

# SPECIFICATION

## PCI EPP

<b>Model No.</b>	SE8098A
<b>PN. No</b>	SE8098A-AE1-XXXX- E31-A01

<b>Supplier</b>	Shenzhen Sunson Tech
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<b>Buyer</b>	
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Approved by	sign
Zhang Hongjun	_____
Reviewed by	
Bai Peiji	_____
Repaired by	
Joey	_____
R&D department Shenzhen Sunson Tech Co.,Ltd	

Signature	date
_____	_____
Please return 1 copy for our confirmation with your signature and comments	

Version: v1.0

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## Introduction

This manual is for PCI EPP Model SE8098A, with PN number SE8098A-AE1-XXXX-E31-A01 (XXXX will be client's code) to distinguish it from other buyer.

The SE8098A is PCI 2.X approved EPP, and this manual will be helpful for clients in installation\debug and testing.

Before using our EPP, please kindly read this manual carefully to avoid unexpected damage!

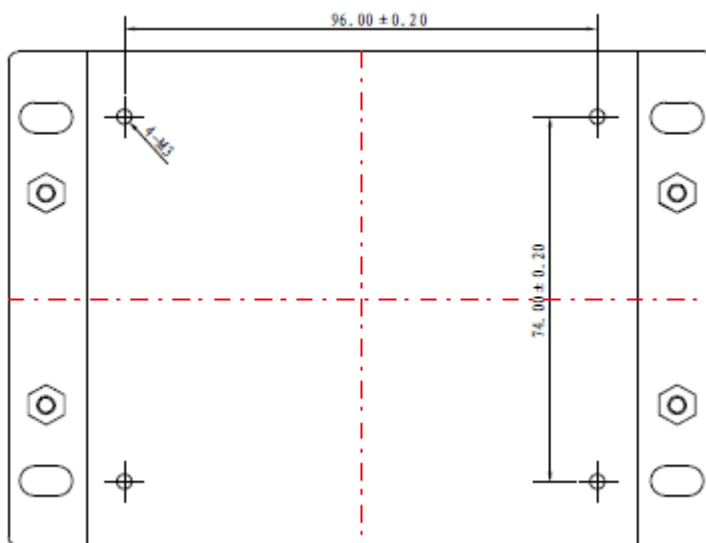
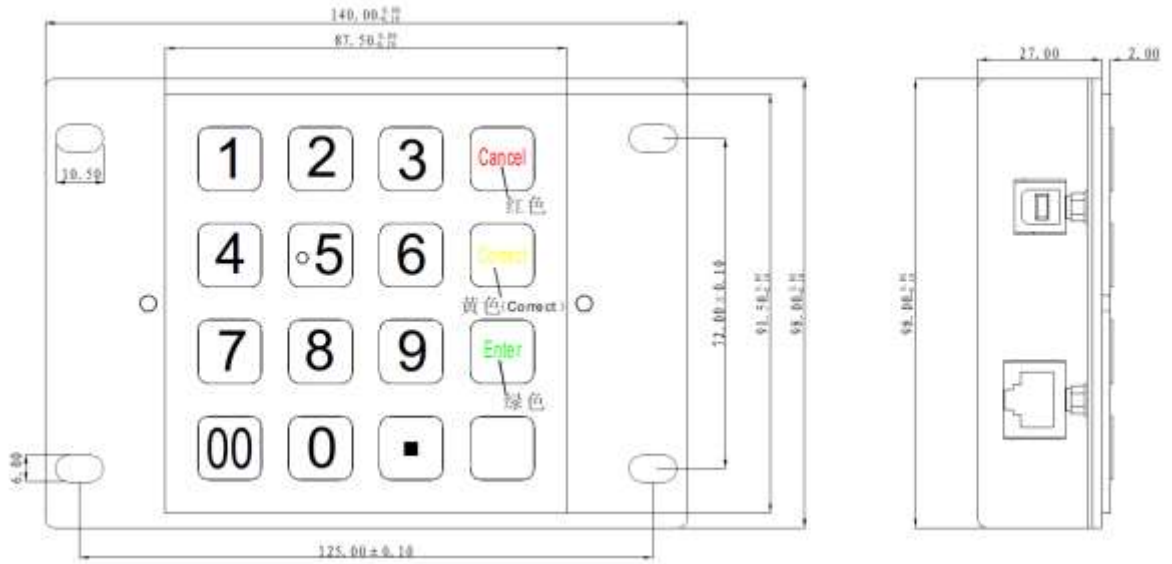
- 1) This device (EPP) can not be disassembled except by qualified technicians.
- 2) Please kindly install and test the EPP following the steps in this manual.
- 3) It needs additional protecting method if this device used in harsh environment with heavy dust or erosion materials.
- 4) If water or oil or any liquid comes into the device, please cut off the power immediately and return it back to factory to test and maintain it. Never power on it again when liquids still existing in the device.
- 5) This device doesn't need any special maintenance; anything wrong with the EPP needs to be dealt with by professional technicians.
- 6) Please kindly notice that this manual is confidential document, it is prohibited to be distributed without the written performance of SUNSON TECH.
- 7) Please kindly notice that this specification is only applied for SE8098A-AE1-XXXX-E31-A01

## 1. Device Structure

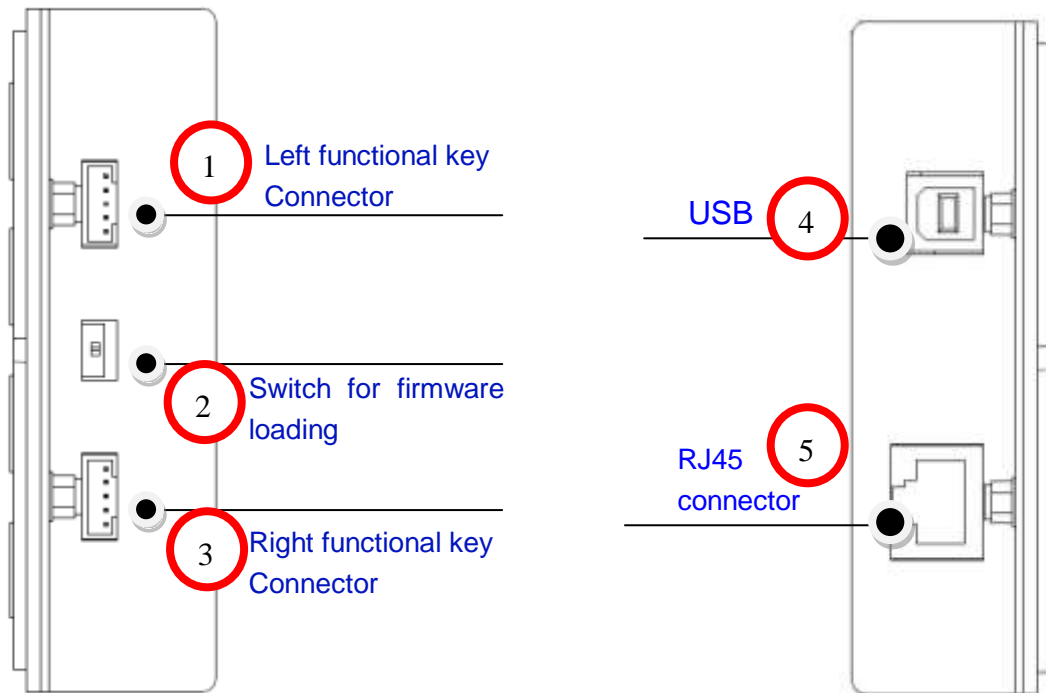
### 1.1 Outer Appearance



## 1.2 Dimension Drawing



### 1.3 Interface Introduction



#### Description:

1. Connect to left functional key, functional key needs to order separately
2. Switch for firmware loading. Usually, this switch is in mid position. And switch to left or right is firmware loading mode.
3. Connect to right functional key, functional key needs to order separately
4. For clients who prefer USB cable. USB cable need to order separately
5. For clients who prefer RS232 output. This is default connection. A cable with 2.5m in length of RJ45-DB9F will be provided together with the EPP.

## 2. General Specification:

### 2.1 Main Function Description

- PCI 2.X approved product;
- Support standard RS-232、USB interface; default: RS232
- Compact layout design, save space for terminal panel.
- the key uses precise casting technology and unique inlay technology, which guarantee the perfect tactile.
- Professional performance of water proof, dust proof, vandalism resistance, anti-drill, anti reveal, anti replacement etc.
- The key, program and any sensitive self-destroy mechanism against illegal dismantle.
- Support DES/TripleDES algorithm, support EPP suit software;
- Support RSA algorithm (max 2048 b i t)
- Fast computing speed, the computing time is less tan 2s for 1024bits with 3DES algorithm ; max 64 keys.

### 2.2 Mechanical performance

- Front panel and key: high qualified stainless steel
- Key lifespan: more than 2000000
- Key pressure: 2~3N
- Key stroke: 0.45mm
- Key legends: etch and strong paint
- Actuation force: 50g
- Input details: 10 digits keys, 6 function keys
- extendable: 2 pcs of 1\*4 functional keypad (optional)
- data protection: Data will be kept for more than 5 years again power-off.
- Panel dimension: 87.5mm\*91.5mm
- Net weight: 0.85kg

### 2.3 Electronic performance

- Interface: **default RS232 interface** (default baud rate: 9600, 8 data bit, 1 stop bit and no check parity)  
**Standard USB2.0 interface** (USB 1.1 is compatible)
- Voltage: 5.0V±10%
- consumption: ≤0.5W(dynamic), ≤0.2W(static)
- reliability: MTBF>20000H  
MTTR<30min

## 2.4 Application fields

- cash-ref terminals: such as ATM、ADM、CDM、CRS etc
- Self-service terminals: such as E-bank terminal, ticket vendors, vendor, auto gas dispenser, etc.
- Unattended Payment Terminals

## 2.5 Environmental Performance

- Working temperature:  $-10^{\circ}\text{C}\sim 50^{\circ}\text{C}$
- Storage temperature:  $-30^{\circ}\text{C}\sim 85^{\circ}\text{C}$
- Relative humidity: 30~90%RH
- Air pressure : 50~100Kpa
- Protect level: IP65(static)/IP54(dynamic)

## 2.6 Algorithm standard

- Support DES/TriDES/RSA
- Encryption Algorithm: ANSI X3.92、ANSI X9.52
- Key management: ANSI X9.24
- PIN operation: ANSI X9.8(ISO9564.0,ISO9564.1,ISO9564.3), IBM3624
- MAC operation: ANSI X9.9、ANSI X9.19
- Security standard: ISO13491
- 16byte TDES Encrypting and decrypting speed: <0.1S

## 3. Device Testing

Please test and debug the device according to the folder of “XZ\_F30\_API\_TEST.exe”

## 4. Device Installation

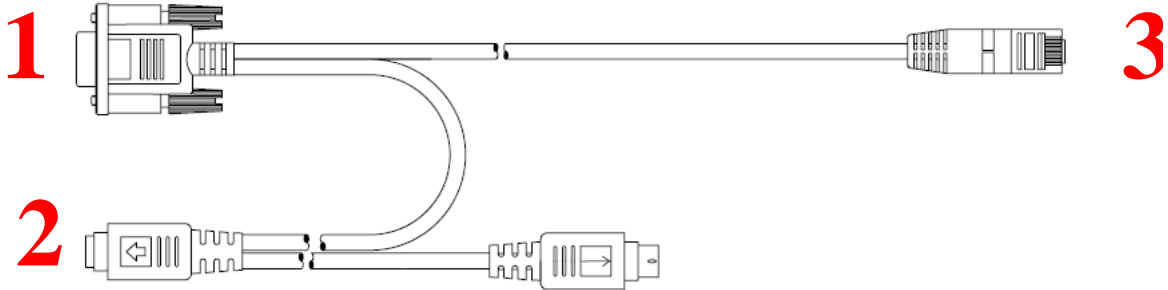
### 4.1 cautions

1. Before installation, it is highly suggested to test the device by testing software provided by manufacturer to confirm the device is in workable status.
2. Before installation, please be sure to shut down the computer or terminal
3. Before installation, please kindly check the interface or port, this EPP provides interfaces of RJ45 and USB, please kindly notice that only one kind of interface is workable for one time. Please take the **annex B** for reference.  
**Incorrect interface or port configuration will destroy the device.**
4. without written permission, please don't dismantle this device, or the firmware will lost and the device will be not workable.



## 4.2 Installation Details

1. the default cable is RJ45-DB9F cable (2.5m) for RS232 signal output, please connect it as follow



Please kindly connect the DB9 (female, marked as 1 in the above pic) to the DB9 port of computer or terminal; Connect connector 2 to PS2 keyboard port of computer or terminal for power supply; then connect connector 3 to RJ45 port of EPP.

2. if you prefer USB, please kindly order USB cable from SUNSON TECH, If USB communication is preferred, please connect the EPP to host as follow::



Please connect connector 1 to USB port of computer or terminal, and connector 2 to EPP.

## ANNEX A: Key Data definitions

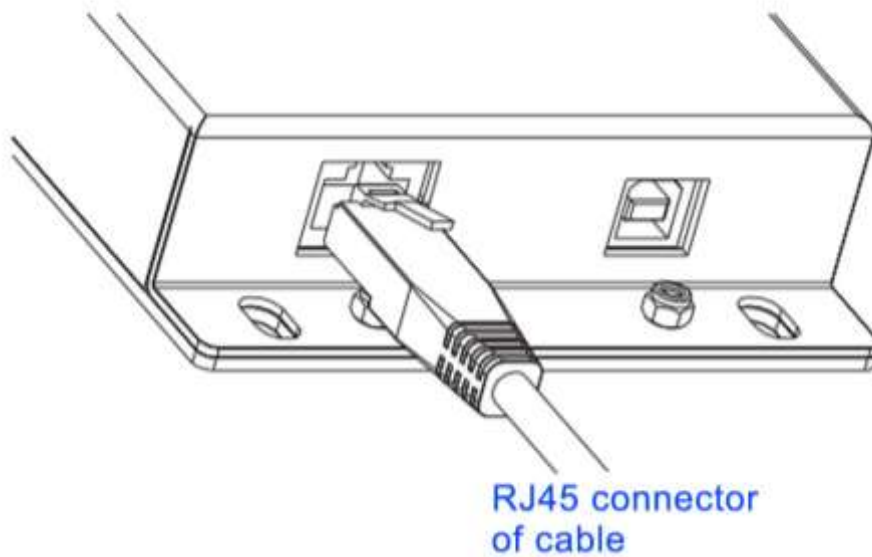
### Key data table for EPP:

Key	Hex data	Key	Hex data
1	0x31	9	0x39
2	0x21	0	0x30
3	0x33	00	0x23
4	0x34	■	0x2A
5	0x35	Cancel	0x1B
6	0x36	Correct	0x08
7	0x37	Enter	0x0D
8	0x38	blank	0x25

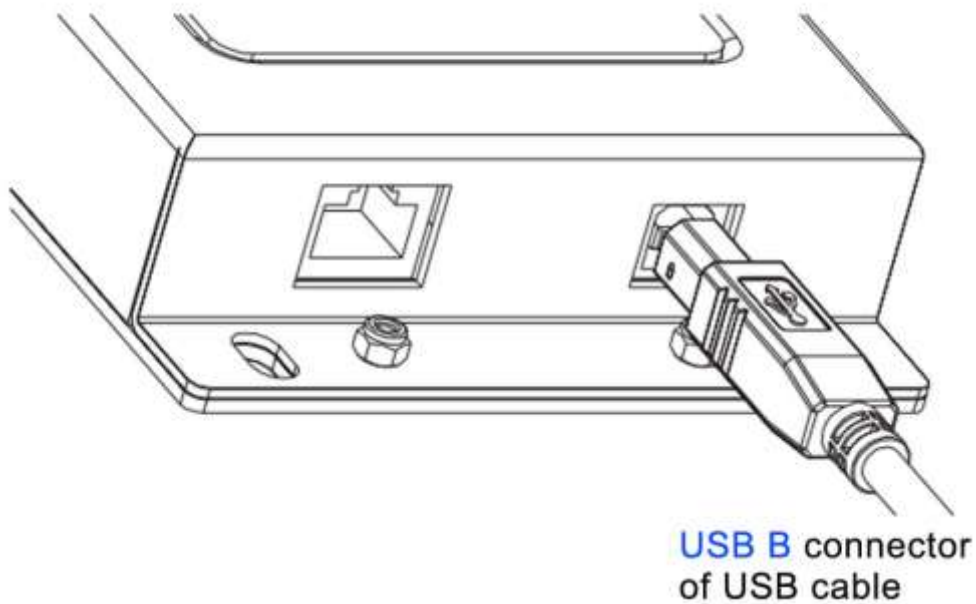
Note: Sunson provides software to buyer for key data definition, and key data definition change will not need to re-issue the approval sheet any more.

## ANNEXT B: Connection of the cable

### RS232 interface: RJ45-DB9F cable connection

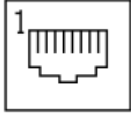


### USB connection



# ANNEX C: PIN ASSIGNMENT

## RJ45 Pin Assignment



PIN	1	2	3	4	5	6	7	8
Assignment	NC	DTR	RXD	NC	TXD	GND	NC	+5V

Note please:

RXD: Data from the PC to EPP.

TXD: Data from the EPP to PC

DTR: Use this port when Download firmware, do not use normally.

## USB Pin Assignment



PIN	1	2	3	4
Assignment	+5V	D-	D+	GND

## ANNEX D: RECORD of RIVISION

Revision version	Date	Description
V1.0	2014-2-25	preliminary