

MANUAL CARD READER

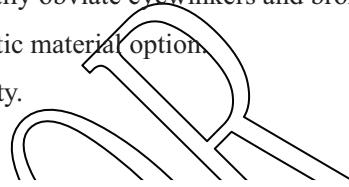
**NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR
TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO
THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S
AUTHORITY TO OPERATE THE EQUIPMENT.**

1 General View

This is a series manual card reader/writer equipment, with function of “Lock card after insert, auto eject by release”

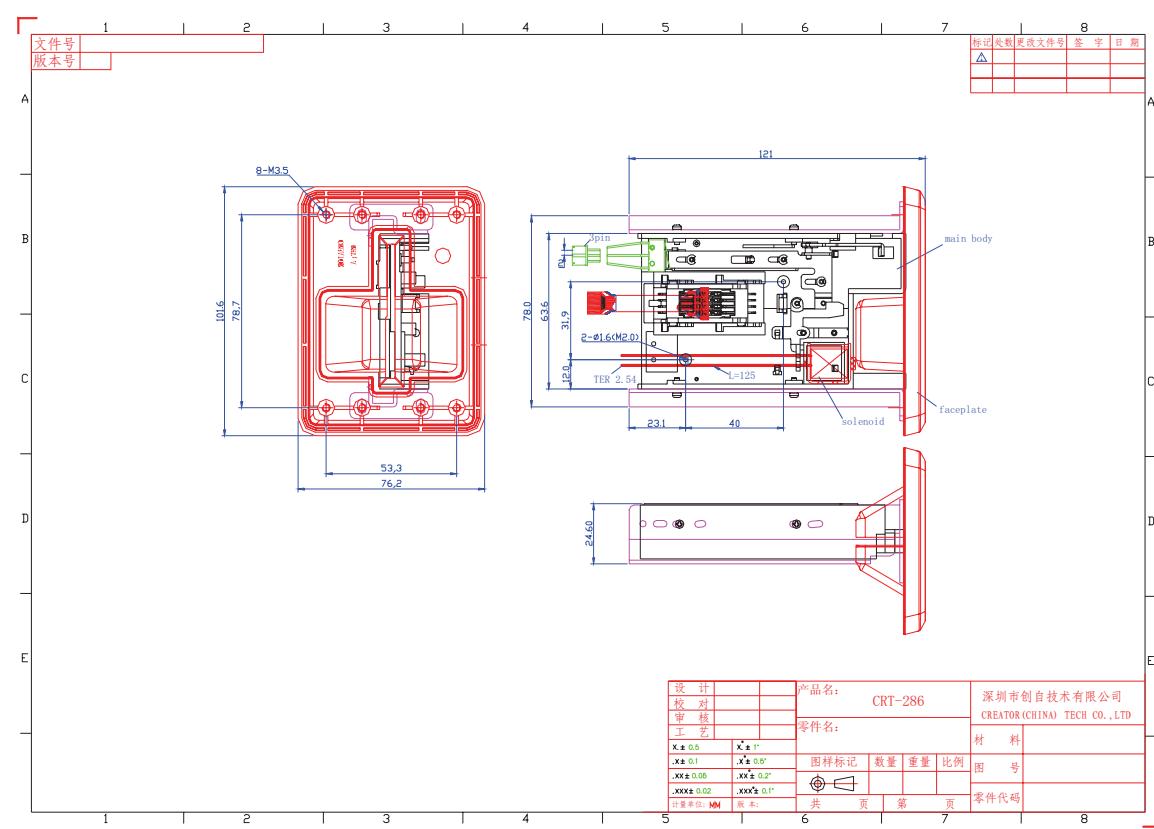
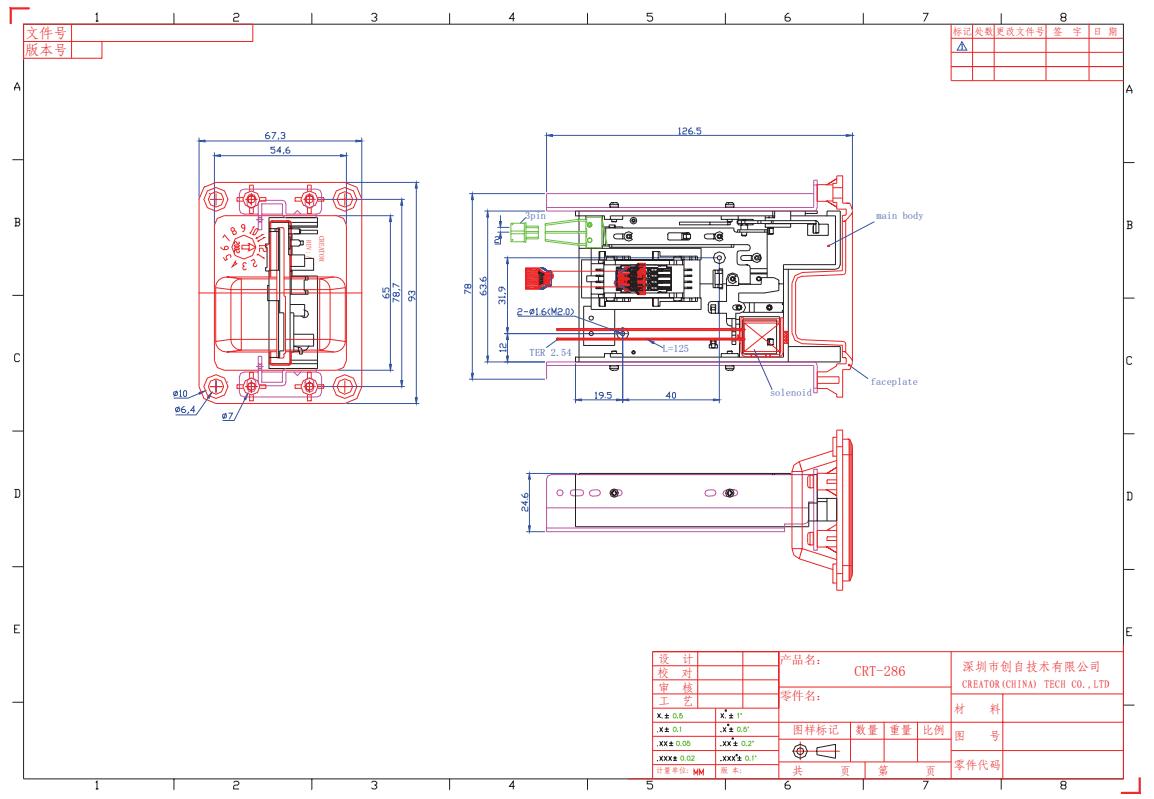
Main features:

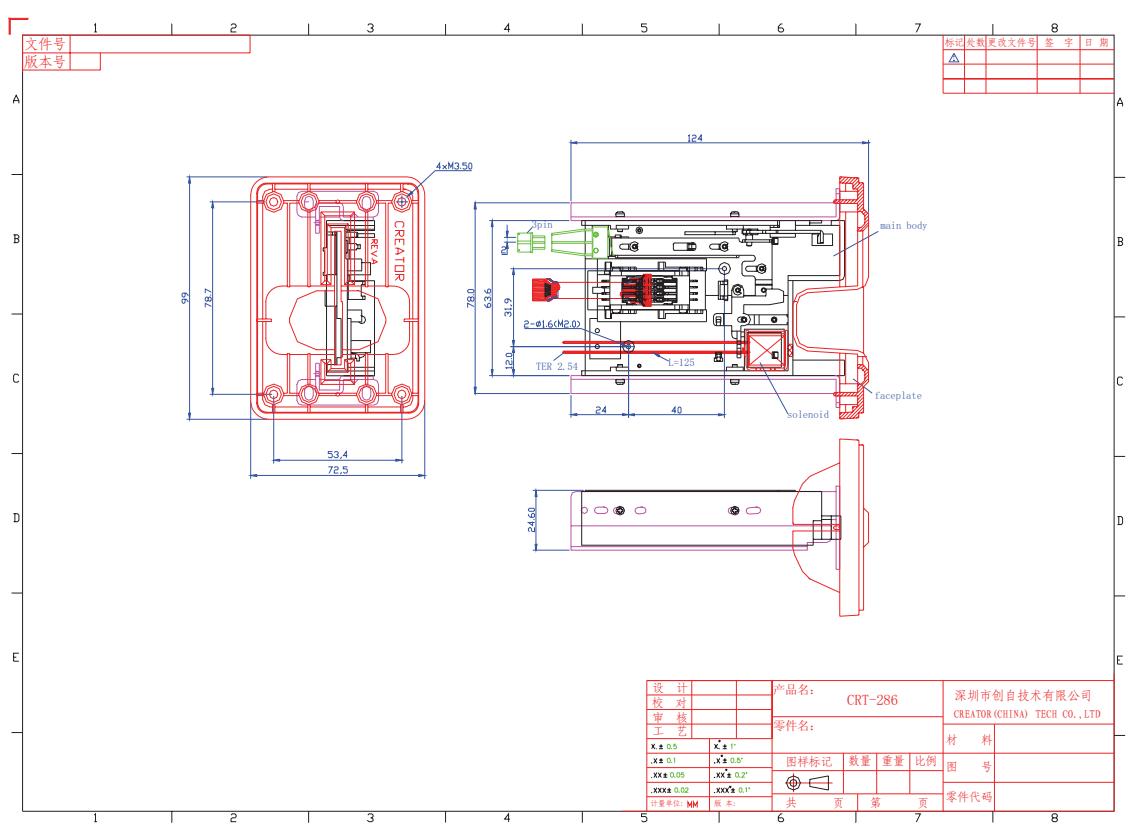
- RF card read/write.
- Lock, Manual/Auto eject card: Auto lock card after insert, Manual/Auto eject card by release.
- Eyewinkers prevention: one side open design, automatically obviate eyewinkers and broken card.
- Multi-bezel option: A, B, C, E types of bezel in metal and plastic material option.
- Durability: Each component with over 500,000 cycles durability.
- Customized service.



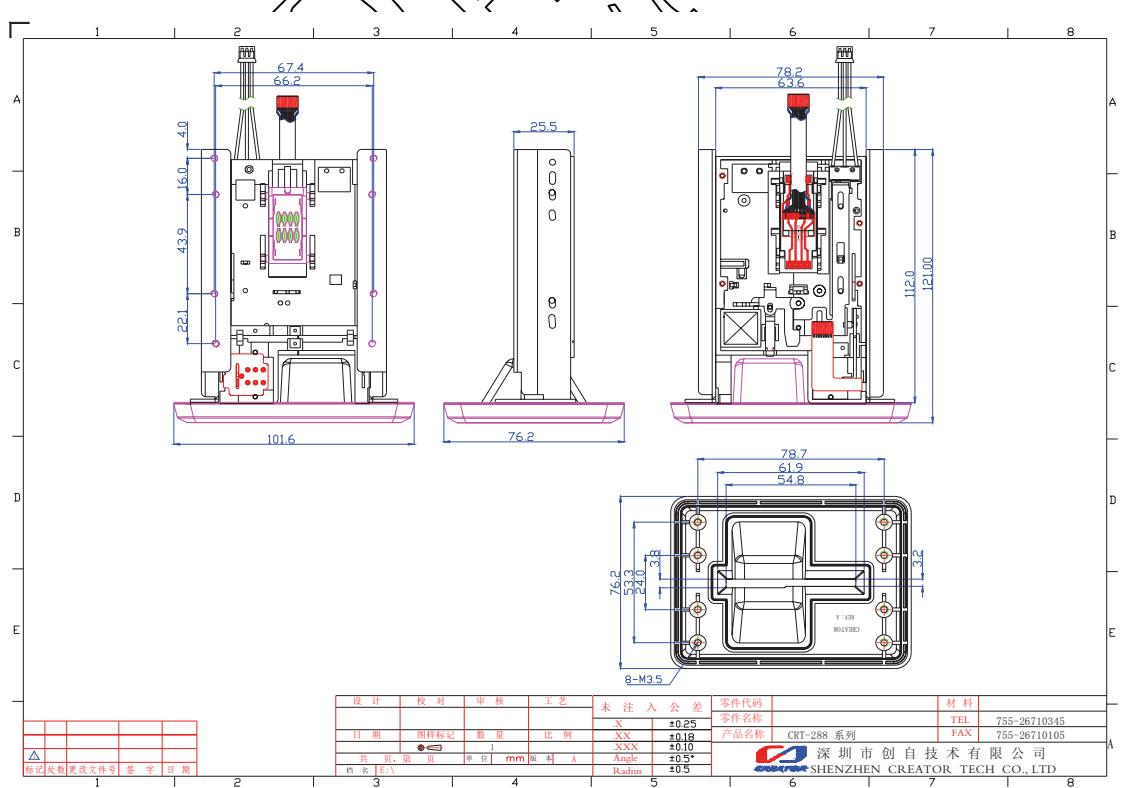
3. Structure and Dimensional Drawing

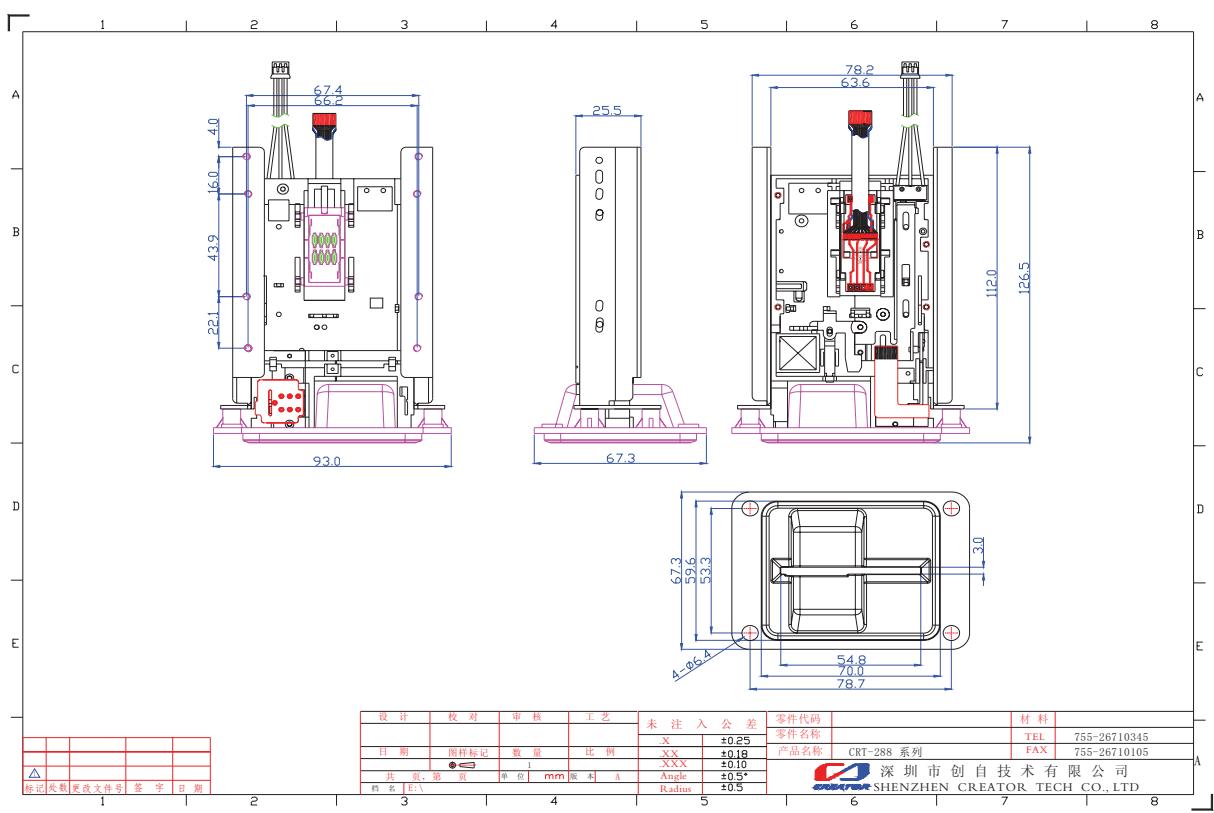
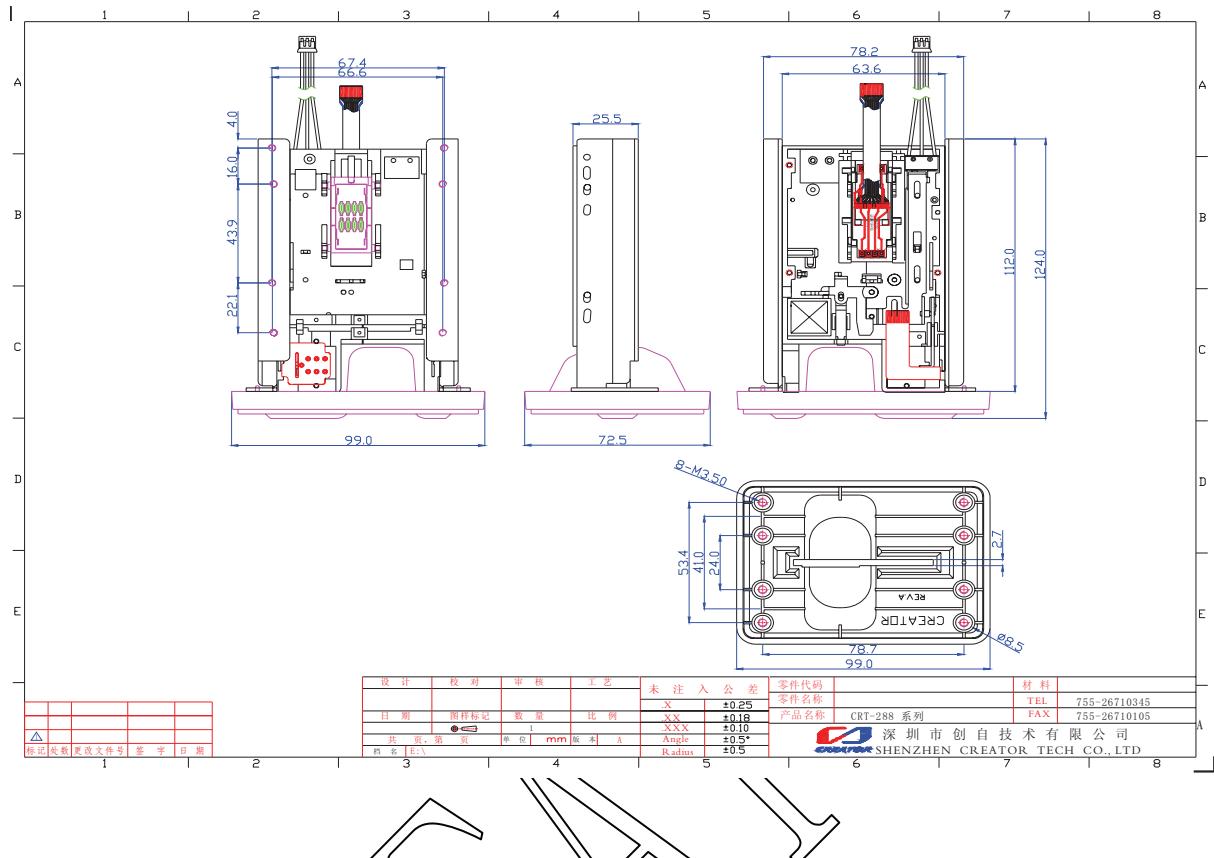
3.1 This Series dimensional drawing:

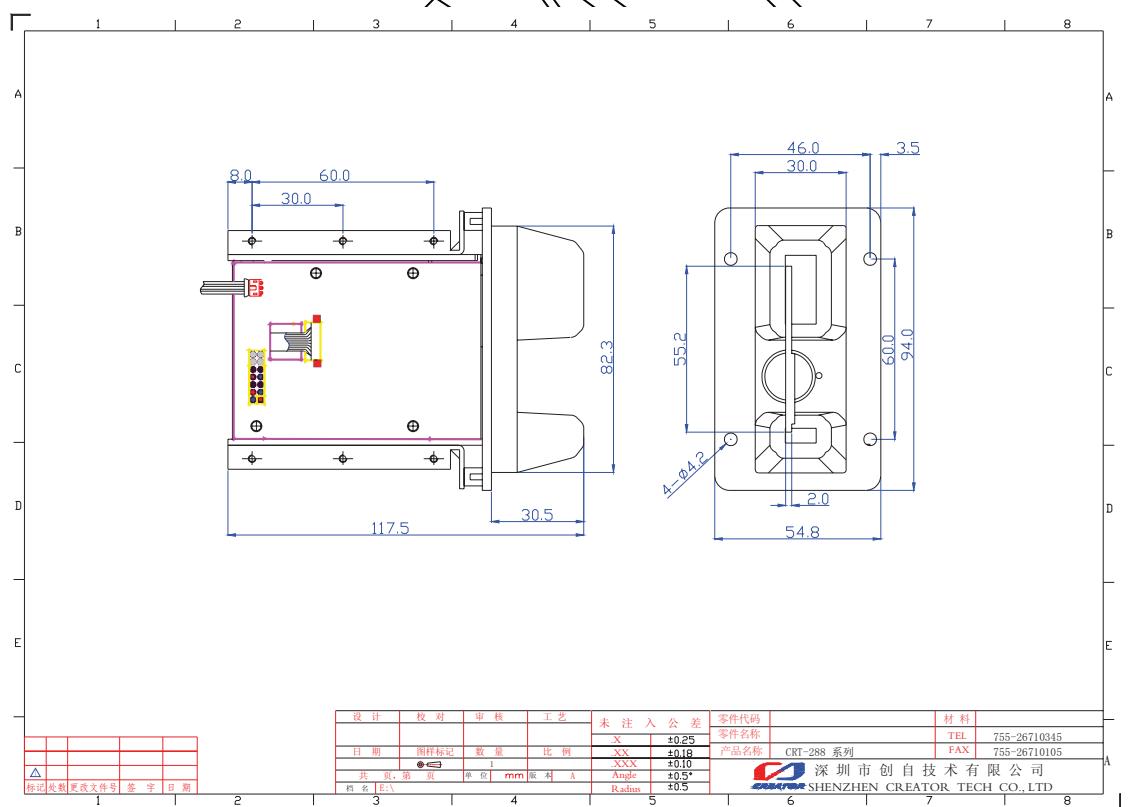
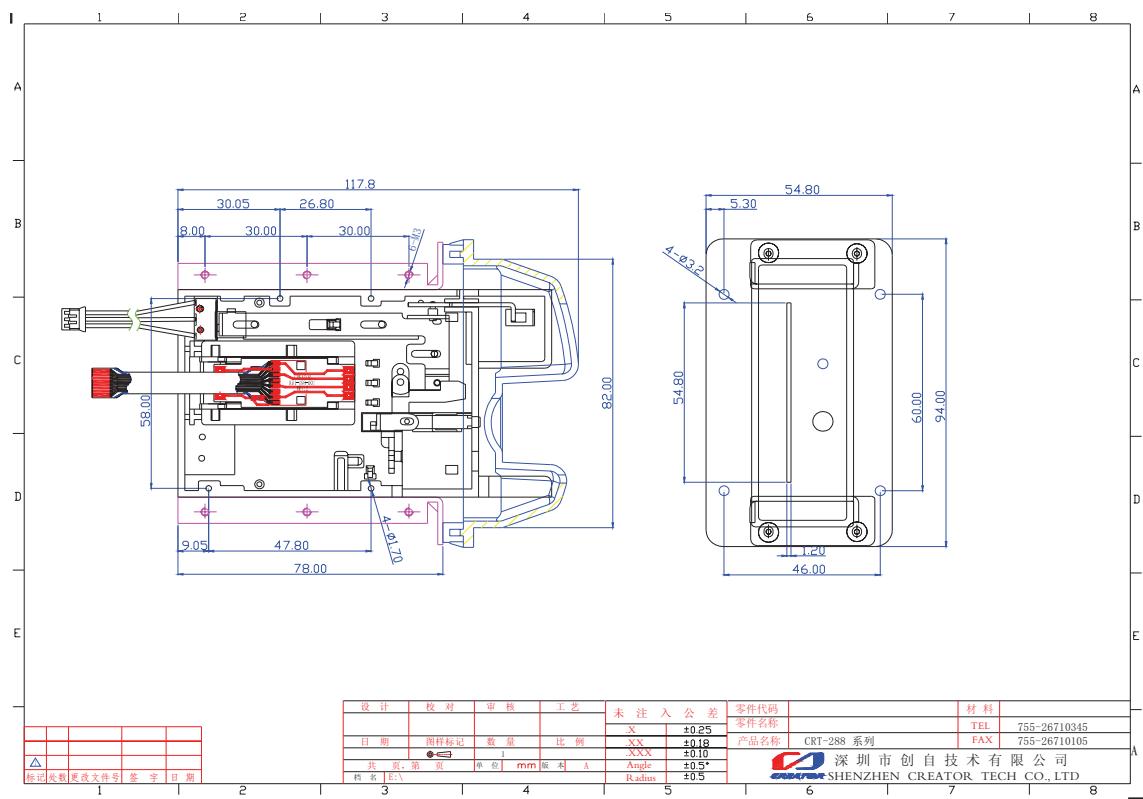




3.2 This Series dimensional drawing:



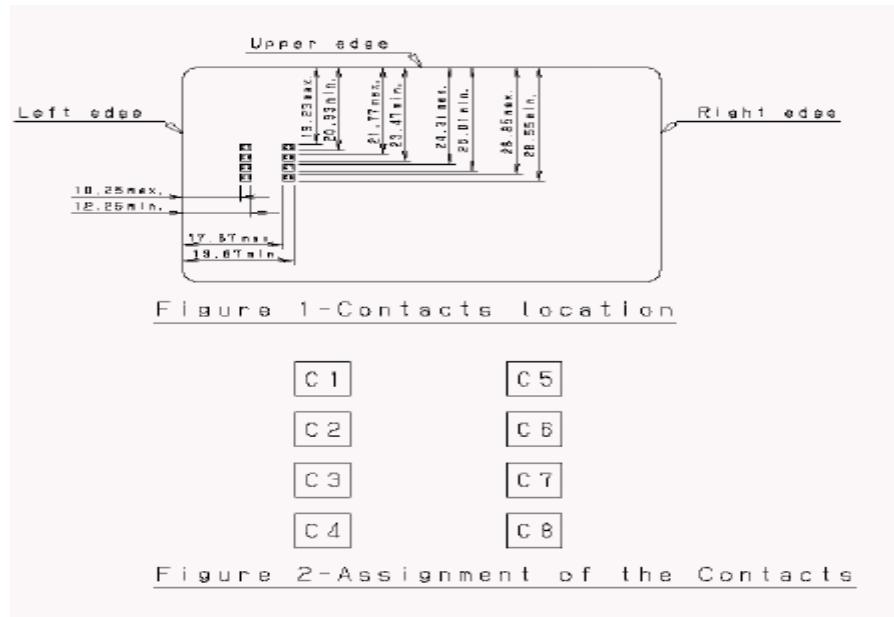




4. Electric Characteristic

4.1 Type of card

4.1.1 Contact IC card (In accordance with ISO7816-2)



4.1.2 Mifare TypeA contactless IC card

Mifare 1 S50 (Philips Company production) is in accordance with ISO14443 International Standard and support contactless card. This contactless IC card reader/writer can do read/write operation on any sector and block of the card, and modification of password to any sector.

NOTE: Mifare 1 S50 has 16 sector and each has its own independent operation password code.

4.2 Operation Environment

4.2.1 IC card connector module

- 1) National patent design Half-landing contacts with powerful self-cleaning function, less damage of the card;
- 2) Zinc alloy die-casting contact frame, prevent the sudden impact from the card;
- 3) Number of pins: 8 PINs;
- 4) Material of contacts/plating: beryllium copper/gold over nickel (gilt thickness: >40u);
- 5) TTL interface

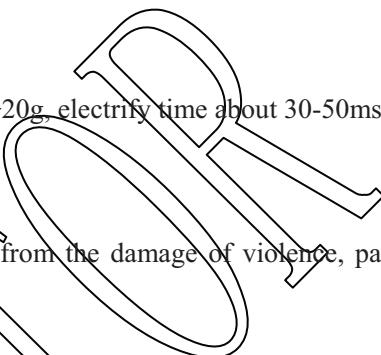
4.2.2 RF card function specification

Standard	ISO/14443-A
Operation Frequency	13.56MHz

Effective Operation Distance	90mm (Naked Board)
Key memory	NVRAM
Communication Speed	105k bps
Antenna size	75mm x 51mm
Voltage	DC 5V ($\pm 5\%$)
Peak Current	95mA
Operation Temperature	-20°C ~ +70°C
Storage Temperature	-40°C ~ +80°C
Operation Humidity	>90%

4.2.3 Lock and eject structure

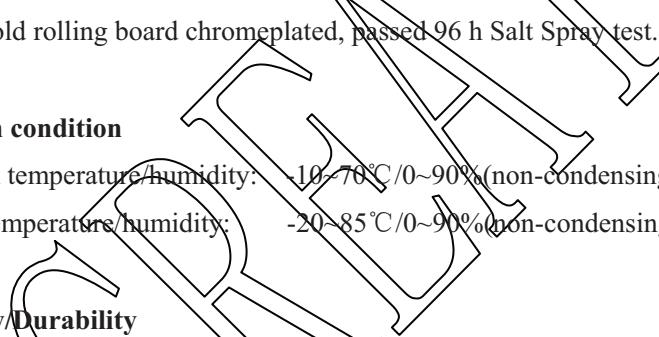
Solenoid controlled IC card mechanism: Static impactive force >20g, electrify time about 30-50ms.



4.2.4 Main body structure

- 1) Bezel made from die-casting Zinc alloy prevents it from the damage of violence, passed 96 h Salt Spray test;
- 2) Main body: PC+20%GF 94V-2;

Fixed bracket, Cold rolling board chromeplated, passed 96 h Salt Spray test.



4.2.5 Operation condition

Operation temperature/humidity: -10~70°C/0~90% (non-condensing)
 Storage temperature/humidity: -20~85°C/0~90% (non-condensing)

4.2.6 Reliability/Durability

- 1) Vibration: No defect in all items of the characters under normal condition after exposed 15min. each on X, Y and Z directions of 2mm amplitude, from 10 to 50Hz/min vibrate.
- 2) Shock: No defect in all items of the characteristics under normal condition after shocked one time on X, Y and Z directions of 294M/s², 11ms peak acceleration shock.
- 3) Life:

IC connector:	$\geq 500,000$ passes
Solenoid:	$\geq 500,000$ passes
Micro switch:	$\geq 500,000$ passes

NOTE: Normal condition: 20 $^{\circ}$ C, 35 ~ 60%R. Based on the test environment.

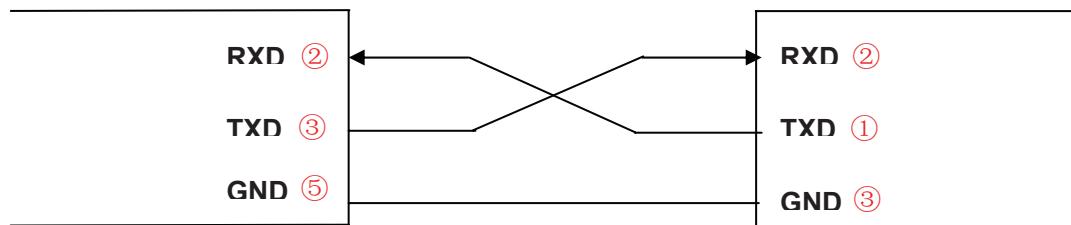
4.3 Voltage and Current

Operation voltage: DC 5V $\pm 5\%$

Static current: 50mA

Peak current: 1.5A

4.4 Communication Sketch Map



5 Communication Protocol

Refer to **CRT Card Reader Communication Protocol**

6 Dynamic Library

Refer to **CRT Card Reader Dynamic Library**

