

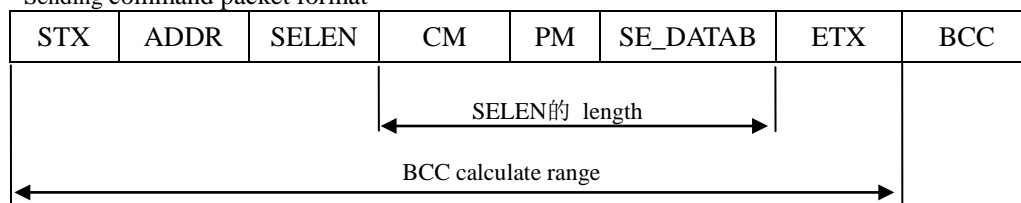
F2 Communication Protocol

1. Communicate Data Format:

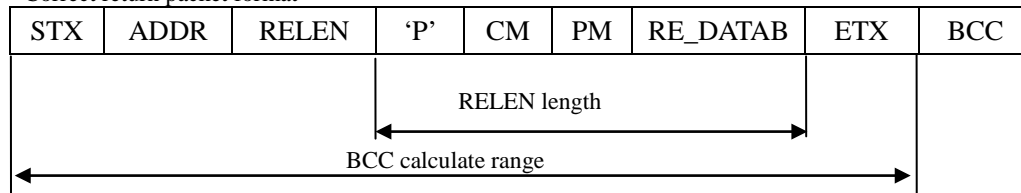
Communicate Mode	Asynchronous communication, Half duplex
Start Bit	1 bit
Data Bit	8bits
A Check Bit	No
Stop Bit	1bit
Default Baud Rate	9600bps

2. Data Packet Format:

Sending command packet format



Correct return packet format

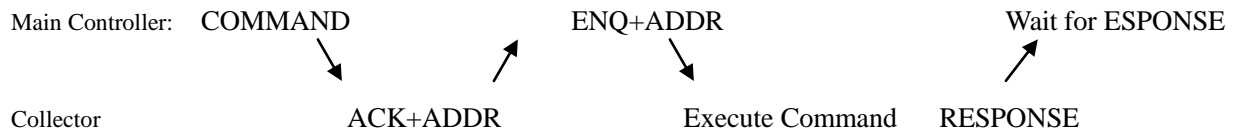


Instructions:

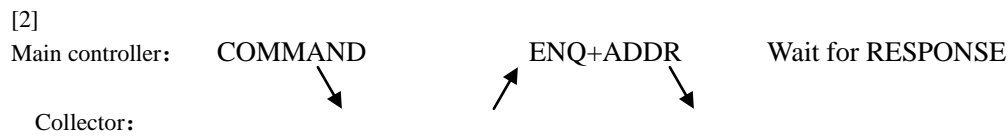
- [1]CM, Command code, length at 2byte.
- [2]PM, Command parameter, length at 1byte.
- [3]SE_DATAB, Sending data packet.
- [4]RE_DATAB, Return data packet.
- [5]ERR_CD, Error code.
- [6]BCC, XOR check, Methods: from STX to ETX every data carry on XOR check.
- [7]'P', =0x50。Execute command success.
- [8]'N', =0x4E。Execute command fail.
- [9]SELEN, Sending data packet length. Length at 2 byte, ASCII code.
- [10]RELEN, Return data packet length. Length at 1 byte, ASCII code.
- [11]STX, Block start symbol, root at :0X02
- [12]ETX, End of block, root at: 0x03
- [13]ADDR, Machine Address. Length at 2 byte, root at : 0x30 0x30

3. Command Sending Sequence:

The right command sending sequence



The wrong command sending sequence:



Instructions:

- [1]COMMAND: Command Packet
- [2] RESPONSE: Response packet

Instructions:

- [1] Normal collect card flow.
- [2] Command response packet will execute command again and return 5s later.

4. Command sheet:

Command name	Code	Functions
Return and hold	'DC0'(0x44 0x43 0x30)	Card remove to front port and hold
Return and drop	'DC1'(0x44 0x43 0x31)	Card remove to front port and drop
Collect and drop	'CP1'(0x43 0x50 0X31)	Card collect to rear port and drop
Collect and hold	'CP0'(0x43 0 x50 0X30)	Card collect to rear port and hold
Setting return time	'ST'	T = 0-255(s)
Set card go to position 1	'SP0'	Card in the middle of machine
Set card go to position 2	'SP1'	Card in the rear of machine, and hold
Factory Initialization	'DIO'(0x44 0x49 0x30)	Factory default setting
In working status	'EN'(0x45 0x4E 0x30)	Make sure the machine can work

Forbid working status	'EN'(0x45 0x4E 0x31)	Now allow machine work
RESET	'RS'(0x52 0x53 0x30)	Machine reset and loading version number.
Checking Status	'AP0'(0x41 0x50 0x30)	Sensor, on/off, collect cards, times... status checking
Machine address	'GA0'(0x47 0x41 0x30)	To check machine address
Factory Initialization	'DI0'	Factory default setting
Baud rate setting	'SB0'(0x42 0x41 0x30) 'SB1'(0x42 0x41 0x31) 'SB2'(0x42 0x41 0x32) 'SB3'(0x42 0x41 0x33) 'SB4'(0x42 0x41 0x34) 'SB5'(0x42 0x41 0x35)	'BA0':1200baud 'BA1':2400baud 'BA2':4800baud 'BA3':9600baud 'BA4':19200baud 'BA5':38400baud

5. ERR_CD Error Info Sheet

0x30	Collector was forbid
0x31	Collector is error
0x32	Collector have no card inside
0x33	Wrong command (not exist command)
0x34	Command parameter wrong (Not exist command parameter)
0x35	Execute fail
0x36	Memory error
0x37	Data packet error

6.Command Define Instructions:

6.1 Collect card (Rear port, Drop)

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x3x	0x30	0x30	0x33	'C'	'P'	'0'	0x 03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	'P'	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x34	0x50	'C'	'P'	'0'	0x 03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	'N'	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	'C'	'P'	'0'	ERR_CD	0x 03	

ERR_CD Error Info:

6.2 Collect card (Rear port, Hold)

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x3x	0x30	0x30	0x33	'C'	'P'	'1'	0x 03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	'P'	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x34	0x50	'C'	'P'	'1'	0x 03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	'N'	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	'C'	'P'	'1'	ERR_CD	0x 03	

ERR_CD Error Info:

6.3 Card return to front Port (Hold)

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x33	'D'	'C'	'0'	03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	'P'	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x34	0x50	'D'	'C'	'0'	0x03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	'N'	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	'D'	'C'	'0'	ERR_CD	0x03	

ERR_CD Error Info:

6.4 Card return to front Port (Drop)

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x33	'D'	'C'	'1'	03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	'P'	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x34	0x50	'D'	'C'	'1'	0x03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	'N'	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	'D'	'C'	'1'	ERR_CD	0x03	

ERR_CD Error Info:

6.5 Auto return card time setting

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x33	'S'	'T'	TIME	03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	'P'	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x34	0x50	'S'	'T'	TIME	0x03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	'N'	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	'S'	'T'	TIME	ERR_CD	0x03	

TIME is time value, 0~255(s), when at 0s, this function is in forbid status(factory default at 0s)

ERR_CD Error Info:

6.6 Setting card in position (middle of collector)

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x33	'S'	'P'	'0'	0x 03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	'P'	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x34	0x50	'S'	'P'	'0'	0x03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	'N'	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	'S'	'P'	'0'	ERR_CD	0x03	

ERR_CD Error Info:

6.7 Setting card in position (Rear port, hold)

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x33	'S'	'P'	'1'	0x 03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	'P'	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x34	0x50	'S'	'P'	'1'	0x03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	'N'	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	'S'	'P'	'1'	ERR_CD	0x03	

0x02	0x30	0x30	0x30	0x35	0x4E	‘S’	‘P’	‘1’	ERR_CD	0x03	
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ERR_CD Error Info:

6.8 Forbid machine working

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x33	‘E’	‘N’	‘1’	0x 03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	‘P’	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x34	0x50	‘E’	‘N’	‘1’	0x03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	‘N’	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	‘E’	‘N’	‘1’	ERR_CD	0x03	

ERR_CD Error Info:

6.9 Enable machine working

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x33	‘E’	‘N’	‘0’	0x 03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	‘P’	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x34	0x50	‘E’	‘N’	‘0’	0x03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	‘N’	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	‘E’	‘N’	‘0’	ERR_CD	0x03	

ERR_CD Error Info:

6.10 Checking status(sensor/machine/card position status)

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x33	‘A’	‘P’	‘0’	0x03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	‘P’	CM	CM	PM	DATA	ETX	BCC
0x02	0x30	0x30	0x31	0x30	0x50	‘A’	‘P’	‘0’	SE_DATAB	0x03	

SE_DATAB Format (6 Byte):

Sensor status	Card in position	Enable Status	Machine status	Card position	Auto return card time
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Instructions: Sensor status: BIT0: Sensor1 (front port),BIT1: Sensor2, BIT2:Sensor3

Above BIT position, byte at 0, means no card, 1 means have card.

Card in position: ‘0’: means card haven’t in it’s position, ‘1’: card have in it’s position.

Enable Status: ‘0’: means enable working;‘1’: means disable working.

Machine Status: ‘0’: means in good condition, ‘1’: means machine failure

Card Position: ‘0’: card in machine middle position;‘1’: card in rear port on hold position

Auto return card time: when set in 0s, this function is disable.

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	‘N’	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	‘A’	‘P’	‘0’	ERR_CD	0x03	

ERR_CD Error Info:

6.11 To get Address

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x39	0x39	0x30	0x33	‘G’	‘A’	‘0’	0x 03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	‘P’	CM	CM	PM	R_AddrH	R_AddrL	ETX	BCC
0x02	0x39	0x39	0x30	0x36	0x50	‘G’	‘A’	‘0’	R_AddrH	R_AddrL	0x 03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	‘N’	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x39	0x39	0x30	0x35	0x4E	‘G’	‘A’	‘0’	ERR_CD	0x 03	

R_AddrH: To get high 8 byte address (ASCII码)

R_AddrL: To get low 8 byte address (ASCII码)

ERR_CD Error Info:

Note: No matter what address set in the machine before, this command will make the address root at : 0x39,0x39, This command only for single machine application, If there is multi-machine application, this command may error!

6.12 Baud Rate Setting

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x33	'S'	'B'	PM	0x03	

PM Baud Rate Parameter:

- 0x30: 1200bps
- 0x31: 2400bps
- 0x32: 4800bps
- 0x33: 9600bps
- 0x34: 19200bps
- 0x35: 38400bps

Success Return:

STX	AddrH	AddrL	LenH	LenL	P	CM	CM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x34	'P'	'A'	'P'	PM	0x03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	'N'	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4E	'A'	'P'	PM	ERR_CD	0x03	

ERR_CD Error Info:

6.13 Reset Command

STX	AddrH	AddrL	LenH	LenL	CM	PM	PM	ETX	BCC
0x02	0x30	0x30	0x30	0x33	'R'	'S'	'0'	0x03	

Success Return:

STX	AddrH	AddrL	LenH	LenL	'P'	CM	CM	PM	DATA	ETX	BCC
0x02	0x30	0x30	0x32	0x30	'P'	'R'	'S'	'0'	Version Info	0x03	

Version Info: ACT_F2_Vx.xx

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	'N'	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x30	0x30	0x30	0x35	0x4e	'R'	'S'	'0'	ERR_CD	0x03	

ERR_CD Error Info:

6.14 Factory Default Setting

STX	AddrH	AddrL	LenH	LenL	CM	CM	PM	DATA	ETX	BCC
0x02	0x39	0x39	0x30	0x37	'D'	'I'	'0'	SE_DATAB	0x03	

SE_DATAB Format (4 byte):

AddrH	AddrL	Card in position	Auto return card time
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Instruction:

AddrH、AddrL are 0x30, 0x30 (address is 0)

Card in position : 0x30 (Card in middle of machine position)

Auto return card time set at: 0x00 (Disable Auto return card function)

Success Return:

STX	AddrH	AddrL	LenH	LenL	'P'	CM	CM	PM	ETX	BCC
0x02	0x39	0x39	0x30	0x34	0x50	'D'	'I'	'0'	0x03	

Fail Return:

STX	ADDRH	ADDRL	LenH	LenL	'N'	CM	CM	PM	ERR_CD	ETX	BCC
0x02	0x39	0x39	0x30	0x35	0x4E	'D'	'I'	'0'	ERR_CD	0x03	

ERR_CD Error Info:

Factory Default Setting Status:Address:0x30, 0x30

Card in position: Middle of machine (Between Sensor 1 and sensor2)

Auto return card time set: 0s

Note: Above command instruction ADDRH, ADDRl except factory default setting and catch address, other command address all is "00" for example.