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# **P18Q BUS VALIDATOR USER MANUAL**

Prepared by HCCTG Team

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**Chapter 1-----Provides an overview of bus validator P18Q**

**Chapter 2-----Explains setup and installation of P18Q**

**Chapter 3-----Discusses power requirements and  
dimensions**

**Chapter 4-----Explains maintenance of bus validator**

**Chapter 5-----Provides info on how to order accessories or  
documentation from HCCTG**

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# Content

## **Preface**

This document is the primary source of information for setting up and installing bus validator ( P18Q-M1).

## **Audience**

This document describes P18 features, and provides the basic information for its installation and configuration.

## **Organization**

This document is organized as follows:

Chapter 1, overview. Provides an overview of bus validator P18Q

Chapter 2, setup, explains setup and installation of P18Q

Chapter 3, Specifications. Discusses power requirements and dimensions

Chapter 4, Maintenance and cleaning. Explains maintenance of bus validator

Chapter 5, Service and support, Provides info on how to order accessories or documentation from HCCTG

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# Chapter 1

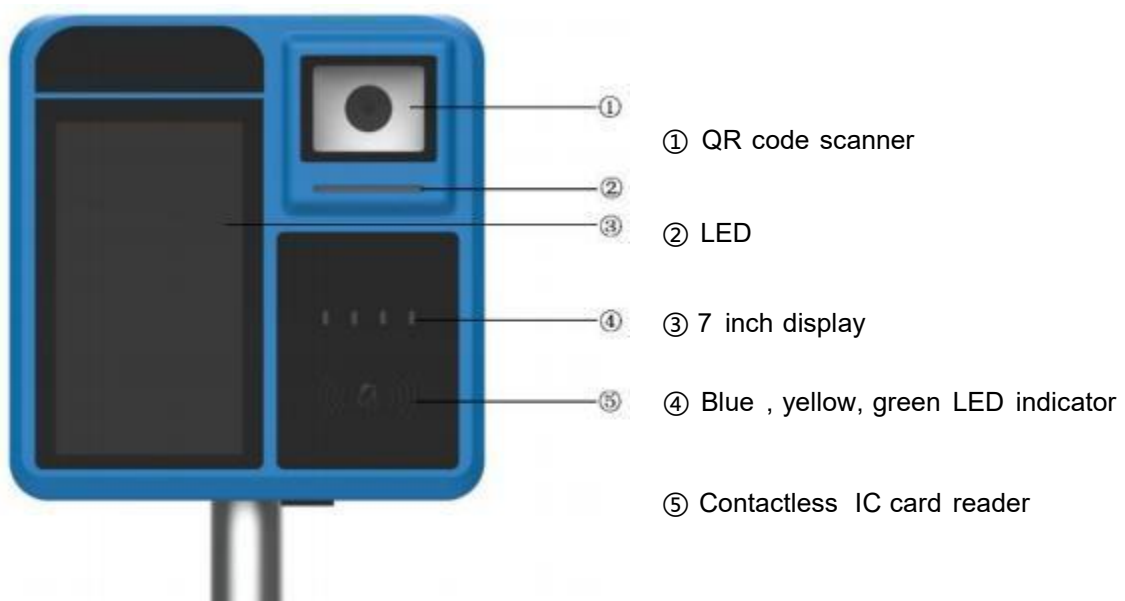
## Overview

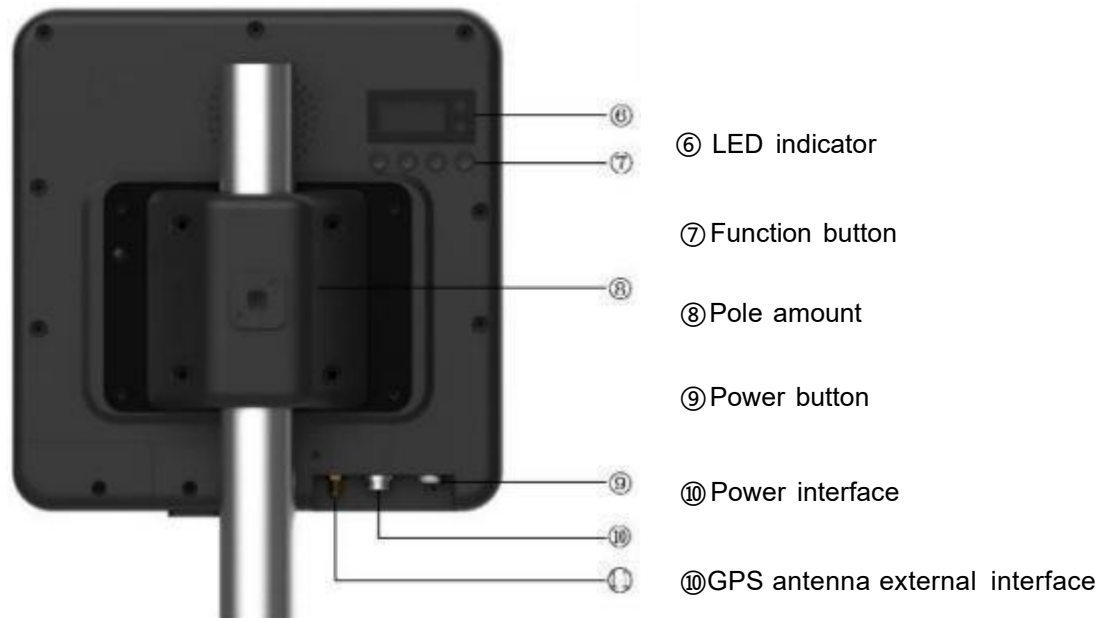
This chapter provides a brief description of HCCTG bus validator P18Q

P18 Q takes the most usable and ergonomic industrial-level contactless payment device and takes it to a new level by adding color larger display, linux system inside, QR code scanner, and integrated contactless capability. It is designed to fit in a variety of payment environments to suit nearly any need. P18Q is easily to use under any light conditions. A tampered design and ergonomically balanced midpoints help P18Q fit comfortably in any conditions, and the rugged design holds up to the most demanding conditions.

## Features at a Glance

P18 Q has a sleek and stylish ergonomic design that offers power and performance in a smart card and QR code scanner device. The P18Q provides the right combinations of features and and functions in a sleek, stylish, device that fits in the palm of your hand. This includes smat card reader and QR code scanner





## Chapter 2

### SET UP

This chapter describes the setup procedure for the P18Q , in the following sections:

- Unpack shipping carton
- Examine P18Q features
- Installation Tools

### Unpack shipping carton

#### I Electrical Considerations

- Avoid using this product during electrical storms
- Avoid locations near electrical appliance or other device that cause

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excessive voltage fluctuations or emit electrical noise (for example, air conditioners, electric motors, neon signs, high-frequency or magnetic-security devices, or computer equipment)

- Do not use P18Q near water or in moist conditions  
Warning: due to risk of shock or damage, do not use P18Q near water, including a bathtub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.

## II Unpack shipping carton procedures

① Open the shipping carton and carefully inspect its contents for possible tampering or shipping damage. P18Q is a secure product and any tampering can cause it to cease to function or to operate in an unsecured manner.

Remove and inspect the contents of the shipping carton , since P18Q ships in multiple configurations , the carton may include any or all of the following:

- P18Q
- Data cable
- Power pack



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② Remove all plastic wrapping from the terminal and components

③ Remove the clear protective film from the display

④ Save the shipping carton and packing material for future repacking or moving of the device

**Warning:** Do not use a unit that has been tampered with or damaged.

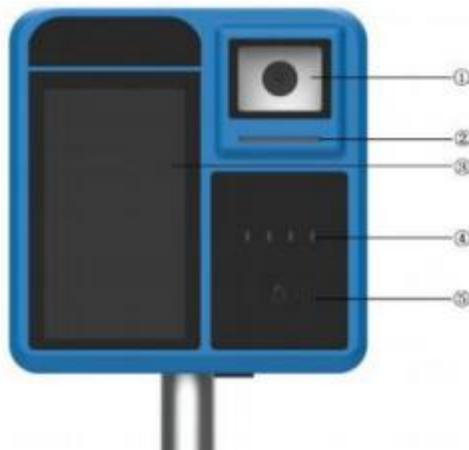
The P18Q comes equipped with tamper-evident labels. If a label or component appears damaged, please notify the shipping company and HCCTG immediately.

## Examine all features



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Before you continue with the installation process, you should familiar with P18Q 's function



- A touch-screen display
- QR code reader for barcode scanning, built into the units front side, An icon indicates the proper QR code scanner area
- Smart card reader, built onto the right side, an icon indicates the proper card reader position



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**Figure 1 Connector Description**

<b>Connector</b>	<b>Description</b>	
3-pin	Debug	1.RX, 2.TX, 3.GND
4-pin	USB	1.D+, 2.GND, 3. D-, 4.VCC
	RS232	1.GND, 2.5V , 3.RXD, 4.TXD
	RS485	1.GND, 2.5V ,3. A, 4.B
	ETH	1.TX+, 2.TX-, 3.RX+,4. RX-

**Circuit Power Properties**

<b>Circuit</b>	<b>Voltage</b>	<b>Current</b>
<b>Power input</b>	12v	2A
<b>USB</b>	5v	0.5A
<b>RS232</b>	5v	0.5A
<b>RS485</b>	5v	0.05A

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## Installation Procedures

### Accessories



### STEP 1:

Attach the silicone sheet of the fixed plate to the hardware fixed plate (see this picture)



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**STEP 2:**

Attach the hardware fixing plate with the silicone sheet and the package that is assembled at the time of shipment The bracket is tightened with 4 PWM4\*12 screws with flat washers (see this picture).



**Figure 1 Well Mounted back case**

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### STEP 3:

Tighten the screws according to the red arrow in this picture (tighten with 4 PCS PM 4 \*10)



**Note:** The standard design steel pipe diameter is: 32~34mm. When the steel pipe diameter is 29~32mm, the anti-loosening silicone sheet needs to be attached to the guarantee bracket assembled.

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## Chapter 3

### Specification

- Support linux operating system
- Storage space 2+16GB
- Support 7-inch display touch screen
- Support voice broadcast function
- Support card type: Support TypeA/B non-contact IC card conforming to ISO/IEC 14443 standard Support contact type CPU card conforming to ISO7816 standard Scalable to support the reading of second-generation resident ID card information
- Support QR code/1D code recognition
- Support 4G wireless network communication
- Support Beidou/GPS positioning function
- Support 9-48V wide voltage input

## Chapter 4

### Maintenance and Cleaning

The P18 Q has no user-serviceable parts.

To clean the unit, use a clean cloth slightly dampened with water and a drop or two of mild soap. For stubborn stains, use alcohol, or an alcohol-based cleaner.

Never use thinner, trichloroethylene, or ketone-based solvents-they can deteriorate plastic or rubber parts.

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Do not spray cleaner or other solutions directly onto the keypad or display.

P18-Q Validator belongs to industrial-grade intelligent terminal products.

Including LCD display, horn, indicator light, digital tube, buzzer and other display and prompt functions;

Including identification and payment functions such as barcode scanner, Contactless NFC card operation, and SAM card operation ;

Including WIFI, 4G, Ethernet, 485, 232 and other communication functions;

Including customized models IO expansion functions.

Most of these functions are composed of electronic devices and fixed structural parts, Therefore it's no need involve transmission mechanical devices, oil and water consumption, etc.,

So the P18-Q Validator is no need to be maintained regularly, but it is necessary to pay attention to the working environment and conditions.

The working environment and conditions of P18-Q validator are as follows:

(1) voltage range: 9V~48V

(2) temperature range: -20°C ~ 70°C

(3) Avoid hitting the equipment, especially the LCD and Barcode Scanner windows.

(4) Avoid flushing equipment with water.

(5) Avoid the influence of the strong magnetism and electricity to the equipment.

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P18-Q Validator is composed of electronic components and structural parts.

Normal electronic devices and structural parts have a life span of three to five years above. We provide 1 year warranty with free repair service and lifetime paid repair service.

Based on the self-repair requirement, we list the common replaceable parts so when the validator error occurred, client can replace the spare parts by themselves for repair.

<b>Items</b>	<b>Replaceable parts</b>
1	Motherboard
2	Coreboard
3	Expansion IO board
4	Barcode scanner part
5	LCD module
6	Speaker
7	Indicator light, antenna board
8	Nixie tube, button board:
9	Shell and other Structural Parts:

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- **Motherboard:**

When the motherboard-related error occurred, please replace the motherboard-related parts. (soldering repair is not recommended).



- **Core board:**

When an abnormal system startup is occurred, the core board needs to be replaced (when confirmed it's the core board problem).



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- **Expansion IO board:**

Needs to be replaced when there is a problem with the expansion IO function.



- **Barcode scanner module:**

When the barcode scan function error occurred, just replace the Barcode scanner module.



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- **LCD module:**

When the display function be failed, just replace the LCD module.



- **Speaker:**

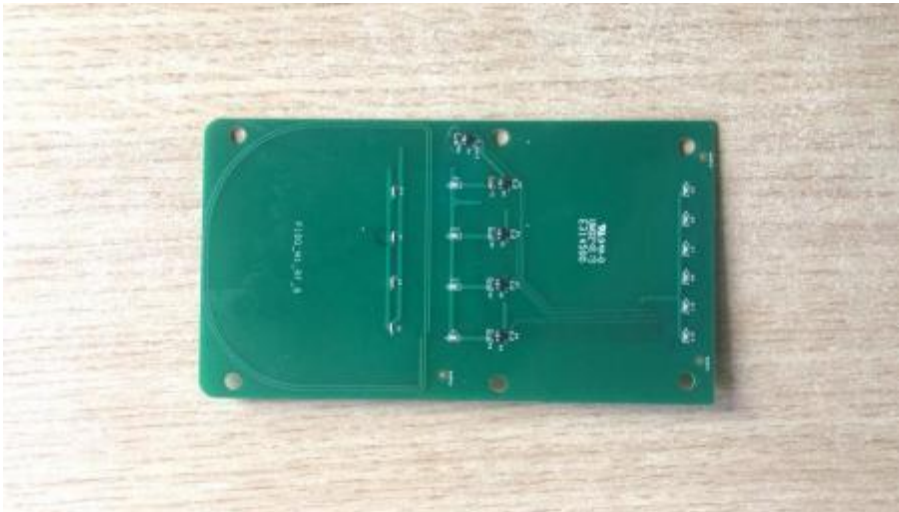
Replace when the sound of the speaker fails.



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- **Indicator light, Antenna board:**

Replace when there is a problem with the indicator light or antenna induction. (These two functions are used at the same time and cannot be replaced separately)



- **Nixie tube, button board:**

Replace when the digital tube display or button fails.

(These two functions are used at the same time and cannot be replaced separately)



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- **Shell and other Structural Parts:**

When the shell and other structural parts are damaged, the spare parts can be replaced.

## **Chapter 5**

### **Service and support**

For P18Q problem, contact your HCCTG representative or service provider.

Gather the following information from the printed label on the bottom of each P18 (product ID)

Describe the problems and provide the shipping address where the repaired or replacement unit must be returned

Keep a record of the following items: serial number, shipping documentation.

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**Attachment:**

**Instructions on How to Change the Replaceable Part**

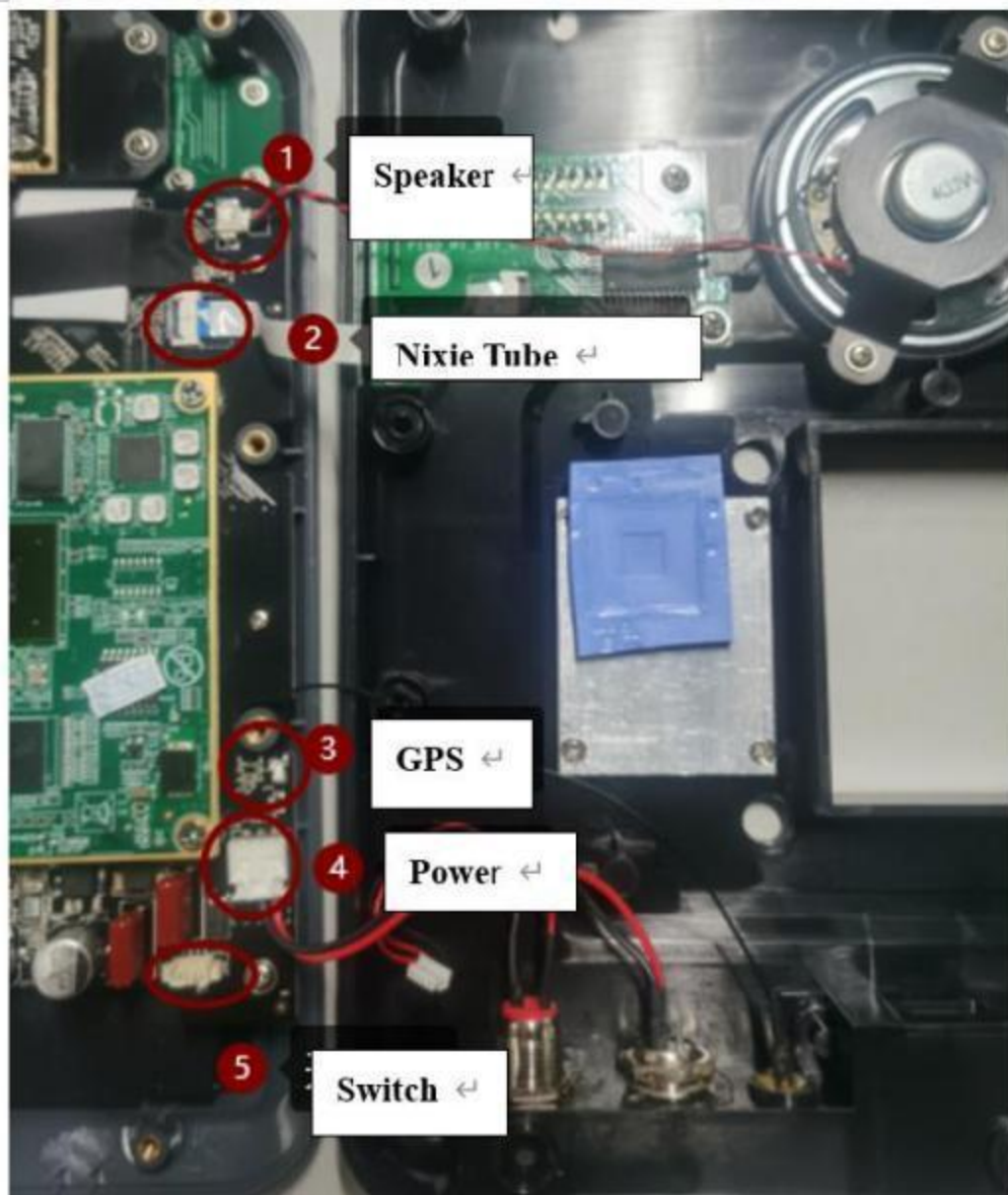
**1. Rear cover**

1.1 Unscrew screws (10 PCS) on the back cover and open the back cover from left to right



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1.2 After opening, remove 5 connecting wires between the back cover and the motherboard



1.3 After the replacement of each part is completed, plug the 5 cables back into the motherboard, close the back cover and screw

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## 2.Speaker

2.1 After finding the speaker on the back cover, remove screws and fixing bracket, replace the speaker and install it back as it is



Digital tube, Keyboard

3.1 Locate the digital tube and the key board on the back cover, unscrew screws (4 PCS), replace the digital tube & key board, replace them as they are



Coreboard

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4.1 Unscrew screws on the core board (4 PCS) and take off the core board. Reinstall it as it is after replacement.



Extension IO board

5.1 Unscrew screws (2 PCS) on the expansion IO board and take off the expansion IO board. Replace as is after replacement.



QR code module

6.1 First remove the cable between the QRcode module and the motherboard, and then unscrewscrews; after replacing the entire module, fix the screws and plug the cable back into the motherboard.



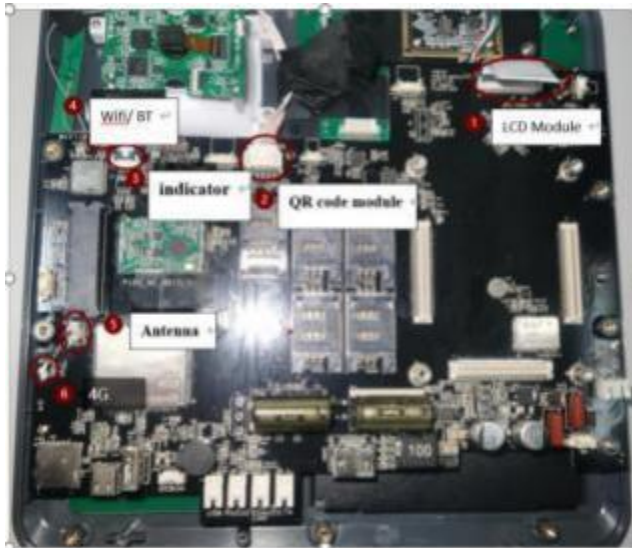
Motherboard

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7.1 Open the back cover, remove the core board and expansion IO board, revealing the motherboard below



7.2 Remove 6 connecting wires between the main board and the LCD module, QR code scanning module, indicator light, WiFi/BT antenna, antenna board, and 4G antenna



Unscrew screws (5 PCS) that fix the motherboard and replace the motherboard; insert the 6 connecting wires back as they are, and fix the screws.

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## 8. Indicator, antenna

8.1 After removing the motherboard, the lower indicator and antenna board are exposed

8.2 Unscrew the 6 screws that fix the indicator light and the antenna board,  
And replace the antenna part

## 9.LCD module

9.1 After removing the motherboard, the LCD module below is exposed

9.2 Remove the connecting wire between the LCD module and the touch panel,  
unscrew 6 screws to replace the LCD module



9.3 After replacement, insert the connecting wire between the touch panel and the LCD module as it is, and fix the screw.