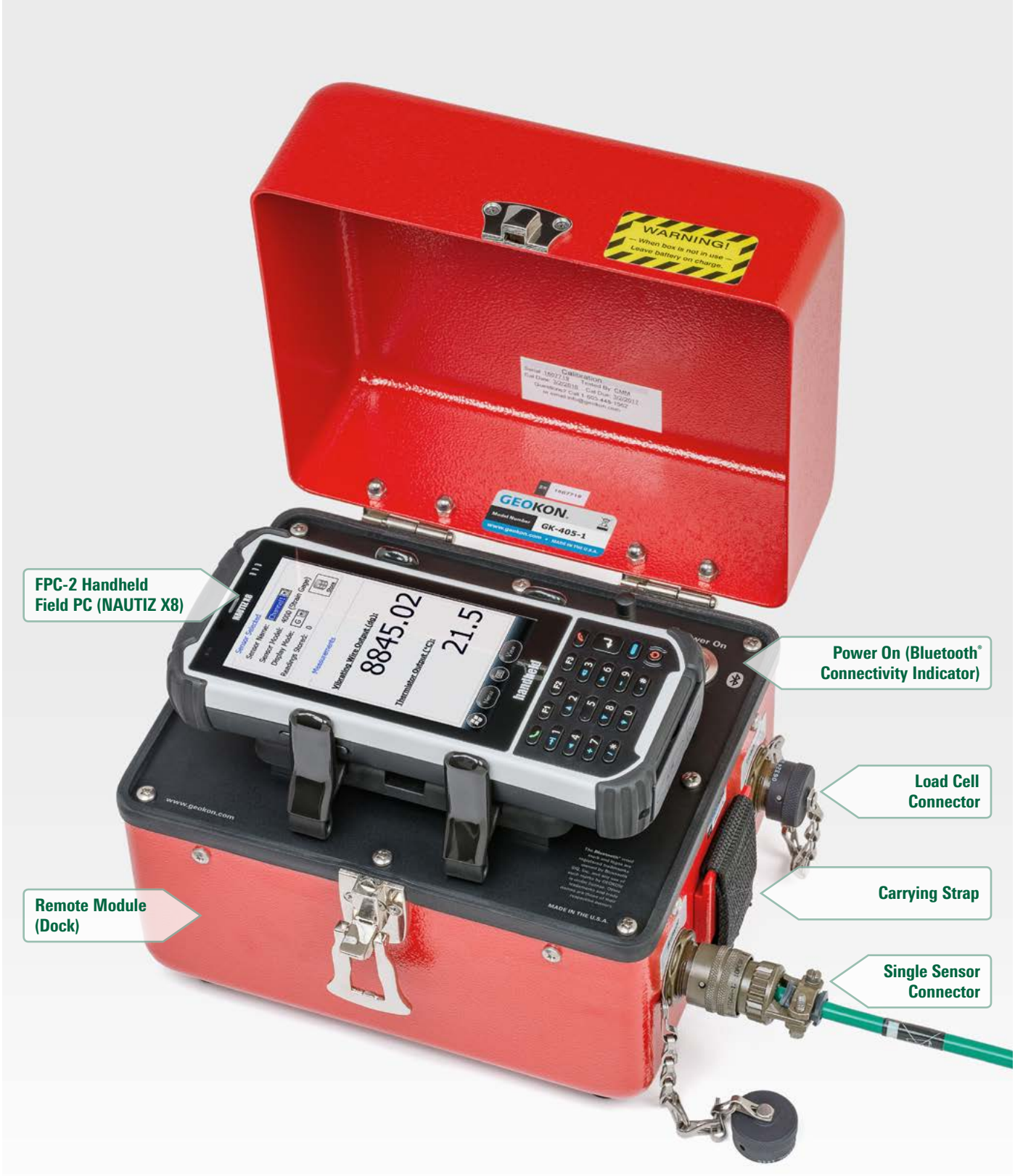
QUICK START GUIDE | MODEL GK-405 VIBRATING WIRE READOUT



The GEOKON® Model GK-405 Vibrating Wire Readout and FPC-2 Handheld Field PC (NAUTIZ X8) placed in dock.

POWERING UP THE FIELD PC

01. Switch on the Field PC by depressing the power button (lower right).

02. If the Field PC was not in sleep mode (or hibernating), it may take more than 60 seconds to power-up. When the **Windows®** Mobile main screen appears, the Field PC's Programs and Settings can be accessed by tapping (with the Field PC's stylus) the menu at the top of the main screen. If, during a pause in operation, the Field PC's screen goes dark, simply press the power button again. The **"Power"** settings of the Field PC can be accessed from the System Settings menu by tapping then **"Settings,"** then the **"System"** tab and finally **"Power."**

READING SINGLE SENSORS

01. Plug the flying leads into the 10-pin connector marked **"Sensor"** on the side of the Remote Module (red box). Connect the flying leads color for color to the leads on the sensor. Or, if the sensor has a 10-pin mating connector, connect it directly to the 10-pin **"Sensor"** connector.

02. Press the **"POWER ON"** button on the Remote Module. The blue light (wireless Connectivity Indicator) will turn on.

03. On the Field PC, tap the .
Launch the GK-405 application by tapping on the **"GK-405 VW Readout"** icon.

04. When the **"Live Reading"** screen appears, set the **"Display Mode"** to **"B."**

05. The screen should now be displaying the digits reading of the vibrating wire sensor.

06. If this is an unpressurized (for piezometers) **"Zero"** reading, record this in a field book. Or, if you want to store readings electronically in the Handheld, follow the instructions below—but after Step 20 select **"Menu"** then **"Store Zero Reading Value."**

CONFIGURING THE READOUT FOR ENGINEERING UNITS

To store readings in the Field PC and for the display to read in engineering units, a sensor configuration must first be created that represents the vibrating wire sensor to be read. This sensor configuration contains information that can identify the piezometer (or load cell, strain gauge, etc.) as well as parameters that allow the GK-405 to produce readouts in engineering units. These parameters include: gauge factor, zero reading, units, etc. A new configuration needs to be created for each sensor to be read or to store data for. Sensor configurations are stored in **"Projects"** so that sensors may be grouped by project name, customer, or job site.

To begin the process of creating a sensor configuration, tap the **"View"** menu from the **"Live Readings"** screen and select **"Sensor Selection Screen."** If no **"Project"** exists, in the Project Explorer pane, tap and hold the Workspace icon (looks like a folder) and from the menu that pops up, select **"Add Project."** Enter a project name and a description (optional) then tap **"Menu"** and **"Save Settings."** To add a sensor configuration, tap and hold the Project where the sensor is to be added then tap **"Add Sensor."** Sensor configuration requires more information than Project configuration; the steps at right further describe the process:

CONFIGURING THE READOUT FOR ENGINEERING UNITS (CONTINUED)

01. Enter the sensor identifying name/number along with any description.

02. Select the sensor model number, i.e., 45xx, from the drop-down menu.

03. Tap the arrow to reach the next page.

04. Select **"Linear"** (If selecting **"Polynomial,"** see Section 4.2 of the GK-405 User Manual for more information regarding polynomial conversion and entering coefficients).

05. From the **"Output Calculation"** dropdown menu, select **"G(R1-R0)."**

06. Set the zero reading equal to the initial Regression Zero shown on the calibration sheet. Alternatively, when an actual zero reading has been taken, set this parameter to the actual value.

07. Set the **"Gauge Factor"** equal to the Gauge Factor given on the calibration sheet. The Gauge Factor may be a negative number.

08. Leave **"Gauge Offset"** at zero.

09. Tap the arrow to reach the next page.

10. From the **"Measurement"** dropdown menu, select **"PRESSURE"** (or whatever measurement type that corresponds to the sensor being read).

11. From the **"Input Units"** dropdown menu, select units equal to the gauge factor units.

12. Select the desired output units that will show on the display.

13. Tap the arrow to reach the next page.

14. If Temperature Correction is not desired, set the **"Sensor Correction"** to **"Disabled"** then skip to step 17. To temperature correct the sensor output, set the **"Sensor Correction"** to **"Enabled."**

15. Set the initial temperature at installation.

16. Set the Thermal Factor from the calibration sheet.

17. Select **"Menu"** and **"Save Settings."**

18. Select **"Applications,"** then select **"Live Readings."**

19. Select **"With Selected Sensor"** (the sensor just created).

20. The Live Readings screen will be displayed and the readings should now be in the selected engineer units.

21. To store data, tap the **"Store"** icon on the screen. The readings will be stored under that particular sensor file, the one created in Steps 1-17.

Please Note:

If at any time the wireless connection is lost, it can be restored by first pressing **"POWER ON"** (on the Remote Module). Then tap the **"Applications"** menu, tap **"Remote Connect with…"** and finally, tap **"COM 5."**

Where multiple sensors are in use and readings are required in engineering units, from the **"Sensor Selection Screen,"** select the proper sensor configuration corresponding to the sensor currently connected to the Remote Module.

From the **"Live Readings"** screen, the wireless connection can be closed by tapping **"Menu"** then tapping **"Close GK-405."**

For further instructions on how to access the stored data see the GK-405 User's Manual.

READING LOAD CELLS

Reading load cells is very similar to reading other sensors with the major difference being that the load cell has a separate connector on the Remote Module labeled **"Load Cell."** Use this connector when connecting to a load cell with the standard **"Mux"**cable (p/n 8032-5) or if 10-pin Bendix connector has been factory installed on the load cell cable end.

When reading a load cell comprised of multiple sensors, the value for each sensor can be seen by selecting the **"Sensor Index"** from the dropdown menu. The **"Sensor Index"** defaults to **"Avg"** (average) on power-up.

When defining a Sensor Configuration for a load cell, the Sensor Type will be **"49xx"** and the gauge factor is taken from the calibration report that is included with each load cell.

Another difference when configuring a load cell versus a piezometer is that the **"Measurement"** type should be set for **"LOAD"** and the input units set to the units the cell was calibrated for. Output units can be set for whatever is desired.

Please Note: *Model 3000 resistance load cells cannot be read with the GK-405. Use the GEOKON Model GK-502 for this type of load cell.*

POWERING DOWN

When done taking measurements, the unit is powered down by first closing the GK-405 application. If in **"Live Readings"** this is accomplished by tapping on **"Menu"** then **"Close GK-405."** If in the **"Sensor Selection"** screen, tap on the **"File"** menu and then **"Close GK-405."** In either of the above cases, the Remote Module will power down within 5 minutes.

A quick push of the **"Power"** button on the FPC-2, sends it to sleep mode where it draws very little current. This is the recommended mode when more measurements are to be made the same day.

A full power-down sequence is recommended at the end of each day. This is accomplished by pressing and holding the FPC-2 **"Power"** button until a menu is displayed. Select **"Power Off"** from this menu.

GEOKON
48 Spencer Street
Lebanon, NH 03766 • USA

www.geokon.com
e: info@geokon.com
p: +1·603·448·1562

GEOKON is an **ISO 9001:2015** registered company

The **GEOKON**® logo and word mark are registered trademarks with the United States Patent and Trademark Office. | **GEOKON** maintains an ongoing policy of design review and reserves the right to amend products and specifications without notice. | **Microsoft** and **Windows** are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. | The **Bluetooth**® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by GEOKON is under license. | All other trademarks are the property of their respective owners.

©**GEOKON**. All Rights Reserved. | Rev-B.3-6/8/2020