FR300D Elevator Drive Application Reference

FR300D series designed special for elevator application supports open loop & close loop vector control as well as below functions:

1、Free collocation of Multi speed terminals with separate speed settings, suitable for kinds of elevator controller

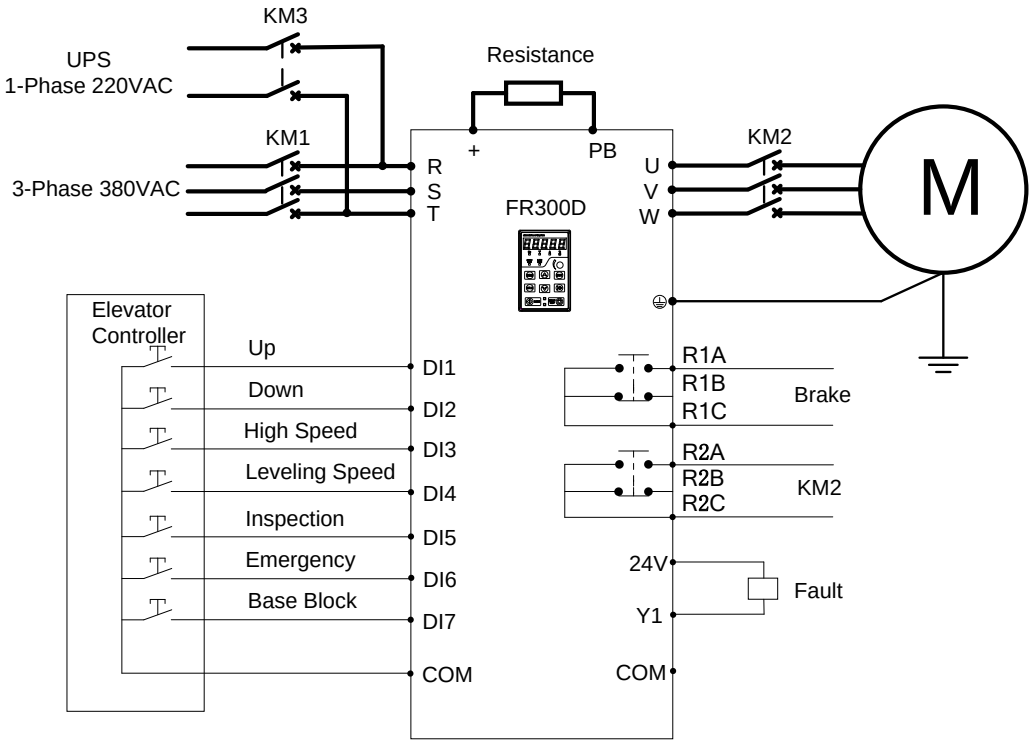
2、Four step acceleration & deceleration controls with separate time settings.

3、S curve acceleration & deceleration for the comfort of elevator

4、Emergency operation mode available, support single phase 220V UPS power supply

5、Supports short floor function

I. Wiring



II. Commissioning procedure

1、To complete the wiring between elevator controller and FR300D drive, no need connections like fault single, KM2, Emergency if related signals are not available in controller

2、To set high speed and leveling speed according to the combined signal of multi step speeds from elevator controller

DI4(F04.03=14)	DI3(F04.02=13)	Speed setting parameter
0	0	F12.00
0	1	F12.01
1	0	F12.02
1	1	F12.03

Referring to above wiring, setting should be as below:

F12.00=0

F12.01= High speed

F12.02= Leveling speed

3、Maintenance speed setting

Maintenance speed and leveling speed are common in some elevator controller, no maintenance signal output, so no need wiring for maintenance; If maintenance output available, the speed can be set via function code

H00.13=Maintenance speed

4、Emergence operation signal

Inverter entry into emergence mode after receiving emergence operation signal and

supporting UPS power supply input. In emergence mode, inverter will run via emergency operation frequency, and adopt 3th acceleration & deceleration time (F03.06 and F03.07). Emergency operation frequency can be set via H00.12

H00.12= Emergency operation frequency

5、Base block signal

No need wiring for base block signal line if base block signal is not available in elevator controller;

If base block is available, most of elevator controllers provide normally closed signal, if so need to set DI7 in anti-logic as below

F04.14=00010

6、Maintenance operation testing

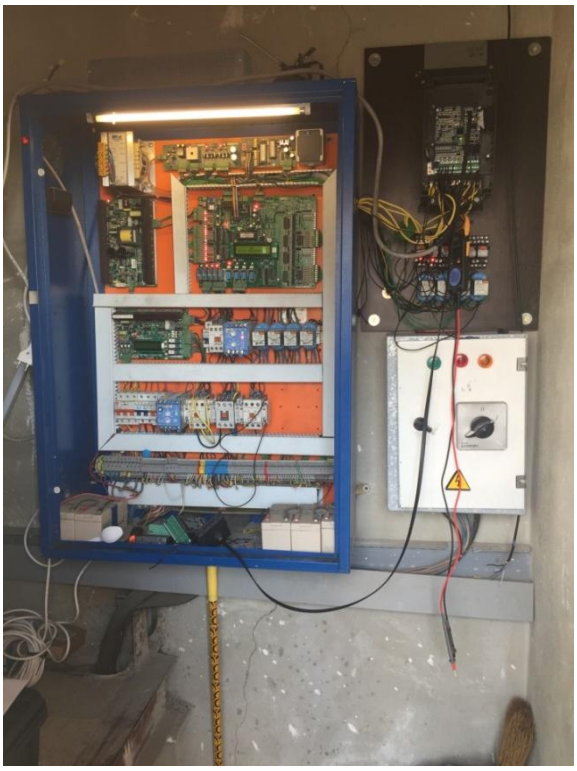
The elevator controller switch to maintenance operation mode, press LIFT UP or LIFT DOWN to check if the running direction is consistent. If not, exchange UP and DOWN signal line, means exchange DI1 & DI2 signal lines

7、Trial run in normal mode

Switch to normal operation mode for testing, to improve the comfort by adjusting acceleration & deceleration (F03.00, F03.01) and S curve time (F03.11)

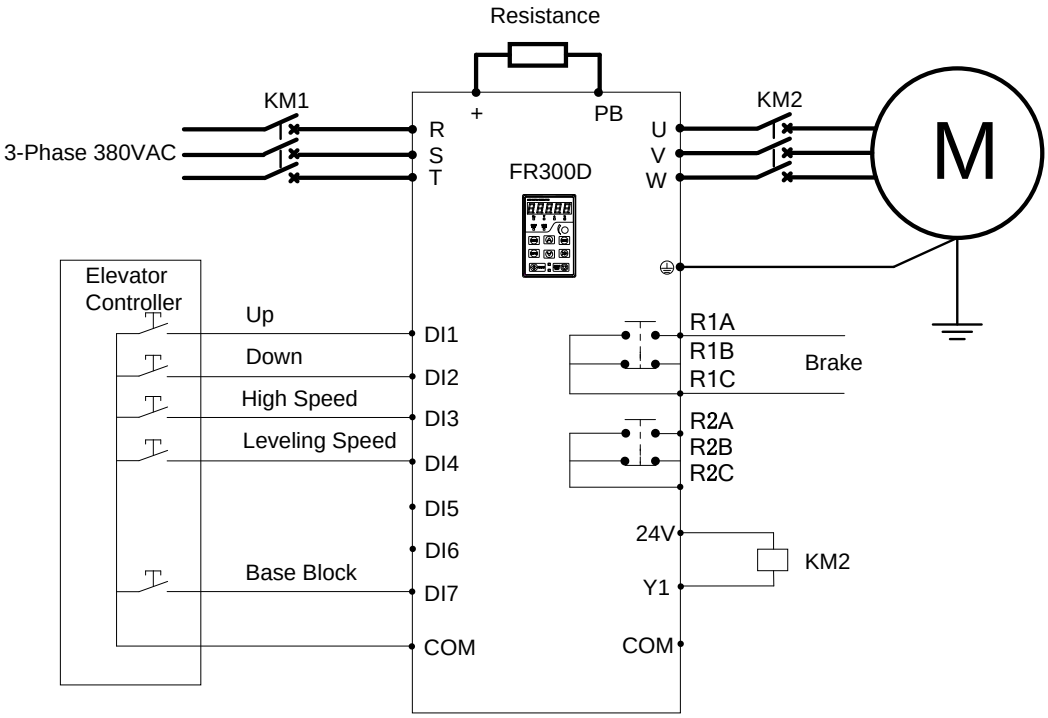
III. Application

Site 1：Motor rating: 5.5kw; Inverter rating : FR300D 7.5kw



There're two multi-step speed control terminals, high speed 50Hz, leveling speed 4Hz; The testing speed run via leveling speed, it has base block function, R1 output brake signal, Y1 output operation contactor signal.

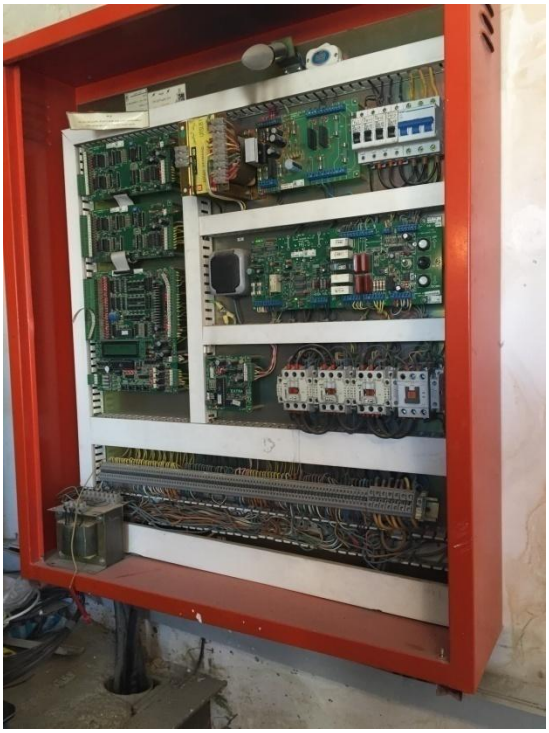
Wiring as below:



Parameter commissioned as below：

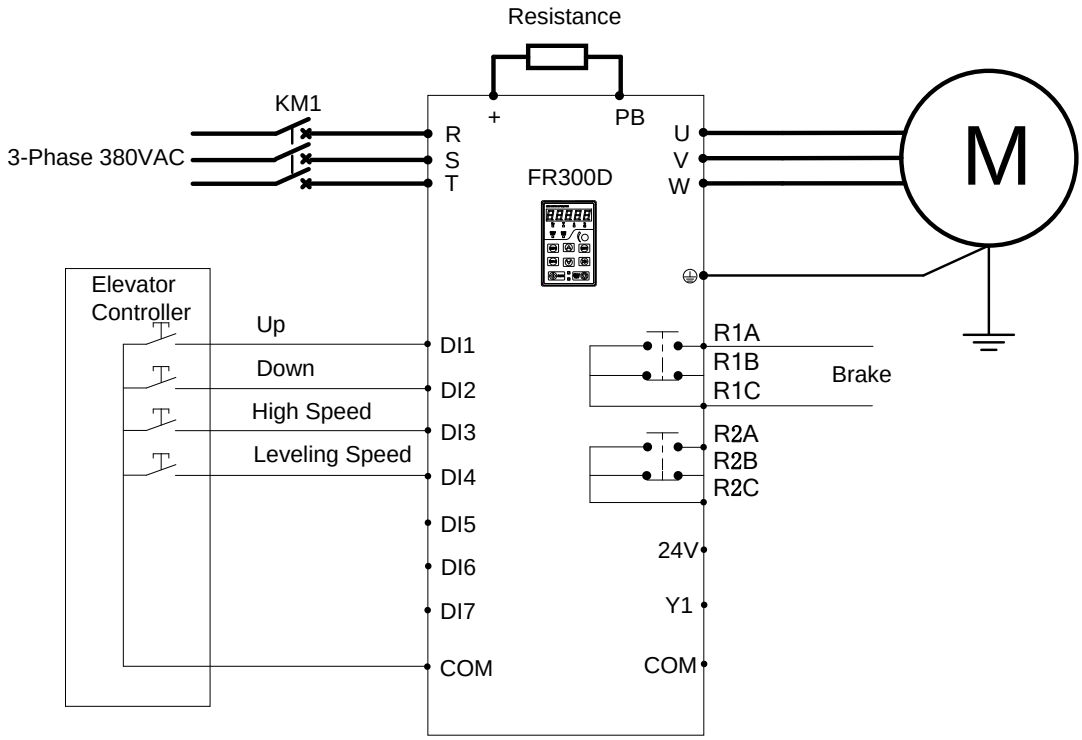
F03.00	4.50s	The 0 step acceleration time
F03.01	1.20s	The 0 step deceleration time
F03.02	4.00s	The 1st acceleration time
F03.03	0.50s	The 1st deceleration time
F03.11	1.70s	The 0 step S curve time
F03.15	1.20s	The 1st step S curve time
F05.00	31	Y1 output operation contactor signal
F08.01	5.5	Motor rating
F12.00	0.0%	Stop speed
F12.01	100.0%	High speed
F12.02	8.0%	Leveling speed
F12.34	1	The 1st acceleration & deceleration time selected in the 0 step speed
H00.18	2	Short floor function valid

Site 2：Motor rating: 7.5kw; Inverter: FR300D 11kw



It is two speed elevator without using inverter, we made it with FRECON FR300D inverter. There're two multi-step speed control terminals, high speed 50Hz, leveling speed 4Hz; The testing speed run via leveling speed, R1 output brake signal.

Wiring as below:



Parameter commissioned as below：

F03.00	6.00s	The 0 step acceleration time
F03.01	1.20s	The 0 step deceleration time
F03.11	1.50s	The 0 step S curve time
F08.01	7.5	Motor rating
F12.00	0.0%	Stop speed
F12.01	100.0%	High speed
F12.02	8.0%	Leveling speed
H00.18	2	Short floor function valid