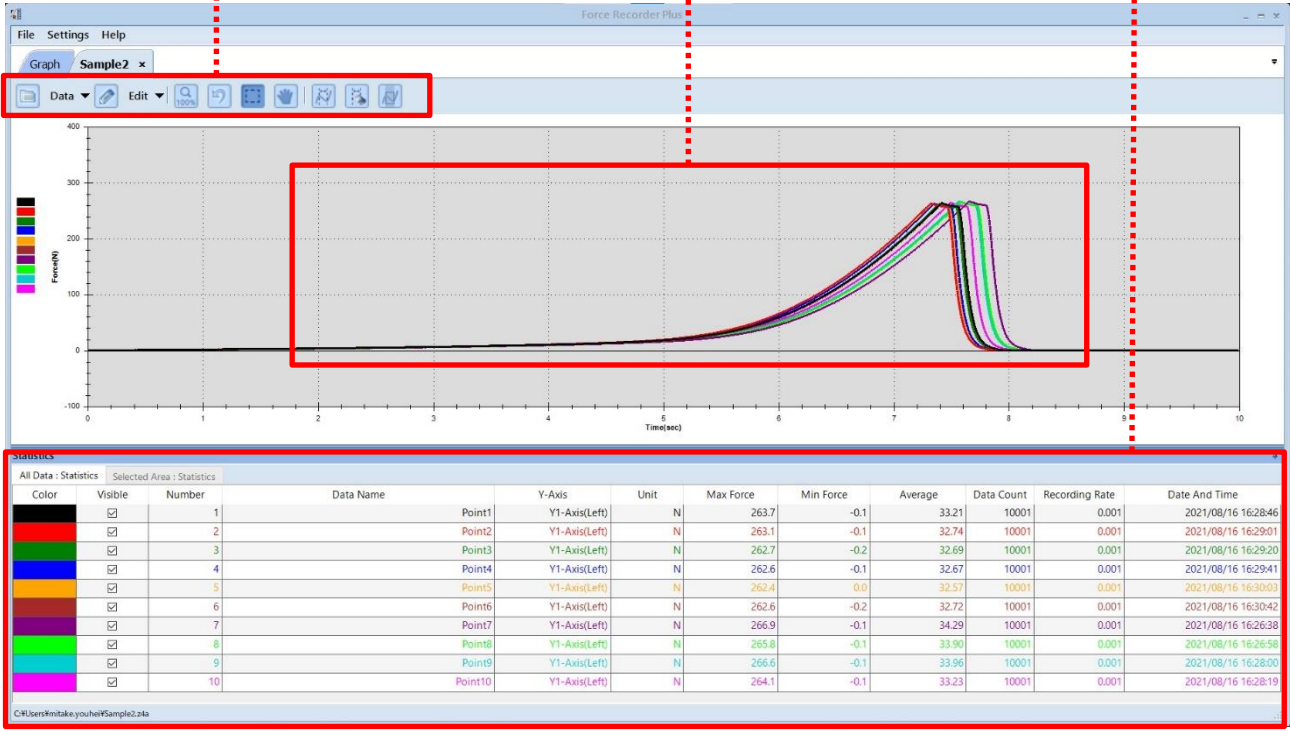Graph data of up to 4pcs devices simultaneously.

Display different units
Different units such as force and torque can be displayed on the same 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.

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
1. Simply press START/STOP buttons for recording. (Start/Stop buttons) 2. It is easy to see force transitions as the real-time values and graphing are displayed on the same window. (Graphing image) 3. 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.	1. Extract the desired part of the graph, and the new statistical value will be calculated. (Area select function) 2. Adjust the starting position of the graph for easy comparison by using shift graph line function. (Shift graph line)

Graph Viewing	Output and Print
1. You can zoom in/out or scroll easily to check the details of the recorded graph. (Graph scaling function) (Graph viewing buttons) 2. Up to 10 graphs can be overlaid for visual analysis. (Graph overlay function)	1. Print the graph and statistical values in report format. 2. Select and enlarge the desired area of graph and paste to the clipboard. 3. Recorded data can be converted into CSV format. (CSV file converting function)

Force Recorder Series Main Functions Comparison				
Model	Light	Standard	Professional	**Plus**
Feature	Graphing only	With editing functions	Force-displacement graphing	**Multiple graphing**
Graphing	Force-time	Force-time	Force-time / displacement	**Force-time**
Data transferring speed (Max)	2000 data/sec	2000 data/sec	2000 data/sec	**1000 data/sec**
Recording data point (Max)	7.2 million	7.2 million	7.2 million	**0.3 million**
Displacement output	N/A	N/A	√	**N/A**
Graph overlaying	N/A	√ (Max 5)	√ (Max 5)	**√ ((Max 10)**
Trigger function	N/A	√	√	√
Point marking	N/A	√	√	**N/A**
Border line function	N/A	√	√	**N/A**
Capture function	N/A	√	√	√
Graph scaling	√ (Automatic)	√ (Automatic)	√ (Automatic)	**√ (Automatic and Manual)**
Statistics output	√	√	√	√
Comment	√	√	√	**N/A**
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	**Force Recorder Plus**
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:
3~4 pcs	Bus-powered type	250mA or higher

Operating Environment	
Model	Force Recorder Plus
Operating environment	Windows 8 / 8.1 / 10
Hardware	CPU：Core i3 1GHz or higher Memory：4GB or more Hard disk：10GB（Data Storage）or larger
Platform	.NET Framework4.8 or higher
Image size	Resolution 1920x1080 pixel or greater (*1)
Connection port	USB2.0 (*2)

*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 **ZTS/ZTA series**	Sensor Interchangeable Amplifier **eZT**	Desk Type Load Cell Amplifier **FA Plus2/eFA Plus2**
For Torque-Time graph		
Handy Type Torque Gauge **HTGS/HTGA series**		Screw Cap Torque Tester **DTXS/DTXA series**

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

[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.