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PRODUCT SPECIFICATION

CRT-310 SERIES MOTOR CARD READER



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3) Mag head in rear side can allow card in from the rear side, and can execute the magnetic operation several times (according to the special command), but it need more space for the reader.

*: CRT-310 Bezel Options:

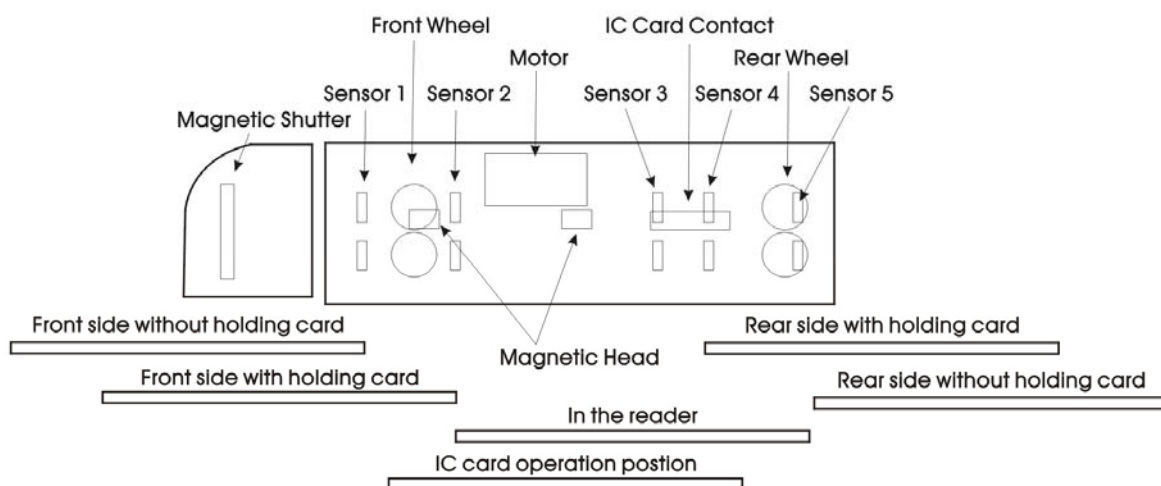
CRT-380C



CRT-380B

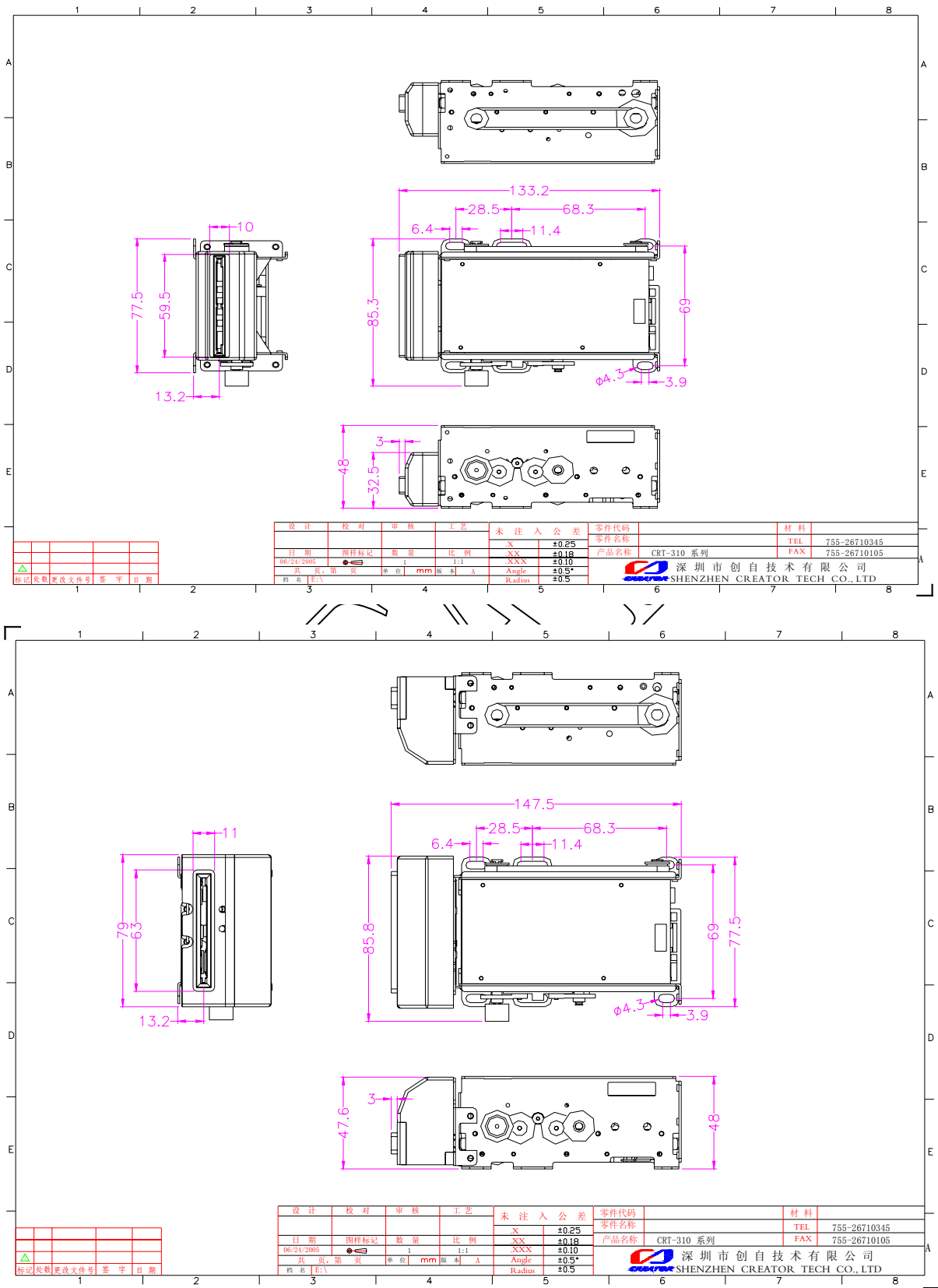


3. Structure and Card Stop Position



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4. Structure and Dimensional Drawing



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5. Card Type

5.1 Magnetic Card Standard

- (1) Physical characteristics: Accordance with ISO7810, ISO7811
- (2) Card dimensions: Accordance with ISO ISO7810ID-1- type card
- (3) Embossing: Accordance with ISO7811-1, -3
- (4) Recording format: Accordance with ISO7811-2, -4, -5, -6
- (5) Recordable capacity:
 - Track 1 (IATA): 79 characters max (6 bit+1 parity)
 - Track 2 (ABA): 40 characters max (4 bit+1 parity)
 - Track 3 (MINTS): 107 characters max (4 bit+1 parity)
- (6) Recording method: Two Frequency Coherent Phase Recording
- (7) Allowance of card warp: 2mm max.
- (8) Coercive force: 24k~320k A/m (300~4000 Oe) +/-10%
- (9) Reading capability (ex-work standard): Can read Q card (TC-JS, TC-JT, TC-JL, TC-A)

5.2 Contact IC Card (ISO7816-2)

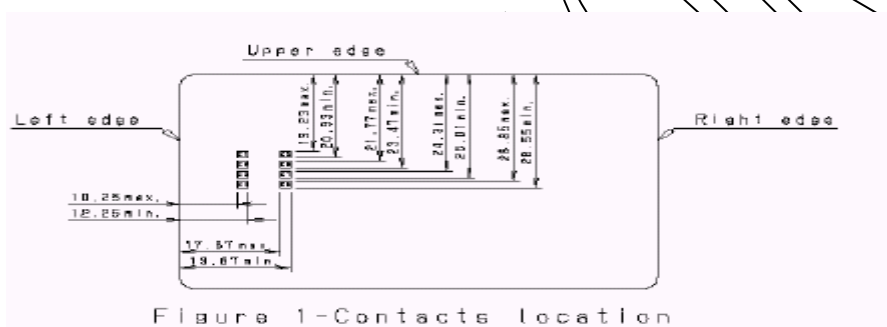


Figure 1-Contacts location

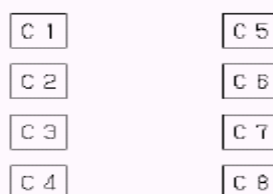


Figure 2-Assignment of the Contacts

5.3 Contactless IC Card, Mifare Type A

Mifare 1 S50 (Philips Company production) is in accordance with ISO14443 International Standard and support contactless card.

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

SPECIFICATION	
Standard	ISO/14443-A
Operation Frequency	13.56MHz
Effective Operation Distance	90mm (Naked Board)
Key memory	NVRAM

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Communication Speed	105k bps
Voltage	DC 5V (±5%)
Peak Current	95mA
Operation Temperature	-20°C + 70°C
Storage Temperature	-40°C + 80°C
Operation Humidity	>90%

6. Operation Environment

6.1 IC Card Contacts Module

- (1) Landing contacts;
- (2) Number of contacts: 8PIN;
- (3) Material of contacts/plating, beryllium copper/Gold over nickel (gilt thickness: 40u min.);
- (4) Use FPC output directly (TTL).

6.2 Card Carrying System

- (1) Power source : DC motor
- (2) Card carrying mechanism : Gear wheels and belts
- (3) Card insertion/ejection direction : Front and rear side ejection
- (4) Card carrying speed : 80cm/s (adjustable)
- (5) Card location director : 5 groups of sensor

Note: Sometimes can not detect high transparent card for the infrared rays can go through it.

- (6) Noise : ≤80dB

6.3 Main Body Structure

- (1) Main body: PC+20%GF 94V-2;
- (2) Fixed bracket, Cold rolling board chromeplated, passed 96 h Salt Spray test
- (3) Insulation resistance ≥10M ohm min, DC500V
- (4) Weight: 410g

6.4 Operation Condition

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

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

6.5 Voltage and Current

- (1) Working voltage: DC+12V +/-5%
- (2) Static current: 50mA
- (3) Max peak current value: 1.5A

6.6 Reliability/Durability

A. Vibration: No defect in all items of the characters under normal condition after exposed 15min.each on X, Y

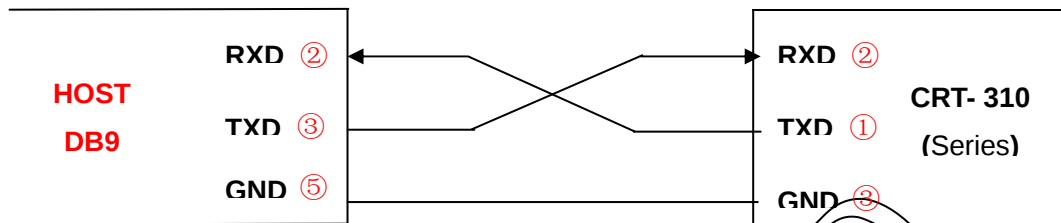
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and Z directions of 2mm amplitude, from 10 to 50Hz/min vibrate.

- B. Shock: No defect in all items of the characteristics under normal condition after shocked one time on X, Y and Z directions of 294M/S^2 , 11ms peak acceleration shock.

Normal condition: $20\pm 5^\circ\text{C}$, 35~60%RH. The durability is based on the test environment.

6.7 Communication Wire Connect Instruction



7. Operation Mode

7.1 Card Movement

After the card in, the reader will read the magnetic card automatically, and then go to the appointed card stop position.

7.2 Magnetic Card Operation

- (1) After the card in, the reader will read the magnetic card automatically, and then store the information into RAM, after receiving the command upload it.
- (2) Only refer to CRT-310-X2XX, it can send the re-read magnetic card command, so it will read again and then upload the information.

7.3 Contact IC Card Operation

Move the card to IC card operation position successfully, and then operate on the IC card (Including Auto test the card type command)

7.4 Contactless IC Card Operation

Card in the reader or at the IC card operation position can both operate the contactless IC card.

8. Communication Protocol and Dynamic Library

Refer to CRT Card Reader Communication Protocol (v3) and CRT Card Reader Dynamic Library (v3)