



P18 Bus Validator

Introduction

- The P18 Bus Validator supports all smart cards compliant to ISO14443 Type A & B, Mifare, built-in the embedded powerful 32bit ARM Cortex-M4 processor. Special Anti-collision algorithm effectively prevents the collision conflict when the user has many contactless cards put together, e.g. in his purse. There are 5 SAM sockets for holding Purchase SAMs to ensure the security and integrity of the transactions.
- With the integrated smart card readers, graphical LCD, audio and LED indicators, P18 Bus Validator is perfectly suitable for various types of automatic fare collection systems, e.g. for buses, trams and other transportation means. With GPS and 6-axis Motion Tracking features, the P18 enables you to locate the vehicle and set fare flexibly with reference to distance.
- With the barcode scanner built-in, the P18 can support multiple cashless payment methods. Besides, the P18 can support bank card payment by EMV certificate.

Features

- 32-bit MCU ARM Cortex-M4 168 MHz o 800 KB Program Flash
- External 2 MB RAM
- External 5 MB Data Flash
- 160×80 dot matrix LCD display with backlight
- 4 LED Status Indicators
- 2 function keys
- Built-in buzzer
- Built-in audio speaker
- Contactless Smart Card Reader Compliant with ISO 14443 and Mifare
- 5 x ISO7816 SAM Sockets
- Firmware Upgradeable
- Real-Time Clock (RTC)
- 6-axis Motion Tracking device
- Wireless connectivity
- Mobile communication
- GSM/GPRS 900/1800 MHz
- WCDMA 900/2100MHz
- TD-SCDMA
- FDD-LTE (Band 1/3)
- TDD-LTE (B38/39/40/41)
- One SIM socket with the size of ID-000
- GPS support

Certifications

Shenzhen HCC Technology Co., Ltd.

- CE
- FCC
- RoHS
- Contactless EMV Level 1

Applications

- Transportation
- Bus Validator
- Parking

Physical Specifications	
Dimensions	226mm (L) x 140mm (W) x 92mm (H)
Case Color	Black
Weight	880 g
Processor	32-bit MCU ARM Cortex-M4 168 MHz
Memory	
Program Flash	768 KB
Data Flash	5 MB
RAM	2 MB
Power	
Supply Voltage	8 - 40 V DC
Supply Current	Max. 2A
Over Voltage Protection	Supported
Over Current Protection	Supported
Connectivity	
RS232	3 lines RxD, TxD and GND without flow control
RS485	3 lines A, B and GND
GSM/GPRS/EDGE	900 MHz/1800 MHz
GPS	Supported
Optional	Bluetooth;2D Barcode scanner;Infrared:IrDA Protocol
Contactless Smart Card Interface	
Standard	ISO-14443 A & B part 1-4
Protocol	Mi fare ® Classic Protocols, T=CL
Smart Card	
Smart Card Read /Write Speed	Up to 424 kbps
Operating Distance	Up to 50 mm
Operating Frequency	13.56 MHz
SAM Card Interface	
Number of Slots	5 ID-000 slots
Card Connector Type	Contact
Standard	ISO/IEC 7816 Class B (3V)

Protocol	T=0 or T=1
Smart Card Read /Write Speed	9,600-115,200 bps
Firmware Upgrade Interface	RS232
Built-in Peripherals	
LCD Display	160×80 dot-matrix LCD display with backlight
Speaker	Supported
Buzzer	Supported
LED Status Indicators	4 LEDs for indicating status (from left most: blue, yellow, green, red)
Second Embedded Software Development	
API	C language libraries and demo
IDE	Keil
Other Features	Real Time Clock
	6-axis Motion Tracking device
Operating Conditions	
Temperature	-20C - 65° C
Humidity.	5% to 93%, non-condensing
Certifications/Compliance	ISO-7816, ISO-14443, qPBOC L1, qPBOC L2, CE, FCC, RoHS, Contactless EMV Level 1
Operating Systems	Windows® 98, Windows® ME, Windows® 2000, Windows® XP, Windows® 7, Windows® 8.1, Windows® 10, Linux®

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