TEAC TD-SC1 Setup Instruction Manual

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TEAC TD-SC1 Setup

Thank you very much for using the TD-SC1 Setup Program. Read this manual before using it.
After reading it, keep it in a safe place for future reference.
Revision history

Revision	Date	Description
1.0.0	Oct. 2020	First edition
1.1.0	Dec. 2020	Support for linearization calibration and input/output tests

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Manual overview

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

Conventions used in this manual

Items and messages shown in the program are indicated with quotation marks, for example “MENU” and “Are you sure?”
Control buttons and selection items in the program are indicated with brackets, for example, [REC].

Overview

Introduction

TD-SC1 Setup is a set up program designed for TD-SC1 digital indicators.

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

Program installation

Recommended computer system for TD-SC1 Setup

- CPU: 6th generation Intel® Core™ i5, 2.4 GHz or faster
- OS: Windows 10
- Memory: 4 GB or more
- Hard drive open space: 10 GB or more
- USB 2.0 1 or more ports
- Screen resolution: 1024×768 pixels or more
- Net Framework 4.7.2

Installing TD-SC1 Setup

1. Double-click the TD-SC1 Setup installer (Setup.exe) to launch it.
   Click [Next >] to open the next screen.

2. Select the installation folder. Click [Browse…] to change the folder.
   Click [Next >] to open the next screen.

3. A message to confirm the start of installation will appear.

   Click [Next >] to start program installation

4. When program installation completes, the next message will appear.

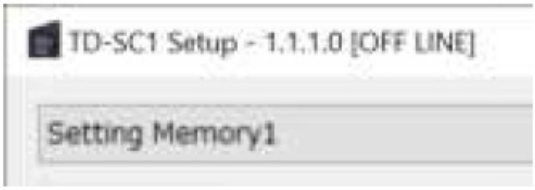
   Click [Close] to close the dialog.

Program operation

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 – file version [OFF LINE]” will appear in the window title bar.



Click at the top right of the main window to close the program.
The following menu will open before 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.)

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” 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” 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.
- TEDS Cal. Click “Exeter cute” 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.

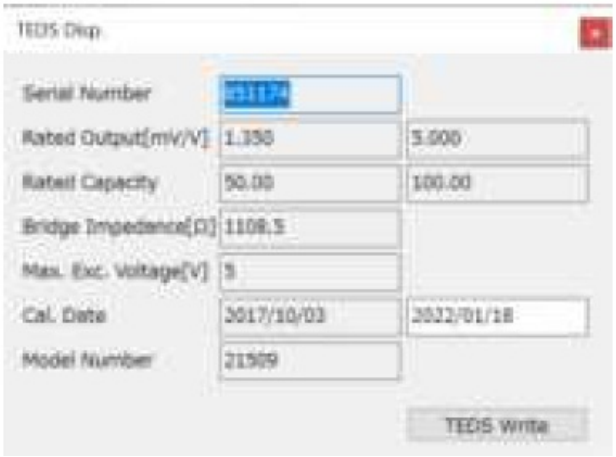
- Min. Grid Set the minimum digital change of the indicator value.
- Disp. Times Set the number of times that the indicator value is shown per second.
- Max. Disp. Set the highest indicator value.

  Click the field showing the value to open a setting dialog.

  Click “Set” change the setting.
- Sensor Input Logic The sensor input logic can be reversed artificially. Normally, “Standard” should be used.
- TEDS Disp. This writes the current rated output, rated capacity and calibration date 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.



- 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.

Enabled only for D/A models

- Output Mode Set this to 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.)

Conducting equivalent input calibration

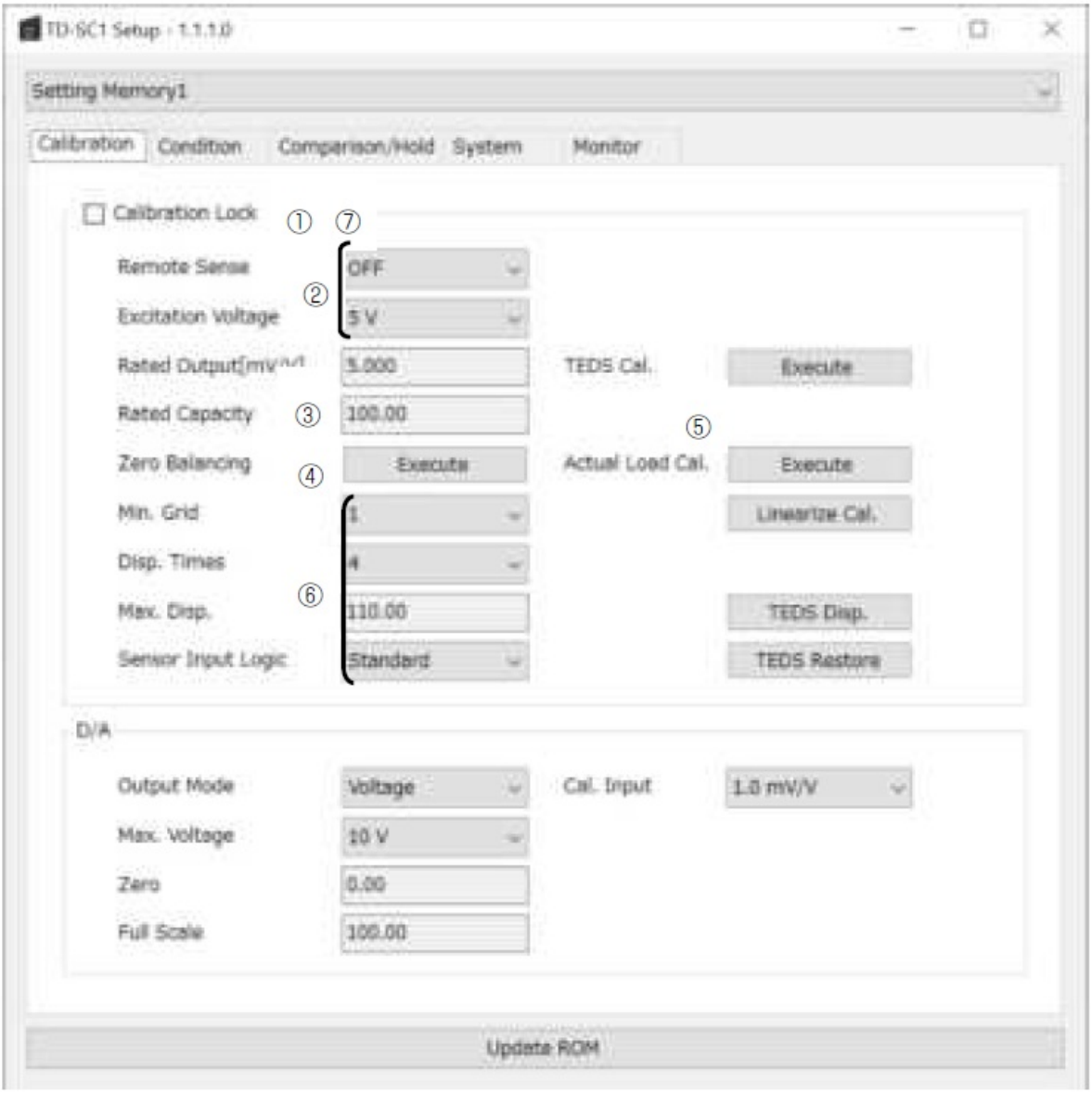
1. Disable calibration locking (uncheck the box.)
2. Set the Remote Sense and Excitation Voltage.
3. Set the Rated Output value (with up to 3 decimal places.)
4. Set the Rated Capacity value. Set the number of digits after the decimal place accurately (0–4 digits can be set).
5. With no load, execute 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 following items, so check them beforehand.
- D/A Zero, Full Scale
  Moreover, decimal point position changes will be applied to the following items.

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

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 (
4. With no load, execute Zero Balancing.
5. With the actual load, execute Actual Load Calibration.
6. Set the Min. Grid, Disp. Times, Max. Disp. and Sensor Input Logic.
7. Enable calibration locking (check the box.)



- Calibration will change the following items, so check them beforehand.
- D/A Zero,　　Full Scale

  Moreover, decimal point position changes will be applied to the following items.
- Condition　　Motion Detect Width, Zero Tracking Width, Digital Zero Limit Value, Digital Zero Offset
- Comparison　　Comparison Values (HI, LO), Hysteresis, Bar Meter Zero Position

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 Calibration.
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 following items, so check them beforehand.
- D/A Zero, Full Scale
  Moreover, decimal point position changes will be applied to the following items.
- Condition Motion Detect Width, Zero Tracking Width, Digital Zero Limit Value, Digital Zero Offset
- Comparison Comparison Values (HI, LO), Hysteresis, Bar Meter Zero Position

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. Set the moving average number.
  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.
- 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 Set whether to link D/A output to display or input.

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.
  “Set Click ” 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 Signa 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).

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.
- Unit Information This shows the model name, firmware version and communication 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.

Enabled only for RS-485 models ID

- Transmission mode Set the RS-485 COM port number.
- Baud Rate Set the RS-485 transmission mode.
- Bit Length Set the RS-485 baud rate.
- Parity Set the RS-485 bit length.
- Stop Bit Set the RS-485 parity bit.
- Delimiter Set the RS-485 stop bit.
- 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.
  Initialization will not be executed if calibration or setting values are locked
- Save Settings Save the current settings.

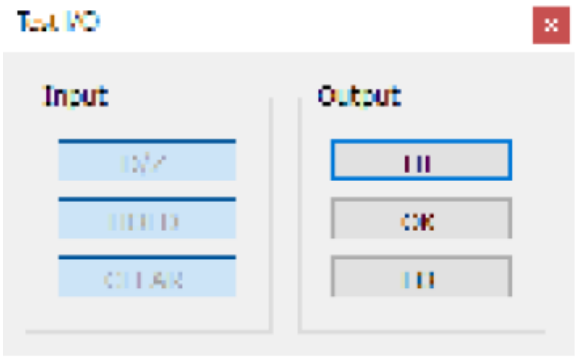
Changing setting memories

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

Monitoring

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

- Indicator Value The current indicator value is shown.
- 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.
- ZERO button Click to execute the Digital Zero function.
- 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.)



Documents / Resources

	TEAC TD-SC1 Setup [pdf] Instruction Manual TD-SC1 Setup, TD-SC1, Setup

References

- Inquiry Form - Load Cell site | TEAC