PAPILLON250 User Manual

ARTICULATED ARM OPENERS

24V DC GEAR MOTOR

FOR RESIDENTIAL





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1.1 Warnings

WARNING :

This user manual is only for qualified technicians who is specialized in installations and automations.

- (1) All installations, electrical connections, adjustments and testing must be performed only after reading and understanding of all instructions carefully.
- (2) Before carrying out any installation or maintenance operation, disconnect the electrical power supply by turning off the magneto thermic switch connected upstream and apply the hazard area notice required by applicable regulations.
- (3) Make sure the existing structure is up to standard in terms of strength and stability.
- (4) When necessary, connect the motorized gate to reliable earth system during electricity connection phase.
- (5) Installation requires qualified personnel with mechanical and electrical skills.
- (6) Keep the automatic controls (remote, push bottom, key selectors...etc) being placed properly and away from children.
- (7) For replace or repair of the motorized system, only original parts must be applied. Any damage caused by inadequate parts and methods will not be claimed to motor manufacturer.
- (8) Never operate the drive if you have any suspect with what it might be faulty or damage to the system.
- (9) The motors are exclusively designed for the gate opening and closing application, any other usage is deemed inappropriate. The manufacture should not be liable for any damage resulting from the improper use. Improper usage should void all warranty, and the user accepts sole responsibility for any risks thereby may accrue.
- (10) The system may only be operated in proper working order. Always follow the standard procedures by following the instructions in this installation and operating manual.
- (11) Only command the remote when you have a full view of the gate.

Please keep this installation manual for future reference.

1.2 Installation



1.2.2 Dimension Chart

Please comply with the measures shown on the chart for proper installation. If necessary, please adjust the gate structure to the best operation.

Before starting the installation, please make sure that the gate moves smoothly and that :

- 1) Hinges are properly positioned and greased.
- 2) No any obstacle in the moving area.
- 3) No frictions between two leaf gates and on the ground while moving.
- 4) Installation reference: to open the gate with 90 degree, please refer the data table below:
 - A: Distance between the gate hinge and the wall bracket.
 - B: Distance between the gate hinge and the motor side.
 - C: Distance between the gate hinge and the fixing point of the arm.

			В	
	С 🔪	50	100	150
	50	625	575	545
	100	615	565	540
Δ	150	600	550	/
~	200	585	535	/
	250	565	515	/
	300	540	/	/

unit: mm







1.2.4 Installation of Articulated Arm Opener

- 1. Refer to the Dimension Chart to choose the correct dimensions of the motors and position to be installed.
- 2. Check if the mounting surface of the brackets to be installed is smooth, vertical and rigid.
- 3. Arrange the cables for power supply cable of the motors, make sure power supply cable is connected to motor.
- 4. Motor installation and setting for mechanical stopper in opened and closed position.
 - 1) Remove the upper cover and mechanical stoppers on the bottom of motor.
- 2) Place the gate in the full closed position and fix the U-shaped fixing plate on the wall.





3) Install the motor on the U-shaped fixing plate with corresponding screws and nuts.



4) After positioning the front of curved arm on the bottom of motor, release the motor and position the straight arm on the end of curved arm and mounting bracket with corresponding screws and nuts.



- 5) Closed position adjustment :
 - 5.1 After the full closed position decided, fix the corresponding mechanical stopper at the position.
 - 5.2 After the full closed position decided, make the pointer on limit switch aligned with the pointer on the curved arm. (Red points shown on the figure below indicate the pointers)





- 6) Opened position adjustment :
 - 6.1 Adjust the gate to full opened position and after the position decided, fixe with corresponding mechanical stopper.6.2 Adjust the gate to full opened position and after the position decided, make the pointer on the limit switch aligned with the pointer on the curved arm. (Red points shown on the figure below indicate the pointers)





1.2.5 Emergency Release

- 1) Insert the release key to the release slot
- 2) Turn the release key anti-clockwise
- 3) Pull out the release bar
- 4) Turn the release key clockwise to fix the release bar, the release bar has to be in pulled out position when turning the release key clockwise





1.2.7 Photocells

The safety photocells are security devices for control automatic gates. Consist of one transmitter and one receiver based in waterproof covers; it is triggered while breaking the path of the beams.

SPECIFICATION:

Detection Method	Through Beam
Sensing Range	MAX~15m
Input Voltage	AC/DC 12~24V
Contact Current	TX: 30mA Max , RX: 25 mA Max
Response Time	<100mS
Emitting Element	Infrared LED/ Wave Length ÷ 940nm
Operation Indicator	RX : Red LED On (beam broken) / Off (beam aligned)
	TX : Red LED On
Dimensions	63*63*30 mm
Output Method	Relay Output
Current Consumption	Beam aligned : RX<25ma\TX<30ma
	Beam broken [:] RX <10ma\TX <30ma
Connection Method	Terminal Block
Housing Material	ABS / PC
Water Proof	IP44
Safety Standard	CE





INSTALLATION:

- 1. Open the cover and connect wires.
- 2. Mounted the receiver and transmitter on the proper position.
- 3. Ensure there are no obstacles between receiver and transmitter.
- For optimal efficiency, the receiver and transmitter should be properly aligned.
- 4. Power-up the photocells and make sure the LED light on receiver and transmitter are ON.



1.2.8 Power Supply Connections

Please kindly notice that the operation of power connection should be carried out by a qualified electrician with following steps:

- 1). Make sure the motor did not connect with power supply before finishing installation.
- 2). Make sure all the wires are firmly connected.
- 3). Then, connect the power with motor.

2.1 Wiring Connection







3. Get Started

Note:

- (A) Remote memorizing must be done before system learning.
- (B) Verifying the GATE CONDITION.
- 1) Release the gear with the release key and move the gate to the middle so the gate can move in both opening and closing directions; then lock the gear.
- 2) Operate the gate to opened and closed position several times and make sure the gates touches the limit switch at least 2~3 cm before the mechanical stop.

3.1 Step 1: Remote Memorizing 3.1.1 Memorizing

1. Press button RF-Learn on the control board (Figure 1) as many times as the number corresponding to the desired command, according to the following table, Within 10s, press the desired button on the remote that you want it to be memorized (figure 1)



2. Make sure that the LED display flash the "OSC" or "PED" three times. The code is corresponding to the selected command. (figure 2)



3. Repeat step 1 & 2 within 10s, if there have other remotes to be memorized for the same type of command. No need within 10s, the memorization stage will terminate automatically.

3.2 LED Indication

LED2 D Key/S Key : Key selector, or the push button is activated, LED2 will be on.

LED4 Ph1 : LED4 will be on when Ph1 are triggered.

LED3 Ph2 : LED3 will be on when Ph2 are triggered.



3.3 Deleting memory of single command:

- 1. Press and hold RF-LEARN button (Figure 3) on the control board for 5 seconds.
- 2. Wait until the LED display shows "DKY", then, within three seconds:
- 3. Press the button on the remote to be deleted. If the command has been deleted, the LED display will flash quickly five times.
- 4. Repeat above steps if more command to be need.



3.3.1 Deleting all memory of all remotes:

With this operation all the memorized remotes will be deleted.

- 1. Press and hold down RF-LEARN button (Figure 4) on the control board for 10 seconds.
- 2. You will see "DKY" first, and Hold the RF-Learn until you see "DAL". All memory is deleted.



3.3.2 Step 2: System Learning

Step1:

Press and Hold the Press SET button for 3s, When LED shows "LEA" then release SET, then the motor runs the system learning procedure automatically, once learning completed shows "D-G" or "S-G" (No remote required)

Note: Please check the parameter setting of "FI" (Dual/Single) before going into system learning.

Restore system default setting

Press and Hold the UP + SET + DOWN button for 5s and panel restores back to default setting

Note:

1. LED Shows "D-G" tells the system learning has be completed for Dual Gate installation 2. LED Shows "S-G" tells the system learning has be completed for Single Gate installation



A. Dual Gate:

(1)

(1) Slave Gate Close \rightarrow (2) Master Gate Close \rightarrow (3) Master Gate Open \rightarrow

(2)

(4) Slave Gate Open \rightarrow (5) Slave Gate Close \rightarrow (6) Master Gate Close



(3)

3.4 Gate-moving Logic

- (A) In gate-opening phase: The gates stop if the transmitter/push button/key selector is activated, and close when the transmitter/push button/key selector is reactivated.
- (B) In gate-closing phase: The gates stop if the transmitter/push button/key selector is activated, and open when the transmitter/push button/key selector is reactivated.
- (C) In gate-opening or gate-closing phase: For safety purpose, the gates stop if encountering obstacles.

3.5 Checking the Gate Movement

- 1). Release the gear with the release key and move the gate to the middle so that it can move in both opening and closing directions; then lock the gear.
- 2). Operate the gate to opened and closed position several times, and make sure the gates reaches the limit switch at least 2~3 centimeters before the mechanical stop.

4. Function Setting

4.1 Function Of The LED Display Programmable Functions LED Display [LEA] means motor into the system learning mode, do not interrupt during this procedure [D-G] means motor completed the learning procedure for dual gate installation [S-G] means motor completed the learning procedure for single gate installation The memory of the system is all deleted/cleaned by press and hold the UP + SET+ DOWN button together for 5s and the panel will be back to default settings When the gate is opening, the LED Display show 'OPN' for 2s and then change to Amp current indication

LED Display	Programmable Functions
	When the gate is stopped, the LED Display show 'STP' until next commend has been made, after 10s no further movement, the LED turns to OFF
	When the gate is closing, the LED Display show 'CLS' for 2s and then change to Amp current indication
	LED display shows "S01" means the panel did not detected the M1+/M1 and M2+/M2 both been connected before the system learning procedure, check for motor wire connection, for dual gate system
582	LED display shows "S02" means the panel did not detected the M1+/M1 but detected M2+/M2 been connected, notice the installer to check the motor wire connection, if this is single gate system, motor wire should connect to M1+/M1 not on M2+/M2
	LED display show "S03" means same button on the remote has been identified for more than 2 functions

5. Parameter Modification

5.1 Parameter Learning



Press "UP+SET" for 3 seconds to get into the program setting display from F1.



2

Press "UP" or "DOWN" to change setting item from F1 to FJ .



Press "SET" button again to confirm.



Press "SET" button again to get into the sub-settings

2	Paramotor

5.2 Parameter

LED Display	Definition F	Parameter	Table	Description
F1	Motor Type	F1-1	Overcurrent	1. The factory setting is "F1-1"
		F1-2	Limit Switch	
		F1-3	Hall Sensor	
F2	Overcurrent for Gate Opening	F2-1	2A	1. The factory setting is "F2-2".
		F2-2	3A	
		F2-3	4A	
		F2-4	5A	
F3	Overcurrent for Gate Closing	F3-1	2A	1. The factory setting is "F3-2".
		F3-2	3A	
		F3-3	4A	
		F3-4	5A	
F4	Motor Speed for Opening	F4-1	40%	1. The factory setting is "F4-3".
		F4-2	50%	
		F4-3	75%	
		F4-4	100%	
F5	Motor Speed for Closing	F5-1	40%	1. The factory setting is "F5-3".
		F5-2	50%	
		F5-3	75%	
		F5-4	100%	
F6	Deceleration Speed	F6-1	40%	1. The factory setting is "F6-2".
		F6-2	50%	
		F6-3	60%	
		F6-4	70%	
F7	Time Gap b/w Two Gates	F7-0	0 sec	1. The factory setting is "F7-1".
	(Opening)	F7-1	2 sec	
		F7-2	5 sec	
		F7-3	10 sec	
		F7-4	15 sec	
		F7-5	20 sec	
		F7-6	25 sec	
		F7-7	35 sec	
		F7-8	45 sec	
		F7-9	55 sec	

_ED Displa	y Definition I	Paramete	ar Table	Description
F8	Time Gap b/w Two Gates	F8-0	0 sec	1. The factory setting is "F8-1".
	(Closing)	F8-1	2 sec	
		F8-2	5 sec	
		F8-3	10 sec	
		F8-4	15 sec	
		F8-5	20 sec	
		F8-6	25 sec	
		F8-7	35 sec	
		F8-8	45 sec	
		F8-9	55 sec	
F9	Auto-closing	F9-0	Function OFF	1. Auto-close mode activates when the gates move to
		F9-1	3 sec	the end position or stopped manually. If the
		F9-2	10 sec	transmitter, push button, or the key selector is
		F9-3	20 sec	activated before the auto-close counting, the gate
		F9-4	40 sec	will close immediately.
		F9-5	60 sec	2. The factory setting is "F9-0".
		F9-6	120 sec	
		F9-7	180 sec	
		F9-8	300 sec	
FA	Safety Device Function Mode	FA-1	Mode 1	1. Please see 5-3 photocell adjustment for photocell log
		FA-2	Mode 2	2. The factory setting is "FA-1".
		FA-3	Mode 3	
		FA-4	Mode 4	
FB	Pedestrian Mode	FB-0	Function OFF	1. The factory setting is "FB-1".
		FB-1	Function ON	
FC	Flashing Light	FC-0	Function OFF	1. When function FC-1, the light will flash for 3 seconds
		FC-1	Function ON	before the gate operates. If set OFF, the flash light wil
				operate with motor at the same time.
				2. The factory setting is "FC-0".
FD	Photocell Activation	FD-0	Function OFF	1. The factory setting is "FD-0".
		FD-1	Function ON	
FE	Photocell 2 Activation	FE-0	Function OFF	1. The factory setting is "FE-0".
		FE-1	Function ON	, , , , , , , , , , , , , , , , , , , ,
FF	Alarm Buzzer	FF-0	Function OFF	1. The factory setting is "FF-0".
		FF-1	Function ON	
FG	Electric Latch Mode	FG-0	Standard Gate Opening	1 If the function is EG-1 the motor will be reversed for
		FG-1	Release Gate Tension before	0.25 sec. to release the tension
			Opening (Gate Reversing for 0.25s)	2 The factory setting is "EG-1"
FH		EH-0	When Terminal Block is at Top	1 The factory setting is "EH-0"
		FH-1	When Terminal Block is at Bottom	
FI	Dual / Single Gate	FI_1	Single Gate	1 The factory setting is "FL2"
		FL2		
FJ	Over Current Reverses Time	F L-0		1. The factory setting is "E I-0"
10	when Close	F L 1		
	when blose	E12		
		E12	0.3 sec	
			0.4 sec	
		FJ-5		
		FJ-6	U.6 SEC	
	1			

Note(F1-3 over-current setting in Hall sensor mode): Only in "F1-3"Hall sensor mode, the PCB will record all the current value in learning mode. Please adjust over current value by setting F3 function after learning mode.

The recorded current values will increase according to the value shown on LED display as over current value.

5.3 Photocell Adjustment

The actions of the photocells safety edge loop detector when they detecting obstacles.

FA-1	Photocell	OPEN/CLOSE	(Standard	set	up)	1
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Position of Gate	When safety dev	ices are ac	ctivated
Tuno of Safety Davies	Safefy Device1		Safefy Device2
Type of Safety Device	Photocell-CLOSE		Photocell-OPEN
FULLY CLOSED	No effect		Open not allowed
FULLY OPENED	Reload automatic closing time		No effect
STOP DURING MOVING	Reload automatic closing time		Open not allowed
CLOSING	Open		No effect
OPENING	No effect		Close
FA-2 Safety Edge			
Position of Gate	When safety dev	ices are ac	tivated
Turne of Sofety Device	Safefy Device1		Safefy Device2
Type of Salety Device	Photocell-CLOSE		Safety Edge
FULLY CLOSED	No effect		Open not allowed
FULLY OPENED	Reload automa	tic closing	time
STOP DURING MOVING	Reload automatic closing time	C	OPEN/CLOSE not allowed
CLOSING	Open	Rev	verse to open for 2 seconds
OPENING	No effect	Rev	verse to close for 2 seconds
FA-3 Open Only Device (\	/ehicle detector)		
Position of Gate	When safety dev	ices are ac	tivated
Turna of Safatu Daviaa	Safefy Device1		Safefy Device2
Type of Salety Device	Photocell-CLOSE		Opening Device
FULLY CLOSED	No effect		Open
FULLY OPENED	Reload automa	tic closing	time
STOP DURING MOVING	Reload automatic closing time		Open
CLOSING	Open		Open
OPENING	No effect		No effect
FA-4 Double photocell se	t up		
Position of Gate	When safety dev	ices are ac	tivated
Turne of Opfate Davies	Safefy Device1		Safefy Device2
Type of Safety Device	Photocell-CLOSE		Photocell-OPEN/CLOSE
FULLY CLOSED	No effect		Open not allowed
FULLY OPENED	Open for 2 seconds, when auto closi	ng is ON	No effect
STOP DURING MOVING	Close not allowed		Open not allowed
CLOSING	Open		No effect
OPENING	No effect		Stop

6. Technical Features

6.1 Dimension



6.2 Technical Feature:

Model	Papillon250
Motor	24Vdc motor
Gear type	Electromechanical worm gear
Nominal thrust	2500N
Maximum Gate Weight	250 kg per leaf
Maximum Gate Length	2.5 meters per leaf
Operating Temperature	-20°C~+50°C
Dimension	256 x 187 x 267mm
Weight	6 kg
Model	CB19
Model Main power supply	CB19 230Vac/110Vac, 50Hz/60Hz
Model Main power supply Back-up battery	CB19 230Vac/110Vac, 50Hz/60Hz 2pcs of batteries for emergency operation, 1.3A each
Model Main power supply Back-up battery Receiver board	CB19 230Vac/110Vac, 50Hz/60Hz 2pcs of batteries for emergency operation, 1.3A each 433.92MHz; 200 transmitters memory
Model Main power supply Back-up battery Receiver board Installation	CB19 230Vac/110Vac, 50Hz/60Hz 2pcs of batteries for emergency operation, 1.3A each 433.92MHz; 200 transmitters memory Built-in PCBA
Model Main power supply Back-up battery Receiver board Installation Operating Temperature	CB19 230Vac/110Vac, 50Hz/60Hz 2pcs of batteries for emergency operation, 1.3A each 433.92MHz; 200 transmitters memory Built-in PCBA -20°C~+50°C
Model Main power supply Back-up battery Receiver board Installation Operating Temperature Dimension	CB19 230Vac/110Vac, 50Hz/60Hz 2pcs of batteries for emergency operation, 1.3A each 433.92MHz; 200 transmitters memory Built-in PCBA -20°C~+50°C 275mm x 195mm x 102mm

7. Maintenance

Conduct the following operations at least every 6 months. If you are a high intensity user, please shorten the period in between.

Disconnect the power supply:

- (1) Clean and lubricate the screws, the pins, and the hinge with grease.
- (2) Check the fastening points are properly tightened.
- (3) Maintain the wire connection are in good condition.

Connect the power supply:

- (1) Check the power adjustments.
- (2) Check the function of the manual release.
- (3) Check the function of photocells or other safety devise.



24V power supply for great safety



Solid material apply with lasting usage



Manual release device with easy use and highly protection



Worm gear application give silence operation



Easy installation and user friendly interface