

CAROA04 CAROB08 CAROC16 CAN Command

Notice:

1 The data format must be HEX

2 Factory settings: address code 0x01, baud rate 250Kbps. Short the RES jumper for 5 seconds to restore factory settings

CAN Standard frame format :

1 Standard frame ID + 8 data bytes

2 Meaning of CAN standard frame ID

Bit	10-8	7-0
Contents	Function Code	Address Code

Function Code :

0X01	Write DO relay output	
0X02	Read DO relay output	
0X03	Read DI digital input	
0X07	Parameter Settings	

CAN standard message detailed explanation:

(Factory Setting: Address Code 0x01, Baud Rate 250Kbps)

Function Code 0x01 Write DO Relay:

When using the function code 0x01, among the 8 data bytes of the CAN message.

The first byte from the low bit0 to the high bit7 indicates the state of relay 1-8 in turn.

The second byte from the low bit0 to the high bit7 indicates the state of relay 9-16 in turn.

and so on

Example 1, set channel 1/8/16 to ON and other channels to OFF:

Send data(HEX): 01 01 81 80 00 00 00 00 00 00

Return data(HEX): 01 01 81 80 00 00 00 00 00 00

Example 2, set channel 2/7/11/15 to ON and other channels to OFF:

Send data(HEX): 01 01 42 44 00 00 00 00 00 00

Return data(HEX): 01 01 42 44 00 00 00 00 00 00

Function Code 0x02 Read DO Relay:

When using the function code 0x01, return the 8 data bytes of the CAN message.

The first byte from the low bit0 to the high bit7 indicates the state of relay 1-8 in turn.

The second byte from the low bit0 to the high bit7 indicates the state of relay 9-16 in turn.

and so on

Example 1, channel 2/8/14 ON, other channels OFF:

Send data (HEX): 02 01 00 00 00 00 00 00 00 00

Return data (HEX): 02 01 82 20 00 00 00 00 00 00

Example 2, channel 3/7/10/13 ON, other channels OFF:

Send data (HEX): 02 01 00 00 00 00 00 00 00 00

Return data (HEX): 02 01 44 12 00 00 00 00 00 00

Function code 0x03 read DI digital input:

When the function code 0x03 is used, the content of the 8 data bytes of the CAN sent message is arbitrary. Among the returned 8 data bytes, the first byte from low bit0 to high bit7 indicates the status of input ports 1~8 in sequence, and the second byte from low bit0 to high bit7 indicates the status of input ports 9~16 in sequence, so analogy.

Example 1, input channel 1/3/9/16 ON, other input channels OFF:

Send data (HEX): 03 01 00 00 00 00 00 00 00 00

Return data (HEX): 03 01 85 81 00 00 00 00 00 00

Example 2, input channel 2/4/10/15 ON, other input channels OFF:

Send data (HEX): 03 01 00 00 00 00 00 00 00 00

Return data (HEX): 03 01 0A 42 00 00 00 00 00 00

Function code 0x07 Parameter Setting:

When using the function code 0x07, in the 8 data bytes of the CAN message:

When the first byte is 0xA1, it means to read the [Address Code](#) of the module.

When the first byte is 0xA2, it means to read the [Baud Rate Code](#) of the module.

When the first byte is 0xB1, it means write a new [Address Code](#) to the module, and the second byte is the new address code.

When the first byte is 0xB2, it means write a new [Baud Rate](#) to the module, and the second byte is the new [Baud Rate Code](#).

Example 1:

Send data (HEX): 07 01 A1 00 00 00 00 00 00 00

Return data (HEX): 07 01 A1 01 00 00 00 00 00 00

The standard frame ID sent by the controller is: 0x701, 0xA1 means that the returned address (the first data byte), 0x01=address value (the second data byte)

Example 2:

Send data (HEX): 07 01 B1 03 00 00 00 00 00 00

Return data (HEX): 07 01 B1 03 00 00 00 00 00 00

The standard frame ID sent by the controller is: 0x701, 0xB1 means to write a new address code (first data byte) to the module, 0x03=address value (second data byte)

Note: After writing this data, the Address Code of the module is changed to 0x03, then the address code of 0x03 must be used next time to communicate with the module normally

Example 3:

Send data (HEX): 07 01 A2 00 00 00 00 00 00 00

Return data (HEX): 07 01 A2 07 00 00 00 00 00 00

The standard frame ID sent by the controller is: 0x701, 0xA2 means the returned baud rate, and the baud rate code is 0x07 (the second data byte indicates the Baud Rate Code, refer to the table below)

Baud Rate Code	Baud Rate
0X00	5Kbps
0X01	10Kbps
0X02	20Kbps
0X03	50Kbps
0X04	100Kbps
0X05	120Kbps
0X06	200Kbps
0X07	250Kbps (Default)
0X08	400Kbps
0X09	500Kbps
0X0A	800Kbps
0X0B	1000Kbps

Example 4:

Send data (HEX): 07 01 B2 04 00 00 00 00 00 00

Return data (HEX): 07 01 B2 04 00 00 00 00 00 00

The standard frame ID sent by the controller is: 0x701, 0xB2 means

to write a new baud rate (the first data byte) to the module, 0x04=baud rate code value (the second data byte)

Note: After writing this data, the baud rate of the module is changed to 100Kbps, then the baud rate of 100Kbps must be used next time to communicate with the module normally

CAN extended frame format

1 Extended frame ID + 8 data bytes

2 CAN extended frame ID meaning (add one byte 0xAA in front of the standard frame. If you use the RS485 to CAN debugger (CAN4A020), add two bytes 0x00AA in front of the standard frame)

Bit	29-24	23-16	15-8	7-0
Contents	0x00	0xAA	Function Code	Address Code

Function Code:

0X01	Write DO relay output	
0X02	Read DO relay output	
0X03	Read DI digital input	
0X07	Parameter Settings	

CAN extended message detailed explanation:

(Factory Setting: Address Code 0x01, Baud Rate 250Kbps)

Function Code 0x01 Write DO Relay:

When using the function code 0x01, among the 8 data bytes of the CAN message.

The first byte from the low bit0 to the high bit7 indicates the state of relay 1-8 in turn.

The second byte from the low bit0 to the high bit7 indicates the state of relay 9-16 in turn.

and so on

Example 1, set channel 1/8/16 to ON and other channels to OFF:

Send data(HEX): AA 01 01 81 80 00 00 00 00 00 00

Return data(HEX): AA 01 01 81 80 00 00 00 00 00 00

If using RS485 to CAN debugger (CAN4A020):

Send data (HEX): 00 AA 01 01 81 80 00 00 00 00 00 00

Return data (HEX): 00 AA 01 01 81 80 00 00 00 00 00 00

Example 2, set channel 2/7/11/15 to ON and other channels to OFF:

Send data (HEX): AA 01 01 42 44 00 00 00 00 00 00

Return data (HEX): AA 01 01 42 44 00 00 00 00 00 00

If using RS485 to CAN debugger (CAN4A020):

Send data (HEX): 00 AA 01 01 42 44 00 00 00 00 00 00

Return data (HEX): 00 AA 01 01 42 44 00 00 00 00 00 00

Function Code 0x02 Read DO Relay:

When using the function code 0x01, return the 8 data bytes of the CAN message.

The first byte from the low bit0 to the high bit7 indicates the state of relay 1-8 in turn.

The second byte from the low bit0 to the high bit7 indicates the state of relay 9-16 in turn.

and so on

Example 1, channel 2/8/14 ON, other channels OFF:

Send data (HEX): AA 02 01 00 00 00 00 00 00 00 00

Return data (HEX): AA 02 01 82 20 00 00 00 00 00 00

Example 2, channel 3/7/10/13 ON, other channels OFF:

Send data (HEX): AA 02 01 00 00 00 00 00 00 00 00

Return data (HEX): AA 02 01 44 12 00 00 00 00 00 00

Function code 0x03 read DI digital input:

When the function code 0x03 is used, the content of the 8 data bytes of the CAN sent message is arbitrary. Among the returned 8 data bytes, the first byte from low bit0 to high bit7 indicates the status of input ports 1~8 in sequence, and the second byte from low bit0 to high bit7 indicates the status of input ports 9~16 in sequence, so analogy.

Example 1, input channel 1/3/9/16 ON, other input channels OFF:

Send data (HEX): AA 03 01 00 00 00 00 00 00 00 00

Return data (HEX): AA 03 01 85 81 00 00 00 00 00 00

Example 2, input channel 2/4/10/15 ON, other input channels OFF:

Send data (HEX): AA 03 01 00 00 00 00 00 00 00 00

Return data (HEX): AA 03 01 0A 42 00 00 00 00 00 00

Function code 0x07 Parameter Setting:

When using the function code 0x07, in the 8 data bytes of the CAN message:

When the first byte is 0xA1, it means to read the [Address Code](#) of the module.

When the first byte is 0xA2, it means to read the [Baud Rate Code](#) of the module.

When the first byte is 0xB1, it means write a new [Address Code](#) to the module, and the second byte is the new address code.

When the first byte is 0xB2, it means write a new [Baud Rate](#) to the module, and the second byte is the new [Baud Rate Code](#).

Example 1:

Send data (HEX): AA 07 01 A1 00 00 00 00 00 00 00

Return data (HEX): AA 07 01 A1 01 00 00 00 00 00 00

The standard frame ID sent by the controller is: 0x701, 0xA1 means that the returned address (the first data byte), 0x01=address value (the second data byte)

Example 2:

Send data (HEX): AA 07 01 B1 03 00 00 00 00 00 00

Return data (HEX): AA 07 01 B1 03 00 00 00 00 00 00

The standard frame ID sent by the controller is: 0x701, 0xB1 means to write a new address code (first data byte) to the module, 0x03=address value (second data byte)

Note: After writing this data, the Address Code of the module is changed to 0x03, then the address code of 0x03 must be used next time to communicate with the module normally

Example 3:

Send data (HEX): AA 07 01 A2 00 00 00 00 00 00 00

Return data (HEX): AA 07 01 A2 07 00 00 00 00 00 00

The standard frame ID sent by the controller is: 0x701, 0xA2 means the returned baud rate, and the baud rate code is 0x07 (the second data byte indicates the Baud Rate Code, refer to the table below)

Baud Rate Code	Baud Rate
0X00	5Kbps
0X01	10Kbps
0X02	20Kbps
0X03	50Kbps

0X04	100Kbps
0X05	120Kbps
0X06	200Kbps
0X07	250Kbps (Default)
0X08	400Kbps
0X09	500Kbps
0X0A	800Kbps
0X0B	1000Kbps

Example 4:

Send data (HEX): AA 07 01 B2 04 00 00 00 00 00 00

Return data (HEX): AA 07 01 B2 04 00 00 00 00 00 00

The standard frame ID sent by the controller is: 0x701, 0xB2 means to write a new baud rate (the first data byte) to the module, 0x04=baud rate code value (the second data byte)

Note: After writing this data, the baud rate of the module is changed to 100Kbps, then the baud rate of 100Kbps must be used next time to communicate with the module normally