KL-TCC-M7 User Manual



Model: KL-TCC-M7

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目錄

1. Product specification introduction 2
2. Appearance 3
3. First page 4
4. Login 4
4-1. Main Screen 4
5. Function Menu 6
5-1. Operation 6
5-1-1. Call / Step Message Description 7
5-2. Job Manager 7
5-2-1. Job Manager 7
5-2-2. Seq 8
5-2-3. Step Manager 10
5-3. Settings 11
5-3-1. Controller 11
5-3-2. Barcode 11
5-3-3. Time 12
5-3-4. Password 13
5-3-5. Display 13
5-3-6. Network 14
5-4. Data 15
5-4-1. History 15
5-4-2. Export Data 15
5-4-3. Export Config Settings 16
5-4-4. Import Config Settings 16
5-4-5. Restore Factory Settings 17
5-4-6. Maintain 17
5-5. Output / Input 18
5-5-1. Input 18
5-5-2. External input “binary” job switching. 19
5-5-3. Output 20
5-5-4. Output Test 20
5-6. Graph 21
5-7. System 21
5-7-1. Tool 21
5-7-2. Controller 22
5-7-3. Update 22
6. External output control function description 23
7. External input control function description 23
8. Description of display status code 24
8-1. Abnormal messages from controller/screwdriver/lock information 24
9. Modbus Instruction 25

1. Product specification introduction

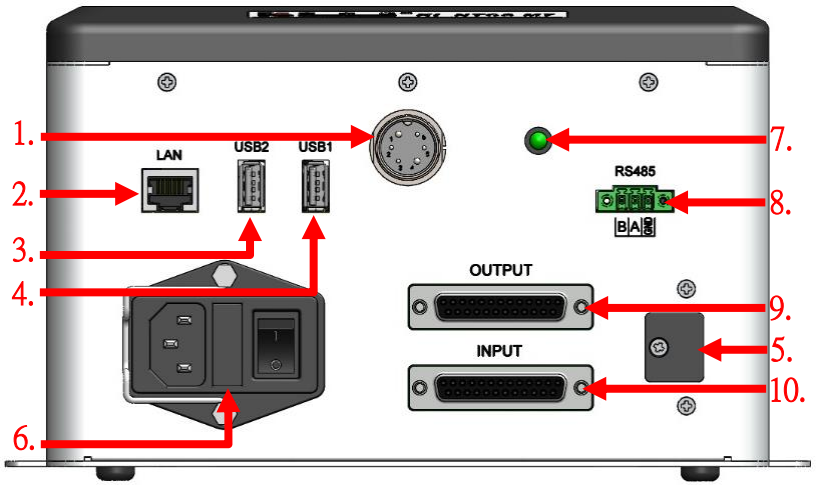
Model	KL-TCC-M7		
Import Voltage	AC 115V / 230V		
Import Frequency	50 - 60Hz		
Import Current	6.3A		
Import Voltage	DC 40V		
Export Current	Max 9A		
Export Power	360W		
Size (mm)	210*185*134		
Weight (g)	3467		
DC screwdriver model:	SGT-CC210 Series	Working Time	1s ON / 3s OFF
	SGT-CC 670 Series		1s ON / 3s OFF

	Product Name	Quantity
Accessories	Accessories set Tripod	1
	Manual	1
	Warranty certificate	1

2. Appearance

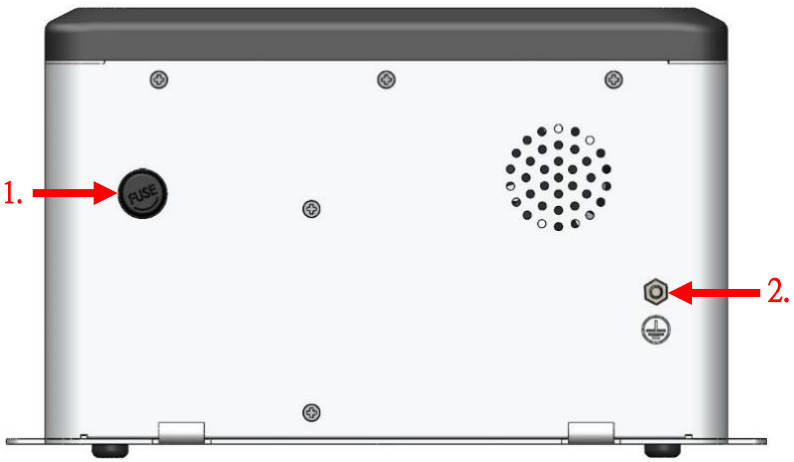


2.1 Panel



2.2 Bottom

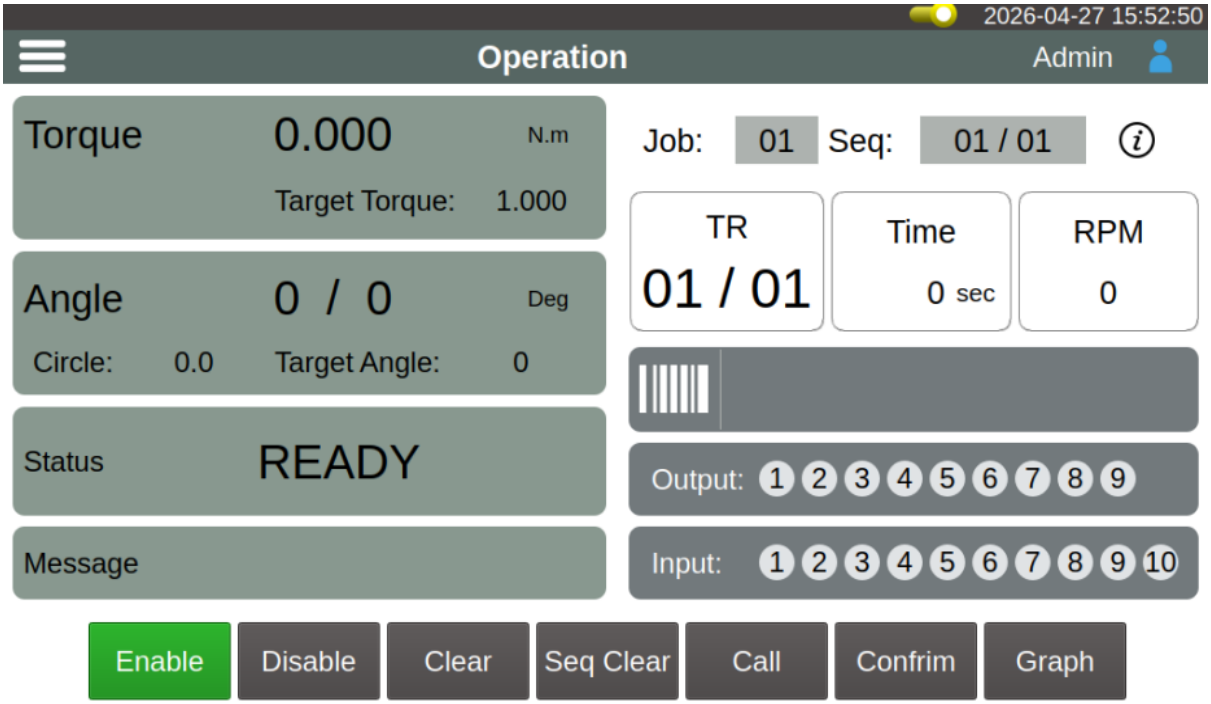
1	Tool connection seat
2	Wired communication port
3	Export/configuration file export/import/update software/scanner for lock data, USB type-A
4	Export/configuration file export/import/update software/
5	scanner for lock data, USB type A
6	Power cord socket and power switch
7	LED Indicator: The lights will turn on for normal operation and standby/sleep mode. If the lights do not turn on, it indicates a malfunction.
8	Prcol export port
9	Export screwdriver signal port
10	Import control screwdriver signal port



2.3 Upper cover

1.DC fuse seat (incl. 15A fuse)
2. Grounding terminal seat (FG)

3. First page



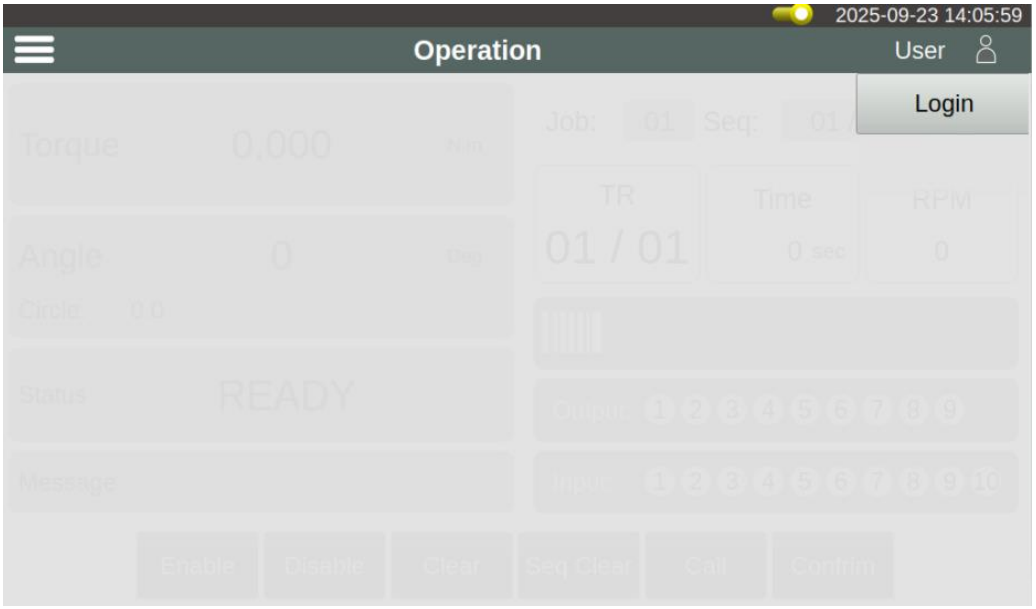
Main Page Functions	說明
Execute Job	After startup, the fastening result screen appears.
Information	The "Ready" status indicates that the tool and controller are successfully connected and prepared for operation.
Login	Tap the icon in the upper-right corner to enter the password screen. Login is required to access full controller settings.

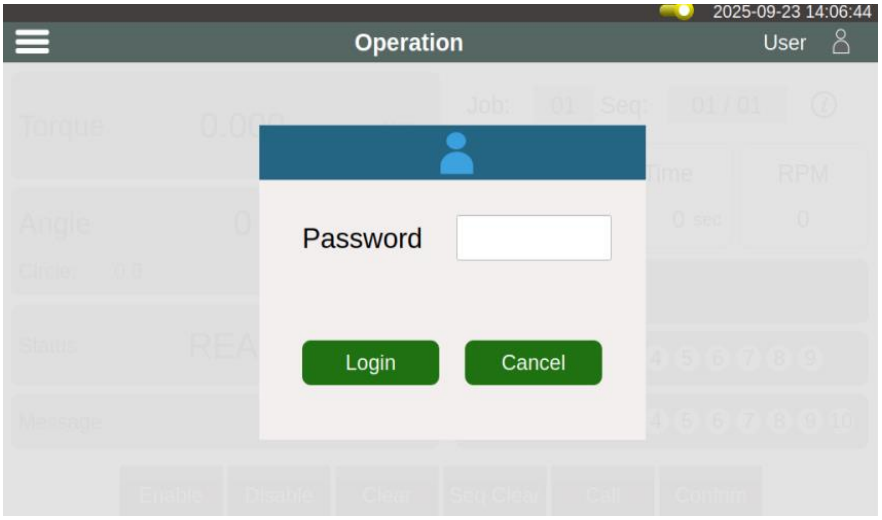
4. Login

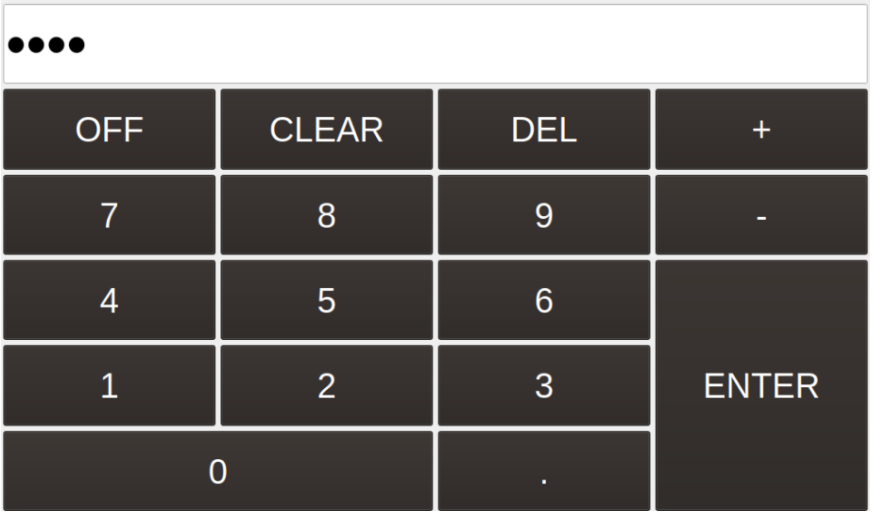
4-1. Main Screen

Operation

1. **Unlogged-in screen:** Remains on the monitoring view (icons shown: Fastening Result / User / Login).
2. **Login password:** Enter **0000** (default).
3. **Select Login**

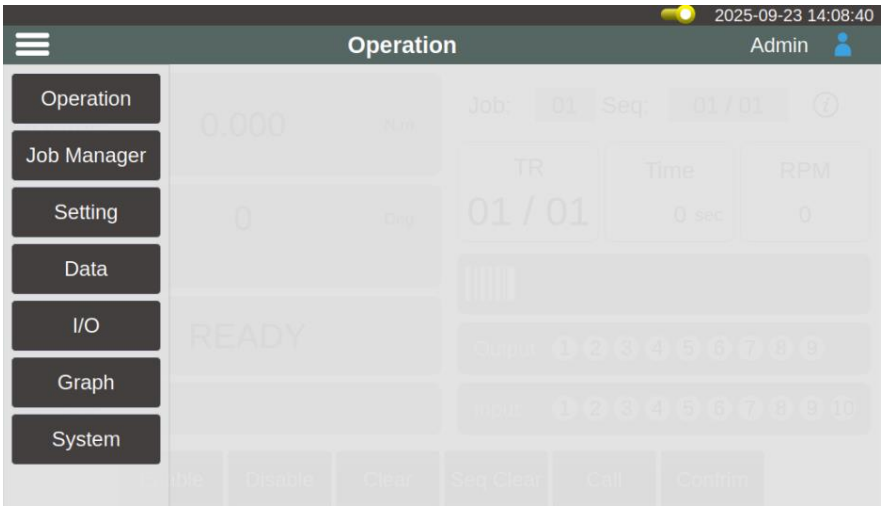






After login

the function menu appears. You can select: Operation / Job Management / Setting / Data / I/O / Craph / System.



Logout: Exit the menu and return to the Home screen.

5. Function Menu

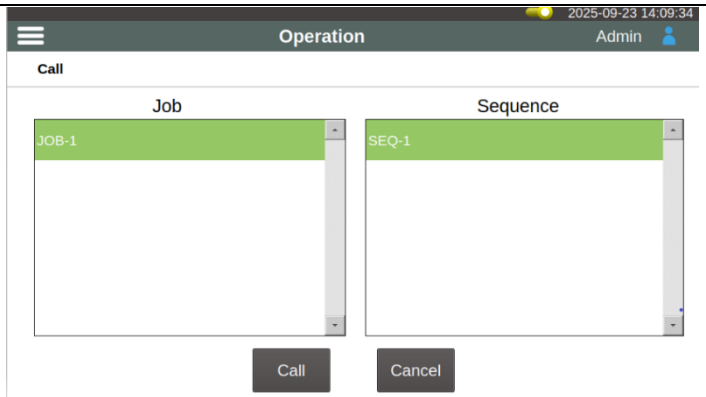
5-1. Operation



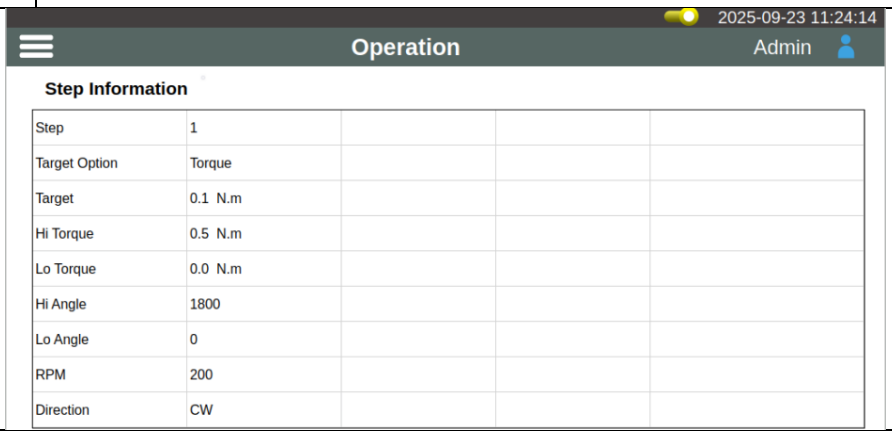
Main Page Functions	Description
1. Function Menu	Tap to return to the Function Menu screen.
2. Work Status	Enable: The tool is in an executable state. Disable: The tool is prohibited from operating.
3. System Time	Displays the system time.
4. Login Permission	Displays the current login permission status.
5. Login	Tap this icon to enter the Login / Logout screen.
6. Torque Value	Displays the running / fastening torque value.
7. Torque Unit	Displays the configured torque unit.
8. Job	Displays the current job name.
9. Seq	Displays the current process number / total processes.
10. Step Message	Displays the current step message.
11. Step Angle	Displays the current step angle value.
12. Total Process Angle (Deg)	Displays the total process angle during operation.
13. Count (TR)	Displays the current count / total count.
14. Time	Displays the total fastening time.
15. RPM	Displays the current running speed.
16. Circle	Displays the step revolutions during operation.
17. Target Angle	Displays the configured target angle.
18. Barcode	Displays the scanned barcode.
19. Status	Displays the status (Running, Fastening Complete, Fastening Failed, Job Complete, Reverse, Ready, etc.).
20. Message	Displays fastening / controller error messages and system interpretation messages (Operation Incomplete, Torque Over Upper Limit, Angle Below Lower Limit, etc.).
21. I/O Output / Input	Displays input/output indicator lights and charts.
22. Function Buttons	Enable, Disable, Clear, Seq Clear, Call, Confirm, Craph.

5-1-1. Call / Step Message Description

1. Call	Call the job and Sequence to be executed.

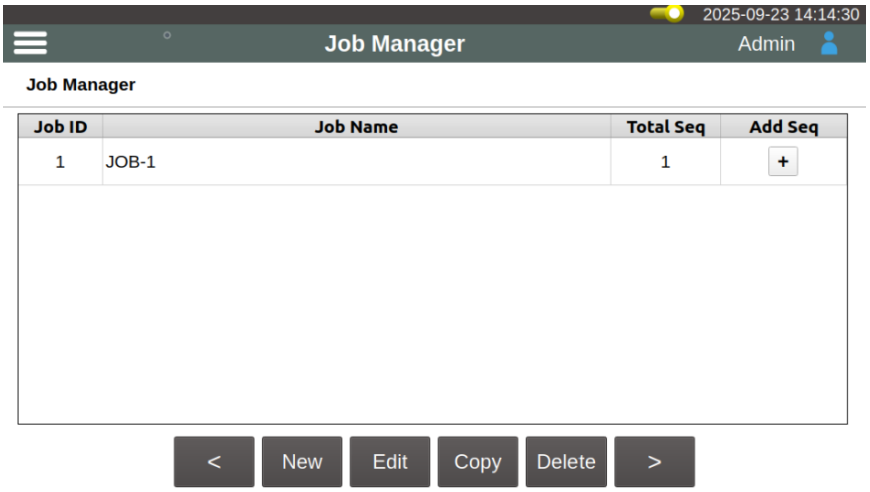


2. Step Message	List of parameter settings for the current fastening step.



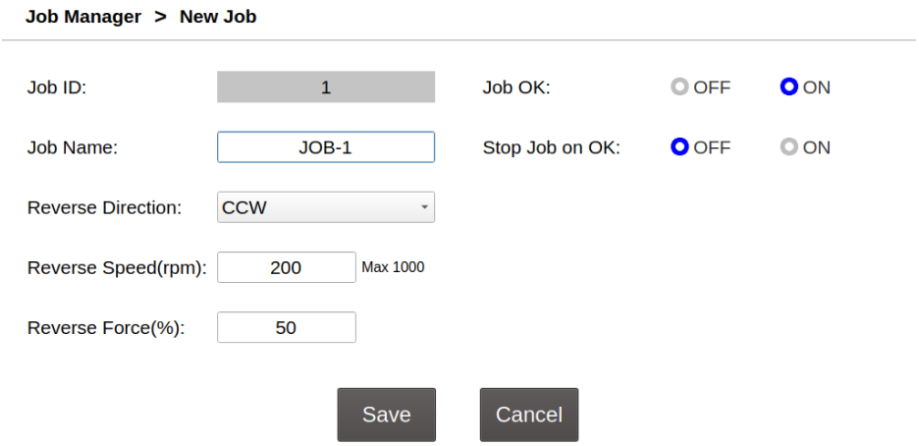
5-2. Job Manager

5-2-1. Job Manager



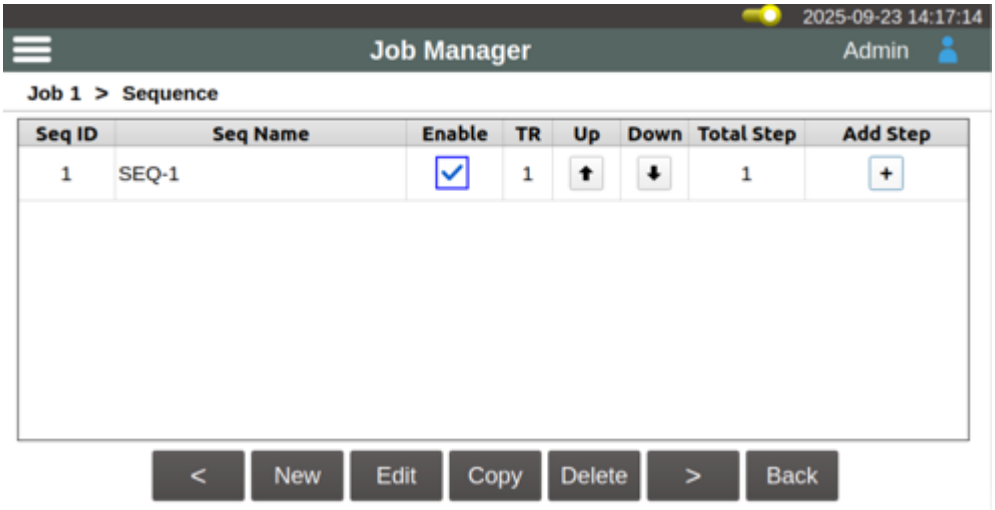
Job Manager	Description
New	Open the Add Job interface.
Edit	Edit the selected job.
Copy	Copy the selected job, including its Seq and steps.
Delete	Delete the selected job.
+	Enter the next level (Seq).

New Job



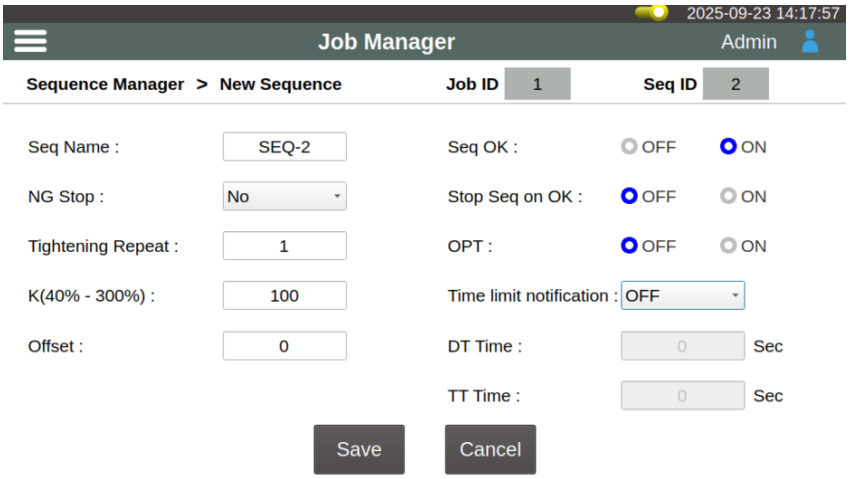
Job Manager	Description
Job Number	Displays the newly created Job ID (e.g., JOB-2 in the example).
Job Name	Supports English letters (upper/lower case), numbers, and symbols (1–250 characters).
Unscrew Direction	Clockwise / Counterclockwise / Disabled.
Unscrew Speed	Manual setting: Defines the driver's unscrew speed. (Range: refer to the driver's technical specifications; default is the driver's minimum speed.)
Unscrew Torque (%)	Sets the unscrew torque; acceptable range is 10–110%.
(Job OK)	Off: No output of Job-OK signal (OK-JOB).
(Stop Job on OK)	On: Outputs the Job-OK signal (OK-JOB).

5-2-2. Sequence



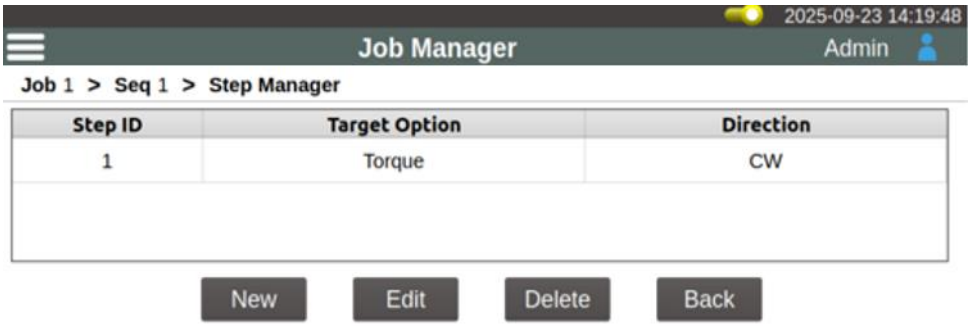
Seq	Description
Seq ID	Displays the current Seq number.
Seq Name	Displays the current Seq name.
Enable	Enable □ : When checked, this Seq will be executed; when unchecked, it will not be executed.
Quantity (TR	Displays the quantity for this Seq.
Up / Down	When multiple Seq items exist, selecting Up/Down changes the execution order.
Total Steps	Total number of fastening steps within the Seq.
New	Open the Add Seq page.
Edit	Edit the selected Seq.
Copy	Copy the selected Seq, including all steps.
Delete	Delete the selected Seq.
+	Enter the next level (Step Manager).

New Sequence



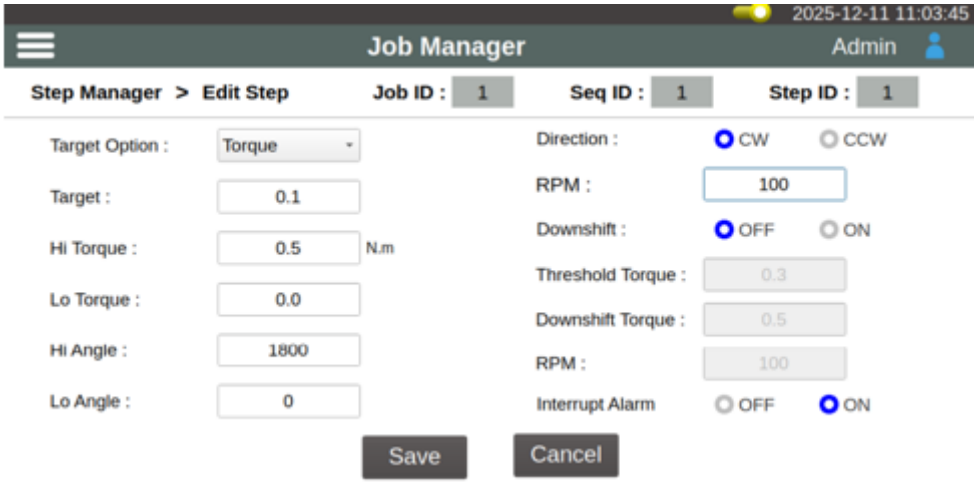
New Sequence	Description
Job ID	Display the selected Job ID.
Seq ID	Display the selected Seq ID.
Seq Name	Supports English (case-sensitive), numbers, and symbols (1–250 characters).
(Stop on NG)	Set the handling method for fastening errors: Off / 1–9. 1–9: Setting 1 locks the screwdriver after one fastening error; Setting 2 locks the screwdriver after two consecutive errors, and so on. If any fastening result is OK, the count resets. When the 1–9 function is enabled: Upon receiving error signal “NS”, the screwdriver locks immediately. The user must press “Confirm” to unlock. (For I/O mode, external Confirm signal is required; unscrewing is still allowed before confirmation.) Off: When error signal “NG” occurs, the screwdriver does not stop and does not affect the next start; only a warning is issued. Default value: 0.
Tightening Repeat	Set the total screw Count (TR) for the Seq.
K(40%~300%)	Adjust this value to make the actual fastening torque closer to the controller’s displayed Torque Value. (KTM torque meter is optional.)
Offset	Fine-tune this value to further align the actual fastening torque with the controller’s displayed Torque Value. (KTM torque meter is optional.)
(Seq OK)	Off: No output of Seq completion signal (OK-SEQ). On: Output Seq completion signal (OK-SEQ). Default: On.
(Stop Seq on OK)	Set the handling method when the Seq screw Count (TR) reaches the completion value. Off: When the completion action occurs, the screwdriver does not stop and does not affect the next start. On: When the Seq screw Count (TR) is completed, the screwdriver locks immediately. The user must press “Confirm” to unlock forward rotation. (For I/O mode, external Confirm signal is required.) Default: Off.
OPT	When set to low-torque/high-RPM or high-torque/low-RPM, the controller automatically adjusts RPM to stabilize actual torque performance.
Time limit notificating	Four options: Off / Screw Interval Time / Seq Completion Time / All Enabled.
DT Time	During Seq execution, the time from the fastening result (e.g., OK, NG) to the Trigger of the next screw. If the waiting time exceeds the set value, the controller displays a warning icon and emits continuous beeps until fastening is triggered again. Range: 1–99 seconds.
TT Time	During Seq execution, the time from the first Trigger to the completion of the last screw in the Seq. If the Seq completion time exceeds the set value, the controller displays a warning icon and emits continuous beeps until all screws in the Seq are completed. Range: 1–6000 seconds. Range: 1–6000 seconds; default value 0 means not set.

5-2-3. Step Manager



Step Settings	Description
New	Open the New Step interface.
Edit	Edit the selected step.
Copy	Copy the selected step.
Delete	Delete the selected step.
Back	Return to the previous page (Seq).

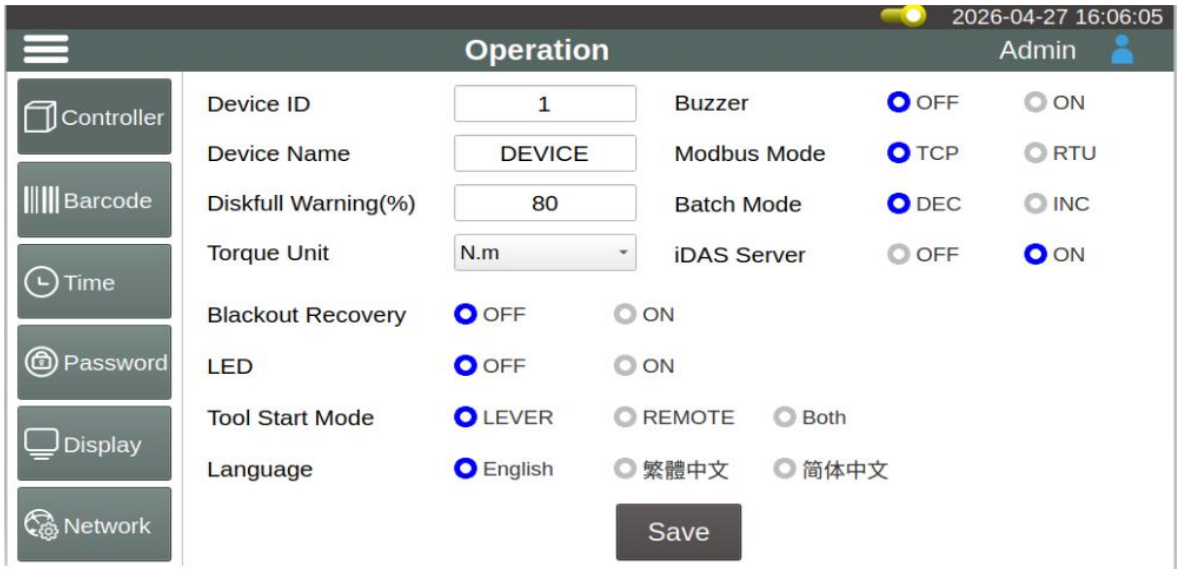
New Step



Step Parameters	Description
Job ID	Display the selected Job ID (example shows 1).
Seq ID	Display the selected Seq ID (example shows 1).
Step ID	Display the selected Step ID.
Target Option	Select one of the three options: Torque, Angle, or Delay Time.
Target Torque	Set the screwdriver's target torque value; range is from the tool's minimum to maximum torque specification.
Hi Torque	Set the torque upper limit; range is from the tool's minimum torque to 55 Nm.
Lo Torque	Set the torque lower limit; range is 0 to 110% of the tool's maximum torque.
Hi Angle	Set the angle upper limit (range: 0–30600; default: 30600).
Lo Angle	Set the angle lower limit (range: 0–30599; default: 0).
Interrupt Alarm	Determine whether an NG alarm is triggered when the motor stops because the pressure plate is released before reaching the fastening target.
Stop on Exceeded Angle	Determine whether to stop when the angle upper limit is exceeded while the fastening target is torque or time.
Direction	Set the fastening rotation direction: clockwise (CW) / counterclockwise (CCW). Default: CW.
RPM	Set the fastening RPM (rotations per minute).
Deceleration	Enable/disable the threshold (torque/deceleration) function. Default: Off.
Threshold Torque	After reaching the threshold torque, the controller starts calculating the fastening angle and stops within the torque upper/lower limit range for OK.
Deceleration Torque	After reaching the deceleration torque point, the controller begins deceleration to the deceleration RPM.
RPM	Set the RPM after deceleration when the deceleration torque point is reached.
Interrupt Alarm	Enable/disable whether NG-F displays the messages "Fastening Failed" and "Operation Incomplete." Default: On.
Save	Save the Settings on this page.

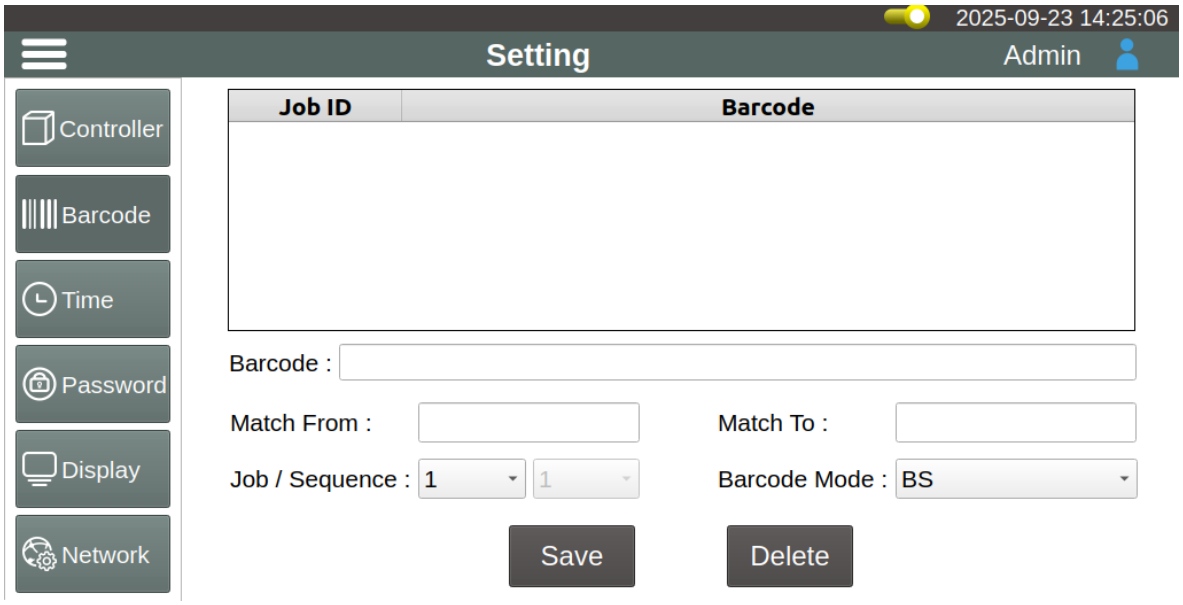
5-3 Settings

5-3-1. Controller



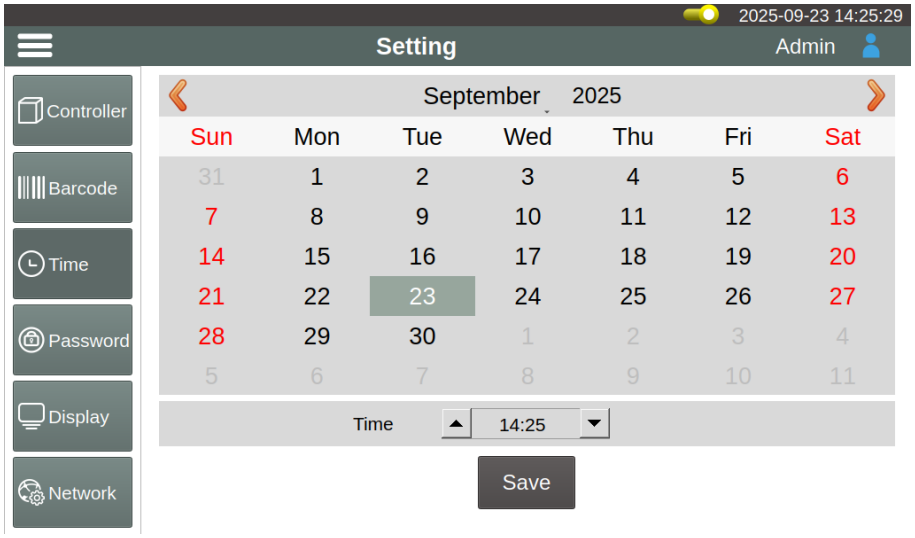
Controller Settings	Description
Device ID	Display the controller number (default: 1).
Device Name	Supports English (case-sensitive), numbers, and symbols (range: 1–250 characters; default: DEVICE).
Diskfull Waming (%)	Settings for disk-full warning (range: 1%–99%; default: 80%).
Torque Unit	kgf·m, N·m, kgf·cm, in-lbs, cN·m.
Buzzer	On/Off: Settings for buzzer control.
Modbus Mode	Select Modbus communication output: TCP / RTU. To use iDAS, select TCP first.
Batch Mode	Count Down / Count Up: screw count decreasing/increasing calculation. Default: Count Down.
iDAS Server	On/Off: Settings for iDAS data collection system.
Blackout Recovery	On: Save the screw count before the controller was powered off. Default: Off.
LED Settings	Off: Save the last Job before the controller was powered off.
Tool Start Mode	On/Off. On: LED always on. Off: LED always off. Default: Off.
Language	Pressure plate (tool-triggered) / Remote (external input or Modbus) / Both (pressure Plate or I/O / protocol to start tool operation).
Save	English / Traditional Chinese / Simplified Chinese. Default: English.

5-3-2. Barcode



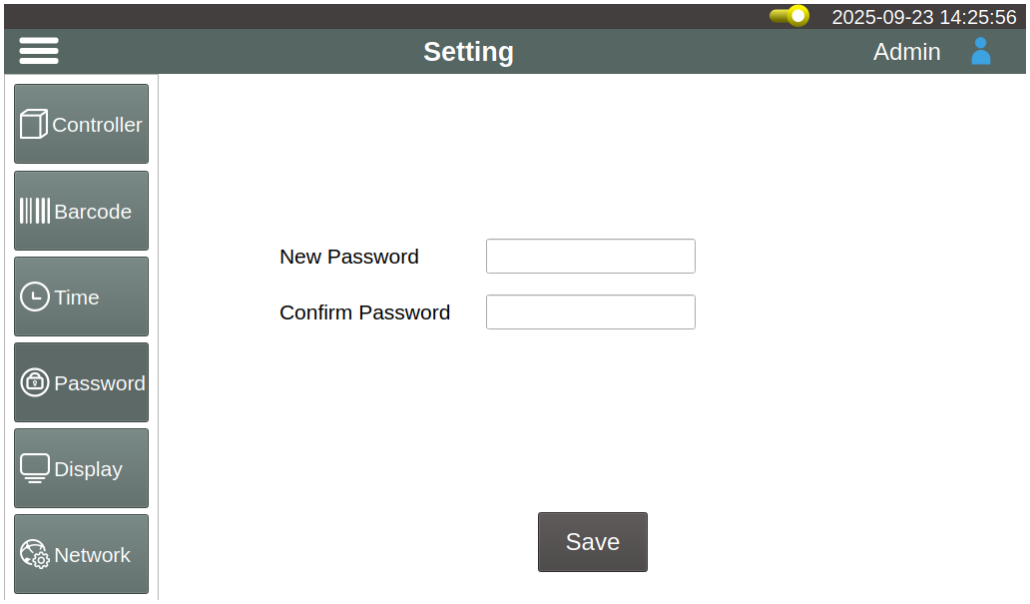
System Management	Description
Job ID / Barcode	Display the list of created Job ID / Barcode entries.
Barcode	Real-time display area for scanned barcodes. Single quotation marks (‘) are not supported because they affect barcode length; if used, they will be replaced by double quotation marks (“).
Match From	Set the validation range for each Job/Seq barcode by defining the starting character position.
Match To	(Range: 1–100 characters; Default: 1)
Job / Sequence	Select Job: Choose the Job corresponding to the scanned barcode. Only Jobs saved under “Switch Job / Seq.” mode can be selected; Jobs saved under other modes will be grayed out. Select Seq: Choose the Sequence corresponding to the scanned barcode. The “Select Seq” menu is displayed only when Barcode Mode is set to “Switch Job / Seq.” Only under Switch Job / Seq. mode can other sequences under the same Job be selected.
Barcode Mode	Select Barcode Stop (BS), Barcode Stop – Free Sequence (BS Free), or Switch Job / Seq. Default: Barcode Stop. 1. Barcode Stop (BS): Job-based mode. Scanning the configured barcode switches to the corresponding Job and releases Disable. After activation, switching sequences or scanning any barcode is not allowed until the Job is completed, at which point the barcode is cleared. 2. Barcode Stop – Free Sequence (BS Free): Job-based mode. Scanning the configured barcode switches to the corresponding Job and releases Disable. After activation, switching sequences or scanning barcodes (only those in the master list) is allowed until the Job is completed, at which point the barcode is cleared. 3. Switch Job / Seq.: Sequence-based mode. Scanning the configured barcode switches to the corresponding Seq. After scanning, switching to other sequences or Jobs is allowed, and other barcodes may be scanned at any time to update fastening data. The barcode is cleared when the sequence ends.
Save	Save the Settings on this page.
Delete	Save the Settings on this page.

5-3-3. Time



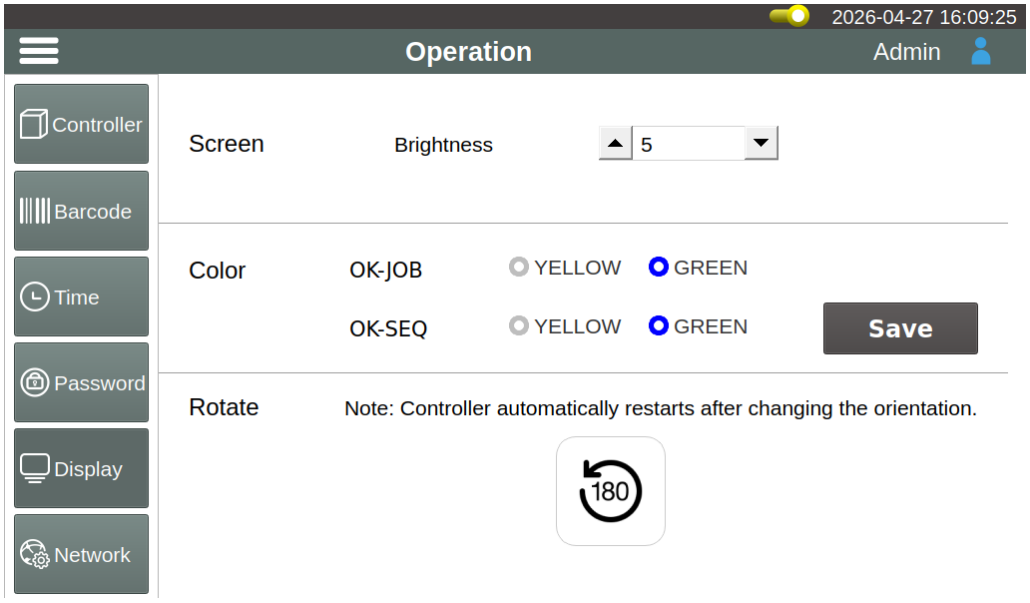
System Date	Description
Date	Select Year / Month / Day.
Time	Select Hour / Minute / Second.
Save	Save the time Settings.

5-3-4. Password



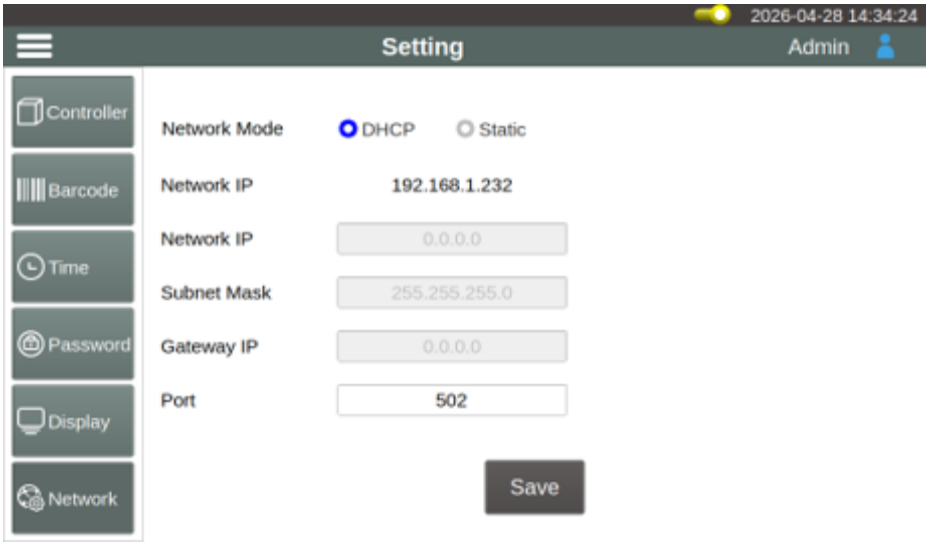
Password	Description
New Password	The login password for the controller can be changed; enter 1–4 Arabic numerals.
Confirm Password	The login password for the controller can be changed; enter 1–4 Arabic numerals and re-enter to confirm.
Save	Save the updated new password.

5-3-5. Display



Display	Description
Screen Brightness	Select brightness level **1–10** (darkest to brightest). *(Default: 7)*
Color – OK-JOB	Select the display color for the **OK-JOB** fastening result.
Color – OK-SEQ	Select the display color for the **OK-SEQ** fastening result.
Rotate	After setting the screen orientation to **180°**, the controller will reboot automatically.

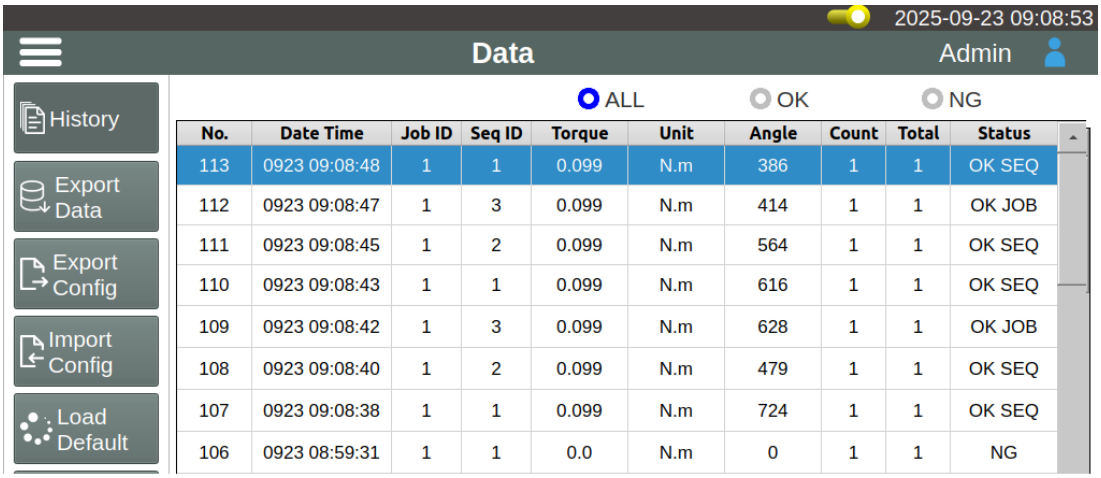
5-3-6. Network



Network Settings	Description
Network Mode	Dynamic Ethernet / Static Ethernet mode.
Network IP	Display the controller's current IP address.
Network IP	Set the controller's static IP address.
Subnet Mask	Set the controller's subnet mask *(Default: 255.255.255.0)*.
Gateway IP	Set the controller's default gateway IP *(Default: 0.0.0.0)*.
Port	Set the communication port for server connection *(Default: 502)*.
Save	Save the settings on this page.

5-4. Data

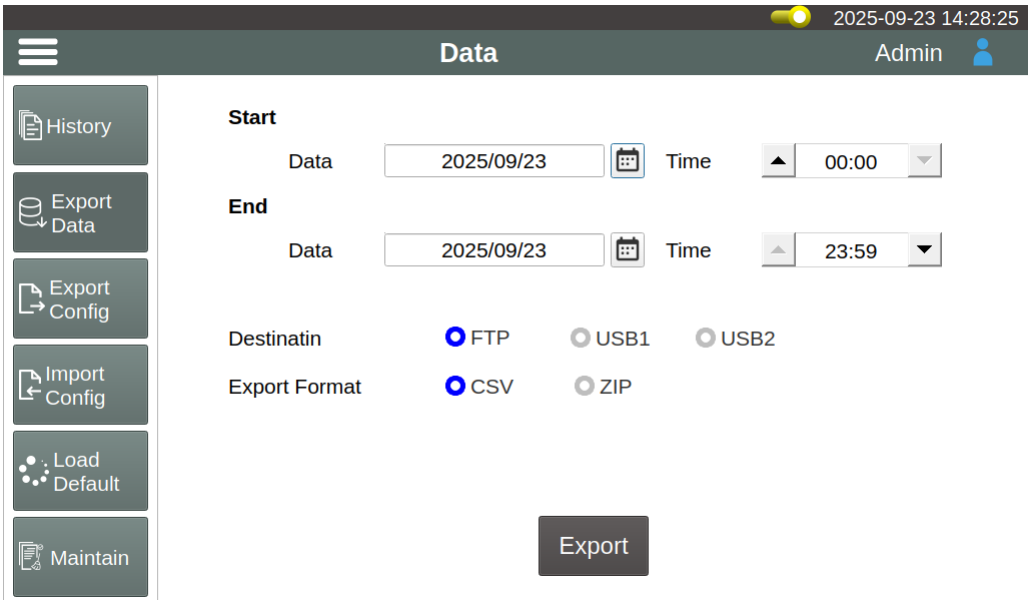
5-4-1. History



No.	Date Time	Job ID	Seq ID	Torque	Unit	Angle	Count	Total	Status
113	0923 09:08:48	1	1	0.099	N.m	386	1	1	OK SEQ
112	0923 09:08:47	1	3	0.099	N.m	414	1	1	OK JOB
111	0923 09:08:45	1	2	0.099	N.m	564	1	1	OK SEQ
110	0923 09:08:43	1	1	0.099	N.m	616	1	1	OK SEQ
109	0923 09:08:42	1	3	0.099	N.m	628	1	1	OK JOB
108	0923 09:08:40	1	2	0.099	N.m	479	1	1	OK SEQ
107	0923 09:08:38	1	1	0.099	N.m	724	1	1	OK SEQ
106	0923 08:59:31	1	1	0.0	N.m	0	1	1	NG

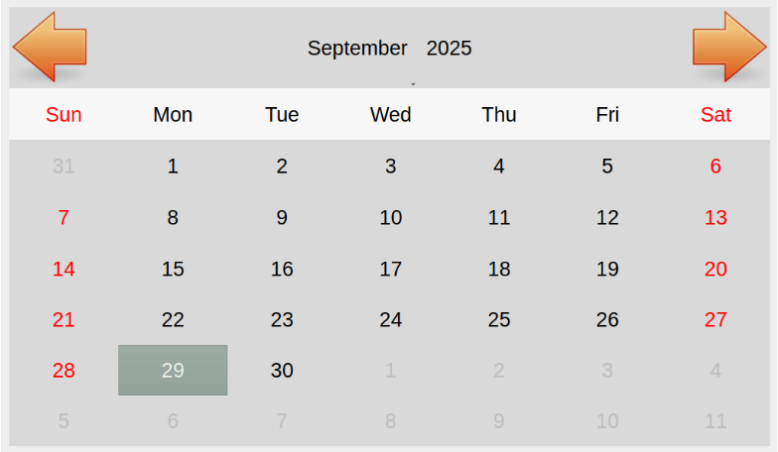
History	Description
Data Status	Select to display All / Fastening OK / Fastening NG status.
Historical Data	Display the latest 100 records, including: Index, Date & Time, Job Number, Seq Number, Torque, Unit, Angle, Count, Total Count, Status.

5-4-2. Export Data

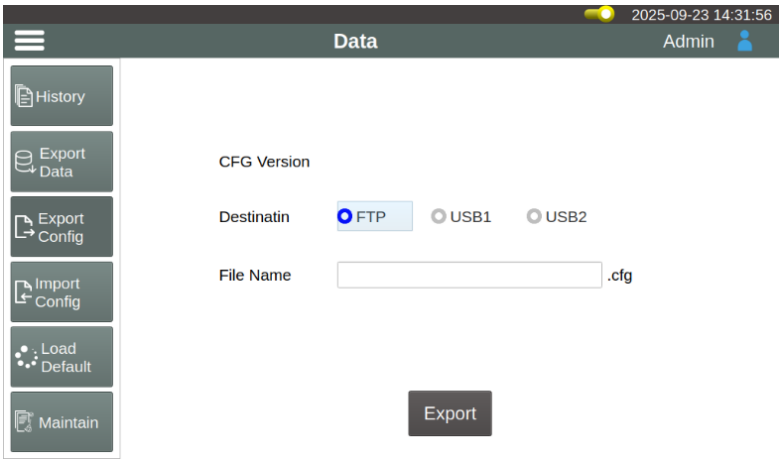


Export Data	Description
Start	Select the start date (Year / Month / Day). Tap the icon to open the calendar and time selector.
End	Select the end date (Year / Month / Day). Tap the icon to open the calendar and time selector.
Destination	Select the export destination: **USB1 / USB2 / FTP**. FTP upload file size limit: **500 MB**.
Export Format	Select the export format: **CSV / ZIP (compressed)**.
Export	Export fastening data according to the conditions above.

Calendar

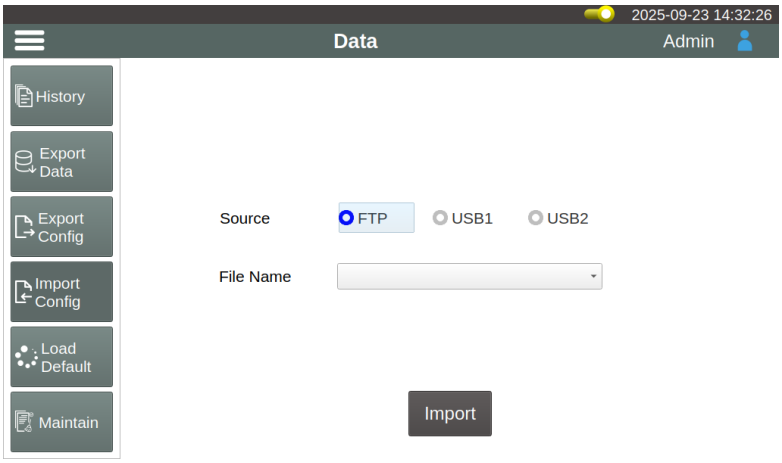


5-4-3. Export Config Settings



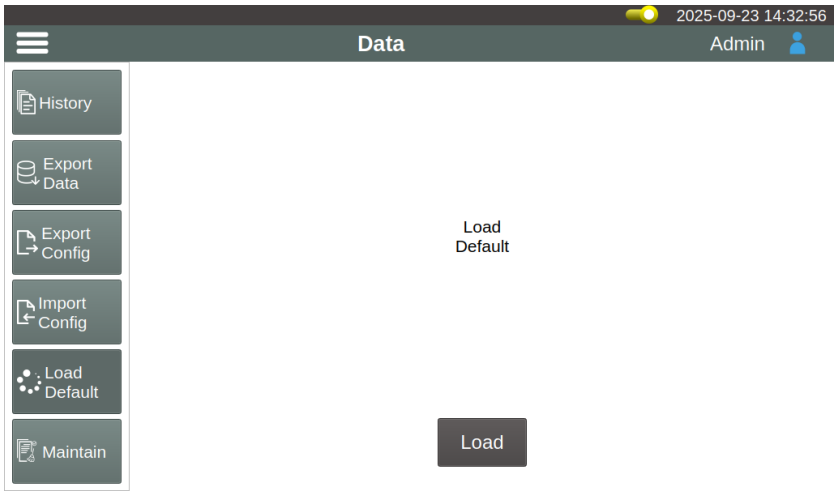
Export Config	Description
CFG Version	Display the current settings file version.
Destination	Select the export source: USB1 / USB2 / FTP. FTP upload file size limit: 500 MB.
File Name	Set the export file name (1–100 characters, including letters, numbers, and symbols). (Extension: .cfg)
Export	Export the configuration settings file according to the conditions above.

5-4-4. Import Config Settings



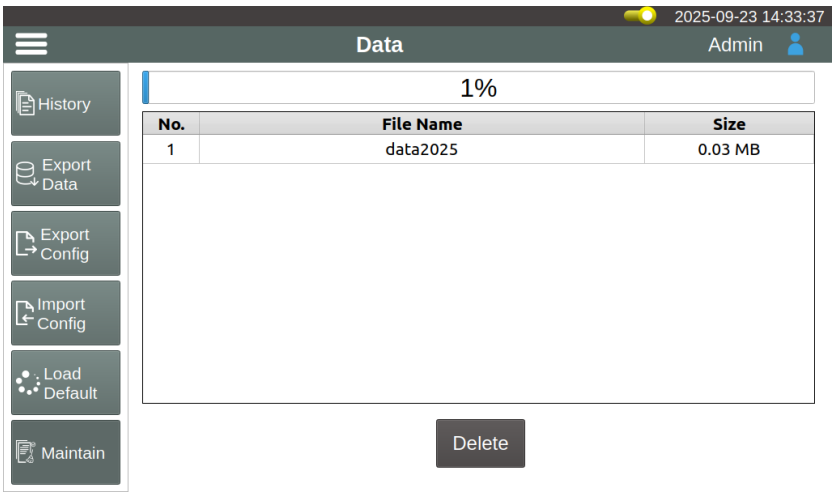
Import Config	Description
Source	Select the import source: USB1 / USB2 / FTP. FTP upload file size limit: 500 MB.
File Name	Set the file name to be imported (1–100 characters, including letters, numbers, and symbols). (Extension: .cfg)
Import	Import the configuration settings file according to the conditions above.

5-4-5. Restore Factory Settings



Restore Factory	Description
Load	Restore the controller to factory default settings. After selection, the controller will reboot automatically.

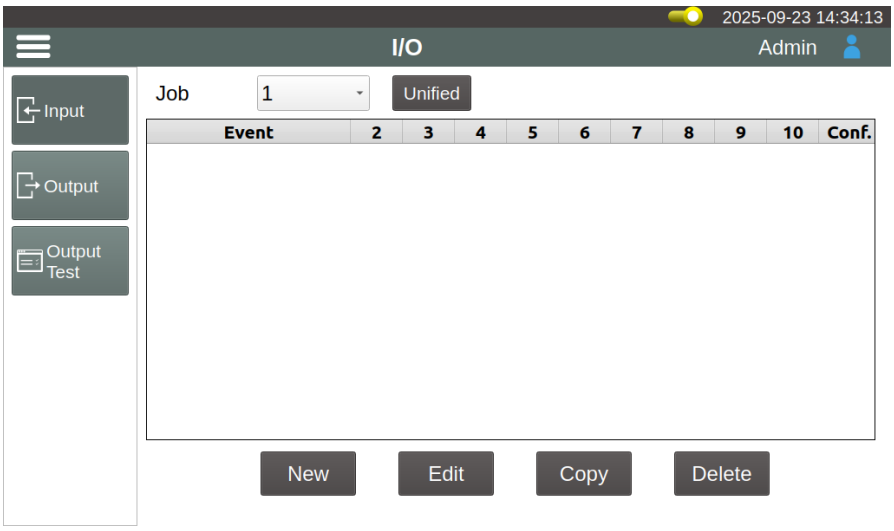
5-4-6. Maintain



Maintain	Description
Disk Save Space	Display the current disk usage percentage.
NO.	Fastening data index.
File Name	Fastening data file name (organized by year).
Size	Fastening data size.
Delete	Delete the fastening data.

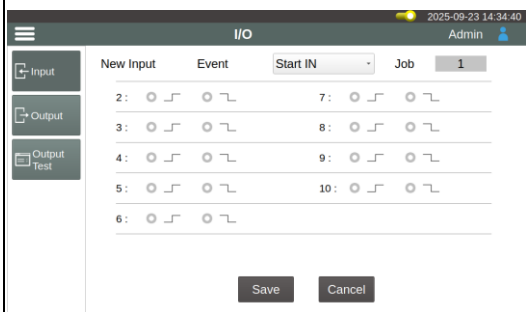
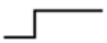
5-5. Output / Input

5-5-1. Input

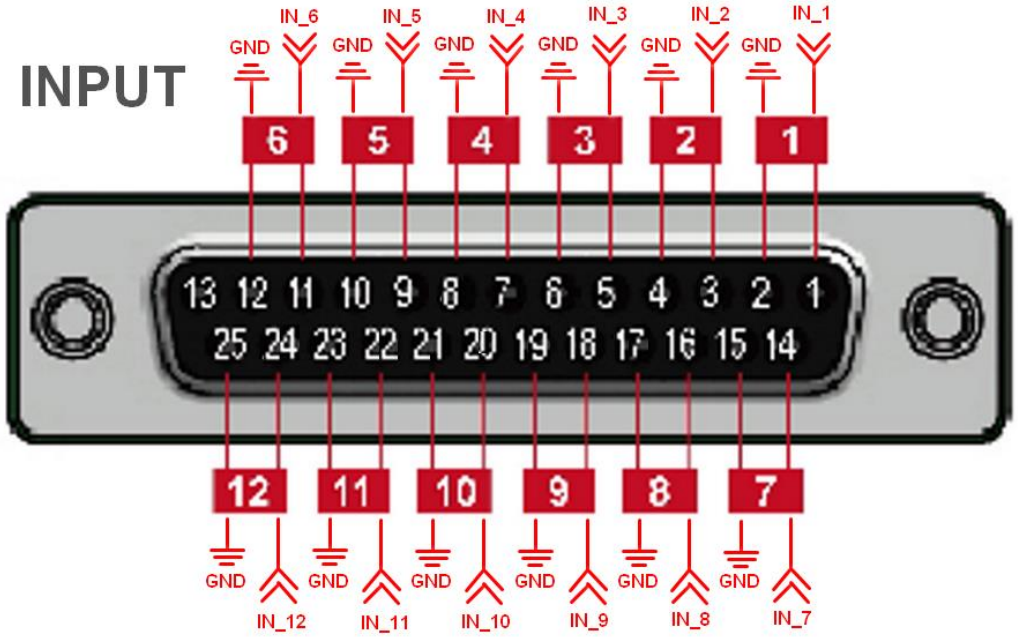


I/O Input	Description
Job	Select the job to execute.
Unified	When a job is selected, only that job's parameters will be executed; other existing settings parameters will not operate. After selecting a job, tap this button (orange background with white text) to enable the All Job function; tap again (black background with white text) to disable the All Job function.
New	Open the interface for adding a new input event.
Edit	Edit the selected event.
Copy	Copy the selected event.
Delete	Delete the selected event.



Description	
Mode	**Event**
	Description Start / Unscrew / Disable / Enable / Confirm / Clear / Process Clear / Reboot / Custom 1 / Custom 2 / Single Sense High-level trigger:  Low-level trigger: 
Save	Save the settings on this page

5-5-2. External input “binary” job switching.



Steps:

1. Set Input Group IN_1 to ON (short-circuit) to enter the binary job-switching mode (Note 1).
2. Convert the target Job ID from decimal to binary (8-bit representation, padded with zeros if necessary) (Note 2).
3. Apply the converted 8-bit binary ID to Input Groups IN_3 ~ IN_10, from MSB to LSB: 0 → OFF (open circuit), 1 → ON (short-circuit).
4. After confirming all 8 bits are correctly set, switch IN_2 to ON (short-circuit) to execute the job switching.

Note 1: Input Group **(IN_1) OFF (open circuit)** → Normal event mode**ON (short-circuit)** → Binary job-switching mode

Note 2:

Job ID range: **01 ~ 100**

Modbus Job ID: **221**

$2^8 = 256$. An 8-bit binary value can represent **0000 0000 ~ 1111 1111**, total **256** combinations, fully covering the current job quantity.

Example:1. Job(1) → Binary switching to Job(11)

$11_{(10)} \rightarrow 0000\ 1011_{(2)}$

(IN_1) (IN_2) (IN_3) (IN_4) (IN_5) (IN_6) (IN_7) (IN_8) (IN_9) (IN_10)
0 0 0 0 0 0 0 0 0 0

⇒ (IN_1) (IN_2) (IN_3) (IN_4) (IN_5) (IN_6) (IN_7) (IN_8) (IN_9) (IN_10)
1 1 0 0 0 0 1 0 1 1

⇒ Switch to Job (11)

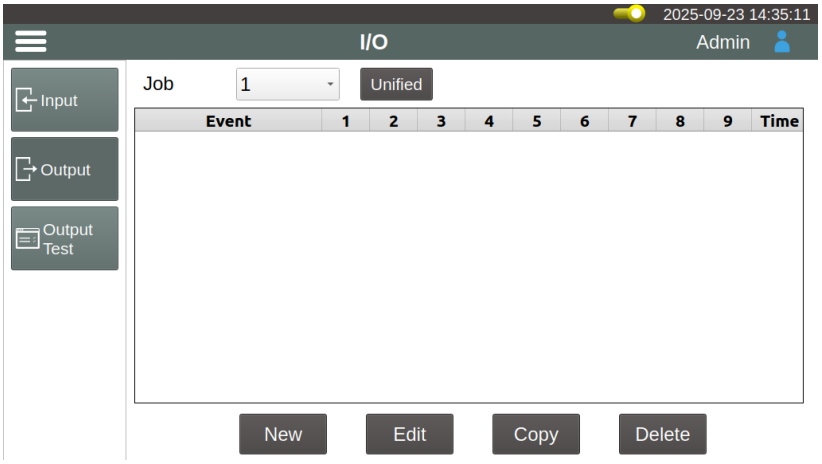
2. **Binary switching: Job(11) → Binary switching to Job(101)**
$101_{(10)}$ → 0110 0101(2)

(IN_1) (IN_2) (IN_3) (IN_4) (IN_5) (IN_6) (IN_7) (IN_8) (IN_9) (IN_10)
1 0 0 0 0 0 1 0 1 1

⇒ (IN_1) (IN_2) (IN_3) (IN_4) (IN_5) (IN_6) (IN_7) (IN_8) (IN_9) (IN_10)
1 1 0 1 1 0 0 1 0 1

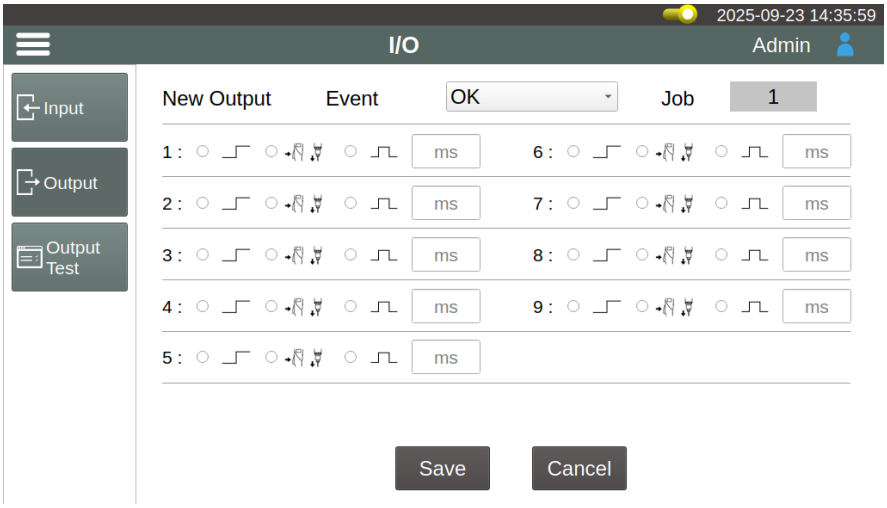
⇒ Switch to Job(101)

5-5-3. Output



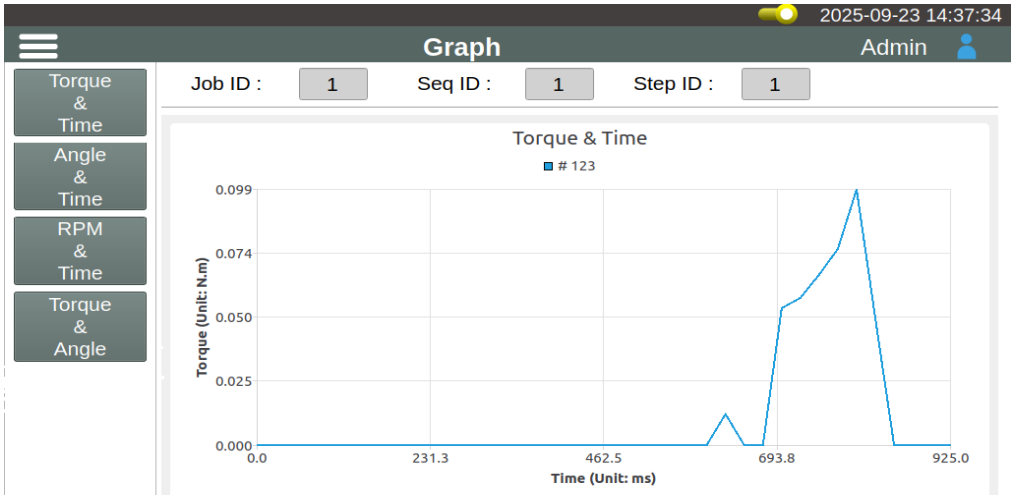
I/O Output	Description
Job	Select the job to execute.
Unified	When a job is selected, only the output parameters (Output) of that job will be executed; the output parameters of other jobs in the existing settings will not operate. After selecting a job, tap this button (orange background with white text) to enable the All Job function; tap again (black background with white text) to disable the All Job function.
New	Open the interface for adding a new output event.
Edit	Edit the selected event.
Copy	Copy the selected event.
Delete	Delete the selected event.
Test	Test whether the indicator light functions correctly.

5-5-4. Output Test



Output Test	Description
Trigger Method	Select high-level trigger:  Select the trigger time  and enter the indicator-light test duration (milliseconds) in the blank field.
Exit	Exit the Output Test page and return to the previous Input/Output screen.
Set	Start testing whether the indicator light turns on correctly.
Clear	Stop the test.

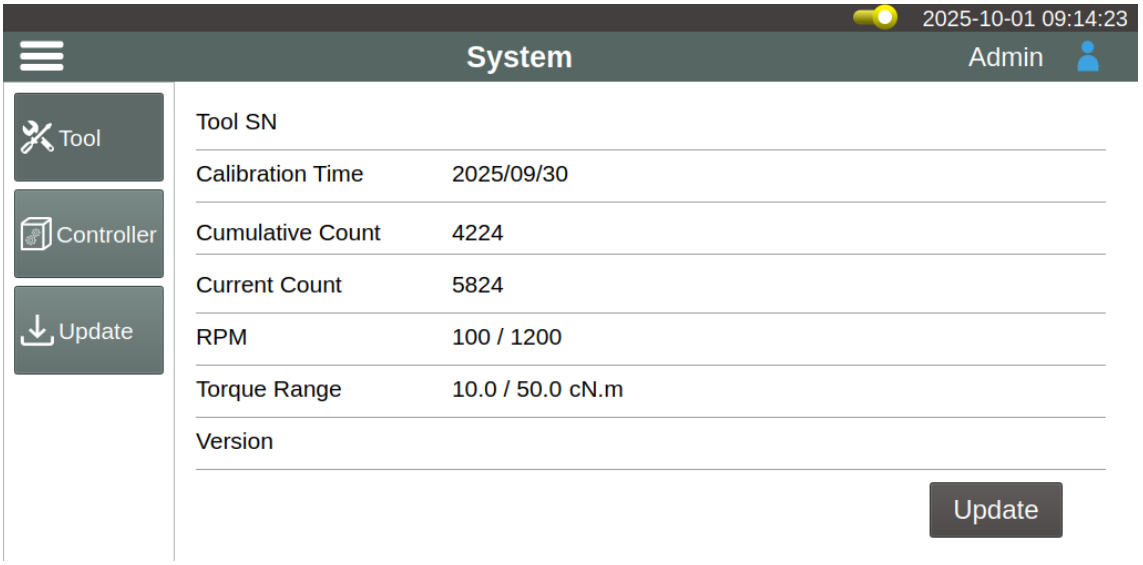
5-6. Graph



Graph Settings	Description
Chart	Select the chart to display. Torque / Time: horizontal axis = time, vertical axis = torque. Angle / Time: horizontal axis = time, vertical axis = angle. Speed / Time: horizontal axis = time, vertical axis = speed. Torque / Angle: horizontal axis = angle, vertical axis = torque.
Torque Unit	kgf·m, N·m, kgf·cm, in-lbs, cN·m.
Graph	Display the fastening curve chart position.
Job ID	Display the executing Job Number.
Seq ID	Display the executing Seq Number.
Step ID	Display the executing Step Code.

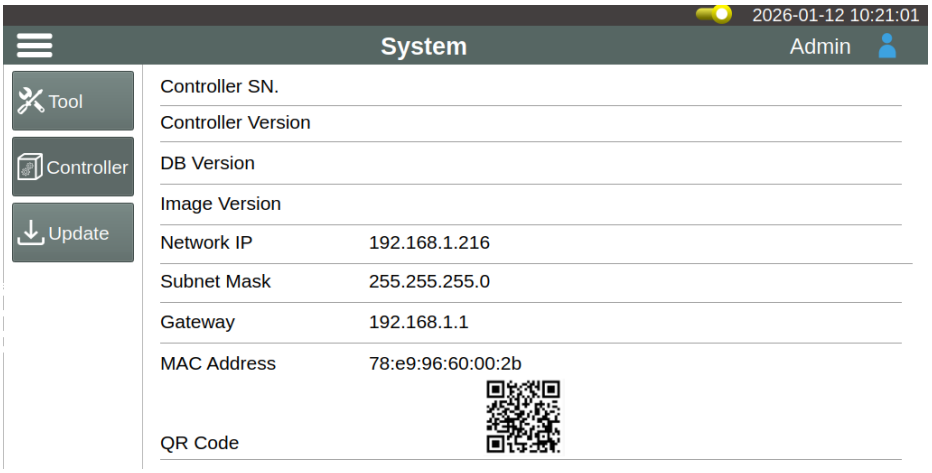
5-7. System

5-7-1. Tool



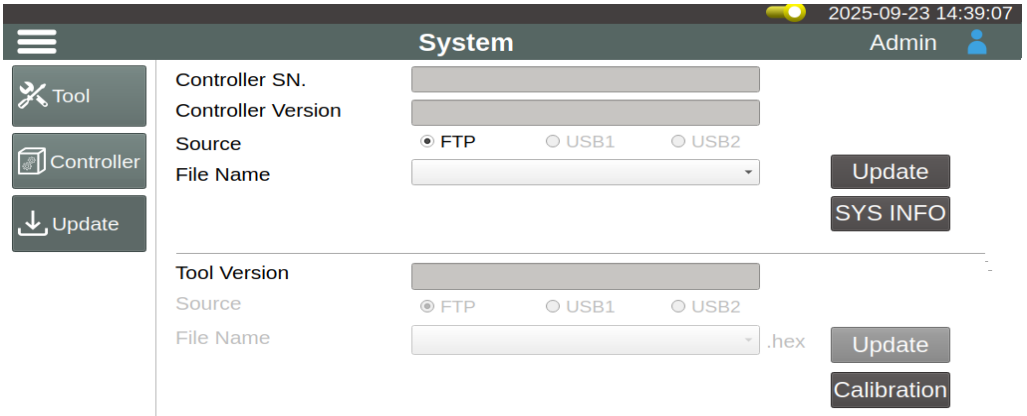
Tool Information	Description
Tool SN	Display the tool serial number.
Cumulative Count	Display the tool's total tightening count.
Current Count	Display the tool's cycle tightening count.
RPM	Display the tool's minimum/maximum speed values.
Torque Range	Display the tool's minimum/maximum torque values.
Version	Display the tool version.

5-7-2. Controller



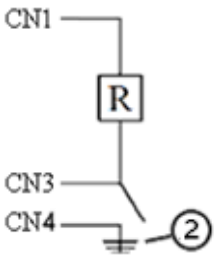
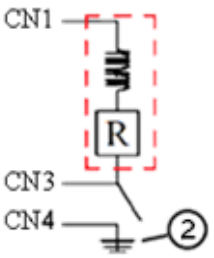
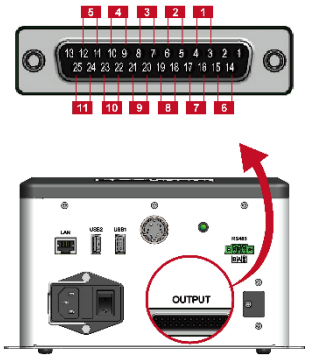
Controller Information	Description
Controller SN	Display the controller serial number.
Controller Version	Display the controller version.
DB Version	Display the current database version.
Image Version	Display the current image version.
Network IP	Display the controller's current IP.
Subnet Mask	Set the controller's subnet mask.
Gateway	Set the controller's default gateway IP.
MAC Address	Display the controller's MAC address.
QR Code	Display the QR code for downloading the user manual.

5-7-3. Update

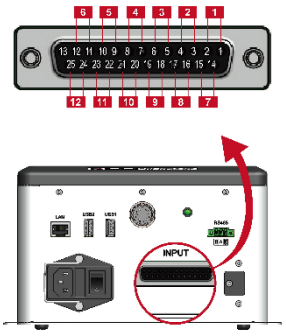
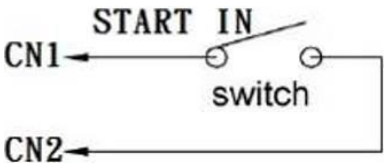


Update	Description
Controller SN	Display the current controller version.
Controller Version	Display the current controller version.
Source	Import the update file and select the source: FTP / USB1 / USB2.
File Name	Select the (.hex) file (e.g., BF01xxx.hex).
Update	Start executing the update.
Tool Update	**Description**
Tool Version	Display the current tool firmware version.
Source	Import the update file and select the source: FTP / USB1 / USB2.
File Name	Select the (.hex) file (e.g., TCC3NM_ForBootloaderxxx.hex).
Update	Start executing the update.
Calibration	Factory use for tool calibration.

6. External output control function description

<table>
<tr><th>Connector No</th><th>Self-definition</th><th>Description</th><th>Ordinary load</th><th>Inductive load</th></tr>
<tr><td>CN 1</td><td>Vdc</td><td>The voltage output of controller is DC+12V/100mA or +24V/50mA.
Default: +24V/50mA (+12V/100mA is also applicable)</td><td rowspan="3">
</td><td rowspan="3">
</td></tr>
<tr><td>CN 2</td><td>GND</td><td>Power output GND</td></tr>
<tr><td>CN 3</td><td>Example: OK</td><td rowspan="2">OK: CN3 and CN4 are connected when a screwdriver is initiated.
CN3 + CN4 are connected when short-circuited
CN3 + CN4 are disconnected when open-circuited1+CN4

</td></tr>
<tr><td>CN 4</td><td>COM</td></tr>
<tr><td>Output state definition</td><td colspan="2">OK — Fastening completed.
NG — Fastening error.NG
NG-High: Exceed upper limit.
NG-Low: Lower than lower limit.
OK-Sequence: Sequence completion signal
OK-JOB: Job completion signal</td><td>Tool Running: Motor signal
Tool Trigger: Initiating signalReverse Reverse
UserDefine1: Self-definition 1
UserDefine2: Self-definition 2
BS: Barcode Stop</td><td>Barcode
Turning CW Forward
Turning CCW
Reverse</td></tr>
</table>

7. External input control function description

<table>
<tr><th>Connector No</th><th>Self-definition</th><th>Description</th><th></th></tr>
<tr><td>CN 3</td><td>Example: START IN</td><td rowspan="2">1. When CN3 + CN4 is (CLOSE), screwdriver is initiated.
2. When CN3+CN4 is (OPEN), screwdriver stops running

</td><td rowspan="2">
</td></tr>
<tr><td>CN 4</td><td>GND</td></tr>
<tr><td>Input state definition</td><td colspan="2">Start IN: Start
Reverse: Screw removing
Disable: Not used
Enable: Able to use
Confirm: Make confirmation
Clear: Clear the counts
Sequence Clear: Clear sequence
Reboot: Restart</td><td>UserDefine1: Self-definition 1
UserDefine2: Self-definition 2
Gate Once: Trigger-once sensing</td></tr>
</table>

Remark:

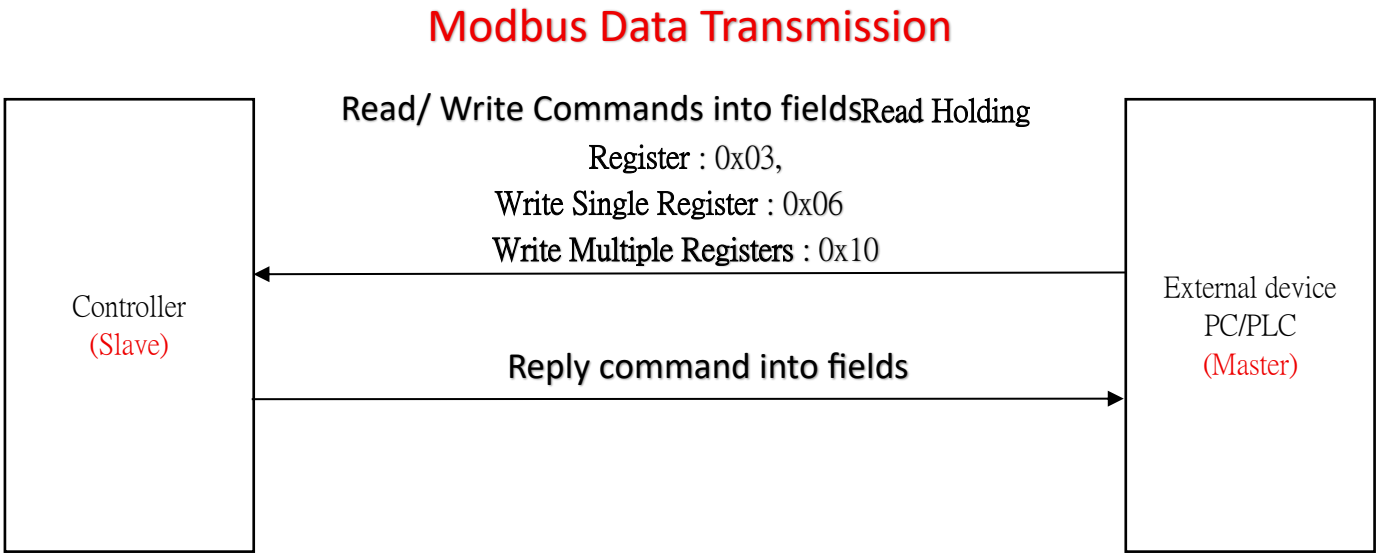
- ※ **For the INPUT contact, if the non-isolated (wet contact) control method is used, a 10K resistor shall be connected in series on the wiring to prevent equipment damage.**
- ※ **CN1(V+) and CN2(GND) can supply DC+24V (default). (DC +12V needs to be customized)**
- ※ **If user needs other DC voltage, users must use step-down circuit to step down voltage.**
- ※ **If user needs input voltage to drive the police instrument, the input voltage should not exceed DV+/-40V, +/-1A, max:10w (use MOS RELAY I/O version))**

8. Description of display status code

8.1 Abnormal messages from controller/screwdriver/lock information

Code	Error Message	Description
0	NO-ERR	No abnormality
1	ERR_CONT_TEMP	Controller temperature abnormal
2	ERR_MOT_TEMP	Motor temperature abnormal
3	ERR_MOT_CURR	Motor overcurrent abnormal
4	ERR_MOT_PEAK_CURR	Motor peak current too high
5	ERR_HIGH_TORQUE	Motor torque too high
6	ERR_DEADLOCK	Motor not rotating
7	ERR_PROC_MINTIME	Process minimum time below limit
8	ERR_PROC_MAXTIME	Process maximum time below limit
9	ERR_ENCODER	No encoder pulse
10	ERR_HALL	No Hall sensor pulse
11	ERR_BUSVOLT_HIGH	Bus voltage too high
12	ERR_BUSVOLT_LOW	Bus voltage too low
13	ERR_PROC_NA	Program not available
14	ERR_STEP_NA	Step not available
15	ERR_DMS_COMM	Torque controller communication error
16	ERR_FLASH	STM32 flash memory CRC error
17	ERR_FRAM	FRAM CRC error
18	ERR_HIGH_ANGLE	Angle too high
19	ERR_PROTECT_CIRCUIT	Error occurs if the “protection input” pin is at low level
20	ERR_SWITCH_CONFIG	Error occurs if other switches (lever or button) are activated (for reference only)
21	ERR_STEP_NOT_REC	Step configuration error
22	ERR_TMD_FRAM	FRAM not loaded into TMD
23	ERR_LOW_TORQUE	Motor torque too low
24	ERR_LOW_ANGLE	Motor angle too low
25	ERR_PROC_NOT_FINISH	Program not completed
32	SEQ_COMPLETED	When OK sequence stop is enabled, the confirmation button must be pressed
33	JOB_COMPLETED	When OK job stop is enabled, the confirmation button must be pressed
34	WORKPIECE_RECOVERY	Workpiece in position, confirmation button required
35	ERR_NOT_ACCEPT	Barcode not accepted

9. Modbus Instruction



Communication method uses MODBUS TCP/ MODBUS RTU standard protocol.

Connection methods are:

- **TCP connection and setup:**
  1. **Selecting LAN-DHCP or LAN-STATIC from controller.**
  2. **Configuring the controller's IP to be on the same domain as the PC's. (Find out an IP from LAN-DHCP or select/ setup an IP address from STSTIC IP or GATEWAY IP.)**
  3. **Setting the Server port (default is 502) and click SAVE.**

- RS-485 connection and setup
  BAUDRATE configuration: 115200/ Data bits: 8/ Stop bits: 1/ Parity: None/ Flow Control: Xon/ Xoff.

MODBUS PDU：

- Using Big-Endian as data placement format
- Read Funcode code supports Read Holding Registers
- Write Funcode code supports Write signal Register/ Write Multiple Registers

  (If writing multiple addresses in ASCII, only Write Multiple Registers is supported.)

Note 1: To use command control for the screwdriver, set the screwdriver to Remote Start (Go to Settings > Tools > Tool Settings > Start Settings > Remote Start).

Note 2: When using command control to start the screwdriver (ON), remember to turn off the start (OFF) when other operations are required.

Supported Versions: Controller Version V066 and above.
For the Modbus communication document (Read/Set Fields), please contact the original manufacturer.

Chart 1 Controller Data fields

TCP/RTU Torque Reading as below:

Request

Device ID	Function Code	Start address High	Start address Low	No of address High	No of address Low	CRC16 Low	CRC16 High
01	03	10	3B	00	02	B1	06

Response

Device ID	Function Code	No of byte	Data #1 High	Data #1 Low	... x n data		CRC16 Low	CRC16 High
01	03	04	00	00	00	33	BA	26

add (Hex)	add (DEC)	Length	Parameter INS	Parameter area	Function Code
103B	4155	2	Tightening Torque* 100	0~TOOL MAX	0x03

Char2. Controller function setting address

TCP/RTU An example of setting the screwdriver to start is as follows:

Request

Device ID	Function Code	Address High	Address Low	Date High	Data Low	CRC16 Low	CRC16 High
01	06	01	C8	00	01	C8	08

Response

Device ID	Function Code	Address High	Address Low	Date High	Data Low	CRC16 Low	CRC16 High
01	06	01	C8	00	01	C8	08

add (Hex)	add (DEC)	Length	Parameter INS	Parameter area	Function Code
01C8	456	1	Screwdriver Starting	0: off 1: on	0x06, 0x10

Our company reserves the right to modify the product without prior notice.