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## PROCHECK

### EUROPE

Customer service representatives are available for questions, problems, or feedback Monday through Friday, 8:00 to 17:00 Central European time.

**Email:** [support.europe@metergroup.com](mailto:support.europe@metergroup.com)  
[sales.europe@metergroup.com](mailto:sales.europe@metergroup.com)

**Phone:** +49 89 12 66 52 0

**Fax:** +49 89 12 66 52 20

**Website:** [metergroup.de](http://metergroup.de)

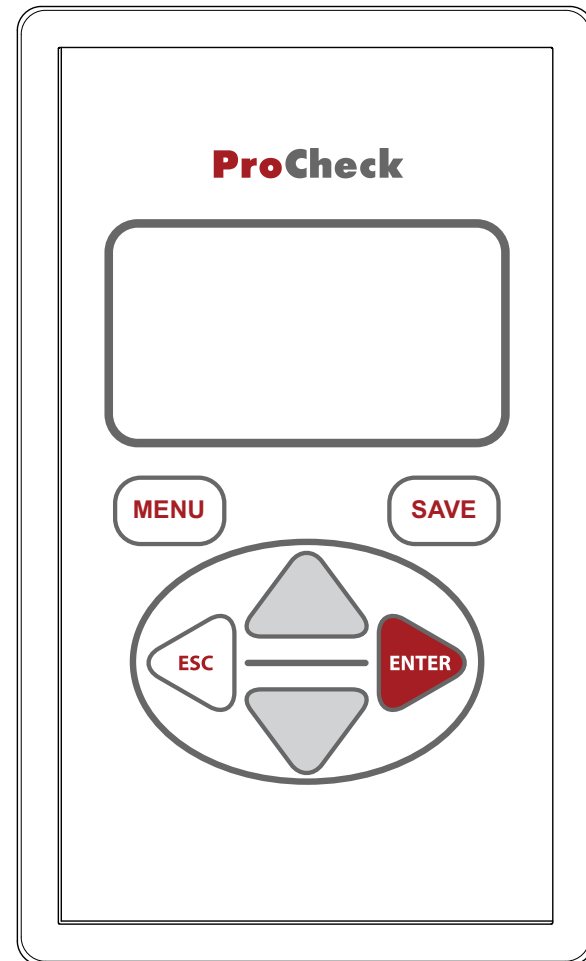
If contacting METER by email, please include the following information:

Name	Email address
Address	Instrument serial number
Phone	Description of the problem

**NOTE:** For products purchased through a distributor, please contact the distributor directly for assistance.

### 4.5 TERMS AND CONDITIONS

By using METER instruments and documentation, you agree to abide by the METER Group, Inc. USA Terms and Conditions. Please refer to [metergroup.com/terms-conditions](http://metergroup.com/terms-conditions) for details.



SERVICE

Table 1 Troubleshooting the PROCHECK (continued)

Problem	Possible Solutions
ECH2O Utility cannot connect to PROCHECK	<p>Try one or more of the following to make sure there is a serial connection to PROCHECK.</p> <ul style="list-style-type: none"> <li>• Check the serial port choice. Make sure the Connect Via dropdown menu shows the name of the PROCHECK.</li> <li>• Download the USB driver (downloads.metergroup.com).</li> <li>• Check that the serial cable is securely plugged into the PROCHECK and computer.</li> <li>• Check the PROCHECK battery level.</li> </ul>
ECH2O Utility loses connection with PROCHECK	<p>Check or replace the serial cable.</p> <p>Increase the number of times ECH2O Utility tries sending commands to the PROCHECK.</p> <p>Increase the Direct Connect Retries on the Communication tab of the Preferences form.</p>
ECH2O Utility tells me there is no data available for download	<p>There is no measurement data stored in PROCHECK (previously saved data may have been erased).</p> <p>After each measurement, press the <b>SAVE</b> button to save data for later use.</p>
Some of the measurement data shows * * *	<p>Data stored by the PROCHECK is outside the expected range for the sensor type. This could indicate a broken sensor or inaccurate sensor type selection.</p>
Sensor data does not seem correct after download	<p>There are many issues that impact the quality of sensor measurements. Please see the sensor user manual for help troubleshooting the sensor.</p> <p>If the issue is still not corrected, contact <a href="#">Customer Support</a>.</p>

## 4.4 CUSTOMER SUPPORT

### NORTH AMERICA

Customer service representatives are available for questions, problems, or feedback Monday through Friday, 7:00 am to 5:00 pm Pacific time.

**Email:** [support.environment@metergroup.com](mailto:support.environment@metergroup.com)  
[sales.environment@metergroup.com](mailto:sales.environment@metergroup.com)

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**Website:** [metergroup.com](http://metergroup.com)

## 1. INTRODUCTION

Thank you for choosing the PROCHECK Handheld Reader from METER Group.

The PROCHECK is a handheld readout device for use with all soil moisture sensors and environmental monitoring sensors made or sold by METER. Visit the [Data logger compatibility tables](http://metergroup.com/environment/articles/data-logger-compatibility-tables) (metergroup.com/environment/articles/data-logger-compatibility-tables) for specific details on compatible sensors. The PROCHECK interfaces with both analog and digital soil moisture sensors to obtain instantaneous results. This manual covers all PROCHECK functions and capabilities.

Verify all PROCHECK components are included and appear in good condition:

- PROCHECK control unit
- USB-to-serial cable
- Four AA batteries
- Carrying case (if purchased)
- Pigtail-to-stereo adapter (if purchased)

## 2. OPERATION

Please read all instructions before operating the PROCHECK to ensure it performs to its full potential.

### ⚠ PRECAUTIONS

METER sensors are built to the highest standards, but misuse, improper protection, or improper installation may damage the sensor and possibly void the manufacturer's warranty. Before using the PROCHECK, follow the recommended installation instructions and arrange proper protections to safeguard sensors from damage.

### 2.1 CONFIGURING THE PROCHECK

Before taking measurements, configure the PROCHECK system date and time to ensure accurate timestamps. ECH2O Utility automatically synchronizes the date and time of the PROCHECK to the computer time when they are connected. Select the Set Date/Time option on the Action menu ([Section 4](#)).

Use the following steps to configure the PROCHECK controller prior to readings.

1. Turn on the PROCHECK.
2. Press **MENU** to navigate to the Configuration tab ([Figure 1](#)).

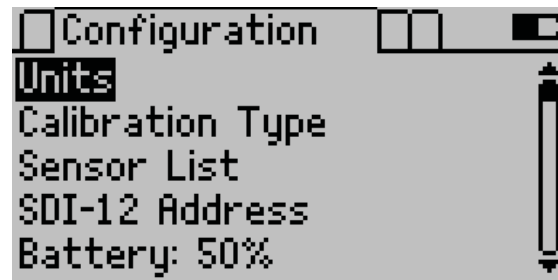


Figure 1 Configuration tab

3. Use the **UP** and **DOWN** buttons to scroll down to Date.
4. Press **ENTER**.  
The system date appears in the center of the screen in a mon day, year format ([Figure 2](#)). Arrows appear above and below the first value.

## 4.3 TROUBLESHOOTING

[Table 1](#) lists common problems and their solutions. If the problem is not listed or these solutions do not solve the issue, contact [Customer Support](#).

Table 1 Troubleshooting the PROCHECK

Problem	Possible Solutions
<b>PROCHECK does not have power</b>	Replace the batteries. Insert the batteries in the correct orientation when replacing them.
<b>PROCHECK is not returning accurate readings</b>	Check that the sensor stereo connector is fully plugged into the stereo port on the PROCHECK. Select the correct sensor on the Measurement tab. Taking measurements with an incorrect sensor type selected will create incorrect measurements.
<b>Display reads Above Range or Below Range</b>	Check that the sensor stereo connector is fully plugged into the stereo port on the PROCHECK Select the correct sensor on the Measurement tab. Taking measurements with an incorrect sensor type selected will create incorrect measurements. This message could also indicate a broken sensor. Contact <a href="#">Customer Support</a> for assistance.
<b>Display reads Invalid Response or No Response</b>	PROCHECK cannot communicate with a digital sensor. Check that the sensor is plugged in and the correct sensor type is selected. Press the <b>ENTER</b> button several times to restart the sensor measurement.
<b>The data seems incorrect</b>	If using a custom calibration, check the coefficients in the Configuration tab. Select the correct sensor on the Measurement tab. If these steps do not resolve the problem, please consult the sensor user manual.
<b>The serial-to-USB adapter does not show in the communication port picker</b>	Use a different computer port. Use a different cable. Download the USB driver ( <a href="https://downloads.metergroup.com">downloads.metergroup.com</a> ). Contact <a href="#">Customer Support</a> .

## 4. SERVICE

This section contains calibration and recalibration information, calibration frequencies, cleaning and maintenance guidelines, troubleshooting guidelines, customer support contact information, and terms and conditions.

### 4.1 MAINTENANCE

The PROCHECK may be returned to METER for maintenance in the following areas: system inspection, parts replacement, and instrument cleaning. Replacement parts can also be ordered from METER. Contact [Customer Support](#) for more information.

METER repairs products with manufacturer's defects and those under warranty at no cost to the customer. For nonwarranty repairs, the customer is responsible for the cost of parts, labor, and shipping.

### 4.2 UPDATE FIRMWARE

ECH20 Utility ([Section 3.4](#)) can be used to check for updates to the PROCHECK firmware.

1. Connect the PROCHECK to the computer.
2. Open ECH20 Utility.
3. Click Help.
4. Choose Check for Device Firmware Updates from the Help menu to compare the firmware version in the PROCHECK with the latest version available from METER.

**NOTE:** The computer must be connected to the internet for this feature to work.

A dialog will state that the firmware is current or needs to be updated.

5. Click OK.
6. A downloader will be downloaded to the computer.
7. Close ECH20 Utility.
8. Open Firmware Downloader.
9. Press Start.
10. When the program is finished, close the updater and disconnect the PROCHECK.

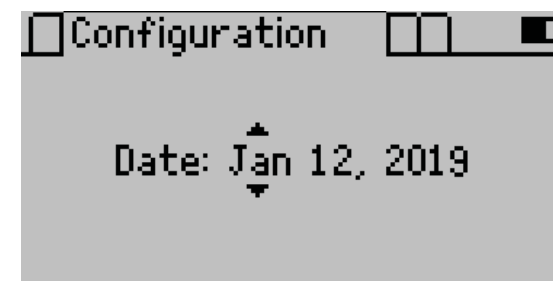


Figure 2 Select date on the Date screen

5. Use **UP** and **DOWN** to change the first value. Holding down the arrows will scroll quickly between values.
6. Press **ENTER** to move to the next value.
7. Repeat [step 5](#) and [step 6](#) until the correct date is selected.
8. After the last value is changed, press **ENTER** to return to the Configuration tab.
9. Use **DOWN** to highlight Time.
10. Press **ENTER**.

The system time appears in the center of the screen, in 24-h format ([Figure 3](#)). Arrows appear above and below the first value.

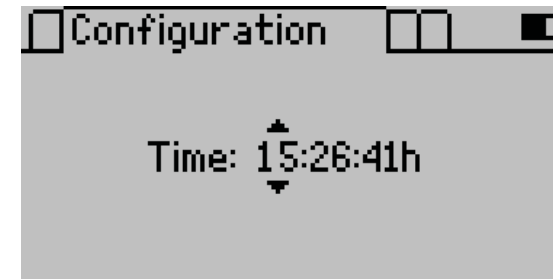


Figure 3 Select time on the Time screen

11. Use **UP** and **DOWN** to change the value.
12. Press **ENTER** to move to the next value or **ESC** to return to the previous value.
13. Repeat [step 11](#) and [step 12](#) to select the accurate time.
14. After the last number is changed, press **ENTER** to return to the Configuration tab.
15. Press **MENU** to return to the Measurement tab.

The PROCHECK is ready to take readings ([Section 2.2](#)).

## 2.2 TAKING A READING

METER sensors have a serial connector that plugs directly into the PROCHECK. If the sensor has bare wire ends, consult [Section 2.6](#) prior to taking a reading.

1. Press the **MENU** button.
2. Use **UP** and **DOWN** to scroll through the sensor list until the correct sensor type appears in the Measurement tab ([Figure 4](#)).

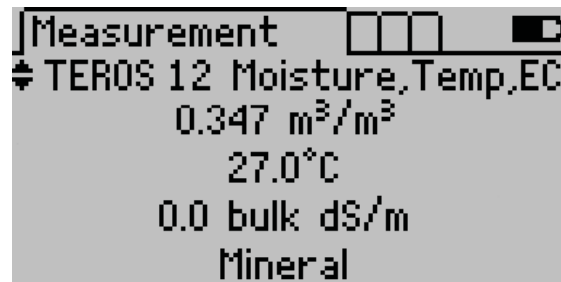


Figure 4 Measurement screen with the desired sensor

**NOTE:** The sensor version is only shown if the PROCHECK was able to retrieve sensor information directly from the sensor.

3. Plug the sensor into the stereo connector at the top of the PROCHECK.

**NOTE:** Sensor units and calibrations can be customized in the Configuration tab ([Section 3.3.2](#)). A soil calibration type displays only if it is available for that sensor type.

4. Press **ENTER** to engage the live update mode ([Figure 5](#)).

In live update mode, the PROCHECK will take a reading every 30 s and update the screen. A pair of arrows rotates in the lower right corner during updates.

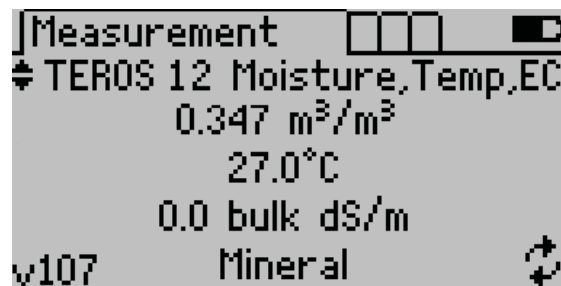


Figure 5 Measurement screen with live update mode activated

5. Press **ESC** to exit the live update mode.
6. Press **SAVE** to save the current reading on the display ([Section 2.3](#)).

4. Press **ESC** to stop live updating. The measurements will continue to be added until **ESC** is pressed.
5. Press **ESC** a second time to reset the statistical information.
6. Press **SAVE** to save the statistics summary.

This does not reset the n value, so measurements can continue to be added. The **SAVE** button only saves the summary statistics and not the data used to calculate the values.

## 3.4 ECH20 UTILITY

The PROCHECK is designed to work with ECH20 Utility to collect and manage data from the device. The ECH20 Utility installer software is located on the USB that shipped with the PROCHECK.

Download the latest version of ECH20 Utility from [downloads.metergroup.com](http://downloads.metergroup.com). The USB driver should automatically install with ECH20 Utility. If it does not, install the USB driver from the included USB or from [downloads.metergroup.com](http://downloads.metergroup.com).

**NOTE:** The USB driver must be installed before connecting the USB cable to the computer.

Save data as an Excel workbook file, tab-delimited text file, and a raw, unprocessed data file. ECH20 Utility can also be used to delete measurement data stored in the PROCHECK and set the date and time in the PROCHECK.

**NOTE:** The ECH20 Utility is designed to work with both the PROCHECK and METER loggers. Some controls, features, and settings of ECH20 Utility are disabled when connected to a PROCHECK.

PROCHECK works with ECH20 Utility software for Microsoft Windows®. Minimum computer requirements include:

- Windows 7 operating system
- Available serial port (or USB-to-serial adapter)
- Microsoft Excel 97 or newer (if saving data as .xls files)

ECH20 Utility Help file within the software provides more information.

## SYSTEM

This page shows a data record list that includes the date and the time that the reading was taken and the annotation (if any). To view more information about an individual record, press **ENTER** while highlighting the record (Figure 28).

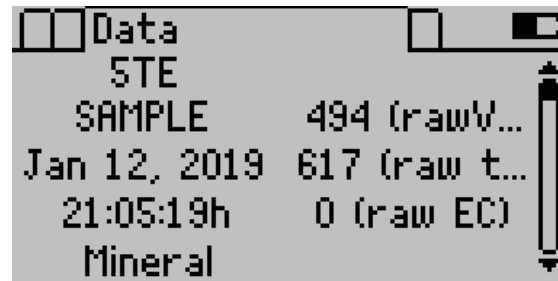


Figure 28 Data detail screen

The left side of the screen shows a reading summary and the right side shows the annotation, date, and time of the reading. Press **ESC** to return to the previous view screen or use **UP** and **DOWN** to view records in detail.

The Download option allows data to be downloaded to a connected computer (Section 2.4) and the Erase option deletes all data (Section 2.5).

### 3.3.4 STATISTICS TAB

The Statistics tab collects summary statistics, including average and standard deviation, from measurements taken with the PROCHECK (Figure 29).

**NOTE:** Statistics Saved cannot be downloaded into an exported .xls file.

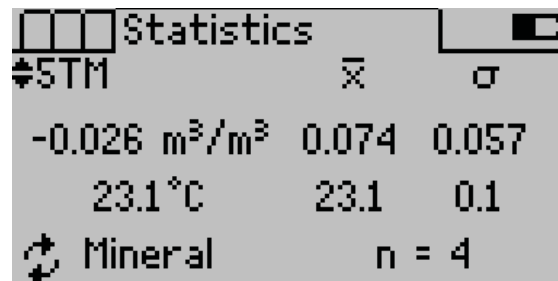


Figure 29 Statistics tab

1. Use **UP** and **DOWN** to select the correct sensor.
2. Press **ENTER**.  
The connected sensor will show the current reading on the left side of the screen.
3. Press **ENTER** to add the current measurement to the summary statistics.  
The n value represents the number of measurements taken as part of the summary statistics.

## PROCHECK

### 2.3 ANNOTATING A READING

Readings can be annotated with a Sample ID, which will be saved and downloaded with that record. The PROCHECK autofills the last annotation stored into memory.

1. Press **SAVE** to show the Annotate screen (Figure 6).

The right side of the screen shows a reading summary and the left side of the screen shows the annotation field as well as the date and time of the reading.

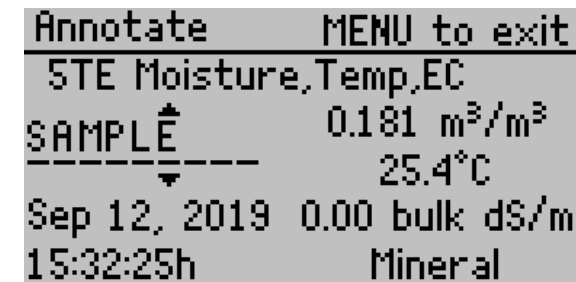


Figure 6 Annotate a saved reading

2. Use **UP** and **DOWN** to change the current character (A-Z, 0-9, or special characters ., -, ;, #, or space). Holding down the arrow buttons will scroll quickly between values.
3. Press **ENTER** to move to the next value.  
Press **ESC** to return to a value.
4. Repeat until the last character.
5. Press **SAVE** to save the annotation or **MENU** to return to the Measurement tab without saving the record.

### 2.4 DOWNLOADING DATA

METER recommends using the ECH2O Utility to download data. This function transfers all saved measurement data on the PROCHECK to a computer.

The USB driver should automatically install with ECH2O Utility. If it does not, install the USB driver from the included USB or from [downloads.metergroup.com](http://downloads.metergroup.com).

Use the following steps to connect to download data.

1. Launch ECH2O Utility.
2. Use the supplied USB-to-serial cable to connect PROCHECK to an available USB port on the computer.
3. Choose the correct communication port from the Connect Via dropdown list.
4. Click Connect.
5. Click the Download button in the toolbar to download all new data (since the last download).

## OPERATION

Alternatively, go to the Data menu and select Download All Data.

6. Edit the file name in the File Save dialog.
7. Select the location on the computer to save the data.
8. Choose a file format.
9. Click Save to start the download.

ECH2O Utility will show the progress of the download.

**NOTE:** Cancel a download in progress using the Cancel button. ECH2O Utility does not create a data file if the download is canceled.

By default, ECH2O Utility saves measurement data as an Excel® workbook file. Sheet 1 contains processed data (including calibration coefficients used to calculate data), and Sheet 2 shows raw data. Data can also be saved as .txt or .csv file format.

ECH2O Utility will download data in the units chosen in the Preferences dialog. These options apply only to the Excel workbook and Processed Data Text file formats.

Data can also be downloaded through the PROCHECK if ECH2O Utility is not functioning properly. Contact [Customer Support](#) for more information.

## 2.5 DELETING DATA

**CAUTION:** Erasing data permanently deletes all data from the PROCHECK. Data is not recoverable.

Using the PROCHECK, follow [step 1](#) through [3](#) to erase data.

1. Navigate to the Data tab.
2. Select Erase.
3. Press **ENTER** in the confirmation screen to erase data.  
Press **ESC** to cancel.

The screen will return to the Data tab.

## 2.6 ADDITIONAL CONNECTING CONSIDERATIONS

In order for METER sensors to be used with non-METER loggers, the connection and SDI-12 address may have been changed. Adjustments will need to be made so the PROCHECK can read these sensors again.

METER sensor cables can be stripped and tinned to use with non-METER loggers. To connect these sensors back to the PROCHECK or other METER loggers, a pigtail-to-stereo adapter cable will be needed. Contact [Customer Support](#).

The SDI-12 address on METER digital sensors may also need to be changed to use with a non-METER logger. The PROCHECK can be used to change the default METER SDI-12 address (0). (For more information on SDI-12, see the sensor integrator guide).

## PROCHECK

### CONTRAST SCREEN

The Contrast screen controls the screen contrast ([Figure 25](#)). Use the arrow buttons to alter the contrast level. Press **ENTER** to save or **ESC** to cancel adjustments.



Figure 25 Contrast screen

### ABOUT SCREEN

This menu displays the PROCHECK serial number, device name, and firmware version.

### 3.3.3 DATA TAB

This tab allows data to be viewed, downloaded, or erased ([Figure 26](#)). The PROCHECK can store up to 5,000 individual readings.



Figure 26 Data tab

The View option is a summary of the saved data records. The first screen is a summary screen ([Figure 27](#)).

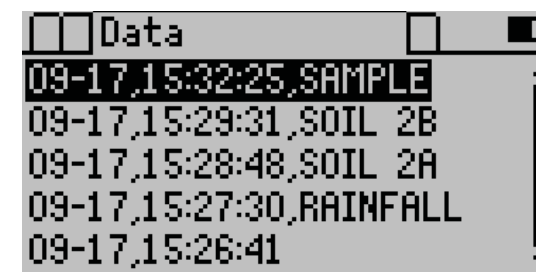


Figure 27 View Data screen



## SYSTEM

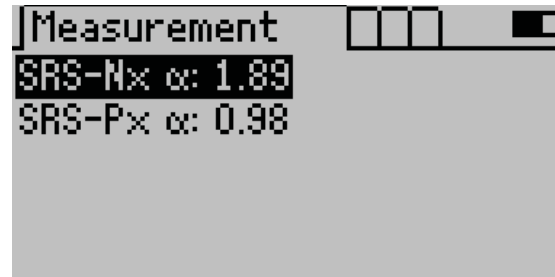


Figure 23 SRS α-value screen

3. Use **UP** and **DOWN** to select the desired SRS variant.
4. Press **ENTER**.
5. Use **UP** and **DOWN** to change the value.
6. Press **SAVE** to save this value and return to the menu.  
Press **ESC** to exit without saving the value.

### ATMOS 41 CONFIG

The ATMOS 41 Config option allows the Lightning Strike Reject Level to be changed (see the [ATMOS 41 User Manual](#) for more information). To modify the strike reject level in the ATMOS 41, follow the directions below.

1. Connect the ATMOS 41 to PROCHECK.
2. Navigate to the ATMOS 41 Config in the Configuration tab.
3. Press **ENTER**.

The PROCHECK will connect to the sensor.

4. Press **ENTER** to select Strike Reject Level.

A pair of arrows will appear next to the selected level (Figure 24).

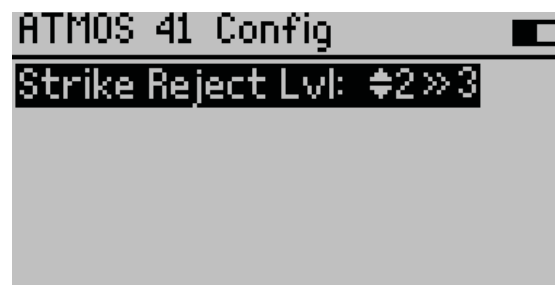


Figure 24 Adjusting the ATMOS 41 strike reject level

5. Use **UP** and **DOWN** to change the current value.
6. Press **SAVE** to save this value and return to the menu.  
Press **ESC** to exit without saving the value.

## PROCHECK

To assign the addresses, follow [step 1](#) through [step 6](#).

1. Connect the SDI-12 compatible sensor to the PROCHECK stereo port.  
**NOTE:** If the sensor uses bare wires, use the METER pigtail adapter to connect. Contact [Customer Support](#).
2. Navigate to the Configuration tab (Figure 7).

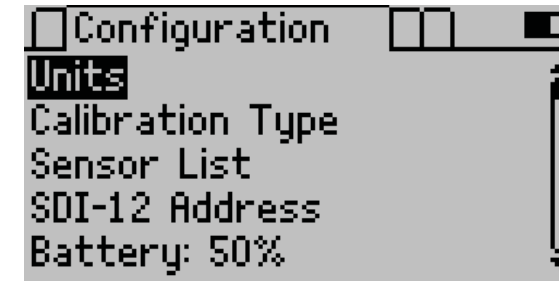


Figure 7 Configuration tab

3. Select SDI-12 Address to bring up the current connected sensor.
4. Use the **UP** and **DOWN** arrows to select the new address from "0" (default) to 1–9, a–z, or A–Z (Figure 8).

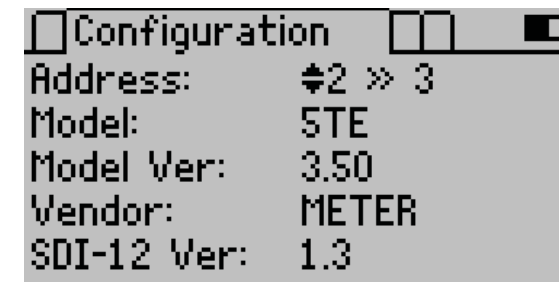


Figure 8 SDI-12 Address screen

5. Press **ENTER** or **SAVE** to accept the new address.  
The screen refreshes to show the new address setting.  
**NOTE:** If setting addresses on multiple sensors, repeat [step 1](#) through [step 5](#) before proceeding to [step 6](#).
6. Press **ESC** or **MENU** to exit the SDI-12 Address menu.

## 2.7 APPLYING A CUSTOM CALIBRATION

The PROCHECK can use custom calibration for certain sensor types. Custom calibrations apply directly to the raw analog-to-digital count (ADC) in the form of a fifth-order polynomial. For more information on creating a custom calibration, please refer to [Soil-specific calibrations for METER soil moisture sensors](#) ([metergroup.com/environment/articles/method-a-soil-specific-calibrations-for-meter-soil-moisture-sensors](http://metergroup.com/environment/articles/method-a-soil-specific-calibrations-for-meter-soil-moisture-sensors))

**NOTE:** Custom calibrations are in terms of  $m^3/m^3$ . PROCHECK applies unit conversions after the custom calibration.

## OPERATION

To enter a custom calibration into the PROCHECK:

1. Navigate to the Configuration tab (Figure 9).

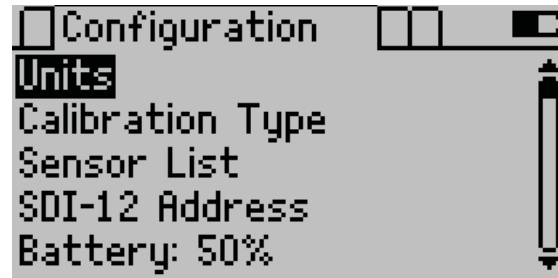


Figure 9 Configuration tab

2. Select Calibration Type.
3. Select the sensor type (Figure 10).

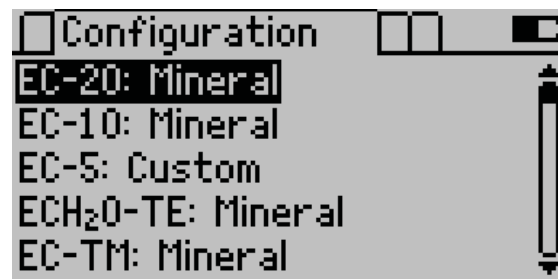


Figure 10 Selecting the sensor type

4. Highlight Medium (Figure 11).

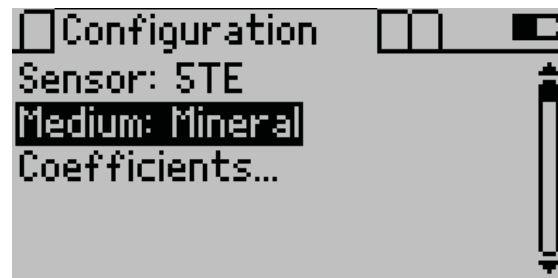


Figure 11 Toggle the medium type for calibration

5. Press **ENTER** until the medium type changes to Custom.
6. Select Coefficients.  
The Custom Calibration screen will appear (Figure 12).

## PROCHECK

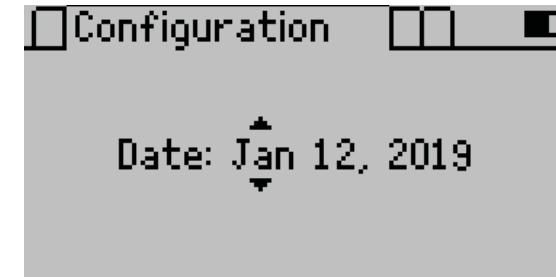


Figure 21 Date screen

## TIME SCREEN

The Time screen displays the current set date on the handheld (Figure 22). The time must be updated prior to using PROCHECK (Section 2.1).

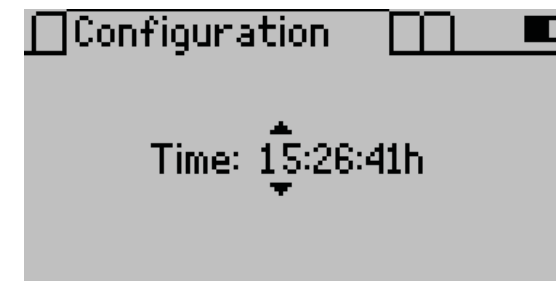


Figure 22 Time screen

## SRS $\alpha$ -VALUES

SRS  $\alpha$ -values may need to be changed (see the [SRS User Manual](#) for more information). To modify the SRS  $\alpha$ -values for both the SRS-NDVI and SRS-PRI sensors, follow the directions below.

1. Navigate to SRS  $\alpha$ -Values in the Configuration tab.
2. Press **ENTER**.

The SRS-PRI  $\alpha$ -value and the SRS-NDVI  $\alpha$ -value are displayed on the screen (Figure 23).

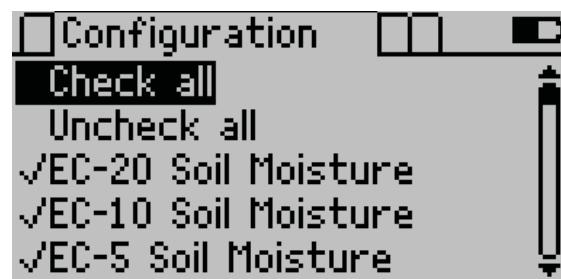


Figure 20 Selected sensor list

**SDI-12 ADDRESS SCREEN**

SDI-12 is a communication protocol for serial data interface at 1,200 baud. Please see [sdi-12.org](http://sdi-12.org) for more information on using SDI-12.

METER digital soil moisture sensors use both the SDI-12 standard and a METER proprietary protocol. This SDI-12 feature is not necessary when using METER sensors with METER data loggers. The SDI-12 may be useful using the sensors with third-party data acquisition systems such as Campbell Scientific data loggers. For more information, refer to the respective sensor integrator guide.

The SDI-12 Address screen is to assign the use of a single-character sensor address. This character may consist of 0 (default) to 1-9, a-z, or A-Z. This address is necessary when multiple sensors are installed at a single site. Each sensor will need a different address assigned ([Section 2.6](#)).

**BATTERY**

This line displays the percentage of remaining battery power in the device. It cannot be selected.

**DATE SCREEN**

The Date screen displays the current set date on the handheld ([Figure 21](#)). The date must be updated prior to using PROCHECK ([Section 2.1](#)).

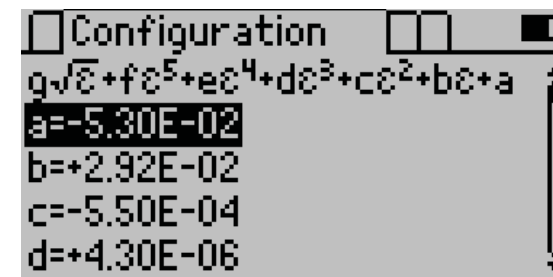


Figure 12 Custom Calibration screen

Each coefficient corresponds to a letter in the polynomial at the top of the screen. Below the polynomial resides the value of each coefficient in scientific notation.

7. Highlight the desired coefficient and press **ENTER**.

The Edit screen appears ([Figure 13](#)).

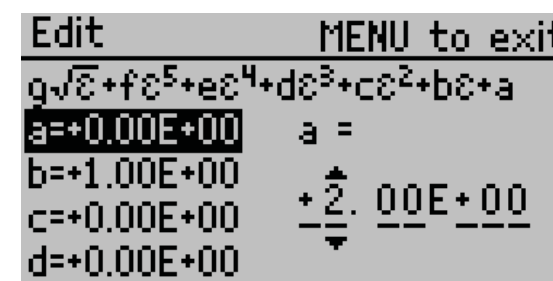


Figure 13 Edit screen for custom calibration

8. Use **UP** and **DOWN** to change the current value, and use the left and right arrow buttons (**ESC** and **ENTER**) to change the cursor position.
9. Press **ENTER** to save the coefficient.  
Press **MENU** to return to the coefficient list without changing the coefficient.
10. After all the coefficients have been updated, press **SAVE** to save the custom calibration.  
Press **ESC** to return to the Calibration Type screen without saving the calibration.

### 3. SYSTEM

This section describes the specifications and components of the PROCHECK.

#### 3.1 SPECIFICATIONS

Sensor Input Ports	1
Sensor Port Type	3.5-mm stereo plug connector
Sensor Types	<p>Firmware versions up to 1.5C: All environmental, soil moisture, and water potential sensors sold by METER before November 2012.</p> <p>Firmware versions after 1.5C: All environmental, soil moisture, and water potential sensors sold by METER</p> <p>NOTE: See more specifics in the <a href="http://metergroup.com/environment/articles/data-logger-compatibility-tables">Data logger compatibility tables</a> (<a href="http://metergroup.com/environment/articles/data-logger-compatibility-tables">metergroup.com/environment/articles/data-logger-compatibility-tables</a>)</p>
Display	128 x 64 graphical
Data Storage	1 MB (5,000 readings)
Battery Capacity	Four AA alkaline batteries
Battery Life	500 to 1,000 h
Computer Communication	Serial RS-232 to USB
Software Interface	ECH2O Utility
Enclosure	Splash-proof polycarbonate
Enclosure Rating	IP20, NEMA 1
Enclosure Size	15.5 × 9.5 × 3.3 (6.1 × 3.7 × 1.3 in)
Operating Environment	5 to 50 °C (0%–100% relative humidity)

#### COMPLIANCE

Manufactured under ISO 9001:2015

EM ISO/IEC 17050:2010 (CE Mark)

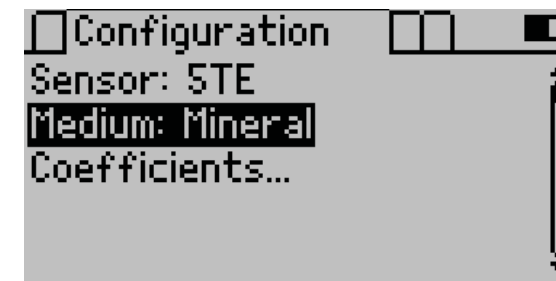


Figure 18 Toggle the medium type for calibration

Both preprogrammed and custom calibration options are available ([Section 2.7](#)). View the calibration coefficients by selecting *Coefficients...* ([Figure 19](#)).

NOTE: With the GS3 sensors (only), custom calibration equations must be constructed with  $\epsilon_s$  (dielectric permittivity) as the  $x$  variable.

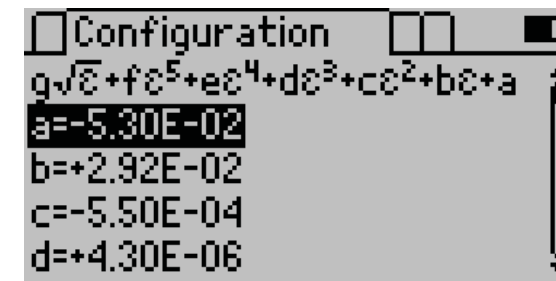


Figure 19 Custom Calibration screen

Specific instructions on how to make a custom calibration can be found on the METER website ([metergroup.com/environment/articles/method-a-soil-specific-calibrations-for-meter-soil-moisture-sensors](http://metergroup.com/environment/articles/method-a-soil-specific-calibrations-for-meter-soil-moisture-sensors)).

#### SENSOR LIST SCREEN

The Sensor List screen customizes which sensors are available for selection on the Measurement tab ([Figure 20](#)). Each checked sensor appears on the Measurement tab. Use the arrow buttons to select sensors individually or select *Check all* and *Uncheck all* to change all the sensors at once.

## SYSTEM

Turning on the Show Unprocessed Data option displays any formatted data in its raw analog-to-digital converter (ADC) state. All data readings on the Measurement and Data tabs display in an unprocessed format as seen on the following screen. This is helpful when troubleshooting sensors or when creating a custom calibration.

Use the arrows to navigate to the measurement type, and press **ENTER** to cycle through the unit options. Some unit options are only available for specific sensors.

- Water Content:  $m^3/m^3$ , % WWC, IPF, cm/m, or  $\epsilon_a$
- Water Potential: pF, kPa, or bar
- Temperature: °C or °F
- Humidity: aw, kPa, RH, or %RH
- Precipitation: mm or in
- Drainage/Water Level: mm, in, or ft
- Volume: liters, gal (US), ml,  $m^3$ , or  $ft^3$
- EC: bulk dS/m, mS/cm, microS/cm, or pore water dS/m
- Wind Speed: m/s, km/h, or mph
- Gauge Pressure: psig or kPag
- Distance: km or mi

### CALIBRATION TYPE SCREEN

Some sensors support a calibration adjustment for different media types (soil, rockwool, etc.). The first screen shows a summary of the selected soil calibrations for each configurable sensor (Figure 17).

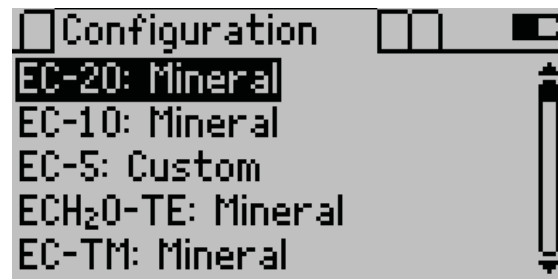


Figure 17 Selecting the sensor type

Select the sensor to select its calibration, using **ENTER** to toggle between options (Figure 18).

## PROCHECK

### 3.2 BUTTONS

The PROCHECK has six buttons to navigate through its functions (Figure 14).

- **MENU**: Turns on and off the PROCHECK when held down. Use to cycle through the menus at the top of the screen.
- **UP** and **DOWN** arrows: Scrolls through sensors, menu options, and characters or numbers in the editing menus.
- **ESC**: Cancels setting changes and sensor readings, and scrolls to the left in the editing menus.
- **ENTER**: Starts readings, chooses options, and scrolls to the right in the editing menu. Press **ENTER** to override the 30-s autoupdate and receive the most recent reading.
- **SAVE**: Saves instrument and annotation settings.

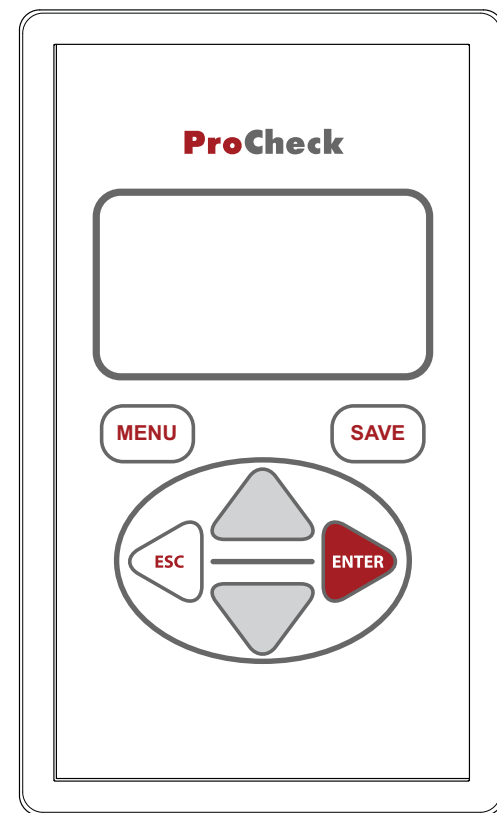


Figure 14 PROCHECK controller

### 3.3 SCREENS

The PROCHECK features three main menus designed for ease of use. Press **MENU** to navigate between the tabs and the arrow buttons and **ENTER** to manage selections.

#### 3.3.1 MEASUREMENT TAB

The Measurement tab is the PROCHECK home screen and appears when the PROCHECK is turned on. Use this tab to take readings (Section 2.2).

#### 3.3.2 CONFIGURATION TAB

The Configuration tab lists several different options for customizing the instrument (Figure 15).

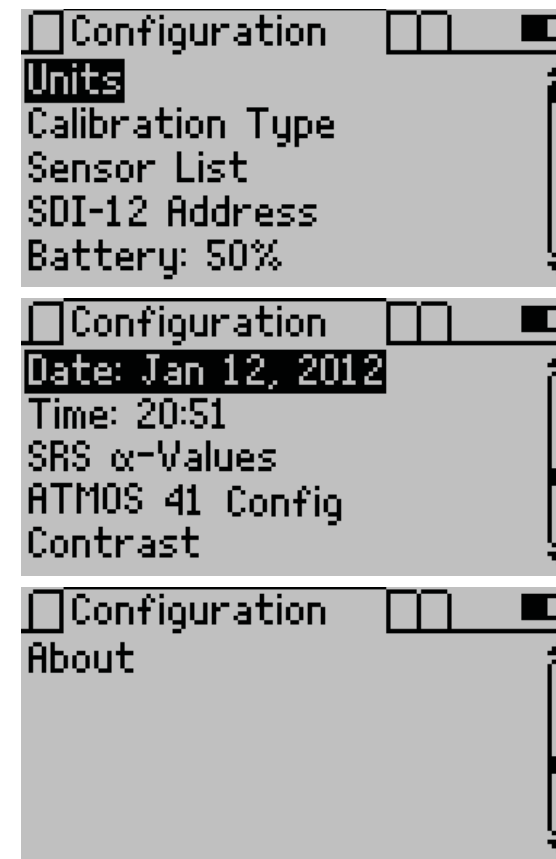


Figure 15 Configuration tab screens

#### UNITS SCREEN

From this menu configure the unit preferences for various unit types (Figure 16).

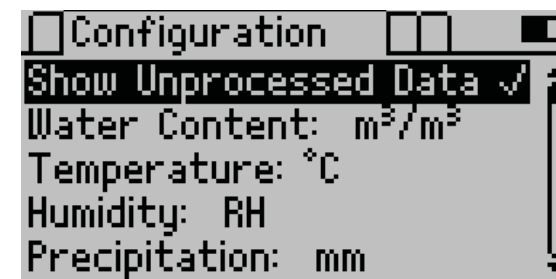


Figure 16 Units screen