

Beta

599CD/A



I ISTRUZIONI PER L'USO

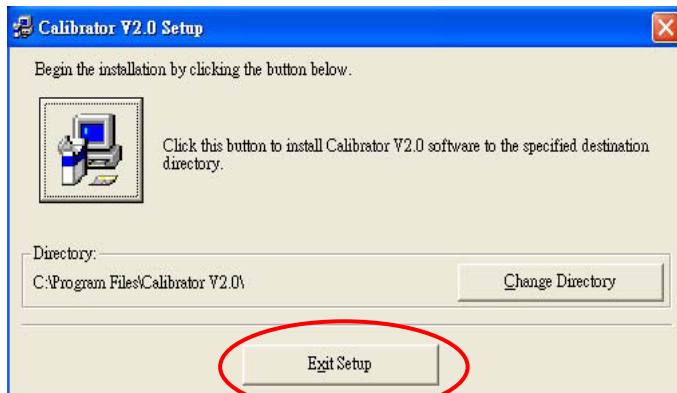
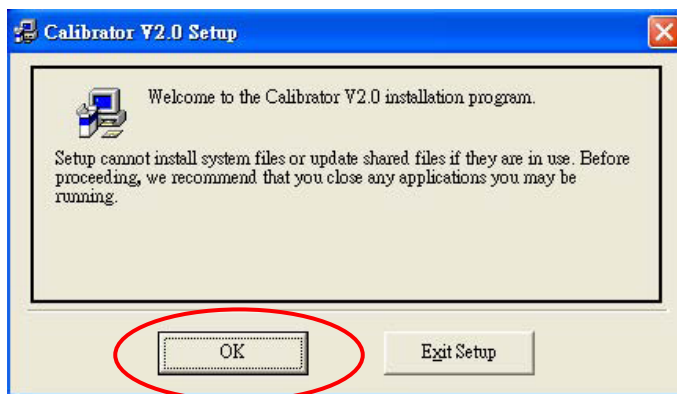
EN INSTRUCTIONS FOR USE

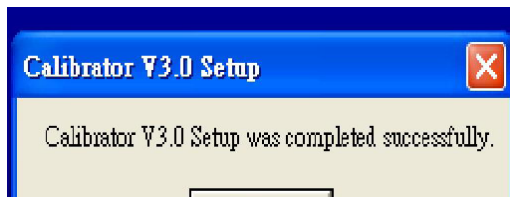
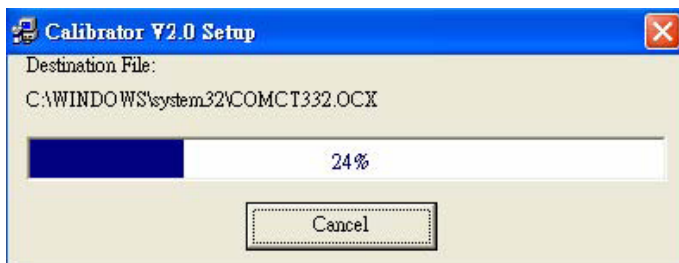
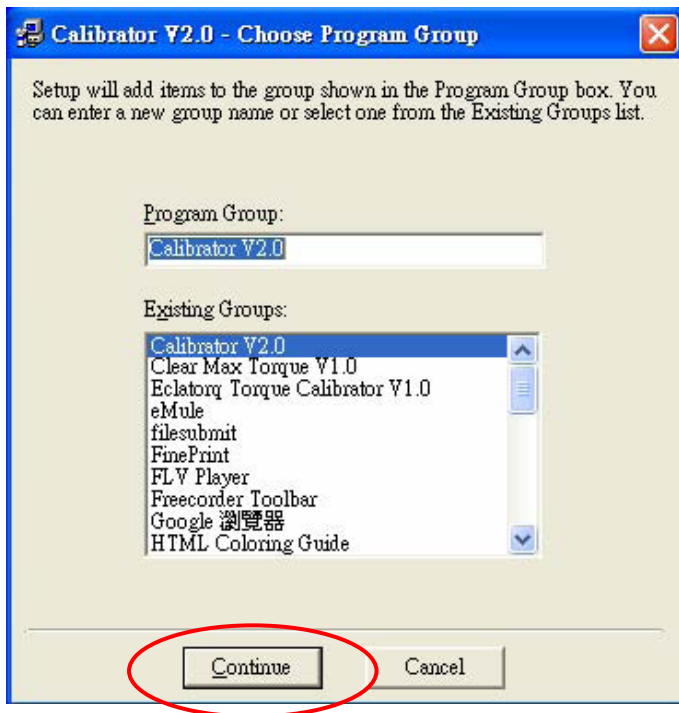
Installazione del software

- Inserire il CD di installazione nel CD-ROM.
- Nella directory principale del CD cliccare **setup.exe** per installare **Calibrator V3.0**.



- Seguire le istruzioni durante l'installazione.





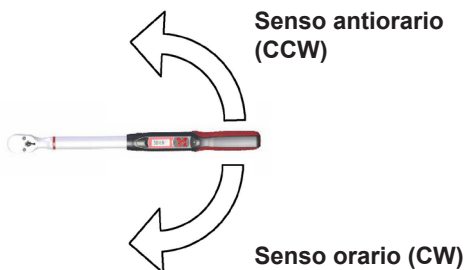
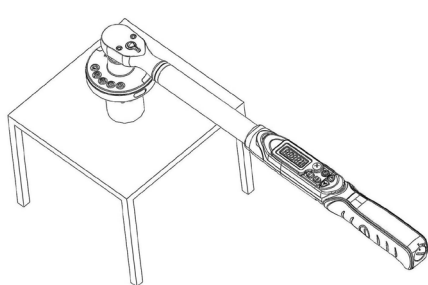
Procedure di calibrazione della chiave ad angolo

Step A Calibrazione della coppia

Avviso: La precisione della coppia deve essere garantita prima della calibrazione dell'angolo.

Step A-1 Preparare i dati di calibrazione della Coppia

A-1-1. La calibrazione della Coppia deve essere fatta **in senso orario (CW)** o **antiorario (CCW)**. Le istruzioni riportate di seguito si riferiscono al senso orario.



A-1-2. Prendere un sensore di coppia standard e caricare il peso su tre punti pari al 20%, 60% e 100% della coppia, quindi annotare i valori di ciascuna coppia standard e coppia registrata.

- Mantenere le cifre dopo la virgola decimale in base alle coppie registrate nell'unità di misura N*m.

Esempio:

Direzione: Senso orario	Coppie standard	Coppie registrate	Direzione: Senso orario	Coppie standard	Coppie registrate
Test1 (20%)	40.0	38.1	Test1 (20%)	6.00	5.81
Test2 (60%)	120.0	114.3	Test2 (60%)	18.00	16.90
Test3 (100%)	200.0	190.5	Test3 (100%)	30.00	28.88

Step A-2 Collegare il cavo/chiavetta USB

Collegare il cavo/chiavetta USB in qualsiasi porta USB del tuo PC.



Step A-3 Scaricare i nuovi parametri

A-3-1. Impostare il dispositivo in modalità “send”. Il display mostra “send”.



A-3-2. Collegare il dispositivo al PC (tramite cavo di comunicazione).



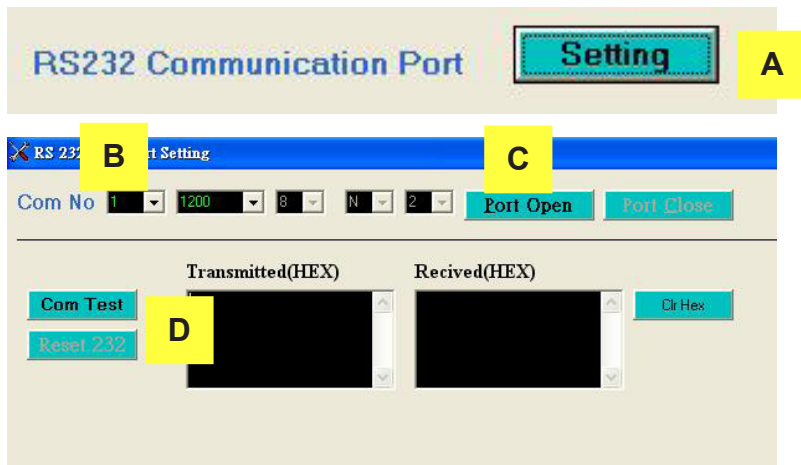
A-3-3. Far partire il software di calibrazione.

Impostare “**Start>Programs> Calibrator V3.0> Calibrator V3.0**” per far partire il software di calibrazione

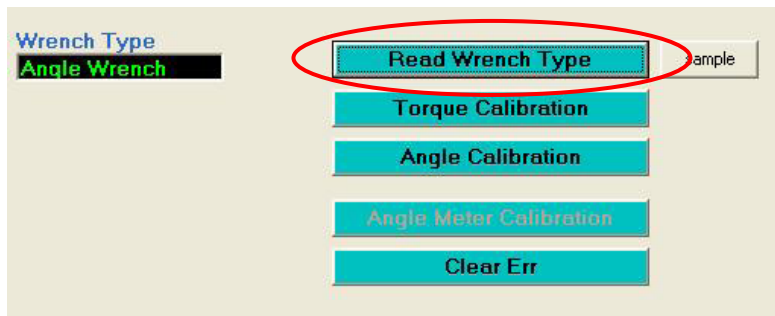


A-3-4. Impostare la porta di comunicazione Rs232.

- A. Cliccare "Setting"
- B. Impostare come disponibile la porta Com No..
- C. Cliccare "Port Open"
- D. Cliccare "Com Test" per testare la comunicazione.



A-3-5. Cliccare "Read Wrench type".



A-3-6. Cliccare “Torque Calibration” per calibrare la coppia.

The screenshot shows a calibration interface with the following elements:

- Calibration Direction:** A dropdown menu set to "CW Dir."
- No. of Test:** A dropdown menu set to "3"
- Wrench Parameters:** A row of six black rectangular boxes.
- Standard Torque:** A column of three black rectangular boxes, labeled "Test 1", "Test 2", and "Test 3" to its left.
- Device Torque (Nm):** A column of three black rectangular boxes, labeled "Test 1", "Test 2", and "Test 3" to its left.
- Buttons:** A blue "Read Parameters" button, a white "sample" button, a blue "Generate Parameters" button, and a red "Download Parameters" button.
- New Parameters:** A row of six black rectangular boxes.

A-3-7. Selezionare la direzione di calibrazione senso orario (CW) o antiorario (CCW).

The image shows a close-up of the "Calibration Direction" label and a dropdown menu currently displaying "CW Dir."

A-3-8. Selezionare il numero del test di calibrazione.

The image shows a close-up of the "No. of Test" label and a dropdown menu currently displaying "3".

Calibrate 3 points

A-3-9. Leggere i parametri del dispositivo.

The image shows a close-up of the "Wrench Parameters" label and a display showing the values "45 CC08 91 3A". To the right is a blue "Read Parameters" button.

A-3-10. Compilare i dati di calibrazione della coppia.

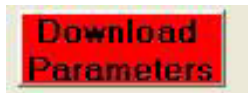
	Standard Torque	Device Torque (Nm)	Direzione: CW (senso orario)	Coppie standard	Coppie registrate
Test 1	40.0	38.1	Test1 (20%)	40.0	38.1
Test 2	120.0	114.3	Test2 (60%)	120.0	114.3
Test 3	200.0	190.5	Test3 (100%)	200.0	190.5

A-3-11. Generare nuovi parametri e visualizzare l'errore previsto.



Err Avg.(%) : 3.4779691344274E-03

A-3-12. Scaricare i parametri.



Step A-4 Controllare la precisione della coppia

Riaccendere il dispositivo, quindi controllare se la precisione della coppia rientra o meno nei requisiti.

Se questa calibrazione non rientra nei requisiti, riprovare ancora un'altra volta.

Step A-5 Calibrare la direzione in senso antiorario (CCW)

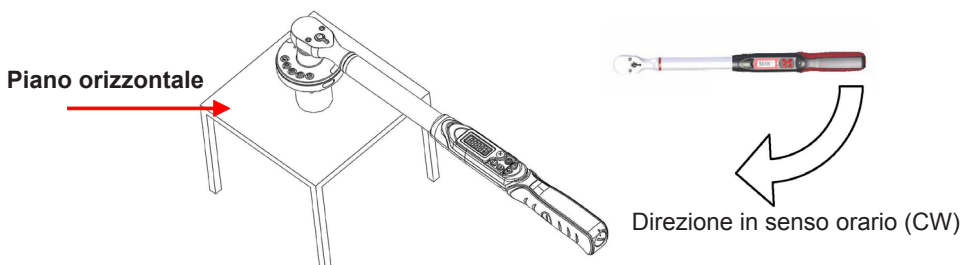
Ripetere i passaggi da A-1 fino ad A-4, ma assicurarsi che la posizione sia in senso antiorario (CCW).

Step B Calibrazione dell'angolo

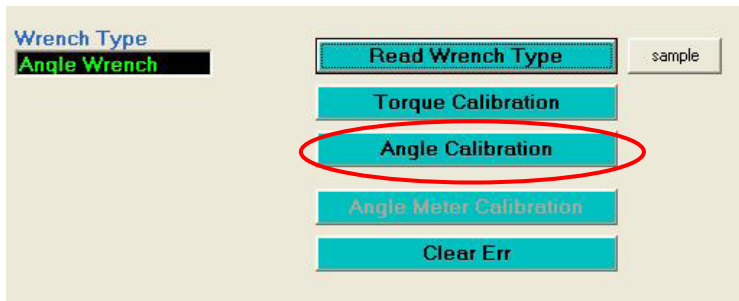
Step B-1 Preparare i dati della calibrazione dell'angolo

B-1-1. Posizionare la chiave su un piano orizzontale.

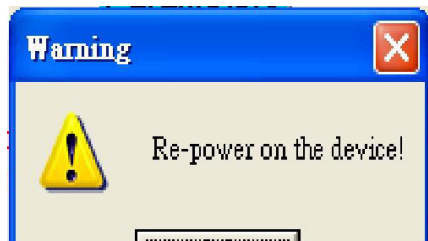
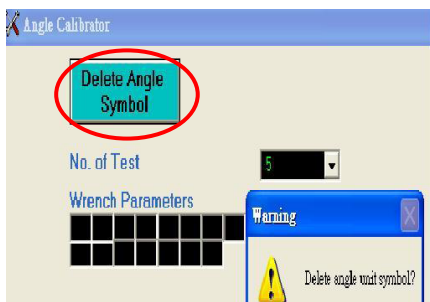
Avviso: La direzione della calibrazione dell'angolo è **in senso orario (CW)**.




B-1-2. Ripetere i passaggi da A-3-1 a A-3-5, poi cliccare “Angle Calibration” per calibrare l’angolo.



B-1-3. Cliccare “Delete Angle Symbol”, e selezionare “Yes” sulla finestra di avviso. Successivamente riaccendere il dispositivo.



B-1-4. Impostare il dispositivo su  e torna indietro alla modalità ad angolo, quindi iniziare la misurazione dell’angolo.

Esempio:

	Angolo standard	Angolo registrato	Coppia registrata
Test 1	90.0	88.9	24.48
Test 2	90.0	89.0	24.45
Test 3	90.0	88.9	24.44
Test 4	90.0	88.7	24.49
Test 5	90.0	89.1	24.50



Step B-2 Scaricare nuovi parametri

B-2-1. Selezionare il numero del test di calibrazione.

No. of Test

Calibrare 5 punti

B-2-2. Leggere i parametri registrati.

Wrench Parameters

9B	31	3F	73	82	00	FF	E8
E7	0B	FF	FF	CC	0C	22	

Read Parameters

B-2-3. Compilare i dati di calibrazione dell'angolo.

	Standard Angle	Wrench Angle	Wrench Torque (N-m)
Test 1	90.0	88.9	24.48
Test 2	90.0	89.0	24.45
Test 3	90.0	88.9	24.44
Test 4	90.0	88.7	24.49
Test 5	90.0	89.1	24.50

	Angolo Standard	Angolo Registrato	Coppia Registrata
Test 1	90.0	88.9	24.48
Test 2	90.0	89.0	24.45
Test 3	90.0	88.9	24.44
Test 4	90.0	88.7	24.49
Test 5	90.0	89.1	24.50

B-2-4. Generare nuovi parametri.

New Parameters

40	3F	30
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Generate Parameters

B-2-5. Scaricare parametri.

Download Parameters

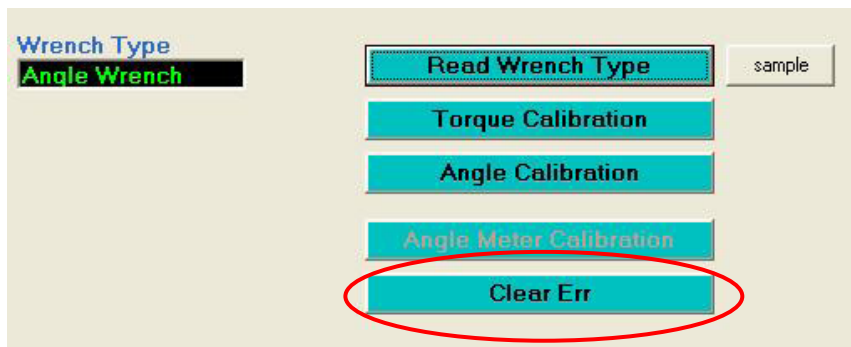
Step B-3 Controllare la precisione dell'angolo

Riaccendere il dispositivo, quindi controlla se la precisione della coppia rientra o meno nei requisiti.

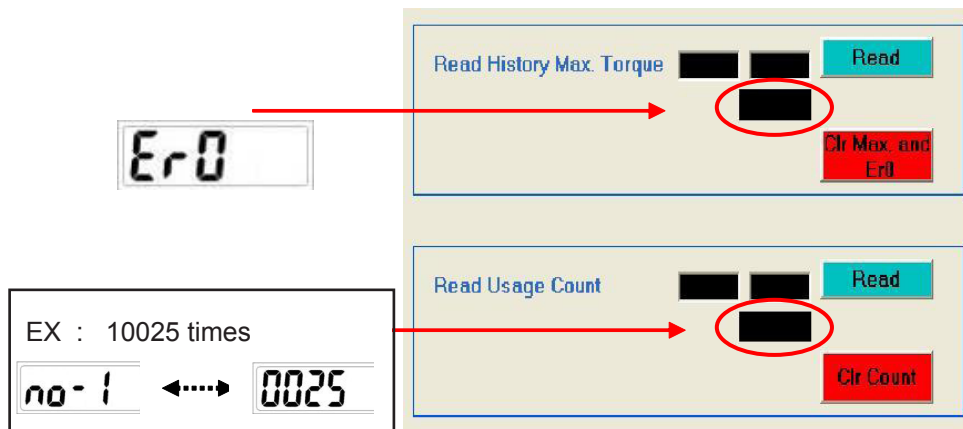
Se questa calibrazione non rientra nei requisiti, riprovare ancora un'altra volta.

Funzione ausiliaria Possibilità di leggere la cronistoria dei serraggi e cancellarla

1. Cliccare "Clear Err" per entrare nella funzione ausiliaria.



2. Cliccare "Read" rispettivamente per mostrare **la coppia di sovraccarico** e il **contatore di utilizzo**, successivamente gli utenti possono cancellarli.

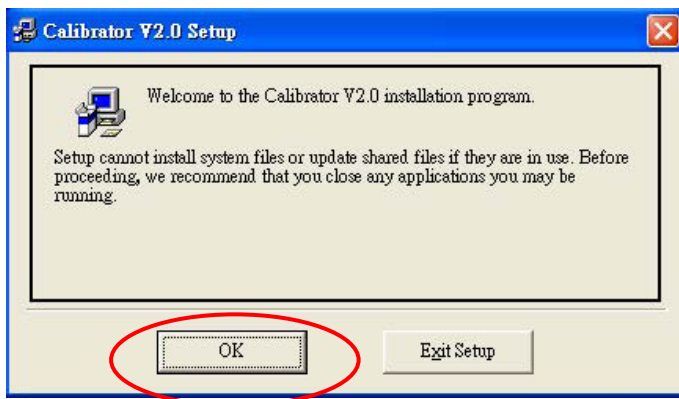


Software Installation

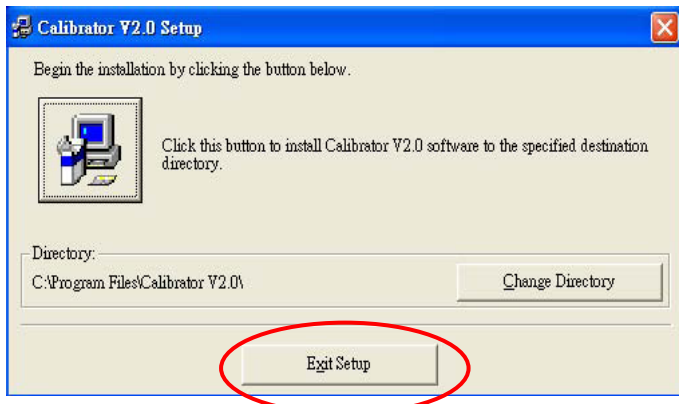
- Insert the installation CD into CD-ROM.
- In the root directory of CD, run the setup.exe to install Calibrator V3.0



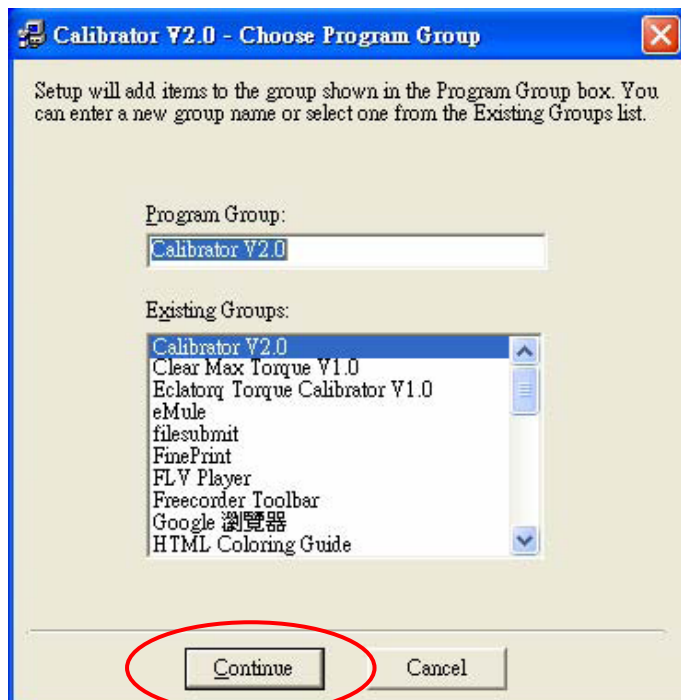
- Following the instructions during installation.
- Press OK.



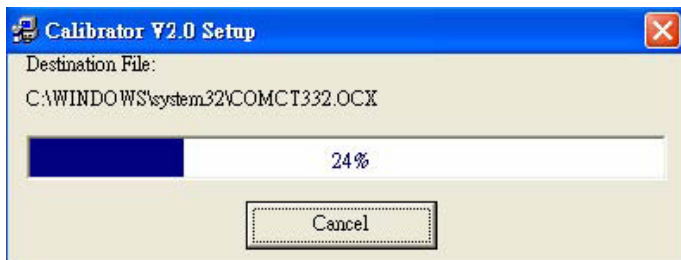
- Continued...



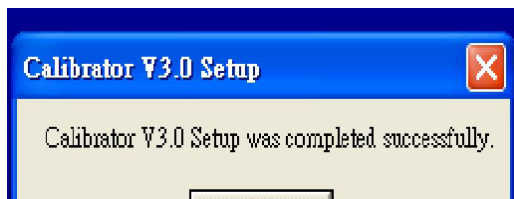
- Continued...



- Waiting....



- Completed.



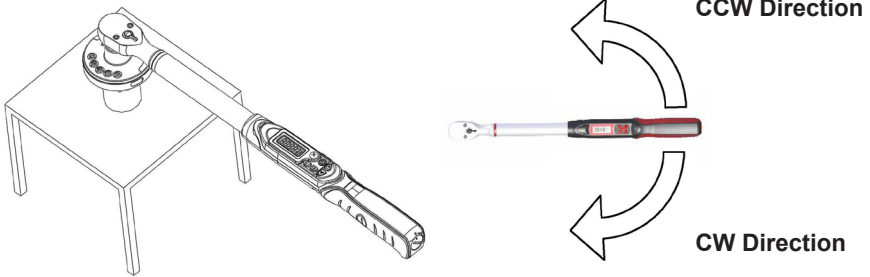
Angle wrench (or adaptor) calibration procedure

Step A Torque calibration

Notice: The torque accuracy must be guaranteed first **before** angle calibration.

Step A-1 Preparing Torque calibration data

A-1-1. Torque calibration can be done in **CW** or **CCW** direction. The instruction below is in CW direction.



A-1-2. Get a Standard Torque Sensor and load the weight on three points of 20%, 60% 100% torque, then note down each torque values of standard torque and device torque.

- Keep the digits after decimal point according to device torque in N*m unit.

Example:

Direction: CW	Standard torques	Device torques	Direction: CW	Standard torques	Device torques
Test 1 (20%)	40.0	38.1	Test 1 (20%)	6.00	5.81
Test 2 (60%)	120.0	114.3	Test 2 (60%)	18.00	16.90
Test 3 (100%)	200.0	190.5	Test 3 (100%)	30.00	28.88

Step A-2 Plug USB Dongle (Software Key)

Plug the USB dongle in any USB port on your PC.

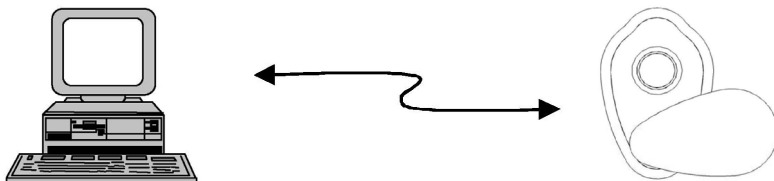


Step A-3 Download New Parameters

A-3-1. Set the device into “send” mode. LCD displays “send”.



A-3-2. Connect device to PC. (via communication cable).



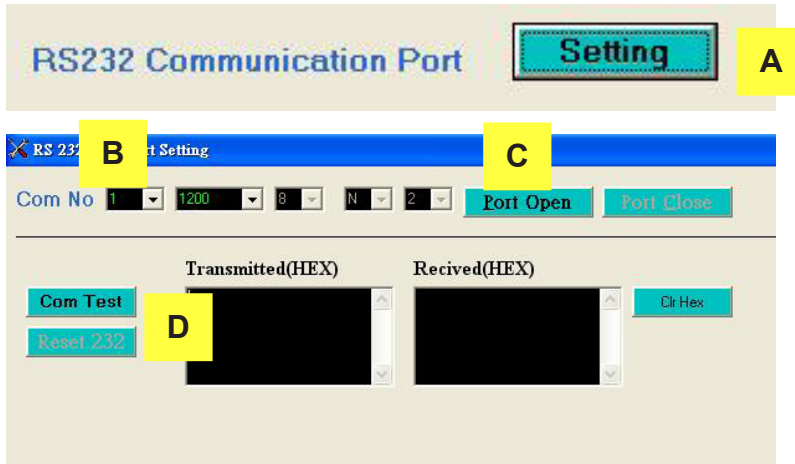
A-3-3. Execute calibration software.

From “**Start>Programs> Calibrator V3.0> Calibrator V3.0**” to run calibration software.

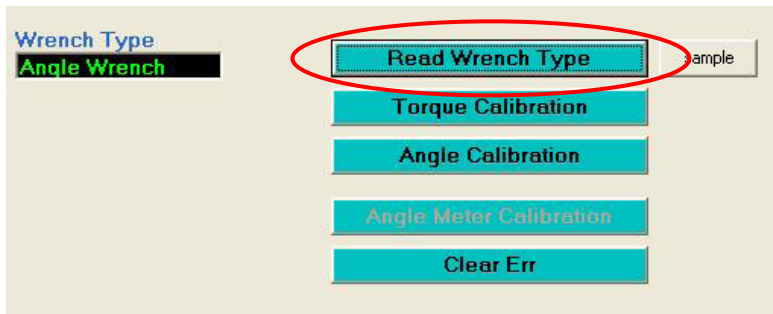


A-3-4. Set Rs232 communication port.

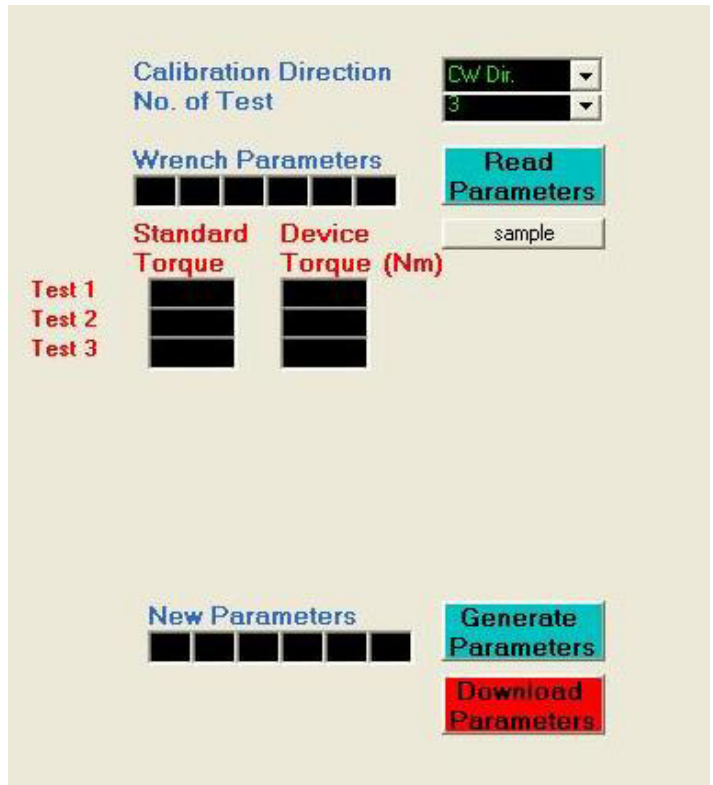
- A. Press “Setting”
- B. Set available Com port No..
- C. Press “Port Open”
- D. Press “Com Test” to test communication.



A-3-5. Press “Read Wrench type”.



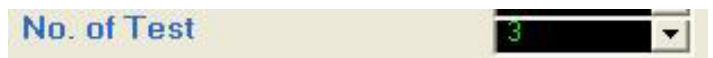
A-3-6. Press “Torque Calibration” to calibrate torque.



A-3-7. Select calibration direction. (CW or CCW).



A-3-8. Select number of calibration test.



Calibrate 3 points

A-3-9. Read device parameters.



A-3-10. Fill out torque calibration data.

	Standard Torque	Device Torque (Nm)	Direction: CW	Standard torques	Device torques
Test 1	40.0	38.1	Test 1 (20%)	40.0	38.1
Test 2	120.0	114.3	Test 2 (60%)	120.0	114.3
Test 3	200.0	190.5	Test 3 (100%)	200.0	190.5

A-3-11. Generate new parameters and view the predicted error.

New Parameters
49 47 08 FE 3A

Generate Parameters

Err Avg.(%) : 3.4779691344274E-03

Download Parameters

Step A-4 Check Torque Accuracy

Re-Power on the device, then check whether the torque accuracy is within requirements or not. If this calibration does not meet the requirement, do it once again.

Step A-5 Calibrate CCW direction

Repeat Step A-1 to A-4, but make sure the direction is in CCW

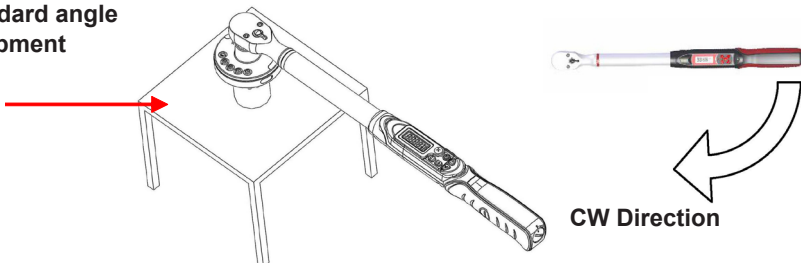
Step B Angle calibration

Step B-1 Preparing angle calibration data

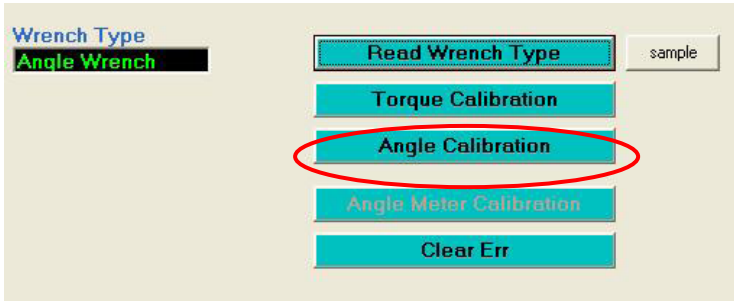
B-1-1. Setup a Standard Angle Equipment.

Notice : The angle calibration direction is in CW.

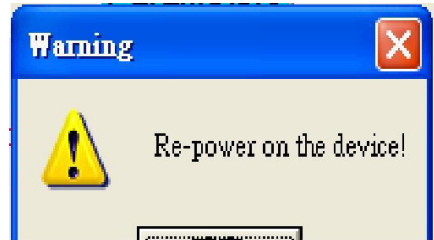
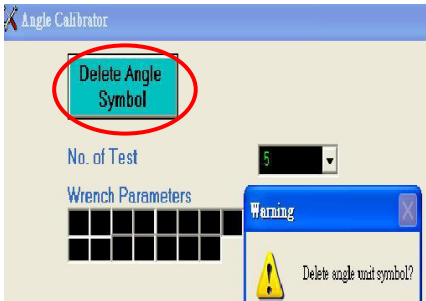
Standard angle equipment



B-1-2. Repeat A-3-1 to A-3-5, then press “Angle Calibration” to calibrate angle.



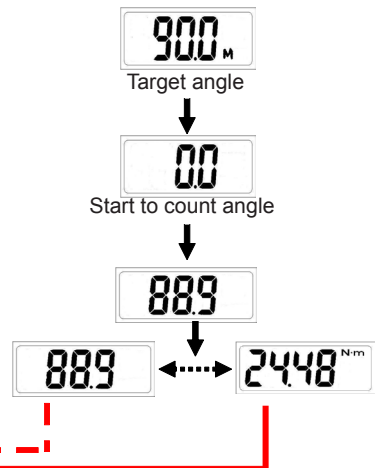
B-1-3. Press “Delete Angle Symbol”, and select “Yes” on warning window. Then re-power on the device.



B-1-4. Switch the device to  and go back to angle mode , then begin angle measurement.

Example:

	Standard Angle	Device Angle	Device Torque
Test 1	90.0	88.9	24.48
Test 2	90.0	89.0	24.45
Test 3	90.0	88.9	24.44
Test 4	90.0	88.7	24.49
Test 5	90.0	89.1	24.50



Step B-2 Download New Parameters

B-2-1. Select number of calibration test.

No. of Test

Calibrate 5 points

B-2-2. Read device parameters.

Wrench Parameters

9B	31	3F	73	82	00	FF	E8
E7	0B	FF	FF	CC	0C	22	

Read Parameters

B-2-3. Fill out angle calibration data.

	Standard Angle	Wrench Angle	Wrench Torque (N-m)
Test 1	90.0	88.9	24.48
Test 2	90.0	89.0	24.45
Test 3	90.0	88.9	24.44
Test 4	90.0	88.7	24.49
Test 5	90.0	89.1	24.50

	Standard Angle	Device Angle	Device Torque
Test 1	90.0	88.9	24.48
Test 2	90.0	89.0	24.45
Test 3	90.0	88.9	24.44
Test 4	90.0	88.7	24.49
Test 5	90.0	89.1	24.50

B-2-4. B-2-4. Generate new parameters .

New Parameters

40	3F	30
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Generate Parameters

B-2-5. Download parameters.

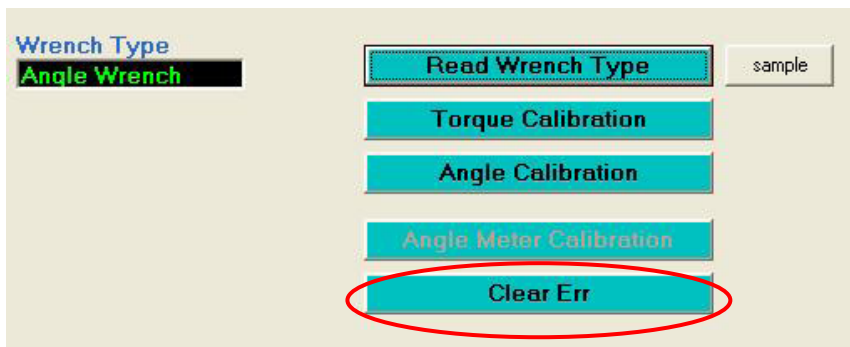
Download Parameters

Step B-3 Check Angle Accuracy

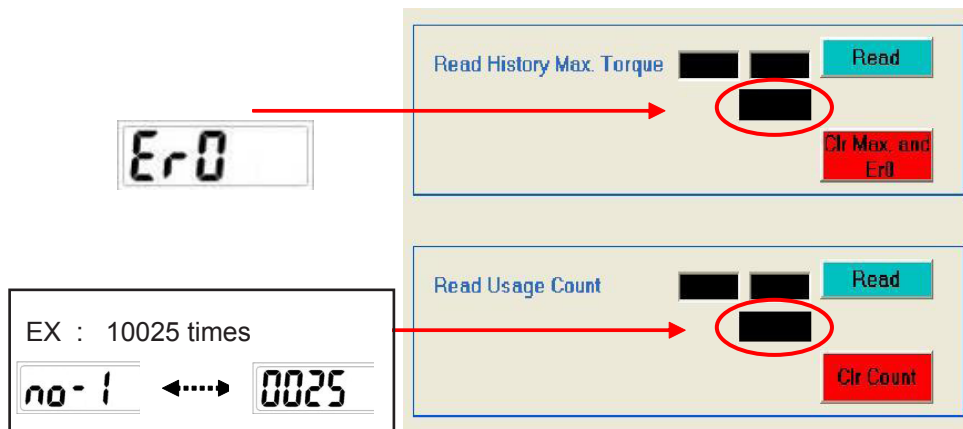
Re-Power on the device, then check whether the angle accuracy is within requirements or not. If this calibration does not meet the requirement, do it once again.

Miscellaneous function Read history max. torque & Usage count and clear

1. Press “Clear Err” to enter miscellaneous function.



2. Press “Read” respectively to show **overload torque** and **usage count**, then users can “clear” them.





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