



# VT-879 User's Manual



2024/7/18 Ver: 1.0

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## **Chapter 1. About this Manual**

## 1.1 Introduction

This is a user manual about VT-879, which mainly includes introduction, application environment of the product, description of appearance, product characteristics, technical parameters, setting of common functions, machine installation, matters needing attention and after-sales common problem diagnosis. This manual is designed to help users solve problems encountered in the process of use, please be sure to read this manual in detail, so as to better use the VT-879.

## 1.2 User and Product Safety

• Never use strong pressure onto the screen or subject it to severe impact, as the LCD panel could become cracked and possibility cause personal injury. If the LCD panel is broken, never touch the liquid inside because the liquid irritates the skin.

 Although the VT has passed the test of IP66 standard for water and dust resistance, avoid prolonged exposure to rain or other concentrated moisture. Such condition exceeds the IP66 standard, and could result in water or other contaminants entering into the VT.

• Use only the original approved AC/DC Adapter with the VT. Use of an unapproved AC/DC Adapter could result in electrical problems, or even cause a fire or electrical shock to the user.

 Do not disassemble the VT. Servicing should be done by supplier only. If the VT or accessories gets damaged due to wrong handling or unauthorized repair, warranty is void. In case the warranty seals are broken, warranty is void too.

Make regularly back-up of all important data.

 Under no circumstance will supplier be liable for any direct, indirect, consequential or incidental damages baring out of the use or inability to use the hardware and software and/or any data loss, even if supplier has been informed about the possibility of such damages.

## 1.3 Recycling & disposal instructions

Do not throw this product in the home waste bin.

## 1.4 Regulatory information

**C** For CE, FCC, RoHS and other Document of Conformities, consult the Contact Window of Decision C Window of Darveen Computer.

## **1.5 Product application scenario**

VT-879 is the latest generation of ruggedized vehicle mounted computer that comes with Intel Alder Lake platform processor and Windows 11 operating system. It is designed for warehouse forklift, Port and Container Yards, Manufacturing Logistics, Heavy Duty Vehicle and Fleet Management.

## **Chapter 2. Description of Product**

## 2.1 Overview

VT-879 is the latest generation of ruggedized vehicle mounted computer that comes with Intel Alder Lake platform processor and Windows 11 operating system. The VT-879 harnesses full Microsoft® Windows® computing power in a mobile environment, optimizing application and network management compatibility, while remaining flexible enough to run multiple advanced applications.VT-879 assembly 12.1-inch industrial resistive/capacitive touch screen, built-in WiFi 7, Bluetooth5.4, 4G LTE / 5G, GNSS, 8~36V wide-range DC input adapt it to the warehousing forklift, logistics, container trucks and so on. Meet the MIL-STD-810H of anti-shock and vibration, IP66 dust and water proof standard make it operaing freely in the most demanding environment.These features as:

- 12.1" TFT-LCD with resistive touch/projective capacitive touch screen
- Front panel intergrated numeric and function keys control
- Rugged aluminum enclosure and fanless design
- IP66 protection against water and dust
- MIL-STD-810H vibration testing standards compliant
- Wide range 8-36VDC power input with ignition control
- Flexible expansion capability for Wi-Fi 7, Bluetooth 5.4, LTE, 5G, GNSS, CAN2.0B



## 2.2 General View of the VT-879

## 2.2.1 I/O Interfaces



## 2.3 Power Supply Connector

Pin

1

2

3

VT-879 internal power supply can accept DC input voltages in the range of 8 to 36V DC.

Signal	Description	
V In+	DC Input+ (8-36V DC)	
Ignition	ACC Delay Ignition Switch	
V In-	DC Input-	Case
Case	Chassis ground	

## 2.4 System Specifications

The VT-879 detailed specifications as follows. Unless otherwise noted, all the specifications are subject to change without prior notification.

VT-879		
Processor	- Intel® Core i5-1235U, Intel 7, 10-core(2P8E), Max Turbo 4.4GHz	
Memory	- 8GB DDR4-2666 SO-DIMM (up to 32GB)	
Storage	- 256GB M.2 SSD (up to 2TB)	
Operating System	<ul> <li>Windows 11 IoT Enterprise LTSC</li> <li>Windows 10 IoT Enterprise LTSC</li> <li>Windows 11 Pro</li> <li>Windows 10 Pro</li> </ul>	
Display	- 12.1 inch (4:3) - 1000 cd/m² Brightness - SVGA 1024 x 768 Resolution	
Touch Panel	<ul> <li>Projected capacitive multi touch</li> <li>5-wire resistive touch (Optional, by request)</li> </ul>	
Input / Output Ports	<ul> <li>- 6x USB 3.0 (Type A)</li> <li>- 1x RS-232 (COM1, DB9)</li> <li>- 2x GbE LAN (RJ45)</li> <li>- 1x HDMI (Type A)</li> <li>- 1x DP++ (Type A)</li> <li>- 1x SIM Socket</li> <li>- 2 ~ 8x TNC connector for external antenna (Wi-Fi, Bluetooth, WWAN,</li> </ul>	
Audio	- 3.5mm Audio Jack (Mic-in/Line-out)	
Speaker	- 8Ω/2W, dual studio speakers	
Wi-Fi	- Wi-Fi 6E: 802.11a/b/g/n/ac/ax, 2.4G/5G/6G (optional) - Wi-Fi 7: 802.11a/b/g/n/ac/ax/be, 2.4G/5G/6G (optional)	
Cellular	- 4G LTE (Optional) - 5G NSA/SA (Optional)	

Bluetooth	- Bluetooth 5.3 (Depend on Wi-Fi 6E, optional) - Bluetooth 5.4 (Depend on Wi-Fi 7, optional)
GNSS	- GPS, GLONASS, Galileo, BeiDou (Optional, Ublox NEO M8N)
Keyboard	<ul> <li>Power On/Off</li> <li>Brightness and volume adjustment</li> <li>0-9 numeric, Enter and Backspace</li> <li>F1-F6 user-defined function keys</li> <li>Power LED indicator</li> </ul>
Power System	<ul> <li>DC Input: 8~36V DC</li> <li>Power Consumption: 25W Typ.</li> <li>Mode:ATX (default), AT</li> </ul>
Dimensions and Weight	- Dimensions (W x D x H):300 x 260 x 58 mm (11.8 x 10.24 x 2.28 inches) - Weight(N.W.) : 3.8 kg (8.4 lbs)
Material	- Die-casting Aluminum with Heavy Duty Metal
Certification	- EMC: CE, FCC

## 2.5 Environment Standard

Operating Temperature	-30~60℃ (-22~140°F)
Storage Temperature	-40~70°C (-40~158°F)
Mounting Mode	VESA 75 and 100
Relative Humidity	95% @ 70°C (158°F), non-condensing
Shock	MIL-STD-810H Method 514.8 Procedure I
Vibration	MIL-STD-810H Method 516.8 Procedure I
Water & Dust proof	IP66 compliant

## **Chapter3. Function Using**

## **3.1 Key Operation** 3.1.1 Turn on the VT-879

Press the power button to turn on the VT-879. If the VT-879 does not power on, check the power supply has been connected normally and you should try again.



Power Button

When the VT-879 is powered on, it's operating system starts up. A splash screen of Darveen logo appears for a short period of time followed by the Windows 10 desktop window.







### 3.1.2 Adjust brightness and volume

When the VT-879 is powered on and login Windows system, you can adjust screen brightness manually by pressing the button on the front of VT-879.





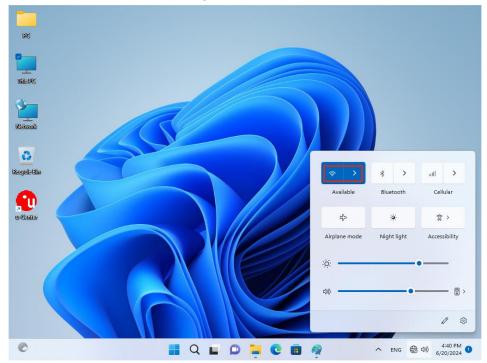




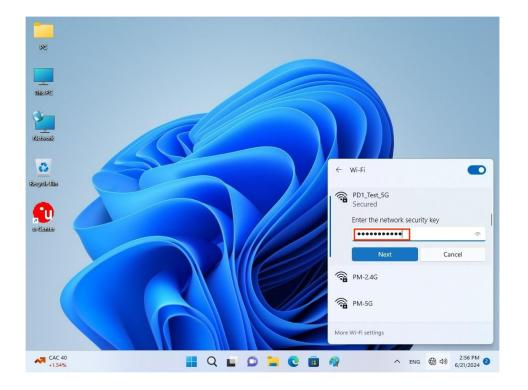
Label nr.	Description
1	LCD panel
2	Keypad for power on/off, brightness and volume control buttons

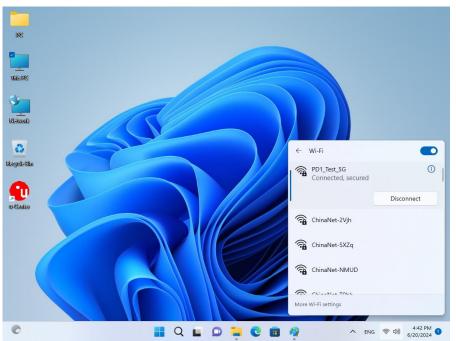
## 3.2 Wi-Fi

1.Click the network signal icon in the lower right corner of the desktop, select the Expand button and view the list of wireless signals.



2.Select the WiFi signal you want to connect to and enter the correct password.



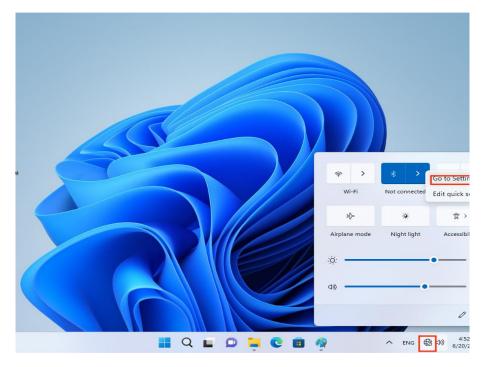


3. The wireless network is properly connected and you can use the wireless network to surf the Internet.

## 3.3 Bluetooth

### 3.3.1 Turn on the Bluetooth

1. Tap the network signal icon in the lower right corner of the screen, Click the right mouse button on the Bluetooth icon to enter the Bluetooth setting interface.

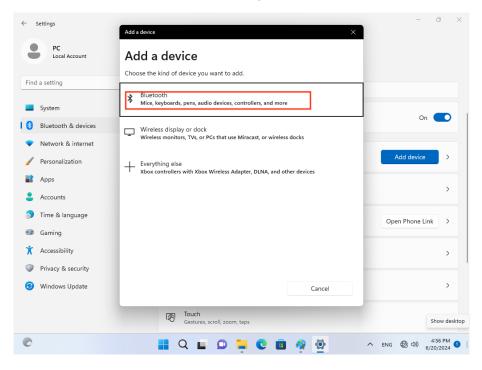


2.In the "Bluetooth & devices", Turn on the "Bluetooth".

C Settings PC Local Account	- Bluetooth & devices	o ×
Find a setting Q	View more devices	
System Bluetooth & devices	Bluetooth Discoverable as "DESKTOP-280M15A"	
<ul> <li>Network &amp; internet</li> <li>Personalization</li> </ul>	Devices Mouse, keyboard, pen, audio, displays and docks, other devices Add device	>
<ul><li>Apps</li><li>Accounts</li></ul>	Printers & scanners Preferences, troubleshoot	>
<ul> <li>Time &amp; language</li> <li>Gaming</li> </ul>	Phone Link Instantly access your Android device's photos, texts, and more Open Phone Link	>
Accessibility     Privacy & security	Cameras Connected cameras, default image settings	>
<ul> <li>Windows Update</li> </ul>	0 Mouse Buttons, mouse pointer speed, scrolling	>
	Couch Gestures, scroll, zoom, taps	>
0		:55 PM 1

#### 3.3.2 Connect to the Bluetooth

1. Click "Add device" and select the type of the Bluetooth device to be added.



2.Click the Bluetooth device to be connected, and you will see a matching PIN pop up. After confirming that VT-879 is the same as the matching PIN on the device to be connected, click **"Connect"** to match successfully, and then you can start to use Bluetooth to send and receive files.

← Settings	Add a device X	- 0 X
PC Local Account	Add a device	
Find a setting	Make sure your device is turned on and discoverable. Select a device below to connect.	
System	Junknown device	
Bluetooth & devices	J Unknown device	On 🚺
<ul> <li>Network &amp; internet</li> <li>Personalization</li> </ul>	EDIFIER BLE	Add device >
Apps	DARVEENPC Connecting  Press Connect if the PIN on DARVEENPC matches this one.	>
Time & language	133220	Open Phone Link >
<ul> <li>Gaming</li> <li>Accessibility</li> </ul>	Connect Cancel	>
<ul><li>Privacy &amp; security</li><li>Windows Update</li></ul>	Duknown device	>
	Touch Gestures, scroll, zoom, taps	>
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3.In the **"Bluetooth & devices"** interface, click **"Send or receive files via Bluetooth"** to open the Bluetooth file transfer interface.

← Settings		- 0 ×
PC Local Account	Bluetooth & devices > Devices	
Find a setting Q	Download over metered connections Device software (drivers, info, and apps) for new devices will download when you're on metered internet connections—data charges may apply	Off
System	Related settings	
🚯 Bluetooth & devices	Related Settings	
Network & internet	↓) Sound	>
🥖 Personalization		
Apps	Display	>
Accounts		
o Time & language	Send or receive files via Bluetooth	C
😳 Gaming	More Bluetooth settings	12
X Accessibility		
Privacy & security	More devices and printer settings	Ø
Ø Windows Update		
	Get help	
	P Give feedback	
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4. Receive the files. Before other devices send files to VT-879, click "**Receive File**" below to wait for the files to be received.

$\leftarrow$	Settings		– 0 ×
	PC Local Account	Bluetooth & devices > Devices ×	
Find	d a setting	<ul> <li>Ø Bluetooth File Transfer</li> <li>Transfer files using Bluetooth</li> </ul>	Off
	System	You can use Bluetooth technology to transfer files wirelessly between this computer and a Bluetooth device, or between this computer and another Bluetooth enabled computer.	
I 🚷	Bluetooth & device	To continue, select if you would like to send or receive files.	
-	Network & interne		>
/	Personalization	→ Send files Make sure the computer or device where you plan to send the files is turned on and ready to receive them.	>
	Apps		
•	Accounts	→ Receive files This will allow your computer to receive files sent from another Bluetooth enabled	ß
5	Time & language	computer or device.	
+:	Gaming		Ø
×	Accessibility		
	Privacy & security		Ø
3	Windows Update	Next Cancel	
		R Get help	
		Give feedback	
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$\leftarrow$ Settings		- 0 ×
PC Local Account	Bluetooth & devices > Devices ×	
Find a setting	Bluetooth File Transfer     Waiting for a connection	
System	You should see a file transfer begin as soon as someone starts transmitting files to your computer from their Bluetooth enabled computer or device.	
🛛 🚯 🛛 Bluetooth & device	You may see a message telling you a Bluetooth device is trying to connect to your computer. You must accept the connection in order for the transfer to occur.	
Network & internet		On 💽
🥖 Personalization		
Apps		Off
e Accounts		
🗊 Time & language		
😳 Gaming		>
🕇 Accessibility		
Privacy & security		>
Ø Windows Update	Next Cancel	
	Send or receive files via Bluetooth	Ø
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5. Send files. Before sending the file of VT-879 to other devices, please click "Send File" .

← Settings	- ō ×
Pc     Bluetooth & devices > Devices     X	
Find a setting       Transfer files using Bluetooth	Off
System You can use Bluetooth technology to transfer files wirelessly between this computer and a Bluetooth device, or between this computer and another Bluetooth enabled computer.	
Bluetooth & device         To continue, select if you would like to send or receive files.           Network & internet         To continue, select if you would like to send or receive files.	>
<ul> <li>✓ Personalization</li> <li>→ Send files</li> <li>Make sure the computer or device where you plan to send the files is turned on and ready to receive them.</li> </ul>	>
Accounts     Accounts     Accounts     This will allow your computer to receive files sent from another Bluetooth enabled     computer or device.	ß
Gaming     Accessibility	Ø
Privacy & security	Ø
Windows Update  Get help  Give feedback	
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6.Select the device you want to send to and click "Next".

$\leftarrow \underline{s}$	Settings		U
•	PC Local Account	Bluetooth & devices > Devices ×	
		🤶 🚯 Bluetooth File Transfer	
Find	a setting	Select where to send your files	Off •
	System	DARVEENPC DESKTOP-2020081	
I 😣	Bluetooth & device	Laptop Desktop PC	
-	Network & interne	DESKTOP-J3SEJ9N Desktop PC DL-720WFB06 Printer	>
1	Personalization	HUAWEI-MATABOOK	,
	Apps		
•	Accounts	181155102666 Printer	Ø
D	Time & language		
•	Gaming	Use authentication to ensure that you are sending the file to the correct device. The authentication also protects the file from being viewed by others while it is sent to the other device.	C
×	Accessibility	Use authentication	
	Privacy & security		ß
3	Windows Update	Next Cancel	
		Get help	
		Give feedback	
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↓ ↓ €	\delta Bluetooth File Transfer				×		•
Im	Select the files to ser	d					
	To choose files, click B	rowse.					
	File names:	Untitled.png		Browse			
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7. Click "Browse" and select the file to be sent, and wait for the file to be sent.

gs					
PC Local Account	Blue	etooth & devi	ces → <b>Devi</b>	ces	×
<i>~</i>	ଃ Bluetooth File Transfer				
tting	File successfully transf	erred			Off
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etooth & device					
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sonalization	Sent to: E Files sent:	DARVEENPC			
25	File Name Untitled.png	Size 711 KB			
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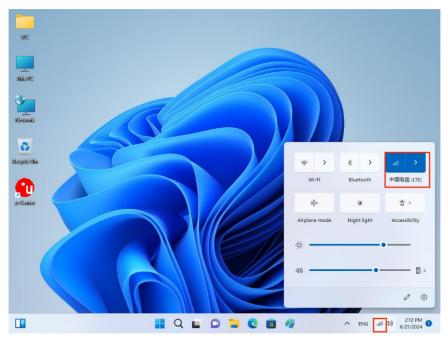
## **3.4 4G/5G** 3.4.1 Installation of SIM Card

1.Insert the SIM card into the VT-879. The SIM card slot is push-pull. The SIM card slot position is as follows.



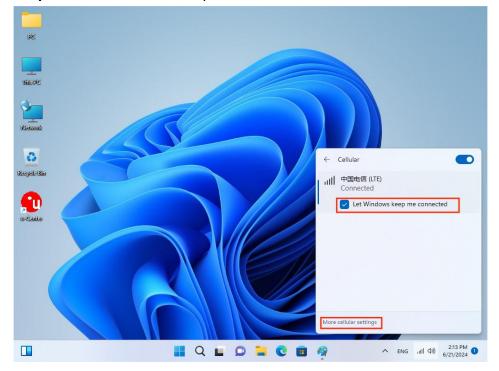
Note: Please ensure that the machine is completely powered off before inserting and removing the SIM card.

2. Click the network icon in the lower right corner of the desktop, and left click the mobile network icon to enable the mobile network connection function.



### 3.4.2 4G/5G setting

1.If the network connection is normal after the SIM card is installed, select "**Allow Windows to keep me connected**" to complete the connection.

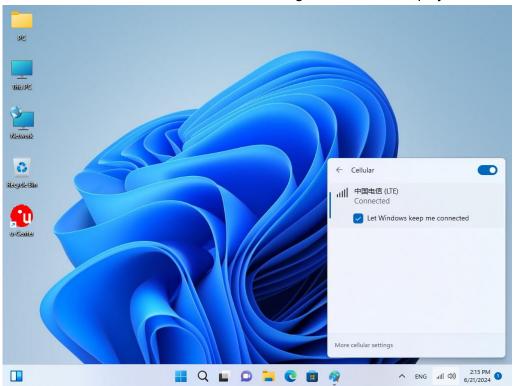


2.If the connection is not successful, click "More operator settings" in the figure below to enter the "Network &Internet".

Settings		- 0 ×
PC Local Account	Network & internet > Cellular	
	When entering a roaming area, your data connection will be turned off	
Find a setting Q	Use cellular instead of Wi-Fi We'll switch to cellular when your Wi-Fi connection is poor (may incur charges)	en Wi-Fi is poor 🛛 🗸
System		
8 Bluetooth & devices	More cellular settings	
Network & internet	Cellular data and apps	>
Personalization     Apps	Mobile operator settings	>
Accounts	Related	
Time & language	Nelated	
i Gaming	Operator messages	ß
X Accessibility		
Privacy & security	Learn more	Z
Ø Windows Update		
	Image: Registration of the second	
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3.Select "Add APN", enter the APN corresponding to the SIM card of each operator in the interface of editing access point, and save the APN of each operator is different. The APN of China Mobile is generally "cmnet", China Unicom is "**3gnet**", and China Telecom is "ctnet". After the APN is set, the power off and restart, You can connect to your mobile network and surf the Internet normally.

← Settings		- 0
PC Local Account	Network & internet > Cellular	<ul> <li>Operator settings</li> </ul>
Find a setting Q	Cellular connection profile	China Telecom V
System	APN settings	Add APN
<ul> <li>Network &amp; internet</li> </ul>	((+)) Internet APN	^
Personalization     Apps	Default APN Activated	
Accounts	Properties	^
<ul> <li>Time &amp; language</li> <li>Gaming</li> <li>Accessibility</li> <li>Privacy &amp; security</li> <li>Windows Update</li> </ul>	Manufacturer:     Quectel       Model:     QUECTEL Mobile Broadband Mod       Firmware:     EC20CEFILGR08A01M1G       Network type:     3GPP       Data class:     GPRS, EDGE, UMTS, HSDPA, HSUP,       IMEI:     869128062125868       IMSI:     460115527708352       SIM ICCID:     89861123347756017048	
→ 33°C	Security	Use SIM PIN 3:50 PM
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Settings     PC Local Account	Edit an APN Profile name China Telecom	-  Operator settings China Telecom
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Settings     PC Local Account Find a setting	Profile name China Telecom	Operator settings     China Telecom
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<ul> <li>Settings</li> <li>PC Local Account</li> <li>Find a setting</li> <li>System</li> <li>Bluetooth &amp; devices</li> <li>Network &amp; internet</li> <li>Personalization</li> </ul>	Profile name China Telecom APN ctnet × User name User name Password	-  Operator settings China Telecom
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<ul> <li>Settings</li> <li>PC Local Account</li> <li>Find a setting</li> <li>System</li> <li>Bluetooth &amp; devices</li> <li>Network &amp; internet</li> <li>Personalization</li> <li>Apps</li> <li>Accounts</li> <li>Time &amp; language</li> </ul>	Profile name China Telecom APN Ctrnet Vser name User name Password Password Type of sign-in info None P type Default V	- 0 • Operator settings China Telecom Add APN A Copy
<ul> <li>Settings</li> <li>PC Local Account</li> <li>Find a setting</li> <li>System</li> <li>Bluetooth &amp; devices</li> <li>Network &amp; internet</li> <li>Personalization</li> <li>Apps</li> <li>Accounts</li> <li>Time &amp; language</li> <li>Gaming</li> <li>Accessibility</li> <li>Privacy &amp; security</li> </ul>	Profile name   China Telecom   APN   ctnet   Vser name   User name   Password   Password   Type of sign-in info   None   IP type   Default	- 0 • Operator settings China Telecom Add APN Add APN



4. If the connection is successful, the following information is displayed.

## 3.5 GPS

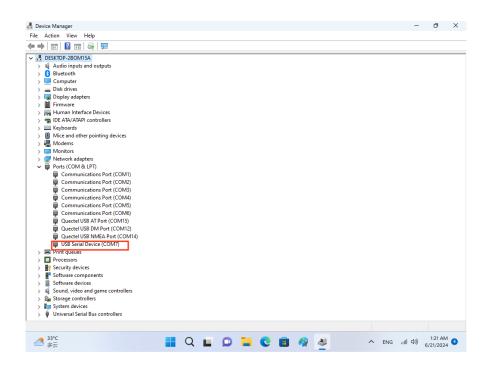
### 3.5.1 Guidelines for the Use of GPS

1.Install GPS antenna on antenna interface (**marked GPS**) of VT-879. You can buy antennas with better signals. Install those on the antenna interface.

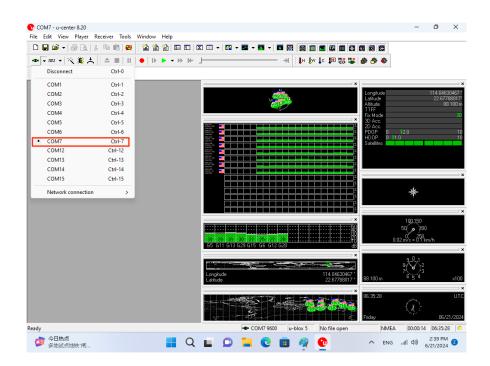


### 3.5.2 GPS Connection

1.You can get GPS information by this serial port.Select the COM, which you can view the virtual COM number of the GPS module in the "**Device Manager**".



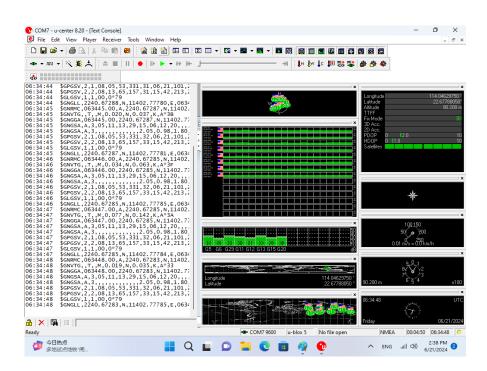
2. The GPS module receives the signal and transmits it to the windows system by COM port. The baud rate is **9600bps**.



	COM7 - u-center 8.20 File Edit View Player Recei	ver Tools Window Help					-	0 X
1200         2400         4200         9500         19200         38400         57600         19200         230400         4800         921600			I 🗆 🖸 🕶 🔀 🕶 🗖	- 🖬 - 🖬 🔞 🔯 1		S 10 12		
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57600 115200 230'400 400'600 921'600 921'600 115200 921'600 115200 11	• 9'600 19'200			<b>*</b>		Latitude Altitude TTFF Fix Mode	1	14 04629267 *
921600	57'600 115'200 230'400					2D Acc. PDOP 0 HDOP 0 11.0	2.0	10 10
Image: Sector			0 P 0 0 0 0 P 0 0 0 0 P 0 0				÷	x
65         611         613         623         625         612         620         0.03 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>*</td> <td></td>							*	
Lattude 22.67787300 887/00 5 5 100 66.5551 UT 66.3551 UT Fidey 06/21/202			<b>91 30 32 30</b> 65 611 613 629	27 26 27 20 G15 G6 G12 G20		0.03	50 0 200	1
66.551 UT 66.351 UT Fiday 06/21/202			Longitude Latitude		22.67787900 *	89.700 m		×100
Ready							$\{\sum_{i=1}^{n-1}\}$	UTC 06/21/2024
	Ready		-	COM7 9600 u-blox 5	No file open	NMEA	00:00:38	06:35:52 0

3.If the device is working correctly, the display will show information about the satellite constellation, signal to noise ratio, time.

layer	Red	ceiver	То	ols	V	Vind	ow	Help	)	
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## **Chapter4. Accessories and Power connection**

## 4.1 Check the package

Open the package and check all the parts are inside without shortage and damage.

## A. VT-879 (Main Unit)

Standard package is including a VT-879 main unit and a power cable.

1	Main unit	VT-879	Windows
2	Power cable	PC-03M-20-ACC	Q

### **B.** Accessories (Optional)

According to the use of different environment, you can choose some different parts, the list is as below:

1		PWR220A12-M12 * AC-DC Adapter * 100~240V AC Input, 12V/5A DC Output	
2	Power Adapter	PWR836D512-M12 * DC-DC Adapter * 8~36V DC Input, 12V/3A and 5V/2A Output	0000
3		PWR1872D512-M12 * DC-DC Adapter * 18~72V DC Input, 12V/3A and 5V/2A Output	23 3
4		RAM-MOUNT-02  * Universal Adjustable  * Marine Grade Aluminum  * VESA Standard (75x75mm and 100x100mm)	<b>A</b>
5	Mounting Kits	DV-MOUNT-1002  * Forklift Roof Mounting Kits  * Universal Adjustable  * Marine Grade Aluminum  * VESA Standard (75x75mm and 100x100mm)	

		DV-MOUNT-2002	
		* Forklift U-shaped Mounting Kits	
6		* Universal Adjustable	
		* Marine Grade Aluminum	
		* VESA Standard (75x75mm and 100x100mm)	
		DV-MOUNT-60	-
		* Lifting Mounting Kits	
7		* Stainless Steel Material	
7		* Lifting Height Adjustable Range 50~100cm	ŕ
		* VESA Standard Holes(75x75mm &	
		100x100mm)	
8		PC-03M-20-ACC	Q
9	Power cable	PC-23MM-20	
10		PC-23MM-20-ACC	
		Rubber Duck Antenna	
11		ANT-R3S	
		SMA(Female), 3dB, Universal	
		Rubber Duck Antenna	1
12		ANT- R3T	
	Antenna	TNC(Female), 3dB, Universal	4
		Rubber Duck Antenna	
13		ANT- R4T	Y
		TNC(Female), 2~4dB, Cisco	

14		<i>Magnetic Mount Antenna</i> ANT-S7S SMA(Female), 7dB, 5meters long	
15		<i>Magnetic Mount Antenna</i> ANT-S7T TNC(Female), 7dB, 5meters long	
16		<i>Fiberglass Antenna</i> ANT-G5N N(Female), 5dB, 0.3meters long	r, fj
17		<i>GPS Antenna</i> ANT-GPSS SMA(Female), 3meters cable, GPS	
18		<i>GPS Antenna</i> ANT-GPST TNC(Female), 3meters cable, GPS	
19		<i>GPS Antenna</i> ANT-GNSSS SMA(Female), 3 meters cable, GPS&GNSS	
20		<i>GPS Antenna</i> ANT-GNSST TNC(Female), 3 meters cable, GPS&GNSS	
21	Industrial Keyboard	DKB-70  * 70 Keys QWERTY Full-function Keyboard  * LED Backlight, Independent Switch Control  * F1-F24 Function Keys, 0-9 Numeric and A-Z Alpha Keys  * IP66 Waterproof  * Support Windows and Android Operating System	

22	Keyboard Mounting Bracket BK-VT1	
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## **4.2 Power Connection**

### 4.2.1 Power Options

Before using the VT-879, choose different power adapters for different vehicle power.

Power Options including:

- 12 VDC Vehicles (8-36VDC Direct Connection) Direct connection to vehicle power.
- 24 VDC Vehicles (8-36VDC Direct Connection) Direct connection to vehicle power.
- 48 VDC Vehicles Requires the use of a DC-DC power supply.
- 80 VDC Vehicles Requires the use of a DC-DC power supply.
- External AC/DC Power Supply For use when DC power supply is not available to power the VT-879, such as in an office environment.

### 4.2.2 Power Cable Identification

#### PC-03M-20-ACC

Power cable with straight connector and 4 wires, 2 meters long:



M12 Connector	Wire Color	Connection		
P1	Red	DC+ (8-36 VDC)		
P2	Yellow Green	Ignition Input (Optional)		
P3	Black	DC-		
Case	Black	Ground		

*Note:* PC-03M-20-ACC cable is use for direct connection from vehicle power to VT-879 or DC-DC power input.

#### PC-23MM-20

Power cable with straight connector, 2 meters long:



<u>P2</u>

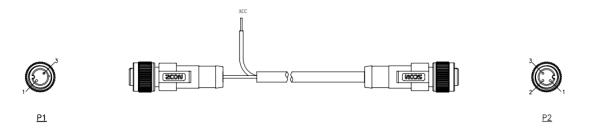
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-	-

M12 Connector(P1)	M12 Connector(P2)	Connection
P1	P1	DC+ (8-36 VDC)
(NC)	P2	Ignition Input (Optional)
P3	P3	DC-
Case	Case	Ground

*Note:* PC-23MM-20 cable is use for connection from VT-879 to DC-DC power output, just without power ignition function.

### PC-23MM-20-ACC

Power cable with straight connector and 1 wire, 2 meters long:



M12 Connector(P1)	M12 Connector(P2)	Connection		
P1	P1	DC+ (8-36V DC)		
(Yellow)	P2	Ignition Input (Optional)		
P3	P3	DC-		
Case	Case	Ground		

*Note:* PC-23MM-20 cable is use for connection from VT-879 to DC-DC power output, also with power ignition function.

#### 4.2.3 External Power Adapter Options

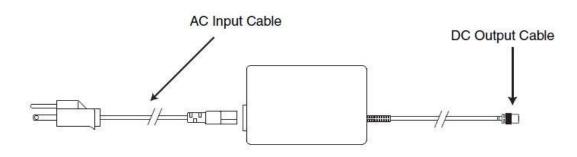
#### 1. External AC-DC Power Supply

#### PWR220A12-M12

The optional external AC/DC power supply is for use in environments, such as an office, where DC power is not available.

PWR220A12-M12 is support 100V-240V ac input, provide 12V DC and 5A power output, the power connector is an M12 male type which can meet IP66 dust and water proof.

Note: The Darveen-approved AC/DC Power Supply and Adapter Cable are only intended for use in a 25°C (77°F) maximum ambient temperature environment.



#### **Connect External AC/DC Power Supply**

1. Connect the provided detachable cord set (all others must order cable separately) to the external power supply.

2. Plug cord set into appropriate, grounded, electrical supply receptacle (AC mains).

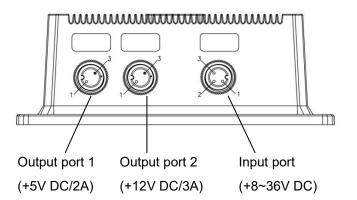
3. Connect the watertight connector end of the Adapter Cable to the VT-879 Power Connector by aligning the connector pins to the power connector; push down on the watertight connector and twist it to fasten securely.

4. Press the Power Button on the front of the VT-879 to turn on the VT-879.

### 2. External DC-DC Power Supply

#### PWR836D512-M12

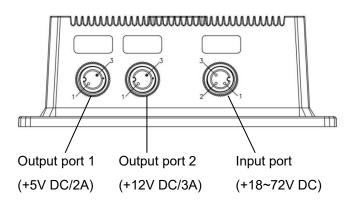
PWR836D512-M12 is an optional external DC/DC power supply, that is for use in vehicles provided 12V DC or 24V DC power. The power input and output connectors are M12 male type which can meet IP66 dust and water proof.



Input Port Outp		Output F	utput Port 1		Output Port 2	
Pin	Signal	Pin	Signal	Pin	Signal	
1	DC In+ (8-36 VDC)	1	DC Out+ (+5V/2A)	1	DC Out+ (+12V/3A)	
2	NC	3	DC Out-	3	DC Out-	
3	DC In-					

#### PWR1872D512-M12

PWR1872D512-M12 is an optional external DC/DC power supply, that is electronic isolation for use in the vehicles provided 48V DC power. The power input and output connectors are M12 male type which can meet IP66 dust and water proof.



Input Port		Output Port 1		Output Port 2	
Pin	Signal	Pin	Signal	Pin	Signal
1	DC In+ (18-72 VDC)	1	DC Out+ (+5V/2A)	1	DC Out+ (+12V/3A)
2	NC	3	DC Out-	3	DC Out-
3	DC In-				

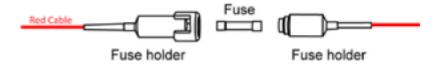
#### 4.2.4 12-24 VDC Vehicles (8-36VDC Direct Connection)



#### **Fuse Requirements:**

**WARNING** - For proper and safe installation, the input power cable must be connected to a fused circuit on the vehicle. If the supply connection is made directly to the battery, the fuse should be installed in the positive lead within 5 inches of the battery's positive (+) terminal. The fused circuit requires a maximum time delay (slow blow) fuse with a current rating as noted below.

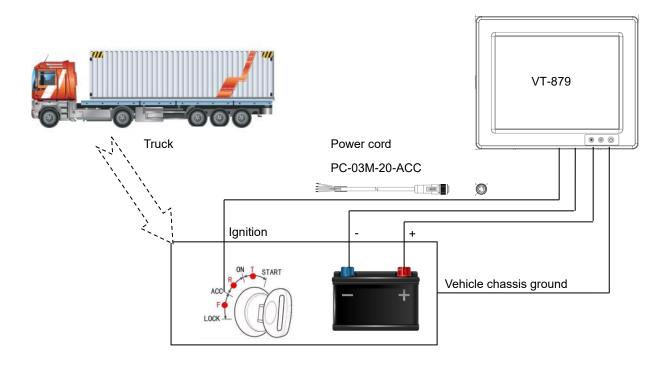
- For **12V DC** input, use a 10A slow blow fuse that has a DC voltage rating greater than 12VDC.
- For **24V DC** input, use a 6A slow blow fuse that has a DC voltage rating greater than 24VDC.



## 1. Connected vehicle directly.

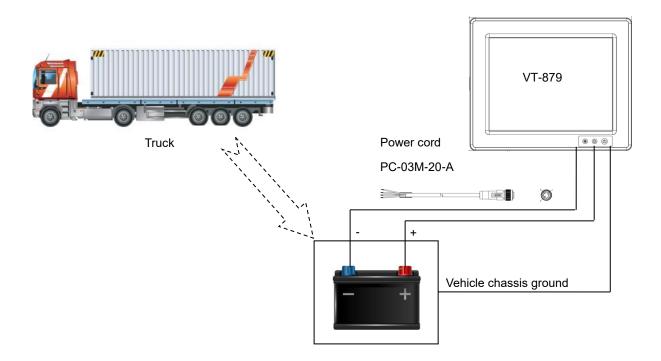
(1) Use the ignition ON/OFF function.

Connect the watertight connector end of the power cable to the VT-879 power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.



(2) Without the ignition ON/OFF function.

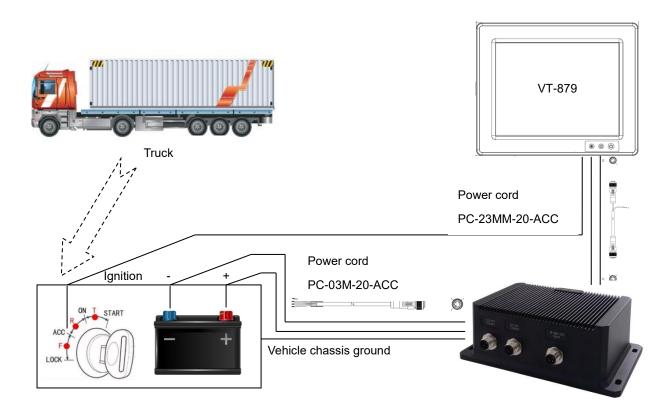
- a. Cut off the yellow wire (Ignition wire) on the power cord (PN: PC-03M-20-ACC);
- b. Connect the watertight connector end of the power cable to the VT-879 power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.



#### 2. Connected vehicle via DC-DC power adapter.

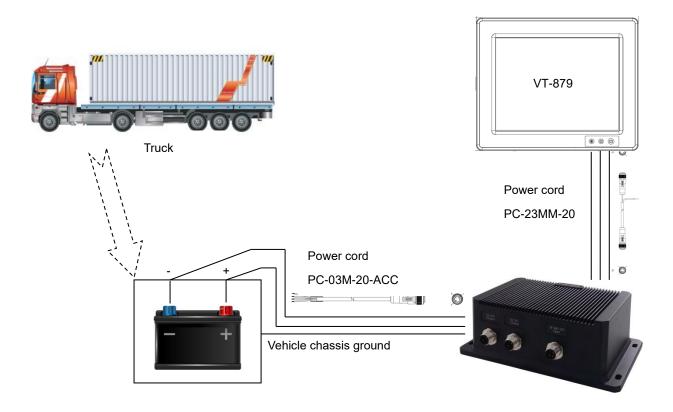
(1) Use the ignition ON/OFF function.

- a. Connect the watertight connector end of the power cable (PC-03M-20-ACC) to the PWR836D512-M12 power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.
- b. Connect the watertight connector end of the power cable (PC-23MM-20-ACC) to VT-879 and PWR836D512-M12, then connect the yellow wire (ignition wire) to the vehicle ignition signal pin.



(2) Without the ignition ON/OFF function.

- a. Cut off the yellow wire (Ignition wire) on the power cord (PN: PC-03M-20-ACC);
- b. Connect the watertight connector end of the power cable (PC-03M-20-ACC) to the PWR836D512-M12 power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.
- c. Connect the watertight connector end of the power cable (PC-23MM-20) to VT-879 and PWR836D512-M12.



### 4.2.5 48V DC Vehicles (Connected via DC/DC power)



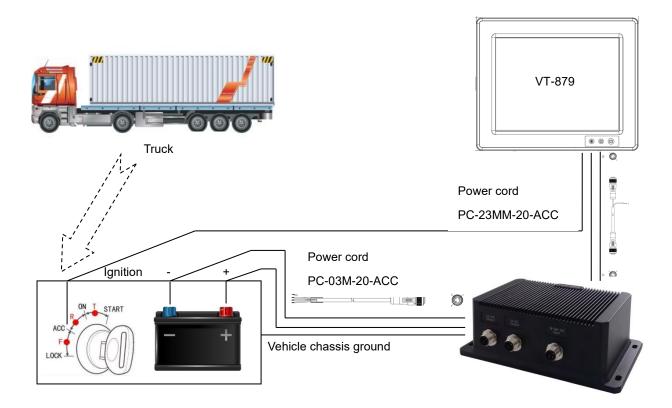
#### **Fuse Requirements:**

**WARNING** - For proper and safe installation, the input power cable must be connected to a fused circuit on the vehicle. If the supply connection is made directly to the battery, the fuse should be installed in the positive lead within 5 inches of the battery's positive (+) terminal. The fused circuit requires a maximum time delay (slow blow) fuse with a current rating as noted below.

• For **48VDC** input, use a 3A slow blow fuse that has a DC voltage rating greater than 48VDC.

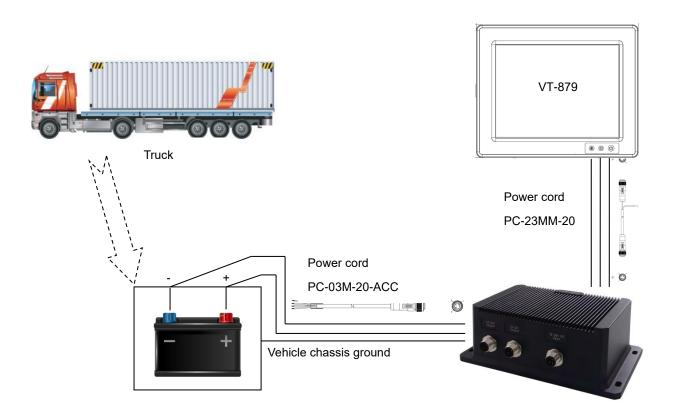


- (1) Use the ignition ON/OFF function.
  - c. Connect the watertight connector end of the power cable (PC-03M-20-ACC) to the PWR1872D512-M12 power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.
  - d. Connect the watertight connector end of the power cable (PC-23MM-20-ACC) to VT-879 and PWR1872D512-M12, then connect the yellow wire (ignition wire) to the vehicle ignition signal pin.



(2) Without the ignition ON/OFF function.

- d. Cut off the yellow wire (Ignition wire) on the power cord (PN: PC-03M-20-ACC);
- e. Connect the watertight connector end of the power cable (PC-03M-20-ACC) to the PWR1872D512-M12 power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.
- f. Connect the watertight connector end of the power cable (PC-23MM-20) to VT-879 and PWR1872D512-M12.



## **Chapter5. Installation and FAQ**

## 5.1 Installation

VT-879 is mainly used in the warehousing forklift, logistics, container trucks and so on. In order to adapt to its operating environment, there are a variety of mounting methods, including boom mounting, VESA mounting, wall mounting, etc.



## 5.2 FAQ

### Q1:Does the on-board terminal support ACC ignition signal delay switch?

A:VT-879 car terminal optional ACC ignition signal intelligent switch machine functions. Under the function of the ACC mode, when the on-board computer off, if the detected signal when the ACC will automatic startup latency for 10 seconds, and car terminal in the boot state, if detected the ACC will delay 10/30/120 seconds after the automatic shutdown, without artificial operation in the process of the on-board computer; When ACC is selected, the power interface of the on-board terminal will be changed to 3Pin, positive pole, negative pole, ACC detection pole. Generally, positive and negative pole are connected to vehicle batteries, and ACC detection pole is connected to ignition signal.

## Q2:Why is it necessary to add a DC-DC power adapter for the installation of forklifts, trailers, front cranes and stacker?

A:The car always has a peak value at startup. In order to avoid burning out the equipment power board, the power adapter of DC-DC is needed to stabilize the voltage. The current equipment installed power board supports the voltage of 8-36V Description:

For these battery models, there are three voltage output specifications, as follows:

- 1, trailer battery output voltage: 12V
- 2. Battery output voltage of front lifting and stacking machine: 24V

### 3. Forklift battery output voltage: 48V

#### Q3:What advantages does TNC have over SMA antenna interface?

A: TNC interface and feeder connection stability is better, not easy to loose and damage, TNC joint damage rate is low.



TNC interface

SMA interface

**Q4:How to ensure the normal use of the VT-879 under the impact of high strength vibration?** A:1.VT-879 shell is made of strong aluminum alloy.

2.The VT-879's built-in electronic modules offer excellent shock resistance, such as a gauge LCD screen and a shock-resistant solid-state drive (SSD), enabling the VT-879 to withstand harsh vibration.

## 5.3 Warranty and after service

Should this VT be malfunctioned, please contact your original retailer providing information about the product name, the serial number, and the details about the problem.



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