

SJT-CRL-V3

CAN Communication Relay Board Device

Instruction

Version Number: V1.1

1. Function overview

In order to avoid opening the wrong landing door and causing potential safety hazards, the electric control system needs to obtain accurate absolute floor parameters of the elevator to achieve accurate control of the current landing door. By adding a magnetic grating device, the electric control system can obtain the absolute position information of the car through the CAN bus. In order to make the communication between the electric control system and the magnetic grating device normal, a device, SJT-CRL-V3 CAN communication relay board device, is derived. The device is equipped with two channels of CAN communication. One channel communicates with the magnetic grating scale device to obtain the status information and position information of the magnetic grating scale, and the other channel communicates with the main control system. The main control system obtains the absolute position information, floor information and whether the door area signal is valid.

2. Applicable objects and scope

This product is applicable to the Bluelight series villa elevator control system, and supports the magnetic grating scale device with baud rates of 27.8K, 50K, 250K, and protocols of 406 and 417.

3. Model description

The model description of CAN communication relay board device is shown in Figure 1.

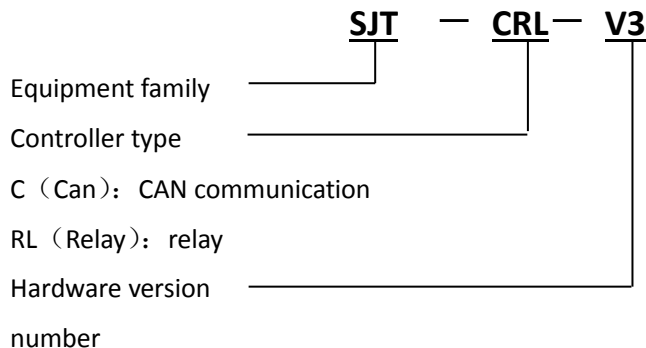


Figure 1 Model description diagram

4. Interface definition and specification

Chart 1 Interface definition and specification

name	position	definition	Purpose	Interface technical specifications	
				Interface form	Rated load
JP1	JP1-1	+24VA	Power supply and communication interface with magnetic scale	--	--
	JP1-2	GNDA			
	JP1-3	CA+			
	JP1-4	CA-			
	JP1-5	+24VB	Power supply and communication interface with elevator main board	--	--
	JP1-6	GNDB			
	JP1-7	CB+			
	JP1-8	CB-			

Chart 1 Interface definition and specification (cont')

name	position	definition	Purpose	Interface technical specifications	
				Interface form	Rated load
JP2	JP2-1	spare	--	--	--
	JP2-2	spare			
	JP2-3	X10	Up door zone	Optocoupler output	8mA
	JP2-4	X9	Down door zone		
	JP2-5	COM	Common terminal		
JSP	Programming interface				
S1	Connect the terminal resistance jumper on the ruler side of the magnetic grid				
S2	Connect the terminal resistance jumper on the main board side of the elevator				
JC	Test jumper				

5. Outline dimension and indicator light description

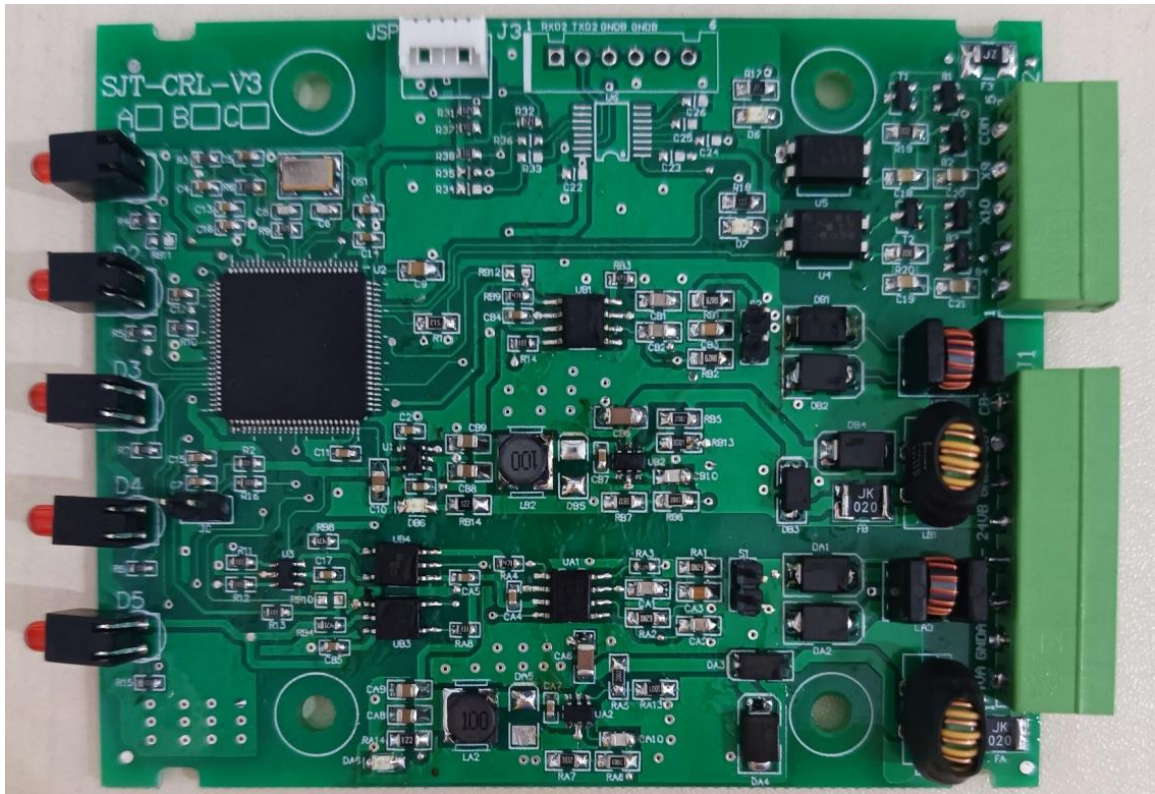


Figure 2 Physical drawing of CAN communication relay board

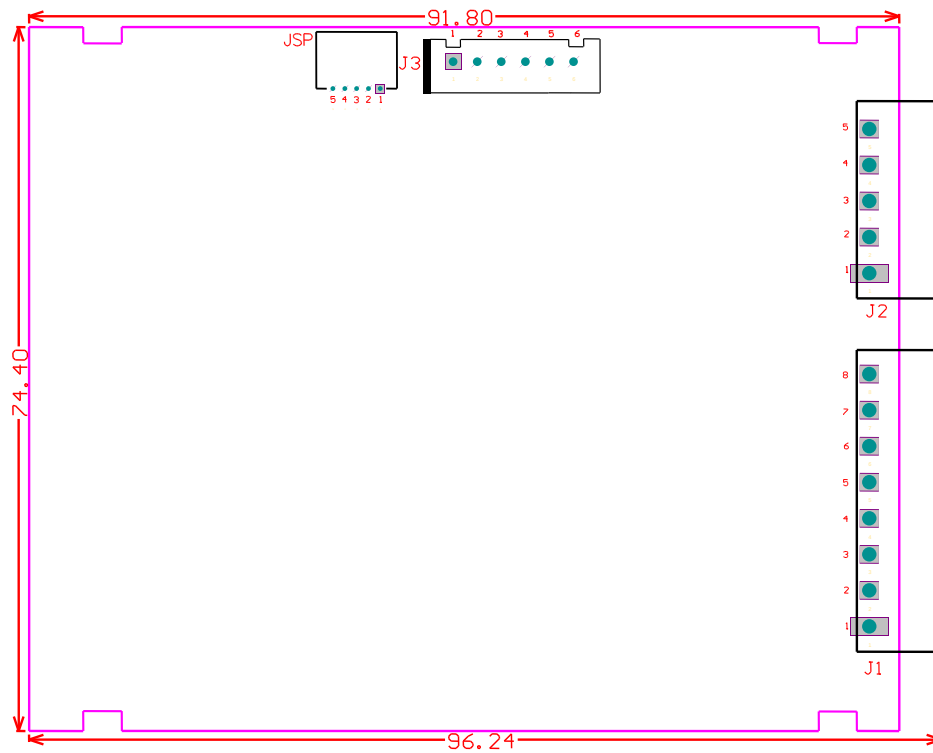


Figure 3 Physical dimension drawing of CAN communication relay board (unit: mm)

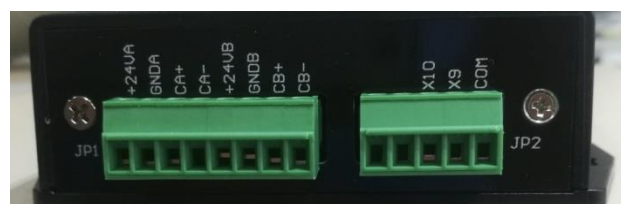
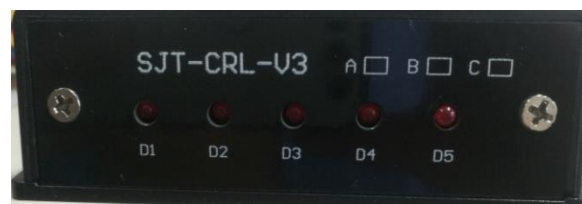


Figure 4 Physical drawing of CAN communication relay board housing

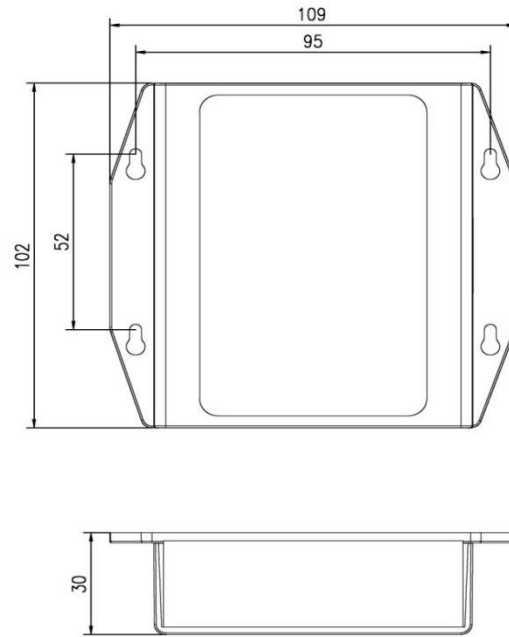


Figure 5 Dimensional drawing of CAN communication relay board housing (unit: mm)

6. Description of status indicator

Chart 2 Introduction to status indicator

name	definition	Specific status introduction
D1	Status indicator of CAN communication relay board	CAN communication relay board is normal: flashing every 1s; Hoistway data error in CAN communication relay board: normally on; CAN communication relay board is in the self-learning state of floor image: flashing every 0.5s; Abnormal status of CAN communication relay board: not lit.
D2	Status indication of magnetic scale	The magnetic grating ruler is in the pre-operation state: not lit; The magnetic grating ruler is in the operation state: flashing every 1s; Magnetic grating ruler is in fault state: normally on.
D3	CAN1 communication status light	Communication between elevator and CAN communication relay board is normal: flashing every 1s; Communication error count between elevator and CAN communication relay board > 127: flashing every 0.5s; Communication error count between elevator and CAN communication relay board > 160: flashing every 2s; Abnormal communication between elevator and CAN communication relay board: normally on.

Chart 2 Introduction to status indicator(cont')

name	definition	Specific status introduction
D4	CAN2 communication status light	The communication between the magnetic scale and the CAN communication relay board is normal: flashing every 1s; Communication error count between magnetic grating ruler and CAN communication relay board>127: flashing every 0.5s; Communication error count between magnetic scale and CAN communication relay board>160: flashing every 2s; Abnormal communication between magnetic grating ruler and CAN communication relay board: normally on.
D5	spare	spare

7. Installation instructions

This product is connected with the elevator main board communication line and the magnetic grid ruler communication line respectively, and carries out data signal transmission with the main board and the magnetic grid ruler respectively. At the same time, it can carry out two effective and invalid output of the door area signal.

1. Place the product on the car roof and other places close to the elevator and fix it;
2. Connect+24VA, GNDA, CA+, CA - with the magnetic grid scale communication;
3. Connect+24VB, GNDB, CB+, CB - to the main board CAN bus.+24VB and GNDVB are the system 24V power supply. In addition,+24VA and GNDA need to be directly connected to+24VB and GNDVB respectively;
4. (1) If you do not plan to install the upper and lower door zone sensors in order to save the upper and lower door zone sensors, you need to
X9 connects the signal line of the upper door area, X10 connects the signal line of the lower door zone, and COM connects the system GND signal.
(2) If it is not necessary to save upper and lower door zone sensors, X9 X10 COM does not need wiring.
5. After correct wiring, if D1, D2, D3 and D4 indicator lights flash every 1s, the product works normally.

8. Instructions

8.1. Specific use process

- (1) After the device is installed and powered on, observe the D2 indicator and flash every 1s, which means that the device enters the operation state;
- (2) The elevator is set to the maintenance status, the running elevator stops at the leveling position, the door is closed and the elevator has no fault;
- (3) Set the all-in-one machine parameter, FX-44=3, and then set the drive mode F1-21=9. After F1-21 is set to 9, the number "9" will remain unchanged. At this time, it means that the CAN communication relay board enters the Teach mode, that is, the floor image self-learning mode;
- (4) Set the VIP floor F0-04=the current floor, and the all-in-one machine sends the command to learn the current floor to the CAN communication relay board. After the learning is successful,

F0-04 will automatically reset;

(5) Run the elevator to the next floor to continue learning until all floors have finished learning. Then, run to the door area position of each floor to check whether the door area signal is correct. After it is correct, set the drive mode F1-21=0, that is, exit the Teach mode, and then the elevator will automatically return to the lower limit for hoistway learning.

8.2. Leveling adjustment function

All floors support level-by-level adjustment. After the hoistway self-learning is successful, if the floor position needs to be fine-tuned, turn to inspection mode, modify the FE group parameters of the integrated controller. The default factory value of each floor is 50. After the modification is successful, the FE group parameters of the integrated controller will automatically restore to 50. For example, if you need to adjust the level of the first floor upward by 10mm, you may set the FE-01 parameter to 60. After the setting is successful, the FE-01 parameter will automatically restore to 50; If you need to adjust the level of the second floor downward by 10mm, you may set the FE-02 parameter to 40. After the setting is successful, the FE-02 parameter will automatically return to 50.

8.3. Fault ER68 description

- (1) When the magnetic grating ruler itself fails, the status indicator D2 is always on, and the elevator will report ER68 fault under the automatic state, and the fault ER68 will not be reported under the maintenance state;
- (2) When the hoistway floor scale data learning error occurs, the elevator will report the ER68 fault under the automatic state, and the fault ER68 will not be reported under the maintenance state;
- (3) The magnetic grating ruler enters the Operation mode. After the self-learning of the floor image is successful, the integrated controller can operate in the automatic mode. Otherwise, the ER68 fault will be reported, and the fault will not be reported in the inspection mode;
- (4) If the data sent by the magnetic grating ruler is not received for more than 3s, the status indicator D4 is always on. If the elevator is in the automatic state at this time, the fault ER68 will be reported, and the fault ER68 will not be reported under inspection mode;
- (5) If the main board of the elevator fails to receive the data sent by the CAN communication relay board for more than 10 seconds, it is deemed that the communication is abnormal. If the elevator is in the automatic state at this time, it will report the ER68 fault, and it will not report the ER68 fault in inspection mode.