

SJT – 151 (201)
Elevator Load Weight

Manual

Ver: 1.2

1. Working principle

According to the principle that car bottom and rope end will have elastic change with load change, using Hall sensor to detect its displacement. By calculation and deviation correction of microcontroller, load of elevator car can be weighed.

2. Feature

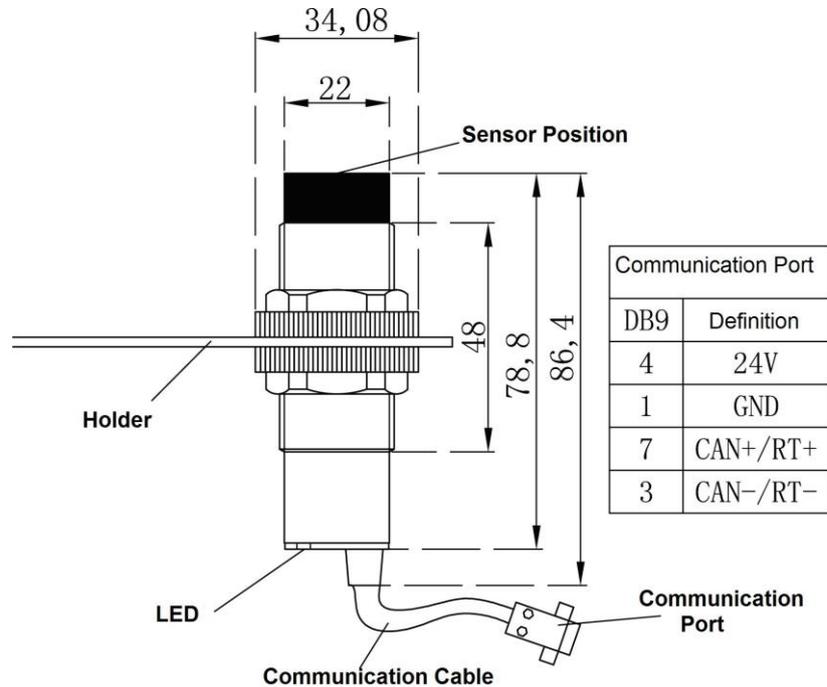
- 2.1 Non-contact sensor mode, without mechanical movement, no structure modification of car.
- 2.2 High precision Hall sensor and High-performance microcontroller, parameter can be set at site.
- 2.3 Learning ability, easy for debugging.
- 2.4 Serial communication.
- 2.5 Small size, easy for installation, smart structure.

3. Specification

- 3.1 Range of usage:
 - Rope end: Elevator with rope end spring (Use SJT-201) ;
 - Car Bottom: Elevator with movable Car bottom (Use SJT-151 or SJT-201) ;
 - Magnetic field range 2–20mm;
- 3.2 Response time: $\leq 0.5s$;
- 3.3 Voltage: DC 24V;
- 3.4 Output Type: Serial output. With output value increase, elevator status is changing as no load \rightarrow full load \rightarrow overload.
- 3.5 Installation location: Rope top end (SJT-201) , Car Bottom (SJT-151 or SJT-201) ;
- 3.6 Connection: SJT-151 connects to 485 port of COP board or Car Top board. SJT-201 connects to CAN Bus.

4. Appearance

unit:mm



LED:

LED Status	Communication Status	Gap between magnet and load weigh /mm
Green LED keep ON	No communication	≤9.5
Green LED flicker	Have communication	
Red LED keep ON	No communication	≥10.5mm
Red LED flicker	Have communication	
Both extinguish	No communication	>9.5 and <10.5
Red & Green LED flicker by turn	Have communication	

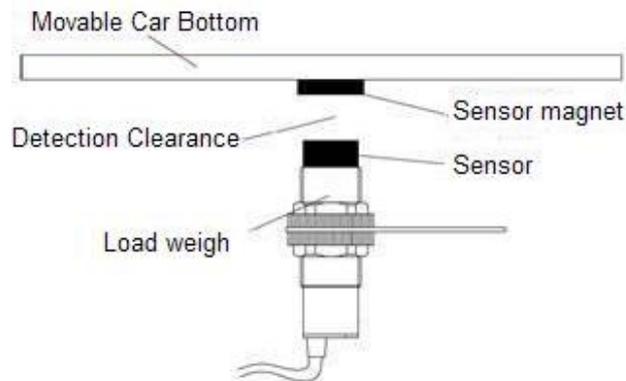
5. Installation

5.1 Car Bottom Load Weigh (SJT-151)

- ① While there's no load in car, make magnet cling to the center of car bottom and **make the mark face downward.**
- ② Fasten SJT-151 on the support of car bottom and face to the magnet, make the center of magnet correspond to the sensor center of SJT-151. Meanwhile, **make sure the mark of magnet corresponds to black round sensor of load weigh, and make their**

end face parallel. Otherwise, it will seriously affect the precision or can not work.

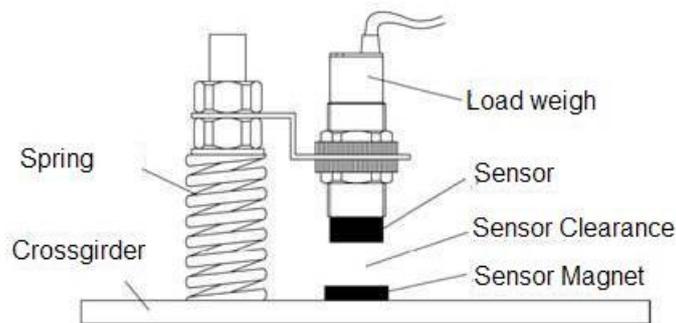
- ③ Adjust the device to make test distance to about **10mm (recommended)**, the two location LEDs should both extinguish (no communication) or flicker by turn (with communication).



In the site, if the range of car bottom movement beyond 10mm, you can change No load test point to over 10mm (Less than 20mm).

5.2 Rope End Load Weigh (SJT-201)

- ① While there's no load in car, make magnet cling to the beam below rope end and **make the mark face upward.**
- ② Fix the holder of load weigh among nuts of Rope end and fasten nuts. Then fix load weigh onto holder. Adjust SJT-201 on the support of holder and face to the magnet, make the center of magnet correspond to the sensor center of SJT-201. Adjust location of magnet, , **make sure the mark of magnet corresponds to black round sensor of load weigh, and make their end face parallel.** Otherwise, it will seriously affect the precision or can not work.
- ③ Adjust the position of device in vertical direction, make test distance to about 10mm(recommended), the two location LEDs should both extinguish (no communication) or flicker by turn (with communication).



6 Instruction

This device can cooperate with SJT elevator controller system of BlueLight. In normal work status, weight value will affect system control, achieve start compensate of torque\direct run while full load\overload warning and other functions.

While using load weigh, please operate as following steps. For the detail operation process, please refer to manual of controller system:

6.1 Activation

① SJT-151:

While using Bluelight integrated controller, please set Load weigh enable F1-29=1 and F4-06-23=OFF(Enable SJT-151). While using Bluelight mainboard product, please set Load weigh setting “Load Setting” to Yes and set FU-23=OFF (Enable SJT-151).

② SJT-201:

While using Bluelight integrated controller, please set Load weigh enable F1-29=1 and F4-06-23=ON(Enable SJT-201). While using Bluelight mainboard product, please set Load weigh setting “Load Setting” to Yes and set FU-23=ON (Enable SJT-201).

(This setting only aim software version of Bluelight general product. If fail, please check manual or contact with customer service)

6.2 Learning

No Load working parameter: Stop elevator with no load, select “Light Loaded”;

Full load working parameter: Stop elevator with full load, select “Full Loaded”.

① Car Bottom load learning:

While using SJT-151, select one floor, do no load learning once and full load learning once. If succeed, then complete.

While using SJT-201, make sure elevator is stop at one floor, do no load learning once. After succeeding, do continuous 5 times of full load learning, if succeed, then complete(609_02 version).

While using SJT-201, make sure elevator is stop at one floor, do continuous 5 times of no load learning. After succeeding, do continuous 5 times of full load learning, if succeed, then complete(609_03 and upgrade version).

② Rope end load learning

While using product (SJT-201) as rope end load weigh, no load learning and full load learning should be done at each floor.

Note: While using SJT-201, doing no load/full load learning for one time will only update

the no load/full load value of current learning floor when elevator is stop at one floor;

Doing once no load learning successfully, and then doing continuous 5 times of full load learning successfully, can update the no load and full load value of all floors with current floor learning value when elevator is stop at one floor (609_02 version).

Doing continuous 5 times of no load or full load learning can update the no load or full load value of all floors with current floor learning value when elevator is stop at one floor (609_03 and upgrade version).

6.3 Normal Working status

After exit learning status, load weigh enters to normal working status.