

User Manual

VT-M2M-C335L

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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.

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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 VT-M2M-C335L 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 VT-M2M-C335L 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

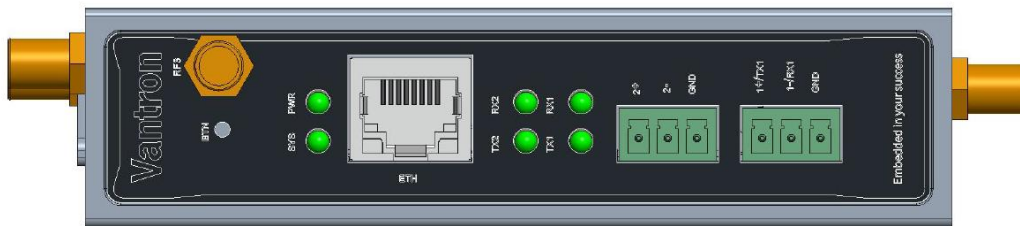
2.1 Introduction

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, financial, retail, vehicle, and transportations etc.

3. VT-M2M-C335L Hardware Instructions

3.1 Product Appearance



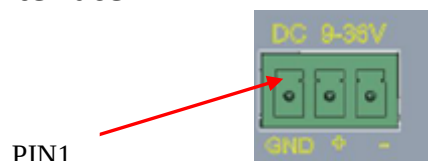
Front Side View



Right Side View

3.2 Interface Description

3.2.1 Power Interface



Power connector outlook

Pin	Description
1	Power input range DC9-36V
2	DC Ground
3	Shell ground

3.2.2 Ethernet Interface

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



3.2.3 RS232 or RS485 Connector

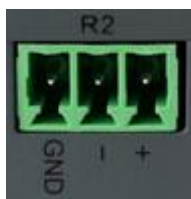
Standard vertical 1x3x3.81mm male Terminal Block.



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

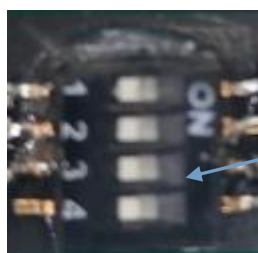
3.2.4 RS485 Connector

Standard vertical 1x3x3.81mm male Terminal Block.



Pin	Description	Remarks
1	RS485_A	IO
2	RS485_B	IO
3	GND	

3.2.5 Boot Configuration



Boot
Configuration

000x: Boot from SD/MMC

111x: Boot from EMMC

3.2.6 LED

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

SS LED: User can define by themselves.

TX LED: when UART2 send data, TX1 can blink; when UART4 send data, TX2 can blink.

RX LED: when UART2 receive data, RX1 can blink; when UART4 receive data, RX2 can blink.



3.2.7 DEBUG

CONN, 3.5mm audio con, User can show the debug message and use key board input debug command. It's RS232 level.

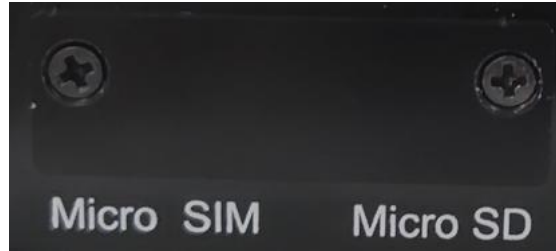
3.2.8 Renew button

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



3.2.9 SD/MMC and Micro SIM socket

The support standard Micro SD card and Micro SIM socket.



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.

Vantron reserves the right to make necessary changes to this manual without prior notice. No part of this manual may be reprinted or publicly released in for



FCC compliance statement

This device complies with part 15 of the FCC Rule. Operation is to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 25cm between the radiator & your body

15.21 Information to user.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.105 Information to the user.

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.
- Increase the separation between the equipment and receiver.
- 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.



ISED Canada compliance statement

This device complies with ISED Canada license-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.

Operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

This equipment complies with ISED Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 25cm between the radiator & your body

Le présent appareil est conforme aux CNR d'ISDE Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

La bande 5150–5250 MHz est réservée uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

L'équipement est conforme aux limites d'exposition aux rayonnements prescrites par l'ISED au Canada pour les environnements non contrôlés. Lors de l'installation et du fonctionnement de l'équipement, la distance entre le radiateur et le corps doit être d'au moins 25 cm.

This radio transmitter [IC: 11152A–VTC335L] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Cet émetteur radio [IC: 11152A - VTC335L] a été approuvé par innovation, sciences et développement économique Canada pour fonctionner avec les types d'antennes énumérés ci - dessous, avec les gains maximums admissibles indiqués ci - dessous. Le gain du type d'antenne non inclus dans cette liste est supérieur au gain maximal de l'un des types énumérés et ne doit pas être utilisé avec cet équipement.

	Antenna type	Input impedance(Ohm)	Frequency range	Antenna gain
Wi-Fi 2.4GHz/BT	Monopole	50	2.4~2.5GHz	1.76dBi
Wi-Fi 5GHz	Monopole	50	5.15-5.25GHz 5.7-5.85GHz	3.12dBi@5.15-5.25 GHz 4.03dBi@5.7-5.85 GHz



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