



## ABETP Cordless XT Series Operations Manual



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# 1. General Safety Instructions

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## 1.1 Safety Instructions



### **Important**

Please do not operate this tool before reading this manual. If the tool is faulty or damaged, please do not attempt to repair it. Contact your local distributor immediately

### 1.1.1 General Safety



**WARNING:** Please read all the instructions. Failure to follow instructions could result in electric shock, fire, or serious injury. "Power tools" in all warnings refers to the power tools (with wire connection or battery) that you mainly operate.

Only qualified personnel can install, operate and diagnose the equipment. Care must be taken at all times when using the equipment. Improper operation may cause serious accidents or property losses.

This equipment is mainly used for the bolting of commercial or industrial applications. Do not store the equipment in humid environments, or environments with corrosive gas, dust, high temperature, vibration, or where collision or impact may happen. Do not disassemble, assemble, or repair the equipment without the approval of the manufacturer. If the tool does not work properly, please contact the distributor or manufacturer to solve the problem.

### 1.1.2 Workplace Safety

1. Keep the workplace clean and tidy. Disorderly and dark workspaces may lead to accidents.
2. Do not operate this tool in an explosive atmosphere where there is flammable liquids or dust. Sparks from tools may ignite dust and smoke.
3. Avoid distractions while using the tool. Keep children away from the work area.
4. Keep hands and body parts outside of the action range of the reaction bar.
5. Do not expose tools to rain or humidity. Water entering the tool increases the risk of electric shock.

### **1.1.3 Electrical Safety**


1. The connector of the battery must match identically to the connector built within the tool handle. Under no circumstances should the connections between battery and tool be modified. Battery should also securely firmly connect to the tool with its designed locking mechanism. Connections of the battery charger to the local mains power supply should be made with the supplied plug end without any modifications. User MUST ensure that Mains power supply be correct for the charger being connected (120VAC supply to 120VAC compatible charger, 220VAC supply to 220VAC compatible charger). Failure to ensure correct supply and connections can result in irreversible damage to the charger, battery, or both. Grounding paths with the connection to the mains must remain as supplied without modification.
2. Avoid direct body contact with grounding surfaces such as pipes, fans, extension plates, and coolers. If you touch the ground, you will increase the risk of electric shock.
3. Do not expose the tools to rain or humidity. Water in the tool increases the risk of electric shock.

### **1.1.4 Personal Safety**

1. Keep alert and pay attention to the surrounding environment and tools. Do not use power tools if fatigued, or after drug or alcohol use. Carelessness could lead to serious injury.
2. Wear protective glasses. Using appropriate safety equipment such as a dust mask, antiskid safety shoes, a safety helmet, or anti-noise headphones can reduce injuries.
3. Avoid accidentally starting battery tools. Make sure that the Fwd/Rev/Lock switch is in the locked position, and that the trigger is not pressed before inserting the battery. If you put your finger on the trigger when carrying tools, or insert the battery when the switch is in the unlocked position, accidents may occur.
4. Keep your balance and proper posture at all times.

### **1.1.5 Battery Safety**

1. Make sure that the Fwd/Rev/Lock switch is in the locked position, and that the trigger is not pressed before inserting the battery.
2. Use only the battery charger specifically designed for the tool batteries.
3. Use only the batteries specifically designed for the tool. Using other batteries will cause tool failure or damage, which will cause danger to tools and operators.

4. Store the battery away from metal products, such as paper clips, coins, keys, screws, or other small metal objects, which may connect the battery port and cause fire due to short circuit of the battery.
5.  **WARNING:** In extreme cases, the battery may leak liquid. Avoid contact with liquid. The battery fluid is acidic and can cause chemical burns. If the fluid comes into contact with skin, immediately wash it with soap and water and then rinse it with lemon juice or vinegar. If the fluid gets into the eyes, flush with water for at least 10 minutes and immediately go to the doctor.
6. Make sure the battery is not in contact with water and steam. Do not throw the battery into a fire or submerge it in water. Do not use damaged or deformed batteries. Do not touch the battery connector or short the battery. Failure to implement the above safety standard measures may result in serious damage to tools and endanger operators.
7. Batteries must not be disposed of with everyday waste. You can return damaged or used batteries to your local distributor.

### **1.1.6 Tool Safety**

In order to ensure the safety of you and others, post warning signs and attention signs on obvious tools and reaction parts.

The design of electric torque wrench is very safe for the bolting of commercial or industrial applications by workers versed in high torque, reactive tooling. Understand the relevant safety regulations of all working places and pay special attention to the following points:

1. Before you use the new tool, please read this manual completely to understand how all tool parts and tools work.
2. Wear safety glasses at all times when using tools.
3. Before using the battery tool, make sure that the reaction arm contacts the hard surface.
4. Ensure that no body parts contact the reaction arm or contact surface.
5. Do not exceed the maximum torque of the tool. If there is any violation, no warranty will be provided.
6. Make sure that the reaction arm retaining ring securely fastens the reaction arm.
7. Support the tool at all times during use. This helps reduce accidental loosening that could result in tightening failure and component damage.
8. Do not overload the tool. If the shell of the tool and the connecting plate of the gear box heat up, in order to avoid personal injury, stop using the tool and wait until the tool cools completely before continuing use.

## **2. ABETP Operation Statement**

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1. The ABETP torque wrench is used for final tightening applications. The operator shall formulate inspection and operation regulations to ensure the tightening quality through reasonable use specifications. If the operator fails to use the equipment through reasonable use specifications, resulting in abnormal working results of the equipment, the equipment shall not bear relevant responsibilities.
2. The operator shall be trained and qualified before using the tool. The operator shall understand the dangers associated with a reaction arm. If users who are unfamiliar with tool instructions and safety measures operate the tool and cause personal and property losses, the user shall bear the corresponding responsibility, and the company shall not bear any responsibility.
3. The operator shall adhere to all electrical safety measures when using the equipment to avoid casualties caused by electric shock. If the operator fails to work in the proper working environment and causes personal property loss, the company will not bear any responsibility.
4. When using the equipment, the operator shall ensure that his / her body is in normal working condition. The company shall not be liable for any damage or personal property loss caused by an operator who is in a compromised physical state, such as drunk or fatigued.
5. If the equipment fails, stop use immediately. If the user continues to operate the equipment under the condition of known failure and causes personal and property losses, the company shall not bear any responsibility.
6. The equipment does not support any tightening work beyond the working scope of the equipment. The company will not bear any responsibility for any loss caused by using a reaction arm.

### **2.1 Use and Maintenance of Battery Tools**

1. Use the electric torque wrench according to the correct operation method.
2. Disconnect the battery before replacing accessories or performing maintenance. This preventive measure can reduce the risk of unexpected tool start-up.
3. Keep the tool away from children and do not let unqualified personnel use the tool. Battery tools are dangerous in the hands of untrained people.

4. Maintain battery tools regularly. When there is a problem with the electric torque wrench, examine the tool. If the tool is found to be damaged, contact the distributor to solve the problem. Many accidents are caused by the lack of proper tool maintenance.
5. Use battery tools and equipment in accordance with relevant applications. Know the surrounding working environment and work items. Using battery tools to do work outside the project can lead to dangerous situations.

## 2.2 Service

1. Battery tools shall be repaired by approved maintenance personnel, and only approved replacement parts can be used. This ensures the safety of the tool.

## 3. Tool Introduction

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Every battery tool has been carefully tested and controlled by the quality assurance department. At the same time, the life span of any battery tool mainly depends on you as a user. Please read this manual and related documents carefully. If you use the tool properly, it can provide you with longer and more reliable service time.

The ABETP torque wrench can provide you with efficient torque output in a small space.

### 3.1 Tool Specifications

- **Electronic Information:** Battery output: 18 VDC 4.0 A or more per hour
- **Charging Time:** 60 minutes
- **Charging Current:** 2.5A or 3.0A

Note: The charging time and current are confirmed by the charger conforming to the specifications.

### Environment

- **Charger working environment:** 0 °C to + 40 °C (+ 32 °F to + 103 °F)
- **Charging Temperature:** 0 °C to + 50 °C (+ 32 °F to + 120 °F)

## 4. Tool Features

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### 4.1 Tool Description

ABETP series tools deliver high amounts of torque with transducer control and the ability to either monitor and/or control angle to the fastener.

Tools consist of:

- Driving Motor with Integrated Gearbox and Torque Sensor
- Reaction Bar
- Battery Pack
  - 18V, LiHD 5.5 Ah Capacity (Metabo Reference 625368000)

Battery charger for all batteries:

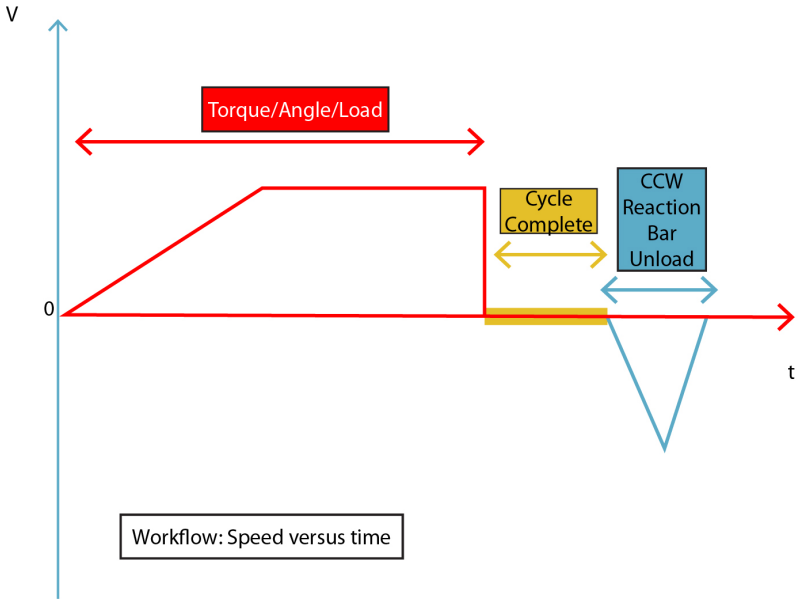
- ASC 30-36 120VAC Input Charger (Metabo Reference 627046000)
- ASC 55 220VAC Input Charger (Metabo Reference 627044000)

### 4.2 Tool Diagram





### 4.3 Workflow

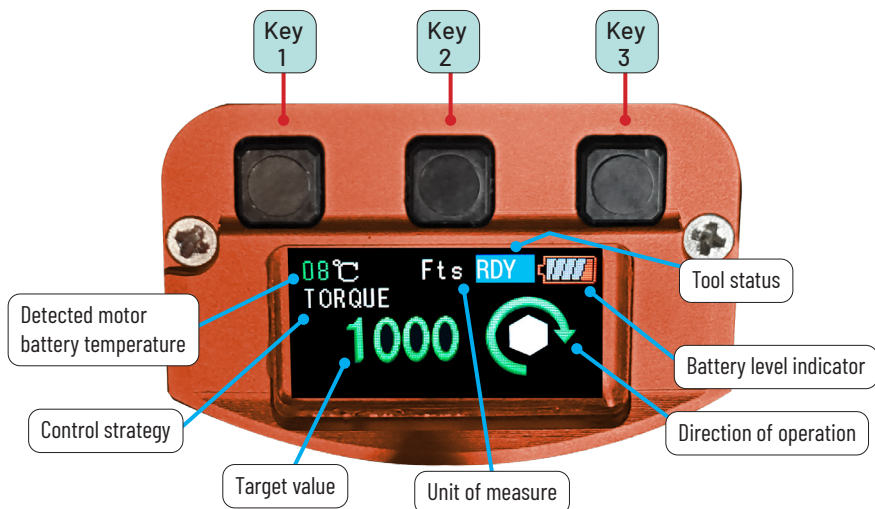


### 4.4 Mechanical Operation



## 5. Operational Interface

### 5.1 Main Interface



#### 5.1.1 Key Description








Key No.	Function
1	Select the previous mode or function menu, or increase the value during setting
2	Accept the selected mode or function, or enter the main menu in the main interface
3	Select next mode or function menu, or reduce the value during setting

#### 5.1.2 Icon Descriptions

Icon	Meaning
	Motor battery temperature
	Unit of measure: Fts indicates foot pounds      Nm indicates Newton meters
	Tool status:  Tool is in a ready state       Tool is in wait mode Tool is in error mode       Tool is in stop mode
	Remaining battery capacity: Battery is at full charge       Battery power is sufficient Battery is at 2/3 capacity       Battery power is insufficient
	Control Strategy: Displays the currently selected control strategy. Options are: Torque mode - set torque value for operation [Blank] Preset mode (Torque & Angle) - set torque and angle values for operation Angle mode - set angle value for operation
	Target value: Displays the set target value in the currently selected mode.
	Direction of Operation: The rotation direction can be changed with the fwd/rev/lock switch located at the top of the handle. Forward (clockwise rotation)       Reverse (counter-clockwise rotation)






## 5.2 Menu Selection

Press key ② from the main screen to enter the operation selection interface. Seven operations are available in the following order. The function of each operation will be detailed in “7. Tool Settings” on p. 13.

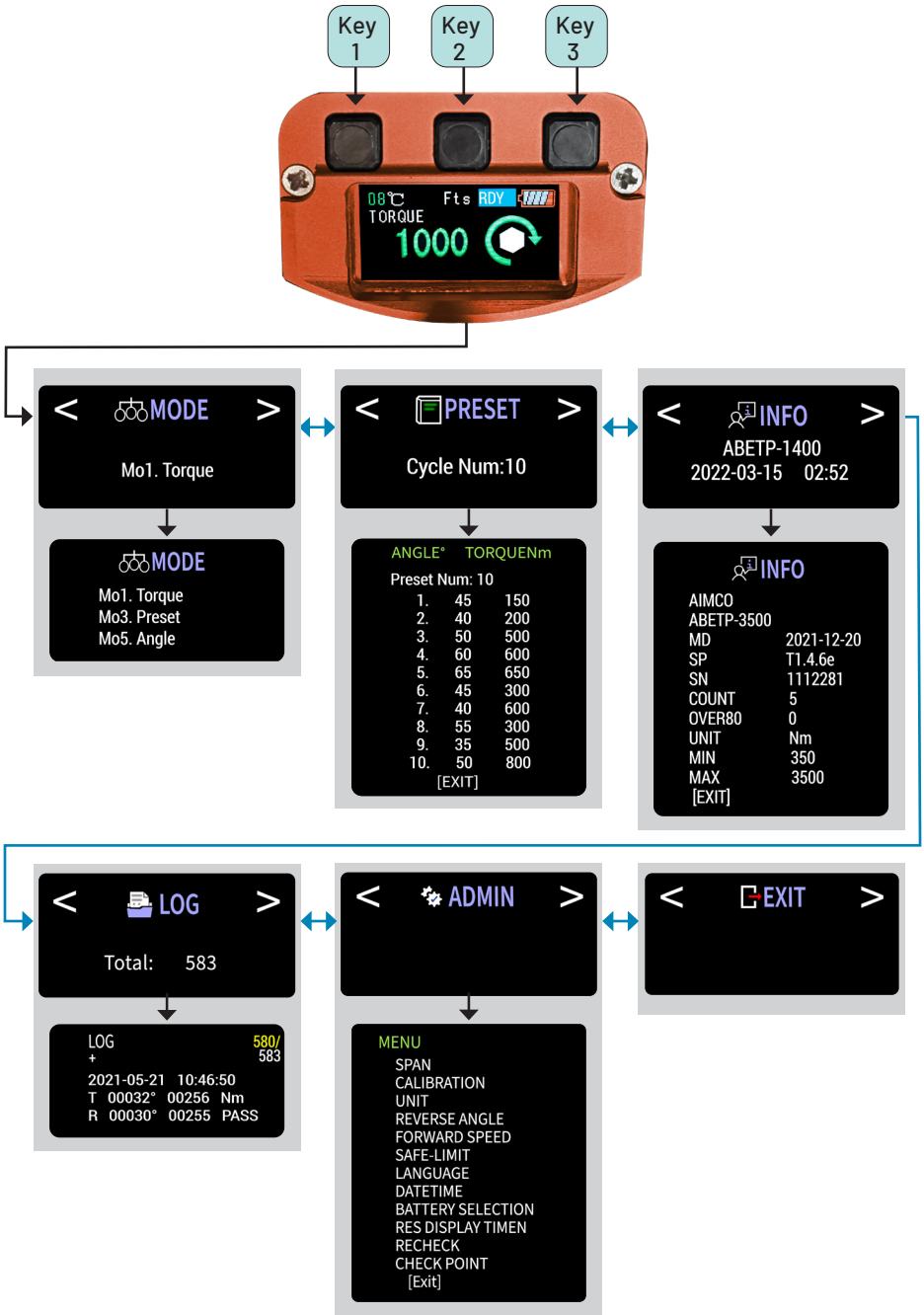
Icon	Function
 <b>MODE</b>	Select operation mode
 <b>PRESET</b>	Set presets prior to operation
 <b>INFO</b>	View current device parameters
 <b>LOG</b>	View recorded operation information
 <b>ADMIN</b>	View and change administrator settings
<del> <b>WIFI</b></del>	<i>Not enabled on ABETP Series tools</i>
 <b>EXIT</b>	Exit the menu and return to the main interface

## 5.3 Error Icons

When any of the following icons appear in the main interface, stop the current work immediately and take corrective action.

Icon	Meaning	Corrective Action
	Low battery	Stop operation, remove the battery, and charge or replace the battery.
	Sensor error	Stop operation. Turn the fwd/rev/lock switch to the center locked position, remove and reinstall the battery, and restart the tool using the trigger. If the error persists, contact your tool distributor.
	High temperature	Stop operation. Remove the battery and allow the tool to rest for a period of time. Restart the tool after the motor cools down.
	Torque out of limit	Stop operation and readjust the set torque.
	Battery error	Stop operation and remove the battery. Verify that you are using the correct battery model with the tool. If the battery is correct and the error persists, contact the distributor to replace the battery.

## 6. Menu Relationships



## 7. Tool Settings

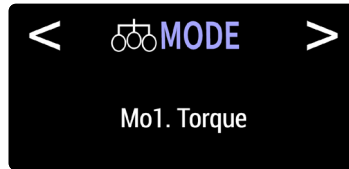
### 7.1 Mode

The ABETP torque wrench has three operation modes: Torque mode, Preset mode (Torque + Angle), and Angle mode.

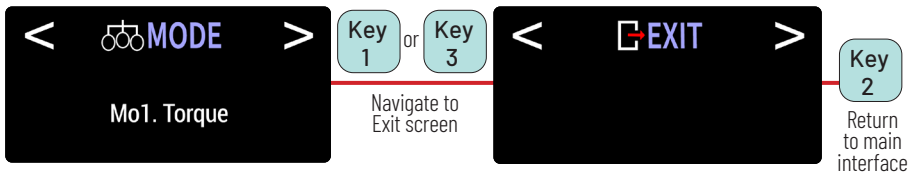
Mode	Function	
1	Torque	Directly set the set torque value for operation
3	Preset	Select preset working torque + angle values for operation
5	Angle	Directly set the angle value for operation

To check the current Mode setting:

1. From the main tool screen, press key ② to enter the first operation selection screen, which is the Mode screen. The mode shown on this screen is the current mode selected.



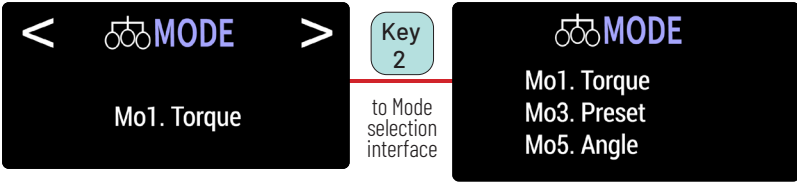
To maintain this mode, press key ① or ③ to navigate to the Exit screen, and press key ② return to the main tool screen.



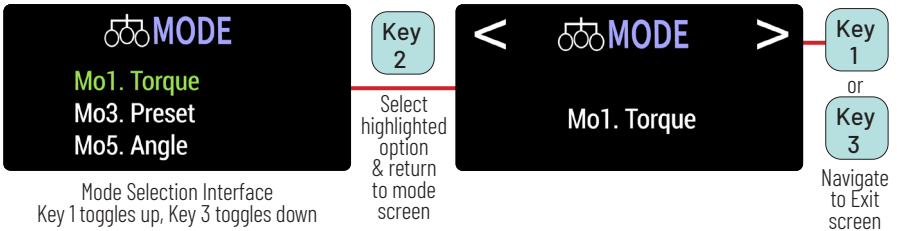
### 7.1.1 Torque Mode

Torque Mode allows you to directly set the torque value for operation.

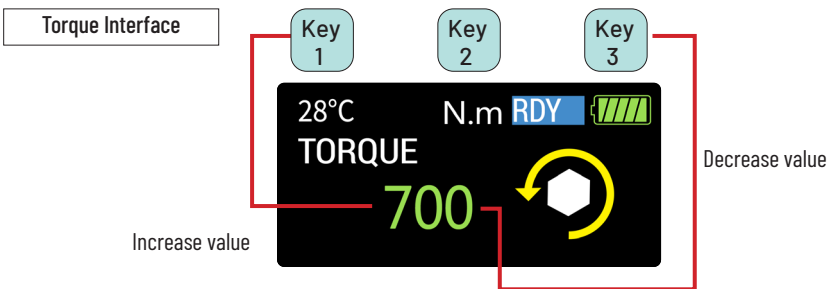
1. To set the tool to Torque operation mode, from the main tool screen, press key ② to enter the Mode screen. Press key ② again to enter the Mode selection interface.



2. Press key ① or ③ to toggle through the mode options. When Mode 1 Torque is highlighted, select that option by pressing key ②. This will return to the main Mode screen, which will display the selected mode.



3. Press key ① or ③ to navigate to the Exit screen, and press key ② return to the main tool screen, which will now display the Torque interface.

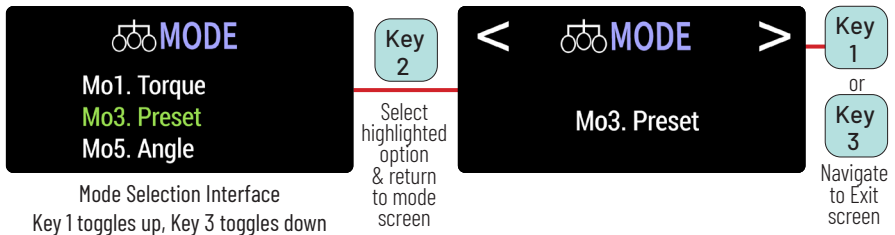


4. Set the working parameters in the main interface by pressing key ① to gradually increase the torque value or key ③ to gradually decrease the torque value. Holding the key button down will speed up the scrolling.
5. Once the value is set, the tool is ready to operate. Press the trigger to start the motor.

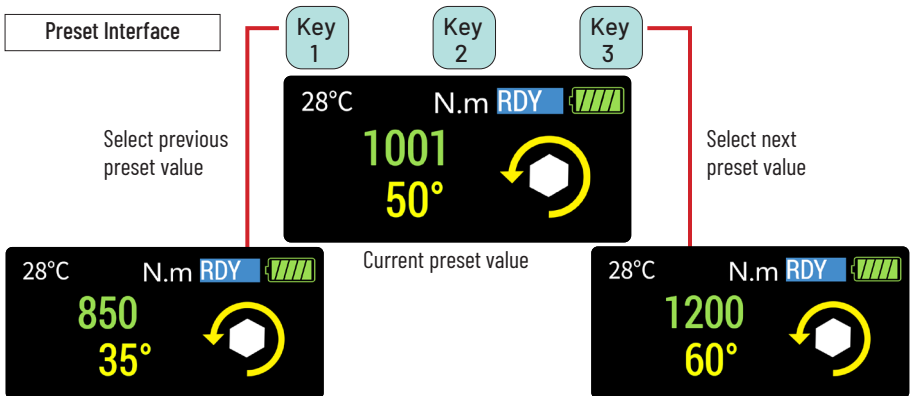
### 7.1.2 Preset Mode (Torque + Angle)

Preset mode enables you to quickly set the working torque plus angle value by selecting a preset that you previously defined. It is also convenient for repetitive work.

1. To set the tool to Preset mode, from the main tool screen, press key ② to enter the Mode operation screen. Press key ② again to enter the Mode selection interface.
2. Press key ① or ③ to toggle to Mode 3 Preset and select it by pressing key ②. This will return to the main Mode screen, which will display the selected mode.



3. Press key ① or ③ to navigate to the Exit screen, and press key ② return to the main tool screen, which will now display the Preset interface showing the Torque/Angle that you defined as a preset. Instructions for setting presets are given in "7.2 Preset" on p. 17.

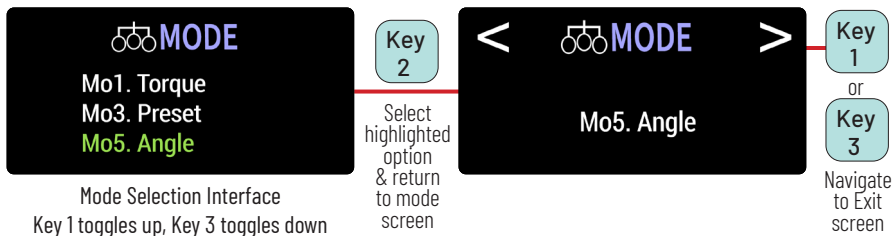


4. Select the Preset value in the main interface. Press key ① to select the previous preset value set, and press key ③ to select the next preset value. For example, the initial working value shown in the figure is 1001 Nm torque +50° rotation angle. Press key ① to select the previous preset, which in this example is 850 Nm torque +35° rotation angle. Press key ③ to select the next working value, which in this example is 1200 Nm torque +60° angle.
5. Once the value is set, the tool is ready to operate. Press the trigger to start the motor.

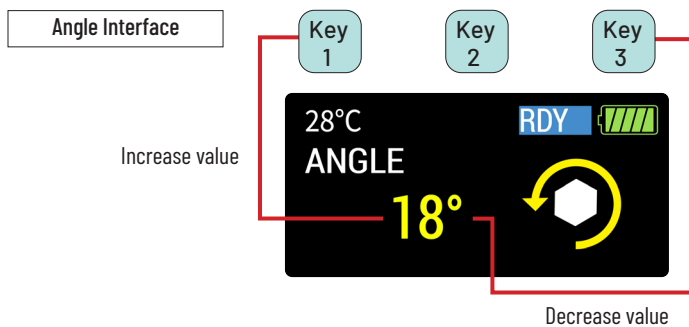
### 7.1.3 Angle Mode

Angle mode allows you to directly set the exact, required degrees of angle rotation.

1. To set the tool to Angle mode, from the main tool screen, press key ② to enter the Mode operation screen. Press key ② again to enter the Mode selection interface.
2. Press key ① or ③ to toggle to Mode 5 Angle and select it by pressing key ②. This will return to the main Mode screen, which will display the selected mode.



3. Press key ① or ③ to navigate to the Exit screen, and press key ② return to the main tool screen, which will now display the Angle interface.



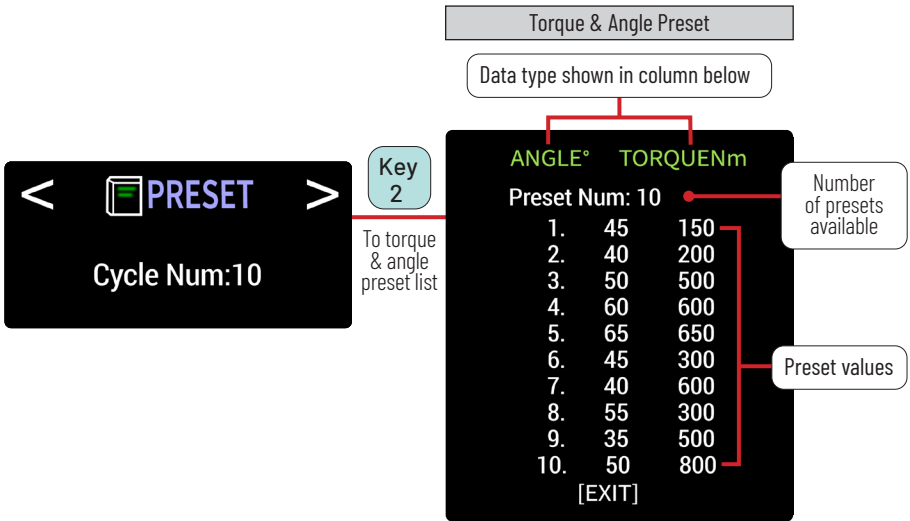
4. Set the rotation angle in the main interface. Press key ① to increase the angle value, and press key ③ to decrease the angle value. Holding the key button down will speed up the scrolling.
5. Once the value is set, the tool is ready to operate. Press the trigger to start the motor.



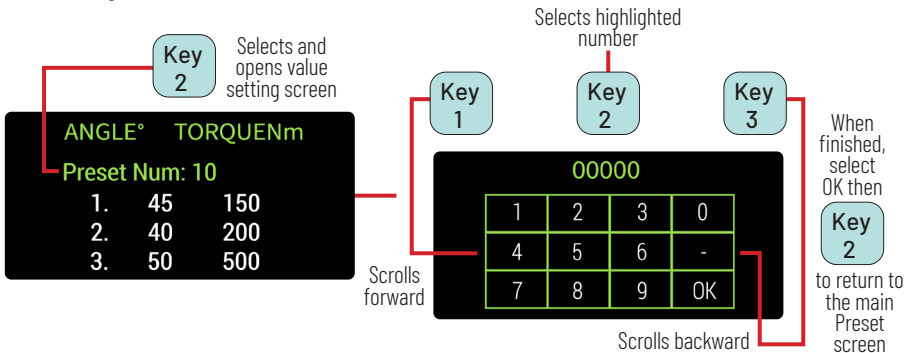
## 7.2 Preset

Using presets defined in the Preset mode allows you to quickly access the set working value.

- To enter the Preset operation screen, from the main tool interface, press key ② then press key ① or ③ to navigate to the Preset screen. Press key ② to enter the Preset information menu, where you can view all of your entered torque/angle presets.

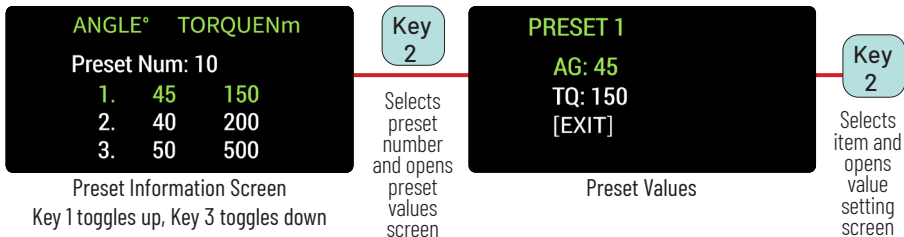


- To adjust the number of presets that show in the menu, press key ① or ③ to scroll to "Preset Num". Press key ② to select. This opens a value setting screen.

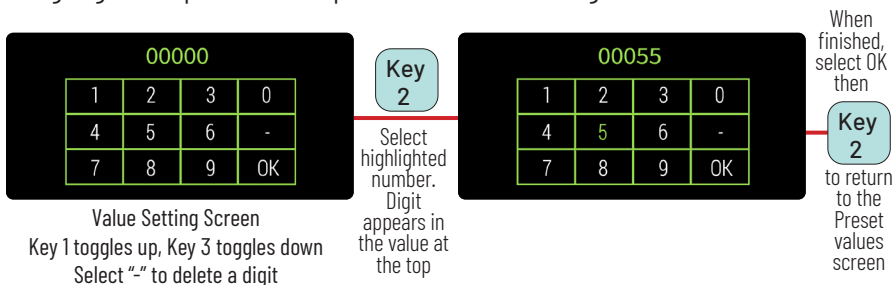


- Press key ① or ③ to scroll through the value table. Press key ② to select the highlighted number. The number will appear at the top of the screen. The maximum number of presets available is 10.

4. Set default working values. From the Preset information screen, press key ① or ③ to scroll backward and forward through the list to the Preset group you want to set. Press key ② to select the highlighted preset and enter the screen that displays the preset values.



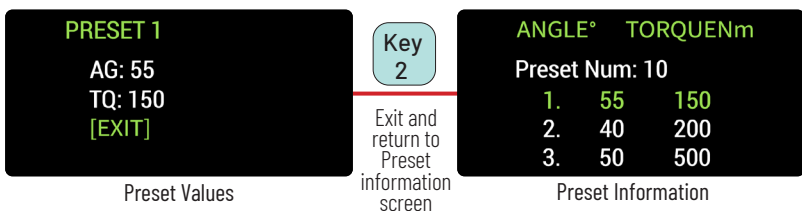
5. On the preset values screen, press key ① or ③ to scroll to the value you want to edit: AG (angle) or TQ (torque). Press key ② to select the highlighted option. This opens the value setting screen.



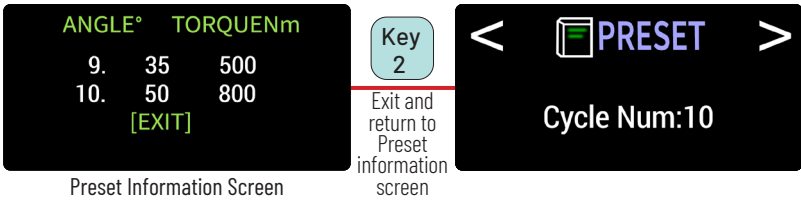
6. Press key ① or ③ to scroll through the value table. Press key ② to select the highlighted number. The number will appear at the top of the screen. Follow the same steps for the remaining digits, pressing key ② to select each digit. If you make a mistake or need to modify the set value, select "-", and press key ② to delete one digit.

When the value is completed, move to "OK", and press key ② to complete the setting. This returns to the preset values screen. Follow the same procedure to set the remaining angle or torque values.

7. Once finished setting torque and angle values, press key ① or ③ to highlight Exit on the value setting screen, and press key ② to return to the preset values interface. Notice the default value of Preset 1 has changed.



- A total of 10 presets can be entered. Once finished setting all presets, press key ① or ③ to highlight the Exit option. Press key ②, which returns to the Preset mode screen.

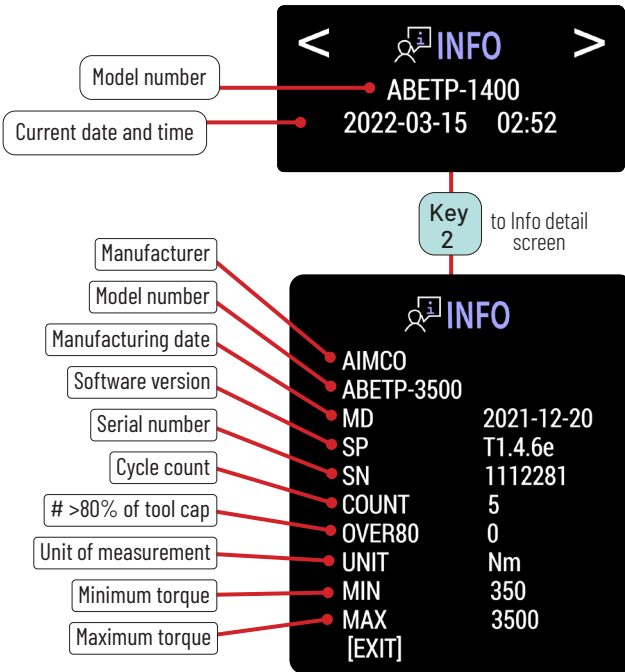


- Press key ① or ③ to navigate to the Exit screen, and press key ② return to the main tool interface.

### 7.3 Info

The Info menu allows you to view current device parameters.

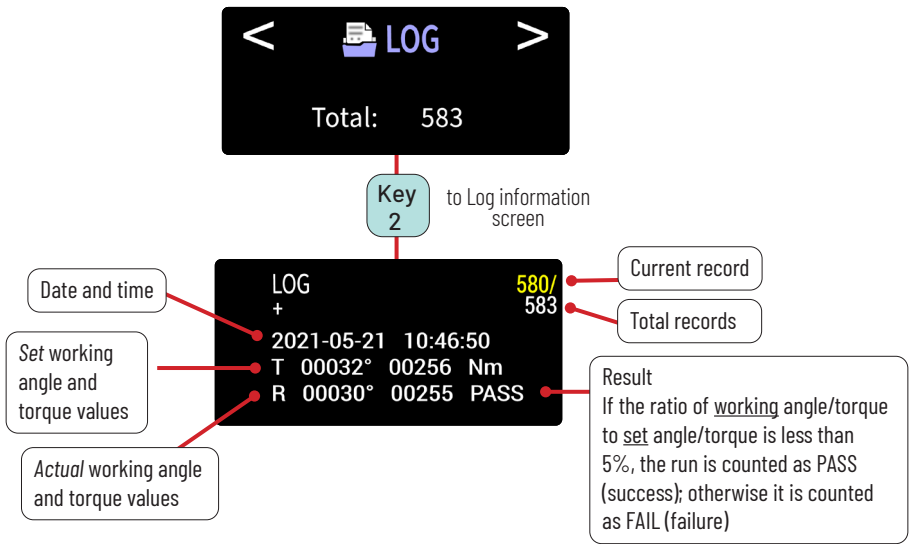
- To enter the Info operation screen, from the main tool interface, press key ② then press key ① or ③ to navigate to the Info screen. Press key ② to enter the Info detail screen to view device parameters.



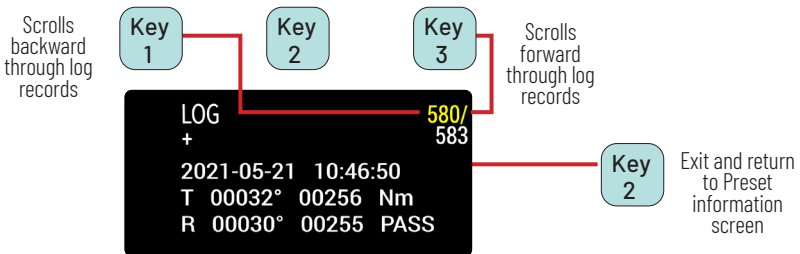
- After viewing, either press key ② to return to the main Info operation screen, or press key ① or ③ to select Exit, then press key ② to return to the main menu.

## 7.4 Log

1. To enter the Log interface, from the main menu, press key ②, then press key ① or ③ to navigate to the Log operation screen. This screen shows the total number of Log records. Press key ② to enter the Log menu. Through this interface, you can view the historical records and data.



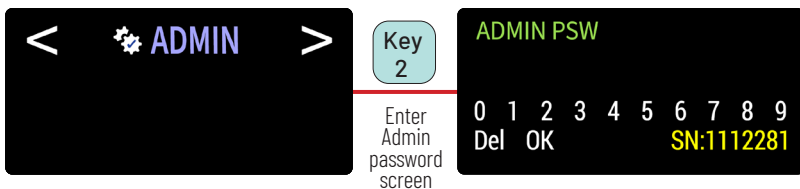
2. Press key ① or ③ to scroll through the log records.



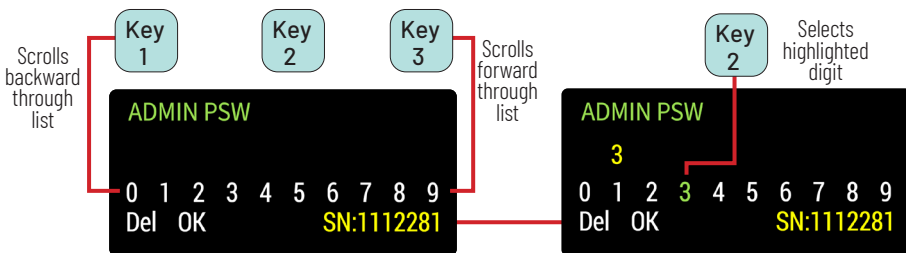
3. When finished viewing, press key ② to return to the Log operation screen.
4. Press key ① or ③ to navigate to the Exit screen, and press key ② return to the main tool interface.

## 7.5 Admin

1. To enter the Admin interface, from the main menu, press key ②, then press key ① or ③ to navigate to the Admin operation screen. Press key ② to enter the Admin password screen.

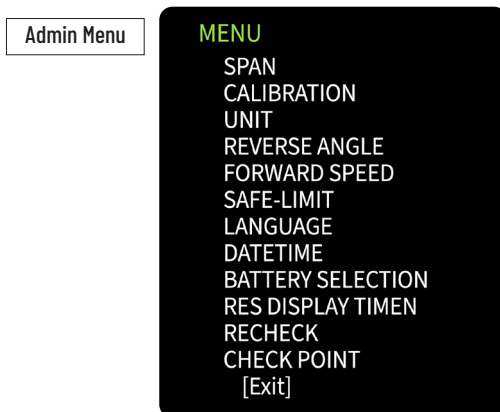


2. Enter the three digit password that was provided with the tool or assigned by your administrator. To enter the password, use key ① and ③ to scroll through the numbers.



Press key ② to select the highlighted digit, which will appear on the line above. To delete a digit, scroll to "Del" and press key ②. Once all digits are entered, navigate to "OK" and press key ②.

3. If the password was entered incorrectly, a password error screen appears. Press key ②, which will close the error screen and return to the Admin operation screen. Press key ② again to reenter the password screen.
4. Once the password is accepted, the Admin menu will open. This menu allows you to set advanced functions.



### 7.5.1 Span

1. In the Admin menu, press key ① or ③ to select Span. Press key ② to enter the Span setting screen.



Due to different working conditions, different types and batches of bolts, varying friction, etc., it is necessary to set the span based on site conditions.

2. Adjust the span value using key ① or ③. Values range from -5 to +5. A span setting of 0 means no span is set. Save the span value by pressing key ②, which will return you to the Admin menu.

### 7.5.2 Calibration

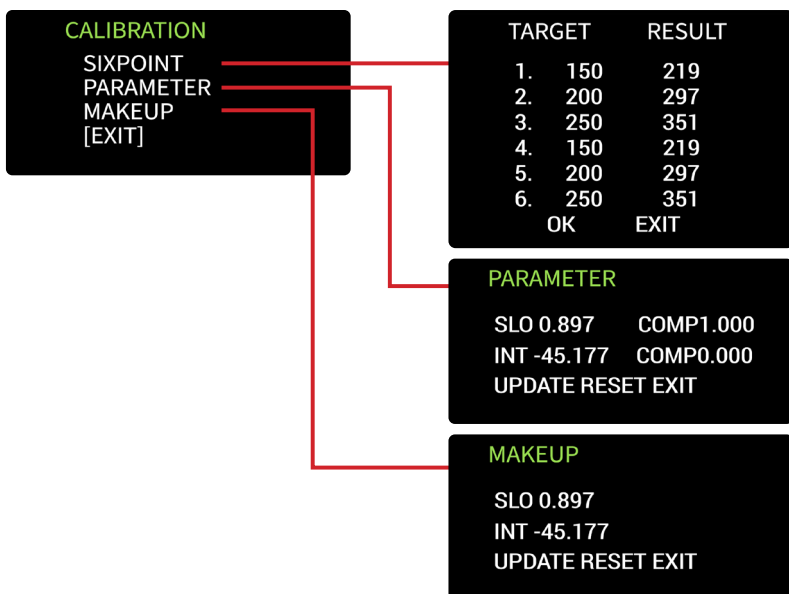
When the wrench reaches a set torque, there is a one-to-one correspondence between the value read by an external sensor and the sensor within the tool. We strive to bring these values into close agreement in this procedure.

By recording six sets of calibration values, the linear relationship between the set torque and the actual torque can be obtained, and the set torque can be converted into an intermediate torque value through the linear relationship.

The new shutdown condition is obtained by the intermediate torque value. The new shutdown condition is given to the controller to produce the torque within the allowable range of error with the set torque.

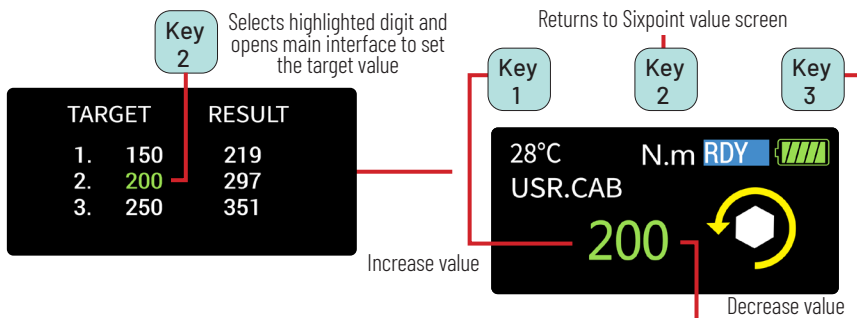
## Setting Calibration Values

1. In the Admin menu, press key ① or ③ to select Calibration, and press key ② to enter the Calibration menu.



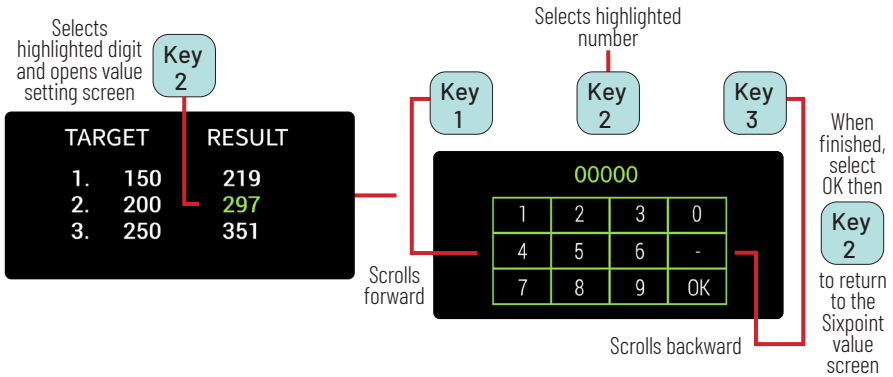
## Sixpoint

- a) Press key ① or ③ to navigate to Sixpoint and press key ② to select. This displays six groups of calibration values. The left side is the target torque value and the right side is the actual torque value.
- b) If all calibrations are correct, navigate to OK and select by pressing key ②. If calibration is not required, navigate to EXIT and select by pressing key ②. Both OK and EXIT will return you to the Calibration menu.
- c) To adjust the target value, use key ① or ③ to scroll through the value sets until the desired target value is highlighted. Press key ② to select. This will open up the main interface. Adjust the target value by pressing key ① or ③.



Note: When adjusting the target value in the main interface, press the trigger, and the wrench will rotate.

- d) Run the tool on the test stand and record the torque result. Once operation is finished, press key ② to return to where you left off in the Sixpoint menu. Press key ③ to scroll to the Result column to the right of the Target value. Press key ② to select. This will open the value setting screen where you can input the torque result.



- e) Press key ① or ③ to scroll through the value table. Press key ② to select the highlighted number. The number will appear at the top of the screen.

Follow the same steps for the remaining digits, pressing key ② to select each digit. If you make a mistake or need to modify the set value, select “-”, and press key ② to delete one digit.

When the value is completed, move to “OK”, and press key ② to complete the setting. This returns to the Sixpoint value screen.

- f) Input the remaining 5 calibration value sets using the same process.  
 g) When finished setting all values, select OK using key ②. The system will automatically calibrate and will return you to the Calibration screen.

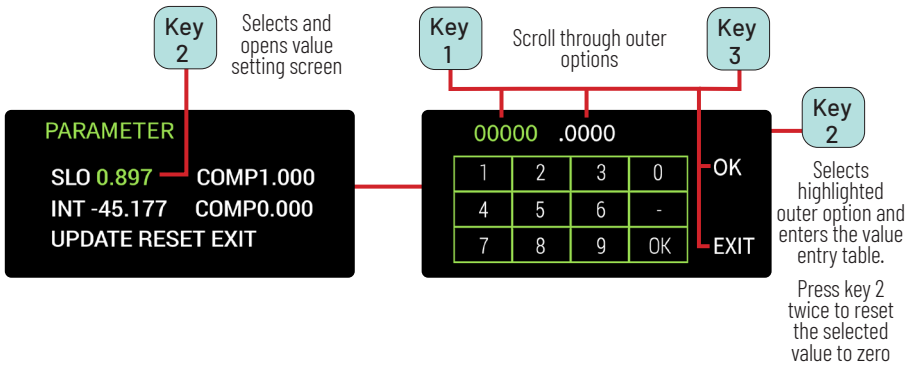
### Parameter

- a) From the Calibration menu, press key ① or ③ to navigate to Parameter and press key ② to select.





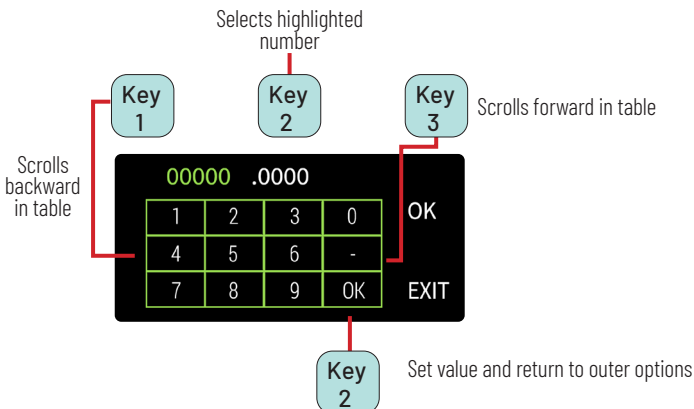
b) To change any of the parameter values, navigate to the parameter by pressing key ① or ③, then press key ② to select. This will open the value setting screen.



c) Press key ① or ③, to scroll through the outer options. The first 5 digits are those that appear before the decimal point. The second group of digits are those that appear after the decimal point. Press key ② to select which set of digits you want to edit. This takes you to the inner value entry table.

At any point, select Exit to return to the Parameter screen.

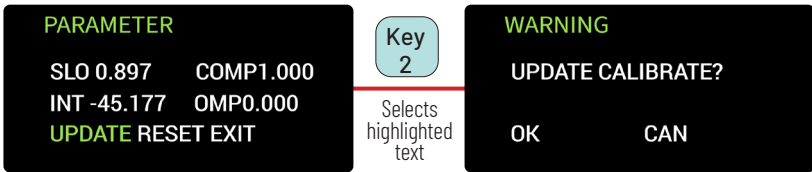
d) In the value entry table, set your parameter by pressing key ① or ③ to scroll through the numbers, and then pressing key ② to select a number. The digit will appear in the value at the top.



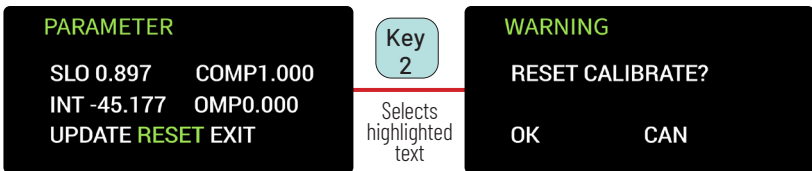
When finished entering the digits, select OK in the data table to return to the outer options.

Set second value (the digits after the decimal point) using the same steps. When finished setting the outer values, select OK to return to the Parameter screen. Continue setting the remaining parameters using the same steps.

- e) When finished setting parameters, from the Parameter screen, press key ① or ③ to navigate to Update. This will lock in the new values. Pressing key ② opens up a warning screen. Press key ② to select OK to confirm, or press key ① or ③ to navigate to CAN to cancel. This returns you to the Parameter screen.



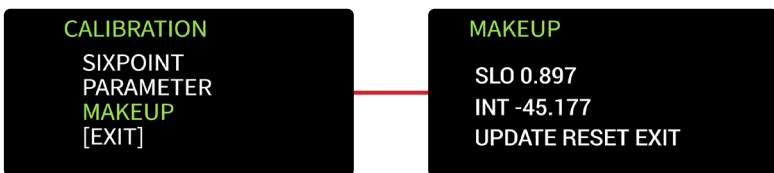
- f) Also in the Parameter screen, you can select Reset to reset all parameters to zero.



- g) When finished setting parameters, select Exit to return to the Calibration menu. Then select Exit again to return to the Admin menu.

## Makeup

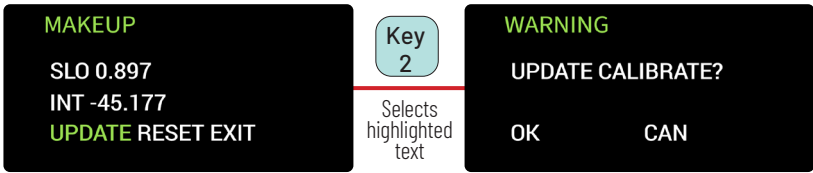
- a) From the Calibration menu, press key ① or ③ to navigate to Makeup and press key ② to select.



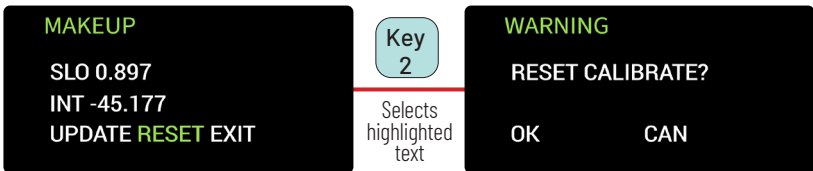
- b) To change any of the values, navigate to the parameter by pressing key ① or ③, then press key ② to select. This will open the value setting screen.



e) When finished setting parameters, from the Makeup screen press key ① or ③ to navigate to Update. This will lock in the new values. Select Update by pressing key ② which opens a warning screen. Press key ② to select OK to confirm, or press key ① or ③ to navigate to CAN to cancel. This returns you to the Makeup screen.



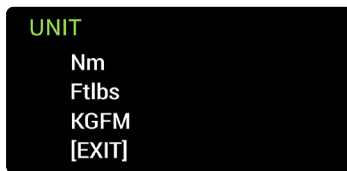
f) Also in the Makeup screen, you can select Reset to reset all parameters to zero.



g) When finished setting Makeup values select Exit to return to the Calibration menu. Then select Exit again to return to the Admin menu.

### 7.5.3 Unit

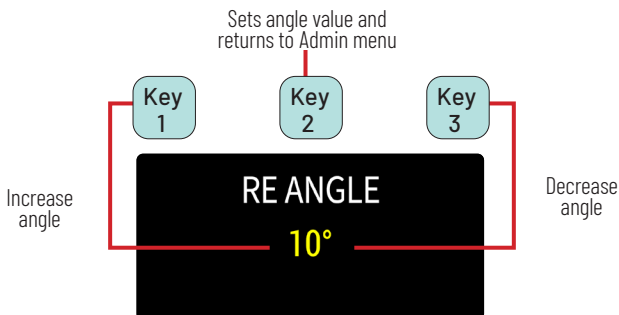
1. In the Admin menu, press key ① or ③ to select Unit. Press key ② to enter the Unit setting screen.



2. Three measurement options are available. Press key ① or ③ to scroll to the desired unit and press key ② and select it and return to the Admin menu. If you have no changes, select Exit to return to the Admin menu.

### 7.5.4 Reverse Angle

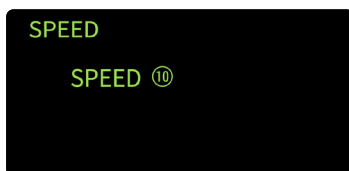
1. In the Admin menu, press key ① or ③ to navigate to Reverse Angle. Press key ② to enter the Reverse Angle setting screen.



2. The Reverse Angle screen the setting of the amount of CCW rotation the tool automatically undertakes at the end of a cycle. Without sufficient CCW rotation, the loaded force on the reaction bar will make it impossible to remove the tool from the application. Press key ① or ③ to increase or decrease the angle value as shown.
3. Press key ② to set the Reverse Angle value and return to the Admin menu.

### 7.5.5 Forward Speed

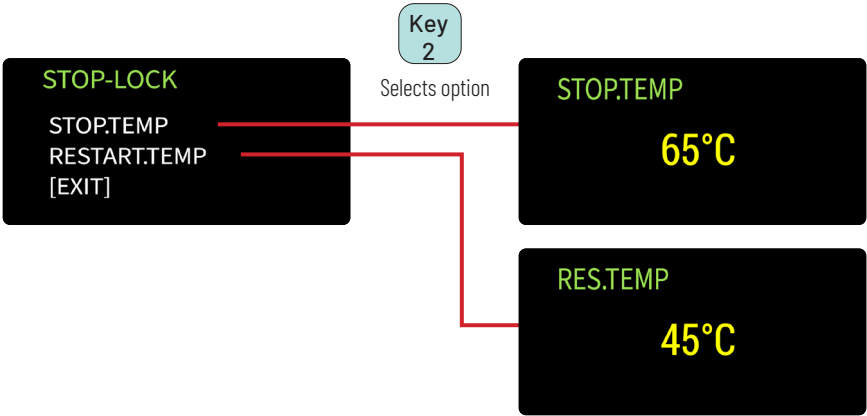
1. In the Admin menu, press key ① or ③ to select Forward Speed, and press key ② to enter the Speed setting screen.



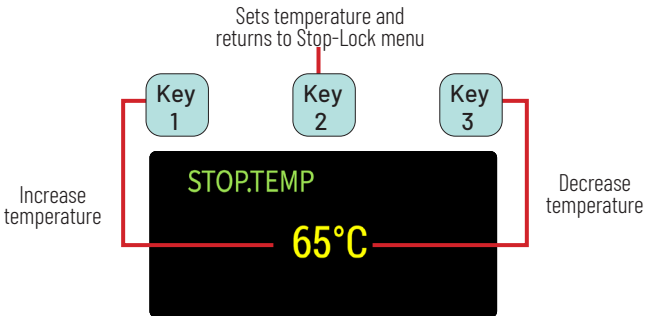
2. Press key ② to return to the Admin menu.

### 7.5.6 Safe-Limit

1. In the Admin menu, press key ① or ③ to navigate to Safe-Limit, and press key ② to enter the Stop-Lock setting menu where you can set the temperature at which the tool should shut off for safety reasons, and the temperature at which it's safe for the tool to restart.



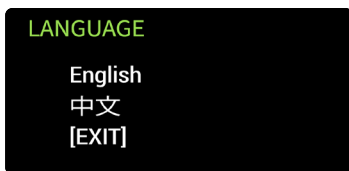
2. To set the tool Stop Temperature press key ② to select Stop.Temp, which will open up the Stop.Temp interface. Use key ① or ③ to increase or decrease the temperature. When finished, press key 2 to return to the Stop-Lock menu.



3. Set the Restart Temperature using the same steps. When finished, press key 2 to return to the Stop-Lock menu.
4. From the Stop-Lock menu, navigate to Exit and press key ② to return to the Admin menu.

### 7.5.7 Language

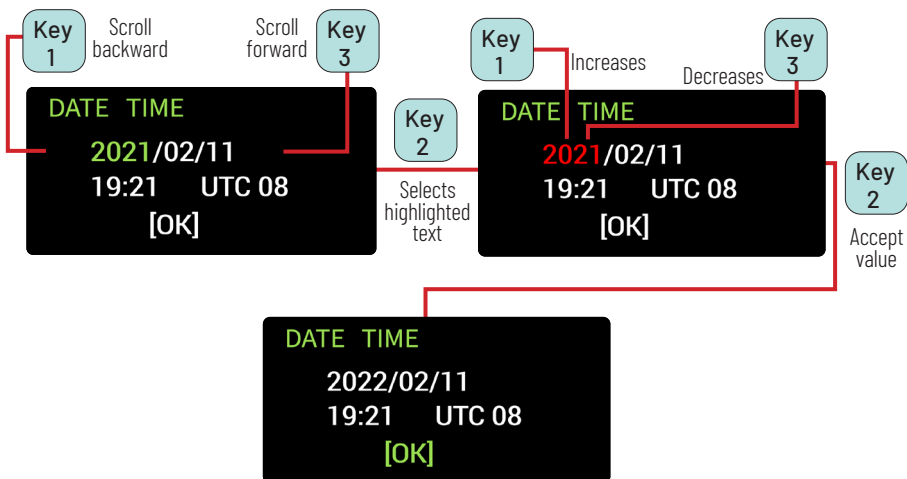
1. In the Admin menu, press key ① or ③ to select Language, and press key ② to enter the Language setting screen.



2. Set the language by scrolling using key ① or ③. Press key ② to select the highlighted option and return to the Admin menu. To make no changes, navigate to Exit and press key ② to return to the Admin menu.

### 7.5.8 DateTime

1. In the Admin menu, press key ① or key ③ to scroll to DateTime, and press key ② to enter the Date/Time setting screen.



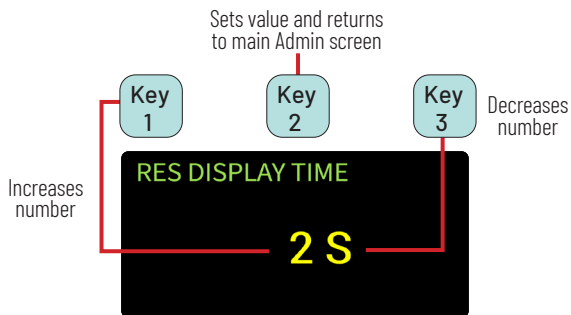
2. Use key ① or ③ to navigate to the setting you want to change: date, time, or UTC time zone. Press key ② to select, and then press key ① or ③ to increase or decrease value as shown. When finished setting the value, press key ② to accept the value. Continue setting the remaining values using the same steps.
3. To exit out of the DateTime menu, press key ① or key ③ to scroll to OK and press key ② to select and return to the Admin menu.

### 7.5.9 Battery Selection

ABETP series unsupported.

### 7.5.10 Res Display Time

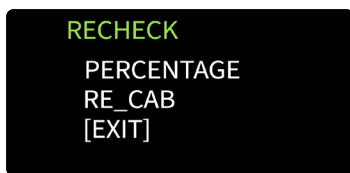
1. In the Admin menu, press key ① or key ③ to scroll to Res Display Time, and press key ② to enter the Res Time Display screen. This screen shows the amount of time that the results remain on the screen after rundown.



2. Press key ① or ③ to scroll through the options, which range from -5 to +5. Press key ② to set value and return to the Admin menu.

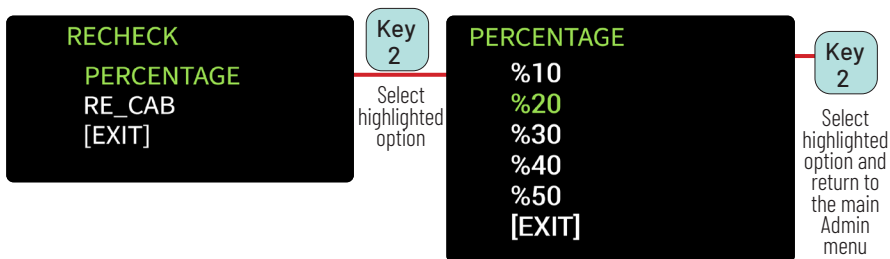
### 7.5.11 Recheck

1. In the Admin menu, press key ① or ③ to scroll to Recheck, and press key ② to enter the Recheck menu.



#### Percentage

- a) Press key ① or ③ to scroll to Percentage.



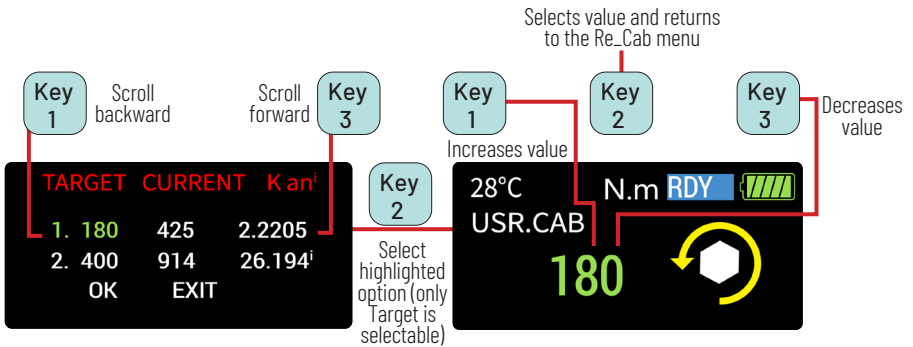


- b) To adjust the percentage, use key ① or ③ to scroll through the values. Pressing key ② select the percentage and returns to the Percentage menu. Select Exit to return to the Recheck menu without making any changes.
- c) To exit out of the Recheck menu, press key ① or key ③ to scroll to Exit and press key ② to select and return to the Admin menu.

RE\_CAB

The RE\_CAB option allows you recheck your calibration and reset your Target value.

- a) To adjust the Target value, press key ① or ③ to scroll to the value you want to change. Press key ② to select. This will return you to the Main interface where you can press key ① or ③ to adjust the target value.



- b) Press key ② to accept the new value and return to the RE\_CAB target value screen. Your new settings will show. Continue setting the remaining target values using the same steps.
- c) When finished with Target settings, press key ① or ③ to scroll to OK and select it by pressing key ②. This will return to the main Recheck menu.
- d) When finished with all Recheck settings, press key ① or ③ to scroll to Exit and select it by pressing key ②. This will return you to the main Admin menu.

### 7.5.12 Check Point

1. In the Admin menu, press key ① or ③ to scroll to Check Point, and press key ② to enter the Checkpoint screen.



SENSOR SelfCheck  
SCAD:2706  
Please Forward Run  
Zero: 2138

2. Press key ② to return to the main Admin screen.

### 7.5.13 Exit

1. When finished with all Admin settings, from the main Admin menu, press key ① or ③ to scroll to Exit and press key ② to return to the Admin operation screen.
2. From the Admin operation screen, press key ① or ③ to scroll to the Exit screen, and press key ② to return to the main tool interface.

## 7.6 WiFi

WiFi is not enabled in the ABETP Series Tools

## 8. Tool Operation

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### 8.1 Charging the Battery



WARNING: before the first use, ensure that the battery charger voltage is consistent with the mains power supply voltage.

The battery should be fully charged before use. See “9. Battery and Battery Charger” on p. 41.

### 8.2 Installation and Removal of Lithium Battery

See “9. Battery and Battery Charger” on p. 41 for more information on battery installation and removal.

Ensure that fully charged batteries are in good condition. Application torque, connection rate, battery condition, age, and operating temperature will affect the actual torque cycle of each charge. To ensure the lithium-ion battery is operating with maximum efficiency, the battery must be kept at full power and recharged within six months.



WARNING: Make sure that nothing is pressing the tool trigger before inserting the battery onto the tool.



WARNING: To avoid injury, remove battery before installing reaction arm.

Installation: Push the battery toward the tool handle until the battery is fully seated. A “click” will sound to ensure the battery is in place.

Removal: Press and hold the release button on the back of the tool handle and slide the battery forward.

### 8.3 Preheating the Motor

At the initial use of the tool or if the tool has not been used in a while, preheating the motor is recommended. This helps ensure torque accuracy.

1. Install the tool battery, making sure that the tool trigger is not pressed.
2. To warm up a tool, simply ensure that it is not in contact with a bolt or able to deliver any reaction generating force. Press the trigger and allow the tool to free run for 10 seconds.

## 8.4 Installation of Reaction Bar



***WARNING: Remove the battery before installing the reaction arm.***



***Caution is required. Failure to exercise caution and correct operating technique can result in serious personal injury, loss of limb, or death.***

AcraDyne® XT Tools deliver high amounts of torque to an application. As is the nature with all tool systems that function in this manner, high amounts of torque reaction will occur. AcraDyne® XT systems work with Reaction Bars that engage the tool with snap ring and, when used correctly, counteract the natural torque reaction in use by pressing against a part detail or adjacent nut/bolt.



***it is essential that these forces are understood completely by the operator and that the reaction bars have been chosen with the application's specific geometry in mind.***

***AcraDyne® offers a range of Reaction Bars from stock and will design specific Reaction Bars to suit specific applications upon request.***

***It is the user's responsibility to ensure that the correct Reaction Bar or Tool Holding Fixture is in place PRIOR to use of the AcraDyne® XT Series Nutrunner.***

### 8.4.1 Reaction Bar Guidelines



***Caution is required. Failure to exercise caution and correct operating technique can result in serious personal injury, loss of limb, or death.***

The guidelines offered below are only guidelines. Should there be any doubt as to the integrity of a proposed reaction strategy, it is strongly advised to consult with an AcraDyne® authorized representative prior to executing strategy.

Reaction force is equal to the point being applied. The magnitude of the reaction force is dependent upon the perpendicular distance between the point of reaction and the centerline of the gearbox. In other words, the greater the distance the lower the force experienced. For this reason, the point of reaction should be kept as far away from the centerline of the tool gearbox as possible.

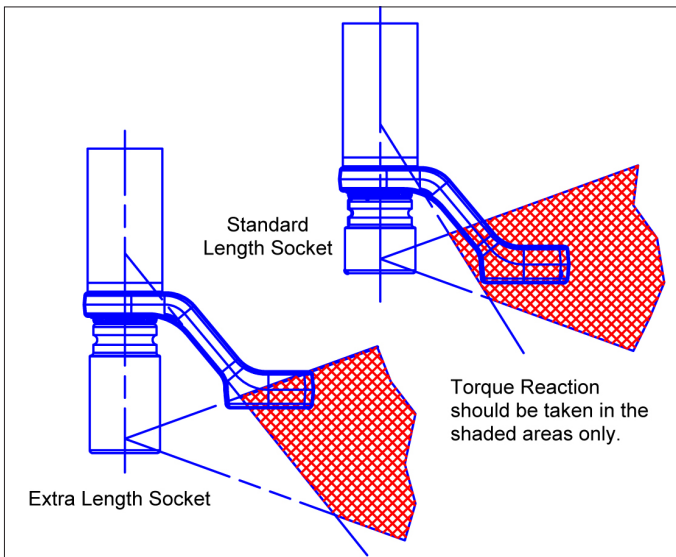


Figure 1 - Safe reaction window

#### 8.4.2 Sockets

Only Impact Grade, industrial sockets should be used with AcraDyne® XT Series Nutrunners. Mechanic-grade chrome sockets are not to be used as they do not have sufficient structural strength required to deliver the higher torque loads that an AcraDyne® XT Series Nutrunner is capable of delivering. In addition, the use of Socket Extensions of any length are strongly discouraged as they also will experience failure to an extent where tool damage or operator injury may occur.

#### 8.4.3 Pinch Point

The nature of a reaction bar in any continuous drive tool is to press against an object to counteract torque reaction as the tool is delivering torque.

The operator must take great care to keep body parts or foreign matter clear of the area between the Reaction Bar and the surface it is reacting against.



***Any body part or foreign matter residing in a space between the reaction bar and the surface it will react against will encounter significant forces that can cause injury, loss of limb, or death.***

#### 8.4.4 Installation Procedure



**Operators MUST ensure that no hands, body parts, or other non-sufficiently structural elements are between the reaction bar and reactive point when positioning the reaction bar. Care MUST be taken to avoid tool start while positioning the reaction bar. Failure to practice safe reaction bar handling can result in SEVERE injury to person or damage to tool/application.**




**WARNING: Remove the battery before installing the reaction arm.**

1. Orient the Reaction Bar so that the recess above the spline on the Reaction Bar is oriented towards the rear of the tool and any reaction foot is oriented away from the tool anvil.
2. Install the Reaction Bar onto the splines of the gearbox ensuring that the Reaction Bar is staying true to the splines.
3. Install the Reaction Bar snap ring onto the end of the Gearbox securing the Reaction Bar in place on the Gearbox. **Failure to secure the reaction bar properly can result in severe injury to the operator and/or damage to the tool/application**
4. Install tool battery

**The tool handle must not be located against an object or restriction during operation of the tool to avoid creation of a pinch point. An OEM sourced or approved reaction bar or proper reaction absorption device must be used and in good condition any time the tool is operated. Proper torque reaction management practices must be observed at all times. Failure to understand and employ safe operating techniques can result in tool damage, application damage, severe personal injury, or death**

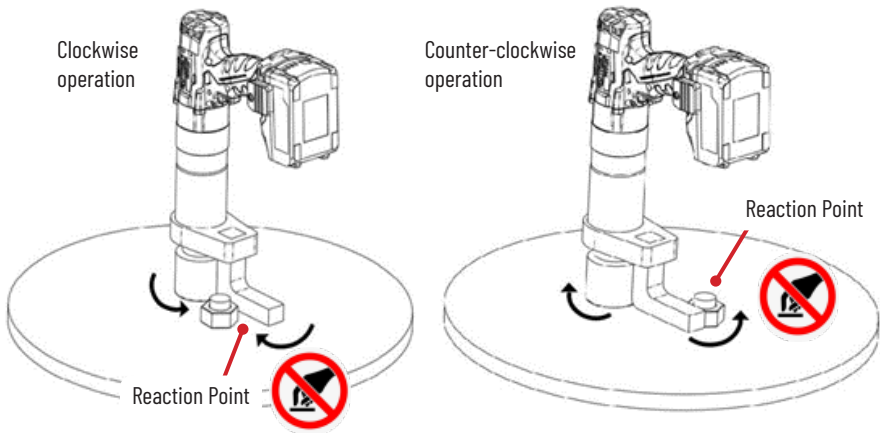
5. When ready to begin tightening, swivel the reaction bar into position minimizing or ideally eliminating any gap between the Reaction Bar and the Reaction Surface of the application.
6. Complete the tightening event as detailed in the following section.

## 8.5 Starting the Tool


 **WARNING:** Always keep hands clear of the reaction arm when the tool is in use or serious injury could result.


To operate the tool:

1. Select the desired operating mode: torque mode, gear mode, preset mode, preset gear, or angle mode.
2. Select Fwd or Rev operation direction
3. Press the trigger firmly. The trigger can be released at any time to stop the tool and cancel the torque cycle.



4. When "Rdy" is displayed on the screen, the tool is ready for the next torque.

 **WARNING:** Do not continue tightening or loosening directly after tightening, or tighten objects that exceed the target maximum torque value, which will cause overload and damage to the tool.

 **WARNING:** Do not continue operation if the gearbox is making an abnormal noise during the tightening process. Abnormal tool operation may cause burn out of the motor or the control board.

## 8.6 Fwd / Rev / Lock Switch

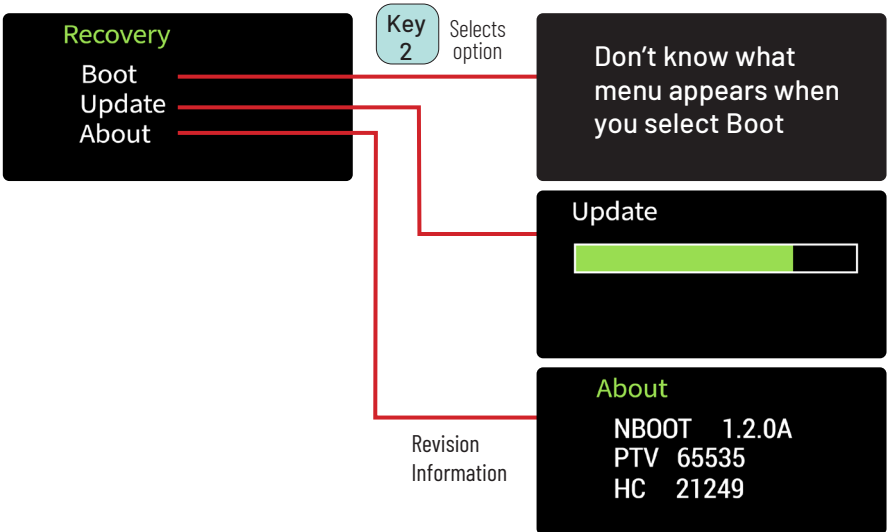
On some models, the Fwd/Rev switch at the top of the tool handle also is capable of locking the trigger so that it cannot be pressed.

When the Fwd/Rev/Lock switch is pressed in from the left side, the tool will rotate counterclockwise. When pressed in from the right side, the tool will rotate clockwise. To enable trigger lock, position the Fwd/Rev switch in the middle position.

## 8.7 Recovery

Should there be a corruption in the onboard control system, a Recovery menu will appear at tool startup.

1. Press key ① or ③ to scroll through the options. Selecting an option by pressing key ② brings up the following menus.



2. When finished, tool will restart.



## 9. Battery and Battery Charger

The XT series may be provided with a charger or one may be sourced locally. This charger can charge only the battery specific to the tool. The charger can not be used with other batteries. Incorrect battery usage could cause serious damage to the equipment and to the operator. The user shall be responsible for the losses caused by improper use.

Read all instructions before using the charger.

### WARNING

- Do not try to charge a damaged battery
- If smoke or sparks occur, cut off the power immediately
- Avoid impact or damage to the charger or battery casing
- Do not put external objects in the vents of the charger. This can result in electric shock or short circuit and can endanger the equipment and the operator
- Vents should be ventilated at all times. Recommended distance between the charger and other objects is 2 inches (5 cm)
- Do not open the charger or battery casing
- Keep away from children
- Keep away from moisture
- Do not try to charge a fully charged battery
- Do not leave a fully charged battery on a charger. This can damage the charger

### 9.1 Battery

- Batteries must be charged only with the appropriate charger.
- Ideal battery storage temperature is between 10°C to 30°C (50°F to 86°F).



Li-Ion battery packs for AcraDyne XT tools have a capacity indicator. Press the button and the charge level is displayed. If one LED is flashing, the battery pack is almost depleted and must be recharged.

## 9.2 Battery Charger

Caution! Ensure the charger voltage matches the voltage of the mains power supply before using it for the first time. Ensure that the air slots are free.

The temperature range during charging is 0°C to +50°C (+32°F to +120°F)

### 9.2.1. Charging

Steps:

1. Plug the charger into a powered socket.
2. The warning indicator light and the operation indicator light turn on one after the other for approx. 1 second, and the installed fan runs for approx. 5 seconds.



3. Push the battery pack onto the sliding seat completely until it stops. The operation indicator light will flash. This means the battery is charging.

Note: To view the charge level on Li-ion battery packs, remove battery from battery charger and press the button on the battery pack.

### 9.2.2. Charging Complete

1. When charging is complete, the green operation indicator light will be on and the charger will switch to energy-saving mode. This will keep the battery at maximum capacity until the battery is removed from the charger.
2. To remove the battery from the charger, pull the battery charger out of the sliding seat in the opposite direction.

### 9.2.3. Charging Failure

The charger will detect the following charging failures and stop the battery from charging.

1. When the red warning indicator light is on continuously, the temperature is too high or too low and the battery is not charging. When the battery temperature is between 0°C to +50°C (+32°F to +120°F), the charging process will start automatically.
2. When the red warning indicator light flashes, the battery pack might be defective. Remove the battery from the charger immediately. A flashing red light may also mean the battery is not properly plugged into the charger. Remove the battery and push it correctly onto the sliding seat.
3. If the red light keeps flashing, unplug the charger from the wall and carefully clean the contact surface. If the problem cannot be solved, replace the charger.
4. Repairs to the charger must only be carried out by qualified electricians.

If the mains connection cable of this device is damaged, it must be replaced by the manufacturer or the customer service department of the manufacturer or a similarly qualified person to prevent endangering personnel and property.

## 10. Troubleshooting

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The following table lists some faults and some, but not all of their possible solutions. If other faults are encountered, please contact the distributor for repair.

**Attention! In case of any fault, stop using the tool immediately!**

Fault	Possible cause	Solution
1. Unable to reach the maximum torque value	The motor is lacking power to deliver the programmed torque	Please contact the distributor for repair
2. Unable to reach the minimum torque value	The power is too high to reach the minimum torque value	Please contact the distributor for repair
3. The displayed value does not match the input value during calibration	The value digits may have been entered incorrectly, which may cause the wrong sequence to occur	The maximum input value is four digits. When the input value is less than four digits, the prior digits must be filled in with zero.
4. Torque out of limit during calibration	Actual torque exceeds set torque	The first line of calibration should not exceed the set torque value.
5. Battery damage	Unable to charge or supply power to the motor for operation	Please contact the distributor to purchase or replace a battery.
6. Error icon appears	The system checks itself and prompts the error fault on the display	See ""5.3 Error Icons" on p. 11

## 11. Software

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### Software Running Environment

System requirement: Windows 7 and above

Framework dependence: .net framework 4.5 frame

#### 11.1 Installing the Software

Download the AcraDyne XT Explore software installation file from the AIMCO website. Click on the file to launch the software.

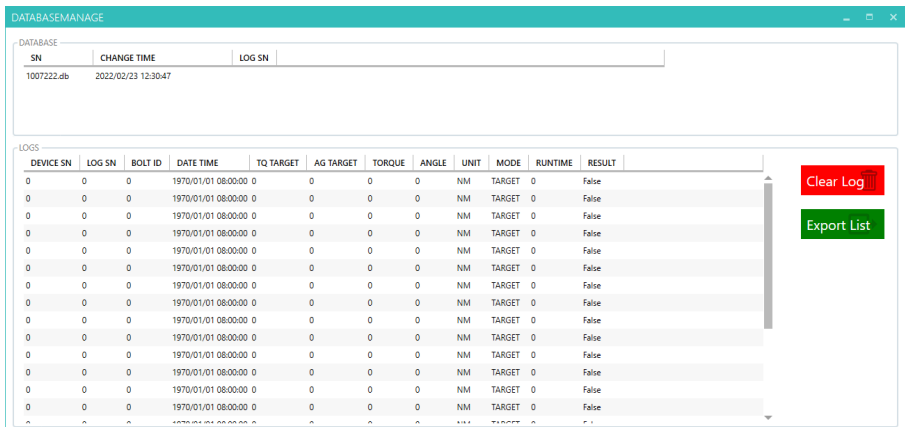
 AcraDyne\_XT\_Explore.exe

The Tool Connect screen will appear.



Options available at the top of this screen include

- Language: Select English or Chinese
- Netcard: Not applicable to XT series tools
- Database: This option displays the tightening events that have been stored in the tool memory



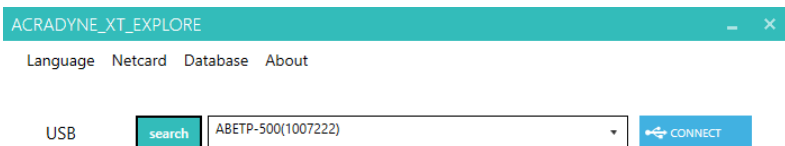
Select [Clear Log]: to clear the database information. Select [Export List] to export the data in .xls, .csv, .pdf, or html format.

- About: Displays the current software version

## 11.2 Connecting the Tool

Connect the tool to the host computer using a USB cable. The USB cable port on the tool is located directly below the user interface screen.

Select USB Search on the host computer and the name of the connected tool will appear. Click [Connect].



After connected successfully the software main menu will open.

### 11.3 Main Software Menu

The tool software’s main menu shows information about the connected tool: model number, torque range, gear range, serial number (SN), and production date.

ABETP-500 - (1007222)

[ USB ] DeviceInfo Setting Logs Upgrade

AIMCO®

Model	ABETP-500
Torque Range(NM)	150 - 500
Gear Range	1 - 99
SN	1007222
Production Date	7/20/2020

Connect | AcraDyne\_XT\_Explore | Version:2.2.2b

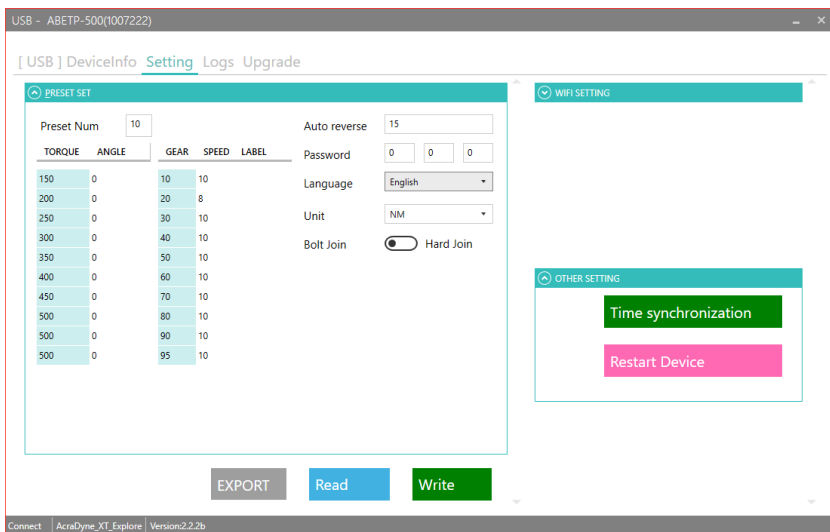
From the main menu, you can navigate to three workspaces, including Setting, Logs, and Upgrade.

### 11.3.1 Setting Interface

The Setting interface allows the user to enter tool parameters, rather than entering them through the tool interface.

#### Preset Set

The Preset Set window lets you view and alter tool presets. Click [Read] to read the preset data from the tool. Once the data appears, you can make changes by typing in new values. When finished, click [Write] to transfer the new preset values to the tool.



Click [Export] to save the existing configuration file (wconf) for backup purposes.





The following options are also available in the Preset Set window:

- Auto Reverse: Value for CCW movement of the tool at the end of the tightening event that allows for unloading of reaction bar strain. Increase value if additional lessening of stored energy is desired
- Password: 0 0 0 is the default operator password that allows basic functionality. Enter factory level password here for higher level access (authorized service department use only)
- Language: Choose English or Chinese
- Unit: Options are NM, FTLBS, or KGFM
- Bolt Joint: Toggle the switch to the left for a hard joint, and toggle the switch to the right for a soft joint.

Auto reverse	<input type="text" value="15"/>
Password	<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>
Language	<input type="text" value="English"/>
Unit	<input type="text" value="NM"/>
Bolt Joint	<input checked="" type="checkbox"/> Hard Join

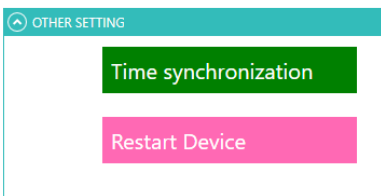
Bolt Joint	<input type="checkbox"/>	Hard Join	Bolt Joint	<input checked="" type="checkbox"/>	Soft Join
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### WiFi Setting

WiFi is not enabled in th ABETP Series Tools

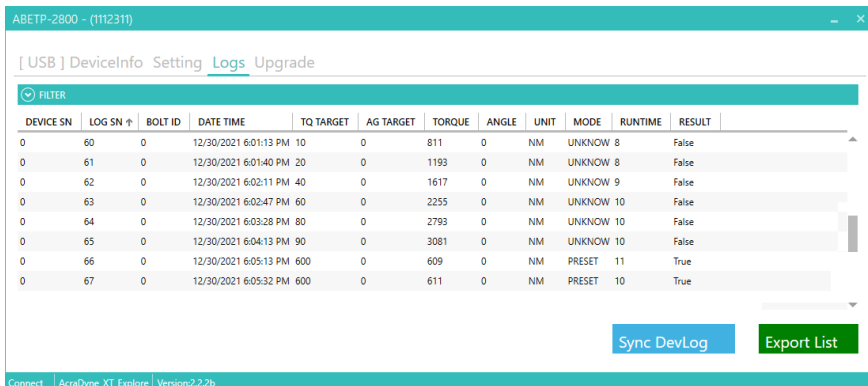
### Other Setting

The Other Setting box allows you to synchronize date and time information in the tool with that from the connected PC, as well as allow a soft boot of the tool operating system.

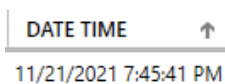


### 11.3.2 Log Interface

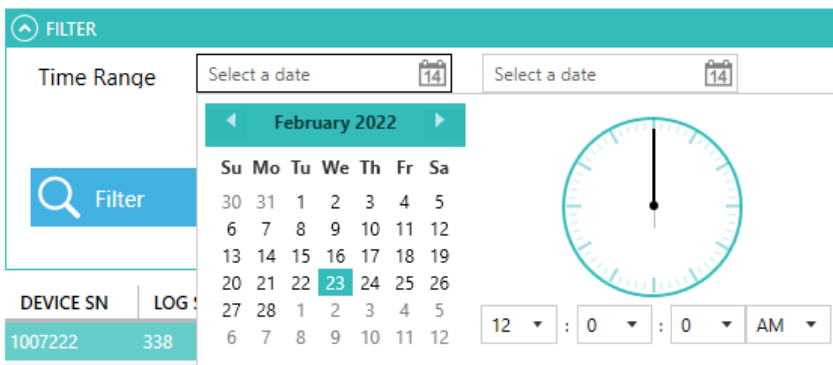
This workspace displays all tightening result data.



The data in the log can be sorted by clicking on a column title.



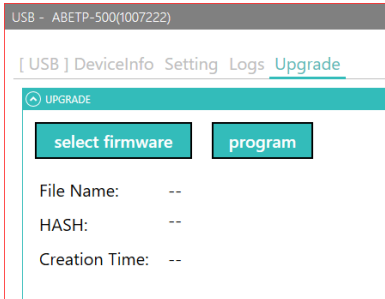
To filter the data shown in the log to view log records from a specific time/date range, click [Filter]. From this pop-up menu, [Select a date] will pull up a calendar and a clock. Select the time frame of the logs you want to view.



The bottom of the Log interface shows two buttons: Sync DevLog and Export List. Click [Sync DevLog] to synchronize the software with the data stored on the wrench. Click [Export List] to export the log in .xls, .csv, .pdf, or html format.

### 11.3.3 Upgrade Interface

The Upgrade screen is where the tool's firmware can be updated.



To upgrade the firmware, click [Select Firmware], which will open up a window where you can navigate to the firmware's location.



Click [Program] to begin loading the selected firmware into the tool operating system.

## 12. Tool Warranty

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### NEW TOOL AND ACCESSORY WARRANTY

Any new tool or accessory branded with the AIMCO, Uryu, AcraDyne or Eagle Industries name, and purchased from AIMCO, or through one of its authorized distributors or agents, is warranted to the original buyer against defects in materials and workmanship for a period of one (1) year\* from date of delivery. Under the terms of this warranty, AIMCO will repair or replace any product or accessory warranted hereunder and returned freight prepaid proving to AIMCO's satisfaction to be defective as a result of workmanship or materials. In order to qualify for this warranty, written notice to AIMCO must be given immediately upon discovery of such defect, at which time AIMCO will issue an authorization to return the tool. The defective item must be promptly returned to an authorized AIMCO service center with all freight charges prepaid.

### REPAIRED TOOL WARRANTY

Once a tool is beyond the new product warranty period as detailed above, AIMCO repairs are subject to the following warranty periods: pneumatic tools: 90 days\*; electric tools and Acra-Feed: 90 days; battery tools: 30 days\*; DC Electric tools: 90 days\*

### EXCLUSION FROM WARRANTY

This warranty is valid only on products purchased from AIMCO, or through its authorized distributors or agents. AIMCO shall have no obligation pursuant to the AIMCO Warranty with respect to any tools or accessories which in AIMCO's sole judgment have been altered, damaged, misused, abused, badly worn, lost or improperly maintained. This Warranty is null and void if the customer, or any other person other than an authorized representative of AIMCO, has made any attempt to service or modify the tool or accessory prior to its return to AIMCO under this Warranty.

The warranty provision with respect to each such product may be amended by AIMCO from time to time in its sole discretion. The liability of AIMCO hereunder shall be limited to replacing or repairing, at its option, any products which are returned freight prepaid to AIMCO and which AIMCO determines to be defective as described above or, at AIMCO's option, refunding the purchase price of such products.

AIMCO reserves the right to make periodic changes in construction or tool design at any time. AIMCO specifically reserves the right to make these changes without incurring any obligation or incorporating such changes or updates in tools or parts previously distributed.

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LIMITATION OF LIABILITY

AIMCO'S LIABILITY PURSUANT TO WARRANTY OF THE PRODUCTS COVERED HEREUNDER IS LIMITED TO REFUND OF THE PURCHASE PRICE. IN NO EVENT SHALL AIMCO BE LIABLE FOR COSTS OF PROCUREMENT OF SUBSTITUTE GOODS BY THE BUYER. IN NO EVENT SHALL AIMCO BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL OR OTHER DAMAGES (INCLUDING WITHOUT LIMITATION, LOSS OF PROFIT) WHETHER OR NOT AIMCO HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSS, HOWEVER CAUSED, WHETHER FOR BREACH OR REPUDIATION OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR OTHERWISE. THIS EXCLUSION ALSO INCLUDES ANY LIABILITY WHICH MAY ARISE OUT OF THIRD PARTY CLAIMS AGAINST BUYER. THE ESSENTIAL PURPOSE OF THIS PROVISION IS TO LIMIT THE POTENTIAL LIABILITY OF AIMCO ARISING OUT OF THIS AGREEMENT AND/OR SALE.

Note: The AIMCO Warranty confers specific legal rights, however some states or jurisdictions may not allow certain exclusions or limitations within this warranty.

\* All warranty periods addressed herein are determined using a standard shift, eight-hour work day.







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