TEAC

TD-SC1 Setup

Instructions for Use

Contents

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TEAC Load Cell site (Inquiry Form)
https://loadcell.jp/en/inquiry/

1. Introduction

TD-SC1 Setup is a set up program designed for TD-SC1 load cell signal conditioners.

1-1. Features

By connecting to a TD-SC1 by USB, the following operations are possible with that TD-SC1.

- Importing and exporting TD-SC1 setting values
- Loading and saving TD-SC1 setting value files
- Digitally displaying current TD-SC1 values

1-2. Disclaimers

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1-3. Manual overview

This manual explains operation procedures for TD-SC1 Setup, which is a Windows setup program designed for use with the TD-SC1.
Read the Instructions for Use for the TD-SC1 thoroughly before operating this program.

- Specifications and appearance are subject to change without notice.
- Weight and dimensions are approximate.
- Illustrations in this document might differ slightly from production models.

2-1. Operating environment

Supported operating systems

Windows 10 (32/64-bit editions), Windows 11
as of May, 2025

Recommended system configuration

- CPU: Intel® Core™ i5* (2.4 GHz or faster with 4 or more cores)
  *6th generation (Skylake) or later
- Screen resolution: 1024×768 or more
- Memory: 4 GB or more
- Storage (HDD/SSD): 10 GB or more open space
- USB 2.0: 1 or more ports
- .NET Framework 4.7.2 or later (4.8 or later recommended)

Supported product

TD-SC1

ATTENTION

- Operation with all computers that meet the above conditions is not guaranteed. Moreover, continuous recording at high sampling speeds might not be sustainable due to the operation of background applications, various services, other drivers and other applications as well as due to the speed of the hard disk drive and other factors.
- Do not change computer settings, including the time, while using this application.

Requirement for .NET Framework

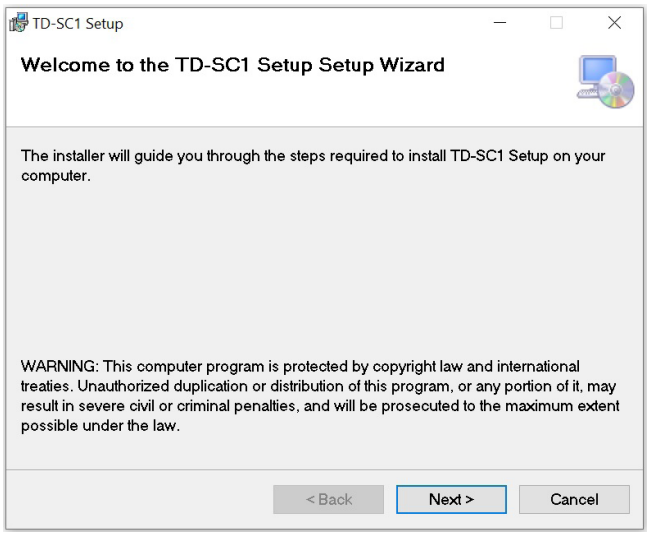
If TD-SC1 Setup is installed on a computer that does not have the above version of .NET framework installed and is not connected to the Internet, manual installation of .NET framework will be necessary.

NOTE

The above version of .NET Framework is installed by default for Windows 10 1803 (April 2018 Update) and later versions or Windows 11.

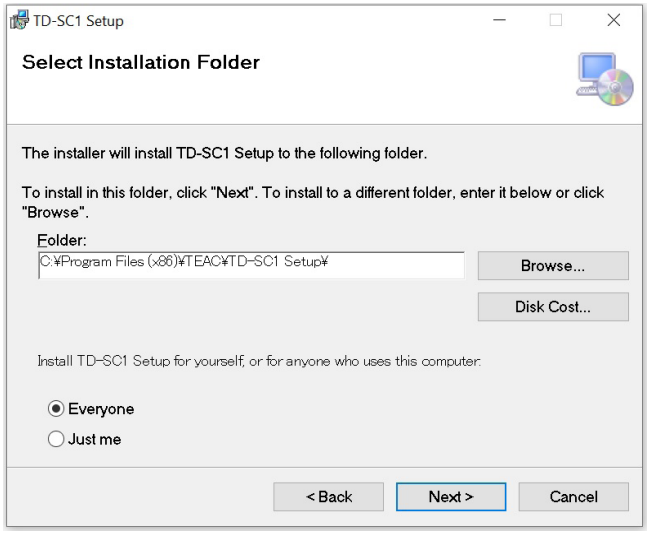
2-2. Installation

1 Double-click the Setup.exe file to launch the installer, and click the Next > button.

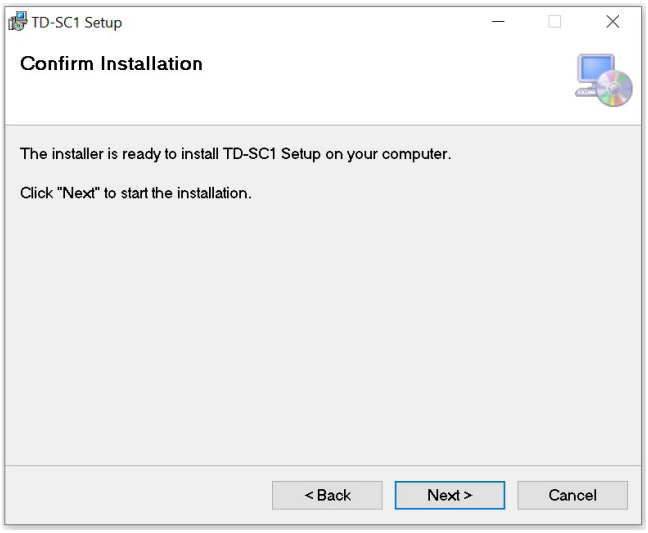


2 Confirm the installation folder, and click "Next".

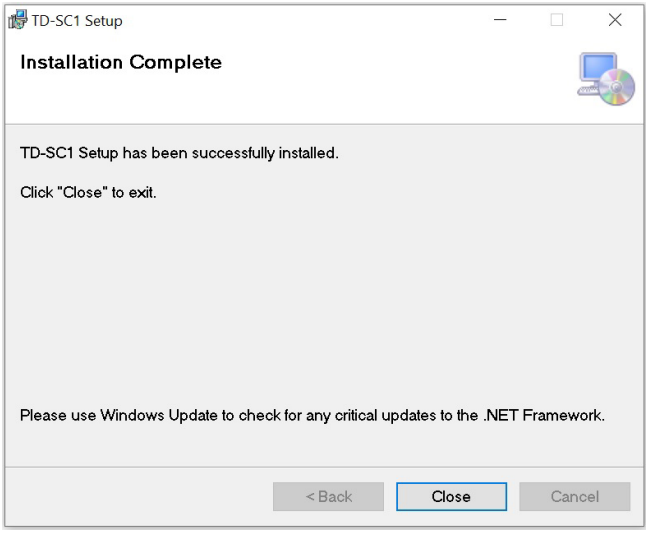
Click "Browse…" to change the folder.



3 **When a message to confirm the start of installation appears, click the Next > button to start program installation.**

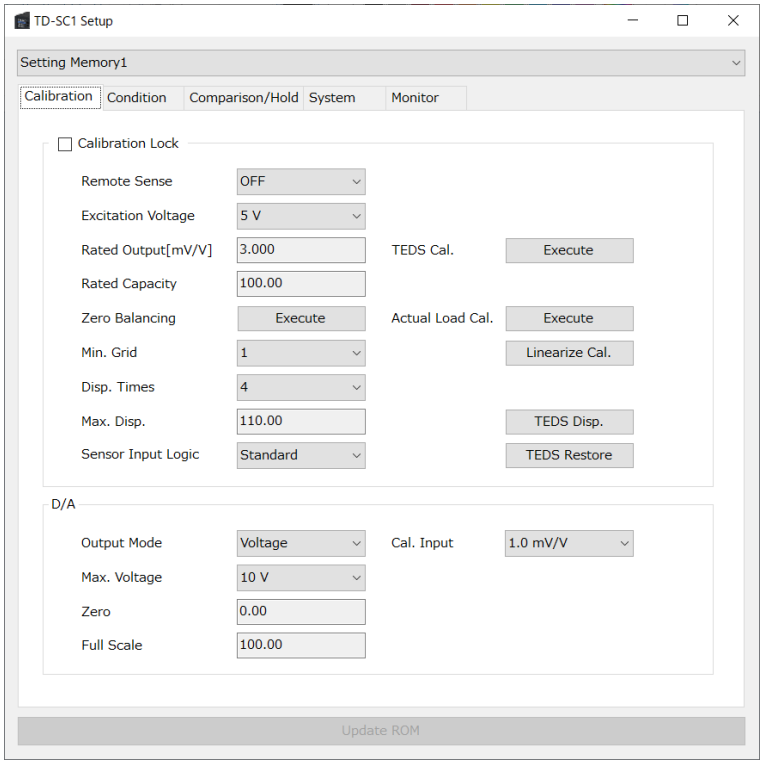


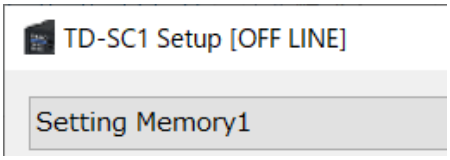
4 **When the "Installation Complete" message appears, click Close to close the dialog.**



3-1. Launching and closing the program

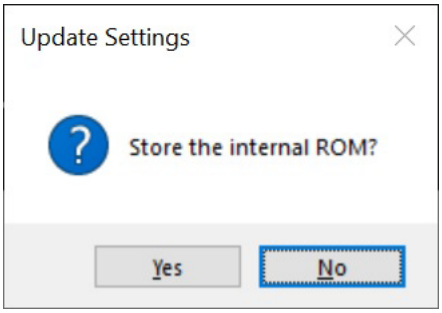
In the Start menu at the bottom left of the screen, click TEAC > TD-SC1 Setup to launch the TD-SC1 Setup program.





When running, it will always try to connect with the TD-SC1.
When not connected, "TD-SC1 Setup [OFF LINE]" will appear in the window title bar.

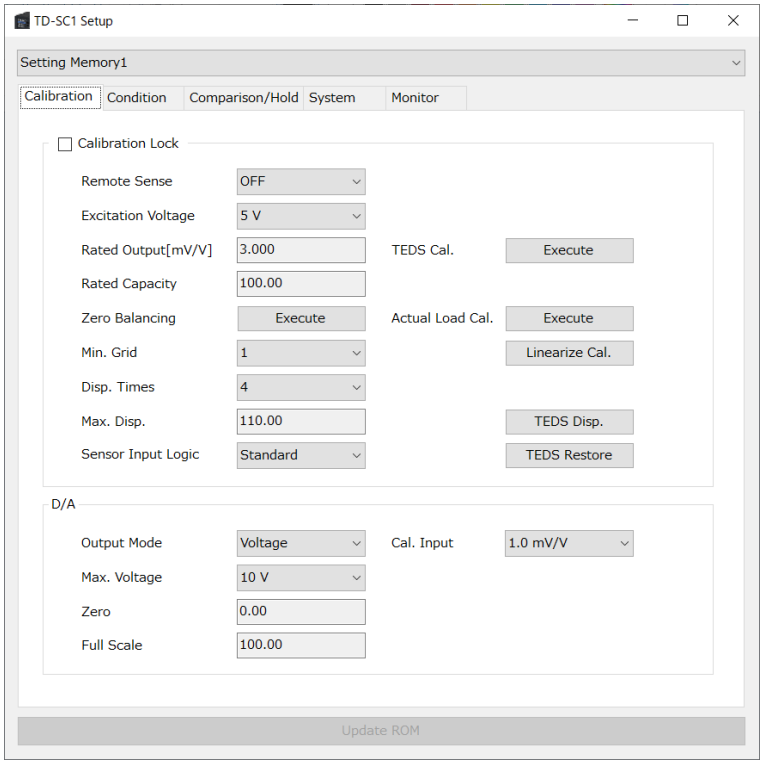
- Only connect one TD-SC1 to the computer.
- Stop CC-Link and EtherNet/IP communication before using TD-SC1 Setup.



Click  at the top right of the window to close the program.
The message to the left will open when closing.
Click Yes to save to the unit's ROM. By doing this, the settings will be retained even if the unit is turned off.
(Clicking "Update ROM" at the bottom of the main window has the same effect. "Update ROM" becomes available when settings have been changed.)

3-2. Calibrating

Make the Calibration tab active. (Click the Calibration tab if another tab is active.)



Calibration Lock

Remove the check to enable setting of the calibration items. (Remote Sense, Excitation Voltage, Rated Output, Rated Capacity, Zero Balancing, Actual Load Cal., TEDS Cal., Min. Grid, Disp. Times, Sensor Input Logic)

Remote Sense

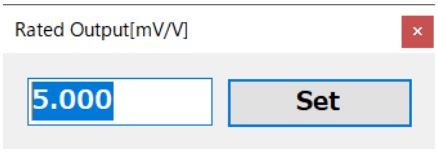
Turn Remote Sense ON/OFF.

Excitation Voltage

Set the Excitation Voltage.

Rated Output [mV/V]

Use when conducting equivalent input calibration.
Click the field showing the value to open a setting dialog.



Click "Set" to change the setting.

Rated Capacity

Use when conducting equivalent input calibration and actual load calibration.
Click the field showing the value to open a setting dialog.
Click "Set" to change the setting.

Zero Balancing

Click the Execute button to conduct zero balancing.
Always conduct this with no load immediately after equivalent input calibration or TEDS calibration, as well as immediately before actual load calibration.

Actual Load Cal.

Click the Execute button to conduct actual load calibration.
Always conduct this with the rated capacity load that was set in advance.

ATTENTION

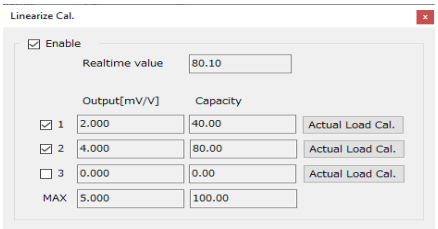
If Sensor Input Logic is set to Reversed, the sensor output could be negative when an actual load is applied. Be aware in this case that a calibration error will occur.

TEDS Cal.

Click the Execute button to conduct TEDS calibration.

Linearize Cal.

Click the Linearize Cal. button to open a dialog.



Check Enable to conduct linearization calibration for up to three points.
From the left, each point has an on/off checkbox, an output value (mV/V) and a capacity value. Set the output value (mV/V) first. Click the Actual Load Cal. button if actual load calibration is necessary.

Min. Grid

Set the minimum digital change of the indicator value.

Disp. Times

Set the number of times that the indicator value is shown per second.

Max. Disp.

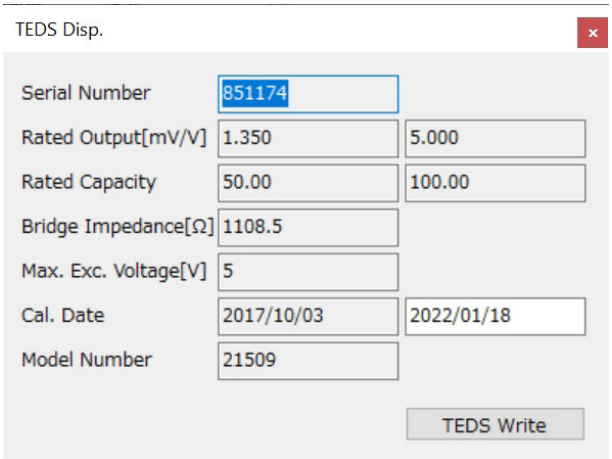
Set the highest indicator value.
Click the field showing the value to open a setting dialog.
Click "Set" to change the setting.

Sensor Input Logic

The sensor input logic can be reversed artificially. Normally, "Standard" should be used.

TEDS Disp.

The current rated output, rated capacity and calibration date will be written to the TEDS memory.
Click the TEDS Disp. button to open the setting dialog.
The left side shows the current TEDS memory values and the right side shows the current rated output, rated capacity and calibration date. Click the TEDS Write button to open a request for the write password. Input "000015". When writing succeeds, a "Succeeded" message will appear.



ATTENTION

The calibration date format is "YYYY/MM/DD".

TEDS Restore

Restore calibration values that were changed using "TEDS Write" to product factory defaults.
(If writing has not been conducted once, restoring will fail.)
Click the TEDS Restore button to open a request for the restore password. Input "000015". When restoring succeeds, a "Succeeded" message will appear.

3-2-1. Enabled only for D/A models

Output Mode

This sets whether it is voltage output or current output.

Max. Voltage

When using output voltage, set the maximum voltage from 1–10 V.

Zero

Set the indicator value output for 0V voltage or 4mA current.

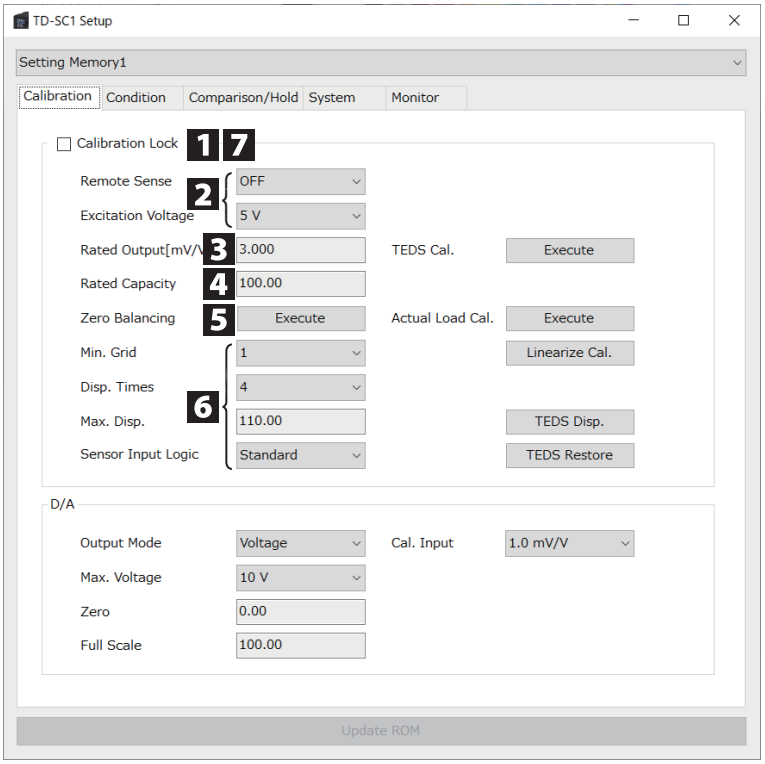
Full Scale

Set the indicator value output for maximum voltage or 20mA current.

Cal. Input

When the CAL button is pressed, voltage equivalent to the value input for this setting is output. (This is also output during input/output tests.)

3-2-2. Conducting equivalent input calibration



1 Disable calibration locking.

Uncheck the box.

2 Set the Remote Sense and Excitation Voltage.

3 Set the Rated Output value.

Set with up to 3 decimal places.

4 Set the Rated Capacity value.

Set the number of digits after the decimal place accurately (0–4 digits can be set).

5 With no load, execute Zero Balancing.

6 Set the Min. Grid, Disp. Times, Max. Disp. and Sensor Input Logic.

7 Enable calibration locking.

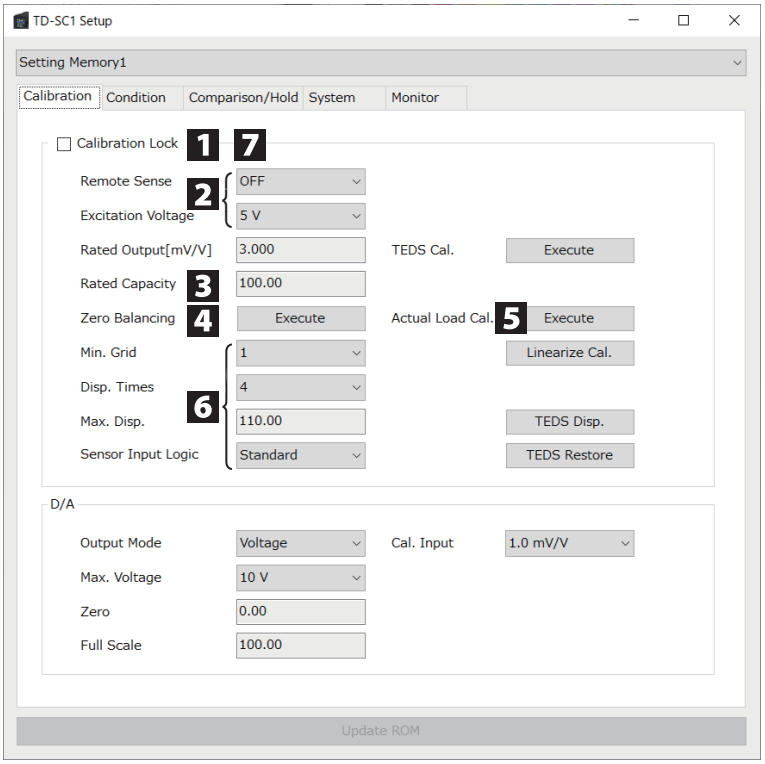
Check the box.

Calibration will change the D/A Zero and Full Scale values, so check and change them.

Moreover, the following items are linked to the decimal point position of the Rated Capacity value, so the decimal point position will be changed.

- Motion Detect Width, Zero Tracking Width, Digital Zero Limit Value and Digital Zero Offset (Condition Settings)
- Comp. Value (HI, LO), Hysteresis and Bar Meter Zero Position (Comparison Settings)

3-2-3. Conducting actual load calibration



1 Disable calibration locking.

Uncheck the box.

2 Set the Remote Sense and Excitation Voltage.

3 Set the rated capacity value of the actual load.

Set the number of digits after the decimal place accurately (0–4 digits can be set).

4 With no load, execute Zero Balancing.

5 With the actual load, execute Actual Load Cal.

6 Set the Min. Grid, Disp. Times, Max. Disp. and Sensor Input Logic.

7 Enable calibration locking.

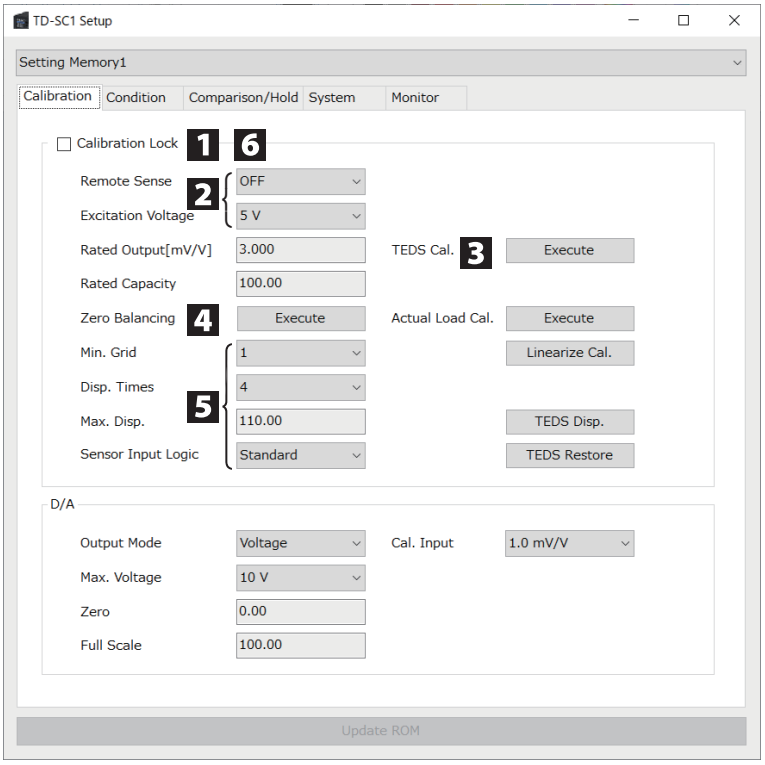
Check the box.

Calibration will change the D/A Zero and Full Scale values, so check and change them.

Moreover, the following items are linked to the decimal point position of the Rated Capacity value, so the decimal point position will be changed.

- Motion Detect Width, Zero Tracking Width, Digital Zero Limit Value and Digital Zero Offset (Condition Settings)
- Comp. Value (HI, LO), Hysteresis and Bar Meter Zero Position (Comparison Settings)

3-2-4. Conducting TEDS calibration



1 Disable calibration locking.

Uncheck the box.

2 Set the Remote Sense to OFF and set the Excitation Voltage.

3 Execute TEDS Cal.

4 With no load, execute Zero Balancing.

5 Set the Min. Grid, Disp. Times, Max. Disp. and Sensor Input Logic.

6 Enable calibration locking.

Check the box.

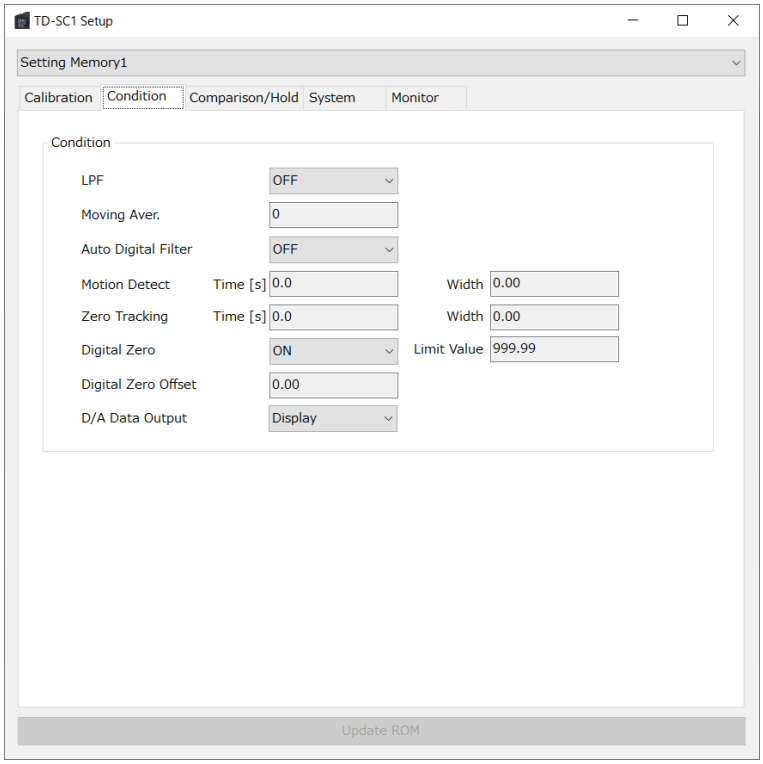
Calibration will change the D/A Zero and Full Scale values, so check and change them.

Moreover, the following items are linked to the decimal point position of the Rated Capacity value, so the decimal point position will be changed.

- Motion Detect Width, Zero Tracking Width, Digital Zero Limit Value and Digital Zero Offset (Condition Settings)
- Comp. Value (HI, LO), Hysteresis and Bar Meter Zero Position (Comparison Settings)

3-3. Making condition settings

Make the Condition tab active. (Click the Condition tab if another tab is active.)



LPF

Set the low pass filter cutoff frequency.

Moving Aver.

This sets the moving average data set size.
Click the field showing the value to open a setting dialog.
Click "Set" to change the setting.

Auto Digital Filter

Turn Auto Digital Filter ON/OFF

Motion Detect

Set the Time (s) and Width used to detect stability.
Click the field showing the value to open a setting dialog.
Click "Set" to change the setting.

Zero Tracking

Set the Time (s) and Width used to automatically track and correct drift and other gradual changes to the zero point.
Click the field showing the value to open a setting dialog.
Click "Set" to change the setting.

- The Zero Tracking function will be activated when both the Zero Tracking Time and Width are set to values other than zero.

Digital Zero

Turn Digital Zero ON/OFF.
Click the field showing the Limit Value used for the Digital Zero function to open a setting dialog.
Click "Set" to change the setting.

Digital Zero Offset

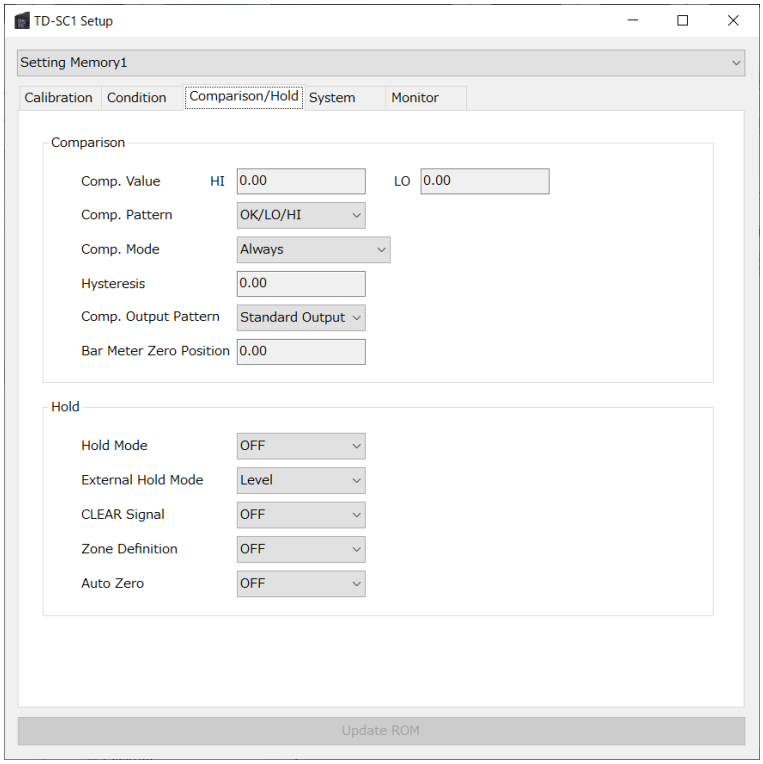
The set value is subtracted from the measured value.
Click the field showing the value to open a setting dialog.
Click "Set" to change the setting.

D/A Data Output (only for D/A models)

Set whether to link D/A output to display or input.

3-4. Making comparison/hold settings

Make the Comparison/Hold tab active. (Click the Comparison/Hold tab if another tab is active.)



Comp. Value

Set the high limit and low limit values, compare them with indicator values, and turn judgment output ON for each one.
Click the field showing the value to open a setting dialog.
Click "Set" to change the setting.

Comp. Pattern

Set the comparison judgment OK pattern for the set comparison values.

Comp. Mode

Set the conditions for conducting comparison judgment.

Hysteresis

Set the width for switching judgment output.
Click the field showing the value to open a setting dialog.
Click "Set" to change the setting.

Comp. Output Pattern

Set judgment output operation to Standard Output or Area Output.

Bar Meter Zero Position

Set the range in which indicator values are evaluated as being nearly zero.
Click the field showing the value to open a setting dialog.
Click "Set" to change the setting.

Hold Mode

Set the indicator value hold condition.

External Hold Mode

Set the control input terminal HOLD signal format.

CLEAR Signal

Set whether control input terminal CLEAR signals are enabled (ON) or disabled (OFF).

Zone Definition

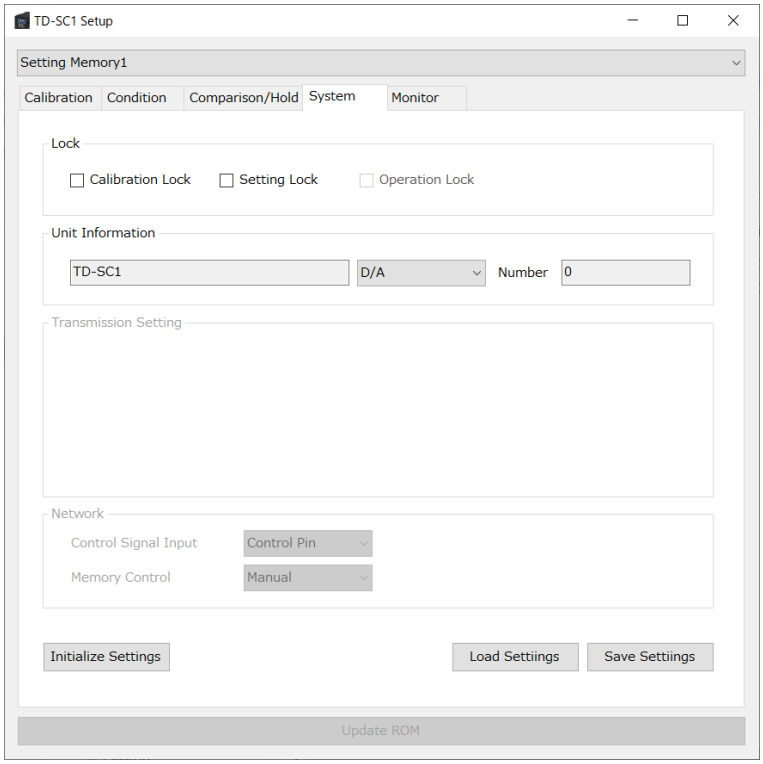
When set to ON, the indicator value will continue to be shown after the hold ends.
Use a control input terminal CLEAR signal to stop showing it.

Auto Zero

Set whether or not to automatically execute a Digital Zero when a hold starts (ON/OFF).

3-5. Making system settings

Make the System tab active. (Click the System tab if another tab is active.)



Calibration Lock

Remove the check to enable setting of the calibration items. (Remote Sense, Excitation Voltage, Rated Output, Rated Capacity, Zero Balancing, Actual Load Cal., TEDS Cal., Min. Grid, Disp. Times, Sensor Input Logic)

Setting Lock

Remove the check to enable setting D/A, Condition, Comparison and System items.
(All D/A items, all Condition items, all Comparison/Hold settings, Unit Information Number)

Operation Lock

This shows the panel lock status of the unit. If the box is unchecked, it is unlocked.

- Control signal input is disabled when set to Network.

Unit Information

This shows the model name, firmware version and option setting.
The option mode can be changed when offline.

Number

This sets the identification number of the unit.
Click the field showing the value to open a setting dialog.
Click "Set" to change the setting.

Initialize Settings

Initialize the settings.
Initialization will not be executed if calibration or setting values are locked.

Load Settings

Load settings saved in a file.
Loading will not be executed if calibration or setting values are locked.

Save Settings

Save the current settings.

3-5-1. Enabled only for RS-485 models

ID

Set the RS-485 COM port number.
This is disabled when the transmission mode is set to Motbus RTU.

Transmission Mode

Set the RS-485 transmission mode.

Baud Rate

Set the RS-485 baud rate.

Bit Length

Set the RS-485 bit length.
Select 8-bit when the communication mode is set to Modbus RTU.

Parity

Set the RS-485 parity bit.

Stop Bit

Set the RS-485 stop bit.

Delimiter

Set the RS-485 delimiter.
This is disabled when the transmission mode is set to Motbus RTU.

Device Address

Set the Motbus device address.
This is enabled only when the transmission mode is set to Motbus RTU.

3-5-2. Enabled only for CC-Link models

Occupied Stations

Set the number of CC-Link occupied stations.
The maximum number of stations is 63 when 2 stations are occupied and 61 when 4 stations are occupied.

Station Number

This can be set between 1 and 63. Considering the number of occupied stations, set this so that it does not overlap with other stations.

Communication Speed

Set the CC-Link transmission speed. The maximum transmission distance changes according to the transmission speed.

NOTE

Communication speed	Maximum transmission distance
156 kbps	1200 m
625 kbps	900 m
2.5 Mbps	400 m
5 Mbps	160 m
10 Mbps	100 m

Control Signal Input

Select the device control method.
Only one method can be used for control.
Control Pin: Use external trigger.
Network: Use network.

Memory Control

Select the Setting Memory switching method.
Manual: Use app.
Network: Use network.

3-5-3. Enabled only for EtherNet/IP models

The input items change according to the DHCP setting.

When DHCP is off (DHCP not checked)

Set the following items.
IP Address
Subnet Mask Restart the TD-SC1 after changing DHCP, IP address or subnet mask settings.

When DHCP is on (DHCP checked)

Values for the following items will be set by DHCP and shown. They cannot be input.
IP Address
Subnet Mask

Control Signal Input

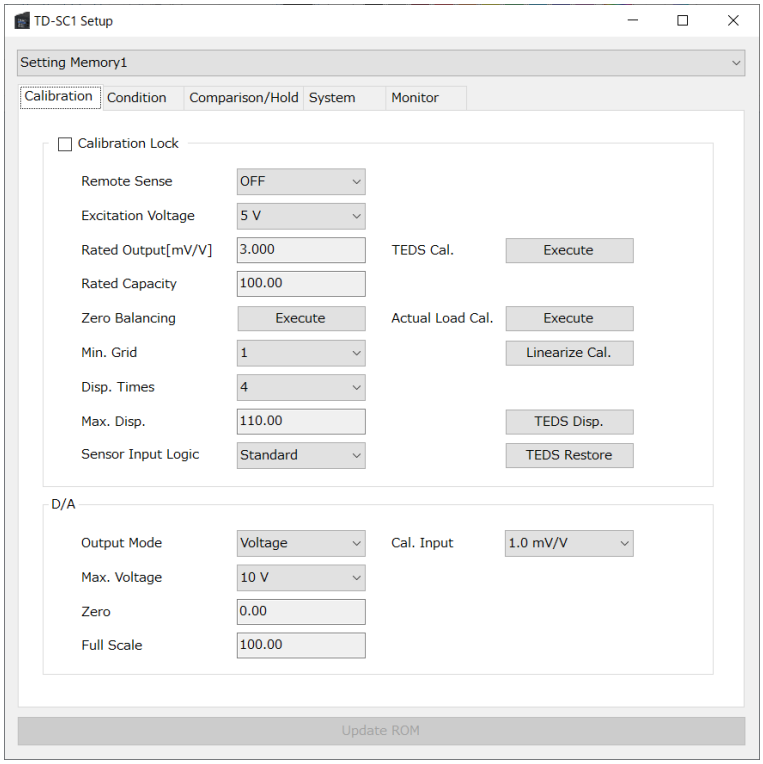
Select the device control method.
Only one method can be used for control.
Control Pin: Use external trigger.
Network: Use network.

Memory Control

Select the Setting Memory switching method.
Manual: Use app.
Network: Use network.

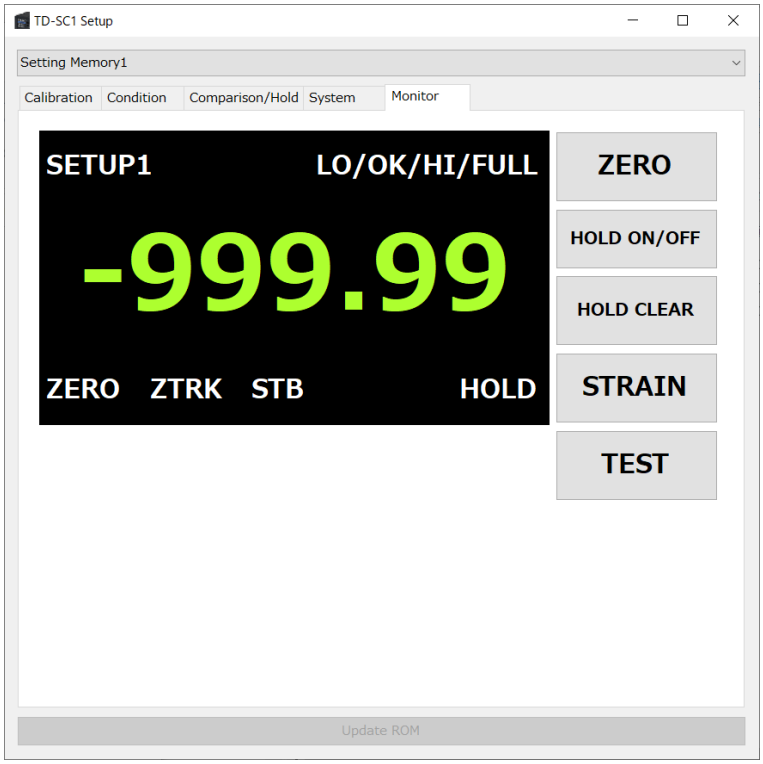
3-6. Changing setting memories

Setting Memories 1–4 can be changed, and the current Setting Memory can be set.



3-7. Monitoring

Make the Monitor tab active. (Click the Condition tab if another tab is active.)



Indicator Value

This shows the current indicator value.

SETUP (number)

This shows the current setting memory number.

LO/OK/HI/FULL

This shows the comparison judgment.

ZERO

This appears when the indicator value is nearly zero.

STB

This appears when the indicator value is stable.

HOLD

This appears when the indicator value is held.

ATTENTION

When Zone Definition is ON, HOLD values will continue to be shown even after a HOLD OFF command makes the HOLD indicator disappear.

ZERO button

Click to execute the Digital Zero function.

ZTRK

This is shown when the Zero Tracking function is active.

HOLD ON/OFF button

Click to turn hold on/off.

HOLD CLEAR button

Click to clear a hold.

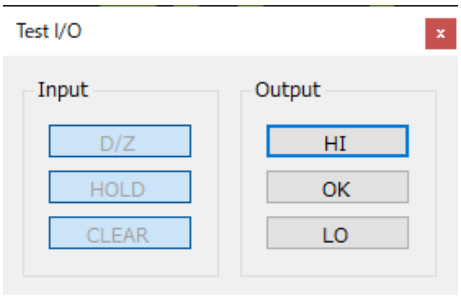
STRAIN button

Click to show/hide static strain.

TEST button

Execute an input/output test. When Input is ON (LOW), it becomes light blue.

Click an Output button to switch it on/off. (Light blue is on.)



NOTE

With CC-Link and EtherNet/IP models, when Control Signal Input is Network, this button is disabled.

Revision history

Revision	Date	Description
1.3.0	May 2025	Support for Modbus RTU
1.2.0	Jun. 2022	Support for CC-Link and EtherNet/IP
1.1.0	Dec. 2020	Support for linearization calibration and input/output tests
1.0.0	Oct. 2020	First edition

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