

CAN Protocol

Protocol Encoding: GMSKT20240515-001

- 1、 Frame type: standard frame
- 2、 CAN baud rate: 500k bps
- 3、 The driver acts as a host, receiving instructions from the host computer and returning corresponding information.
- 4、 1. Control ID: 0x07a (sent from the host computer)

ID	byte1	byte2	byte3	byte4	byte5	byte6	byte7	byte8
0x07a	0x00	0x01/0x02 direction	00-6500RPM speed		0 ~ 16,777,216 Position pulse			0x00

Forward 4000RPM: 0x00 0x01 0x0f 0xa0 0x00 0x00 0x00 0x00

Reverse 4000RPM: 0x00 0x02 0x0f 0xa0 0x00 0x00 0x00 0x00

Pause: 0x00 0x01/0x02 0x00 0x00 0x00 0x00 0x00 0x00

Stop: 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00

Forward 100 revolutions (100*4) speed 4000RPM: 0x00 0x01 0x0f 0xa0 0x00 0x01 0x90 0x00

Forward 1000 laps (1000*4) Speed 4000RPM: 0x00 0x01 0x0f 0xa0 0x00 0x0f 0xa0 0x00

Reverse 100 laps (100*4) Speed 4000RPM: 0x00 0x02 0x0f 0xa0 0x00 0x01 0x90 0x00

Reverse 1000 laps (1000*4) Speed 4000RPM: 0x00 0x02 0x0f 0xa0 0x00 0x0f 0xa0 0x00

Read current position: 0x00 0x00 0x00 0xa0 0x00 0x00 0x00 0x62

1、 Data content: speed mode

		Numeric range	Function
byte1	Bit0-7	0-255	Return the starting address of status information
byte2	Bit0	1 valid/0 invalid	set to rise
	Bit1	1 valid/0 invalid	set to drop
	Bit2		
	Bit3		
	Bit4	1efficient	speed mode
	Bit5	0	location mode
	Bit6		
	Bit7		
byte3、 4	Bit0-15	0 ——6500RPM, When the setting is greater than 200 and less than 4500, the motor can be started (the direction and speed mode must be set at the same time)	Set running speed
byte5、 6	Bit0-15		
byte7、 8	Bit0-15		

二、 Data content: location pattern

		Value range	Function
byte1	Bit0-7	0-255	Return the starting address of status information
byte2	Bit0	1 valid/0 invalid	set to rise
	Bit1	1 valid/0 invalid	set to drop
	Bit2		
	Bit3		
	Bit4	0	speed mode
	Bit5	1 efficient	location mode
	Bit6		
	Bit7		
byte3、 4	Bit0-15	Set the lower 16 bits of the position,	Set location
byte5、 6	Bit0-15	The setting position is 16 bits high,	
byte7、 8	Bit0-15	0x50 clears the reference position, 0x51 sets the reference position, 0x52 clears the feedback position, 0x53 sets the feedback position, 0x5f starts the position loop, 0x60 cancels the position loop	Position control instructions

Return ID: 0X07b (driver return)

ID	byte1	byte2	byte3	byte4	byte5	byte6	byte7	byte8
0x07b								

Data content:			
Byte0	offset address	0-255	Current offset address
Byte1	0x00-0x99	0-30	DTC information
Byte2	Operating status		Operating status
Byte3	Position byte 0		
Byte4	Position byte 1		
Byte5	Position byte 2		
Byte6	Position byte 3		
Byte7	Voltage high byte		Value * 0.1 V = actual voltage value
Byte8	Voltage low byte		
Byte9	Average current high byte		Value * 0.1 A = Actual current value
Byte10	Average current low byte		
Byte11	speed high byte		Speed RPM
Byte12	speed low byte		

2、 Fault code table:

error code	Troubleshooting	Failure level
0x01	Under voltage, if it is lower than 38.5V, it will report under voltage and run at reduced speed. If it is lower than 33V, it will shut down the motor.	A

0x02	Overvoltage, greater than 80V, reports overvoltage,	A
0x03	Motor Hall error, check the motor signal line	A
0x04	The motor is stalled. Check whether the motor is stuck and whether the brakes are abnormal.	A
0x05	The motor is over-current, check whether the motor is short-circuited,	A
0x06	The controller current detection circuit is abnormal and the controller is faulty.	A
0x08	The brake is not detected, the brake electromagnet is open circuit, or the holding voltage exceeds 97%,	A

Operating status:

bit0: 1 The motor is running, 0: The motor is not running

bit6: 1 lower limit sensor detected, 0: not detected

bit7: 1 upper limit sensor detected, 0: not detected

2. Parameter writing ID: 0x07c (sent from the host computer)

ID	byte1	byte2	byte3	byte4	byte5	byte6	byte7	byte8
0x07c	Address low	High address	Low data volume	High data volume	Data 1	Data 2	Data 3	Data 4

3、Function code table

function code	Function	scope	default value
0x0401	top speed	200~6500RPM	4000
0x0402	minimum speed	150~800RPM	200
0x0403	acceleration curve	2~100	50
0x0406	deceleration curve	2~100	50
0x0400 + 40	Brake holding voltage	1~100%	48V * 0.7
0x0400 + 64	Communication timeout and parking	0: Off, value * 200mS	4
0x0400 + 65	Closed loop/open loop	1: Closed loop 0: Open loop	1
0x0400 + 70	current limit	50~600	350

Return ID: 0x07d (Driver Answer)

ID	byte1	byte2	byte3	byte4	byte5	byte6	byte7	byte8
0x07d	Address low	High address	Low data volume	High data volume	Data 1	Data 2	Data 3	Data 4

GeMinG Transmission Technology Co., Ltd.

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GeMinG Transmission R&D Department