

DTT CALIBRATION MANUAL

INTRODUCTION

This instruction describes the torque calibration procedure, where calibration password will need to be pressed to enter certain modes of the software. All calibration adjustment are 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 in the calibration laboratory. Before any calibration can commence, the tester must acclimatise to the operating temperature of the calibration laboratory for at least two hours.

PREPARATION

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

CALIBRATION

- 1) Turn the tester on.
- 2) Go to main menu by press and hold to MENU (RESET) key and press UP (UNIT) and DOWN (ZERO) key to move the cursor to point to *CALIBRATION* and press ENTER (MEM) key the display will show *ENTER PASSWORD* page.



Figure 1 Enter Password Page

**Permanent password = 7780*

*** Default factory set password = 9991*

Press UP (UNIT) and DOWN (ZERO) key to change the numerical, Press and hold PREV (ZERO) or NEXT (UNIT) key to change the digit.

Press ENTER (MEM) key to accept your password. If your password are correct the display will show the Calibration menu page, if not the display will return to main menu page.



Figure 2 Calibration Menu Page

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

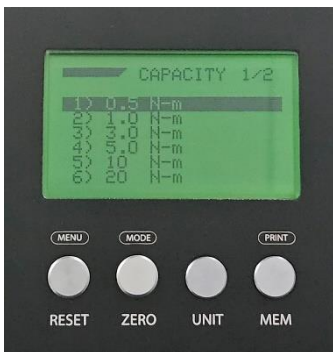


Figure 3 Max Capacity Menu Page 1



Figure 4 Max Capacity Menu Page 2

Press UP (UNIT) and DOWN (ZERO) to change max capacity, Press ENTER (MEM) key to save selected, and return to Calibration Menu page.

4) CW Calibration, At the Calibration menu page, UP (UNIT) and DOWN (ZERO) key to move the cursor point to CW GAIN and press ENTER (MEM) key the display will show CW (Clock Wise 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 (MEM) key to store the zero counts

4.2) CW Maximum

- Apply 100% tester capacity load onto the fixture(s) for CW.
- Press DEC- (ZERO) or INC+ (UNIT) key to adjust CW gain until the tester displayed max capacity count.
- Continue to perform the calibration at weight 80%, 60%, 50%... etc. according to your calibration procedure or plan. If any gain value need 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.
- After calibration done press ESC (RESET) key and select YES and press ENTER (MEM) key to save calibration



Figure 6 Save before exit page

5) CCW Calibration, At the Calibration menu page, Press UP (UNIT) and DOWN (ZERO) key to move the cursor point to *CCW GAIN* and press ENTER (MEM) key the display will show CCW (counter clock wise torque) gain menu page.



Figure 7 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 (MEM) key to store the zero counts

5.2) CCW Maximum

- Apply 100% tester capacity load onto the fixture(s) for CCW.
- Press DEC- (ZERO) or INC+ (UNIT) key to adjust CCW gain until the tester displayed max capacity count.
- Continue to perform the calibration at weight 80%, 60%, 50%... etc. according to your calibration procedure or plan. If any gain value need 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.
- After calibration done press ESC (RESET) key and select YES and press ENTER (MEM) key to save calibration



Figure 8 Save before exit page

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

-----End-----