Jan Evangelista Purkyně University in Ústí nad Labem

Faculty of Environment

# RemScan (TPH in soil analyser)

# Concise manual

# Contents

# Preparation before use

1.  Ensure both the RemScan and Tablet are fully charged. The RemScan batteries each provides at least 3 hours of regular scanning and the Tablet will give up to 10 hours of regular scanning. It is good practice to ensure that at least one RemScan battery is charging while the other is in use to allow continuous scanning.
2.  Turn on the RemScan by pressing and releasing the power button at the base of the handle below the trigger. The button will flash red/green for a few seconds before turning solid green. When the light is green the RemScan is turned on. It is recommended that the RemScan is turned on BEFORE the Tablet is turned on.
3.  Start the Tablet as follows:
    a.  Once the RemScan is turned on, press the green "On/off button" located on the right hand side of the Tablet once and release. Wait for 40 seconds to appear that has the "RemScan" icon displayed.
    b.  Double click the "RemScan" icon, the "RemScan login window" will appear.
    c.  Login to the RemScan software using your supplied username and password (see the provided customer login details card for details).
    d.  At „RermScan start-up screen" check the settings of correct calibration model (menu „Select model"). Other calibration model is possible to select by "Settings" icon. Confirm by "Done"
    e.  After a few seconds a warm up screen will appear, the messages "Bluetooth connection" → "Connecting to RemScan"→"Connected to RemScan" → "Connected - Warming up" will appear. After around 15 minutes the RemScan will be warmed up and a message "Measure background" will appear at the bottom of the screen.
        Note: If this process takes too long or fails, power down RemScan and Tablet and repeat steps.
4.  Check that the lens and nose cone are clean. If necessary, use a lens cleaner to blow and/or brush off dirt from the lens and nose cone.
5.  Measure background and reference cap as follows:
    a.  Place the background cap (black cap labeled "Background") on the nose cone of the RemScan and ensure it is clipped on securely.
    b.  Press and release the trigger and a green progress bar will appear on the Tablet, the scan will take around 1 minute to complete.
    c.  Repeat with "Reference" white cap.
    d.  The Tablet will ask the user to repeat the background standarisation every hour.

# Measuring samples

Prepare and measure the samples by following steps:

| | In-situ | Ex-situ |
|---|---|---|
| a | Remove organic matter/foreign objects greater than 5 mm (bark/woodchip/straw/brick/stone/gravel/glass) | |
| b | - | Pour sample into sample cup. |
| c | Firmly compress the soil surface to be scanned, so the surface is flat and firm using the sample tamp. | |
| d | If the soil surface to be scanned contains excessive moisture, air-dry the sample before scanning. | |
| e | Place the nose cone of the RemScan in direct contact with the soil ensuring that the nose cone face is flush against the soil surface.<br>DO NOT push down on the RemScan as this may cause a reading failure due to soil being forced into the nose cone. | Load sample cup into the lab stand cup holder and gently elevate the cup to the RemScan nose cone. |
| f | Press and release the trigger once, a green bar will appear to progress. A Soil Texture and Moisture reading will be displayed on the screen. Ensure RemScan is still whilst scanning. | |
| g | Move RemScan to the next measurement position and remeasure, repeating steps a-g for a total of 10 scans per sample. | Lower and remove sample cup from lab stand cup holder, mix the sample in the sample cup and remeasure, repeating steps c-f for a total of 10 scans per sample. |
| g | Clean the nose cone prior to measuring next sample to avoid cross contamination. | |
| h | To scan more soil samples repeat steps a-g and follow the prompts on the screen. | |

*Adopted from RemScan Spill Response mode manual (Ziltek)*

# Download data and shut down

To download scanning data:

a.  Click the " Settings" icon and select the desired "from" and "to" dates for the data export then click "Export".
b.  Using File Explorer, navigate to C:/, double click on "Export" file and locate the relevant data folder.

To switch off RemScan and Tablet:

a.  Always switch the Tablet off before the RemScan.
b.  To switch the Tablet off, click the "Windows" icon on the "Windows task bar" and select "Shutdown".
c.  Once the Tablet is switched off, turn the RemScan off by pressing and releasing the power button on the base of the handle below the trigger. The green light in the centre of the power button will turn red and then switch off.