

PSDS-HSBK Quick Start Guide

mantracourt.com



PSDS-HSBK

Portable Sensor Display – Strain Bridge

| | |
|--|-----------|
| Introduction/overview | 2 |
| Getting started..... | 3 |
| Hardware overview..... | 3 |
| Front..... | 3 |
| Back..... | 4 |
| Top..... | 5 |
| Setting up without the Toolkit..... | 6 |
| Calibration | 6 |
| Change units..... | 8 |
| Change decimal places..... | 8 |
| Overload/underload alarm..... | 8 |
| Using TEDS | 10 |
| Toolkit | 12 |
| Toolkit overview | 12 |

Introduction/overview

The PSDS-HSBK allows simple display of strain bridge based measurements such as load cells and pressure gauges with sensitivity up to +/-480 mV/V.

Up to six **calibration ranges** are available allowing for different loading modes (tension and compression) or different sensors. Each calibration range will remember settings that contribute to the **user experience** such as selected units and tare values.

TEDS devices using templates 33, 40 and 41 can be connected and will update the viewed calibration. The last twenty TEDS devices connected will be remembered and recognized when connected again reverting to the last user experience settings for that device. TEDS can be disabled and the internal calibration ranges become available again.

There are also up to six **display modes** available. These determine what is visible on the LCD display and what actions are available from the set of three soft keys.

Full configuration is available with a free PC based toolkit. Some simple configuration such as two point calibration is available from within the handheld using the **menu system**.

Getting started

This document is designed to give a very quick overview of the PSDS-HSBK and its general, standard functionality. For more details, see the full manual.

Hardware overview

Front

Icons

Battery low and other warning icons

Primary display

Main values with description and units

Soft keys

Current soft key function

Soft keys

Perform the function shown on screen

Up/down

Function dependent on display state

1. Move through **calibration ranges** if available
2. Move selection up/down in **menu system**
3. Change values up/down of selected digit when setting limits etc

Left/right

- Function dependent on display state
1. Move through **display modes** if available
 2. Hold for 2 seconds to move **decimal place** left/right
 3. Change selected digit when setting limits etc

Info

Range name etc

Secondary display

Can be set to display other values such as max with description and units

Tertiary display

Can be set to display other values such as min with description and units

Power

Hold for 2 seconds to power up/down

OK

- Function dependent on display state
1. Open **menu system**, if available
 2. Select menu items
 3. Confirm changes
 4. Long press cancels changes

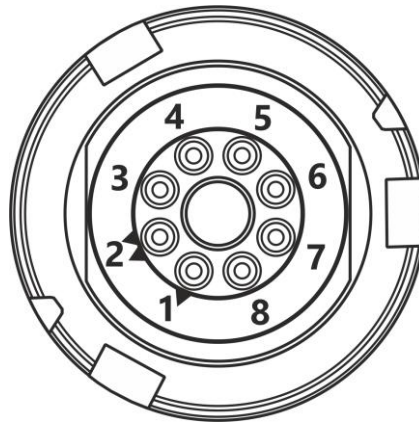


Back





The Load Cell connector fitted to PSD Standard Product is BINDER 770-8. The cable fitted mating connector is a BINDER 771 8-way male connector. There are three versions available with different field cable diameters.



View from solder connector side of the connector

| Cable pair | Suggested Colour | Connector Pin | Function |
|------------|------------------|---------------|--|
| 1 | White | 1 | Loadcell Reference +ve |
| | Black | 2 | Loadcell Reference -ve |
| 2 | Green | 3 | Loadcell Signal +ve |
| | Black | 4 | Loadcell Signal -ve |
| 3 | Red | 5 | Loadcell Excitation +ve |
| | Black | 6 | Loadcell Excitation -ve |
| 4 | Blue | 7 | TEDS |
| | Black | 8 | Ground |
| Screen | Grey | | Cable screen should <i>only</i> be connected to chassis of the sensor. If this cannot be achieved, then it should be connected to Excitation -ve. |

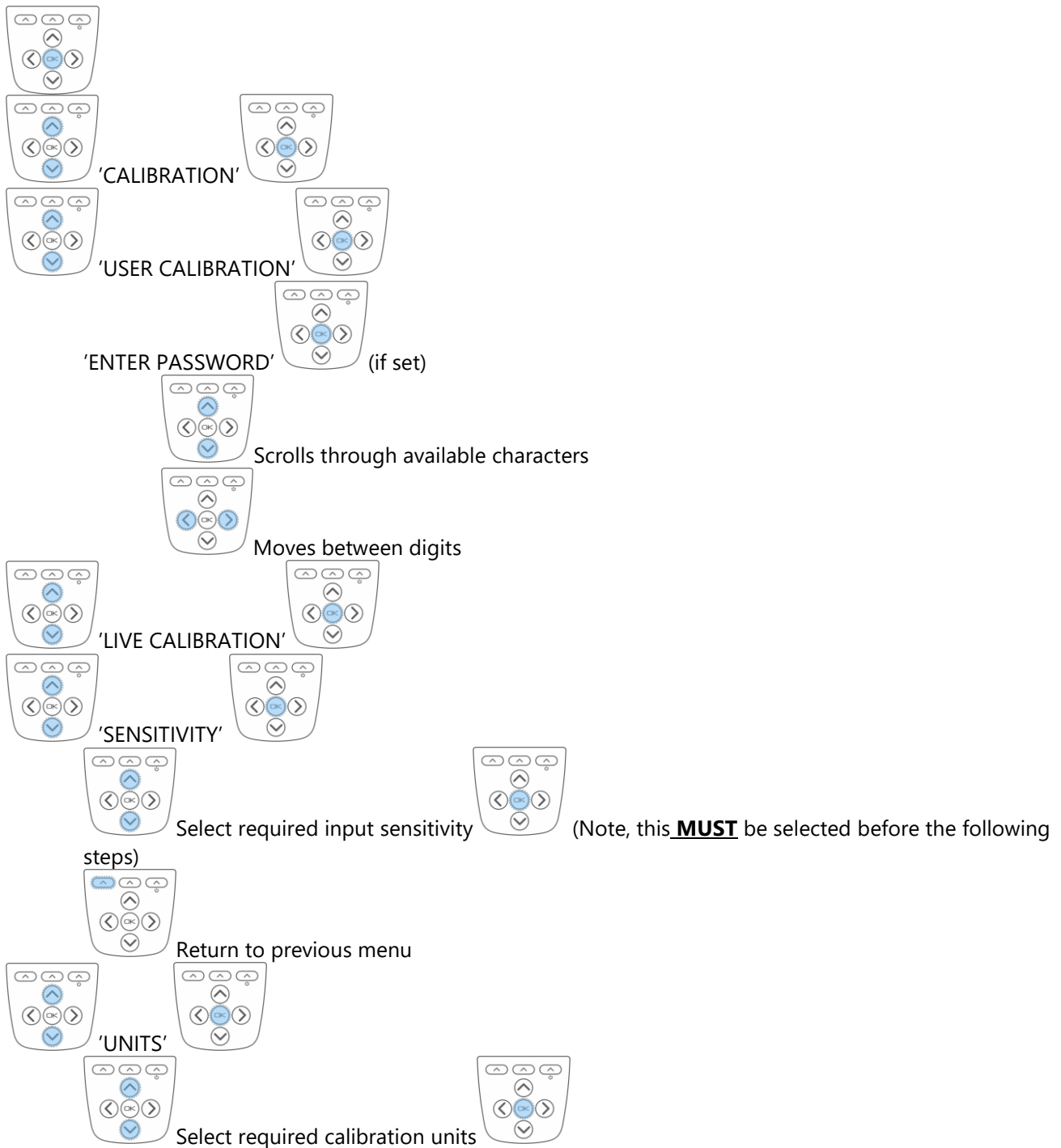
Setting up without the Toolkit

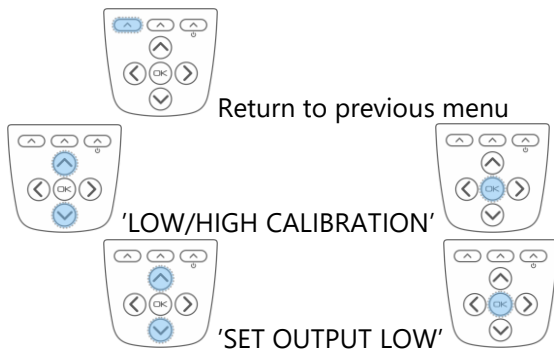
Quick, limited setup is possible using just the handheld and no toolkit. To access all the configuration features, you will need to use the toolkit.

Calibration

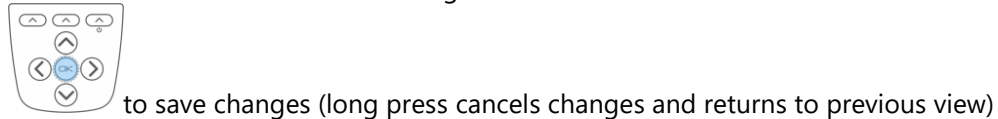
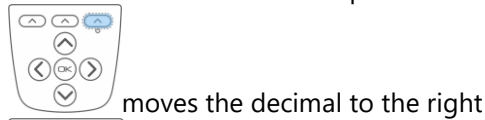
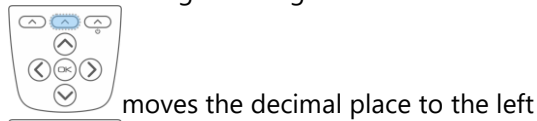
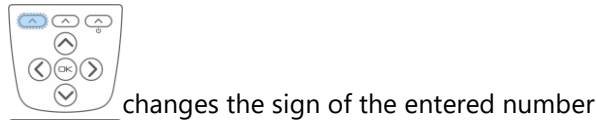


Please note that this must be done in the correct order for the calibration to work correctly. Changing the **Sensitivity** after inputting mV/V readings will cause the calibration to be void. Always make sure you finish with **Apply**

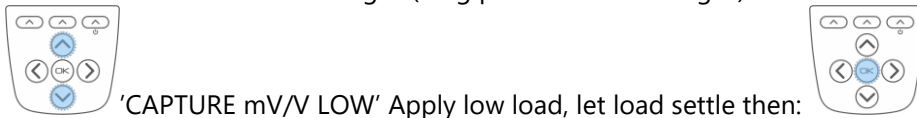
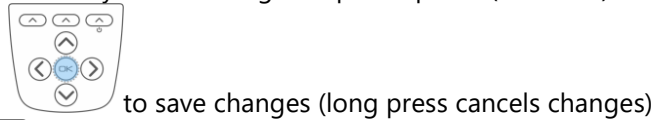




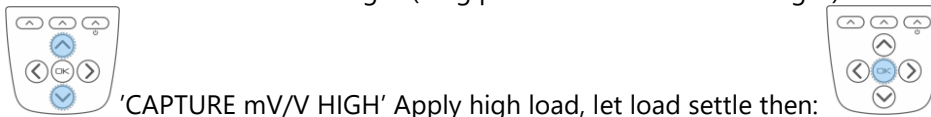
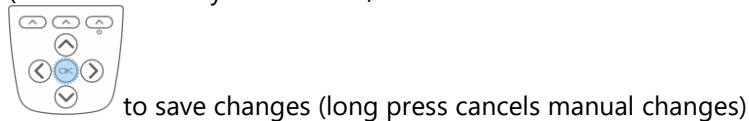
Manually enter the low output required using  to select digits and  to change the value



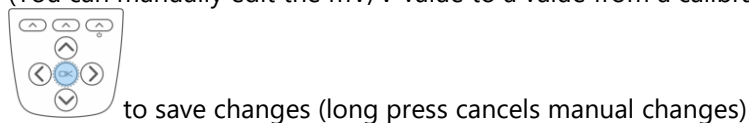
Manually enter the high output required (as above)



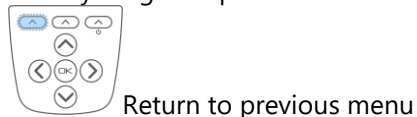
Confirm or edit low mV/V input
(You can manually edit the mV/V to a value from a calibration certificate here)

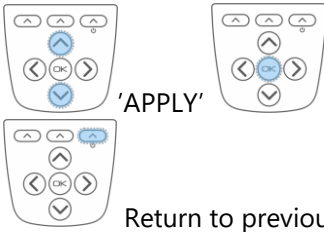


Confirm or edit high mV/V input
(You can manually edit the mV/V value to a value from a calibration certificate here)



If everything is as planned





'APPLY'

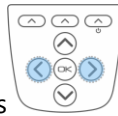
Return to previous selected display mode.

Change units



In all standard display modes, scrolls through the available units for the selected calibration.

Change decimal places

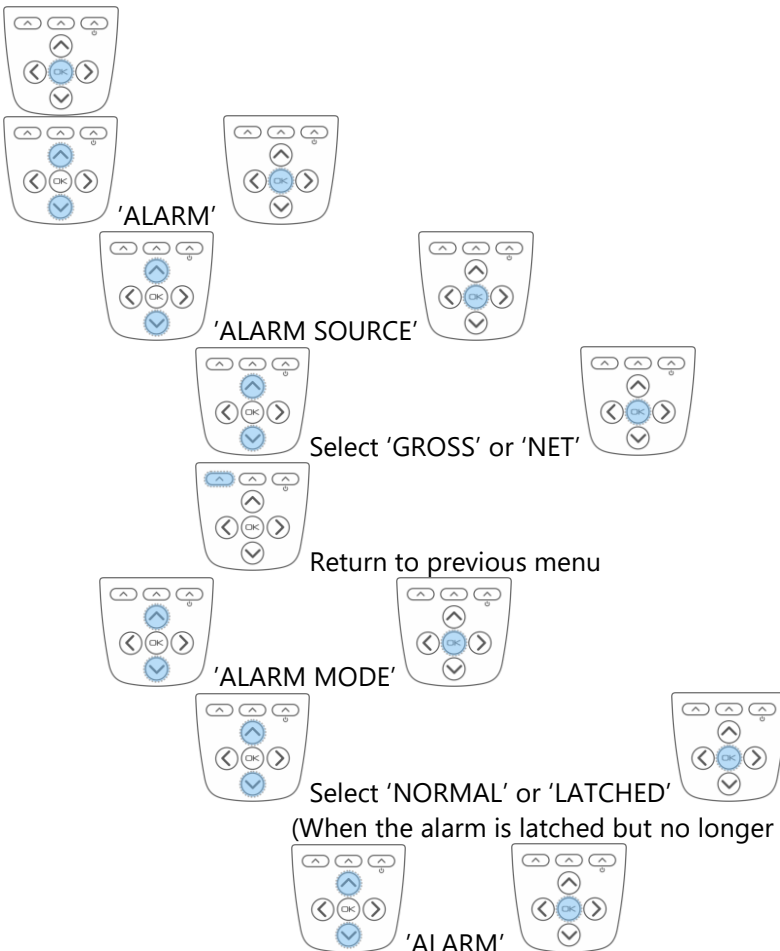


In all standard display modes, a 2 second press shifts the decimal place position for the selected units.

Overload/underload alarm



Please note, the values saved for the thresholds are applied in the calibrated units of the currently selected range. This means that different ranges will trigger at different loads if the calibrated unit is different.



'ALARM'

'ALARM SOURCE'

Select 'GROSS' or 'NET'

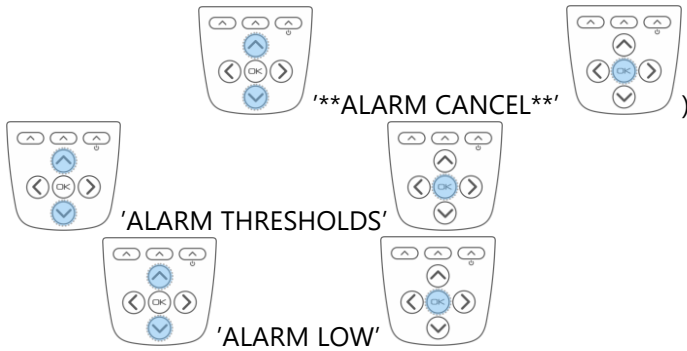
Return to previous menu


'ALARM MODE'

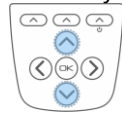
Select 'NORMAL' or 'LATCHED'

(When the alarm is latched but no longer being triggered, cancel the alarm by:

'ALARM'



Manually enter the low threshold required using  to select digits and



to change the value



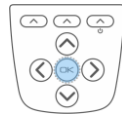
changes the sign of the entered number



moves the decimal place to the left



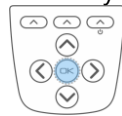
moves the decimal to the right



to save changes (long press cancels changes and returns to display mode)



Manually enter the high threshold required as above.



to save changes (long press cancels changes and returns to display mode)

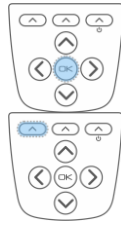


Return to previous menu



Select from:

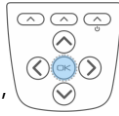
- Disabled
- Outside limits (<low, >high)
- Inside limits (>low, <high)
- Above high (>high)
- Below high (<high)
- Above low (>low)
- Below low (<low)



Return to previous menu



'ALARM ACTION'



Select 'NONE', 'BEEP', 'FLASH' or 'BOTH'



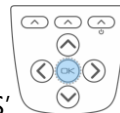
Return to previous menu



Return to previous selected display mode.

Using TEDS

Plug in a TEDS enabled load cell.



Message: 'NEW TEDS DEVICE USE SESSION DEFAULTS'

TEDS table(s) will be automatically loaded.



Change selected TEDS calibration

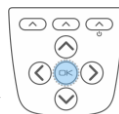


Change displayed units

To disable TEDS and use the PSD-HSBK's internal calibration:



'CALIBRATION'



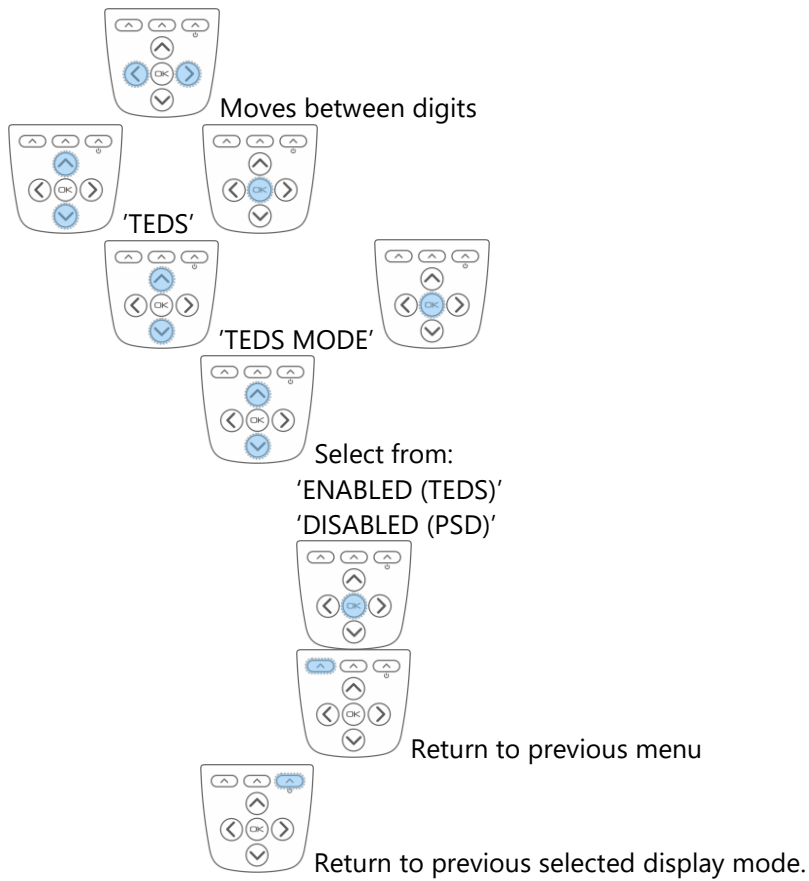
'USER CALIBRATION'



'ENTER PASSWORD' (if set)




Scrolls through available characters



The next time that you connect that TEDS device you will get the message:

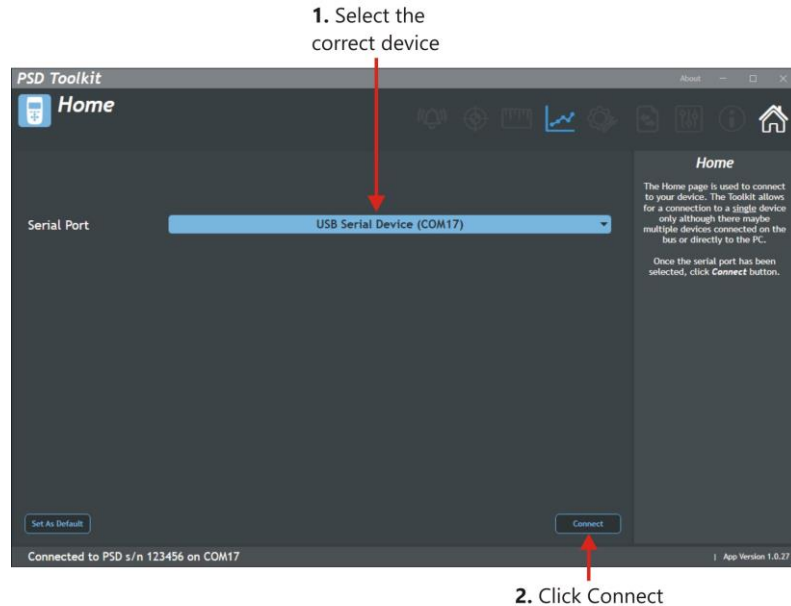
'KNOWN TEDS DEVICE SESSION RESTORED'



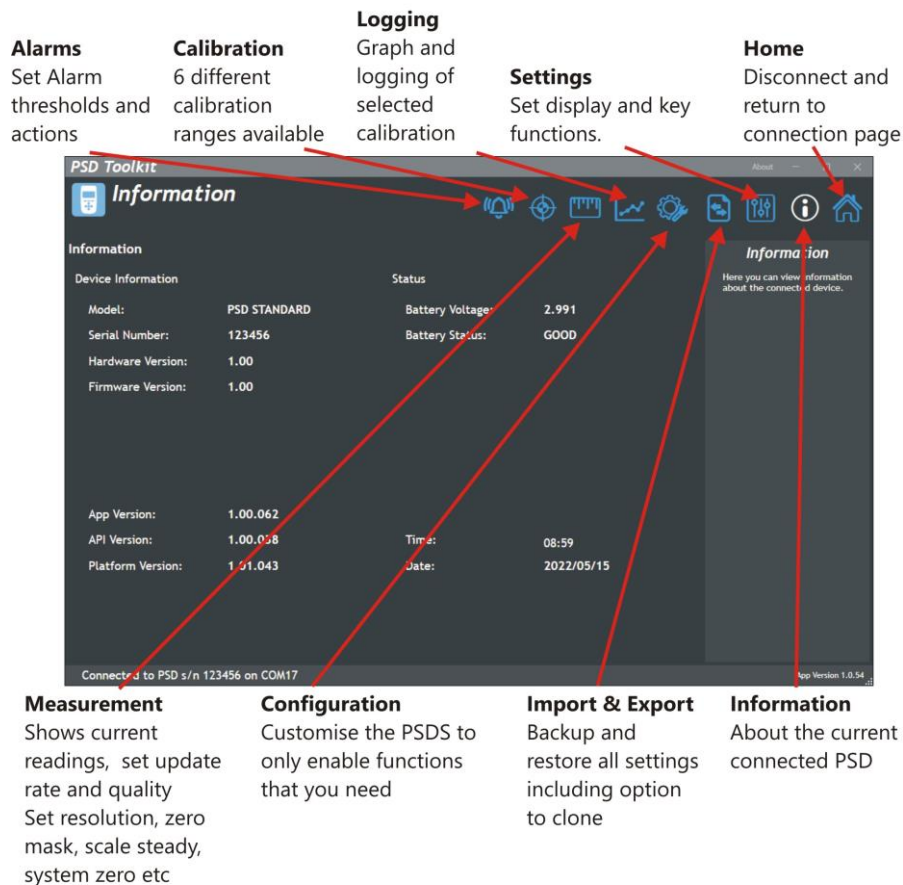
Toolkit

Toolkit overview

More complex setup is possible using the supplied toolkit software.
Install the toolkit onto your windows PC and connect the USB to the PSDS-HSBK.
Then open the toolkit:



Navigation is achieved using the icons along the top of the toolkit.



For further information, please see the PSDS-HSBK User Manual.

Document Title: **PSDS-HSBK Quick Start**
Applies To: **PSD (Portable Sensor Display)**
Part Number: **517-952**
Issue Number: **01.00**
Dated: **23rd May 2022**

In the interests of continued product development, Mantracourt Electronics Limited reserves the right to alter product specifications without prior notice.



www.mantracourt.com