



INSTRUCTIONS MANUAL
PORTABLE READOUT FOR
PRESSUREMETERS & DILATOMETERS
Model DP BOX

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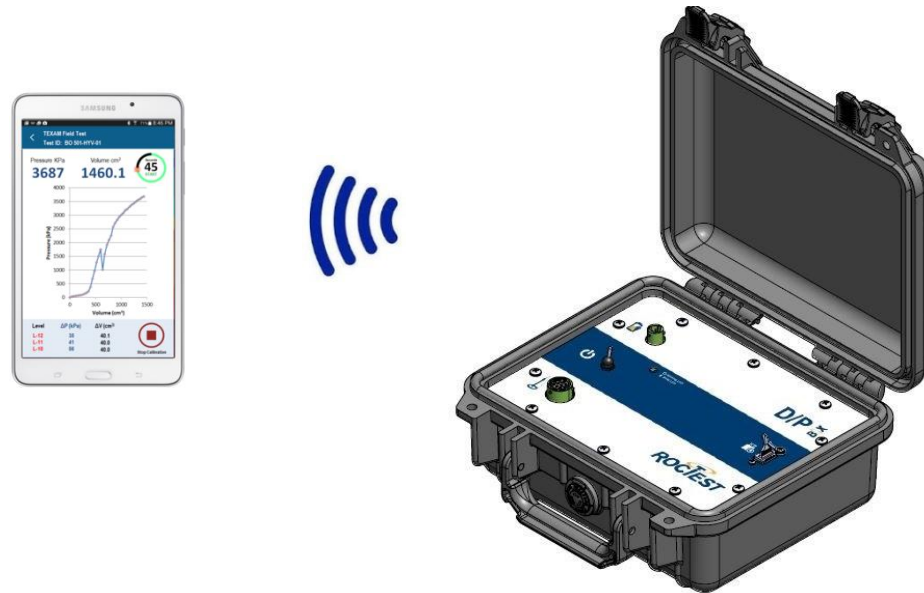
This product should be installed and operated only by qualified personnel. Its misuse is potentially dangerous. The Company makes no warranty as to the information furnished in this manual and assumes no liability for damages resulting from the installation or use of this product. The information herein is subject to change without notification.

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1 DESCRIPTION

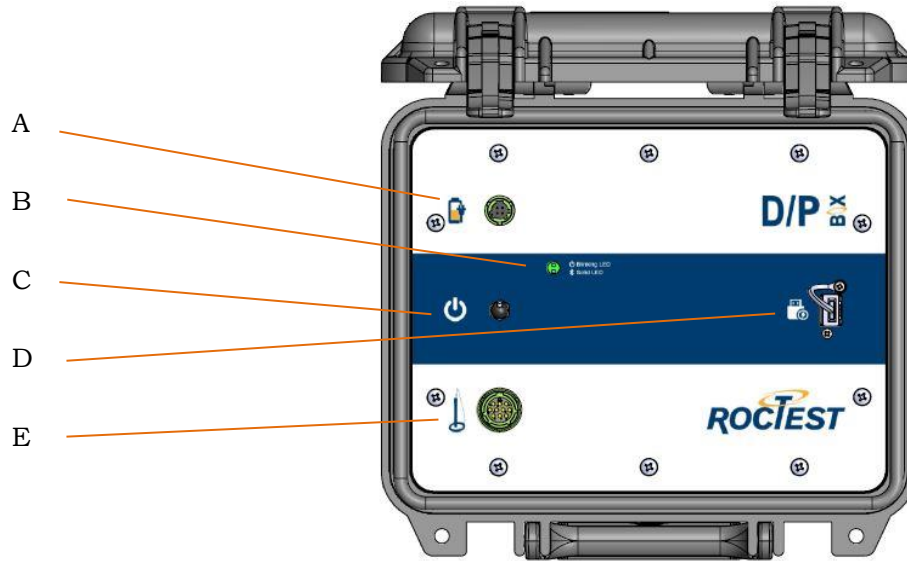


DP BOX communicating with a tablet by Bluetooth

The DP BOX is designed for reading and logging measurements obtained from pressuremeters and dilatometers manufactured by Roctest (including models DMP, TEXAM^e and PROBEX). Thanks to the Bluetooth communication feature and to the DP BOX READER Application, the DP BOX can be used in conjunction with a tablet for reading the sensors, for configuring a calibration or a testing session, for visualizing the test results in real time, and for reviewing any test data. These test data can easily be uploaded to a laptop via USB communication. The DP BOX comes in a convenient water proof enclosure and is fitted with two 12-V rechargeable batteries providing over 8 hours of autonomy in normal conditions. The DP BOX also comes with cable Universal AC wall plug with US/Euro adapter + adapter cable for car (lighter) and for external battery. The battery can be charged every night. A charging circuit inside the readout limits charge time to a certain level.

The front panel is splash proof allowing to use the equipment in wet conditions. However do not let the readout with the cover lifted up under the rain over extended time; otherwise, water could get into the unit.

The DP BOX is compatible with Android-based tablet model.



DP BOX Front Panel

A	4-pin Cannon connector for charging the DP BOX batteries
B	LED indicating communication status The Bluetooth LED blinks slowly when the Bluetooth radio waits for a connection, then glows faster when the connection is established.
C	Switch for turning ON / OFF the unit
D	USB port for charging the tablet (if necessary)
E	10-pin connector for connecting the dilatometer / pressuremeter

Specifications :

User Interface	Bluetooth communication with an Android tablet
Memory	Typically over 10 000 data sets (tablet-dependent)
Analog Accuracy:	$\pm (0.04\% \text{ of reading} \pm 6 \mu\text{V})$ at 0° to 40°C
ADC	24 bits
Relative Humidity	$\leq 95 \%$ (non-condensing)
Data Output Format	CSV, compatible with Roctest 'Companion' Data Reduction Spreadsheets Series
Power Supply interface	Universal AC wall plug with Euro/US adapter + adapter cable for car (lighter) and for external battery.

Operating temperature	-20 to 70°C
Readout Autonomy	> 8 hours
Tablet Autonomy	Depends on tablet model and setup. A USB cable is provided for charging tablet from DP Box
Battery	2 x 12 V 2.3 A, rechargeable
Connectors	4-pin female connector for external power input and battery charger 10-pin female connector for probe USB connector for charging tablet
Case	Waterproof, shock resistant ABS plastic
Dimensions	25 x 28 x 12 cm (l x w x h)
Weight	4.3 kg

2 QUICK START

2.1 INSTALLING THE DP BOX READER APP

Prior from using the DP BOX, the DP BOX READER Application should be installed on a tablet. This App can be downloaded from Roctest web site.

Instructions for installing the App:

1. Open the tablet
2. Go to 'Settings / Personal / Lock screen and Security', then activate 'Unknown sources'
3. Connect the tablet to a computer using the USB cable
4. The computer will detect the tablet. Open the tablet directory that appears on the computer.
5. Open the 'Download' directory
6. Copy the installation file 'DPBoxReader.DPBoxReader-Signed.apk' - previously saved on the computer - in the directory 'Download'
7. On the tablet, go to 'My Files / Device Storage / Download' and make sure to see the newly copied file: 'DPBoxReader.DPBoxReader-Signed.apk'
8. Open it, then press 'Install'.
9. Press 'Open'
10. The new application will open. Check that the version number at the bottom of the screen is the correct one

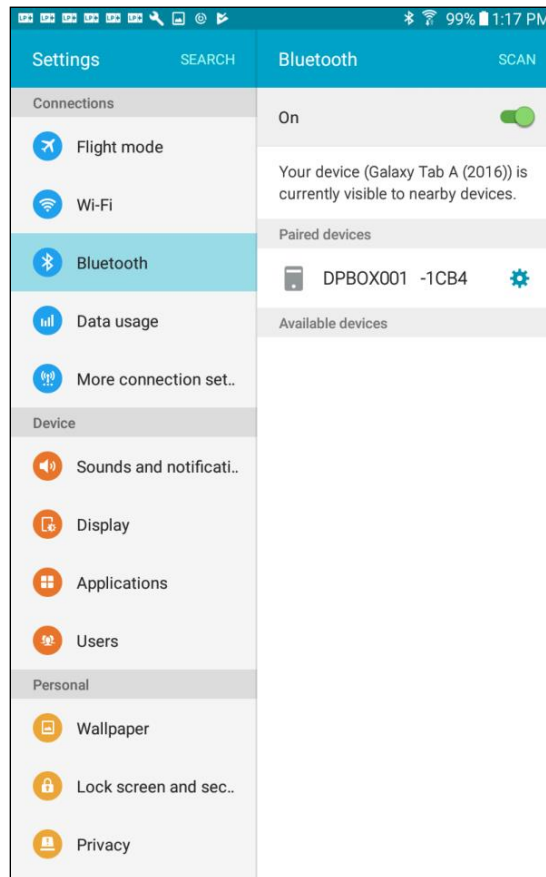
2.2 CONNECTING THE TABLET AND THE DP BOX

Connect the electrical cable of the testing equipment to the DP BOX.

Turn on the DP BOX. The LED on the front panel will then blink. Turn on the tablet. Go in the tablet Setup and make sure that the DP BOX is available and paired with the tablet. If the tablet has been previously paired with another DP BOX, you need first to erase the files automatically generated in Device Storage/DP BOX Files/ConfigFile. Then you should be able to pair the tablet with another DP Box.

Set up the tablet as follows:

- Adjust the Display in 'Outdoor Mode' if necessary. However, note that this will reduce the tablet autonomy.
- Adjust the screen timeout (typically 5 min)
- Make sure tablet is adjusted for dot-delimited numbers
- Make sure the battery voltage of the tablet is high enough for use.
- Make sure that the language of the tablet is setup for English or French

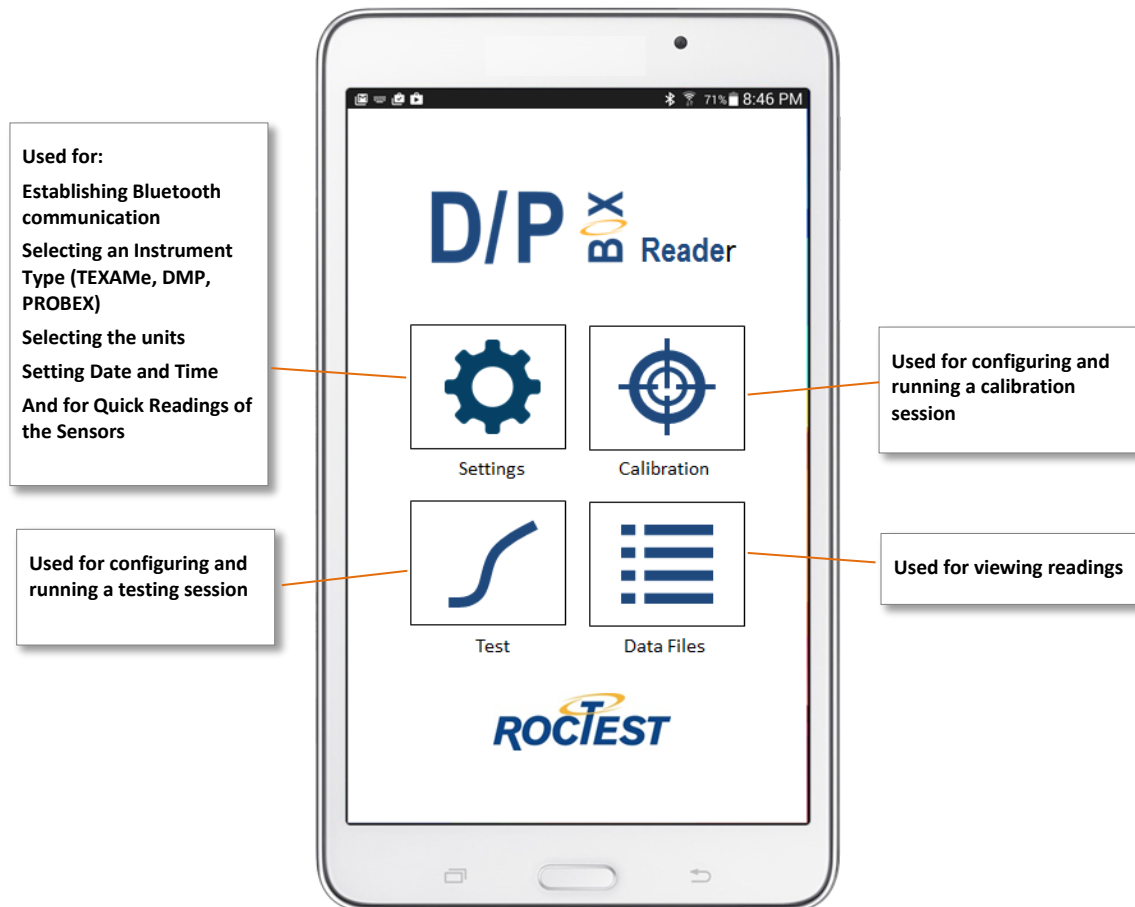


Open the DP BOX App and go in 'Settings / Quick Reading' for establishing Bluetooth communication between the DP BOX and the tablet, which will be confirmed when the DP BOX LED will blink quicker.

2.3 DP BOX READER APP MAIN MENU

The DP BOX Application allows configuring the DP BOX, reading and logging the data, and reviewing the results.

Main menu of the applications includes the following elements :



DP Box App Main Menu

For information on how to use the APP with the testing equipment, please refer to the instruction manual specific to the equipment used (DMP, TEXAM^e or PROBEX). These manuals are available at: www.roctest.com.

2.4 DOWNLOADING DATA

Data are recorded on the tablet in .csv (comma-separated values) files. We suggest to frequently copying these files on a computer via USB connection. The .csv files can be opened using the Excel software.

2.5 AUTONOMY OF THE DP BOX & TABLET

In ideal conditions, the battery autonomy of the DP BOX will exceed 8 hours. The autonomy of the tablet will vary depending of the model and setup - especially on how the display brightness is setup.

If necessary, the DP BOX can be powered on site by external source using the cable adapter for car (lighter) or for external battery provided with the DP BOX.

If the Tablet's battery gets low, the Tablet can be connected to the DP BOX with the USB cable.

Periodically check battery voltage of the DP BOX; we suggest not letting it go under 11.3V.

**WARNING NEVER FORGET TO TURN THE DP BOX OFF AFTER USING IT.
THE DP BOX SHOULD BE KEPT ON CHARGE EVERY NIGHT.**

Allowing the battery to reduce its charge for an extended time will reduce its efficiency. Ultimately, the rechargeable battery and the lithium battery backup will get permanently discharged and will need to be replaced. Internal firmware will need to be re-installed. If so, please contact Roctest