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Raynen Makes Industry More Intelligent

RAYNEN

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The sample version is constantly updated with product upgrades, please pay attention to the version number
For products and solutions marked with *, please contact us for detailed information

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Expert in industrial automation products and solutions



HMI Series Control System Catalogue

Version:V25.10

| About Raynen

2007

Raynen Technology was founded

Main Board Listing

Listed on the main board of Shanghai Stock Exchange in 2017

Stock Code: 603933

It is a high-tech enterprise specializing in the research and development, manufacturer, sales and service of industrial automation products.

Innovation Strength

The company is headquartered in Fuzhou, with nearly 20 subsidiaries and R&D centers in Shanghai, Wuhan, Fuzhou and Changzhou. It is a "Key High-tech Enterprise of the National Torch Program", "Fujian Provincial Enterprise Technology Center", "China Textile Machinery Industry Computerized Flat Knitting Machine Intelligent Control System Product R&D Center", "Fujian Textile Equipment Intelligent Control Enterprise Engineering Technology Research Center", etc. The company insists on driving the development of technology and products with scientific and technological innovation, and through years of accumulation, has formed a number of core technologies and patent technologies with domestic leading level.

Business Area

As a domestic technology-leading supplier of industrial automatic control products, Raynen Technology focuses on the research of control and drive technology. After years of product and technology cultivation, it has completed the comprehensive expansion from industry-specific electronic control systems to general automation products. The company's general automation products include core products such as AC servo systems, frequency converters, programmable controllers, human-machine interfaces, and Internet of Things gateways. They are widely used in electronics, textile machinery, machine tools, printing and packaging machinery, logistics equipment, intelligent manipulators, woodworking machinery, laser processing equipment, metallurgy, petroleum, and chemical industries. It provides equipment manufacturing companies with competitive products and personalized solutions with leading technologies.



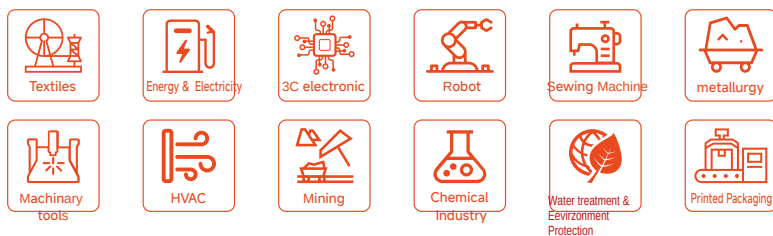


Mission and Vision

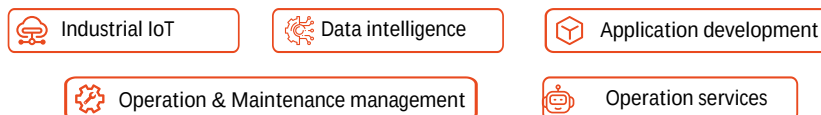
Raynen takes "making industry more intelligent" as its mission, upholds the core value of "honest collaboration, continuous innovation, customer achievement, result oriented". It aims to become a world-class industrial automation supplier through technology innovation and scenario-based solutions, offering tailored industry solutions to fulfill mutual benefits of Raynen and its partners.

Industrial Automation Product Portfolio

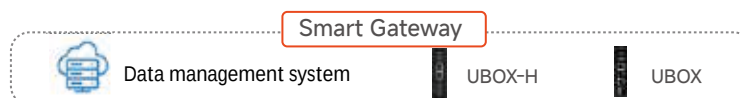
Industry Applications



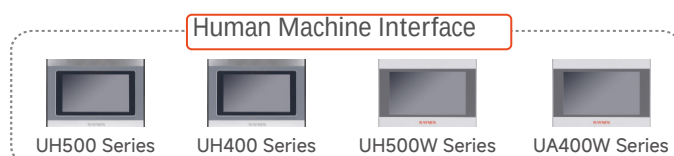
Raynen Industries Internet Platform



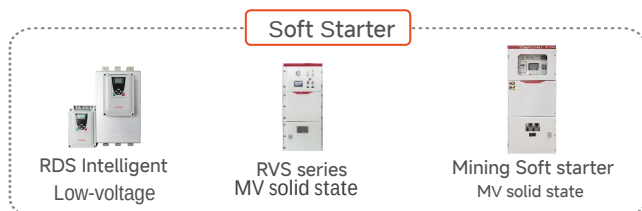
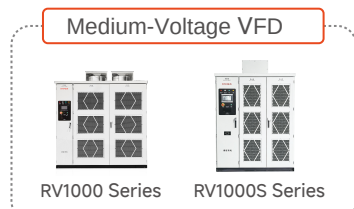
Edge Layer



Control Layer



Drive Layer Motion & VFD



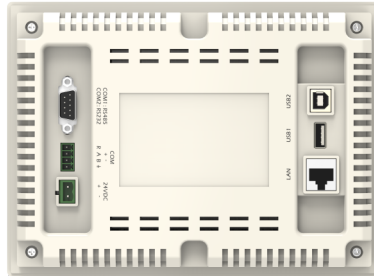
Human Machine Interface

Standard HMI, IoT HMI, HMI+PLC all-in one



UH400 Series - Standard HMI

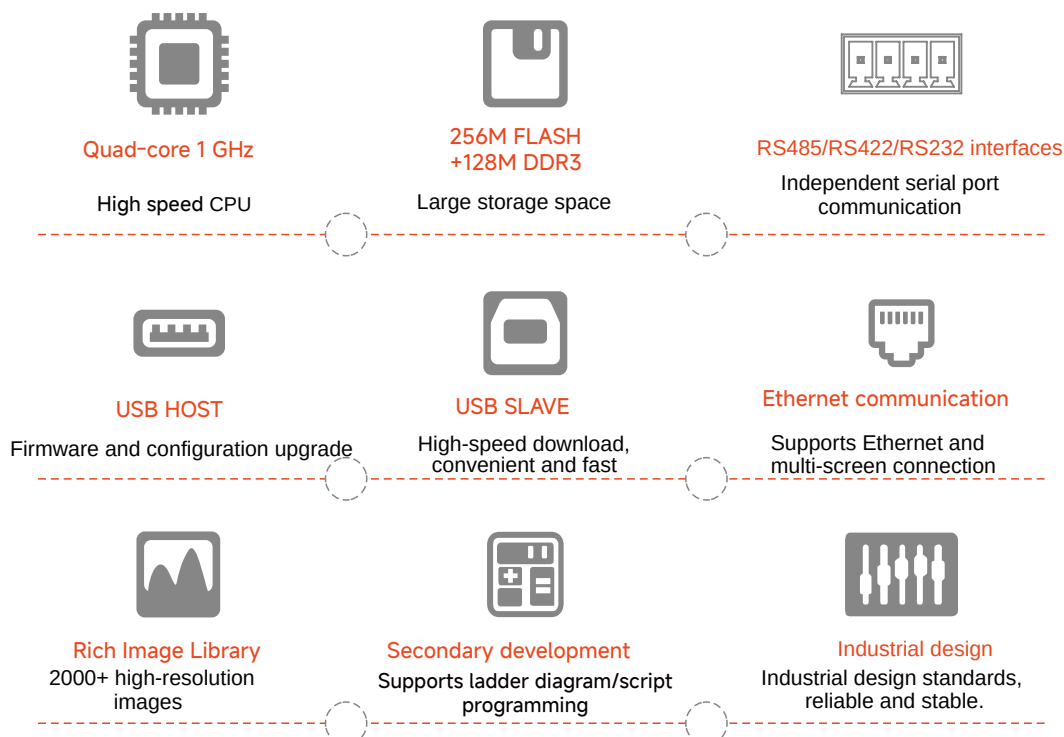
Overview



- ▲ The UH400 series human-machine interface (HMI) is a brand-new product launched by Raynen. This series utilizes a stable hardware platform solution, with comprehensive upgrades in overall performance, supporting faster operation speeds and enhanced processing capabilities.

Product Advantages

- ▲ 4.3" / 7" / 10" resistive touch screen, suitable for industrial environment.
- ▲ Quad-core 1 GHz CPU, 256MB FLASH + 128MB DDR3 storage.
- ▲ RS485/RS232/RS422 serial interfaces, allowing simultaneous connection of more devices.
- ▲ Supports ladder diagram and script programming, easy for secondary development.
- ▲ Powerful networking capabilities. Ethernet/serial ports support multi-device display and multi-screen display.
- ▲ Industrial-grade hardware design standards, stable and reliable.
- ▲ CE, RoHS



UH400 Series Hardware Introduction



DB9 serial communication

- Communicate with PLC;
- Support RS485/RS232/RS422



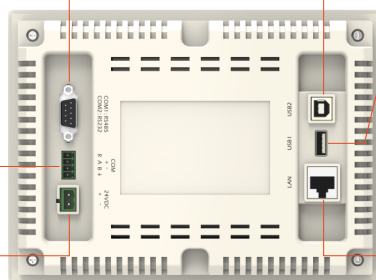
RS485 COM terminal

- Independent RS485 communication terminals equipped with terminal resistor



Power interface

- DC 24V power supply



UH407/410 series



USB Slave

- Connect to PC
- Upload/Download Configuration Program



USB Host

- Connect USB drive
- Update configuration program and firmware
- Export historical data



Ethernet port

- Connect to a router or switch for Ethernet service
- Connect to a PC to upload and download



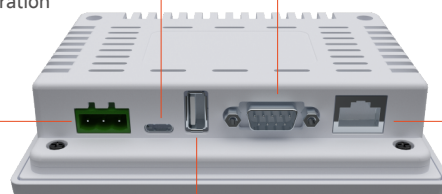
Type-C

- Connect to PC
- Upload/Download Configuration Program



Power interface

- DC 24V power supply



UH404 series



DB9 serial communication

- Connect to PLC for communication
- Supports RS485/RS232/RS422



Ethernet port

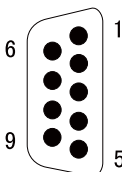
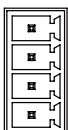
- Connect to a router or switch for Ethernet service
- Connect to a PC to upload and download



USB Host

- Connect USB drive
- Update configuration program and firmware
- Export historical data

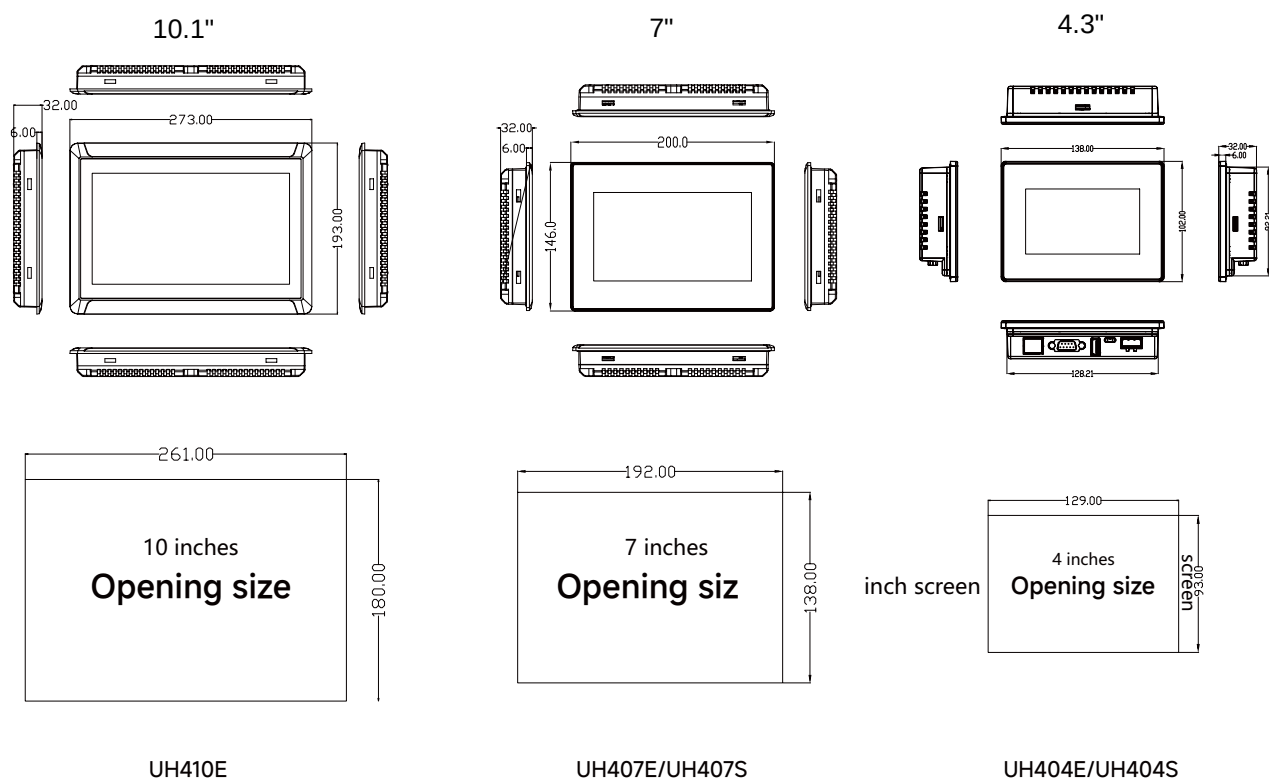
UH400 Series Communication Port Definition

Port	COM	PIN	Pin Definitions	Serial port definition		Communication
 male head	COM2	1	-	-		Supports PLC protocols from Siemens, Schneider, ABB, Mitsubishi, Panasonic, Omron, Delta, Innovance, Xinje, Fatek, and other mainstream suppliers
		2	RXD	RS232		
		3	TXD	RS232		
		4	-	-		
		5	GND	RS232		
	COM1	6	TX+	RS422		
		7	RX+(RS485+)	RS485	RS422	
		8	RX-(RS485-)		RS422	
		9	TX-	RS422		
	COM3	R	Terminal resistor	-		It can be used independently from the DB9's RS485.
		A	RS485+	RS485		
		B	RS485-	RS485		
		PE	GND	-		

UH400 Series Specifications

Model	UH 404S	UH 404E	UH 407S	UH 407E	UH 410E
Ordering number	UH 404-2AU01-0AA0	UH 404-2EU01-0AA0	UH 407-4AU01-0AA0	UH 407-4EU01-0AA0	UH 410-4EU01-0AA0
Hardware Specifications					
LCD Screen	4.3" TFT		7" TFT		10" TFT
Display Colors	65535 colors				
Resolution	480 × 272		800 × 480		1024 × 600
Backlight Type	LED				
Display Brightness	350cd/m²				
LCD Lifetime	30,000 hours				
Touch Type	4-wire resistive touch screen				
CPU	Quad-core 1GHz frequency				
Storage	256MB FLASH+128MB DDR3				
USB Host	USB 2.0 x 1, Type A (USB1), supports firmware / configuration program updates and data storage.				
USB Slave	Type-C, supports power supply and software upload/download.		USB 2.0 x 1, Type B (USB2), supports software upload and download.		
Serial Interface	COM1:RS485; COM2:RS232		COM1:RS485/RS422; COM2:RS232; COM3:RS485		
Ethernet	-	1 x 10M/100M RJ45	-	1 x 10M/100M RJ45	
DB9	Male head				
Electrical Specifications					
Rated power	3W		7.2W		
Power supply	24V DC				
Input range	20.4 ~ 28.8V DC				
Power loss tolerance	10ms				
Insulation resistor	More than 50MΩ@500VDC				
Voltage resistor	500V AC for 1 minute				
Mechanical Characteristics					
Case color	Creamy white				
Enclosure material	ABS+PC plastic, and aluminum sheet				
Dimensions	138×102×32 mm		203×149×32 mm		273×193×32 mm
Cutout size	129×93 mm		192×138 mm		261×180 mm
Weight	0.4 kg		0.75 kg		1.0 kg
Environmental Specifications					
Working temperature	0 ~ 50°C				
Working humidity	10 ~ 90%RH (Non condensing)				
Storage temperature	-20 ~ 60°C				
Storage humidity	10 ~ 90%RH (Non condensing)				
Vibration resistance	10 ~ 25Hz (2G/30 minutes in X, Y, Z directions)				
Cooling method	Natural air cooling				
Certifications					
Protection Level	Front panel compliant with IP65 certification (4208-93)				
CE certification	Compliant with CE certification (EN61000-6-2:2005/EN61000-6-4:2007)				

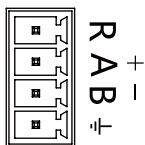
UH400 Series Hardware Dimensions (Unit: mm)



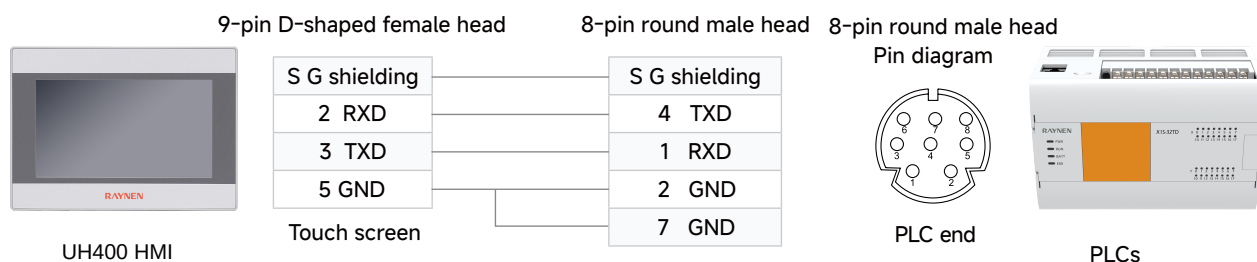
UH400 series communication terminals

- ▲ The communication terminal is a four position pluggable terminal that supports RS485 communication. A 120 Ω terminal resistor is built in for suppressing interference in long-distance (over 300 meters) communication.

Terminating resistor usage: short-circuit R and A.



interface	PIN	Pin Definitions	Remark
COM3	1	R	120 Ω terminating resistor
	2	RS485 +	(A)
	3	RS485 -	(B)
	4	PE	Shielding



UH500A Series Overview

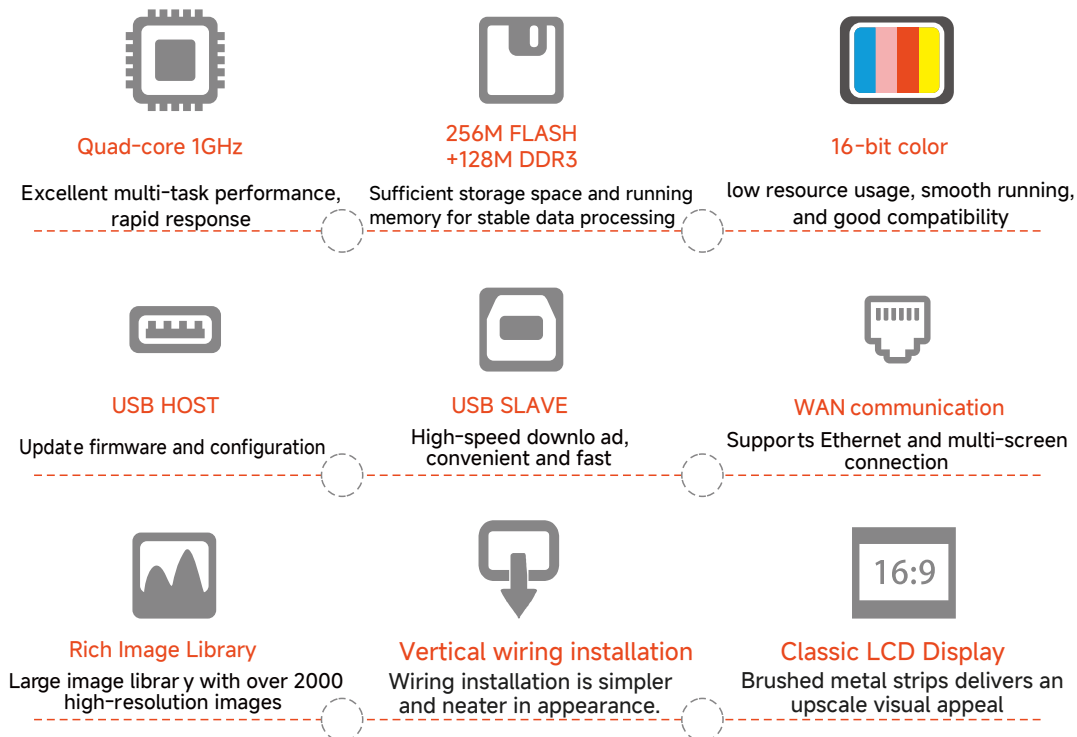
UH500A Series HMI



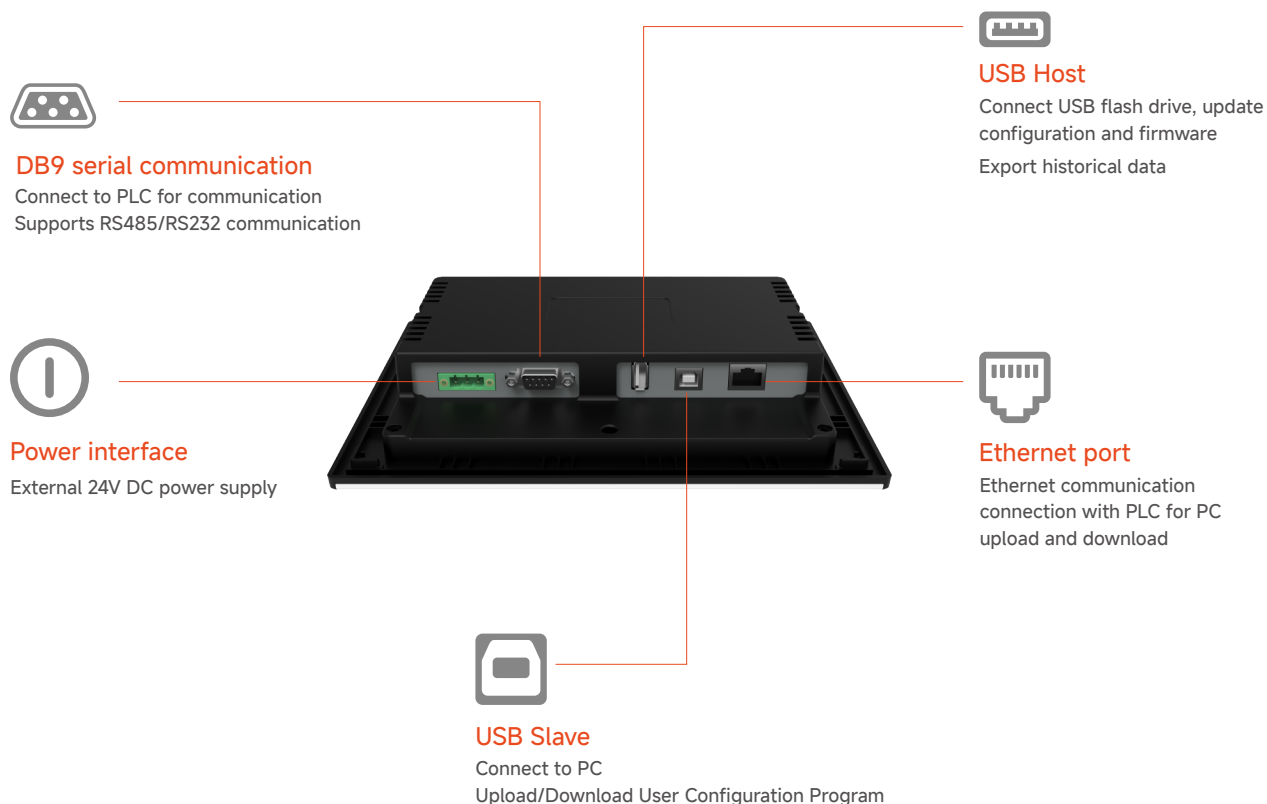
- ▲ The UH500A series HMI has 7-inch and 10.1-inch types. All the models under UH500A series have 256M flash and 128M DDR3. WAN network is available if you connect the Eth port to a PC or IoT gateway. UH500A can provide customers with better visual effects and experience.

■ Product Advantages

- ▲ 7 inch and 10.1 inch in size,
- ▲ Quad-core 1GHz CPU,
- ▲ 256MB FLASH + 128MB DDR3
- ▲ Industrial-grade hardware design standards, stable and reliable for harsh environments.
- ▲ Vertical wiring installation method, space-saving.



UH500A Series Hardware Introduction



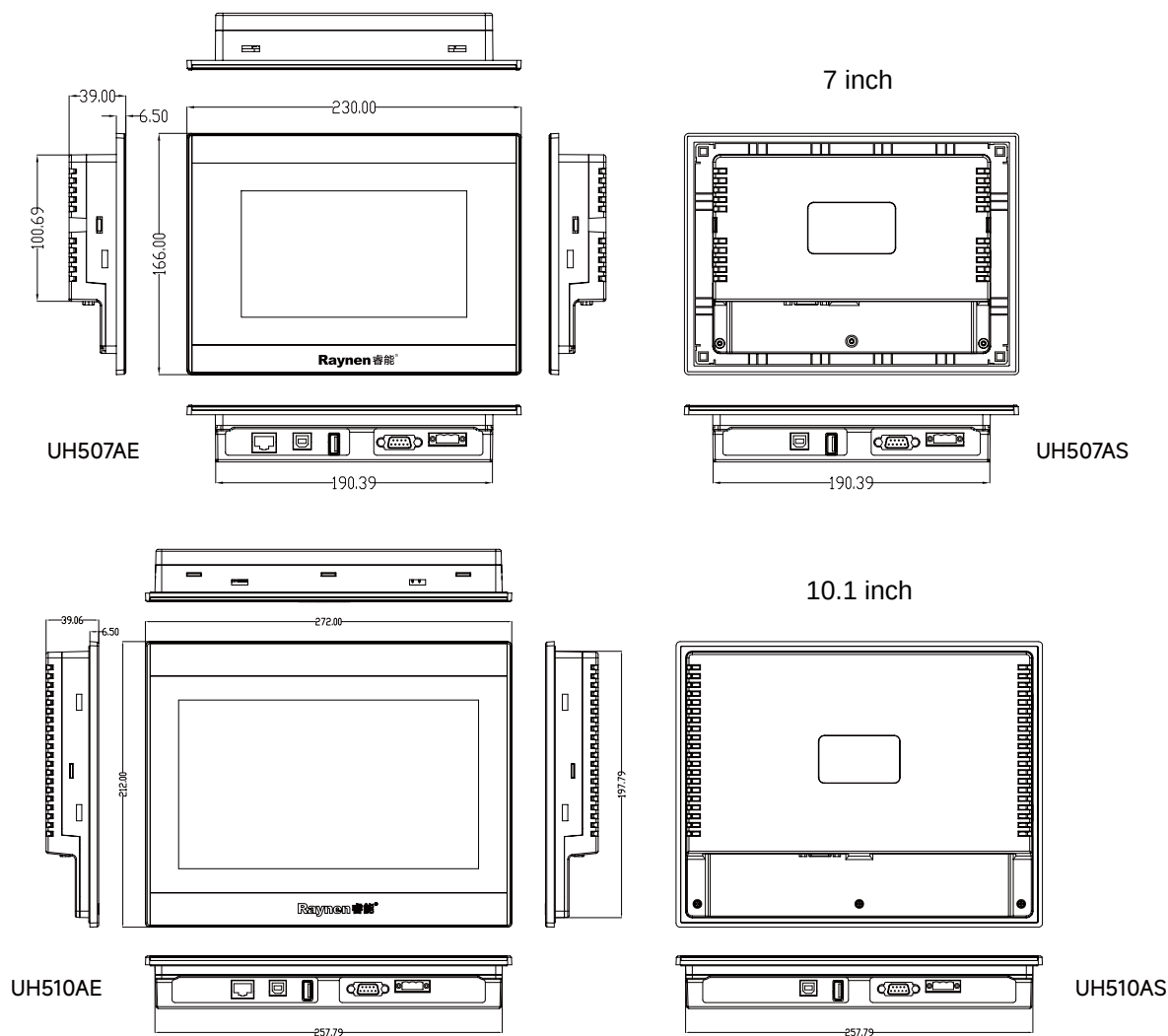
UH500A Series Communication Port Definitions

DB9	Interface	PIN	Pin Definition	Serial port type
male head	COM2	1	-	RS232
		2	RXD	
		3	TXD	
		4	-	
		5	GND	
	COM1	7	RX+(RS485+)	RS485
		8	RX-(RS485-)	

UH500A Series Specifications

Model	UH 507AS	UH 507AE	UH 510AS	UH 510AE
Ordering number	UH 507-1AU01-0AA8	UH 507-4EU01-0AA8	UH 510-1AU01-0AA8	UH 510-4EU01-0AA8
Hardware Specifications				
LCD Screen	7" TFT		10.1" TFT	
LCD Colors	16-bit color			
Resolution	800 × 480		1024 × 600	
Backlight Type	LED			
Brightness	350cd/m²			
LCD Lifespan	30,000 hours			
LCD Type	4-wire resistive			
CPU	Quad-core 1GHz			
Storage	256MB FLASH+128MB DDR3			
USB Host	USB 2.0 x 1, Type A (USB1), supports USB flash drive firmware updates, configuration updates, and data storage.			
USB Slave	USB 2.0 x 1, Type B (USB2), supports program upload and download.			
Serial Interface	COM1:RS485; COM2:RS232			
Ethernet	/	1* 10M/100M self-adaptive	/	1* 10M/100M self-adaptive
DB9	male head			
Electrical Specifications				
Power consumption	7.2W			
Power supply	24V DC			
Input range	20.4 ~ 28.8V DC			
Power loss tolerance	10ms			
Insulation resistor	Over 50MΩ@500VDC			
Voltage resistor	500V AC for 1 minute			
Structural Characteristics				
Case color	Dark gray + silver			
Enclosure material	ABS+PC plastic, aluminum sheet			
Dimensions	230×166×39mm		272x212x39mm	
Opening size	192x138mm		260×200mm	
Weight	0.75kg		1.0kg	
Environmental Specifications				
Operating temperature	0 ~ 50℃			
Operating humidity	10 ~ 90%RH (non-condensing)			
Storage temperature	-20 ~ 60℃			
Storage humidity	10 ~ 90%RH (non-condensing)			
Vibration resistance	10 ~ 25Hz (2G/30 minutes in X, Y, Z directions)			
Cooling method	Natural air cooling			
Product Certification				
Protection level	Front panel compliant with IP65 certification (4208-93)			
CE certification	Compliant with CE certification (EN61000-6-2:2005/EN61000-6-4:2007)			

UH500A Series Appearance and Opening Dimensions (Unit: mm)



UH500A Series Naming Rules

U H 5 0 7 A E

① ② ③ ④ ⑤

① UH: Raynen HMI	② 4: 400 series 5: 500 series	③ 07: 7-inch screen 10: 10-inch screen
④ Null: Standard Series A: Advanced Series W: IOT Series	⑤ E: With Ethernet S: Without Ethernet	

IoT Gateway Series

UBox Series Overview



Remote PLC program upload and download via serial port and network port



Real-time data monitoring and group management



Historical data cloud storage with resume capability after disconnection



Cloud configuration monitoring via mobile phone and PC



Alarm information push notifications via WeChat,



Multiple transmission methods: MQTT/HTTP/OPC



▲ Field equipment layer

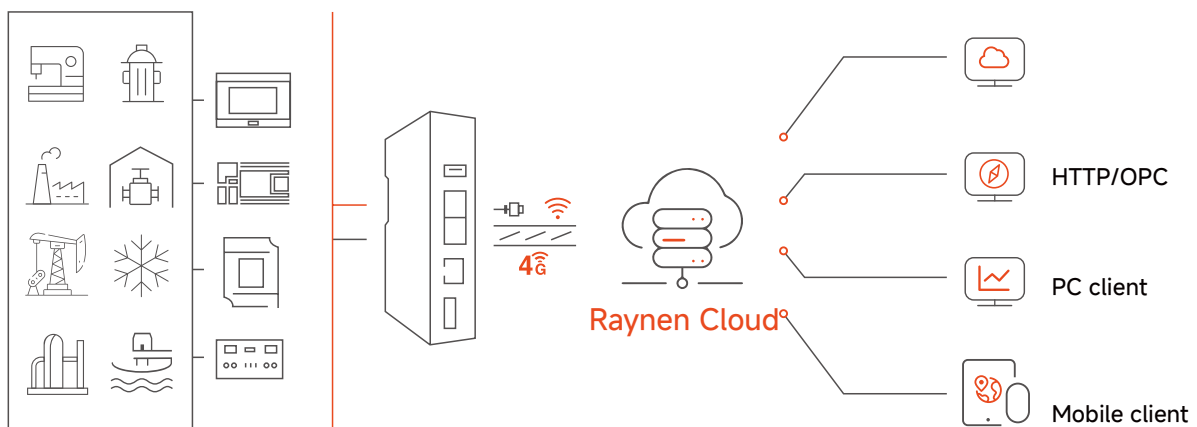
In industrial equipment sites, UBox can connect to Raynen HMI, PLC, drive, and some instrumentation devices to collect relevant equipment data. It can also connect to the Internet via wired broadband, Wi-Fi, or 4G to transmit the equipment data to the Raynen cloud platform.

▲ User layer

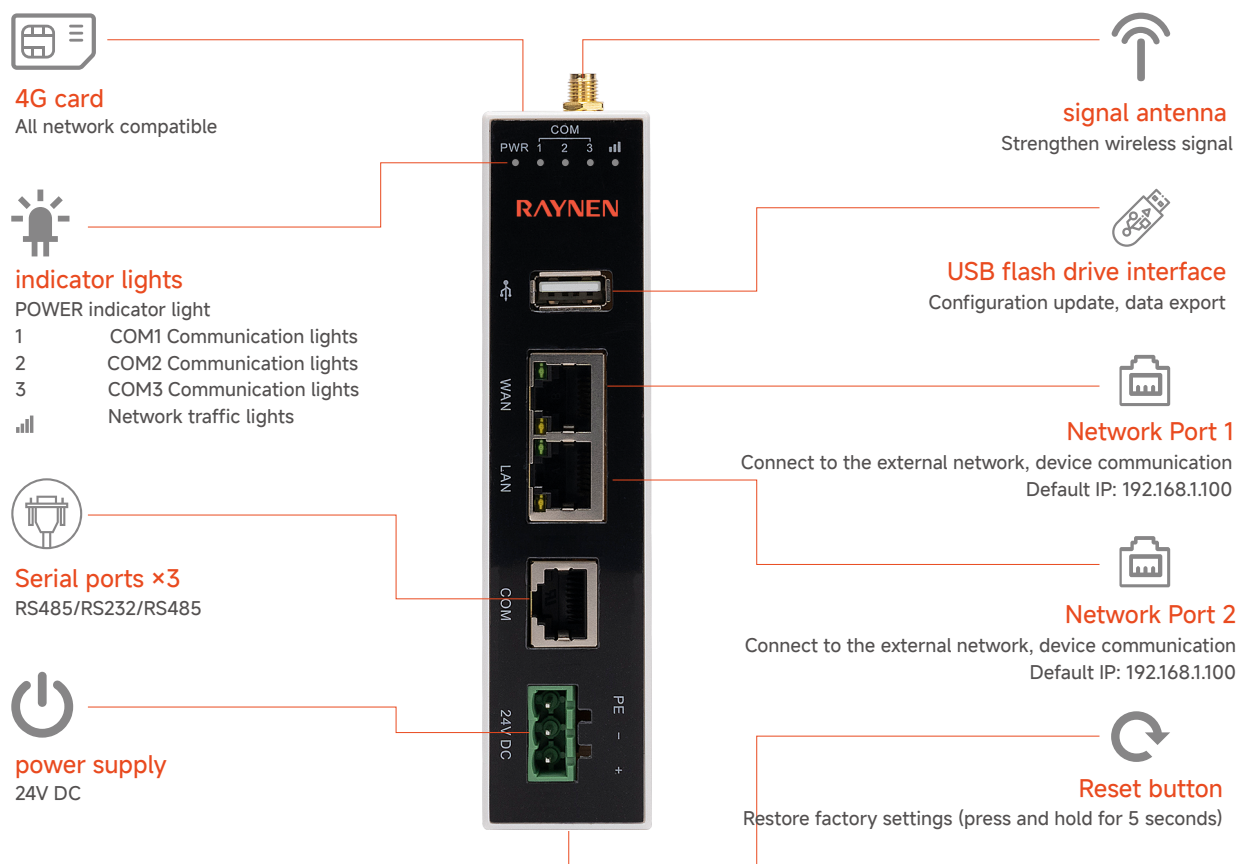
End users can remotely access industrial field data via PCs and mobile devices, and can perform operation settings and equipment management. Meanwhile, cloud platform data recordings can provide data support for user equipment analysis.

▲ Cloud data layer

Raynen Cloud is hosted on Alibaba Cloud servers. The Raynen Cloud server receives data sent from UBoxes in the industrial field. It collects field data to the server, stores and transmits the data, and provides data interaction between field data and remote clients.



Hardware Introduction



Communication port definition

legend	serial port	PIN	Pin Definitions	interface
	COM2	1	RXD	RS232
		2	TXD	
		3	---	
		4	GND	
	COM1	5	RS485+	RS485
		6	RS485-	
	COM3	7	RS485+	
		8	RS485-	

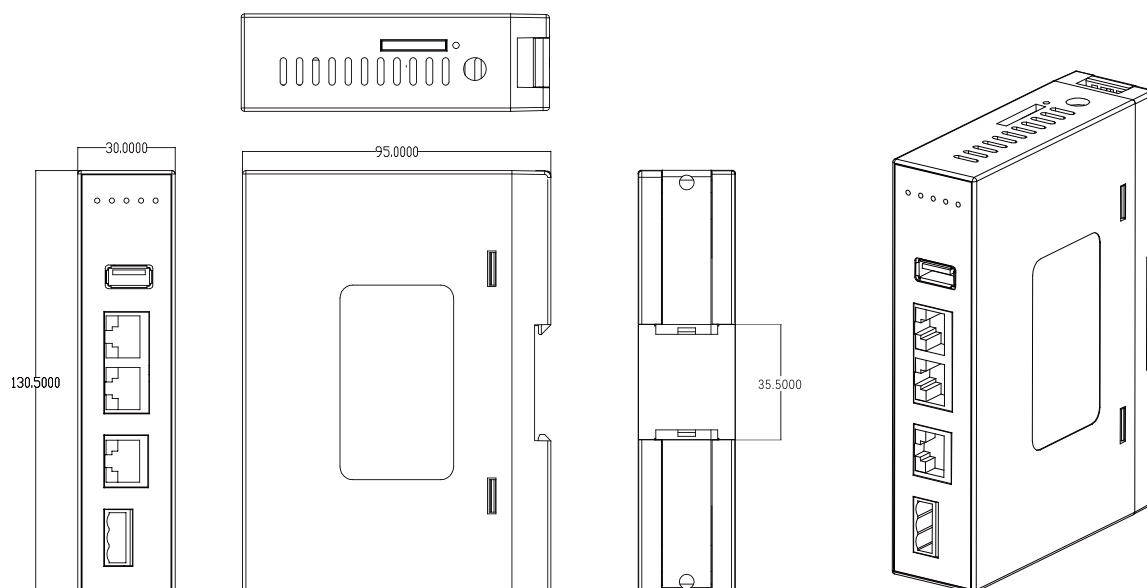
Specifications

Model	UBox-WAN	UBox-wifi	UBox-4G
Ordering number	UBox-WAN	UBox-wifi	UBox-4G
Hardware Specifications			
CPU	Cortex-A7, quad-core 1GHz		
Storage	256MB FLASH+128MB DDR3		
USB Host	USB2.0 x 1, Type A (USB)		
Serial Interface	COM1: RS485; COM2: RS232; COM3: RS485		
Serial Port Isolation	Do not supported		
Ethernet Port	2* 10/100M self-adaptive ports, dual network ports		
4G	N/A	N/A	LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 GSM: 900/1800M Hz
Wi-Fi	N/A	Support	N/A
VPN	Support		
Antenna	N/A	Magnetic Mount WiFi Antenna, 3m	Magnetic Mount 4G Antenna, 3m
Electrical Specifications			
Power Supply	24V DC		
Input Range	10 ~ 28V DC		
Power Isolation	Support isolation		
Power Loss Resistance	10ms		
Insulation Resistance	> 50MΩ@500VDC		
Voltage Resistance	500V AC for 1 minute		
Structural Characteristics			
Enclosure Color	White, Black		
Structural Material	ABS+PC plastic		
Dimensions	130 × 95 × 30 (mm)		
Mounting Method	Rail mounting (35mm)		
Weight	~ 175g	~ 180g	~195g
Environmental Specifications			
Operating Temperature	0 ~ 50℃		
Operating Humidity	10 ~ 90%RH (non-condensing)		
Storage Temperature	-20 ~ 60℃		
Storage Humidity	10 ~ 90%RH (non-condensing)		
Shock Resistance	10 ~ 25Hz (2G/30 minutes, X/Y/Z directions)		
Cooling Method	Natural air cooling		

Specifications

Model	UBox-4G-3L
Ordering number	UBox-4G-3L
Performance Specifications	
CPU	Cortex-A7, quad-core 1GHz
Storage	256MB FLASH+128MB DDR3
USB Host	USB2.0 x 1, Type A
Serial Interface	N/A
Serial Port Isolation	Do not supported
Ethernet Port	3 * 10/100M self-adaptive
4G	LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 GSM: 900/1800M Hz
Wi-Fi	N/A
Antenna	
Platform Services	
VPN Remote Download	Support
Remote Data Monitoring	Supports 500 real-time data points
Alarm Push	SMS/WeChat/Phone/APP
GPS	N/A
Electrical Specifications	
Power Supply	24V DC
Input Range	10 ~ 28V DC
Power Loss tolerance	10ms
Insulation Resistance	> 50MΩ@500VDC
Voltage Resistance	500V AC for 1 minute
Structural Characteristics	
Enclosure Color	White casing + black mirror finish
Structural Material	ABS+PC plastic
Dimensions	130 × 95 × 30 (mm)
Installation Method	Rail mounting (35mm)
Weight	Approximately 195g
Environmental Specifications	
Operating Temperature	0 ~ 50°C
Operating Humidity	10~90%RH (non-condensing)
Storage Temperature	-20 ~ 60°C
Storage Humidity	10 ~ 90%RH (non-condensing)
Shock Resistance	10 ~ 25Hz (2G/30 minutes in X, Y, Z directions)
Cooling Method	Natural air cooling

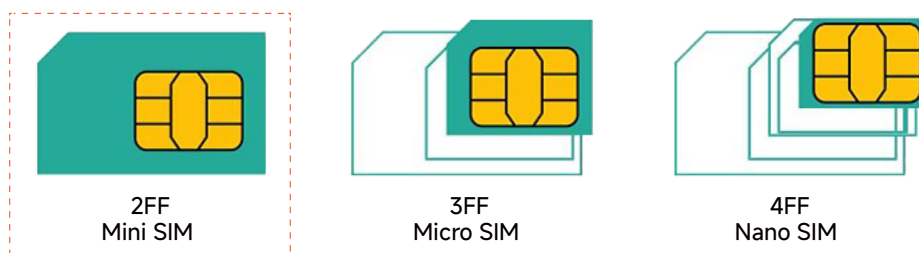
Appearance and installation dimensions (unit: mm)



4G IoT card

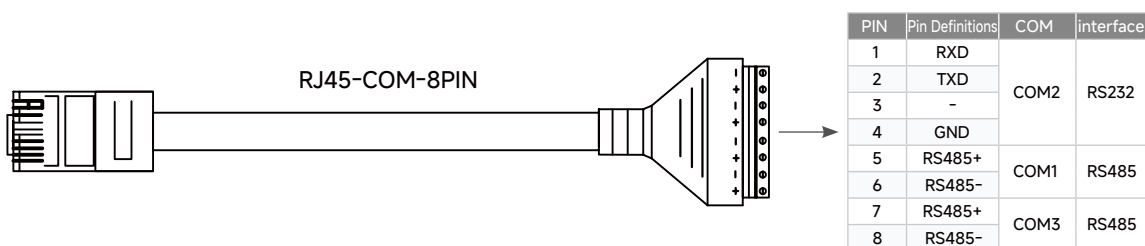
- ▲ The SIM card used is the standard SIM card, as shown in the dotted box in the image below. If you are using another type of SIM card, you will need the corresponding card tray.

The SIM card supports all network types and dedicated data cards.



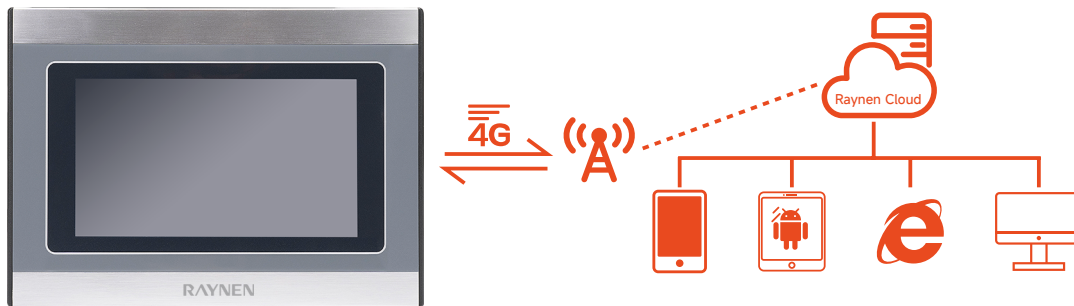
RJ45 to terminal wire

- ▲ The RJ45 adapter terminal block accessory is used to convert the COM port of an IoT gateway into an 8-pin terminal block. Wiring is convenient and quick. The wiring definition is shown below.



UH500W Series HMI

UH500W Series Overview



- ▲ The UH500W series HMI is Raynen's newly released IoT HMI (human-machine interface). Equipped with full IoT capabilities, it realizes remote equipment monitoring and delivers reliable solutions for industrial intelligence.

■ Product Advantages

Remote management

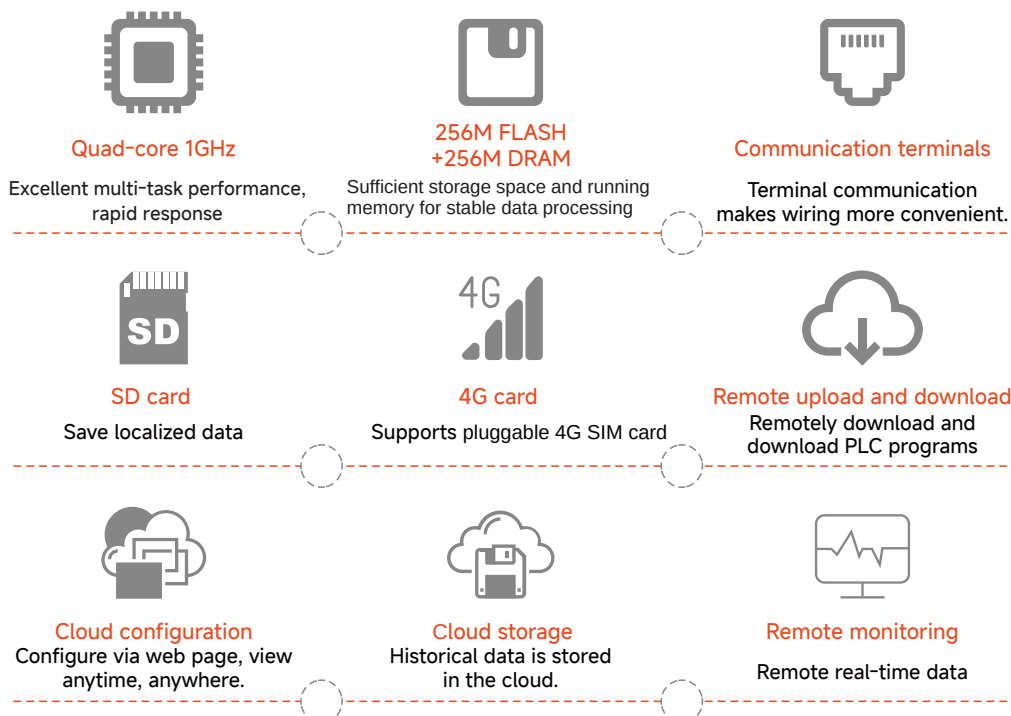
- ▲ Remote upload/download: Supports remote program upload and download, eliminating the need for on-site commissioning.
- Real-Time alarm notifications: Fault notifications are pushed to multiple platforms timely. Comprehensive fault diagnosis
- ▲ facilitates preventive measures for maintenance.

Data visibility and secure storage

- ▲ Dynamic data visualization: View cloud configuration visuals anytime, anywhere on mobile devices and web browsers.
- ▲ Ensuring data security: Historical data is automatically uploaded and saved, ensuring data collection and analysis.

Better network setup, lower costs

- ▲ MQTT data transmission: Using MQTT data transmission method saves bandwidth.
- ▲ Compatible with all 4G IoT cards: Users can configure the 4G cards from local major carriers and choose the optimal network connection method.



UH500W Series Hardware Introduction



DB9 serial communication

Connect to PLC for communication
Supports RS485/RS232/RS422



Power interface

Wide voltage design
9~28VDC



USB Host

Connect USB drive to update configuration and firmware
Export historical data



SD Card

Insert SD Card
Store HMI Data



Ethernet port

Configure HMI IoT settings
Connect to external network
Connect network devices



Antenna

Connect an external antenna
to enhance signal reception
efficiency

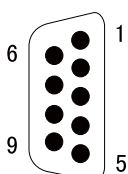


SIM card

Insert a regular SIM card
Connect to a 4G network



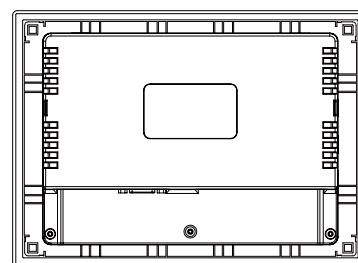
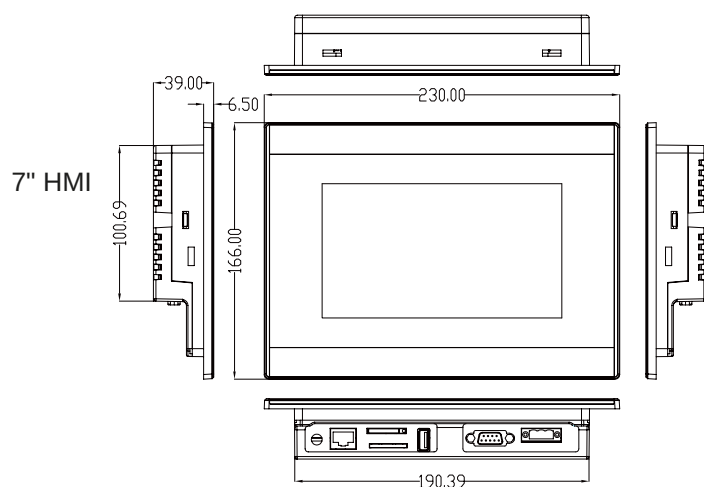
UH500W Series Communication Port Definition

	Interface	PIN	Pin Definitions	Port Type	
 male head	COM2	1	-	RS232	
		2	RXD		
		3	TXD		
		4	-		
		5	GND		
	COM1	6	TX+	RS485	RS422
		7	RX+(RS485+)		
		8	RX-(RS485-)		
		9	TX-		

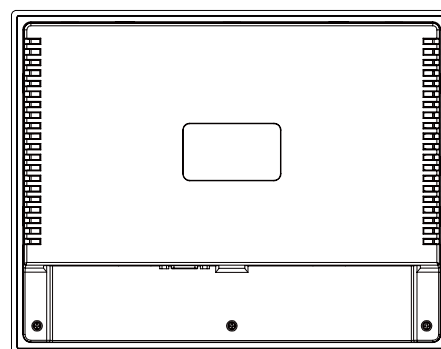
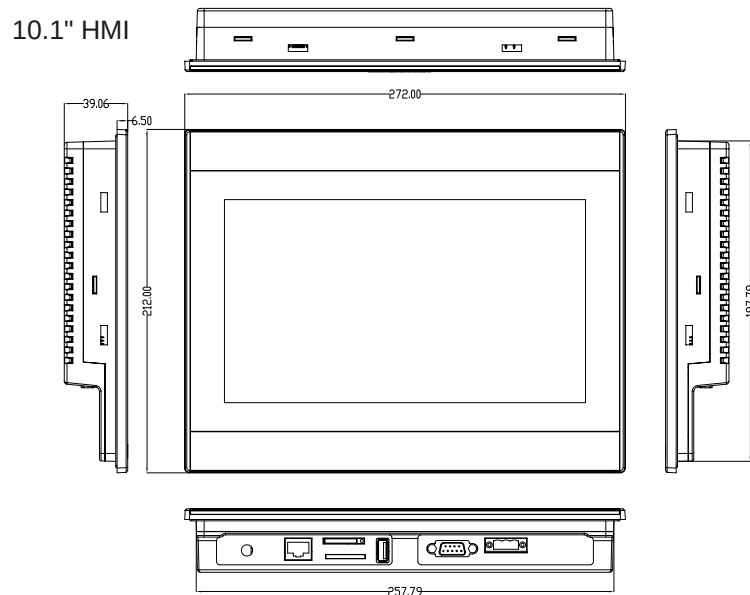
UH500W Series Specifications

Model	UH 507W-WAN	UH 507W-WIFI	UH 507W-4G	UH 510W-WAN	UH 510W-WIFI	UH 510W-4G
Ordering number	UH 507W-3WA01-0AA0	UH 507W-3WF01-0AA0	UH 507W-34G01-0AA0	UH 510W-3WA01-0AA0	UH 510W-3WF01-0AA0	UH 510W-34G01-0AA0
Hardware Specifications						
LCD Screen	7" TFT			10" TFT		
Display Colors	65535 colors					
Resolution	800 × 480			1024 × 600		
Backlight Type	LED					
Display Brightness	350cd/m²					
LCD Lifespan	30,000 小时					
Touchscreen	4-wire resistive					
CPU	Quad-core 1GHz					
Storage	256MB FLASH+256MB DDR3					
USB Host	1 * USB2.0 (Type A), supports USB flash drive firmware updates, configuration updates, and data storage.					
Serial Interface	COM1: RS485/RS422; COM2: RS232					
SD Card	Support, maximum 32GB					
Ethernet	1*10M/100M self-adaptive RJ45					
Wi-Fi	N/A	support	N/A	N/A	support	N/A
4G	N/A	N/A	LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39 B40/B41 GSM: 900/1800M Hz	N/A	N/A	LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39 B40/B41 GSM: 900/1800M Hz
Electrical Specifications						
Power consumption	7.2W					
Power Supply	24V DC					
Input Range	9 ~ 28V DC					
Powerloss tolerance	10ms					
Insulation Resistance	Over 50MΩ@500VDC					
Voltage resistance	500V AC for 1 minute					
Structural characteristics						
Case color	Dark gray + silver					
Enclosure material	ABS+PC plastic, aluminum sheet					
Dimensions	230×166×39mm			272×212×39mm		
Opening size	192x138mm			260×200mm		
Weight	0.75kg			1.0kg		
Environmental Specifications						
Operating temperature	0 ~ 50°C					
Operating humidity	10 ~ 90%RH (non-condensing)					
Storage temperature	-20 ~ 60°C					
Storage humidity	10 ~ 90%RH (non-condensing)					
Vibration resistance	10 ~ 25Hz (2G/30 minutes in X, Y, Z directions)					
Cooling method	Natural air cooling					
Product Certification						
Protecting level	Front panel compliant with IP65 certification (4208-93)					
CE certification	Compliant with CE certification (EN61000-6-2:2005/EN61000-6-4:2007)					

Appearance and installation dimensions (unit: mm)



UH507W

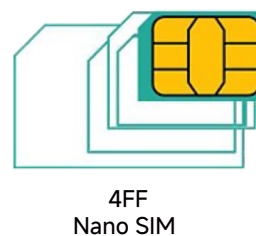
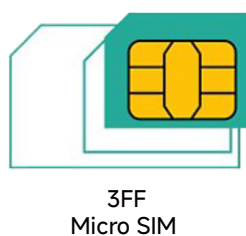
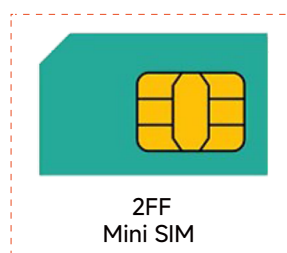


UH510W

4G IoT card

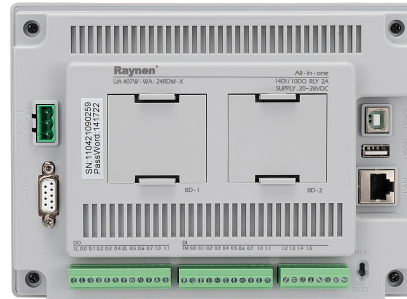
- ▲ The SIM card used is the standard SIM card shown in the dotted box in the image below. If you are using another type of SIM card, you will need the corresponding card tray.

The SIM card supports all network types and dedicated data plans.



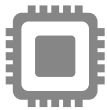
HMI+PLC All-in-One

UA400 Series Overview



▲ A comprehensive solution integrating PLC and HMI

- ① Supports Industrial Internet functions and enables remote operation;
- ② HMI and PLC programs can be directly downloaded via Ethernet port for easy operation.
- ③ Supports both digital and analog signals;
- ④ Supports two BD expansion boards for different field needs;
- ⑤ PLC language: Ladder



Quad-core 1GHz

Excellent multi-task performance,
rapid response



**RAM 256M/
FLASH 256M**

Sufficient storage space and running
memory for stable data processing



RS485

Supports external serial port devices



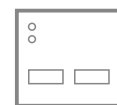
USB HOST

Update HMI programs and store data



Internet of Things

Supports Industrial Internet of Things (IIoT)
and remote monitoring by Eth port



BD Expansion slots

2 BD board combinations



Network port download

The network port can be used to
download PLC and HMI programs.



Diverse programming environments

Support Ladder programming



MACRO scripts

Supports scripts for more diverse
operations.

All-in-one PC Hardware Introduction



Power interface

External 24V DC power supply



DB9 serial communication

Connect to PLC for communication
Supports RS485



Digital output

8*DO



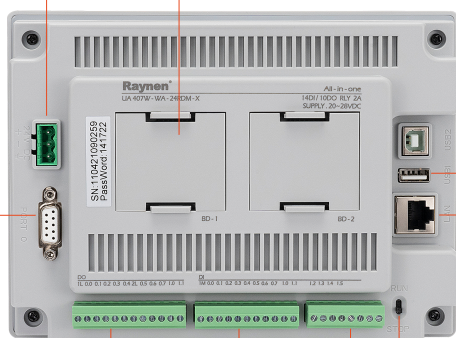
Digital input

10*DI



Analog quantity

4AI/2AO



BD Expansion Board

It can connect to various types of expansion boards, providing more flexible and diverse combinations.



USB Host

Connect USB drive, update configuration and firmware, and export historical data.



Ethernet port

- Connect to the external network
- Download HMI and PLC programs



Operation switch

- Control the start and stop of the PLC section
- Ensure that DB9 can switch between PPI and MODBUS/free port

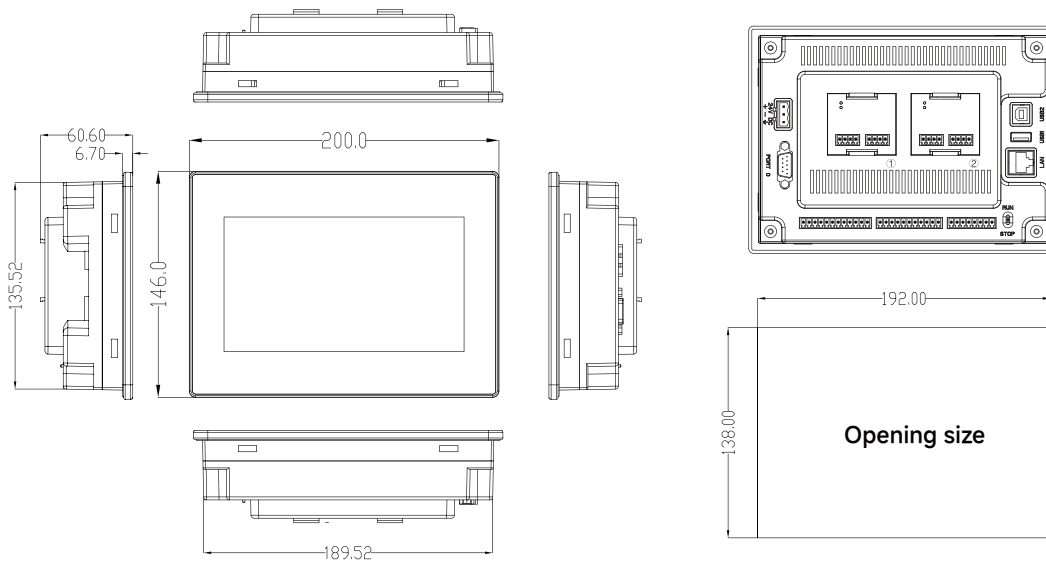
All-in-one machine communication port definition

9-pin D-type connector (DB9 female)	PIN number	Pin Definitions
	1	The chassis is connected to the connector housing
	2	24V return (same as terminal M)
	3	RS485+
	4	Send Request (TTL)
	5	+5V return
	6	+5V (maximum 90mA)
	7	+24V (maximum 120mA, with reverse voltage protection diode)
	8	RS485-
	9	Not connected

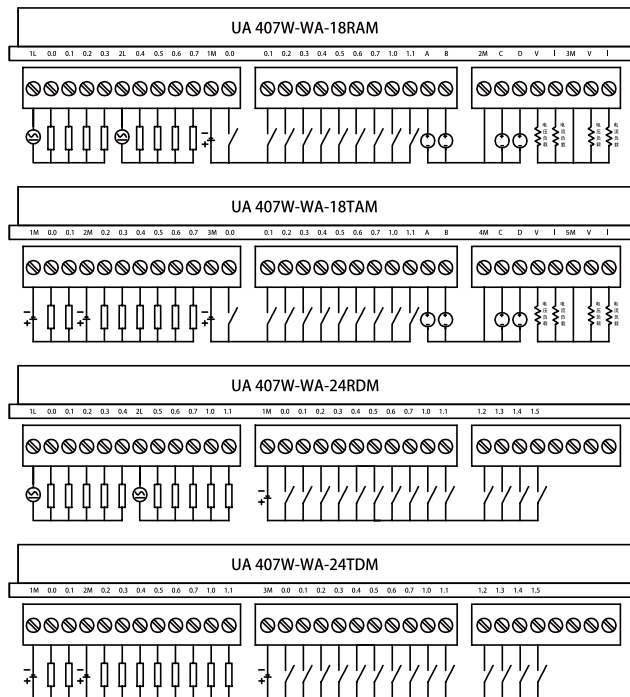
All-in-one machine specifications

Model		UA 407W-WA-24RDM-X	UA 407W-WA-18RAM-X	UA 407W-WA-24TDM-X	UA 407W-WA-18TAM-X
HMI Specifications					
LCD Screen		7" TFT			
Display Colors		65535 colors			
Resolution		1024×600			
Backlight Type		IPS LED backlight			
Display Brightness		400cd/ m²			
Backlight Lifespan		>20,000 hours			
Touch Type		4-wire resistive			
Processor		Quad-core 1GHz			
Storage		256MB FLASH+256MB DDR3			
USB Host		1 x USB 2.0 (Type A), supports firmware and configuration updates.			
USB Slave		N/A			
Ethernet		1*10/100M adaptive			
Programming Software		Uniface			
PLC specification					
Memory	UN series	Program 16K, Data 10K			
	X series	Program 32K			
Total number of timers	UN series	A total of 256, 4 at 1ms, 16 at 10ms, and 236 at 100ms.			
	X series	A total of 512, 260 at 1ms, 46 at 10ms, and 206 at 100ms.			
Counter		256			
Real-time Clock		Built-in			
Power-Off Retention		Support			
COM Ports		PORT0: PPI/MODBUS/Free Port (3-RS485+, 8-RS485-);		PORT1: Supports PPI (Built-in)	
Integrated Digital Input		14 DI, 24VDC	10 DI, 24VDC	14 DI, 24VDC	10 DI, 24VDC
Input Type		PNP/NPN			
High-Speed Counting		Supports 2* 20kHz single-phase inputs, or 1* 20kHz AB-phase input.			
Integrated Digital Output		10 DO, relays	8 DO, relays	10 DO, transistor NPN	8 DO, transistor NPN
Rated Current per Point [Max]		2A	2A	0.5A	0.5A
Pulse Output		1Hz	1Hz	2-channel 50kHz	2-channel 50kHz
Integrated Analog Input			4 AI		4 AI
Resolution			12-bit		12-bit
Current Input			0-20mA		0-20mA
Data Word Format @Full-scale Range			0 ~ +32,000		0 ~ +32,000
Integrated Analog Output			2AO		2AO
Analog input			12-bit		12-bit
Signal Range			Voltage 0-10V, Current 0-20mA		Voltage 0-10V, Current 0-20mA
Data Word Format @Full-scale Range			0 to +32000		0 to +32000
BD Board Expansion		Supports up to 2 BD expansion boards			
Platform Services					
VPN Remote Download		Support			
Remote Data Monitoring		Supports 500 real-time data points			
Alarm Push Notifications		SMS/WeChat/Phone/APP			
Electrical Specifications					
Power Supply		24V DC			
Power Consumption		8W	9W	8W	
Structural Characteristics					
Housing Color		grey			
Enclosure Material		ABS+PC plastic			
Dimensions		203 × 149 × 60 (mm)			
Opening Size		192 x 138(mm)			
Weight		Approximately 1.2kg			
Operating Temperature		0 ~ 50°C			
Protection Level		Front panel IP65			

UA400 series appearance and installation dimensions (unit: mm)



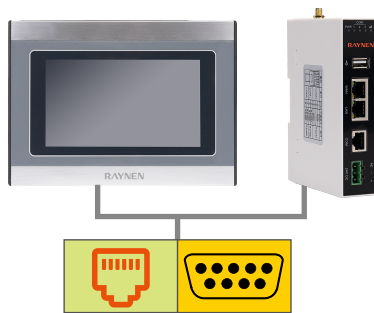
Wiring diagram



Analog quantity description

- ▲ ① Voltage-type loads are connected between the V and M terminals;
- ▲ ② Current-type loads are connected between terminals I and M.

All-in-one device driver



communication protocols

Raynen

X Series

SIEMENS

S7-200 Series (PPI)
S7-300 Series
S7-smart Series (PPI)

Modbus

Modbus RTU Master
Modbus RTU Slave
Modbus ASCII Master
Modbus ASCII Slave

Mitsubishi

Fx(1N/2N/3U)

Panasonic

Fp

Omron

CP

FATEK

FBs

Ethernet communication

Raynen

X series (Ethernet)

Modbus

Modbus Client TCP/IP
Modbus Server TCP/IP

Siemens

S7-1200/S7-1500
S7-200 smart series
Profinet

UH500W	Raynen UN Series
7 RS485+	3 RS485+
8 RS485-	8 RS485-



UH500W	Raynen X Series
2 RX	4 TX-
3 TX	1 RX-
5 GND	2 RX+
	7 TX+



UH500W	SIEMENS S7-200
7 RS485+	3 RS485+
8 RS485-	8 RS485-



UH500W	Mitsubishi Fx
2 RX	4 TX-
3 TX	1 RX-
5 GND	2 RX+
	7 TX+



UH500W	Delta Electronics DVP
2 RX	5 TXD
3 TX	4 RXD
5 GND	8 GND



UH500W	FATEK FB
2 RX	4 TXD
3 TX	2 RXD
5 GND	1 GND



UH500W	Omron CP
2 RX	2 SD
3 TX	3 RD
5 GND	9 GND
	4 RTS
	5 CTS



UH500W	Panasonic Fp
2 RX	2 TXD
3 TX	3 RXD
5 GND	1 GND



Internet of Things (IoT) functions

IoT Function Introduction



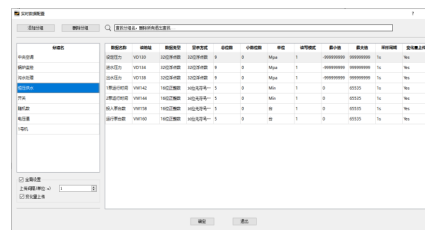
Equipment Management

- ▲ Customizable subdomains for a personalized platform display.
- ▲ Administrators can assign new user accounts freely, saving registration time.
- ▲ User right management: Authorize different accounts with different viewing and operation permissions.



Real-time data

- ▲ Custom read/write permissions for digital value and numeric values
- ▲ Data upload: support upload cycle setting based on individual or all variables; support upload based on variable changes to save more data space and traffic.
- ▲ Data group settings: support grouping defined variables for easier variable retrieval.

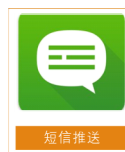


Alarm data

- ▲ Online configuration of alarm parameters
- ▲ Real-time alarm notifications, supporting e-Mails, Phone calls, SMS, WeChat, and APP message notifications
- ▲ Alarm status notifications support three alarm states: **New**, **Acknowledge**, and **confirm**.
- ▲ Historical alarms are supported; alarms can be queried by time both "Raynen推送" APP and webserver.



微信推送



短信推送



APP推送

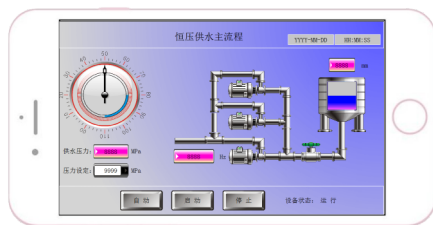


Historical data

- ▲ Supports historical data recording, featuring interval, trigger and timing sampling modes.
- ▲ The historical data collector supports multi-point discrete data sampling.
- ▲ Local data buffering during network outages, supporting resumable transmission.
- ▲ Historical data is stored in the cloud and can be queried and exported to Excel files anytime, anywhere via a webpage by time.



IoT Function Introduction



设备ID	设备名称	设备地址	设备类型	设备品牌	设备型号	设备固件	设备版本	设备状态
1021670003	123	123	137068049	开利中央空调系统控制设备	开利	注册	1.0.0	正常
1021670004	04	04	1502762514	深圳南山科技园智能楼宇系统	开利	注册	1.0.0	正常
1021670005	06	06	1508423132	深圳南山科技园智能楼宇系统	开利	注册	1.0.0	正常
1021670006	111	44	1734214397	开利中央空调系统控制设备	开利	注册	1.0.0	正常
1021670007	123	456	1734214397	开利中央空调系统控制设备	开利	注册	1.0.0	正常



Remote upload and download

- ▲ Supports HMI programs and IoT gateway programs remote upload and download.
- ▲ Supports PLC program remote upload and download via Ethernet port and serial port.
- ▲ Supports HMI project remote upload and download via Ethernet port.



Screen configuration

- ▲ Supports cloud configuration design. Customize configuration screens on web terminal. After configuration publishing and binding, running screens can be monitored directly via mobile APP and web page.
- ▲ It only captures real-time data, resulting in low data consumption and a superior user experience. Suitable for project-based users.
- ▲ Supports remote screen projection and synchronized operations. No secondary configuration required. Easy to use, ideal for small business owners.



Cloud camera

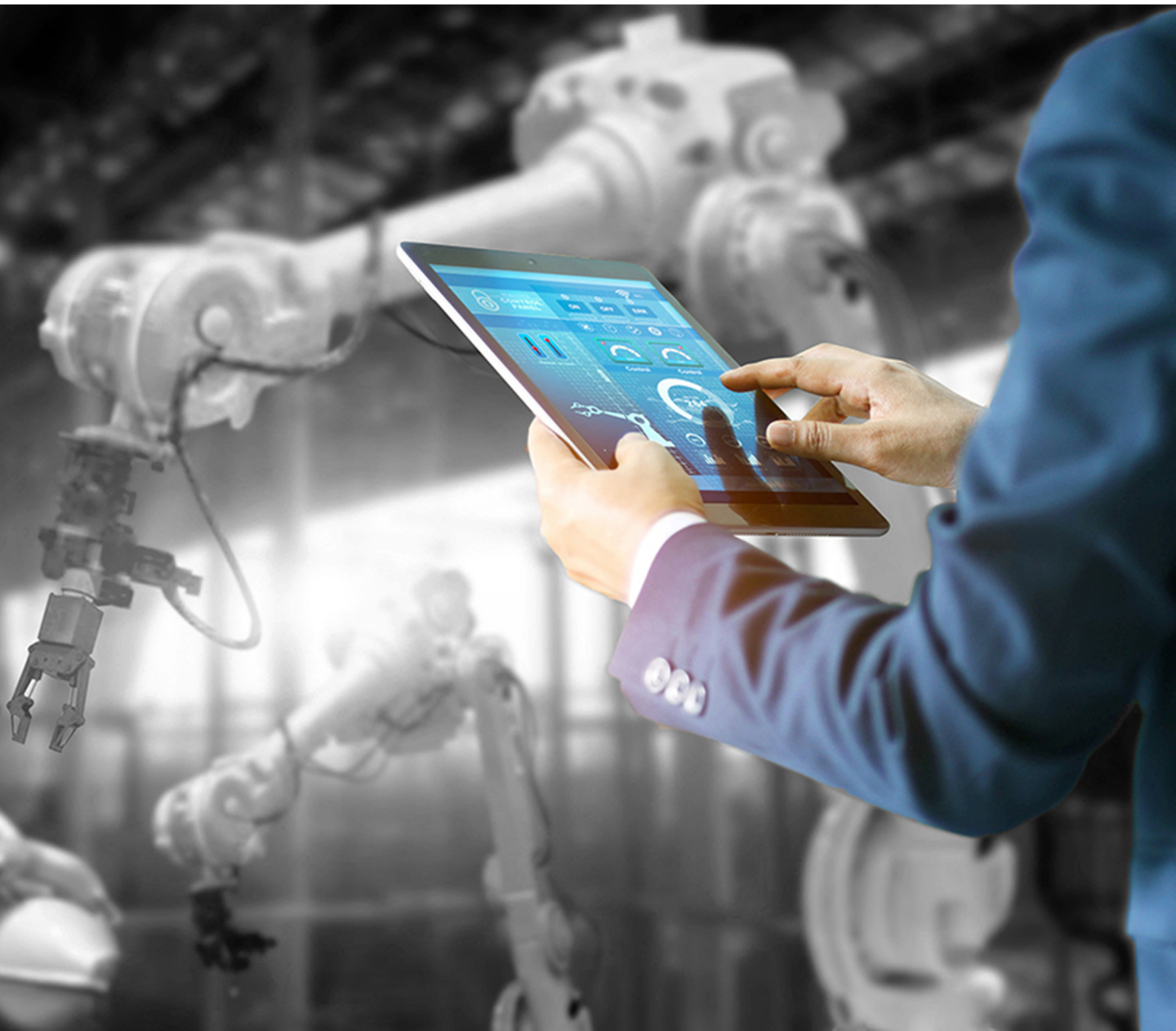
- ▲ Supports connection to Ezviz Cloud, allowing direct access to video data from Ezviz Cloud servers. This inter-server data transfer does not consume IoT device bandwidth.

4G

Traffic query

- ▲ Data traffic information can be checked.
- ▲ Data top-up can be done on the platform.
- ▲ Customizable traffic alert. SMS notification will be sent when traffic is insufficient.
- ▲ Daily device-level data traffic can be checked

Ordering data



Ordering List

■ UH series HMI

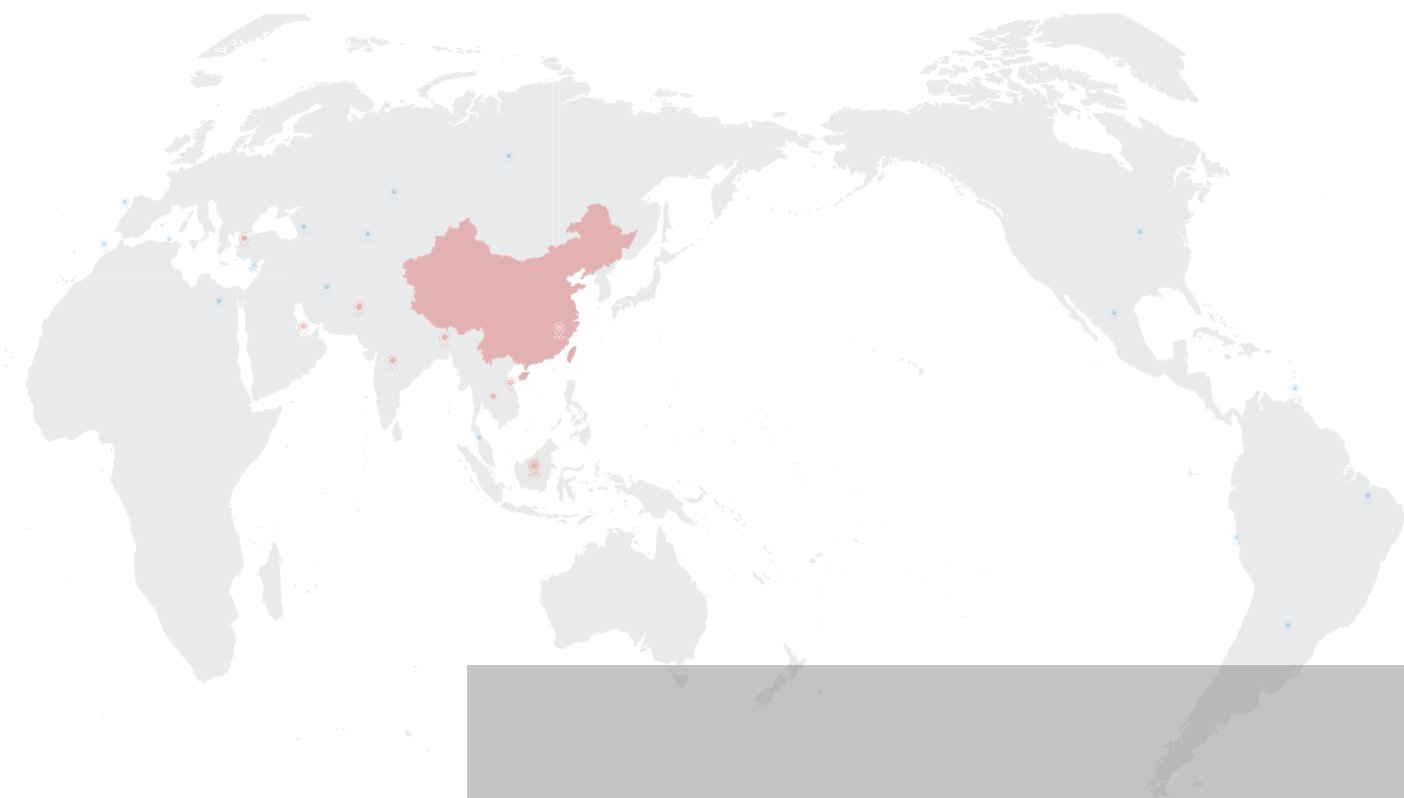
Model Name	Ordering Number	Product Description
UH 400 series		
UH 404S	UH 404-2AU01-0AA0	4.3-inch, 2 serial ports, RS484, RS232
UH 404E	UH 404-2EU01-0AA0	4.3-inch, 2 serial ports, RS484, RS232, supports Ethernet
UH 407L	UH 407L	7-inch, 2 serial ports, RS484/RS422, RS232
UH 407L-E	UH 407L-E	7-inch, 2 serial ports, RS484/RS422, RS232, supports Ethernet
UH 407S	UH 407-4AU01-0AA0	7-inch, 3 serial ports, RS484/RS422, RS232, RS485
UH 407S	UH 407-4EU01-0AA0	7-inch, 3 serial ports, RS484/RS422, RS232, RS485, supports Ethernet
UH 410E	UH 410-4EU01-0AA0	10-inch, 3 serial ports, RS484/RS422, RS232, RS485, supports Ethernet
UH 500A Series		
UH 507AS	UH 507-1AU01-0AA8	7-inch, 2 serial ports, RS484, RS232
UH 507AE	UH 507-4EU01-0AA8	7-inch, 2 serial ports, RS484, RS232, supports Ethernet
UH 510AS	UH 510-1AU01-0AA8	10-inch, 2 serial ports, RS484, RS232
UH 510AE	UH 510-4EU01-0AA8	10-inch, 2 serial ports, RS484, RS232, supports Ethernet

■ Internet of Things Series

Model Name	Ordering Number	Product Description
UBox IoT Gateway Products		
UBox-WAN	UBox-WAN	24V DC power supply, 2 Ethernet ports, 3 serial ports (RS485, RS232, RS485), supports cable connection.
UBox-WFI	UBox-WFI	24V DC power supply, 2 Ethernet ports, 3 serial ports (RS485, RS232, RS485), supports Wi-Fi network connection.
UBox-4G	UBox-4G	24V DC power supply, 2 Ethernet ports, 3 serial ports (RS485, RS232, RS485), supports 4G network connection.
UBox-4G-3L	UBox-4G-3L	24VDC power supply, 3 Ethernet ports, supports 4G network connection.
UH 500W Series		
UH 057W-WAN	UH 507W-3WA01-0AA0	7-inch: 1 Ethernet port, 2 serial ports (RS484/RS422, RS232), supports cable connection
UH 507W-WIFI	UH 507W-3WFO1-0AA0	7-inch: 1 Ethernet port, 2 serial ports (RS484/RS422, RS232), supports Wi-Fi network connection
UH 507W-4G	UH 507W-34G01-0AA0	7-inch: 1 Ethernet port, 2 serial ports (RS484/RS422, RS232), supports 4G network connection
UH 510W-WAN	UH 510W-3WA01-0AA0	10-inch: 1 Ethernet port, 2 serial ports (RS484/RS422, RS232), supports cable connection
UH 510W-WIFI	UH 510W-3WFO1-0AA0	10-inch: 1 Ethernet port, 2 serial ports (RS484/RS422, RS232), supports Wi-Fi network connection
UH 510W-4G	UH 510W-34G01-0AA0	10-inch: 1 Ethernet port, 2 serial ports (RS484/RS422, RS232), supports 4G network connection
IoT All-in-One Series		
1	UA 407W-WA-24RDM-X	7-inch, 24VDC power supply, 1 Ethernet port, 14DI/10DO relays, supports dual BD board expansion
2	UA 407W-WA-18RAM-X	7-inch, 24V DC power supply, 1 Ethernet port, 10DI/8DO relays, 4AI/2AO, supports dual BD board expansion
3	UA 407W-WA-24TDM-X	7-inch, 24VDC power supply, 1 Ethernet port, 14DI/10DO transistors, supports dual BD board expansion
4	UA 407W-WA-18TAM-X	7-inch, 24VDC power supply, 1 Ethernet port, 10DI/8DO transistors, 4AI/2AO, supports dual BD board expansion

Ordering List

Serial Number	Order Product Number	Product Description
UA-BD board		
1	UA-4AI-BD	BD Expansion Board, 4-channel AI current input
2	UA-2DI4DOT-BD01	BD Expansion Board, 2-channel DI input/4-channel DO output (transistor type, 24VDC)
3	UA-6DI-BD	BD Expansion Board, 6-channel DI input
4	UA-6DOT-BD	BD Expansion Board, 6-channel DO output (transistor type, 24VDC)
5	UA-2AI1AO-BD	BD Expansion Board, 2-channel AI current input, 1-channel AO output
6	UA-2RTD-BD	BD Expansion Board, 2-channel RTD
7	UA-1AI1RTD-BD	BD Expansion Board, 1-channel AI current input, 1-channel RTD
8	UA-2AI1RTD-BD01	BD Expansion Board, 2-channel AI current input, 1-channel RTD
appendix		
1	SIM-YD-1G	4G data SIM card
2	UN 850-3ROD1-0XA0	HMI to X-series controller connection cable, 2 meters
3	UN 850-1R2A0-0AA0	Touchscreen download cable, with ferrite core, 1.2 meters



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