Spectrum® Technologies, Inc.

"To Measure Is To Know"

WaterScout Profiler
Product Manual

Models 6022, 6033, 6044, 6066, 6048, 6068, 6061, 6011

WATER SCOUT®

INTRODUCTION

Thank you for purchasing a WaterScout Profiler. The WaterScout Profiler is easy to install and operate. Our profiler offers a variety of probe lengths and each length includes a designated number of sensors. Each sensor measures both temperature and soil moisture. No need to purchase any additional sensors if VWC and temperature are all you need to measure! The WaterScout Profiler connects directly to our 3500 Model WatchDog® Weather Stations as well as all 3200 Model WatchDog® Weather Stations shipped after 2/1/24.

TABLE OF CONTENTS

This manual will familiarize you with the features and operation of your new WaterScout Profiler. Please read this manual thoroughly before installing

For customer support or to place an order, call Spectrum Technologies, Inc. at 800-248-8873 or 815-436-4440, FAX at 815-436-4460, or e-mail at info@specmeters.com.

BEFORE INSTALLING THE WATERSCOUT PROFILER, FOLLOW <u>ALL</u> STEPS TO ENSURE CONNECTION!

STEP 1 - SET UP

WEATHER STATION CONFIGURATION

CONFIGURATION WITH THE WATCHDOG MOBILE APP (RECOMMENDED METHOD)

1. If the WatchDog Weather Station is not already installed, follow the Quick Start Guide included with your weather station.

2. Once the Weather Station is installed open the WatchDog Mobile App.
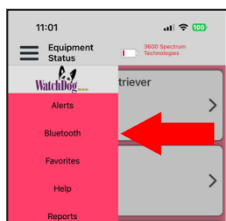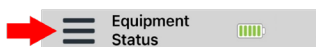
3. Turn on the Weather Station by setting the power switch to the ON position.

4. Turn Bluetooth on by pressing and releasing the "SELECT" button located inside the weather Station enclosure. The "STATUS" LED will begin blinking.
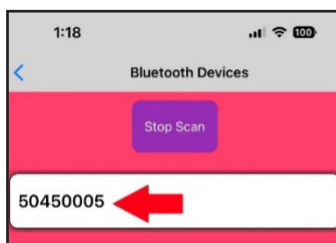
5. Tap the menu button on the top left corner and select "Bluetooth".

6. A Bluetooth scan is automatically initiated.

7. Select the device's serial number once it appears.

8. Click on the setting gear icon which will take you to the configuration page.

9. Click the "Ports" tab located on the top center of the configuration page. A list of ports will appear. Scroll down to the "Aux" port located at the end of the list. Select "Sensor: No Sensor" in the option list, then select "Sensor: Soil Profiler" option. Tap the ✓ icon in the top right corner to exit the page. On the configuration page tap the icon in the top right corner to save the setting.
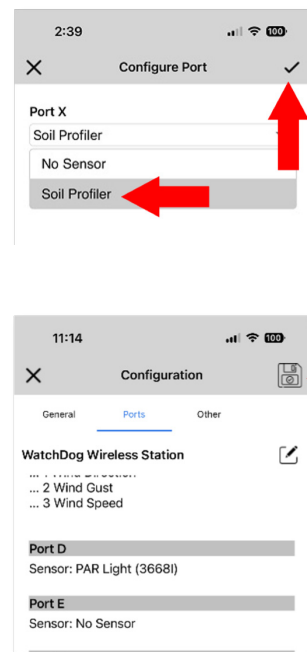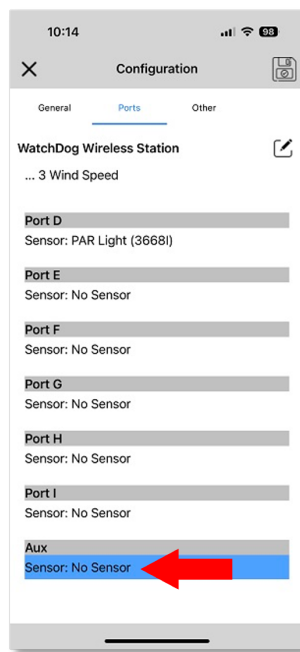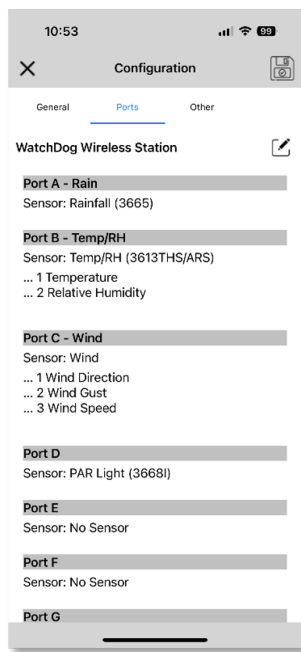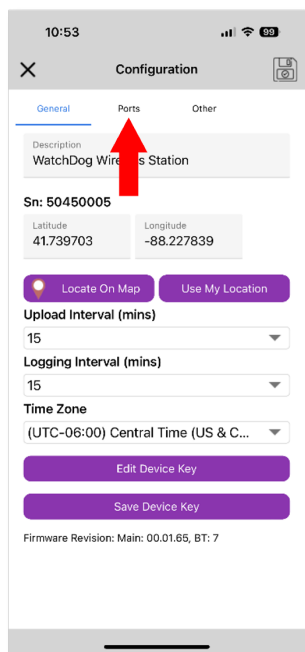
CONFIGURATION WITH SPECCONNECT (INSTEAD OF USING THE APP)

1. Turn on the Weather Station by setting the power switch to the ON position. Wait approximately 5 minutes for the weather station to sync.

2. Open a web browser and navigate to https://www.specconnect.net/. Log in with your credentials.

3. Click on the "Equipment' tab on the left side of the screen. Look for "Last Activity" to be updated. This will indicate station is communicating properly.

4. Navigate to the Weather Station device on the equipment page and click the "Configure" button.
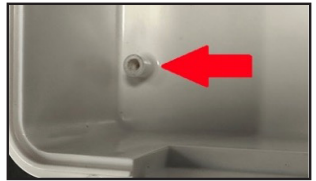

WatchDog Wireless Station   Configure
Ignore: No   Public: No
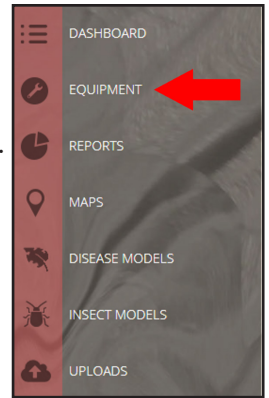
5. Set Port "Aux" field located at the bottom of the window for "Soil Profiler" and tap the save icon on the bottom left corner. The Profiler is now setup with the Weather Station.

Aux   Soil Profiler
Sensor Nickname
Cancel   Save
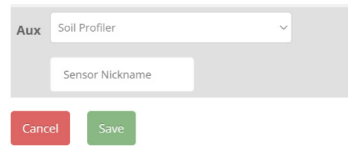
STEP 2 - CONNECTION/TESTING

PROFILER CONNECTION

1. Install the SDI-12 Adapter onto the mounting post inside of the enclosure on bottom left side. Add mounting screw to secure the Adapter.

2. Connect AUX cable to AUX port on Weather Station.

3. Confirm that the Profiler's wires are properly connected to the terminal plug. Black = GND, Blue = SIG, Brown = 5V. Insert the Profiler terminal plug into the Profiler Adapter Connector.

4. Use a P-Clamp and mounting screw to secure Profiler cable to mounting post bottom right side as shown. Make sure that the Profiler's cable is routed straight through the sealing gland at bottom right of the Weather Station enclosure.

PROFILER TESTING VIA BLUETOOTH CURRENT CONDITIONS

1. If the "STATUS" LED is blinking, the Bluetooth is already on. If not, turn Bluetooth on by pressing and releasing the "SELECT" button located inside the weather station enclosure. The LED will begin blinking.

2. Open the WatchDog Mobile App

3. Tap the Menu button on the top left corner and select "Bluetooth".

4. A Bluetooth scan is automatically initiated. Tap the device's serial number once it appears.
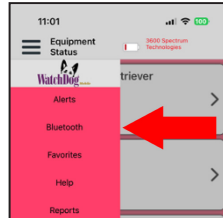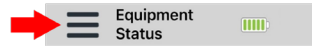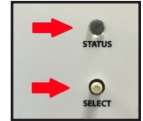
5. Click on the thermometer/sun icon which will take you to the Current Conditions page.

6. With the Current Conditions page displayed, select the "Profiler" tab located on the top center of the page to see the Profiler's current conditions. It may take up to 90 seconds for the data to refresh. To confirm the configuration is successful, verify there is a temperature reading present as shown below. Now the profiler is ready to be installed in the ground.
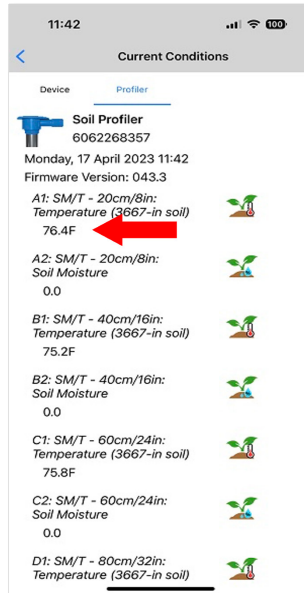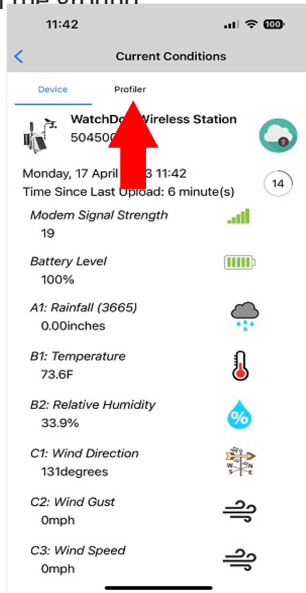
STEP 3 - INSTALLATION

PROFILER INSTALLATION

EQUIPMENT AND TOOLS REQUIRED
- WaterScout Profiler
- 1.25" x 28" (3cm x71cm) or 1.25" x 44" (3cm x 112cm) auger
- Cordless drill or hammer drill recommended with a 1/2" (1cm) chuck
- Extra battery pack for the drill (recommended)
- Water sprayer
- Tape measure or dowel rod (longer than the probe)
- Marker or tape
- Hand shovel/trowel
- Safety glasses

hammer drill

water sprayer

hand shovel

auger

1. Remove excess vegetation 6" (15cm) around the site of profiler installation
2. Set the drill speed to the slowest setting (Speed 1 - <500RPM)
3. Align the profiler's tip next to the auger's flighting with each of the ends aligned with each other (Figure 1)
4. Use the marker or tape to identify the hole depth on the auger (Figure 2) We recommend drilling 2"-4" (5cm-10cm) deeper as an extra buffer.
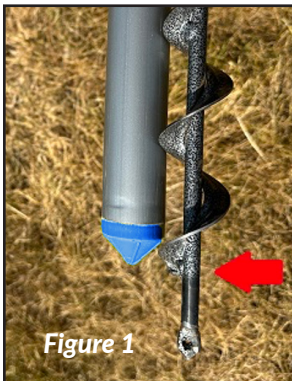
Figure 1
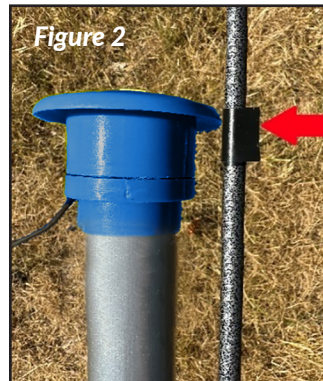
Figure 2

5. Begin drilling down slowly 3"-6" (8cm-15cm) at a time, then pull the auger up to the top of the access hole to remove loose soil. This helps prevent the auger from becoming stuck. Tighten the chuck periodically while drilling to ensure auger remains stable. Make sure to drill the access hole as straight as possible with minimal sideways movement. Remove all loose soil from the bottom of the hole.
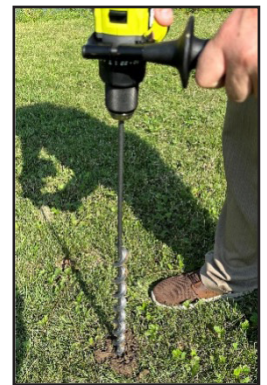
6. To confirm the access hole depth is acceptable, measure the hole depth with the dowel rod or a measuring tape to compare with profiler length.

7. Using the hand shovel/trowel, dig out a sub-surface area roughly 1" (3cm) deep for the profiler top. Make sure no soil falls into the access hole. Remove any soil that falls into the hole with the auger.

1"(3cm)
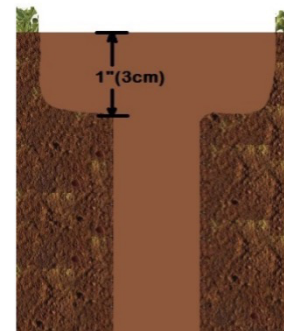
8. Before inserting the profiler, wet the outer surface of the entire profiler as well as the access hole walls with the water sprayer.

9. Use the palm of your hands to insert profiler slowly into the access hole. The profiler should not require excess force to be installed. If the profiler starts to become wedged in the access hole, stop and remove the profiler. Use the auger to slightly increase the access hole diameter.
WARNING: Never use a hammer to install the profiler into the access hole.

SPECIFICATIONS

- Capacitance based continuous logging probe
- Probe lengths from 8" to 40" (20cm-102cm)
- Up to 10 soil moisture and soil temperature sensors depending on the probe configuration
- Profiler diameter of 1.25" (32mm)
- Compliancy: CE, FCC certified
- Probe Cable: 6m 3-core 0.5mm thick
- Sensor Spacing: Every 4" or 8" (10cm or 20cm)
- Internal Resolution: Approximately 13 bits
- Temperature Sensor: -4°F to 124°F (-20°C to 51°C) in steps of 0.4°F (0.2°C)

Probe Length	# of Sensors	Item #	Sensor Depth Location Per Model								
			8" (200mm)	12" (300mm)	16" (400mm)	20" (500mm)	24" (600mm)	28" (700mm)	32" (800mm)	36" (900mm)	40" (1,000mm)
8" (200mm)	2	6022	X								
12" (300mm)	3	6033	X	X							
16" (400mm)	4	6044	X	X	X						
24" (600mm)	6	6066	X	X	X	X	X				
32" (800mm)	4	6048	X		X		X		X		
32" (800mm)	6	6068	X	X	X		X		X		
40" (1,000mm)	6	6061	X		X		X		X		X
40" (1,000mm)	10	6011	X	X	X	X	X	X	X	X	X

STATEMENT OF COMPLIANCY

WATERSCOUT PROFILER ELECTRO-MAGNETIC COMPLIANCE
The WaterScout profiler has been tested and found to comply with the limits for this class digital device, pursuant to the requirements of the CE rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to other radio communications.

EMC APPROVALS
The WaterScout profiler has been tested and found to comply with the following EMC guidelines:

Emissions:
- ETSI EN 300 220-2 V2.4.1
- 47 CFR 15C - RSS 210
- 47 CFR 15C - 15.247 (a)(2), (b)(3), (d), (e)
- 47 CFR 15C - 15.31 (e)
- AS/NC 4268 (2012)
- CISPR (Class B) radiated and conducted emissions

Immunity Testing:
- ETSI EN 301 489-3 V1.4.1/ESTI EN 302 489-1 V1.9.2
- Radiated Immunity - EN 61000-4-2/3/4/5/6

Spectrum
Technologies, Inc.
"To Measure Is To Know"

3600 Thayer Court
Aurora, IL 60504
800.248.8873
www.specmeters.com   Spectrum, WaterScout and WatchDog are registered trademarks of Spectrum Technologies, Inc.