Clifford

Swing Gate Opener

24V DC Motor For Residential Use Only





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Safety Instruction



WARNING!

Please read this instruction manual carefully before the installation of gate-automated system.

This manual is exclusively for qualified installation personnel.

The manufacturer is not responsible for improper installation and failure to comply with local electrical and building regulations.

Keep all the components of Clifford system and this manual for further consultation.

In this manual, please pay extra attention to the contents marked by the symbol:

Be aware of the hazards that may exist in the procedures of installation and operation of the gate-automated system.

Besides, the installation must be carried out in conformity with local standards and regulations.

If the system is correctly installed and used following all the standards and regulations, it will ensure a high degree of safety.

Make sure that the gates works properly before installing the gate-automated system and confirm the gates are appropriate for the application.

Do not let children operate or play with the gate-automated system.

Do not cross the path of the gate-automated system when operating.

Please keep all the control devices and any other pulse generator away from children to avoid the gate-automated system being activated accidentally.

Do not make any modifications to any components except that it is mentioned in this manual.

Do not try to manually open or close the gates before you release the gear motor.

If there is a failure that cannot be solved and is not mentioned in this manual, please contact qualified installation personnel.

Do not use the gate-automated system before all the procedures and instructions have been carried out and thoroughly read.

Test the gate-automated system weekly and have qualified installation personnel to check and maintain the system at least every 6-month.

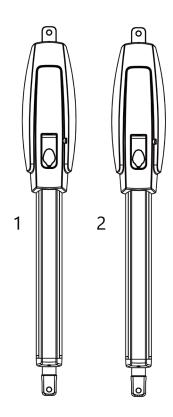
Install warning signs (if necessary) on the both sides of the gate to warn the people in the area of potential hazards.



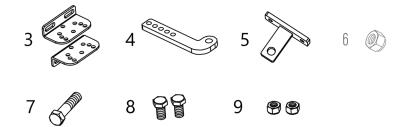
II. Product Description And Tended Use

1. Kit Content

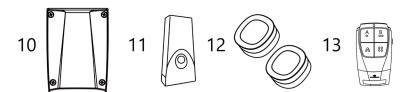
Motors



Hardware

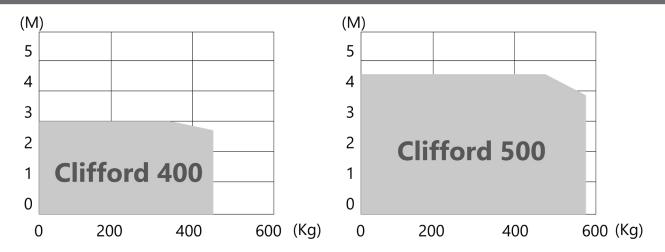


Accessories

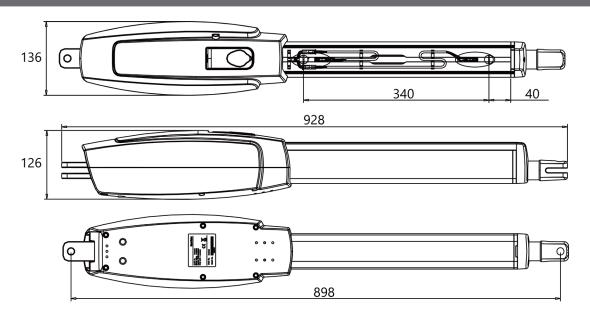


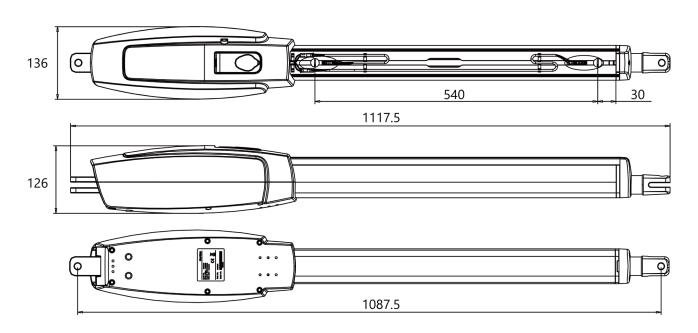
REF	DESCRIPTION	QUANTITY
	Motor 1 (Master)	1
	Motor 2 (Slave)	1
	Bracket plate	4
	Front bracket	2
	Rear end Bracket	2
	M8*40L hex bolt	2
	M8 self-locking nut	2
	Washer	4
	Washer	4
	CB19 Control Box	1
	Flashing light	1
	Photocells	1
	Remote	2

2. Product Usage Limits



3. Dimensions

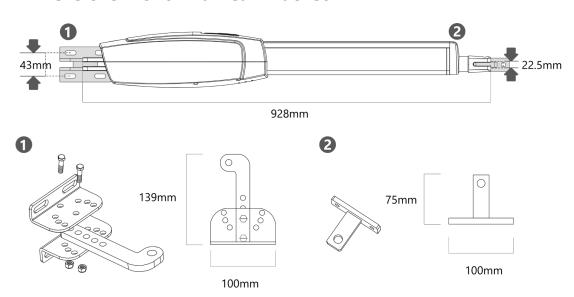




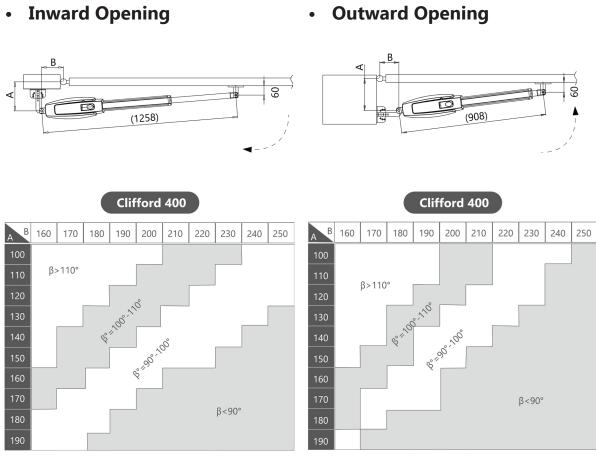
III. Installation

1. Installation Dimensions

Dimensions Front And Rear Bracket



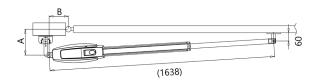
Outward Opening

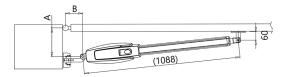




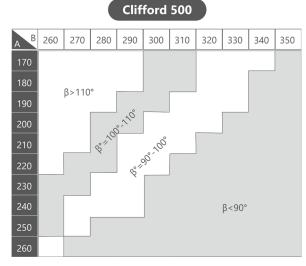
• Inward Opening

Outward Opening



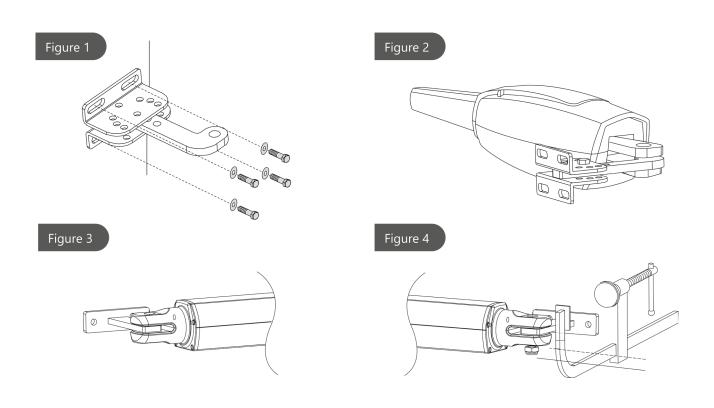


Clifford 500 A B 250 260 270 280 290 300 310 320 330 340 180 190 β>110° 200 210 220 230 240 250 260 370



2. Installation Of The Motors

- 1. Choose the correct dimensions of the motors and position to be installed.
- 2. Check if the mounting surface the brackets to be installed is smooth, vertical and rigid.
- 3. Arrange the cable conduit for power supply cable of the motors.
- 4. Loosen the screw and remove the cover of the motor as shown in Figure 1.
- 5. Place the leaves in the closed position.
- 6. Refer to the distance of "B" in dimensions, place the rear plate in the correct position on the mounting surface. Inspect if the distance is proper as shown in dimensions.
- 7. Place two post brackets on the surface to be installed and mark the drilling points, then drill minimum diameter of 8mm holes by four on the mounting surface to be installed and fasten up the brackets with screws and washers.
- 8. Please make sure the front plate is completely installed horizontally.
- 9. Clamp and fix the motor front plate on the door temporarily.
- 10. Lift up the motor and insert the screws into the front plate.
- 11. Lift the motor overhead and push the gate to the end until the screw holes of the motor end matches the holes on the rear plate. Fasten the motor to the rear plate with the bolt as shown in Figure 4.
- 12. Fasten the nut tightly and loosen it for half round for motor supporting in rotating.
- 13. Fasten the motor front end to the front plate with the bolt and nut tightly. Fully tighten the screw.
- 14. Use appropriate release key to release the gear motor.
- 15. Try to push the released gate and make sure the motor can be manually moved easily.
- 16. Make sure the motor front plate can be fastened on the gate to be installed permanently.
- 17. Use the appropriate release key to fasten the gear motor again.



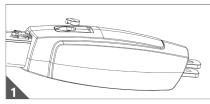
3. Manual Release Of The Motor

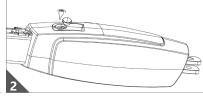
Release the Clutch of the Gate Operator

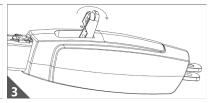
- 1. Insert the key
- 2. Turn it anti-clockwise by 180°
- 3. The gate leaf can now be moved manually to the desired position.

• Tightening the Clutch of the Gate Operator

- 1. Insert the key
- 2. Turn it clockwise by 180°
- 3. Remove the key

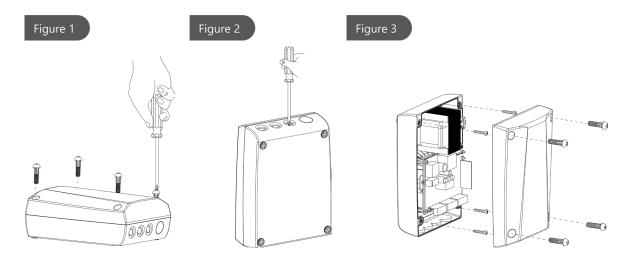






4. Installation Of The Control Box

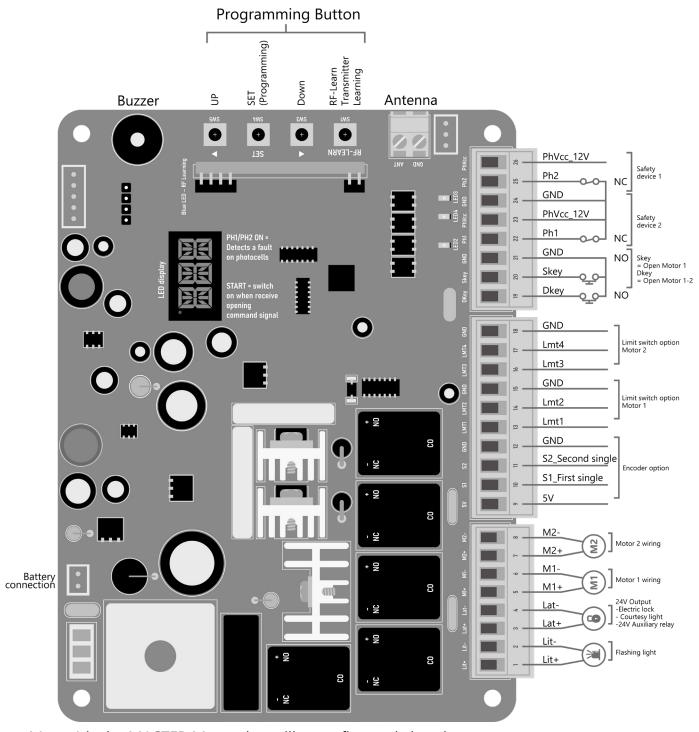
- 1. Remove the cover by unscrewing the 4 screws from the control box.
- 2. Use a screwdriver to puncture the holes beneath the bottom of the control box.
- 3. Install the control box





IV. Commissioning

1. CB19 Control Board



Motor1 is the MASTER Motor that will open first and close last.



WARNING!

When powering on for the first time, the LED display will show N-L = System learning not completed. DURING STANDARD OPERATION, the photocells are wired and aligned, the 3 LED indicator are OFF. Control: By passing your hand in front of the photocell beam, LED 1 will switch ON.



2. Motor Wiring

Motor Without Limit Switch



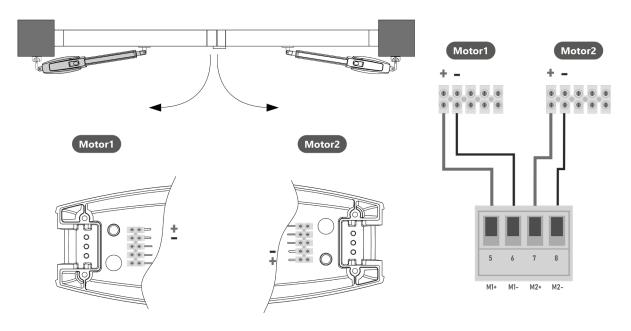
Mandatory: Make sure stoppers are placed on the ground or on the motors

• (Refer to parameter table - Paramter

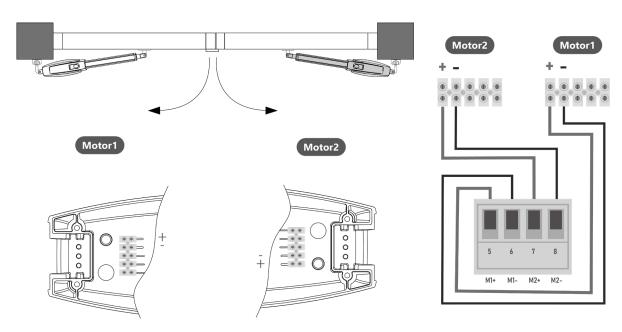


(Default Setting)

• Motor 1 Installed On The Left Pillar



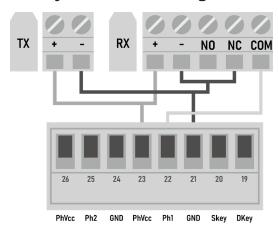
Motor 2 Installed On The Right Pillar



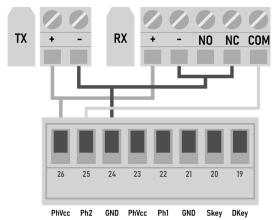


3. Wiring Of Accessories

Safety Device 1 Wiring

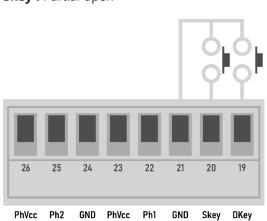


Safety Device 2 Wiring

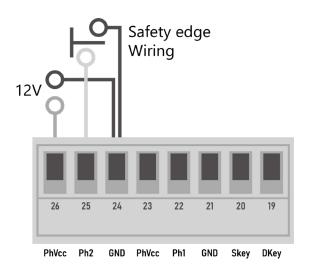


Auxiliary Device Wiring

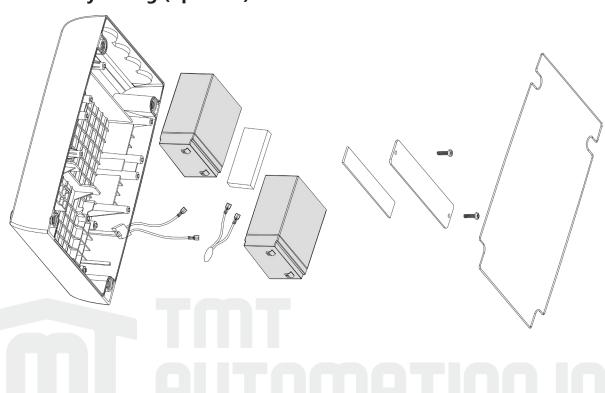
Dkey: Complete open **Skey:** Partial open



12V Available To Power Accessories



Battery wiring (optional)



4. Remote Learning



Mandatory: Before processing system learning, you must first memorize the remotes.

Reset (Delete) All The Remotes

Press and hold RF button. After 10 seconds, the LED display will first show



then **DAL**

that confirms that all the transmitters have been deleted.

Open/Close/Stop On Dual Gate

Press RF Learn button. The LED display show



Press and hold a button on the remote for at least 1 second then release.

osc

blinks 3 times, completing the memorization process.

You have 5 seconds to memorize another remote.

Open/Stop/Close On Single Gate (Pedestrian Opening)

Press RF Learn button. The LED display show OSC



. Press RF button a 2nd

time, the LED display show



Press and hold a button on the remote for at least 1 second then release.

PED

blinks 3 times, completing the memorization process.

You have 5 seconds to memorize another remote.

Command For Auxiliary Device(FM Function)

Press RF Learn button. The LED display show



. Press RF button a 2nd

time, the LED display show



Press RF button a 3rd time, the LED display show



Press and hold a button on the remote for at least 1 second then release.

LIT

blinks 3 times, completing the memorization process. You have 5

seconds to memorize another remote.

5. Safety Device Logic

• Motor Reaction Following A Fault On Contact PH1/PH2-Parameter Settings Selection-FA



Important: PH1 and PH2 are disabled by default.

FA-1 Anticrush safety between the gate and the wall

Safety device category Photocells default on PH		Safety edge default on PH2
Gate fully closed	No effect	No effect
Opening phase	No effect	Stop and close
Stop during cycle	Reload pause time => Automatic closing	No effect
Gate fully open Reload pause time =>Automatic closing at slow speed		No effect
Closing phase	Stop: => Open at slow speed	No effect

FA-2 Security during closing stage

Safety device category	Photocells default on PH1	Safety edge default on PH2
Gate fully closed	Blocks the open command	No effect
Opening phase	No effect	Stop => Reverse 2 seconds => Pause time => Automatic closing
Stop during cycle	Reload pause time =>Automatic closing at slow speed	No effect
Gate fully open	Reload pause time => Automatic closing	Reload pause time => Automatic closing
Closing phase	Stop => Open at slow speed	Stop => Reverse 2 seconds => Pause time => Automatic closing

FA-3 Loop detector

Safety device category	Photocells default on PH1	Safety edge default on PH2
Gate fully closed	No effect	Open
Opening phase	No effect	No effect
Stop during cycle	Reload pause time => Automatic closing	Open
Gate fully open	Reload pause time => Automatic closing	Reload pause time => Automatic closing
Closing phase	Stop=> Open at slow speed	Stop => Open at slow speed

FA-4 Photocells on pillars and photocells on column

Safety device category	Photocells default on PH1	Safety edge default on PH2	
Gate fully closed	No effect	No effect	
Opening phase	No effect	No effect	
Stop during cycle	Reload pause time => Automatic closing	Open	
Gate fully open	Stop => Reload pause time => Automatic closing	Reload pause time = > Automatic closing	
Closing phase Open		Stop = > Open at slow speed	



Function FA-5 - Quick closing - Pausing time is reduced to 5 seconds

Safety device category	Photocells default on PH1	Safety edge default on PH2
Gate fully closed	Gate fully closed No effect	
Opening phase	Pause time before automatic closing reduced to 5 seconds	Pause time before automatic closing reduced to 5 seconds
Stop during cycle	Pause time before automatic closing reduced to 5 seconds	Pause time before automatic closing reduced to 5 seconds
Gate fully open	Pause time before automatic closing reduced to 5 seconds	Pause time before automatic closing reduced to 5 seconds
Closing phase	Open => Reduce pause time to 5 seconds	Open => Reduce pause time to 5 seconds

FA-6 - Standard residential mode ***DEFAULT SETTING***

Safety device category	Photocells default on PH1	Safety edge default on PH2
Gate fully closed	Gate fully closed No effect	
Opening phase	No effect	No effect
Stop during cycle	p during cycle Reload pause time => Automatic Reload pause closing	
Gate fully open	Reload pause time => Automatic closing	Reload pause time => Automatic closing
Closing phase Open		Open

Function FA-7 - Condominium mode. Transmitters only accept signal for opening / Automatic closing is mandatory

Safety device category	Photocells default on PH1	Safety edge default on PH2
Gate fully closed	Gate fully closed No effect	
Opening phase	No effect	No effect
Stop during cycle	Impossible	Impossible
Gate fully open	No effect	No effect
Closing phase	Open	Open



6. Programming

• Indication On The LED Display

During the programming and operation, the LED display is ON and provides indications.

N-L = System learning not completed

LEA = In process of system learning

S-G = Completed system learning for single gate

D-G = Completed system learning for dual gate

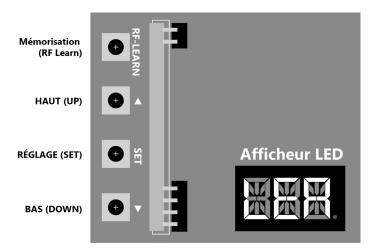
OPN = Motors in opening phase

CLS = Motors in closing phase

STP = Fault (display for 10second)

CLN = Return to default setting

FI = Motor wiring fault



Indication example on the LED display

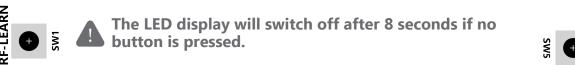
Parameter Settings



WARNING!

Depending on the placement of the control unit, the programming buttons may be located on the right or left side, the RF button at the top or bottom.

- SWS
- 1. Press and hold ▲ / SET for 3 seconds
- 2. The LED display « A1» parameter setting
- 3. Select main setting with ▲ / ▼ then confirm with SET
 - 4. Display of the sub-setting (ex: parameter A1-subvalue=1)
 - 5. Modify sub-setting value ▲ / ▼
 - 6. Validate sub-setting value with **SET**
 - 5 7. Press \triangle / ∇ to display and configure other settings





7. Parameter Table

Setting		Defi	nition		Default Setting
F1	Motor without limit switch / With Limit switch / With Encoders F1-1: Motor without limit switch. MANDATORY: Stoppers must be placed on the ground or on the motor F1-2: Limit switch F1-3: Encoders - Wiring on 5V/S1 and 5V/S2			F1-1	
F2	Motor Dephasing During C F3-1 = 1 amp F3-2 = 2 amp F3-3 = 3 amp F3-4 = 4 amp	F2-5 = 5 amp F2-6 = 6 amp F2-7 = 7 amp	Recommended value: PW200 = 2A / 4A PW320/330 = 2A / 5A PW530 = 2A / 6A	WARNING! Do not exceed recommended value or you may damage the motors	F2-2
F3	Motor Dephasing During C F3-1 = 1 amp F3-2 = 2 amp F3-3 = 3 amp F3-4 = 4 amp	F3-5 = 5 amp F3-6 = 6 amp F3-7 = 7 amp	Recommended value: PW200 = 2A / 4A PW320/330 = 2A / 5A PW530 = 2A / 6A	WARNING! Do not exceed recommended value or you may damage the motors	F3-2
F4	Motor Dephasing During C F4-1 = 40% of full speed F4-2 = 50% of full speed	Ppening Phase F4-3 = 75% of full speed F4-4 = 100% of full speed			F4-3
F5	Motor Dephasing During C F5-1 = 40% of full speed F5-2 = 50% of full speed	F5-3 = 75% of full speed F5-4 = 100% of full speed			F5-3
F6	Motor Dephasing During C F6-1 = 40% F6-2 = 50%	Ppening And Closing Phase F6-3 = 75% F6-4 = 100%			F6-2
F7	Motor Dephasing During C F7-0 = 0 second F7-1 = 2 seconds F7-2 = 5 seconds	Ppening Phase F7-3 = 10 seconds F7-4 = 15 seconds F7-5 = 20 seconds	F7-6 = 25 seconds F7-7 = 35 seconds F7-8 = 45 seconds	F7-9 = 55 seconds	F7-1
F8	Motor Dephasing During C F8-0 = 0 second F8-1 = 2 seconds F8-2 = 5 seconds	F8-3 = 10 seconds F8-4 = 15 seconds F8-5 = 20 seconds	F8-6 = 25 seconds F8-7 = 35 seconds F8-8 = 45 seconds	F8-9 = 55 seconds	F8-1
F9	Pause Time Before Automa F9-0: No automatic closing F9-1 = 3 seconds F9-2 = 10 seconds	F9-3 = 20 seconds F9-4 = 40 seconds F9-5 = 60 seconds	F9-6 = 120 seconds F9-7 = 180 seconds F9-8 = 300 seconds		F9-0

Temporary suspension of automatic closing function (Party mode)

Tit is possible to deactivate/reactivate the automatic closing function by pressing simultaneously on button A+B of the remote.

Automatic closing activated = > Automatic closing deactivated = 4 Buzzer sounds

Automatic closing deactivated = > Automatic closing activated = 2 Buzzer sounds

7. Parameter Table

Parameters		Defin	ition		Default Setting
	Safety Device Logic				
FA	FA-1 Anti-crush FA-2 Safety edge FA-3 Loop detector	FA-4 Quick close 1 FA-5 Quick close 2	FA-6 Standard residential mode FA-7 Condominium mode		FA-6
	Pedestrian Opening (Partial Opening) On Motor 1				
FB	FB-0 = Open motor 1 to the FB-1 = Open at 1/2 of the r				FB-1
	PRE-Flashing (24V Flashing Light wiring on LIT+ / LIT- terminals)			F.C. C	
FC	FC-0 = Deactivated FC-1 = Activated = preflash	es 3 seconds before the gat	e maneuver		FC-0
	Safety Device 1				
FD	FD-0 = Deactivated FD-1 = Activated				FD-0
	Safety Device 2				
FE	FE-0 = Deactivated FE-1 = Activated				FE-0
	Buzzer Function (Buzzer be	eps during every gate mane	uver)		FF 0
FF	FF-0 = Activated FE-1 = Deactivated (Can be	useful during the commissi	oning and parameter set	tings)	FF-0
	Electric Lock (wiring between LAT+ / LAT-)				
FG	FG-0 = Release OFF FG-1 = Release ON (During opening phase, motor reserves for 0,25s to release tension and unlock the electric lock)			FG-1	
	LED Display Direction (LED display direction is reversed on the articulated arm)				
FH	FH-0 = Value facing up FH-1 = Value facing down				FH-1
	Single Or Dual Gate			FI-1	
FI	FI-1 = 1 motor (Wiring on M1+ / M1-) FI-2 = 2 motors				
	Motor DischargeE After Closing And Opening				
FJ	FJ-0 = No discharge FJ-1 = Reversal 0,1s	FJ-2 = Retour de 0,2s FJ-4 = Retour de 0.4s	FJ-5 = Reversal 0,5s FJ-6 = Reversal 0,6s		FJ-1
	LAT+ / LAT- Ootput: Electric Lock / Zone Lighting / 24V Output (Activated by Button C On The Remote)				
FK	FK-1 = Power an electric lock in 24V (activated at start of the cycle) FK-2 = Zone lighting (activated during the movement of the gates) FK-3 = 24V output (courtesy light) controlled by the C button of the remote (adjustment of the duration with FL setting)			FK-1	
	Trigger Duration On LAT+/	LAT- / 24V Output (Activate	ed by Button C On The Re	emote)	
FL	FL-0 = ON / OFF		FL-1		
	Motor Sensitivity (Overcurre	ı ent Sensitivty When Detectiı	ng an Obstacle)		FM-1
FM	FM-1 = Stop after 0,2 secon	nd	FM-4 = Stop after 1 sec FM-5 = Stop after 1.5 se		
FIVI	FM-2 = Stop after 0,5 secon FM-3 = Stop after 0,75 secon	nd	AWARNING! Do not exceed recommendamage the motors	nended value or you may	rivi- I

8. System Learning

• PRE-Check Up Before Learning Procedure

The motors, photocells and other safety devices are installed and wired.

The stoppers or limit switchs are installed and adjusted.

The remotes are memorized.

Unlock the motors. Manually move the gate to 75% of the travel and lock the motors.

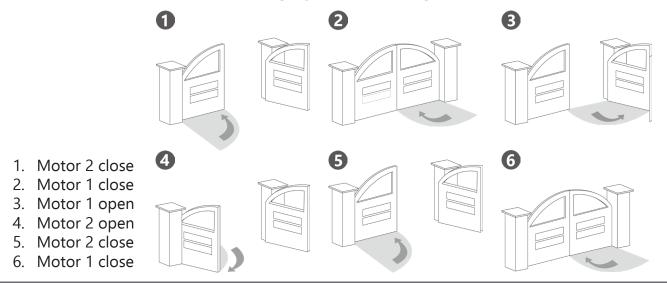
System Learning Procedure Mandatory

- 1. Press and hold SET for 3 seconds
- 2. The LED display **LEA** . Release the button to launch the system learning procedure.
- The first movement of the motors must be in the closing direction.

 If it is not the case, power off and invert the wiring of the 2 motors M+/M-
 - 3. The motor(s) perform(s) closing/opening movements then stop.
 - 4. The display of **DG** (2 motors) or **SG** (1 motor) confirms that the learning procedure has been completed successfully procedure.
- During the learning phase, the LED display the motor power consumption (in Ampere). If this value fluctuates a lot during the gates movement, make sure to verify if there are any hard spots.



• Dual Gate Movement During Systen Learning Procedure:



9. Reset To Default Settings

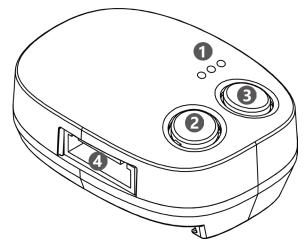
Press and hold ▲ / SET / ▼ ,

The LED display CLN confirming that the system has successfully returned to default settings .

Release the buttons => The LED display (N-L) (System learning not completed)

V. Smartphone Control With CHOW! Mobile Application

1. Wi-Fi Box WB3



- 1 LED Display
- **2** R Button (press to restart)
- **3** P Button
- 4 Terminals

LED Indicators Description

BLUE : Blue LED is a indicator for the Bluetooth connection.

GREEN: Green LED is a indicator for the state of device.

RED : Red LED blinks indicates wrong ful operations or system errors.

Please refer to FAQ when the Res LED is ON.

2. Quick Set Up Guide

Apply for a new Chow! account

- Please scan the QR code and download the Chow! App
- 2. Press sign up icon and press the agree icon to continue
- 3. Please type the following informaation for registration:
 - a. Email(enter twice for verification)
 - b. Password(enter twice for verification)
 - c. The password should have at least 1 English character and at least 8 characters in total
- 4. The system will send a link to your email when the registration succeedec.
- 5. Please go to your email, and click the linkto activate your Chow! account.
- 6. Please log in your Chow! account.













Connect the Wifi/Bluetooth Module to the Chow! App

- Please turn ON the Bluetooth function of your smartphone
- 1. Tap the (+) icon to add new device.
- 2. Tap the type of your device to add a new device.
- 3. Please check if the product has the WBT sticker.
- 4. Please check if you power the device.









- 5. Please select your device or scan QRcode on device.
- 6. Set a security PIN code by enter the same code twice.
- 7. Entering the correct password of your Wi-Fi.
- 8. After connection countdown, you can name your device.









Owner shares the device to other users

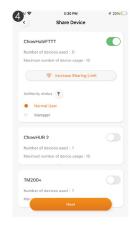
- 1. Press the icon on the corner to enter the account management page.
- 2. Tap the manage shared device.





- 3. Enter the account which you are going to share.
- 4. Choose the device you are going to share and tap next.





- a. The Owner can decide the permission of device sharing. A manager can share and operate this device, but a normal user can only operate it.
 - b. One device can only be shared to 10 users.

VI. Technical Specifications

Model Name	Clifford 400	Clifford 500
Category	Swing gate opener	Swing gate opener
Max gate length	3m	4.5m
Max gate weight	350kg/450kg	450kg/550kg
Power supply	110-240Vac(50-60Hz)	110-240Vac(50-60Hz)
Motor power supply	DC24V	DC24V
Gear type	Worm gear	Worm gear
Operation stroke	350mm	540mm
Duty cycle	50%	50%
IP rating	IP44	IP44
Working temperature	-20-50°C	-20-50°C
Current(A)	6A	6A
Power(W)	144W	144W
Release	Key	Key
Dimensions	928x136x126mm	1117.5x136x126mm



VII. Maintenance And Troubleshooting

Maintenance

Conduct the following operations at least every 6 months. For intensive use scenarios, shorten this delay.

Disconnect The Power Supply

- 1. Clean and lubricate the screws, hinges with grease.
- 2. Make sure the fastening are properly tightened.
- 3. Make sure the wire connection is in good functioning conditions.

Connect The Power Supply

- 1. Double check the parameter settings.
- 2. Check the manual release.
- 3. Check the photocells and other safety devices.

Troubleshooting

Problem	Solution
The gate is not moving when pressing the buttons on the remote	 Check if LED2 blinks when pressing buttons on the remote Check if the voltage on the batteries is above 22V Check if LED3-4 are "ON". Make sure all the wires are connected to the PCB terminals Make sure the fuse is fully functional on the panel and power socket.
Transmission range on the remote/ keypad is too short	 Make sure the antenna is well attached and screwed on the control board. Make sure there is no obstruction of the antenna (power or motor cables).
Flashing light does not function	1. Make sure the wiring is correct.
The gate stops during movement.	Manually move the gate and check if there are any hard spots.
The gate does not move or only move towards a single direction.	Verify the motors wiring. Check the fuse status Make sure there are no obstacles obstructing the photocells beam.
One gate fully closes but the other gate stops.	Manually move the gate and check if there are any hard spots. 1. Verify the motors wiring. 2. Check the fuse status 3. Make sure there are no obstacles obstructing the photocells beam. 4. Increase the F2-F3 settings (Force)







