GTAKE Think Without Boundary 江苏吉泰科电气股份有限公司 JIANGSU GTAKE ELECTRIC CO., LTD.

GK620E Elevator Dedicated User Manual

Jiangsu GTAKE Electric Co., Ltd.

Parameter List

Parameter	Designation	Scope	Default	Attr
A0-09	Motor control Technique	0: V/Fcontrol 1: Sensor-less vector control 1	1	×
b1-05	Start method	0: From start FREQ 1: DC braking start 2: Flying start	0	×
b1-13	Stop method	0: Ramp to stop 1: Coast to stop 2: Ramp to stop + DC brake	0	×
b2-01	Master accel time	0.00s～60.00s	1.50s	Δ
b2-02	Master decel time	0.00s～60.00s	0.80s	Δ
b2-03	Smooth start accel time	0.00s～60.00s	30.00s	Δ
b2-07	Accel time in emergency status	0.00s～60.00s	4.00s	Δ
b2-08	Decel time in emergency status	0.00s～60.00s	1.00s	Δ
b2-15	Time at the beginning of accel S-curve	0.00s～60.00s	3.00s	Δ
b2-16	Time at the end of accel S-curve	0.00s～60.00s	1.00s	Δ
b2-17	Time at the beginning of decel S-curve	0.00s～60.00s	2.20s	Δ
b2-18	Time at the end of decel S-curve	0.00s～60.00s	1.50s	Δ
C0-01	Function of terminal X1	71: Base block/output relay feedback	71	×
C0-02	Function of terminal X2	3: Up command	3	×
C0-03	Function of terminal X3	4: Down command	4	×
C0-04	Function of terminal X4	15: Multi-step speed terminal 1	15	×
C0-05	Function of terminal X5	16: Multi-step speed terminal 2	16	×
C0-06	Function of terminal X6	18: Emergency signal input	18	×
d0-19	Motor 1 power factor	0.001～1.000	0.880	×

Parameter	Designation	Scope	Default	Attr
F1-02	Lift at high speed running frequency	b0.10～b0.09	38.00Hz	Δ
F1-03	Lift at low speed running (leveling) frequency	b0.10～b0.09 Up: F6-23 Down: F6-24	5.00Hz	Δ
F1-04	Service freq. 1	b0.10～b0.09	20.00Hz	Δ
F1-05	Service freq. 2	b0.10～b0.09	7.00Hz	Δ
F6-00	Lift control mode	Ones place: Brake close control 0: Disabled 1: Enabled Tens place: Logic of elevator and motor run direction 0: Positive logic 1: Negative logic Hundreds place: base block signal selection 0: Disabled 1: Fault protection 2: Base block	201	×
F6-02	Brake release frequency	0.00Hz～10.00Hz	0.29Hz	Δ
F6-05	Brake release excitation time	0.0s～10.00s	0.30s	Δ
F6-06	Brake release holding time	0.0s～10.00s	0.30s	Δ
F6-07	Smooth start frequency	0.00Hz～b0.09	2.00Hz	Δ
F6-08	Smooth start duration	0.0s～10.00s	0.80s	Δ
F6-09	Brake close frequency	0.00Hz～10.00Hz	0.50Hz	Δ
F6-11	DC brake time before brake close	0.0s～10.00s	0.20s	Δ
F6-12	Brake close holding time	0.0s～10.00s	0.30s	Δ
F6-13	Output relay close delay time	0.0s～10.00s	0.50s	Δ
F6-14	Output relay open delay time	0.0s～10.00s	0.50s	Δ

Parameter	Designation	Scope	Default	Attr
F6-15	Time at the beginning of upward running leveling s-curve	0.00s～60.00s	0.80s	▵
F6-16	Time at the end of upward leveling s-curve	0.00s～60.00s	0.80s	▵
F6-17	Upward leveling decel time	0.00s～60.00s	3.00s	▵
F6-18	Downward leveling decel time	0.00s～60.00s	3.00s	▵
F6-21	Time at the beginning of smooth start s-curve	0.00s～60.00s	0.00s	▵
F6-22	Time at the end of mooth start s-curve	0.00s～60.00s	0.00s	▵
F6-23	Upward leveling frequency	0.00Hz～b0.09	5.00Hz	▵
F6-24	Downward leveling frequency	0.00Hz～b0.09	5.00Hz	▵
F6-25	Time at the beginning of downward leveling s-curve	0.00s～60.00s	0.80s	▵
F6-26	Time at the end of downward leveling s-curve	0.00s～60.00s	0.80s	▵
F6-27	DC brake selection at start and stop in sensorless vector control 1	0: Disabled 1: Enabled	1	×
F6-28	DC brake current at start (sensorless vector control 1)	0.0%～200.0%	80.0%	▵
F6-29	DC brake current at stop (sensorless vector control 1)	0.0%～200.0%	80.0%	▵
F6-30	Emergency brake frequency	0.00Hz～b0.09	25.00Hz	▵
F6-40	Light load direction search selection	0: Disabled 1: Enabled	0	×
F6-41	Light load direction search method	0: Output current 1: Detect the direction of regeneration brake	0	▵

Parameter	Designation	Scope	Default	Attr
F6-42	Light load direction search time	0.0s～10.00s	2.00s	▵
F6-43	Light load direction search speed reference	0.00Hz～10.00Hz	5.00Hz	▵
H2-00	Password for timed working permission	0～65535	0	▵
H2-01	Timed working permission selection	0: Disabled 1: Enabled	0	▵
H2-02	Time unit for timed working permission	0: hour 1: day	0	▵
H2-03	Allowed working hours	0～65535	0	▵
H2-04	Allowed working days	0～65535	0	▵
U0-46	Power-on time (hour)	0～65535	0	◎
U0-47	Power-on time (day)	0～65535	0	◎
U0-48	Working time (hour)	0~65535	0	◎
U0-49	Working time (day)	0~65535	0	◎

3.1 Motor control mode

Sensorless vector control 1 greatly increases load capacity and dynamic response at low speed with load, thus improving the load capacity of the elevator and comfortability of passengers.

3.2 Motor power factor

d0-19	Motor 1 power factor	Scope: 0.001～1.000	Default: 0.880

In the elevator application where rotary auto-tuning is not applicable, in order to obtain better control performance, motor nameplate parameters need to be set correctly before stationary auto-tuning. If the nameplate does not have these data, parameters can be set according to experience or kept as factory default.

3.3 Base block function

F6-00	Lift control mode	Scope: 000～211	Default: 201

Ones place: Brake close control

0: Disabled

1: Enabled

Tens place: Logic of elevator and motor run direction

0: Positive logic

1: Negative logic

Hundreds place: base block signal selection

0: Disabled

1: Fault protection. If the signal is disabled, the fault “Elo” displays on the keypad. The fault can be reset manually only.

2: Base block. If the signal is disabled, the run command will not be responded.

3.4 DC brake selection at start and stop in sensorless vector control 1

F6-27	DC brake selection at start and stop in sensorless vector control 1	Scope: 0～1	Default: 1

In the mode of sensorless vector control 1, DC brake at start and stop is selected by F6-27, and the DC brake current is set by F6-28 and F6-29.

Note: When the value of F6-27 is 1, both b1-05 and b1-13 should be set to 0.

3.5 Emergency brake frequency

F6-30	Emergency brake frequency	Scope: 0.00Hz～b0.09	Default: 25.00Hz

When the run speed exceeds the speed set by F6-30, and the up and down commands are disabled, the drive enters the abnormal mode, and decelerates to stop according to the time set by b2-08.

This function is applicable to the situations when the elevator is in abnormal status, such as the car door is opened during elevator running.

3.6 Light load direction search

When emergency happens, in order to prevent the voltage of the backup power supply from dropping due to overload, it is important that the lift run in the direction with a lighter load for the drive. Set F6-40 to 1, and input the emergency command (terminal No.18). If the run command is enabled, the drive starts to detect the direction of the lighter load. At this time, the drive starts forward and reverse operation according to the parameters set by F6-43 and F6-42, so as to identify the lighter load direction according to the detection method set by F6-41. After the lighter load direction is identified, the elevator automatically starts run from the light-load direction.

F6-40	Light load direction search	Scope: 0～1	Default: 0

Enables and disables the light load direction search.

0: Disabled

1: Enabled

F6-41	Light load direction search method	Scope: 0～1	Default: 0

Determines the method used to perform light load direction search.

0: Output current

1: Detect the direction of regeneration brake

F6-42	Light load direction search time	Scope: 0.00～10.00s	Default: 2.00s

Sets the time to perform light load direction search.

F6-43	Light load direction search speed reference	Scope: 0.00～10.00Hz	Default: 5.00Hz

Sets the speed reference in light load direction search.

3.7 Elevator run speed selection

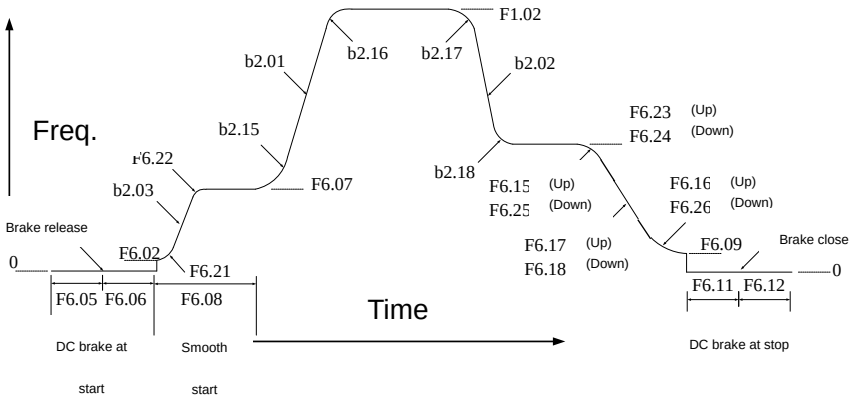
Terminal 18	Terminal 16	Terminal 15	Current selected speed
0	0	0	F1-02（high speed）
0	0	1	F1-03（low speed/leveling）
0	1	0	F1-04 (service speed 1)
0	1	1	F1-05 (service speed 2)
1	X	X	F1-17 (emergency speed)

The elevator run speed is selected through the multi-step speed terminal function. Terminal 18 is used for emergency signal input. When this signal is active, the emergency mode is enabled, and the speed is forced to be the value set by F1-17.

It is important to note that the up and down leveling speed are set by F6-23 and F6-24 respectively, and F1-03 is defined to be the leveling speed setting. That is to say, when the elevator moves up, F1-03 executes the value of F6-23, while when the elevator runs down, F1-03 performs the value of F6-24. Therefore, users are required to use multi-step speed terminal and set the values of F6-23 and F6-24 correctly according to

the application.

3.8 Elevator operation sequence chart



The elevator run process is described as below:

When the drive receives the up or down command, the drive starts to accelerate to the speed (DC brake output torque) set by F6-02, and releases the brake after maintaining the time set by F6-05. When the time set by F6-06 elapses, the drive runs to the speed set by F6-07 according to the acceleration curve defined by F6-21, F6-22 and b2-03, then keeps the time set by F6-08 (if F6-08 is 0, this phase is disabled). After that, the drive moves to speed set in F1-02 according to the acceleration curves set in b2-15, b2-01 and b2-16, and continue to run at this speed.

When the elevator receives the pre-leveling command, the drive decelerates to F6-23 (up) /F6-24 (down) according to the deceleration curves defined by b2-17, b2-02, and b2-18, and then it continues to run until the elevator receives the leveling command. Thereupon the drive decelerates according to F6-15, F6-17, and F6-16 (up), or F6-25, F6-18, and F6-26 (down). When the speed is lower than the vaule set by F6-09, the DC brake is activated. When the time set by F6-11 elapses, the brake is closed. After the status maintains the time set by F6-12, the drive stops.

3.9 Allowed working permission settings

Group H2 parameters provide users with the function of timed working permission which allows the drive to work for a certain period of time. If it exceeds the set time, the drive will stop output. This group of parameters has password protection function. Users can have access to these parameters only after

entering the correct password in H2-00. After entering the H2 group parameters, set H2-01 to 1 to enable the function of timed working permission, and set the timing unit in H2-02 according to the allowed working time.

After setting H2-02, the value of H2-03 (H2-02 is 0) or H2-04 (H2-02 is 1) is the allowed working time. When the cumulative power-up time of the drive exceeds this value, the drive will report a fault and stop. Once this function is enabled and the allowed working time is reached, the drive will no longer respond to the elevator instructions and the fault cannot be reset. Unlock the H2 group by entering the password and disable the function of the timed working permission, or extend the allowed working time. The current accumulated power-up time and operation time of the drive can be checked in parameter from U0-46 to U0-49.

H2-00	Password for timed working permission	Scope: 0～65535	Default: 0

Password needs to be set in H2-00 to enter H2 group, which is modifiable. In the unlock status, enter new digits in H2-00 for new password. When leaving this group or the keypad is not operated for more than 5 minutes, parameters in this group enter the locked status again.

H2-01	Timed working permission selection	Scope: 0～1	Default: 0

Enables or disables the function of timed working.

0: Disabled

1: Enabled

H2-02	Time unit for timed working permission	Scope: 0～1	Default: 0

Defines the timing unit for timed working

0: hour

1: day

H2-03	Allowed working hours	Scope: 0～65535	Default: 0
H2-04	Allowed working days	Scope: 0～65535	Default: 0

Sets the allowed working time according to H2-02.