FPA-C34, FPA-W34

User's Manual

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Revision History:

No.	Version	Description	Date
1	V1.0	Initial Version	2015.01.17
2	V1.1	Add DIP Switch explain	2015.01.25
3	V1.2	Add some pictures to function	2015.02.01
4	V1.3	Change some pictures to function	2015.02.04
5	V1.4	Statement Vantron is the manufacturer to the device, and SMC is the customer of the device	2016/7/19
6	V1.5	Require professionally install antennas and use antennas specified by the manufacturer	2016/8/3

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1. Foreword

1.1 Copyright Notice

While all information contained herein have been carefully checked to assure its accuracy in technical details and printing, Vantron assumes no responsibility resulting from any error or features of this manual, or from improper uses of this manual or the software. Please contact our technical department for relevant operation solutions if there is any problem that cannot be solved according to this manual.

Vantron reserves all rights of this manual, including the right to change the content, form, product features, and specifications contained herein at any time without prior notice. The latest version of this manual is at www.vantrontech.com.cn. Please contact Vantron for further information:

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1.2 Notes

Applicable notes are listed in the following table:

Sign	Notice Type	Description
	Notice	Important information and regulations
	Caution	Caution for latent damage to system or harm to personnel

1.3 Statement

It is recommended to read and comply with this manual before operating FPA-C34, FPA-W34 which provides important guidance and helps decreasing the danger of injury, electric shock, fire, or any damage to the device.

1.4 Disclaimer

Vantron assumes no legal liability of accidents resulting from failure of conforming to the safety instructions.

1.5 Limitation of Liability/Non-warranty

For direct or indirect damage to this device or other devices of Vantron caused by failure of conforming to this manual or the safety instructions on device label, Vantron assumes neither warranty nor legal liability even if the device is still under warranty.

The FPA-C34, FPA-W34 should be installed, debugged and maintained by professional people.

The outside antennas are not permitted to be installed or to be changed by non-professional people. To run the device normally, only specify antennas are approved to be assembled together by professional people.

Unit shall be used with indoor-use antenna only. No antenna for this unit can be installed outdoor.

1.6 Safety Instructions

- ✧ Keep and comply with all operation instructions, warnings, and information.
- ✧ Pay attention to warnings on this device.
- ✧ Read the following precautions so as to decrease the danger of injury, electric shock, fire, or any damage to the device.

1.7 Precautions

- ✧ Pay attention to the product labels/safety instructions printed on silk screens.
- ✧ Do not try repairing this product unless declared in this manual.
- ✧ Keep away from heat source, such as heater, heat dissipater, or engine casing.
- ✧ Do not insert other items into the slot (if any) of this device.
  - Keep the ventilation slot ventilated for cooling.
  - System fault may arise if other items are inserted into this device.
- ✧ Installation: ensure correct installation according to instructions from the manufacturer with recommended installation tools.
- ✧ Ensure ventilation and smoothness according to relevant ventilation standard.

1.8 Safety Instructions for Power Cables and Accessories

 Proper power source only

Start only with power source that satisfies voltage label and the voltage necessary according to this manual. Please contact technical support personnel of Vantron for any uncertainty about the requirements of necessary power source.

 Use tested power source

This product still contains a button lithium battery as a real-time clock after its external power source is removed and therefore should not be short-circuited during transportation or placed under high temperature.

 Place cables properly:

Do not place cables at any place with extrusion danger.

 Cleaning Instructions

- ✧ Please power off before cleaning the device.
- ✧ Do not use spray detergent.
- ✧ Clean with a damp cloth.
- ✧ Do not try cleaning exposed electronic components unless with a dust collector.
- ✧ Support for special fault: Power off and contact technical support personnel of Vantron in case of the following faults:
  - ➢ The device is damaged.
  - ➢ The temperature is excessively high.
  - ➢ Fault is still not solved after the operation according to the manual.

2. Overview

2.1 Introduction

Thank you for choosing Vantron. It is our commitment to provide our valued customers with the embedded devices equipped with the state-of-the-art technology and the best product services.

Vantron's M2M products are based on the most advanced ARM and Intel Atom processors and have low-power consumption and high integration. The products are designed for applications of M2M in industrials, medicals, financial, retail, vehicle, and transportations etc.

2.2 How to setup and use the device

To use the device, please install the unit stably, and assemble its antenna(s) for WLAN(BlueTooth), CELL and possible GPS, if the device is configured for CELL function, maybe you need to activate the SIM card against proper carrier, and then please insert correct 12-24V DC cable to the power jack of the device, the device will be powered up and the PWR LED lighting indicates the system boots up. The device have a standard RJ45 Ethernet port which supporting 10M/100M Full/Half Duplex.

The device integrates a Web Page Subsystem to provide a web page for user to control the system. The default IP address is "192.168.0.1", the default username and password are "root/admin". You can setup such as WAN, Network, CELL, Wireless via web page. Follow guidelines of application software for further comment to the device usage please.

3. M2M Gateway- FPA-C34, FPA-W34 Hardware Instructions

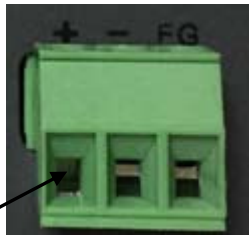
3.1 Product Appearance

Front Side View

Light Side View

3.5 Interface Description

3.5.1 Power Interface

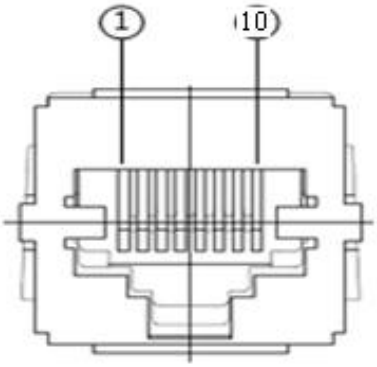


Power connector outlook

Pin	Description
1	Power input range 12-24V
2	Ground
3	Shell ground

3.5.2 Ethernet Interface

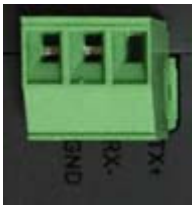
Standard RJ45 interface, supporting 10M/100M Full/Half Duplex, this is a standard RJ45 Ethernet port



Pin	Description	Remarks
1	ETH_TX+	O
2	ETH_TX-	O
3	ETH_RX+	I
4	ETH_RX-	I
5	ETH_CT	
6	ETH_CT	
7	NC	
8	DGND	P
9	LEDG+	IO
10	LEDG-	IO
11	LEDG+	
12	LEDG-	

3.5.3 RS232 or RS485 Connector

Standard vertical 1x3x3.81mm male Terminal Block.



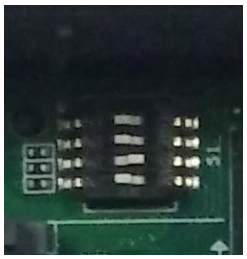
Pin	Description	Remarks
1	TXD1 or RS485_A	IO
2	RXD1 or RS485_B	IO
3	DGND	

3.5.3 DIP Switch for select

Bit	Description	Single
1	ON: have matched resistance of 120 ohm OFF: have no	Term
2	ON: have pull up resister of 510 ohm OFF: have no	Bias-
3	ON: have pull down resister of 510 ohm OFF: have no	Bias+
4	ON: select RS232 OFF: select RS485	Select RS232 or RS485

3.5.3 DIP Switch for boot

Note: 1:off 0:on



Bit 4-1	Description
1111	Boot for SD/MMC
1011	Boot for NAND

3.5.6 LED

PWR LED: light indicate system power OK(main power up);off indicate system power turn off

Err LED: User can define by themself.

SS LED: User can define by themself.

TX LED: when UART1 send data, it can blink

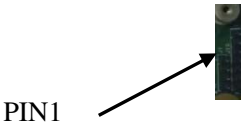
RX LED: when UART1 receive data, it can blink

3.5.7 Micro SIM Card

Push the SIM Card, and Push again, it can put in or put out.

3.5.8 DEBUG

CONN, Pin header,1x4x2.0,TH, User can show the debug message and use keyboard input debug command. It's TTL level, we need a Uart-debug board when we use it.



Pin	Description
1	3.3V
2	TTL_TXD
3	TTL_RXD
4	DGND

3.5.9 Renew button

Renew button: long press this button will restore the factory setting, the long press time can be setting by user

3.5.12 SD/MMC socket

This is standard SD card socket , user can save data on this storage.

4. Tips

Waste Disposal

It is recommended to disassemble the device before abandoning it in conformity with local regulations. Please ensure that the abandoned batteries are disposed according to local regulations on waste disposal. Do not throw batteries into fire (explosive) or put in common waste canister. Products or product packages with the sign of "explosive" should not be disposed like household waste but delivered to specialized electrical & electronic waste recycling/disposal center. Proper disposal of this sort of waste helps avoiding harm and adverse effect upon surroundings and people's health. Please contact local organizations or recycling/disposal center for more recycling/disposal methods of related products.

Comply with the following safety tips:

Do not use in combustible and explosive environment

Keep away from combustible and explosive environment for fear of danger.

Keep away from all energized circuits.

Operators should not remove enclosure from the device. Only the group or person with factory certification is permitted to open the enclosure to adjust and replace the structure and components of the device. Do not change components unless the power cord is removed. In some cases, the device may still have residual voltage even if the power cord is removed. Therefore, it is a must to remove and fully discharge the device before contact so as to avoid injury.

Unauthorized changes to this product or its components are prohibited.

In the aim of avoiding accidents as far as possible, it is not allowed to replace the system or change components unless with permission and certification. Please contact the technical department of Vantron or local branches for help.

Pay attention to caution signs.

Caution signs in this manual remind of possible danger. Please comply with relevant safety tips below each sign. Meanwhile, you should strictly conform to all safety tips for operation environment.

Notice

Considering that reasonable efforts have been made to assure accuracy of this manual, Vantron assumes no responsibility of possible missing contents and information, errors in contents, citations, examples, and source programs.

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FCC Warning

This device complies with FCC class B Rules. Operation is subject to the Following conditions.

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

Any modification to the product is not permitted unless authorized by Vantron. It's not allowed to disassemble the product, it is not allowed to replace the system or change components unless with permission and certification. Please contact the technical support department of Vantron or local branches for help.


IC statement

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause interference, and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Warning**!** This class B digital apparatus complies with Canadian ICES-003.

Industry Canada ICES-003 Compliance Label:

CAN ICES-3 (B)/NMB-3(B)

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts.

L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est

susceptible d'en compromettre le fonctionnement.


RF exposure warning

This equipment must be installed and operated in accordance with provide instructions and the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operation in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

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