M

SERIES

Multi-turn

Electric Valve Actuators

Service Unique Nice Youthful Energy Honesty

SUNYEH

OPERATION MANUAL (APP)

(iOS / Android)

SUN YEH ELECTRICAL IND. CO., LTD.

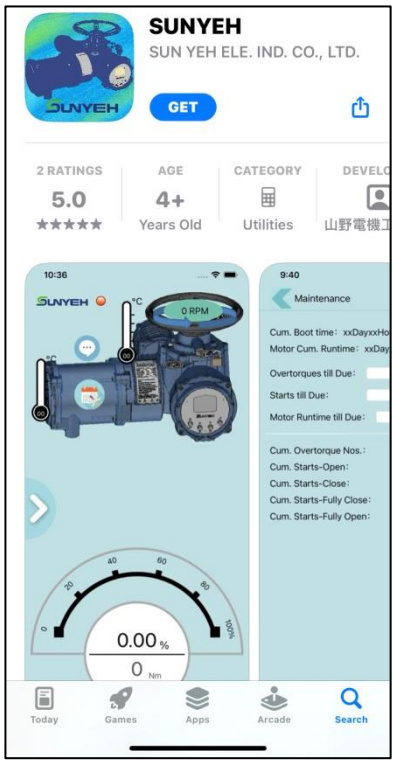
Comtents

1 Installation

⚠ **Language Setting: Change the preferred language on the mobile device first before opening the language setting on the SUNYEH APP.**

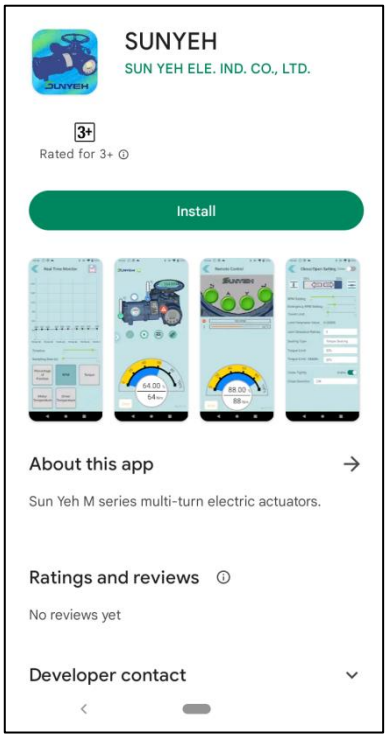
- iOS： Search "SUNYEH" on **App Store** to download the software.


App Store



- Android： Search "SUNYEH" on **Google Play Store** to download the software.


Google Play

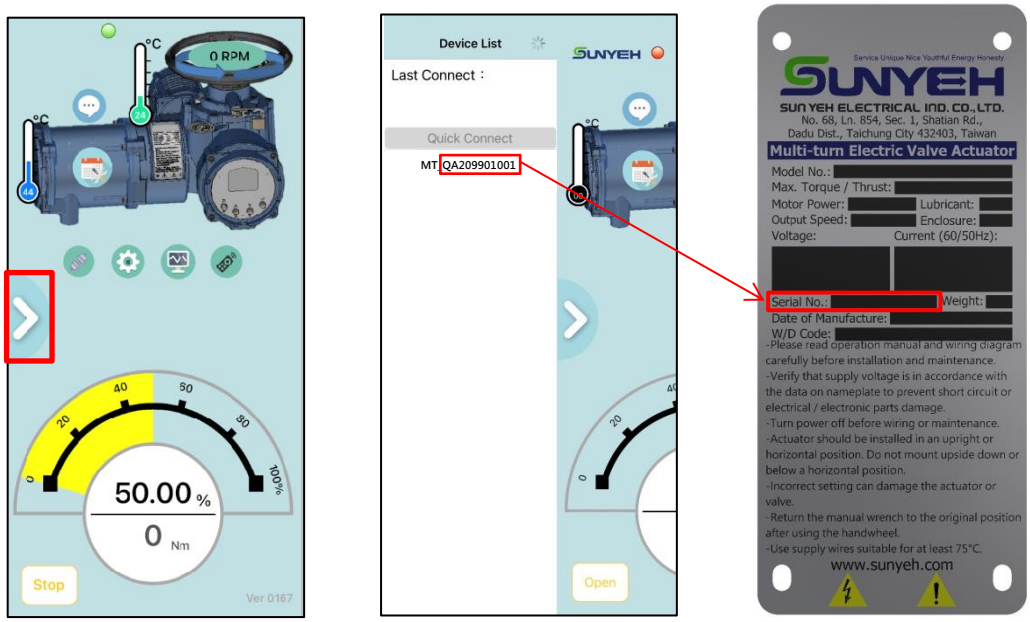


2 Bluetooth Connection

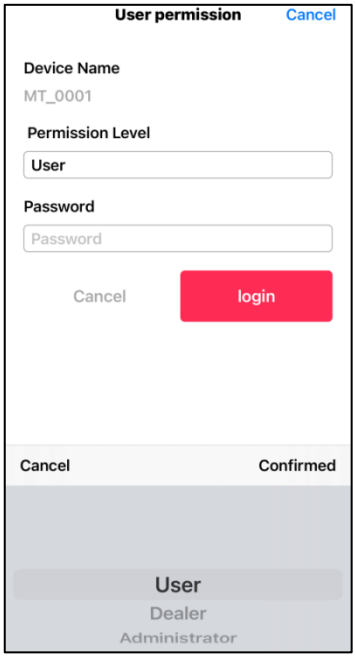
2.1 Connection Steps

1. Open the SUNYEH APP to begin the pairing process and swipe the arrow (red frame) from left to right and it will show a list of available actuators. Tap the actuator number you wish to pair with to initiate the connection.

⚠ **The mobile device can only be paired with one actuator at a time and the user can check the serial number of currently connected actuator on the nameplate.**



2. Select the permission level and enter the password.

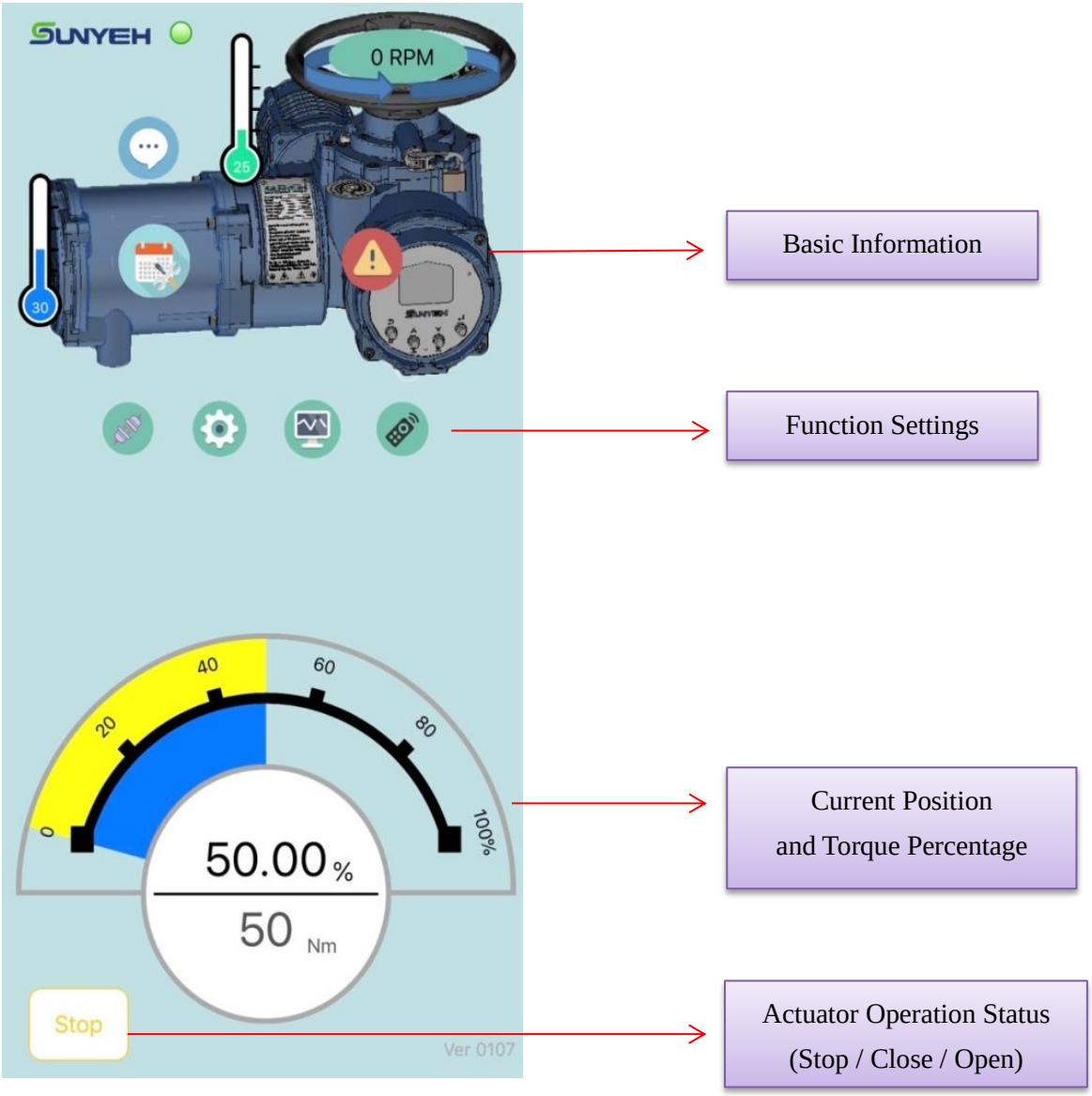


3. Permission Level

User Level	Default Password
User	2222
Dealer	3333

3 Function

3.1 Description



3.1.1 Basic Information

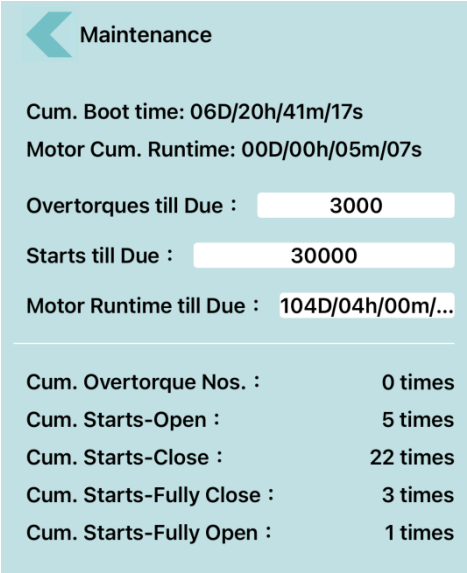
Symbol	Instruction	Symbol	Instruction
	Driver Temperature		Motor Temperature
	Status	0 RPM	Transmission Shaft RPM
	Maintenance		Warring Message

Status：Display the current system status.

Status	
Code	Message
1	Ready
2	Emergency Function Active
3	Fault
4	Limit Setting Complete
5	Manual OP Active
6	Remote Control Active
7	Fully-closed Position
8	Fully-open Position
9	Close Overload
10	Open Overload

Status	
11	Manual OP Active
12	Remote Control Active
13	Run to Preset Position (Signal Fai...
14	ESD Active
15	Motor Overheat - RPM Limit
16	Motor Overheat - Stop
17	Maintenance Required
18	Bluetooth Connecting
19	Retrying
20	Retrying Reverse OP

Maintenance：Display the current status of the actuator to determine whether the maintenance is required or not.



Warning Message：Display the warring message to know the current fault status of the actuator.

It only records the current warning message, and the warning record will be deleted after the issue is resolved.

Warning Message

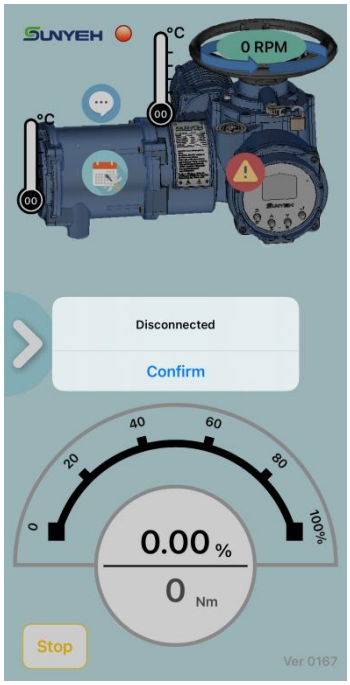
Code	Message
1	LCD Overheat
2	MainBoard Overheat
3	Motor Overheat - RPM Limit
4	Motor Overheat - Stop
5	Driver Overheat
6	Battery Low
7	Battery Missing
8	Power Supply Fault
9	Phase Loss
10	Overvoltage
11	Undervoltage
12	Over Limit Range
13	Torque Overload
14	Encoder Fault
15	Motor Temp. Fault

Warning Message

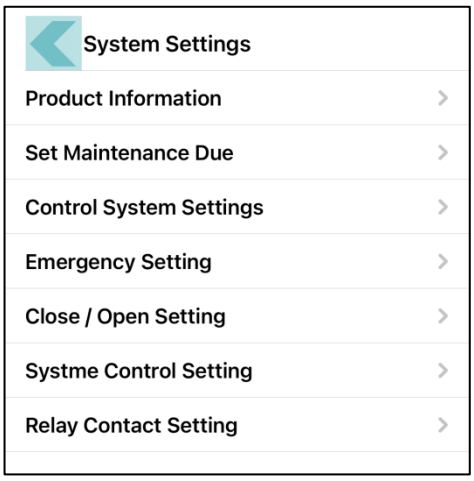
16	LCD Temp. Fault
17	MainBoard Temp. Fault
18	Manual OP Fault
19	Digital Input Fault
20	Digital Output Fault
21	Analog Input Fault
22	Analog Output Fault
23	EEPROM Fault
24	Driver Comm. Error
25	Modbus Comm. Error
26	Motor Drive Fault
27	Ctrl. Power Fault
28	Profibus Comm. Error
29	Spare Encoder Fault
30	Position Detect Error

3.1.2 Function Settings

Disconnected: Disconnect the Bluetooth .

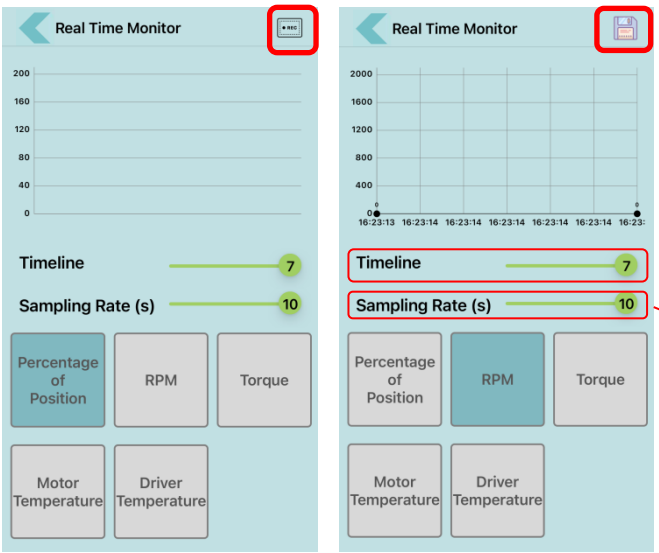


System Settings: Parameter settings of the actuator.



Real Time Monitor：Monitor the current position, speed, torque, motor and driver temperature, and the monitor values can be saved as a CSV file.

- To start recording: Click the REC button to start recording position, speed, torque, motor temperature and driver temperature.
- During recording: The icon will turn into to start recording and different parameters (position, speed, etc.) can be chosen. Do not quit the screen to retain recording.
- Finish recording: Once the record is finished, tap once to export the record.



Timeline:
The data volume can be displayed on the screen and timeline can be set from 0 to 7.
The larger the number, the shorter the time interval.

Sampling Rate：
It defines how many seconds each datum is taken.

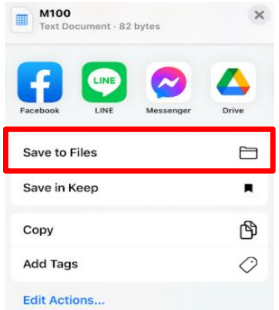
Example: When the sampling rate is set at 2, each datum can be exported every 2 seconds.

- Save files to a mobile device:

⚠ **Data can be saved on a mobile device with iOS system, but it can only be uploaded to iCloud Drive with Android system due to system limitation.**

■ **Saving steps with iOS**

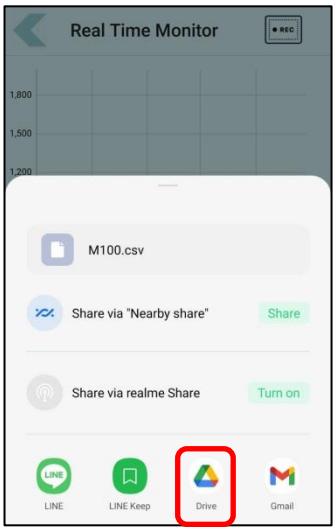
1. After the real-time monitoring record is finished, select **【Save to Files】**.
2. Choose the location to save files on the mobile device or iCloud Drive.
3. Tap save to finish the storage.

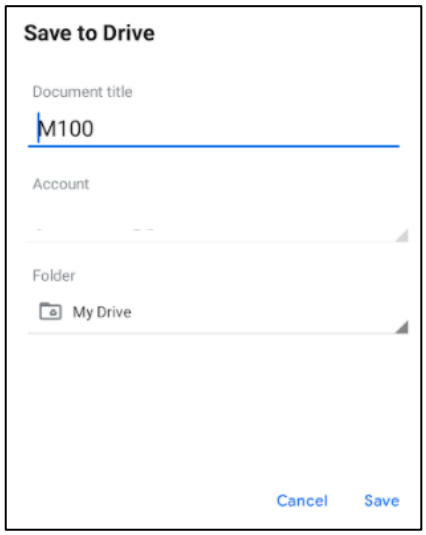


iOS

■ **Saving steps with Android:**

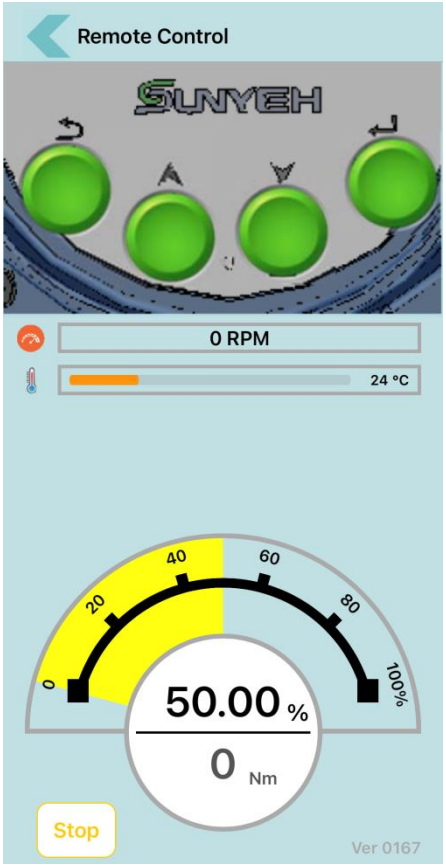
1. After the real-time monitoring record is finished, select【Drive】.
2. Choose the location to save files on iCloud Drive.
3. Tap save to finish the storage.





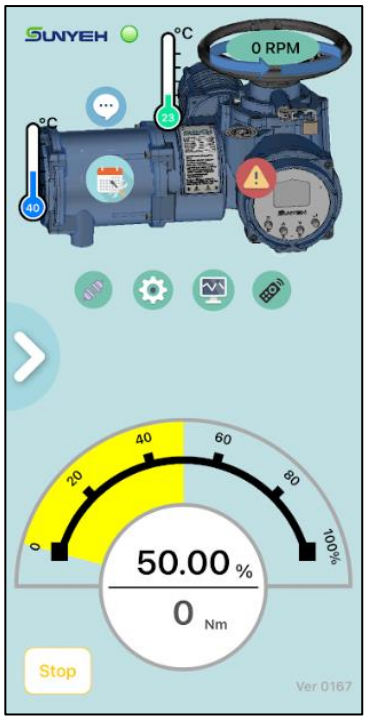
Android

Remote Control: The actuator can be controlled through the connection with a mobile device.



3.1.3 Permission Level

User Login Screen

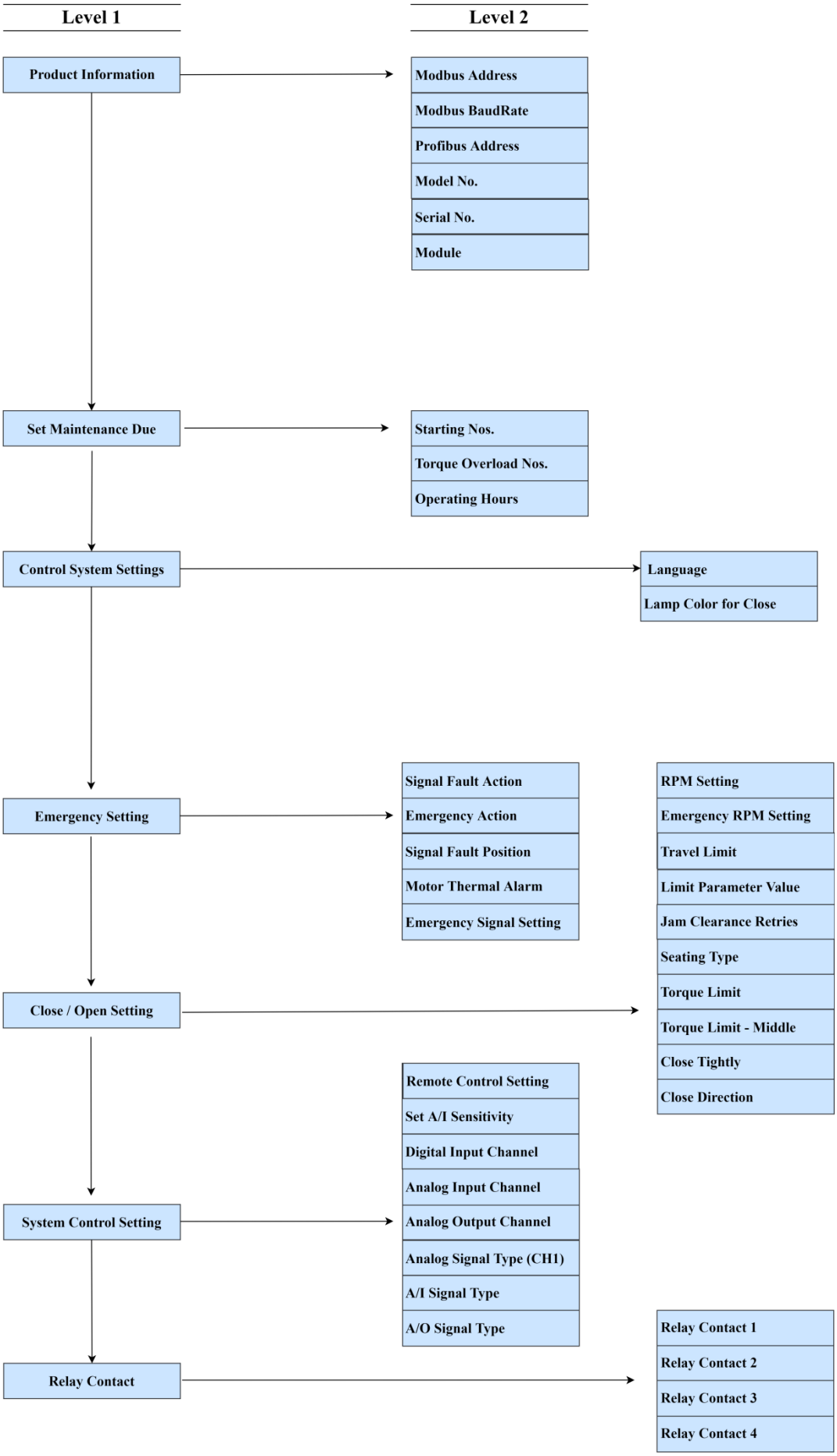


Dealer Login Screen

- The menu will be displayed on the screen per different permissions.

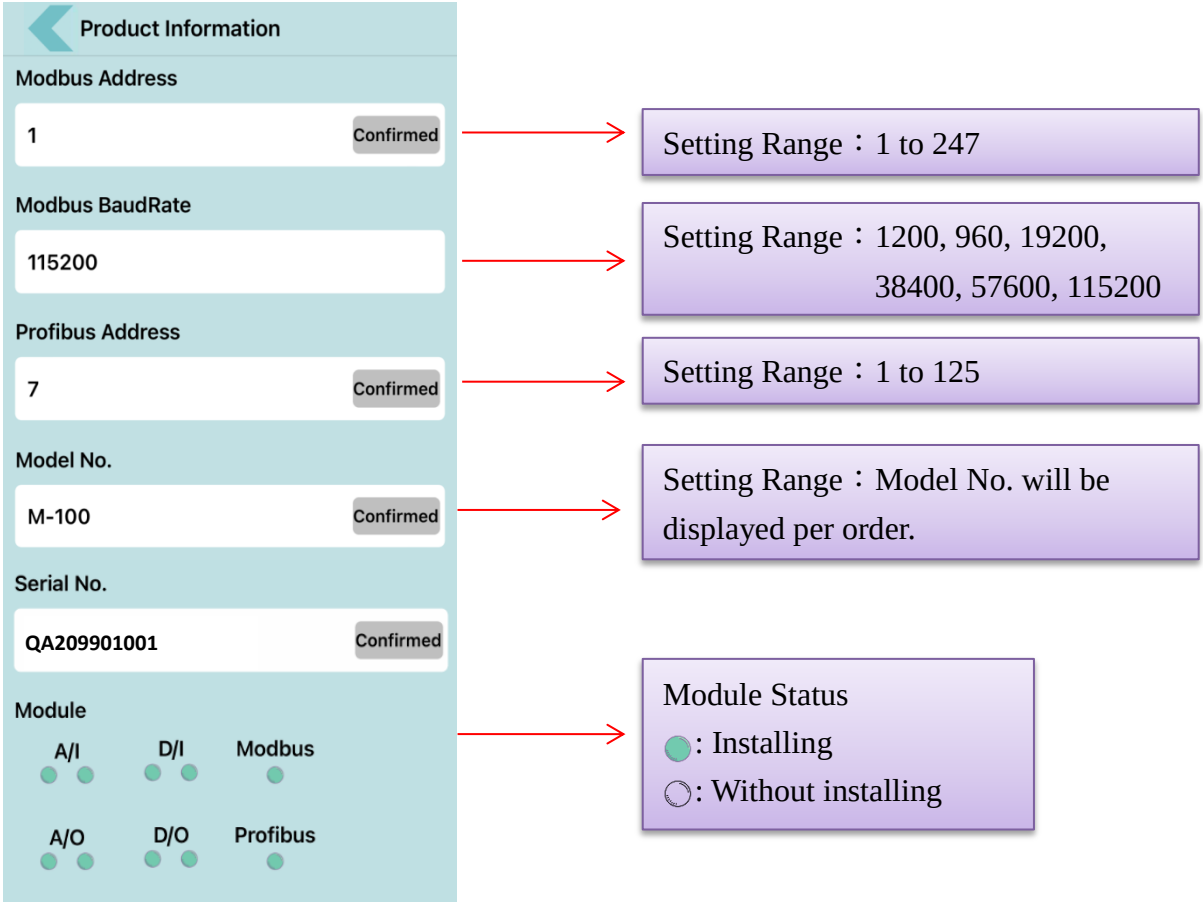
User Level	Default Password	Instruction
User	2222	System settings are not available. User can only read 3.1.1 Basic Information of main screen (speed, torque, temperature, etc.) and perform remote control and real-time monitoring.
Dealer	3333	Besides having all the user permissions, dealer can also do partial parameter settings.

3.1.4 System Settings Menu



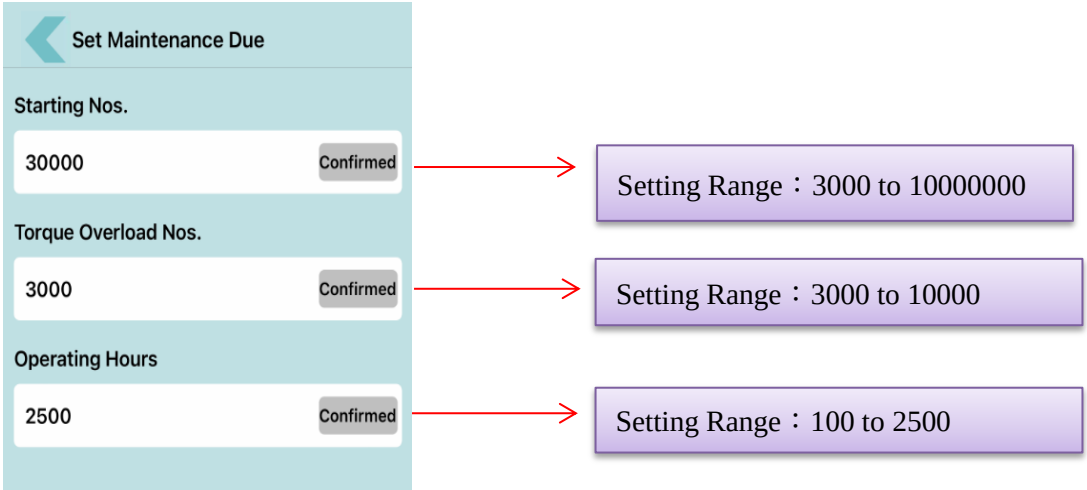
3.2 System Settings

3.2.1 Product Information

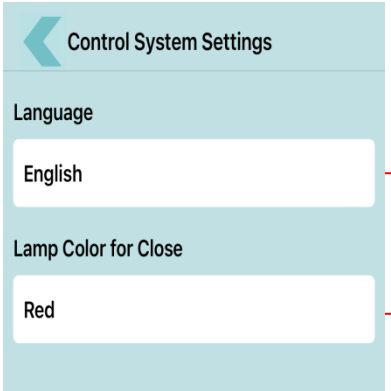


3.2.2 Set Maintenance Due

- Starting Nos., Torque Overload Nos. or Operating Hours can be set per user's needs.
- The maintenance message will not be displayed until one of the maintenance settings is due. Maintenance settings will be re-accumulated after clearing the alarm.



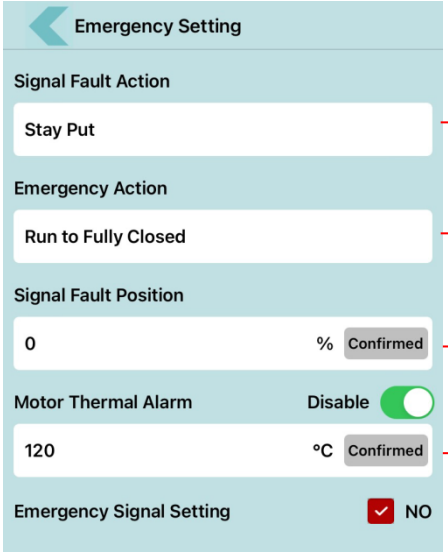
3.2.3 Control System Settings



Setting Range：English，繁體中文，简体中文
(This function is actuator language setting.)

Setting Range：Red, Green

3.2.4 Emergency Setting



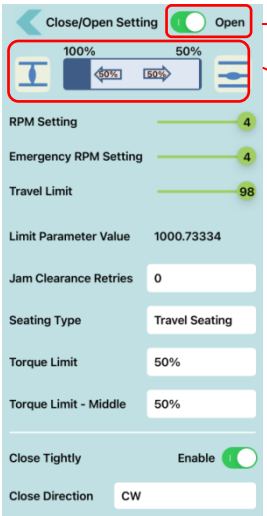
Setting Range：Stay Put, Fail-safe Position, Preset Position

Setting Range：Run to Fully Closed, Run to Fully Open, Stop Running, Disable ESD Signal

Setting Range：0 to 100

Setting Range：0 to 120

3.2.5 Close / Open Setting

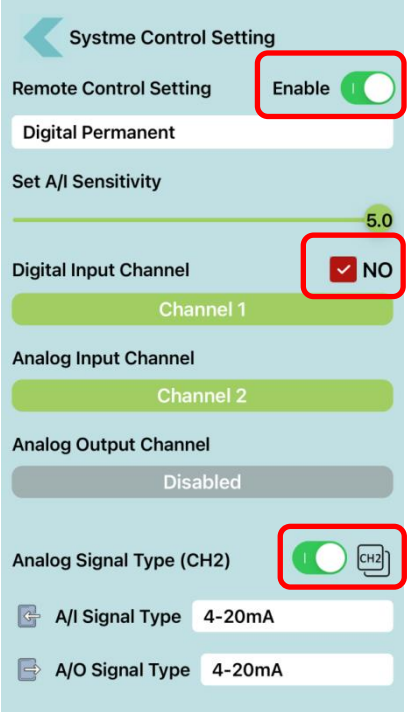


Switch the parameter setting to either opening or closing direction.

State diagram of full travel

Menu	Instruction
RPM Setting (LV)	Five speeds can be chosen and set from LV0 to LV4.
Emergency RPM Setting (LV)	When an ESD signal is received, the actuator will run to the desired position based on the setting of “Emergency Action” and RPM can be set from LV0 to LV4.
Travel Limit (%)	Set the travel limit-Open /Close and the setting range is from 80% to 98% / 2% to 20%.
Limit Parameter Value	This is the position parameter stored in the software instead of the output shaft turns and can be read only.
Jam Clearance Retries	When a torque overload occurs, a retry sequence will be initiated by setting the parameters as following: Set to 0: The actuator will stay put and send a warning message when a torque overload occurs. Set to 1 2, 3, 4, or 5: The actuator will move back for 3% of the entire travel and then move forth to attempt to fix the jammed valve repeatedly by 1, 2, 3, 4, or 5 tries. In case of failure to pass the block, the actuator will run to opposite direction about 3% of stroke and stop running to send a warning message.
Seating Type	The actuator in CLOSE / OPEN end position can be set to trip by Position or Torque.
Torque Limit	The tripping torque in end position of CLOSE / OPEN could be set from 30% to 100% and default settings are 100% for Close and 50% for Open.
Torque Limit - Middle	The tripping torque in CLOSE / OPEN mid-travel could be set from 30% to 100% and the default setting is 50%. If the actuator is stuck in the mid-travel (per tripping torque setting), the actuator will perform the Retry function until programmed number of tries set in “Jam Clearance Retries” Tis reached.
Close Tightly	As long as the actuator runs to the desired end position, the actuator will continue to run whether the end position command is cancelled or the STOP command from remote control system is received until a torque overload occurs, 0% position has been reached or a reversal operation command is received. The default setting is disable and either OPEN or CLOSE direction can be chosen.
Close Direction	Define the rotation direction of the output shaft and either "CW to Close" or "CCW to Close" can be chosen. The default setting is "CW to Close".

3.2.6 System Control Setting



Switch to enable or disable remote control (Disable means in local control mode).

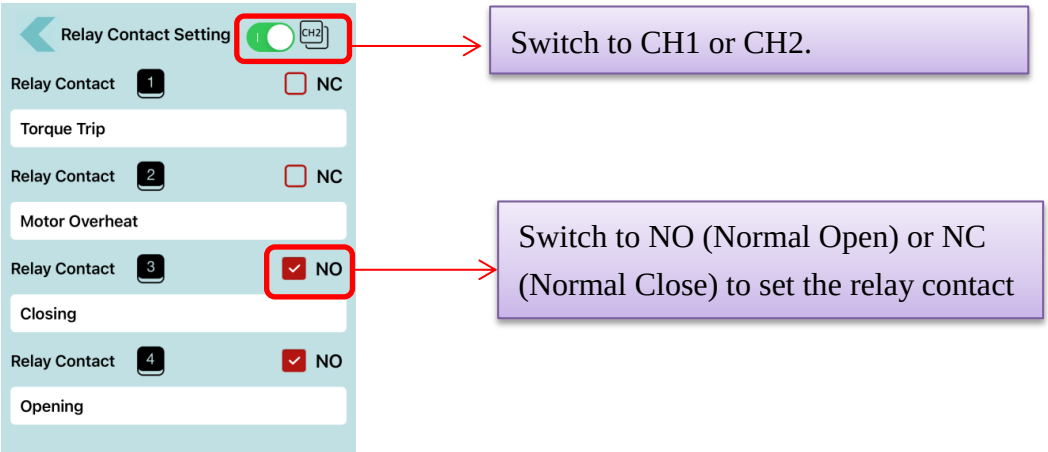
Switch to NO (Normal Open) or NC (Normal Close) to set the digital / analog input channels and analog output channel.

Switch to CH1 or CH2 to set the signal types.

Menu	Description
Remote Control Setting	Digital Permanent, Digital Pulse Input, Analog Input, Modbus or Profibus can be chosen.
Set A/I Sensitivity	The highest sensitivity is set at 0.0% and the lowest is set at 5.0%. The default setting is 0.5%.
Digital Input Channel	Switch to NO (Conducting) or NC (Non-conducting) and Disable, Channel 1or Channel 2 can be chosen for digital / analog input channels and analog output channel.
Analog Input Channel	Three types can be chosen as follows: Disabled, channel 1 or channel 2.
Analog Output Channel	Three types can be chosen as follows: Disabled, channel 1 or channel 2.
A/I Signal Type	Six types can be chosen as follows: 0 - 20 mA, 4 - 20 mA, 0 - 5V, 1 - 5V, 0 -10V or 2 - 10 V.
A/O Signal Type	Six types can be chosen as follows: 0 - 20 mA, 4 - 20 mA, 0 - 5V, 1 - 5V, 0 - 10V or 2 - 10 V.

3.2.7 Relay Contact Setting

- Each relay contact can be assigned to different Relay Mode, Normal Close or Normal Open. There are 17 relay output modes could be chosen and default setting is Disable. The function of each mode is as below table.



No	Function	Description
1	Disable	Relay has no function.
2	Run to Fully Closed	Fully-closed position.
3	Run to Fully Open	Fully-open position.
4	Torque Trip-CL Mid	Torque overload in CLOSE Direction and stops running.
5	Torque Trip-OP Mid	Torque overload in OPEN Direction and stops running.
6	Torque Trip	Torque overload in either OPEN or CLOSE Direction and stops running.
7	Fault	Error has occurred.
8	Signal Flash	Relay contact is activated every second.
9	Ready	Motor is normal, handwheel lever disables and limit position setting is completed, which means the actuator is ready for electrical operation.
10	Remote Selected	Output signal for remote control.
11	Motor Overheat-Stop	The motor will stop running when its temperature is higher than 135℃ (275°F).
12	Motor Overheat	If the motor temperature exceeds the setting value, the motor will run at the lowest speed until its temperature is lower than the setting value.
13	Maintenance Due	One of maintenance settings is detected.
14	Closing	The valve is running to close direction.
15	Opening	The valve is running to open direction.
16	D/I Module Fault	Input Signal Not Found.
17	A/I Module Fault	Input Signal Not Found.

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SUNYEH

SUN YEH ELECTRICAL IND. CO., LTD.

No.68, Ln. 854, Sec. 1, Shatian Rd., Dadu Dist.,
Taichung City 432403, Taiwan
Tel: +886-4-26985666 Fax: +886-4-26983668
E-mail: service@sunyeh.com

www.sunyeh.com

2023.05