



## RetroSign GRX, calibration

The RetroSign GRX is factory calibrated.

In order to ensure high quality of data DELTA recommends calibrating the RetroSign GRX once a day, typically in the morning, before commencing the measurements.

The calibration process automatically compensates for instrument offsets etc.

It is possible to make two different types of calibrations:

- Reference calibration
- Dark calibration + reference calibration

Normally, it is sufficient to make a reference calibration of the GRX instrument prior to conducting measurements. However, it is recommended to do a dark calibration now and then.

A simple way to test if dark calibration is needed is to point the GRX, and measure in a direction with no retroreflective objects (i.e. shiny surfaces, windows, edges, and lamps etc.) within a distance of at least 10 meters / 33 feet in front of the RetroSign GRX. The result of this measurement should be zero, or at least no more than 1-3. If you get a higher value, there might be some contamination on the optical lens. In this case clean the optics and check again.

A dark calibration (followed by a reference calibration) is then recommended in order to perform correct measurements.

To calibrate the GRX instrument select  'Calibrate' from the main menu.

← Calibrate

Enter calibration reference values:

Last Calibration: Apr 13, 2016  
 Reference SN: 00002  
 Type: ASTM Calib  
 Reference Date: Mar 7, 16

0.2°	0.33°	0.5°
277	203	102
0.7°	1.0°	1.5°
36	19	13
	2.0°	
	6	

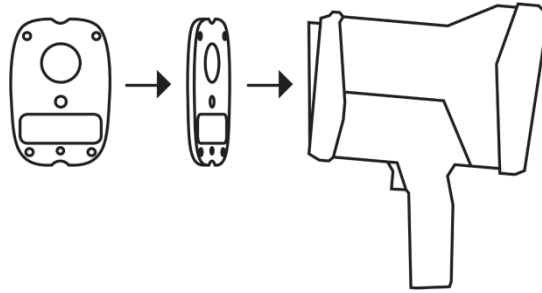
DARK CALIBRATION    SCAN BARCODE    NEXT

### How to perform a reference calibration

- **Fill out the fields:** type in the calibration values printed on the calibration target or scan them from the calibration target by selecting 'Scan barcode' and place the barcode in front of the reader:



- Once the values have been filled in for all the fields press 'Next'.
- **Now, calibrate the GRX:** Rotate the angle adapter so the calibration target is facing downwards and attach the calibration target to the GRX.



- Press the trigger (or press 'Calibrate') to calibrate the GRX.
- When the message 'Calibration completed' appears on the screen, press 'Done' to complete the calibration session. The instrument is now ready for measuring. If the calibration is successful the calibration values used is stored in GRX and will be the suggested values next time a calibration is initiated.

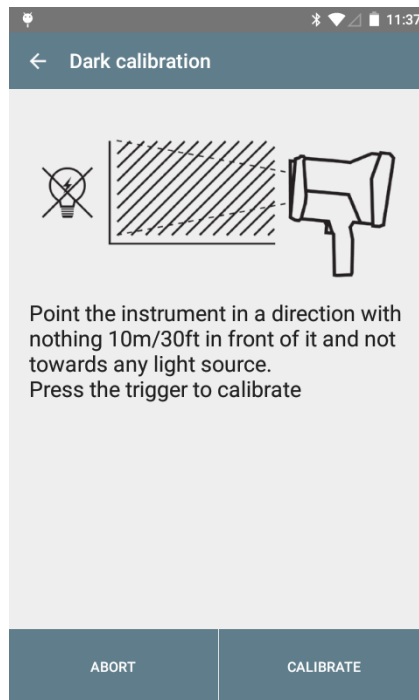
### How to perform a dark calibration

To do a dark calibration, open the calibration page and follow the below steps.

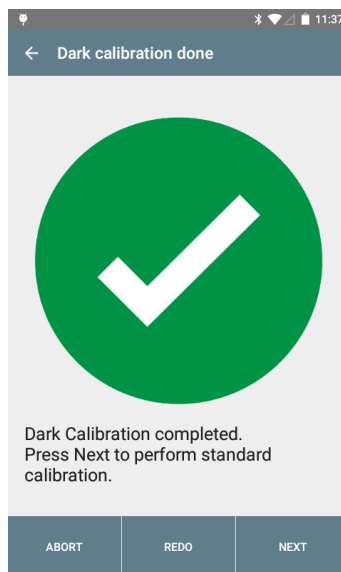
- **Fill out the fields:** type in the calibration reference values printed on the calibration target or scan them from the calibration target by selecting 'Scan barcode' and place the barcode in front of the reader:

0.2°	0.33°	0.5°
277	203	102
0.7°	1.0°	1.5°
36	19	13
2.0°		
6		

- **Calibrate the GRX:** Press 'Dark calibration' and follow the instruction on the screen (i.e. point the instrument in a direction with nothing 10 m/33 feet in front of it and away from any light source).



- Press the trigger (or press 'Calibrate') to calibrate.
- When the message 'Dark Calibration completed' appears on the screen, press 'Next' to complete the dark calibration session.



- Now, continue performing a reference calibration (see instructions above: '*How to perform a reference calibration*')
- Once the reference calibration also is completed the instrument is ready for measuring.

**Note:** If the measurement results still seem to be incorrect even after a dark calibration of the GRX, it is recommended to contact your appointed dealer or DELTA.