

Lift Controller

User's Manual
V1.0.0

1 2 51 32 13724-000

Foreword

General

This document mainly introduces function, structure, networking and operation of lift controller.

Device Upgrade

Please don't cut off power supply during device upgrade. Power supply can be cut off only after the device has completed upgrade and has rebooted.

Safety Instructions

The following categorized signal words with defined meaning might appear in the Manual.

Signal Words	Meaning
DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
TIPS	Provides methods to help you solve a problem or save you time.
NOTE	Provides additional information as the emphasis and supplement to the text.

About the Manual

- The Manual is for reference only. If there is inconsistency between the Manual and the actual product, the actual product shall prevail.
- We are not liable for any loss caused by the operations that do not comply with the Manual.
- The Manual would be updated according to the latest laws and regulations of related regions. For detailed information, see the paper User's Manual, CD-ROM, QR code or our official website. If there is inconsistency between paper User's Manual and the electronic version, the electronic version shall prevail.
- All the designs and software are subject to change without prior written notice. The product updates might cause some differences between the actual product and the Manual. Please contact the customer service for the latest program and supplementary documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, please refer to our final explanation.
- Upgrade the reader software or try other mainstream reader software if the Guide (in PDF format) cannot be opened.
- All trademarks, registered trademarks and the company names in the Manual are the properties of their respective owners.
- Please visit our website, contact the supplier or customer service if there is any problem occurred when using the device.
- If there is any uncertainty or controversy, please refer to our final explanation.

Important Safeguards and Warnings

The following description is the correct application method of the device. Please read the manual carefully before use, in order to prevent danger and property loss. Strictly conform to the manual during application and keep it properly after reading.

Operating Requirement

- Please modify default password timely after device deployment, in order to prevent embezzlement.
- Please don't place and install the device in an area exposed to direct sunlight or near heat generating device.
- Please don't install the device in a humid, dusty or fuliginous area.
- Please keep its horizontal installation, or install it at stable places, and prevent it from falling.
- Please don't drip or splash liquids onto the device; don't put on the device anything filled with liquids, in order to prevent liquids from flowing into the device.
- Please install the device at well-ventilated places; don't block its ventilation opening.
- Use the device only within rated input and output range.
- Please don't dismantle the device arbitrarily.

Power Requirement

- The product shall use electric wires (power wires) recommended by this area, which shall be used within its rated specification!
- Please use power supply that meets SELV (safety extra low voltage) requirements, and supply power with rated voltage that conforms to Limited Power Source in IEC60950-1. For specific power supply requirements, please refer to device labels.
- Appliance coupler is a disconnecting device. During normal use, please keep an angle that facilitates operation.

1 Product Overview

1.1 Product Profile

With strong extensibility, this new type of lift controller provides centralized control and management of lift, alarm device and video intercom device through cascade connection. It is characterized by easy installation, plug and play, low construction cost and convenient operation; it configures and manages controlled modules via WEB interface. It applies to scenarios such as high-end residential communities, home residences and smart communities.

1.2 Product Feature

Application Extension

Lift controller realizes centralized management by connecting indoor station (VTH), outdoor station (VTO) and card reader. With easy operation and setting, this device meets users' diversified needs.

Cascade Connection

Lift controller can be set to master and slave types. Provide cascade connection between main device and standby device; connect lots of large-scale "Call Lift Modules" and card readers.

Modular Control

At WEB interface, manage multiple lift control modules and the connected "Call Lift Modules" efficiently and conveniently.

State Management

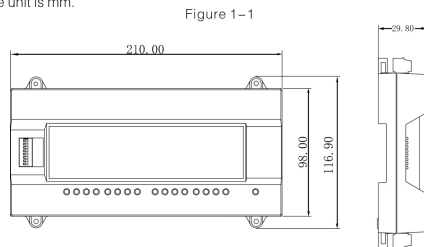
Lift controller provides real-time monitoring of the connected modules, whose real-time state can be viewed at WEB interface.

Event Log

Lift controller records card reading, alarm and lift control events, which are displayed at WEB interface in the form of log.

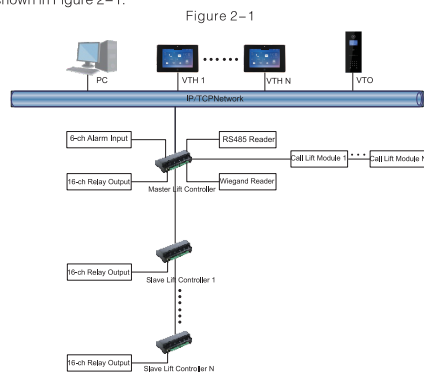
1.3 External Dimension

Appearance and external dimension of lift controller is shown in Figure 1-1. The unit is mm.



2 Networking

Lift controller can be connected with VTH, VTO and reader. System structure is shown in Figure 2-1.



3 Device Mounting

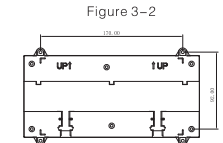
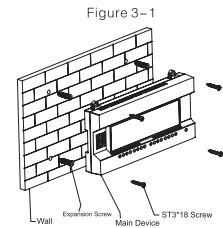
3.1 Device Mounting

There are two mounting ways:

- Mounting way 1: fix the whole device onto the wall with screws.
- Mounting way 2: mount U-shaped guide rail, and hang the whole device onto the wall (please buy U-shaped guide rail by yourself).

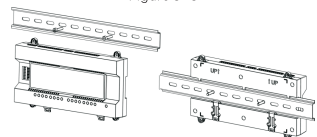
Mounting Way 1

Mounting way 1 is shown in Figure 3-1 and dimension is shown in Figure 3-2. The unit is mm.



Mounting Way 2

Mounting way 2 is shown in Figure 3-3.



- Fix U-shaped guide rail onto the wall with screws.
- Put the top of device rear side into top groove of U-shaped guide rail.
- Push the bottom snap joint of the device upward. The mounting is completed when you hear the sound of click.

NOTE

To mount the device quickly, the recommended type of guide rail is TS-35/7.5/1.0.

3.2 Wiring Description

Lift controller can connect alarm input device, VTO, VTH, call lift module and third-party lift controller, in order to provide different control functions, as shown in Figure 3-4. For port and indicator light description, please refer to Table 3-1 and Table 3-2.

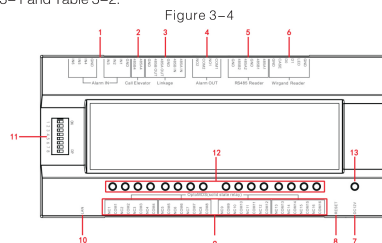


Table 3-1

No.	Port Description	No.	Port Description
1	External alarm input port	7	DC 12V power port
2	Call lift module cascading port	8	Reset button
3	Master/slave lift control cascading port	9	Relay output port
4	Internal alarm output port (disabled)	10	Network port
5	Call lift module / RS485 reader reuse port	11	DIP switch
6	Wiegand reader port	-	-

Table 3-2

No.	Description	No.	Description
12	LED status indicator light	13	Power indicator light

3.2.1 Wiring Description of External Alarm Input Port

6-ch external alarm input ports are used to connect external alarm input devices, as shown in Figure 3-5. For wiring terminal descriptions about external alarm input module, please refer to Table 3-3.

Figure 3-5

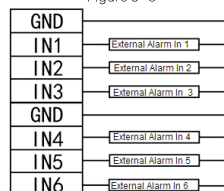


Table 3-3

Port	Wiring Terminal	Description
External alarm input device	GND	Ground port, shared by alarm input port 1, 2 and 3.
	IN1	Fire alarm input port 1
	IN2	Disabled
	IN3	Alarm input port 3
	GND	Ground port, shared by alarm input port 4, 5 and 6
	IN4	Alarm input port 4
IN5	Alarm input port 5	
IN6	Alarm input port 6	

3.2.2 Wiring Description of Cascading Port of Call Lift Module

1 cascading port of call lift module is used to realize cascading connection of call lift module, as shown in Figure 3-6. For descriptions about wiring terminal, please refer to Table 3-4.

NOTE

To connect multiple call lift modules, carry out cascading connection of port A and port B, and then connect 485 port. Max. 20 modules can be connected.

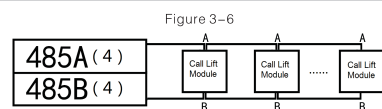


Table 3-4

Port	Wiring Terminal	Description
Call lift module port	485A (4)	Connect port A of call lift module
	485B (4)	Connect port B of call lift module

3.2.3 Wiring Description of Master/Slave Lift Control Cascading Port

1 cascading port of lift control module is used to realize cascading connection of slave lift control module, as shown in Figure 3-7. Max. 7 slave lift control modules can be connected. For descriptions about wiring terminal, please refer to Table 3-5.

NOTE

Before cascading connection, please set the address of slave device through DIP switch. Please refer to "3.3 Set Address" for details.

Figure 3-7

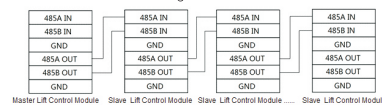


Table 3-5

Port	Wiring Terminal	Description
Master/slave lift control cascading port	485A IN	Connect upper level of lift control module 485A OUT
	485B IN	Connect upper level of lift control module 485B OUT
	485A OUT	Connect lower level of lift control module 485A IN
	485B OUT	Connect lower level of lift control module 485B IN

3.2.4 Wiring Description of Call Lift Module/RS485 Reader Reuse Port

2 call lift module/RS485 reader reuse ports are used to connect call lift module or RS485 reader.

- For connection of call lift module and cascading connection, please refer to "3.2.2 Wiring Description of Cascading Port of Call Lift Module".
- Wiring method of RS485 reader is shown in Figure 3-8. For descriptions about wiring terminal, please refer to Table 3-6.

NOTE

- After wiring of reuse port, please enable the connected module of this port at "Config Setting > Reuse Config" at WEB interface, and then it will take effect.
- RS485 reader is connected with CAT5e network cable, which is 100m long at most.

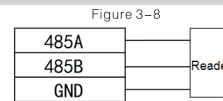


Table 3-6

Port	Wiring Terminal	Description
RS485 reader	485A	Port A of reader
	485B	Port B of reader
	GND	Ground port of reader

3.2.5 Wiring Description of Wiegand Port

Wiegand port is used to connect Wiegand reader. For descriptions about wiring terminal, please refer to Table 3-7.

Figure 3-7

Port	Wiring Terminal	Cable Color	Description
Wiegand	GND	Black	Ground
	LED	Brown	Wiegand LED
	D0	Green	Wiegand D0
	D1	White	Wiegand D1
	CASE	Blue	Wiegand tamper-proof
GND	Black	Ground	

NOTE

Wiegand reader is connected with CAT5e network cable, which is 100m long at most.

3.2.6 Wiring Description of Relay Output Port

Relay output port is used to connect third-party lift controller. For descriptions about wiring terminal, please refer to Table 3-8.

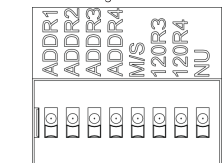
Table 3-8

Wiring Terminal	Description
NC1~NC16	Lift control relay output, as input signal of keys at third-party lift controller.
COM1~COM16	After lift control alarm input (3~6) channels trigger an alarm, relay output (COM3~COM6) channels will be linked to output alarm info.

3.3 Set Address

With DIP switch, set 485 address, master/slave and enable relevant functions of the device, as shown in Figure 3-9.

Figure 3-9



DIP switch has 8 keys as follows:

- ADDR1~ADDR4 are used to set 485 address. With binary system, the left side is lower bit, represents 0, whereas represents 1. Please read from right to left. For example, represents 0100 in binary system and 2 in decimal system.

NOTE

The system includes 1 master lift control device and 7 slave lift control devices at most. Default 485 address of master lift control device is 1, which requires no setting. Address of slave lift control device can be set to 2~8.

- M/S is used to set master and slave type of the device. 1 is master lift control and 0 is slave lift control.
- 120R3 is used to enable and disable 485 anti-interference of no. 3 channel. 1 is to enable and 0 is to disable.
- 120R4 is used to enable and disable 485 anti-interference of no. 4 channel. 1 is to enable and 0 is to disable.
- NU is reserved.

3.4 Reset

Insert a needle into reset hole, and press it for 5 seconds to reset the controller.

NOTE

- After reset, the device is initialized.
- Since data is unrecoverable, please save config before initialization, in order to prevent data loss and accidental loss.

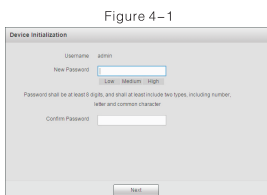
4 WEB Config

4.1 Initialization

NOTE

- For the first login or login after restoring defaults, please initialize WEB interface.
- Please ensure that IP address of PC is in the same network segment as IP address of lift controller. Otherwise, the device will fail to enter initialization interface.

Step 1 Enter IP address of lift controller at the address bar of PC browser, and press [Enter] key. The system displays "Device Initialization" interface, as shown in Figure 4-1.



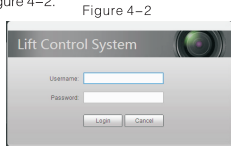
Step 2 Enter "New Password" and "Confirm Password", and click "Next". This password is used to login WEB interface. Password shall be at least 8 digits, and shall at least include two types, including number, letter and common character.

4.2 System Login



Please ensure that IP address of PC is in the same network segment as IP address of lift controller. Otherwise, the device will fail to enter WEB login interface.

Step 1 Enter IP address of lift controller at the address bar of PC browser, and press [Enter] key. The system displays WEB login interface, as shown in Figure 4-2.



Step 2 Enter username and password, and click "Login". Log in the WEB interface of the device.

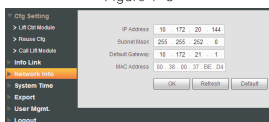
- Default username is admin.
- Password is the one set during initialization.

4.3 Network Info

Set IP address of lift controller.

Step 1 Click "Network Info".

The system displays "Network Info" interface, as shown in Figure 4-3.



Step 2 Enter the planned "IP Address", "Subnet Mask" and "Default Gateway".

Step 3 Click "OK" to save config. After IP is modified, the interface prompts "IP address has been modified. Start to re-direct...". The device will be rebooted, and WEB interface will be re-directed to new IP login interface.

4.4 Config Setting

4.4.1 Lift Control Module



- Master lift control module is added by default, and its address is 1 by default, which cannot be modified.
- Except master lift control module, max. 7 slave lift control modules can be added.

Manage and connect lift control module.

Select "Config Setting > Lift Control Module". The system displays "Lift Control Module" interface, as shown in Figure 4-4.

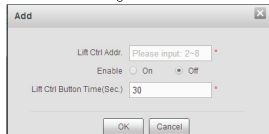


4.4.1.1 Add Module

Add

Step 1 Click "Add".

The system displays "Add" interface, as shown in Figure 4-5.



Step 2 Set lift control parameters by reference to Table 4-1.

Table 4-1

Parameter	Description
Lift control address	Input address of slave lift control module that needs to be added. <ul style="list-style-type: none"> • Address of slave lift control module is set with the first 4 digits of DIP switch and it is unique. Please refer to "3.3 Set Address" for details. • 1 is default address of lift control module.
Enable	<ul style="list-style-type: none"> • After it is enabled, lift control output channels of the module shall open the permission to corresponding floor button by swiping card at VTO, inputting password, unlocking VTH and swiping card at lift control module. Press the floor button within the permitted time, in order to reach the corresponding floor. • After it is disabled, lift control output channels of the module are released. Buttons of any floors can be pressed.
Lift control button time (sec.)	After opening permission by swiping card at VTO, inputting password, unlocking VTH and swiping card at lift control module, press corresponding floor button to reach corresponding floor within the set time. Buttons will be invalid after the set time. Please open the permission again through above-mentioned operations.

Step 3 Click "OK" to finish adding.

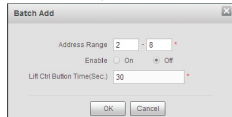
Batch Add



Please ensure that devices within the address range have not been added yet; otherwise, the system prompts address conflict and fails to add.

Step 1 Click "Batch Add".

The system displays "Batch Add" interface, as shown in Figure 4-6.



Step 2 Set lift control parameters by reference to Table 4-1.

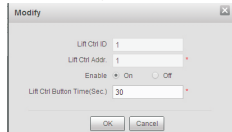
Step 3 Click "OK" to finish adding.

4.4.1.2 Modify Module Info

Modify module connection enabling status and lift control button time.

Step 1 Click in the module.

The system displays "Modify" interface, as shown in Figure 4-7.



Step 2 Set connection enabling status and lift control button time by reference to Table 4-1.

Step 3 Click "OK" to finish adding.

4.4.1.3 Delete Module



Only lift control module of slave device can be deleted. Click in the module and click "OK" to delete the module. Alternatively, select multiple modules and click "Batch Delete" to delete them.

4.4.2 Reuse Config

Set RS485 (1) and RS485 (2) port mode, in order to reuse call lift module and access reader port.

Step 1 Select "Config Setting > Reuse Config".

The system displays "Reuse Config" interface, as shown in Figure 4-8.



Step 2 Enable port function type.

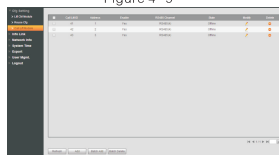
- Select "Reader Enable", so this port can only connect RS485 reader.
- Select "Call Lift Enable", so this port can only connect call lift module.

Step 3 Click "OK" to save config.

4.4.3 Call Lift Module

After connection, call lift modules can be managed at WEB interface.

Select "Config Setting > Call Lift Module". The system displays "Call Lift Module" interface, as shown in Figure 4-9.

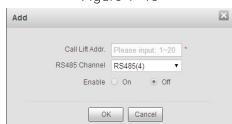


4.4.3.1 Add Module

Add

Step 1 Click "Add".

The system displays "Add" interface, as shown in Figure 4-10.



Step 2 Set call lift parameters by reference to Table 4-2.

Table 4-2

Parameter	Description
Call Lift Address	Enter the address of call lift module that is to be added. <ul style="list-style-type: none"> • For address setting, please refer to user's manual of call lift module.
RS485 Channel	According to actual connection, select RS485 port number of call lift module.
Enable	Select "On" to enable communication bus with lift control module.

Step 3 Click "OK" to finish adding.

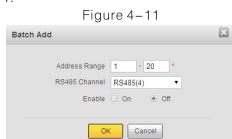
Batch Add



Please ensure that devices within the address range have not been added yet; otherwise, the system prompts address conflict and fails to add.

Step 1 Click "Batch Add".

The system displays "Batch Add" interface, as shown in Figure 4-11.



Step 2 Set call lift parameters by reference to Table 4-2.

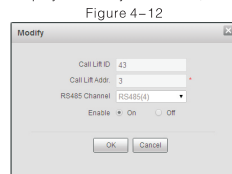
Step 3 Click "OK" to finish adding.

4.4.3.2 Modify Module Info

Turn on or off the module connection.

Step 1 Click in the module.

The system displays "Modify" interface, as shown in Figure 4-12.



Step 2 Set connection function by reference to Table 4-2.

Step 3 Click "OK" to finish adding.

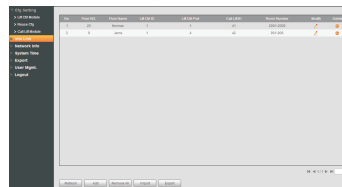
4.4.3.3 Delete Module

Click in the module, click "OK" to delete it. Alternatively, select multiple modules and click "Batch Delete" to delete them.

4.5 Info Link

Link lift control device, call lift module, and room number info of the lift control floor.

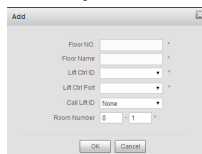
Click "Info Link", the system displays "Info Link" interface, as shown in Figure 4-13.



4.5.1 Add Info

Step 1 Click "Add".

The system displays "Add" interface, as shown in Figure 4-14.



Step 2 Set call lift parameters by reference to Table 4-3.

Table 4-3

Parameter	Description
Floor No.	Set floor number.
Floor Name	Customize info name, for the purpose of recognition.
Lift Control ID	Select lift control ID of the floor.
Lift Control Port	Relay output port number that is connected with this floor.
Call Lift ID	Select call lift module ID of the floor.
Room Number	Set every room number of the floor. For example, there are 10 rooms on the 1 st floor. Please enter 101 ~ 110.

Step 3 Click "OK" to finish adding.

4.5.2 Import and Export

With import and export function, batch import linked info, or export existing linked info from the system.

Import

Click "Import", click "Browse" to select the file (.csv format), and import local linked info into the system.

Export

Click "Export", and save linked info of the system (.csv format) to the local device.

4.5.3 Remove All

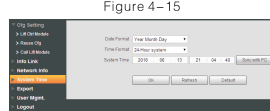
Click "Remove All" and click "OK" to delete all linked info from the list.

4.6 System Time

Set system date format, time format and system time function.

Step 1 Click "System Time".

The system displays "System Time" interface, as shown in Figure 4-15.



Step 2 Set parameters by reference to Table 4-4.

Table 4-4

Parameter	Description
Date Format	Set date display format, including year month day, month day year and day month year.
Time Format	Set time display format, including 12-hour system and 24-hour system.
System Time	Set present system date and time of VTO.

Step 3 Click "OK" to save config.

4.7 Log Export

Export alarm event, lift control log and system log info.

Click "Export", and the system displays "Export" interface, as shown in Figure 4-16.



- Click "Alarm Event" to export fire alarm and 4-ch alarm event.
- Click "Lift Control Log" to export lift control and call lift log.
- Click "System Log" to export original lift control log.

4.8 User Management

Modify admin info.

Step 1 Click "User Management".

The system displays "User Management" interface, as shown in Figure 4-17.

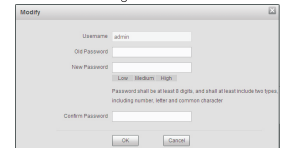
Figure 4-17



Step 2 Click in the module.

The system displays "Modify" interface, as shown in Figure 4-18.

Figure 4-18



Step 3 Enter "Old Password", "New Password" and "Confirm Password".

Step 4 Click "OK" to finish modification.

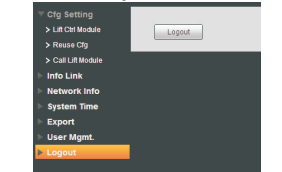
4.9 Logout

Log out WEB interface.

Step 1 Select "Logout > Logout".

The system displays "Logout" interface, as shown in Figure 4-19.

Figure 4-19



Step 2 Click "Logout".

The system logs out WEB and returns to login interface.

4.10 VTO Config Setting

Step 1 Login WEB interface of VTO, and select "LAN Config > Lift Control Config".

Step 2 Tick "Enable".

Step 3 Fill in IP address of lift controller VTM416 (Lift control IP) and port (which is fixed at 37777).

Step 4 Fill in username and password to login the lift controller.

Step 5 Click OK to finish setting.

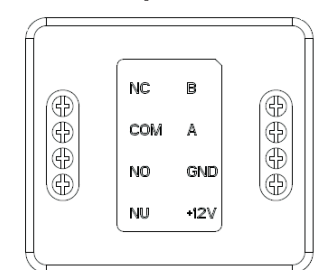
Figure 4-20



4.11 VTM 401 Wiring and DIP Setting

4.11.1 Wiring Description

Figure 4-21



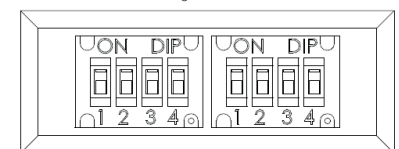
- A, B, GND and +12V in the right are input ports. A and B corresponds to A and B ports of 485 respectively; GND is grounding port and +12V connects DC12V power supply.

- NC, COM, NO and NU are output ports of the relay. COM is common port, NU is reserved, while either NO or NC is selected according to normally open or normally closed status in actual conditions. Connect wires from COM and NO, or from COM and NC.

4.11.2 485 DIP Setting

485 DIP switch is shown in Figure 4-22.

Figure 4-22



Its address is converted to binary system; high-order position and low-order position are arranged from left to right.

For example, if 485 address is 6, binary system of 8-digit DIP switch is 0000 0110, corresponding to OFF OFF OFF OFF ON OFF from left to right.