

Center Opening Permanent Magnet Variable Frequency

Door Operator

PMA2C-L, PMA2C-K, PMA2C-LJ

Introduction to Products

1.1 Functional Description

The Series of PMA2C Center Opening Permanent Magnet Variable Frequency Door Operator is powered by the permanent-magnet synchronous motor, driven by synchronous belt, and controls the door switching action via the frequency conversion and stepless speed regulation and vector closed loop. To configure one-piece integrated car door lock synchronization door vane. Meet the requirements of GB7588 standards (including 1 amendment).along with the advantages of compact structure,smooth operation and low noise.

1.2 Technical Parameters

Input voltage: AC220V±15%;

1. Frequency converter:

Rated frequency: 50/60Hz;
 Rated current: 2.5A;
 Maximum current: 5.0A
 Output voltage: 0~220V;
 Output frequency: 0~50Hz

2. Motor:

Rated voltage: AC100/125V;
 Rated current: 0.73/1.20A;
 Rated rotating speed: 180r/min;
 Rated torque: 2.3/5.0N·m;
 Rated power: 43/94W

3. Encoder:

Non-contact, high resolution, rotating position encoder within the range of 360° is adopted.

Resolution: output with 12-digit absolute value

Output interface: synchronous serial interface

Operating temperature: -40°C—125°C

Equipped with the shield cable

1.3 Working Conditions

1. Altitude :

With 100% of the rated current output while below 1000m.;
 With 95% of the rated current output while between 1000~2000m;
 With 85% of the rated current output while between 2000~3000m;

2. With the relative humidity no more than 90% (at 25°C)

3. Voltage: 200V~250V.50~60Hz;

4. No corrosive gas, flammable gas and conductive dust in the ambient air;

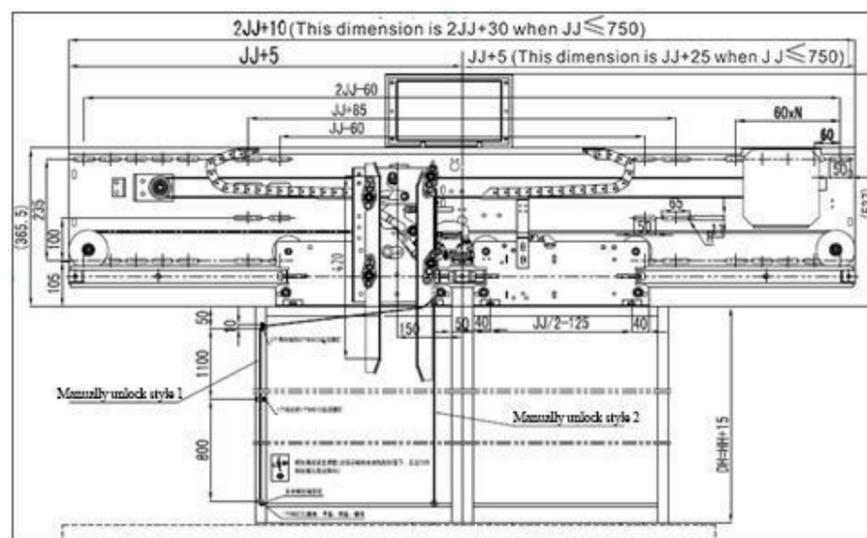
1.4 Operating Principle

The Series of PMA2C Center Opening Permanent Magnet Variable Frequency Door Operator is powered by the permanent-magnet synchronous motor, driven by synchronous belt, and controls the door switching action via the frequency conversion and stepless speed regulation. The door hanging plate is driven by the synchronous belt and thus the car door is connected with the hanging plate and control the opening and closing function. To configure one-piece integrated car door lock synchronization door. so it can implementation car door lock function. landing door without increasing the bow, Configuration of wire rope, Mounted on car door panel,see Fig, The door vane will be open when the door machine is electrified, Opening size about 80mm, Please keep the door vane open when the car is running up and down.

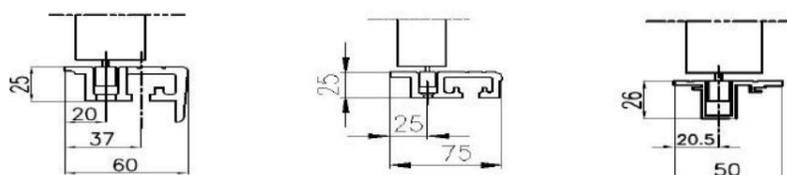
2 Installation Instructions of the Door Operator

2.1 General Drawing for the Door Operator

Installation



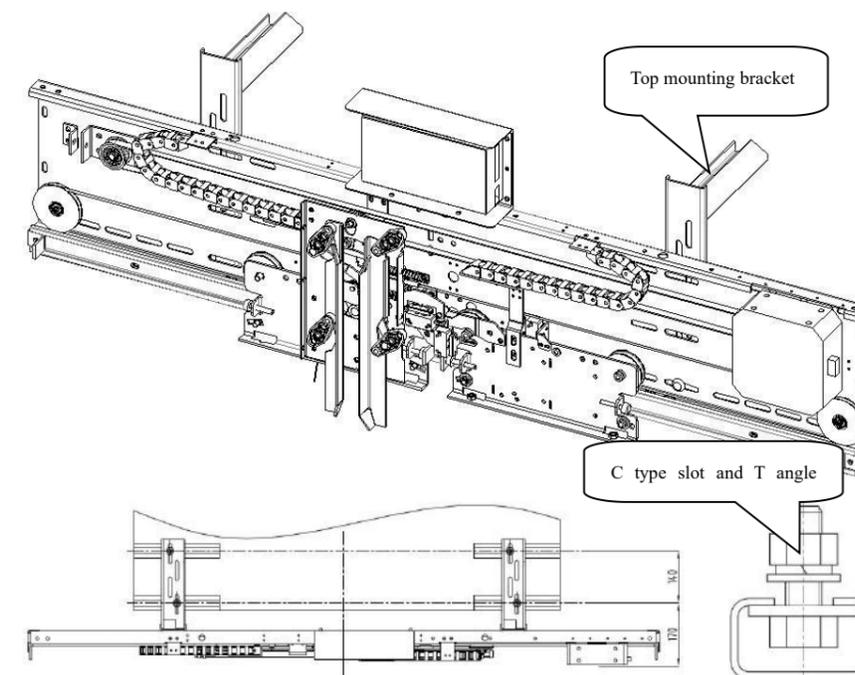
PMA2C series of center opening permanent magnet variable frequency door operator can match the door sill width 60mm, 75mm, 50mm.



2.2 Car Top Installation

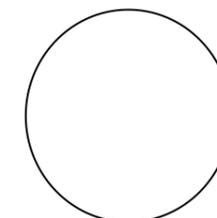
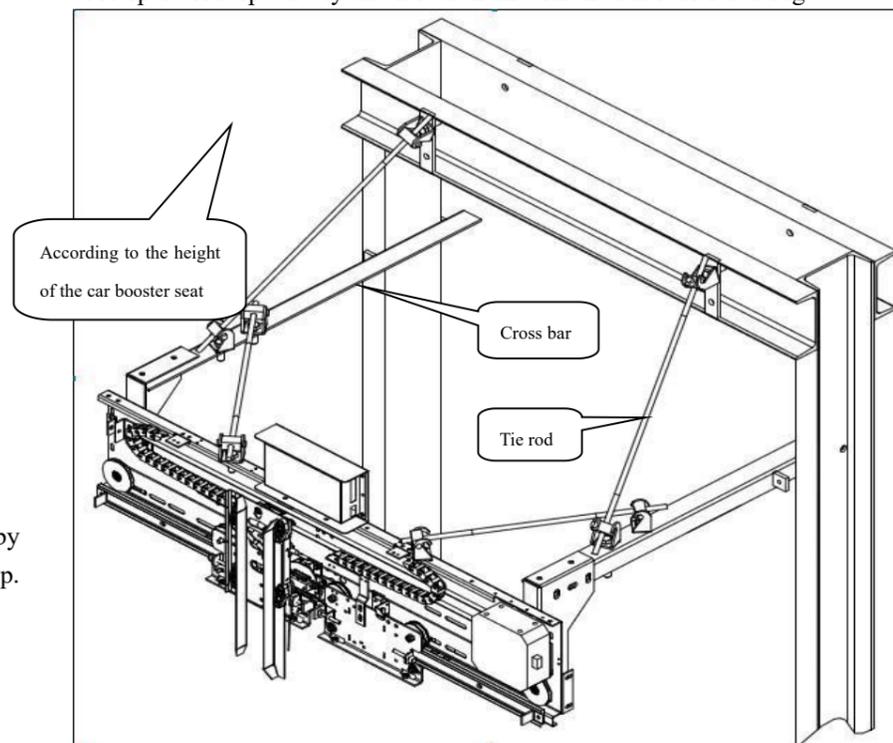
Fasten the car top mounting bracket of the door operator with the door operator by fastening bolts, and make the bracket fixed in the C-shaped notch on the car top. Refer to Fig

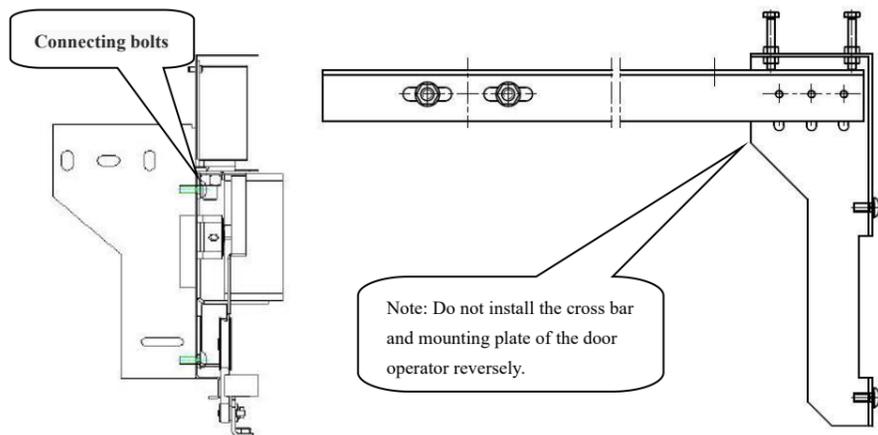
According to the height of the car, The installation of auxiliary support left and right each one



2.3 The car frame installation

Install two cross bars on the straight beam of the car respectively with fastening bolts, and adjust the bolts until the straight beam is firmly fastened. Fix the two ends of two pull rods to the cross bar and the straight beam respectively via the drag hook and then fasten them with nuts. Install the two mounting plates to the door operator respectively and fasten them with the bolts. Refer to Fig

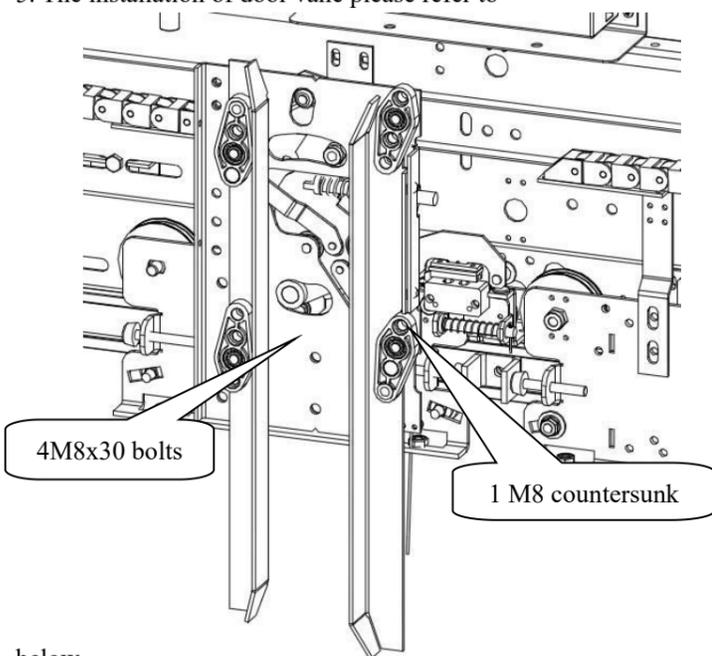




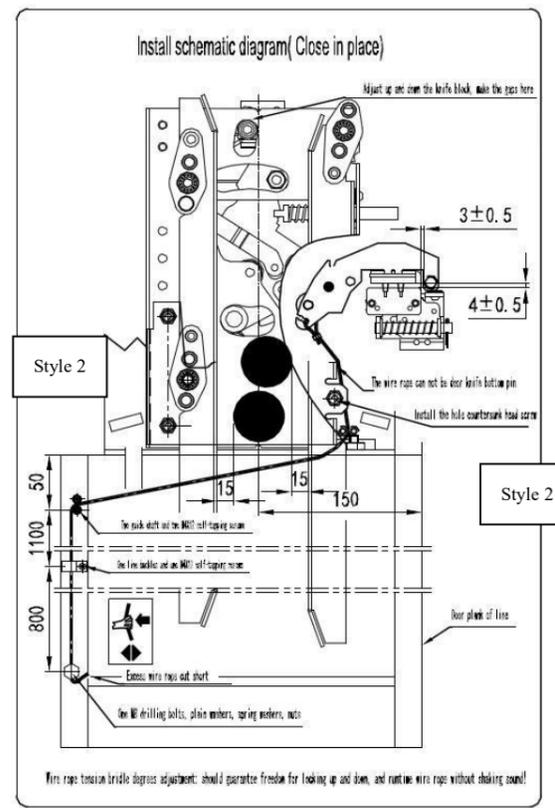
2.4 Door Vane Installation and commissioning

Synchronous door vane on the car door panel, Cooperate with rolling door head lift knife block, Installation requirements as following:

1. The clearance between the door vane and the sill for the landing door is 5-10mm (pay attention to the clearance between the door vane and housing of the upper sill).
2. The clenching amount between the door vane and the lock pulley of the landing door shall be 10~14mm. And at the landing position, the door lock pulley shall be in the middle of the two door vanes and the pulley shall not bump against the blades when the elevator runs
3. The perpendicularity of the door vane shall be within 0.5mm. and The door vane will be open when the door machine is electrified, Opening size about 80mm
4. Manual unlocking wire rope shall be fixed according to the following chart, According to the car door there are two way to fixed, Style 1 and Style 2
5. The installation of door vane please refer to



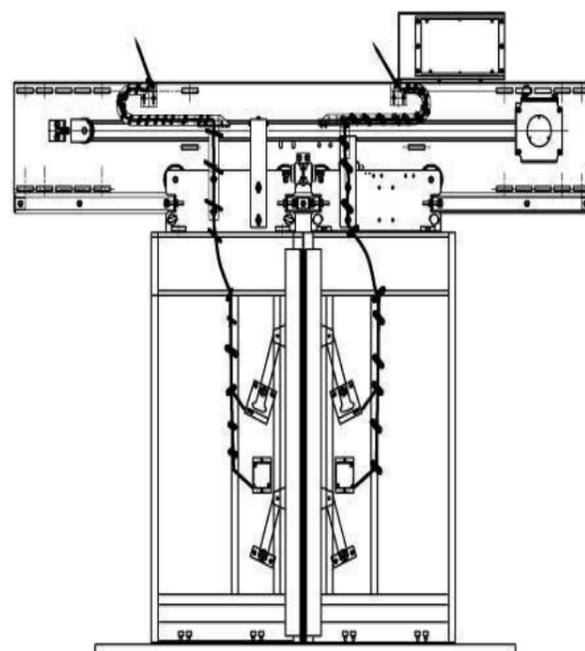
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2.5 The Cabling for the Door Protection

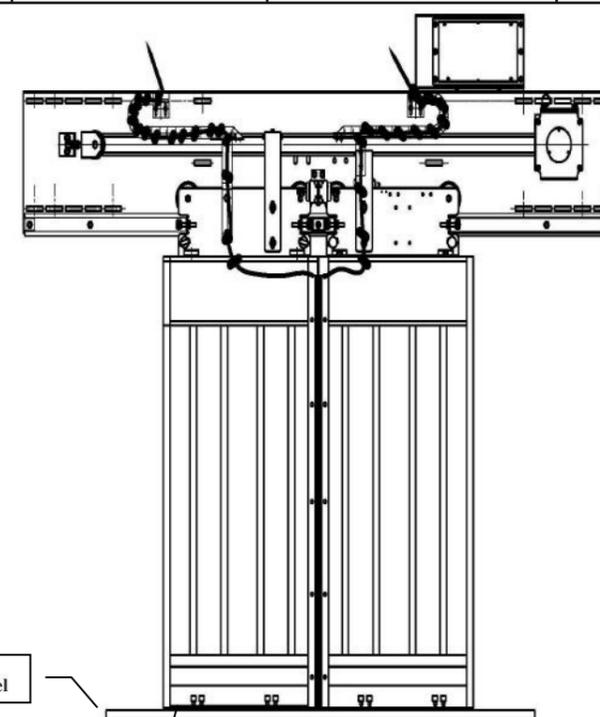
2.5.1 The Cabling of the Safety Shoe

When install the safety shoe, please follow Fig. to arrange the cable. Tighten the cable on the car door with ties and connect the cable to the control circuit after going through the tank chain in the tank bracket.



2.5.2 The Cabling of the Light Curtain

When install the light curtain, please follow Fig. to arrange the cable. Tighten the cable on the car door with ties and connect the cable to the control circuit after going through the tank chain in the tank bracket.



Installation requirements of the light curtain:

space between the light curtains be 10—20mm when the door closes; fasten all the mounting holes in the light curtain to the door panel.

NO.	Name	Figure number	Quantity	Remarks
1	2.3N.M door motor	650103.1-11(001)(003)	1	Power 43W
	5.0N.M door motor	650103.1-11(002)(004)		Power 94W
2	Controller assemblies	650103.3-2	1	Need to confirm customer
3	Hanging wheel	650100.5A.2	4	
4	Lower guide wheel	500100.2A.5	4	
5	plug	650103.1.16-2	2	
6	socket	650103.1.18-2	2	
7	Synchronous belt	650103.1-6	1	According to door width
8	Chain for cable protection	650103.1-4(--)	2	According to door width
9	Retainer	500100.6.1(001)	4	
10	Wire rope components	650105.1.3-3		According to door width
11	Wire rope wheel	650105.1.4		
12	synchronization door vane	650105.2(--)	1	Need to confirm customer

synchron

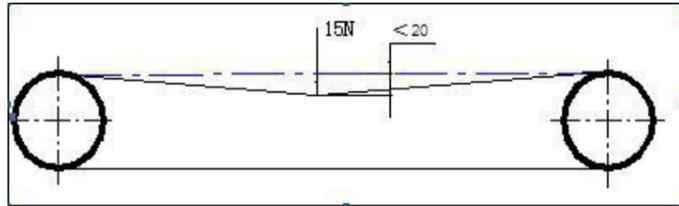
2. Tighten the light curtain lines with ties along the door panel, and connect them to the light curtain junction box at the car top.

3. Ground the light curtain after installation and connect the ground lead to the car door with the screws to make loop with the ground line of the car top.

3.Care and Maintenance for the Door Operator

During the elevator maintenance, wipe the door guide rail and add lubricating oil to the guide rail. Meanwhile, check the abrasion loss of pulleys in the hanging plate and adjust or replace the one whose loss is over 1.5mm.

A) Regular adjust the tightness of the synchronous belt, see Fig. 3-1 for the requirements about the tightness of the synchronous belt.



B) Check if the door opens and closes stably and if there is any abnormal noise during the operation.

C) Regular inspect the tightness of all fastening parts.

4Spare Parts for the Door Operator

