

# Interface

FORCE MEASUREMENT SOLUTIONS.

## Quick Start Guide 9325



## 9325 Quick Start Guide

**Interface**  
FORCE MEASUREMENT SOLUTIONS

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# Introduction / Overview

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The 9325 allows for 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 9325 and its general, standard functionality. For more details, see the full manual.

## Hardware Overview



# Back

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# Top

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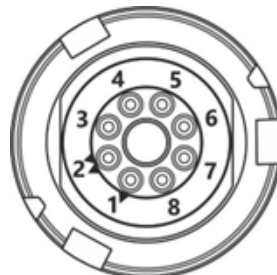


The Load Cell connector fitted to the 9325 Standard Product is BINDER 770-8. The cable fitted mating connector is a BINDER 771 8-way male connector. There are three versions available with different field cable diameters.

Field Cable Diameter (mm)	Binder Order Code	MEL Stock Code
2.5 to 4.0	99 0771 000 08	Not Stocked
4.0 to 6.0	99 0771 001 08	427-739
6.0 to 8.0	99 0771 002 08	427-741

Recommended cable BELDEN 9504 4-pair cable. Max cable size 0.25 mm<sup>2</sup> , AWG 24. List of conductor identification and functions

Cable Pair	Suggested Color	Connector Pin	Function
1	White	1	Bridge Sensor Reference +SEN
	Black	2	Bridge Sensor Reference -SEN
2	Green	3	Bridge Sensor Signal +SIG
	Black	4	Bridge Sensor Signal -SIG
3	Red	5	Bridge Sensor Excitation +EXC
	Black	6	Bridge Sensor Excitation -EXC
4	Blue	7	TEDS
	Black	8	Ground
Shield/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 -




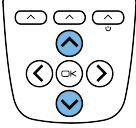


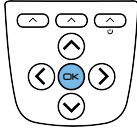
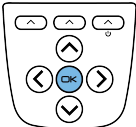


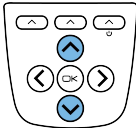
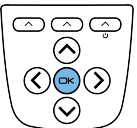
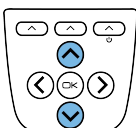
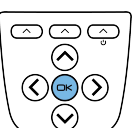
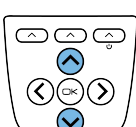
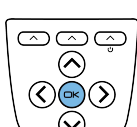
View from solder side of the connector.

# 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.

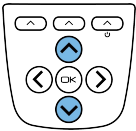
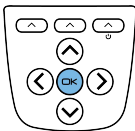
## Calibration

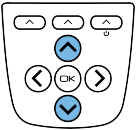
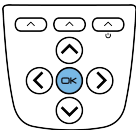
**Please note**, that this must be done in the correct order for the calibration to work correctly. Changing the Sensitivity after inputting mV/V readings will cause the calibration to be void. Always make sure you finish with **Apply**.

-  Press **OK** to enter the Menu
-  Use the **Up/Down Arrow** to navigate to "**Calibration**".  Press **OK** to confirm.
-  Use the **Up/Down Arrow** to navigate to "**User Calibration**".  Press **OK** to confirm.
-  Press **OK** to "**Enter Password**", if a password is set (**Otherwise skip to the next step**).
-  Use the **Up/Down Arrow** to scroll through available characters.
-  Use the **Left/Right Arrow** to move between digits.
-  Use the **Up/Down Arrow** to navigate to "**Live Calibration**".  Press **OK** to confirm.
-  Use the **Up/Down Arrow** to navigate to "**Sensitivity**".  Press **OK** to confirm.
-  Use the **Up/Down Arrow** to select the input sensitivity range.  Press **OK** to confirm.

**Note:** Input sensitivity MUST be selected before proceeding to the next step..

8.  Press the **Left Soft Key** to return to the previous menu.

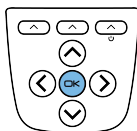
9.  Use the **Up/Down Arrow** to navigate to "Units".  Press **OK** to confirm.

10.  Use the **Up/Down Arrow** to select calibration Units.  Press **OK** to confirm.

11.  Press the **Left Soft Key** to return to the previous menu.

12.  Use the **Up/Down Arrow** to navigate to "Low/High Calibration".


 Press **OK** to confirm.

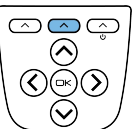
13.  Use the **Up/Down Arrow** to navigate to "Set Output Low".  Press **OK** to confirm.

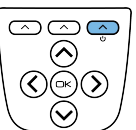
Manually enter the **Low output** required:

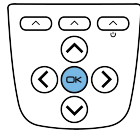
 Use the **Up/Down Arrow** to scroll through available characters.

 Use the **Left/Right Arrow** to move between digits.

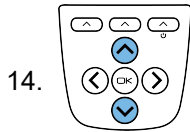
 Use the **Left Soft Key** to change the sign of the entered number.

 Use the **Center Soft Key** to move the decimal place to the Left.

 Use the **Right Soft Key** to move the decimal place to the Right.

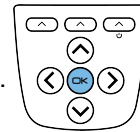


Press **OK** to save the changes once the **Low output** has been entered. (A long press will cancel the changes and returns to previous view).



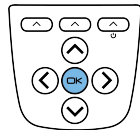
14.

Use the **Up/Down Arrow** to navigate to "**Set Output High**".

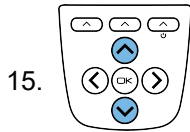


Press **OK** to confirm.

Manually enter the **High output** required (Using the keys as in the previous step):

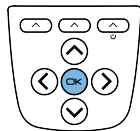


Press **OK** to save the changes once the **High output** has been entered. (A long press will cancel the changes and return to previous view).



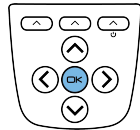
15.

Use the **Up/Down Arrow** to navigate to "**Capture mV/V Low**". Apply the **Low Load** and let the load settle.

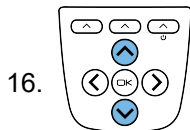


Once the load has settled press **OK** to capture **mV/V Low**.

**Note:** You can manually edit the mV/V to a value from a calibration certificate here.

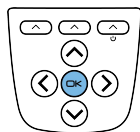


Press **OK** to save the changes. (A long press will cancel the changes and return to previous view).



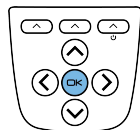
16.

Use the **Up/Down Arrow** to navigate to "**Capture mV/V High**". Apply the **High Load** and let the load settle.

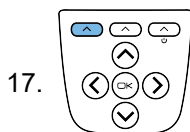


Once the load has settled press **OK** to capture **mV/V High**.

**Note:** You can manually edit the mV/V to a value from a calibration certificate here.

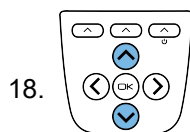


Press **OK** to save the changes. (A long press will cancel the changes and return to previous view).



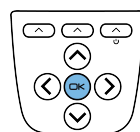
17.

Press the **Left Soft Key** to return to the previous menu.



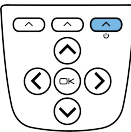
18.

Use the **Up/Down Arrow** to navigate to "**Apply**".



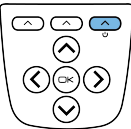
Press **OK** to confirm.



19.  Return to previous selected display mode.

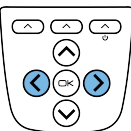
## Change Units

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-  The **Right Soft Key** scrolls through the available units for the selected calibration in all standard display modes.

## Change Decimal Places

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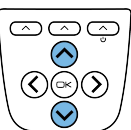
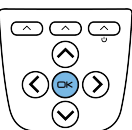
-  A long press of the **Left/Right** Keys will shift the decimal place position for the selected units in all standard display modes.

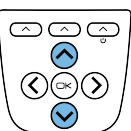
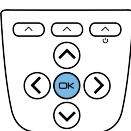
## Overload / Underload Alarm Settings

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**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.

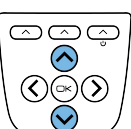
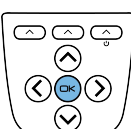
1.  Press **OK** to enter the Menu

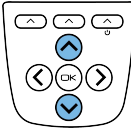
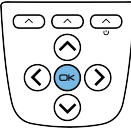
2.  Use the **Up/Down Arrow** to navigate to "Alarm".  Press **OK** to confirm.

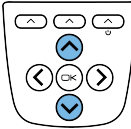
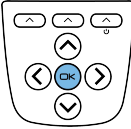
3.  Use the **Up/Down Arrow** to navigate to "Alarm Source".  Press **OK** to confirm.

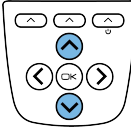
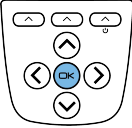
4.  Use the **Up/Down Arrow** to navigate to "Gross" or "Net".  Press **OK** to confirm.

5.  Press the **Left Soft Key** to return to the previous menu.

6.  Use the **Up/Down Arrow** to navigate to "Alarm Mode".  Press **OK** to confirm.

7.  Use the **Up/Down Arrow** to navigate to "**Normal**" or "**Latched**".  Press **OK** to confirm.


8.  Use the **Up/Down Arrow** to navigate to "**Alarm Thresholds**".  Press **OK** to confirm.

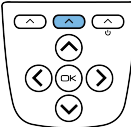
9.  Use the **Up/Down Arrow** to navigate to "**Alarm Low**".  Press **OK** to confirm.

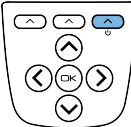
Manually enter the **Low Threshold** required:

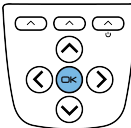
-  Use the **Up/Down Arrow** to scroll through available characters.

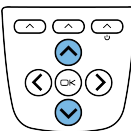
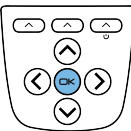
-  Use the **Left/Right Arrow** to move between digits.

-  Use the **Left Soft Key** to change the sign of the entered number.

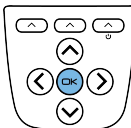
-  Use the **Center Soft Key** to move the decimal place to the Left.

-  Use the **Right Soft Key** to move the decimal place to the Right.

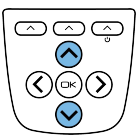
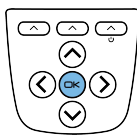
-  Press **OK** to save the changes once the **Low Threshold** has been entered. (A long press will cancel the changes and returns to previous view).

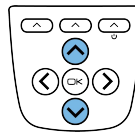
10.  Use the **Up/Down Arrow** to navigate to "**Alarm High**".  Press **OK** to confirm.

Manually enter the **High Threshold** required (Using the keys as in the previous step):

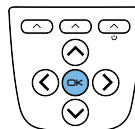
-  Press **OK** to save the changes once the **High Threshold** has been entered. (A long press will cancel the changes and return to previous view).

11.  Press the **Left Soft Key** to return to the previous menu.

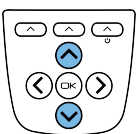
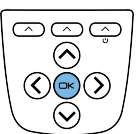
12.  Use the **Up/Down Arrow** to navigate to "Alarm Trigger".  Press **OK** to confirm.

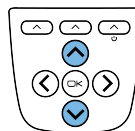
 Use the **Up/Down Arrow** to select from the following trigger options:

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

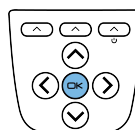
 Press **OK** to confirm once a trigger option has been selected.

13.  Press the **Left Soft Key** to return to the previous menu.

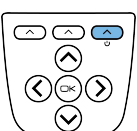
14.  Use the **Up/Down Arrow** to navigate to "Alarm Action".  Press **OK** to confirm.

 Use the **Up/Down Arrow** to select from the following action options:

- None
- Beep
- Flash
- Both

 Press **OK** to confirm once a trigger option has been selected.

15.  Press the **Left Soft Key** to return to the previous menu.

19.  Return to previous selected display mode.

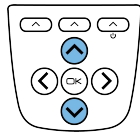
# Using TEDS

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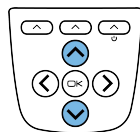
Plug in a TEDS enabled load cell:

1. The Message "New TEDS Device Use Session Defaults" will be displayed.  Press **OK** to confirm.

**Note:** TEDS tables will automatically be loaded.



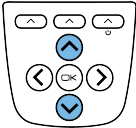
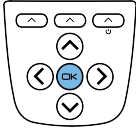
Use the **Up/Down Arrow** to change selected TEDS calibration.

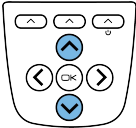
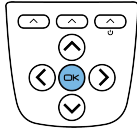


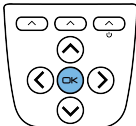
Use the **Up/Down Arrow** to change displayed units.

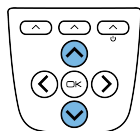
To disable TEDS and use the 9325's internal calibration use the following steps:

1.  Press **OK** to enter the Menu

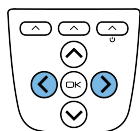
2.  Use the **Up/Down Arrow** to navigate to "Calibration".  Press **OK** to confirm.

3.  Use the **Up/Down Arrow** to navigate to "User Calibration".  Press **OK** to confirm.

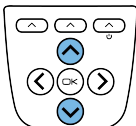
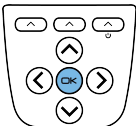
4.  Press **OK** to "Enter Password", if a password is set (**Otherwise skip to the next step**).

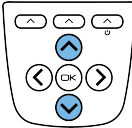
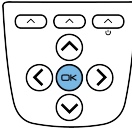


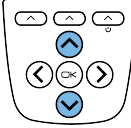
Use the **Up/Down Arrow** to scroll through available characters.

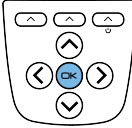


Use the **Left/Right Arrow** to move between digits.

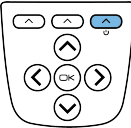
5.  Use the **Up/Down Arrow** to navigate to "TEDS".  Press **OK** to confirm.

6.  Use the **Up/Down Arrow** to navigate to "TEDS Mode".  Press **OK** to confirm.

-  Use the **Up/Down Arrow** to select from the following TEDS mode options:  
Enabled  
Disabled

-  Press **OK** to confirm once a TEDS mode option has been selected.

7.  Press the **Left Soft Key** to return to the previous menu.

8.  Press the **Right Soft Key** to return to the previous selected display mode.

**Note:** The next time that you connect that TEDS device, following message will be displayed:

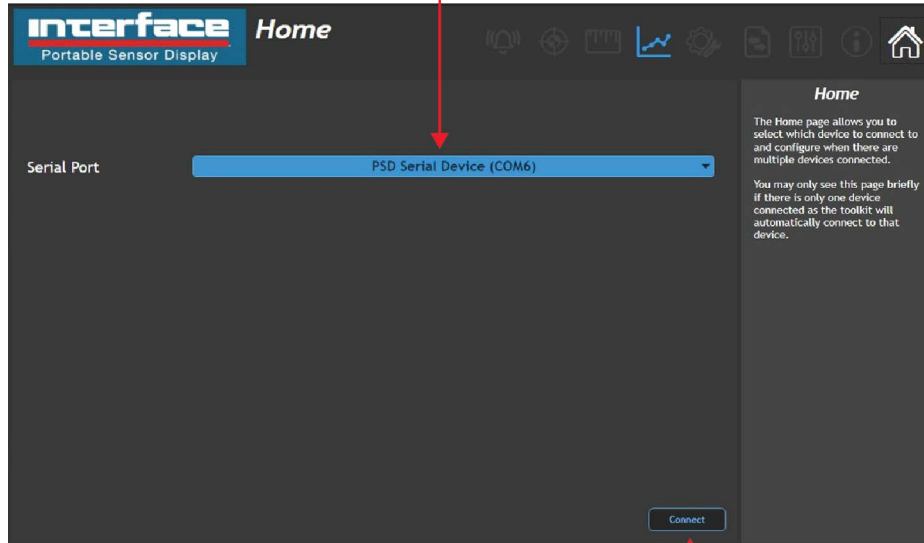
"Known TEDS Device Session Restored"

-  Press **OK** to confirm.

# 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 9325, then open the toolkit:

1. Select the correct device



2. Click Connect

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

The screenshot shows the 'Interface Information' page. At the top, there is a navigation bar with several icons. Red arrows point from descriptive text blocks to these icons. The main content area shows device information and status.

Alarms	Calibration	Logging	Settings	Home
Set Alarm Thresholds and actions	6 different calibration ranges available	Graph and logging of selected calibration	Set display and key functions	Disconnect and return to connection page

Measurement	Configuration	Import & Export	Information
Shows current readings, set update rate and quality, set resolution, zero mask, scale steady, system zero etc.	Customize the 9325 to only enable needed functions.	Backup and restore all settings including option to clone.	Backup About the current connected 9325

**Information**  
 Device Information: Model: PSD STANDARD, Serial Number: 123456, Hardware Version: 1.00, Firmware Version: 1.00  
 Status: Battery Voltage: 3.354, Battery Status: GOOD  
 App Version: 1.00.060, API Version: 1.00.038, Platform Version: 1.01.042  
 Time: 19:35, Date: 2022/04/07

For further information, please see the 9325 User Manual.