

CRT-284 MANUAL CARD READER Version 4.0 PRODUCT SPECIFICATION



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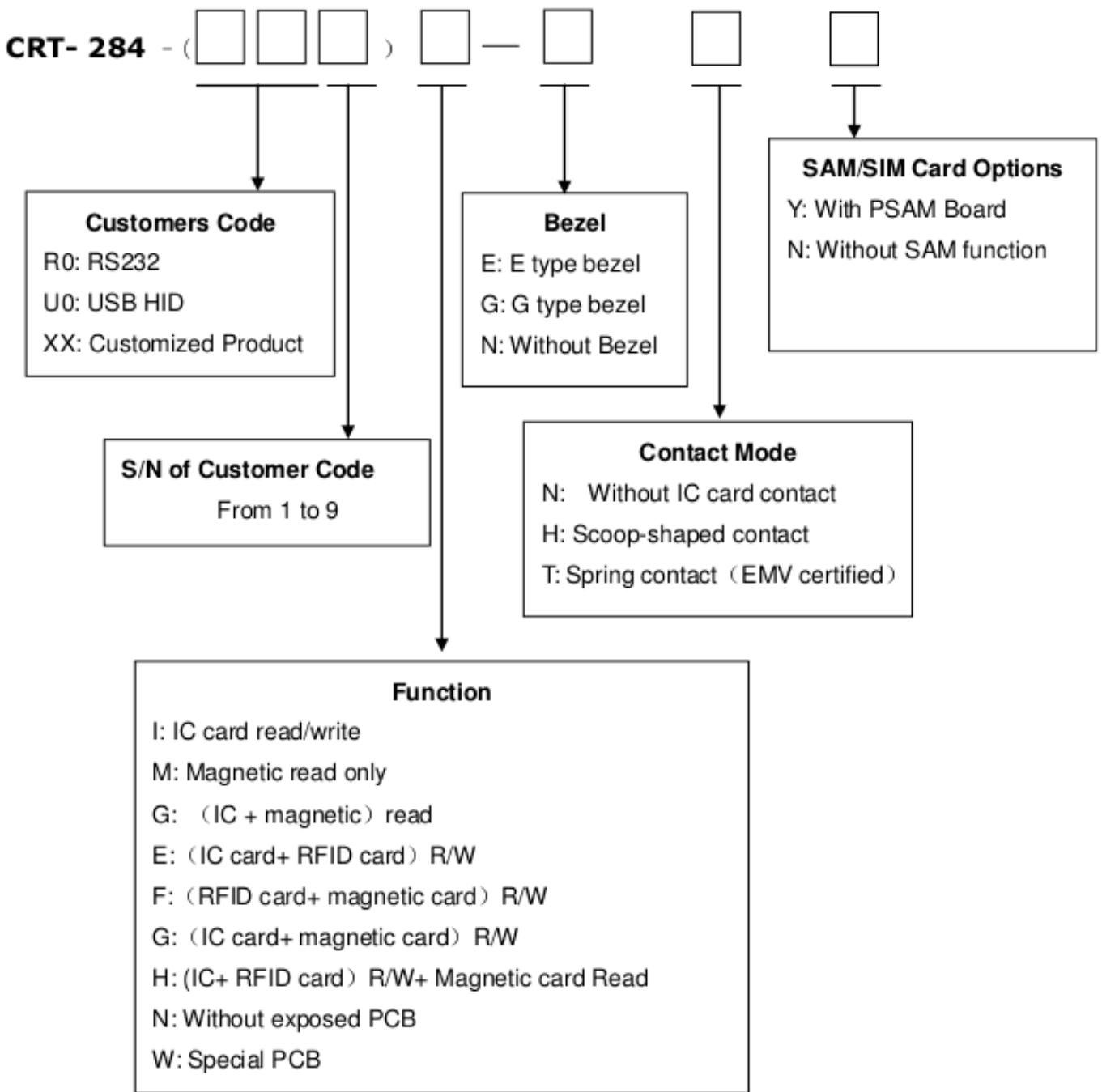


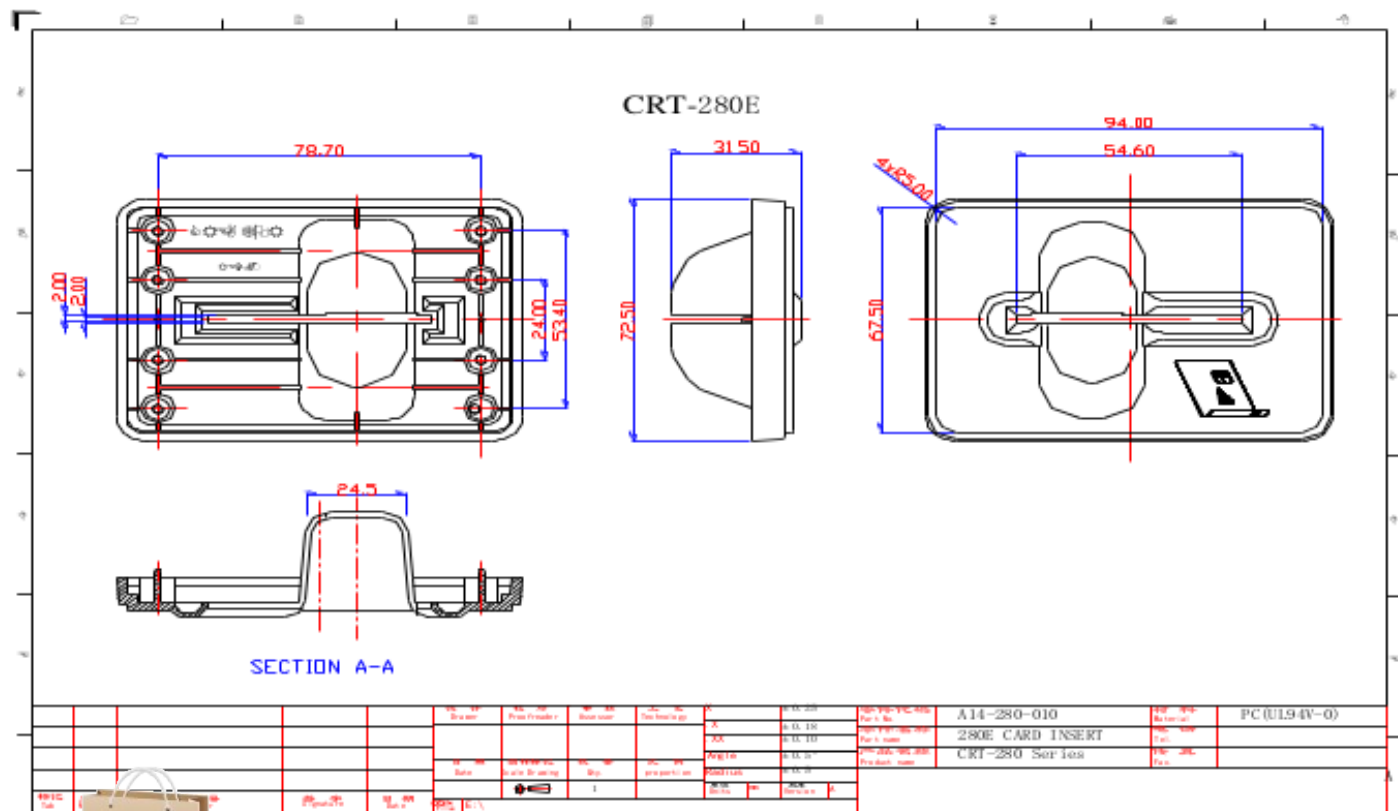
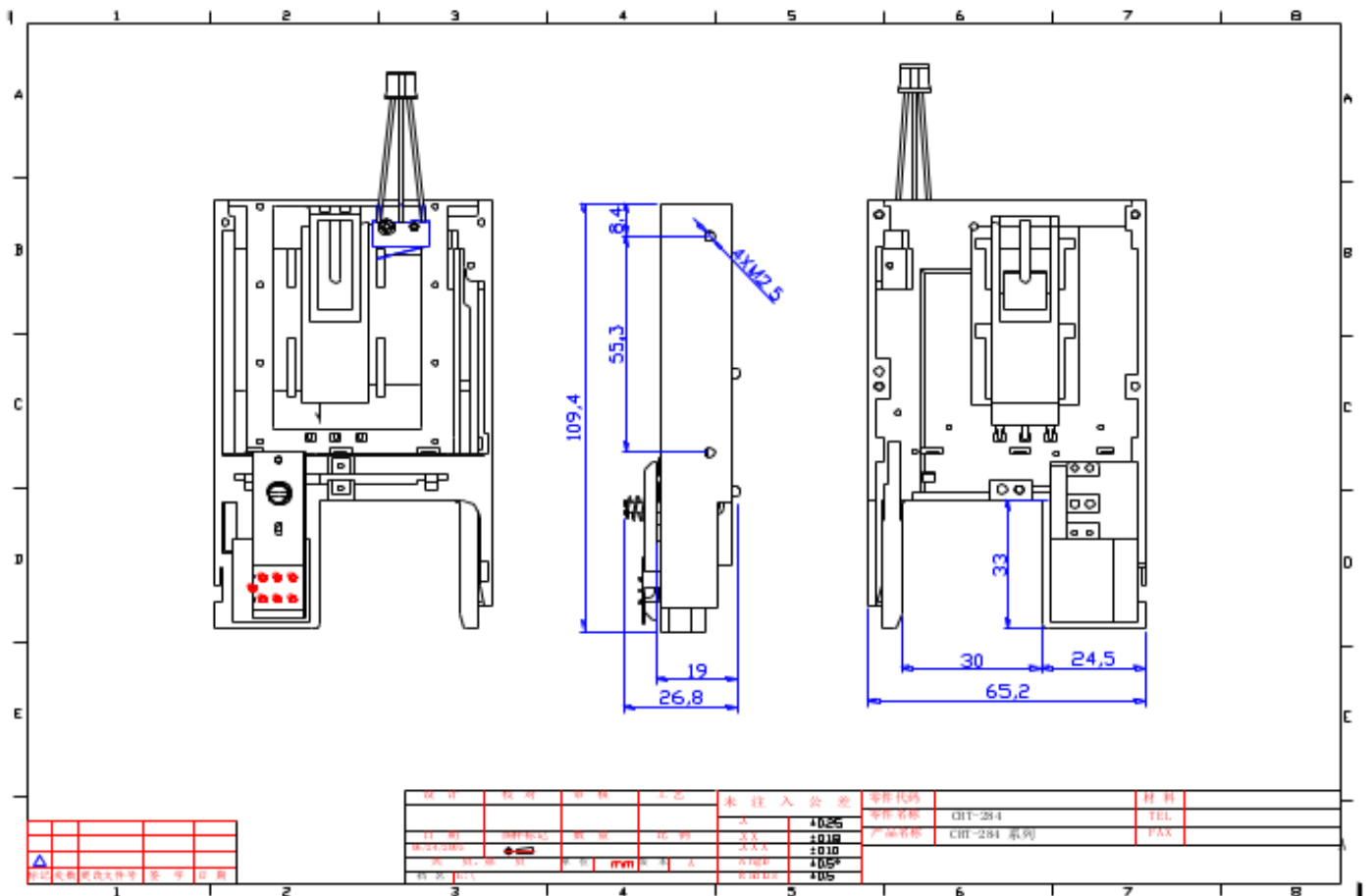
1. General View

CRT-284 is manual card reader/writer, performs the following major features:

- 3 in 1: Read magnetic card, support IC and RFID card read and write. Any combination of these functions is allowed.
- Agile reading magnetic card method: Options for pulling or pushing magnetic card reading method, the data can be uploaded initiative or passively.
- Life time: 500 thousands of operation.
- Communication interface: USB(HID, without external power), RS232(Including TTL type comm. port)
- Optionally support PSAM Board.
- Support customization







4. Electric Characteristic

4.1 Card Specification

4.1.1 Contact IC card (Comply ISO7816-2)



Figure 1-Contacts location



Figure 2-Assignment of the Contacts

4.1.2 Magnetic card

- (1) Physical characteristics: Accordance with ISO7810 and 7811
- (2) Card dimensions: Accordance with 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): characters max.(6 bit+1parity)
 - Track 2 (ABA): 40 characters max.(4 bit +1parity)
 - Track 3 (MINTS): 107characters max.(4bit+1 parity)
- (6) Recording Method: Two frequencies Coherent Phase Recording
- (7) Allowance of card warp: 2mm max
- (8) Coercive force: 24k~320k A/m (300~4000 Oe) +/-10%
- (9) Speed of pulling out of the card: 5-150 cm/sec

4.1.3 Contact-less card specification

Support ISO14443, Mifare S50/S70, UL, CPU, TYPE A/TYPE B



4.2 Operation Environment

4.2.1 IC card connector module

- A. Half-landing contacts
- B. Number of pins: 8 PIN
- C. Material of contacts: beryllium copper/gold over nickel (gilt thickness: >40u);
- D. TTL interface

4.2.2 Operation condition

Operation temperature/humidity:0~50°C/20~80% RH (non-condensing)
 Storage temperature/humidity:-20~70°C/20~80% RH (non-condensing)

4.2.3 Reliability/Durability

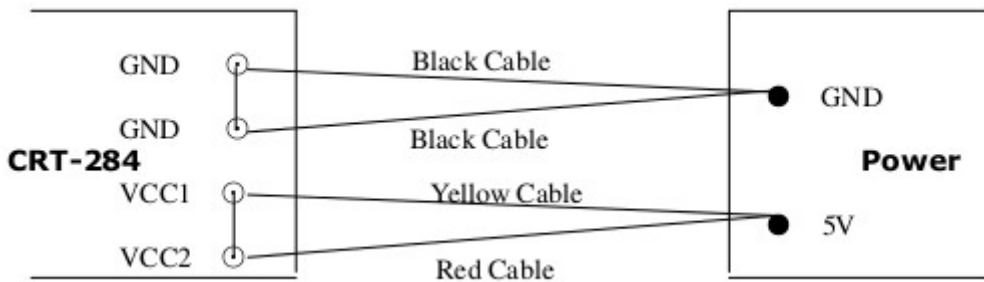
- A. Vibration: No defect in all items of the characters under normal condition after exposed 15min.each on X, Y and Z directions of 2mm amplitude, from 10 to 50Hz/min vibrate.
- B. Shock: No defect in all items of the characteristics under normal condition after shocked one time on X, Y and Z directions of 294M/s², 11ms peak acceleration shock. ≥500,000 cycles
- C. Life: IC connector:≥500,000 cycles
 Magnetic head:MMMMMcycles
 Micro switch:≥500,000 cycles

NOTE: Normal condition:20+/-5°C, 35~60%RH. Base on the testing environment.

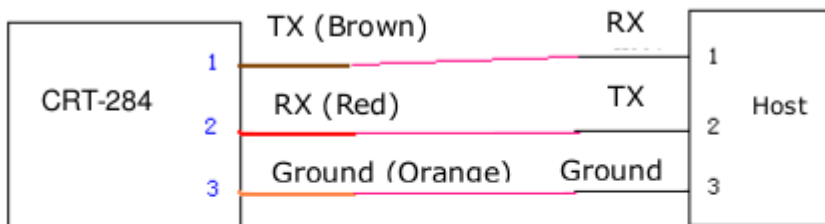
4.2.4 Voltage and current

Operation voltage: DC 5V±5%
 Static current: 50mA
 Peak current: 120mA

4.3 RS232 Power Connection Sketch Map



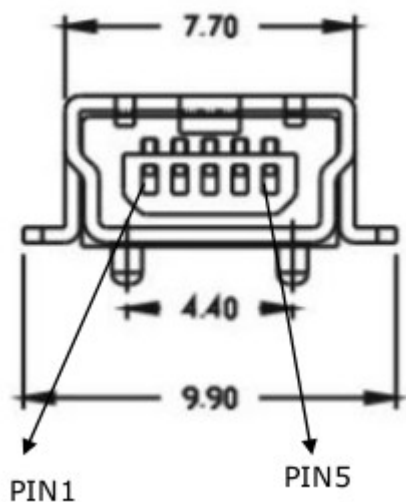
4.4 RS232 Communication Sketch Map



4.5 USB Functions

4.5.1 USB Interface

Mini USB 5PIN B Type male connector:



Mini-USB PIN Definition

PIN	Function	Color	Remarks
1	V Bus	Red	Power+5V
2	Data -	White	Data-
3	Data +	Green	Data+
4	ID		A Type: With GND B Type: Without GND
5	GND	Black	



4.5.2 USB Communication Specification

CRT-284 V.4 USB complies with HID standard. Driver is not required to install for Windows O/S prior Windows 2000. (The connection can be check directly from device manager)

And its feature shows as below:

1. Interface Mode: USB 1.1 full-Speed(12M/S)
2. Driver: HID(Human interface device) ,comply with USB HID standard
3. Communication Speed: Maximum byte per second is 35000 bits. (Interruption interval is 1ms, Description report is 35 bytes)
4. Frame separate and reform: The data should be separated and reformed because the description report is only 35 bytes long.

Notes: The all functions of CRT-284 is demonstrated by USB DEMO. Refer to CRT-284 V.4 communication. pdf

4.6 LED Function

CRT-284 V4.0 has two LED, one is red and the other is blue. The LED is controlled by commands. The turn-on, turn-off and flicker of LED are allowed. The commands definition please refer to CRT-285 V4.0 communication protocol.



5. Cautions

1. The data of magnetic card can be uploaded initially or passively
2. Do not touch magnetic head and its connector.
3. Pulling/ Pushing method of reading can be choose by command
4. Suggest convert card up and down when reading multi-interface card(IC +RFID card)

6. Communication protocol

Refer to CRT284 V4.0 communication protocol .PDF

7. SDK - DLL and DLL Specification

Refer to RT284 V4.0 DLL Specification. PDF

DLL compressed file: CRT284_V40.RAR

Including: CRT284_V40.DLL

CRT284_V40.LIB

CRT284_V40.H

