Magnescale

Software

MeasureViewer Lite (US)

Read all the instructions in the manual carefully before use and strictly follow them.
Keep the manual for future references.
This instruction manual corresponds to the software Ver. 1.0.2.

Instruction Manual

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The specifications of this software may be changed without prior notice.

This application has been confirmed to operate properly on Microsoft Windows 10, version 1607.
Its operation is not guaranteed on future updates of Microsoft Windows 10.

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1. Outline

1-1. Introduction

MeasureViewer Lite (US) is a software application (the application) that displays values measured by measuring units on a PC running Microsoft Windows (the PC).
To use the application, you must connect a compatible measuring unit (or units) to the PC.

1-2. Major functions

Measurement value display

- Current value, minimum value, maximum value, P-P value
- Two-step threshold value judgment
- Line chart (all axes)
- Display range switching

Data output

- Storage of current value
- Output (saving) of acquisition interval and measurement values in CSV format
- Output of line charts (image, CSV data)

Operations

- Measurement value display format switching (numeric value, bar meter, analog meter)
- Decimal point setting
- Reset, preset
- Preset value setting
- Threshold setting
- Cyclic data acquisition
- Designation of data save format (Selectable from Japanese, U.S., or European formats)

2. System environment and setup

2-1. Compatible measuring units

Manufactured by Magnescale Co., Ltd.

Measuring unit	Description
DS800S series DS series	Measuring unit for USB connection
DT series	An MT30 series interpolator (sold separately) is required for USB connection.

Number of measuring units that can be connected

Up to 16

2-2. Recommended operating environment

OS	Microsoft Windows 7 / Windows 10
CPU	Intel Core i3 or higher recommended
Memory	32-bit: 2 GB or more recommended 64-bit: 4 GB or more recommended
Storage	Min. 200 MB
Display resolution	1,280 × 800 or higher recommended
Communication interface	USB 2.0 or higher
Execution environment	.NET Framework 4.6 or later

The following software programs are also installed when the application is installed.

- USBSerial4MgsGauge.ocx : ActiveX is required for communication with the measuring unit.
- Microsoft VisualC++ 2017 SP1 runtime : ActiveX operating environment

Note

Microsoft VisualC++ 2017 SP1 runtime is not automatically uninstalled when the application is uninstalled. When uninstallation is necessary, uninstall each software program separately.

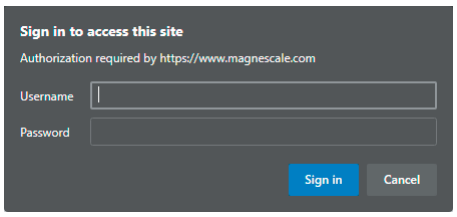
2-3. PC settings

Disable sleep mode on the PC.
If the PC enters sleep mode, operation may be unstable after it awakes from sleep.

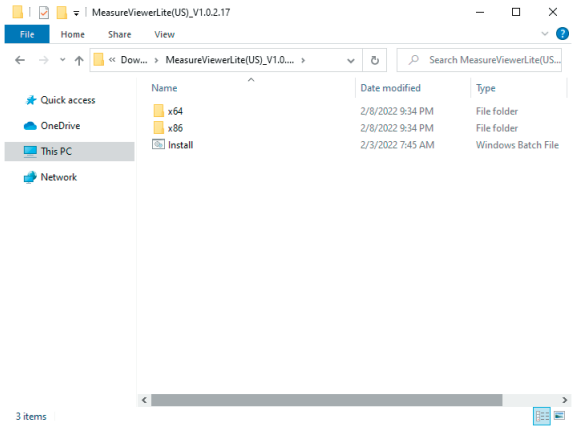
3. Installation/uninstallation

3-1. Installation

1 Download MeasureViewer Lite (US) from the Magnescale website.
Enter the user ID and password supplied with the product and download MeasureViewer Lite (US).

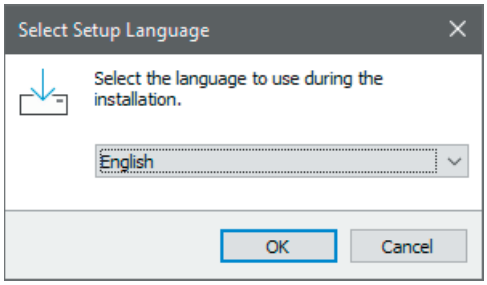


2 Double-click the downloaded file.
The folders contained in the file are displayed.



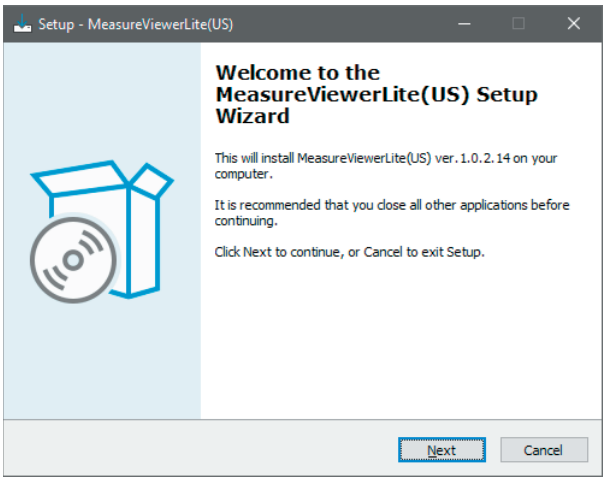
3 Double-click “Install.bat (or Install).”
Installation starts.

4 Select the installation language and click “OK.”



The Welcome to the MeasureViewer Setup Wizard window appears.

5 Click “Next>.”

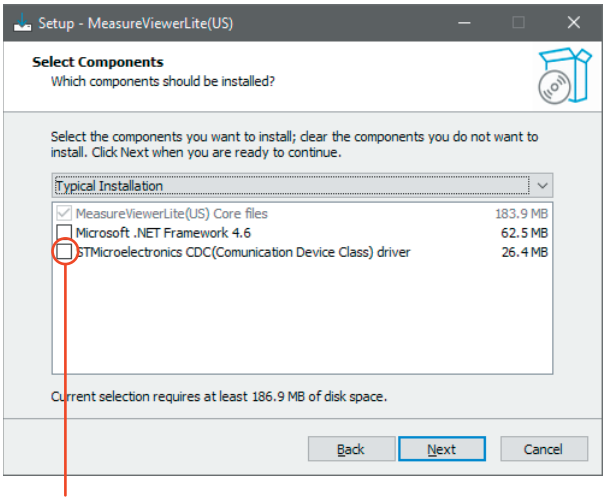


The Software License Agreement appears.

6 If you agree to the displayed license conditions, select “I accept the agreement” and then click “Next>.”

The Select Components window appears.

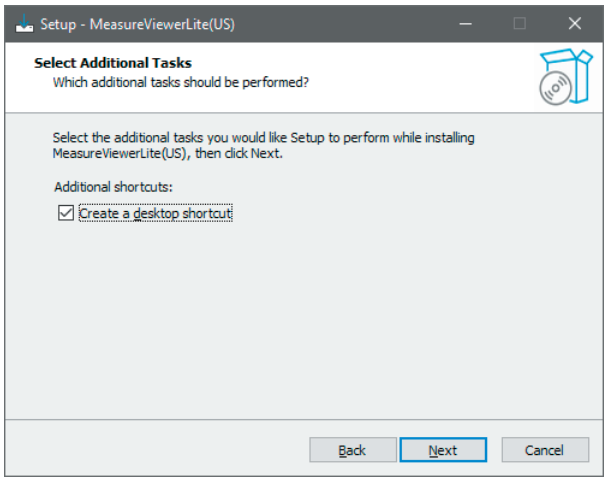
7 Select the component to be installed and then click “Next>.”



Select this when using Windows 7.

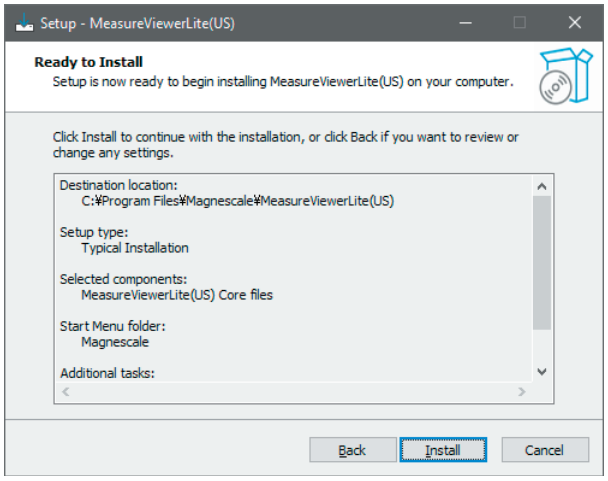
The Select Additional Tasks window appears.

8 Check the box for Create a desktop shortcut if desired, and click “Next>.”



This completes the preparations for installation.

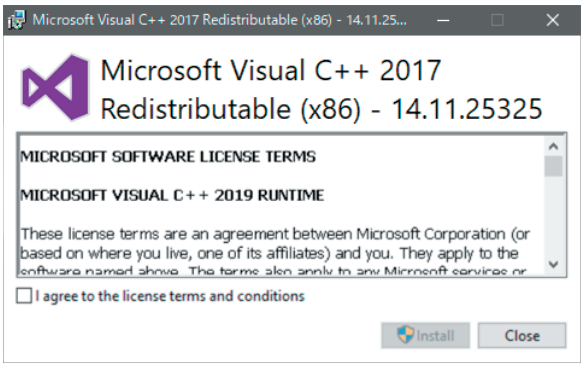
9 Click “Install.”
Installation starts.

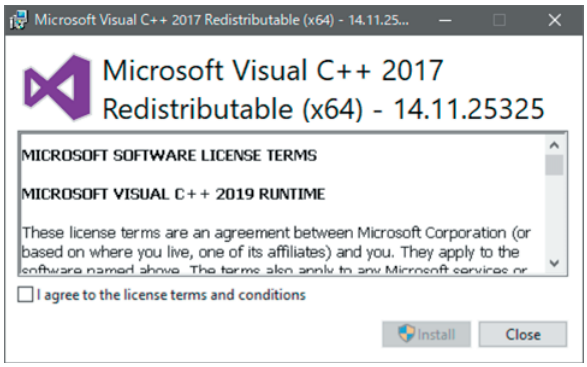


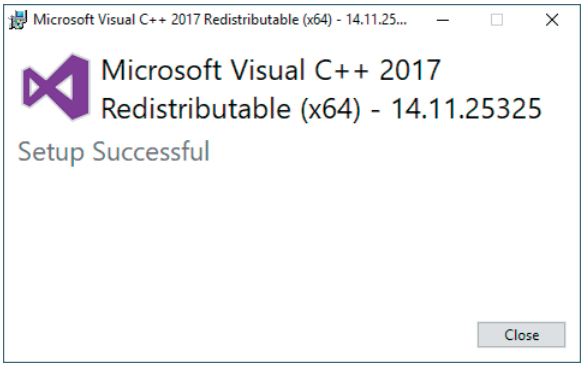
10 In parallel with installation of the application, the runtime required for operation of the measuring unit is also installed.

Check the box for I agree to the license terms and conditions and then click “Install.”

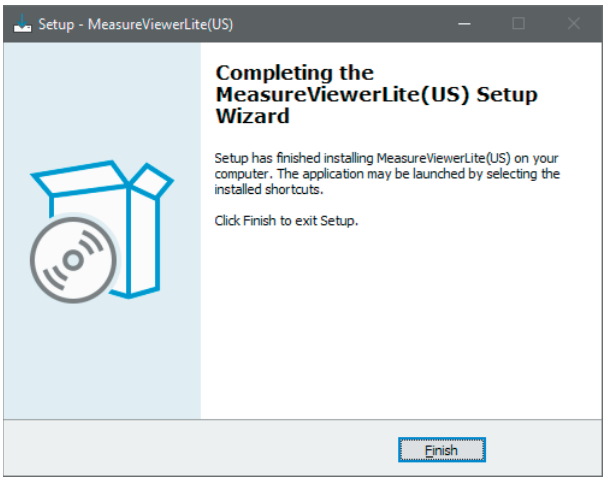
In a 64-bit environment, the installation windows for x86 and x64 appear. Install both runtimes.







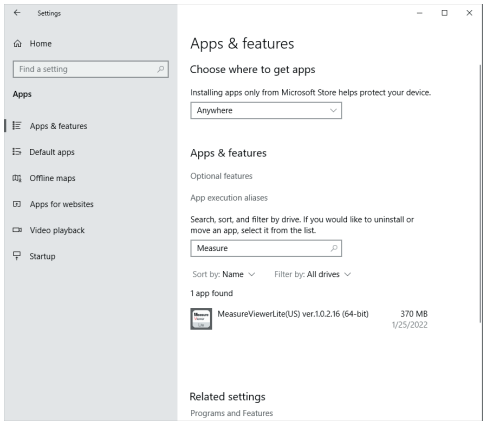
11 When the following window appears, click “Finish.”



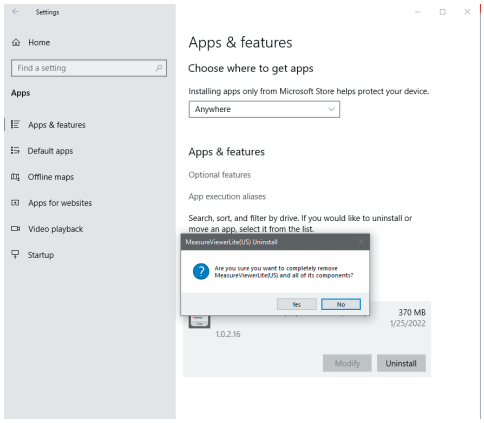
The installation is complete.

3-2. Uninstallation

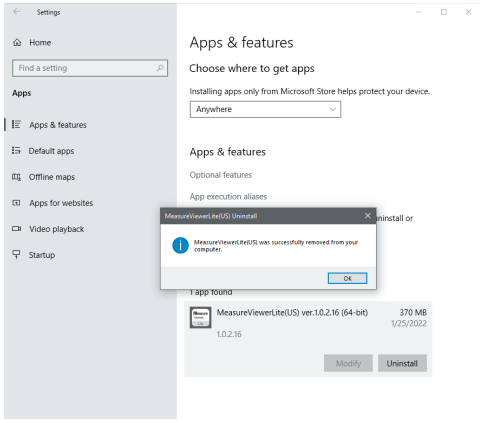
1 On the Windows 10 Start menu, select Settings → Apps → Apps & features.



2 Under “Apps & features”, select MeasureViewer Lite (US) and then click “Uninstall.”



3 When “MeasureViewer was successfully removed from your computer.” is displayed, uninstallation is complete.

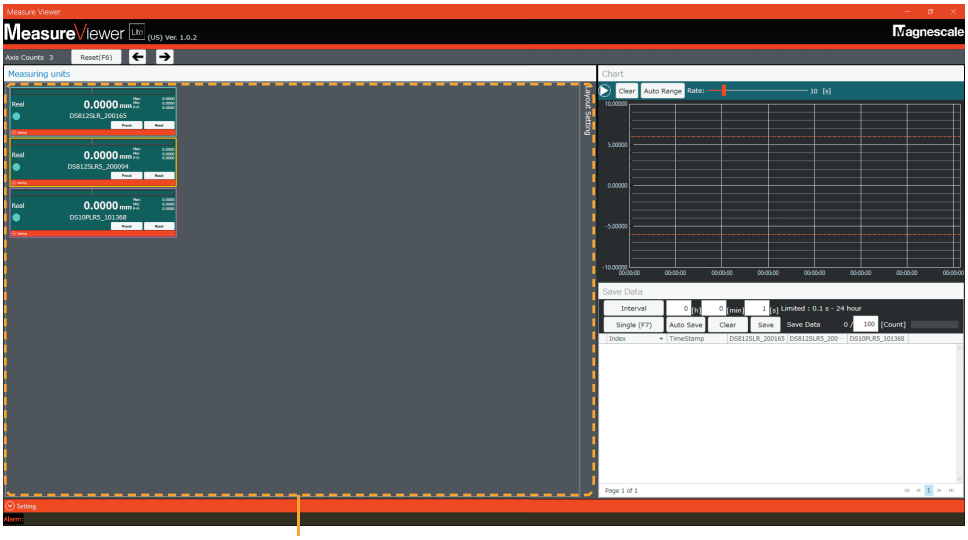


4 To uninstall the Microsoft VisualC++ 2017 SP1 runtime, select VisualC++ 2017 for uninstallation using the procedure described in steps 1 and 2 above.

4. Starting up and ending the application

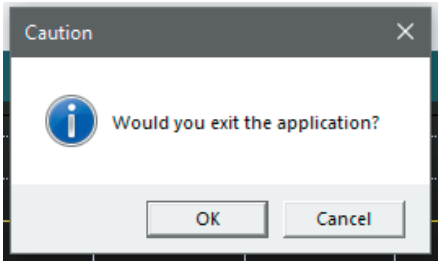
4-1. Starting up MeasureViewer Lite (US)

Click the shortcut created during the installation process.
MeasureViewer Lite (US) starts.
All the measuring units currently recognized by the PC are displayed in the measuring unit (Gauges) area.



4-2. Ending MeasureViewer Lite (US)

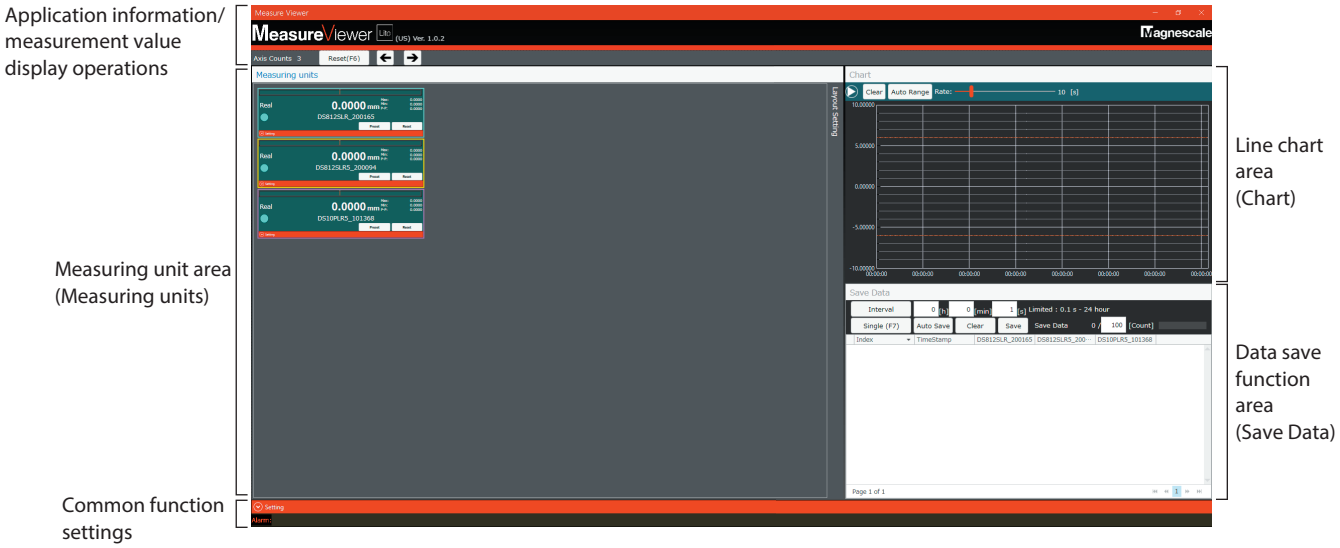
Click "× (Close)" at the upper right corner of the MeasureViewer Lite (US) window to end the application.
When ending the application, the following message appears.
Click "OK" to end MeasureViewer Lite (US).



5. Window composition

5-1. Area composition

The MeasureViewer Lite (US) window is composed of three areas.

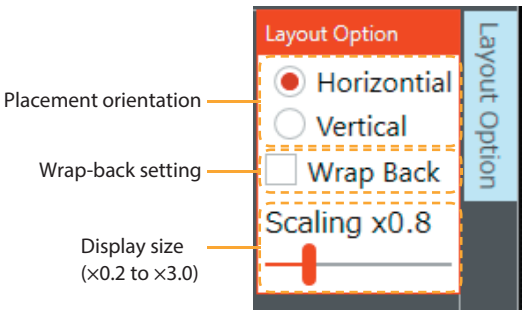


Measuring unit area (Measuring units)	Measuring unit measurement value display, individual settings (See section 6-1.)
Line chart area (Chart)	Realtime graphical display of current values from selected measuring units (See section 6-2.)
Data save function area (Save Data)	Acquisition and storage of data from all measuring units (See section 6-3.)

Refer to section 6-4 for information on using these areas for checking application information, measurement value display operations, and common function settings.

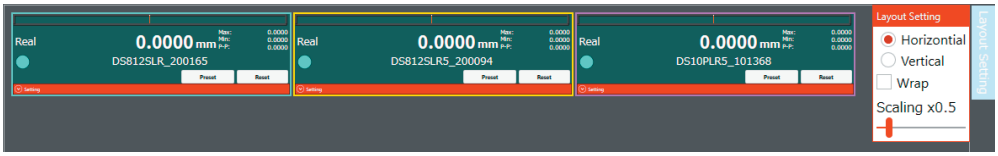
5-2. Changing the layout of the measuring unit displays

The layout and size of the measuring unit displays within the measuring unit area can be changed.
Move the cursor to the Layout Option box at the right of the measuring unit area to display the layout setting items. The layout can be changed freely to match the window being used.



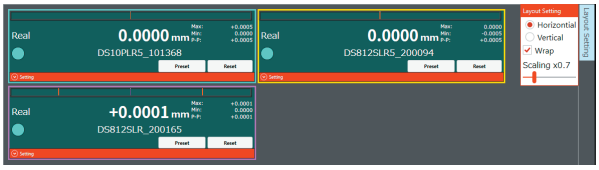
< Layout examples >

Horizontal placement, wrap-back off



Vertical placement, wrap-back off

Horizontal placement, wrap-back on



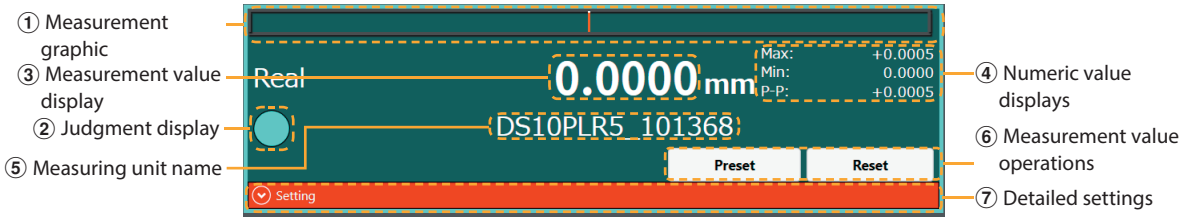
6. Functions and operations

6-1. Measuring unit area

The measurement values of the recognized measuring units are displayed in the measuring unit area.

6-1-1. Measurement value display

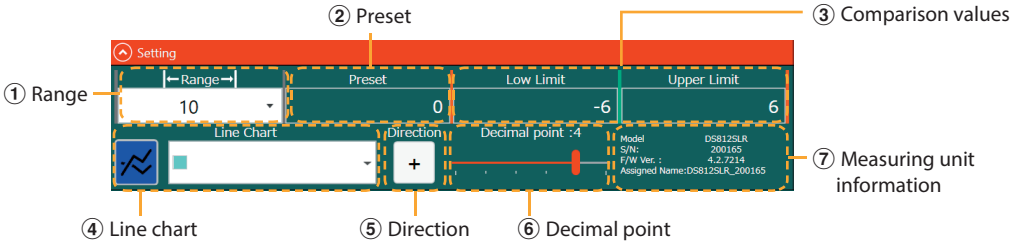
The measurement value display switching options and setting functions for each measuring unit are as follows.



① Measurement graphic	Displays the current value in graphical format. Refer to the description of comparator value settings for information on display colors (See section 6-1-2).
② Judgment display	Displays the current value judgment result according to the set comparator values. Blue : Within the thresholds Red : Outside the thresholds (See section 6-1-2.)
③ Measurement value display	Displays the current value.
④ Numeric value displays	Displays the maximum value, minimum value, and P-P value.
⑤ Measuring unit name	Displays “model name_serial number”. Measuring unit model name_serial number.
⑥ Measurement value operations	The operation buttons are as follows. (See section 6-1-6.) Preset : Rewrites the current value to the set value. Reset : Sets the current value to 0.
⑦ Detailed settings	Click this item to enter settings for items such as the range value and comparator values. (See section 6-1-2.)

6-1-2. Detailed settings

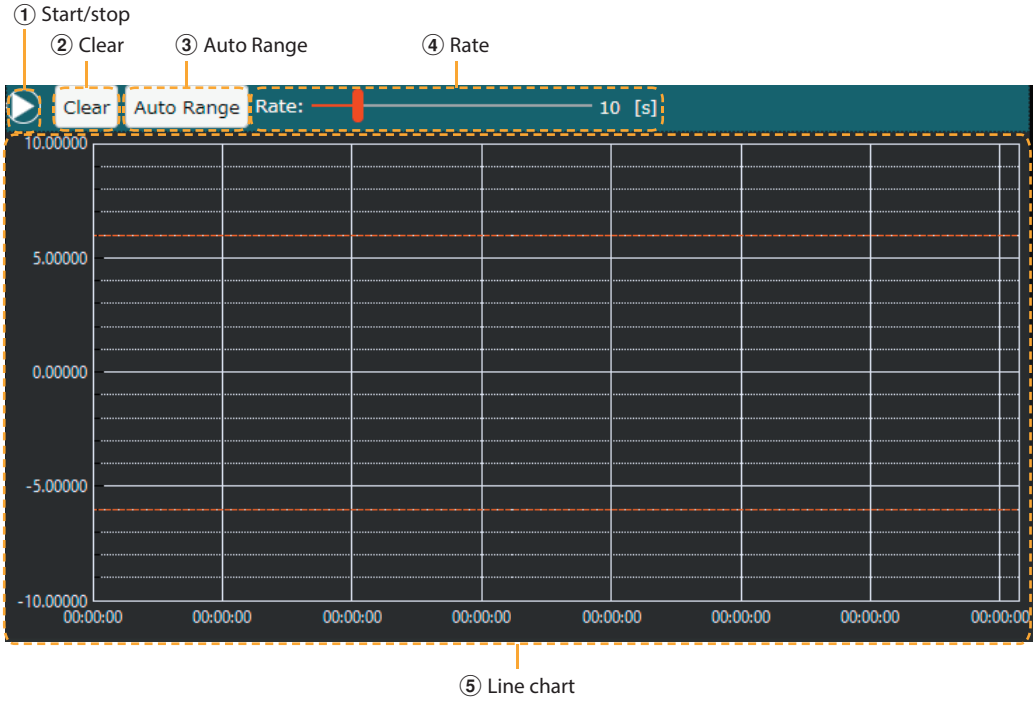
Click to open the panel as shown, allowing you to enter detailed settings.



① Range	Settings from 0.05 mm to 250 mm can be entered to match the display unit. The range can be set to match the display unit. (For the display unit, refer to section "6-5. Switching the display unit between mm and inch.") mm : 0.05, 0.1, 0.25, 0.5, 1, 2.5, 5, 10, 15, 25, 30, 50, 100, 250 inch : 0.0000025, 0.000005, 0.000025, 0.00005, 0.00025, 0.0005, 0.0025, 0.005, 0.025, 0.05, 0.25, 0.5, 2.5, 5
② Preset	Sets the value to be used as the preset. When the display unit is mm Entry range: ±99999.99999 When the display unit is inch Entry range: ±99999.999999
③ Comparison values	Sets the judgment threshold for the measurement value. When the display unit is mm Entry range: ±99999.99999 When the display unit is inch Entry range: ±99999.999999 The comparison judgment uses the measurement values of the current value. The judgment is based on the following relationship among comparison values: Lower limit value < measurement value < upper limit value. (Red) (Blue) (Red) **Note** If the same numeric value is specified for the upper and lower limit values, no judgment will take place.
④ Line chart	Specifies the color of the graph displayed in the line chart area. To disable display in the line chart area, click the icon to turn it off. On : blue icon Off : white icon
⑤ Direction	Switches the count direction of the measurement value display. When the spindle of the measuring unit is depressed, the count is incremented when [+] is selected and decremented when [–] is selected.
⑥ Decimal point	Specifies the number of display digits after the decimal point. The initial setting and the setting range differ according to the display unit. Unit / Initial setting / Setting range mm / 4 / 0 to 5 inch / According to the resolution of the measuring unit 0.5 µm: 5 0.1 µm: 6 / 0 to 7 This setting is applied to the number of digits displayed after the decimal point of all measurement values.
⑦ Measuring unit information	Displays detailed information about the measuring unit. The model name, serial number, firmware version, and gauge name are displayed.

6-2. Line chart area

The current values are displayed as line graphs, with the values updated at the specified interval.



① Start/stop	Starts/stops drawing of the line chart. ▶ : Start drawing. ❚❚ : Stop drawing.
② Clear	Clears the currently displayed line chart.
③ Auto Range	Automatically adjusts the Y-axis display range. On : blue icon The display range is adjusted to match the maximum and minimum values of the entire displayed line chart. Off : white icon The range specified by the detailed settings of the selected measuring unit is used for the display.
④ Rate	Specifies the interval for updating the line chart. Setting range : 1 to 60 seconds
⑤ Line chart	Displays a chart of the current values of the selected measuring unit. **Selection of measuring unit to be displayed** Click the Line Chart button in the detailed settings of the measuring unit to turn it On (blue). **Threshold display** The specified thresholds (see section 6-1-2) are displayed in the line chart as dashed lines. Click the measurement value display (see section 6-1-1) to select the measuring unit. The background of the selected measurement value display is displayed in a lighter color. Dashed red line : Displays the threshold upper and lower limit values. **Reference** The Y-axis scale differs according to the display unit (mm/inch). mm : mm display up to the 5th decimal place inch : Display up to the number of digits displayed after the decimal point of the specified measuring unit

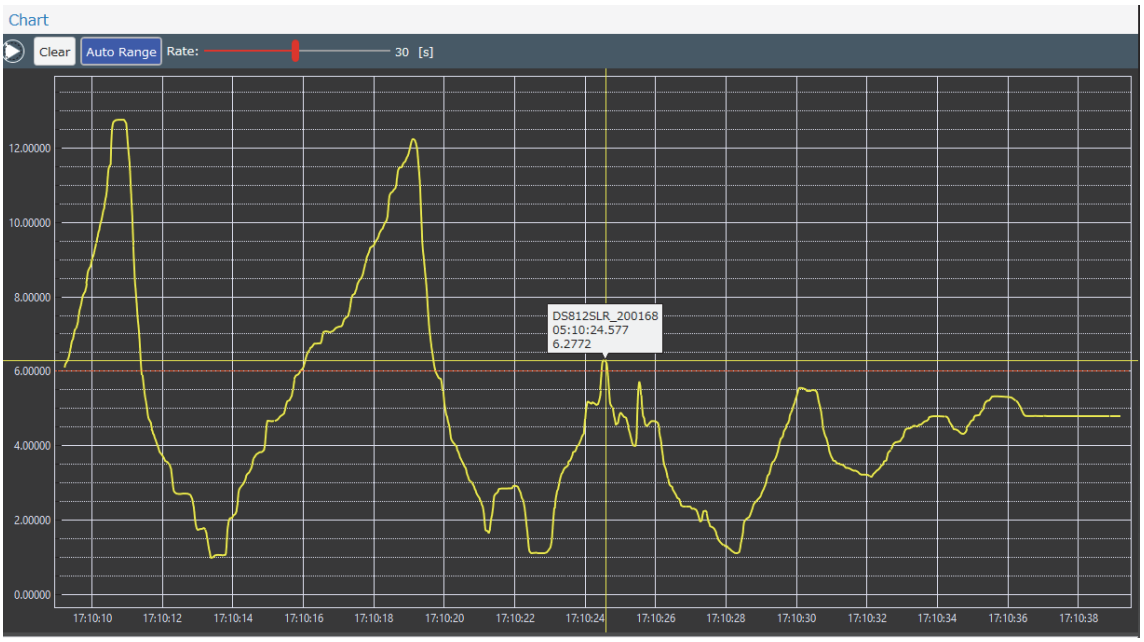
6-2-1. Line chart zoom-in/out and tracker display

Operations can be performed on the currently displayed chart while line chart drawing is stopped.

Operation	Effect
Left click + drag	Moves the display range
Right click + drag	Zooms the dragged range
Wheel operation	Zoom-in/out
Right double click	Display all

In addition, when the data on the chart is mouseovered, the following tracker is displayed.

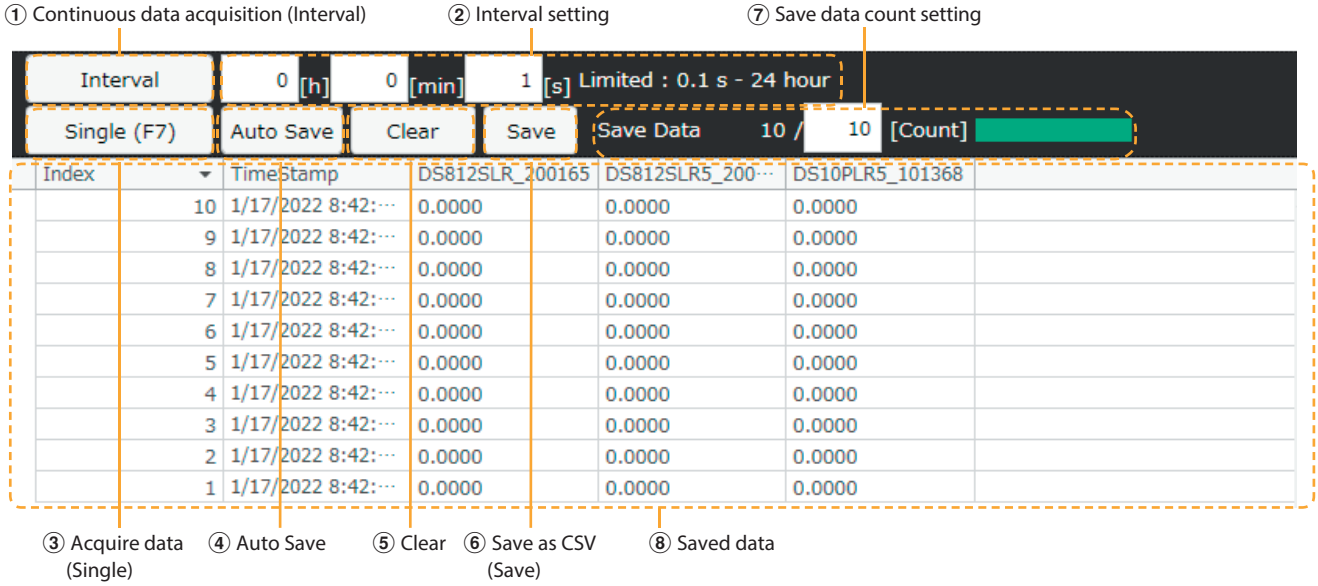
- Measuring unit name
- Acquisition time
- Current value



Example of display during mouseover

6-3. Data save function area

The method of acquiring measurement values and exporting acquiring measurement values in CSV format.



① Continuous data acquisition (Interval)	Starts/stops acquisition of data at fixed intervals.
② Interval setting	Specifies the time interval for acquisition of data at fixed intervals. Setting range: 0.1 seconds to 24 hours
③ Acquire data (Single)	Click this button to acquire data once. The same operation can be accomplished by pressing the Enter key or the F7 key. **Note** This function is not available during acquisition of data at fixed intervals.
④ Auto Save	When this is turned on, the acquired data is saved automatically when the specified save data count (⑦) is reached. Click the icon to toggle the function on and off. On : blue icon Off : white icon Refer to section 6-4-2 for how to specify the save destination. The file is saved with the file name [mgs_YYYYMMDDhhmmss.csv]. Example : A file saved at 13:45:06 on January 2, 2021 would have the name mgs_20210102134506.csv.
⑤ Clear	Clears the acquired data. To clear only selected data : Click to select a line of data, then click the Clear button. To clear all data : With no data selected, click the Clear button. **Note** This function is not available during continuous data acquisition.
⑥ Save as CSV (Save)	Saves the acquired data to a file in CSV format.
⑦ Save data count setting	Specifies the acquired data count to save. When Auto Save is turned on, the acquired data is saved automatically when the save data count specified here is reached. Acquisition of new data stops when the specified data count is reached. Setting range: 1 to 50,000 The bar displays [currently acquired data count] / [data acquisition upper limit].
⑧ Saved data	The acquired data is displayed here. Up to 100 sets of data values can be displayed per page. Pages are added when the data count reaches and exceeds 101.

Note

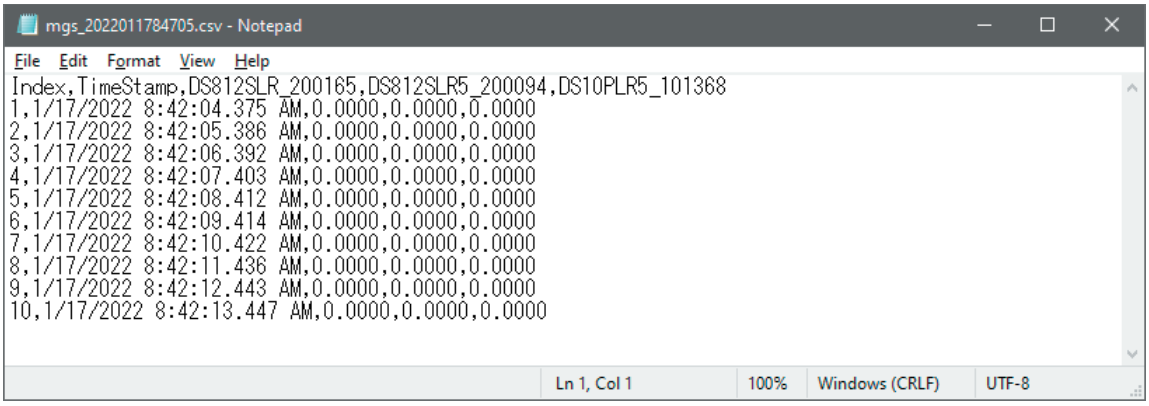
- If the display unit is switched during data acquisition, subsequent data is acquired in the newly selected unit.
- The following operations are not available during continuous data acquisition.
  Clear data / Switch the display unit (mm ⇔ inch)

Details of acquired data

When saved data is not selected

Index	Timestamp	Work name	1st measuring unit	2nd measuring unit	...
	Displayed to the millisecond		Acquired value		

Click the Save button (⑥) to output the data in CSV format.
The data is output according to the specified date format (see section 6-4-2).



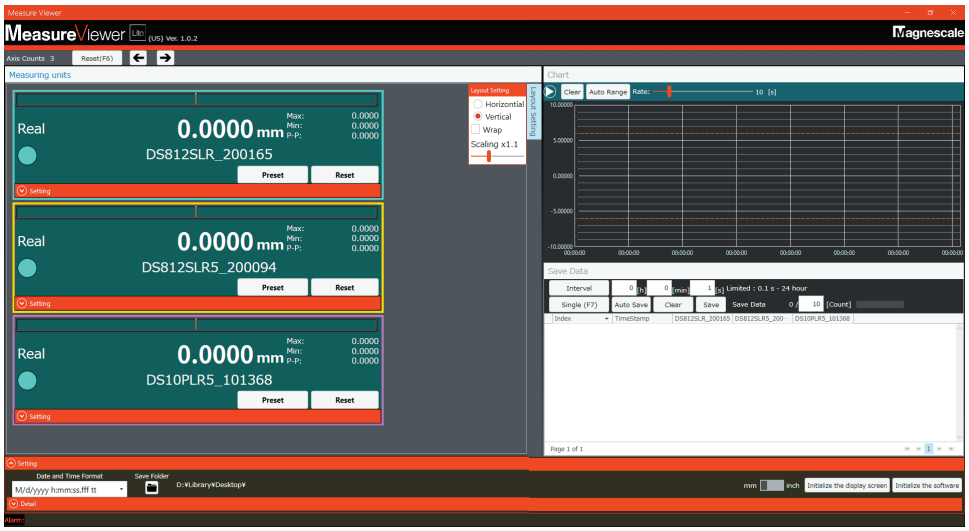
Data displayed as text file

Index	TimeStamp	DS812SLR_200165	DS812SLR5_200094	DS10PLR5_101368
1	8:42:04 AM	0	0	0
2	8:42:05 AM	0	0	0
3	8:42:06 AM	0	0	0
4	8:42:07 AM	0	0	0
5	8:42:08 AM	0	0	0
6	8:42:09 AM	0	0	0
7	8:42:10 AM	0	0	0
8	8:42:11 AM	0	0	0
9	8:42:12 AM	0	0	0
10	8:42:13 AM	0	0	0

Data displayed in Microsoft Excel

6-4. Common functions

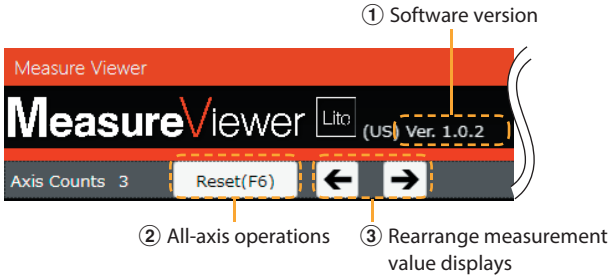
Application information/ measurement value display operations



Common function settings CSV format data output and initialization settings

6-4-1. Application information and measurement value display operations

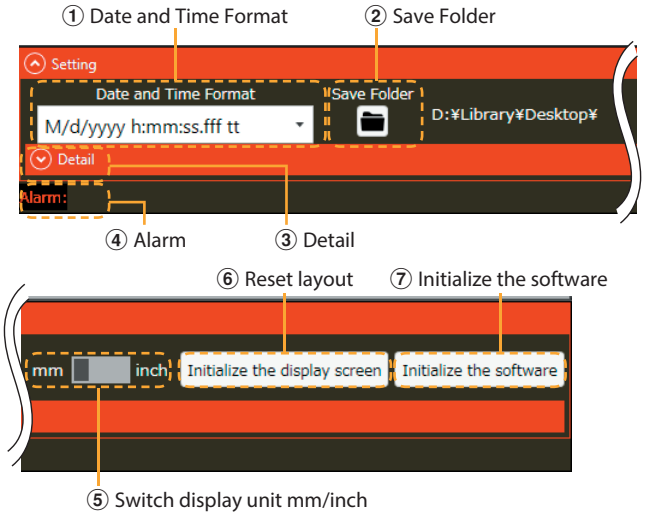
Operations can be performed on the measurement value displays of all recognized measuring units.



① Software version	Displays the version number of the application.
② All-axis operations	This button allows application of Reset operation to all connected measuring units. Shortcut keys have been assigned to each of these functions. **Operation** / **Key**: Reset / F6/Delete
③ Rearrange measurement value displays	The layout of the measurement value displays can be rearranged. Click inside the frame of the measurement value display to be moved to select it; the name of the selected measuring unit appears between the rearrange buttons. Click the right or left arrow button to move the selected display to the desired position. (The background of the selected measurement value display is displayed in a lighter color.)  The measurement value displays can also be rearranged by dragging and dropping them.

6-4-2. CSV format data output and initialization settings

Click at the bottom of the window to enter CSV format data output and initialization settings.
CSV format data is output separated by the delimiter code used by your PC.



① Date and Time Format	Selects the date and time format used when outputting acquired data and CSV format data.

Format	
M/d/yyyy h:mm:ss.fff tt	PC configuration format*, includes milliseconds
M/d/yyyy h:mm:ss tt	PC configuration format*
yyyy/MM/dd HH:mm:ss.fff	Japan format, includes milliseconds
MM/dd/yyyy HH:mm:ss.fff	U.S. format, includes milliseconds
dd.MM.yyyy HH:mm:ss,fff	EU format, includes milliseconds
yyyy/MM/dd HH:mm:ss	Japan format
MM/dd/yyyy HH:mm:ss	U.S. format
dd.MM.yyyy HH:mm:ss	EU format

* Displayed in the date and time configuration of the PC.

② Save Folder	Specifies the destination folder for CSV format data files. The default is the desktop.
③ Detail	Displays detailed information about the connected measuring units.
④ Alarm	Displays information when a measuring unit generates an alarm.
⑤ Switch display unit mm/inch	Switches the display unit to mm or inch. (For details, refer to section "6-5. Switching the display unit between mm and inch.")

Left side: mm setting

Right side: inch setting

Note

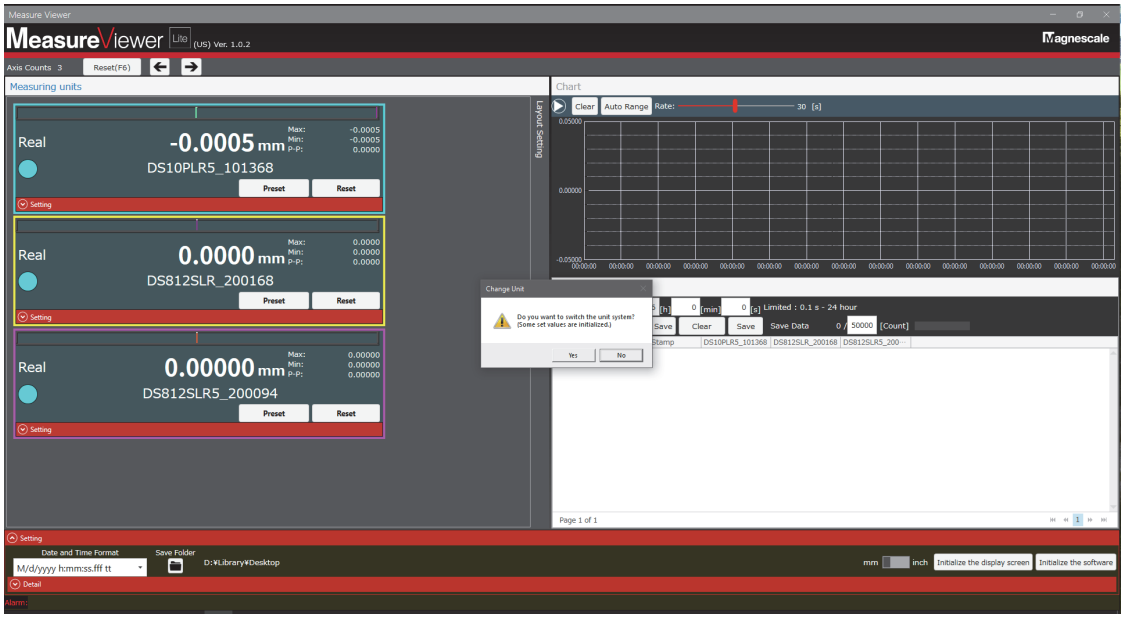
- This cannot be switched during continuous data acquisition.
- Inch display is not available in Japan.

⑥ Reset layout	Initializes the window layout. When initialization is executed, the application automatically shuts down.
⑦ Initialize the software	Initializes the application. When initialization is executed, the application automatically shuts down.

6-5. Switching the display unit between mm and inch

Note
Inch display is not available in Japan.

When the mm/inch setting (see section 6-4-2 ⑤) is switched, a confirmation dialog is displayed.
Click "Yes" to switch the display unit.



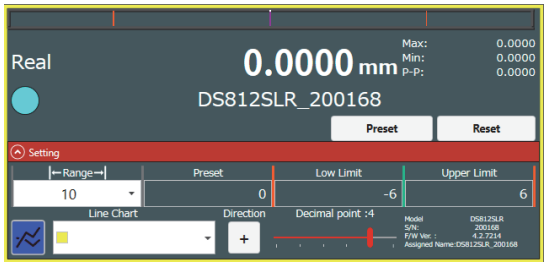
Cleared setting values

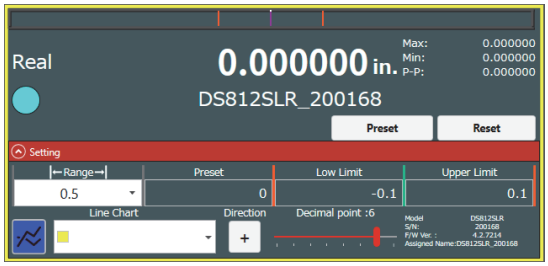
When the display unit is switched, the following setting values of all connected measuring units are cleared.

- Center value
- Preset value
- Comparison values (Lower limit value, upper limit value.)

Measurement value display

<Numeric value display>





7. Troubleshooting

7-1. An alarm occurred

When a measuring unit generates an alarm, an alarm indication appears on the measurement value display of the measuring unit that generated the alarm and an alarm message is displayed.

Alarm indication on measurement value display

Alarm indication in common function settings area (see section 6-4-2).

Cause	Action
A measuring unit generated an alarm.	The current value of the measuring unit that generated the alarm may not be correct. Disconnect the measuring unit from the PC and then reconnect it. If reconnecting the measuring unit does not correct the problem, contact a Magnescale sales or service representative.

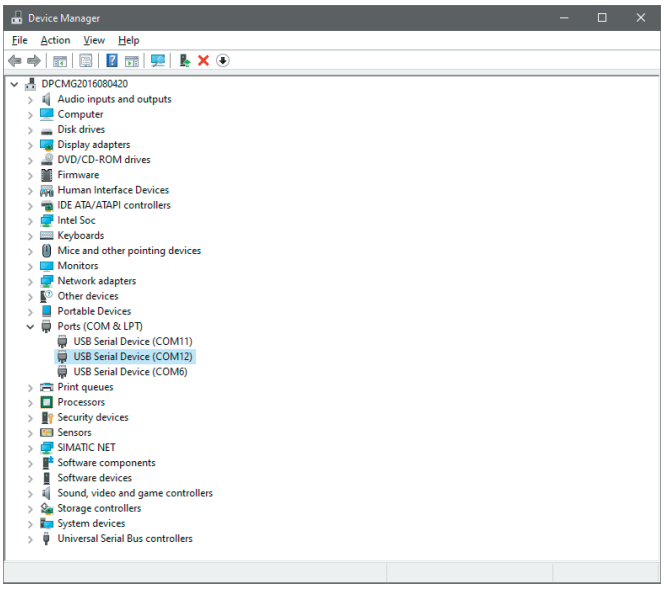
7-2. The installation failed

Cause	Action
(Various causes)	Possible fixes include confirming that you have administrator privileges, checking the available hard disk space, and restarting the PC. If none of these measures correct the problem, contact a Magnescale sales or service representative.

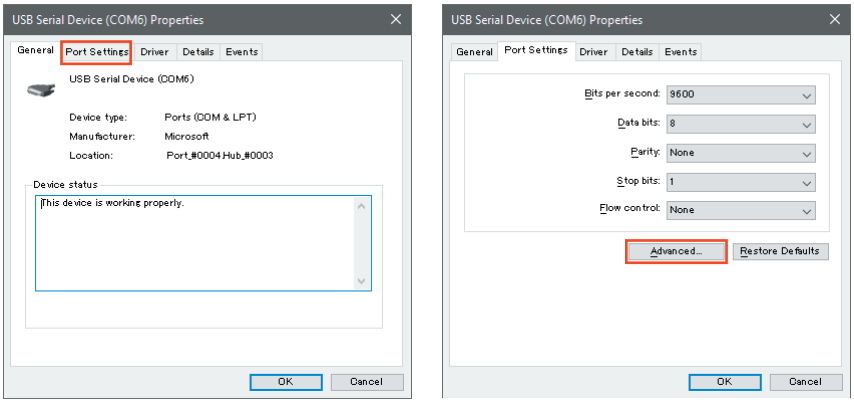
7-3. The application won't start

Cause	Action
Application is still starting up.	It is possible that the application is taking some time to start. Wait a little while.
Application did not shut down normally.	It is possible that the application did not shut down normally the last time it was run. Restart the PC.

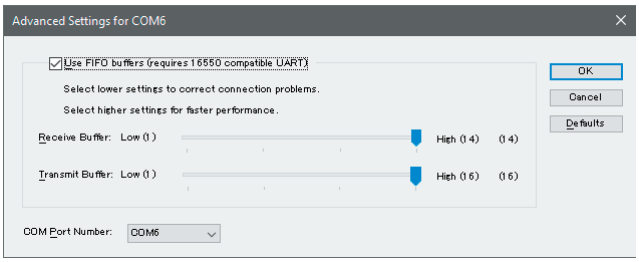
7-4. A measuring unit is not displayed, or the numeric values are not updated

Cause	Action
The measuring unit is not connected.	Check the connection between the PC and the measuring unit. (If they are properly connected, the LED on the interpolator of the measuring unit will be flashing blue or steadily lit blue.)
The measuring unit was not properly recognized by the PC.	If the LED of the measuring unit connected to the PC is not lit or is flashing or steadily lit red, the power supply to the measuring unit may be insufficient. Check the supply of power via the USB port and the number of connections.
17 or more measuring units are connected.	The application supports connection of up to 16 measuring units. Ensure that no more than 16 measuring units are connected.
The settings made by the application are not applied.	If measuring unit settings by the application fail, the measuring unit may not be displayed. Disconnect the measuring unit from the PC, and then reconnect it. If reconnecting the measuring unit does not correct the problem, disconnect the measuring unit from the PC, initialize (see section 6-4-2) and restart the application, and then reconnect the measuring unit.
A COM port number that does not enable communication is recognized.	Communication may not be possible depending on the COM port number automatically allocated to the measuring unit. In that case, change the COM port number of the target measuring unit, and then reconnect the measuring unit. <Changing the COM port number> 1. Right click the Start button of the PC and open the "Device Manager." 2. Expand Ports (COM/LPT).  3. When the target measuring unit is disconnected from the PC, the number of devices under Ports (COM/LPT) on the screen changes, so check the COM number of the measuring unit.

4. Open the COM properties of the target measuring unit, click the "Port Settings" tab, and click the "Advanced" button.



5. Change "COM Port Number" at the bottom of the opened window to a different value, and click "OK."



6. Restart the application.

7-5. The application suddenly shuts down

Cause	Action
Exception handling occurred.	The application may perform a forced shutdown if an unexpected operation occurs. Restart the PC and check the operation of the application.

日本からの輸出時における注意

本製品(および技術)は輸出令別表第1の16の項(外為令別表16の項)に該当します。キャッチオール規制による経済産業省の許可要否につきましては、輸出者様にてご確認ください。

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