

DTS/ CTS - CALIBRATION MANUAL

INTRODUCTION

This manual describes the torque calibration procedure where calibration password will need to be pressed to enter certain modes of the software. All calibration adjustment is done by software. There is no need to open the back cover or adjust any electronic component.

Note: Throughout this procedure, all masses used to apply a load to the loadcell should be calibrated and certified.

TEMPERATURE ACCLIMATISATION

Inspect the instrument for damage and check order requirements before placing it in the calibration laboratory. Before any calibration can commence, the tester must acclimatize to the operating temperature of the calibration laboratory for at least two hours.

PREPARATION

The tester should have the battery fully charged. It is recommended that the tester uses power from an internal rechargeable battery while calibration is being performed.

CALIBRATION

1. Turn the tester on
2. Go to the main menu by pressing MENU key and press UP and DOWN key to move the cursor to point to CALIBRATION and press ENTER key, the display will show ENTER PASSWORD page.



Figure 1 Enter Password Page

*** Permanent password = 7780**
**** Default factory set password = 9090**

Press UP and DOWN to change the numerical, press and hold to scroll change. Press LEFT and RIGHT to change the digit, press and hold to scroll change digit.

Press ENTER key to accept the password. If your password is correct, the display will show the Calibration menu page.

If not, the display will return to the main menu page.

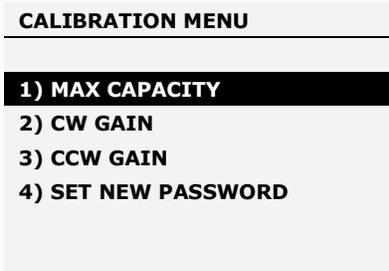


Figure 2 Calibration Menu Page

3. Select the correct capacity for the tester. To set load capacity, press UP and DOWN key to move the cursor to point to MAX CAPACITY and press ENTER key, the display will show set max capacity menu page.

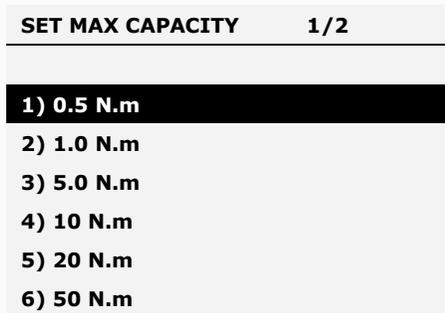


Figure 3 Max Capacity Menu Page 1

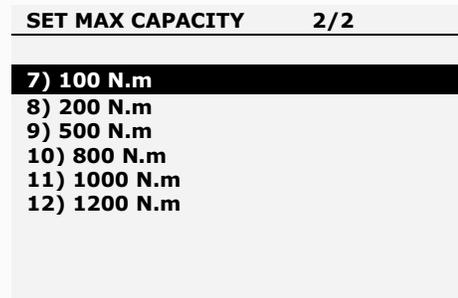


Figure 4 Max Capacity Menu Page 2

Press UP and DOWN to change max capacity, press and hold to scroll change. Press ENTER key to save selected and return to Calibration Menu page.

4. CW Calibration

At the Calibration menu page, press UP and DOWN key to move the cursor point to CW GAIN and press ENTER key, the display will show CW (clockwise Torque) gain menu page.



Figure 5 CW Gain Menu Page

4.1 CW Zero

- Set the tester up with the necessary fixtures to carry out CW calibration
- Pre-stress the loadcell to 100% of tester capacity
- Remove the masses but retain the fixtures
- When the counts have settled, press ZERO key to store the zero counts

4.2 CW Maximum

- Apply 100% tester capacity load onto the fixture(s) for CW
- Press UP, DOWN, RIGHT ARROW, LEFT ARROW keys to adjust CW gain until the tester displays max capacity count.
- Press ENTER key to store the counts for full-scale CW.

5. CCW Calibration

At the Calibration menu page, Press UP and DOWN key to move the cursor point to CCW GAIN and press ENTER key, the display will show CCW (counter clockwise torque) gain menu page.

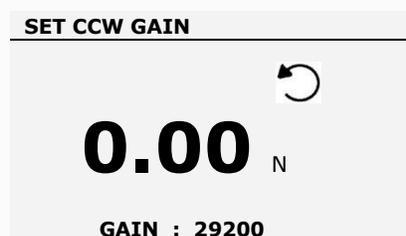


Figure 6 CCW Gain Menu Page

5.1 CCW Zero

- Set the tester up with the necessary fixtures to carry out CCW calibration.
- Pre-stress the loadcell to 100% of tester capacity.
- Remove the masses but retain the fixtures
- When the counts have settled, press ZERO key to store the zero counts

5.2 CCW Maximum

- Apply 100% tester capacity load onto the fixture(s) for CCW.
- Press UP, DOWN, RIGHT ARROW or LEFT ARROW keys to adjust CCW gain until the tester displayed max capacity count.
- Press the ENTER key to store the counts for full-scale CCW.

6. Continue to perform the calibration at weight 80%, 60%, 50%....etc. according to your calibration procedure or plan. If any gain value needs to be adjusted when calibrating at any point that is less 100%, then the calibration at all capacity calibration point should be re-check if it is within the accuracy specification of each transducer.

7. After successful calibration of CW or/and CCW, make sure to save the gain value in the "save before exit" page by moving cursor bar selecting "Yes" line. Press ENTER button before pressing the EXIT button to exit.



Figure 7 Save before exit page

8. If needed, the tester can now be used to check for linearity, repeatability, or creep after calibration completed.

END

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