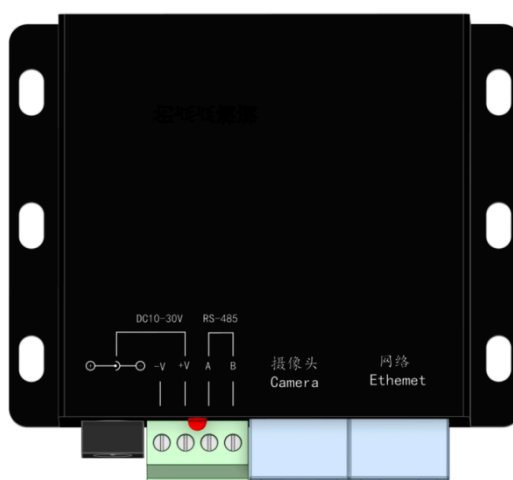
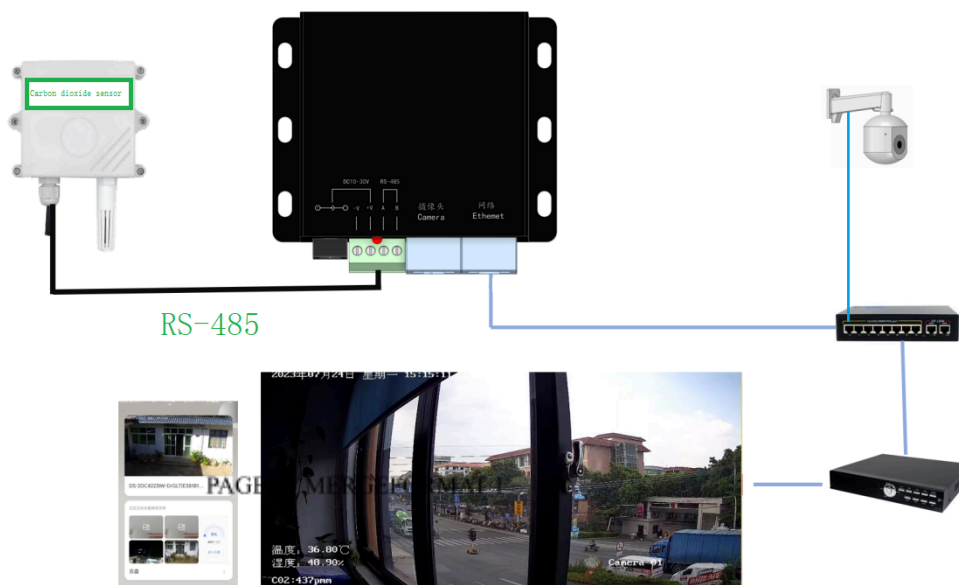


Video Overlay Data Acquisition System

user's manual



1.Product profile



1.1Product overview

The Video Overlay Data Acquisition System It is our company specially for the market general standard Modbus-RTU communication mode 485 equipment development of a suitable for hd network camera equipment. Users can connect this product to 485 devices according to the actual needs. After the simple configuration of the overlay, the corresponding character information will be displayed on the HD network camera video screen. The equipment adopts the standard Modbus-RTU communication mode, which matches all the standard Modbus-RTU equipment in the market, and can be used for sensor superposition character information, computer room monitoring, intelligent agriculture, meteorological monitoring and other places.

The Video Overlay Data Acquisition System It not only supports the character information processing of a single camera, but also supports the superposition of multiple cameras. Each character overlay can support up to 4 processing cameras and 16 standard Modbus-RTU communication mode 485 devices simultaneously. The configuration software is simple and convenient, support a variety of data type setting, register address can be offset to read. The underlying protocol docking of the camera does not affect the original video signal, and the position of the superposition information can be adjusted.

The equipment is small and beautiful, small space, simple and convenient installation.

1.2functional characteristics

■The product adopts standard MODBUS-RTU communication and matches all standard Modbus-RTU communication equipment

■The product can process multiple camera character information at the same time, and can support up to four cameras superimposed simultaneously

■The product can have access to multiple 485 devices and up to 16 PCS 485 devices

■Independent software configuration, powerful function, simple interface, simple operation

■The underlying protocol docking of the camera does not affect the original video signal

■Character display position fully adjustable

■Support any Chinese, English, punctuation display, each line can display up to 22 Chinese characters or 44 characters (the number of display is related to the camera)

- The camera shows the data in real time
- Support for DC 10 to 20 V wide voltage input

1.3the key technical indexes

Power Supply Voltage	10~30V DC
power dissipation	1.5W (DC12V)
incoming signal	485 (ModBus-RTU)
output signal	RJ45
working temperature	-20℃~+50℃
Working humidity	0%RH~90%RH
Data update time	3S
Baud rate	1200~115200bps
Applicable camera	HIK\DAHUA\UNV\TVT

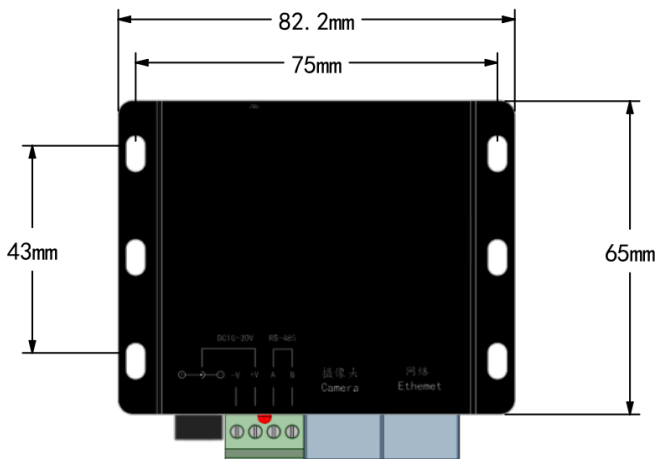
2 Equipment installation instructions

2.1equipment list

- Video Overlay Data Acquisition System 1PCS

2.2 way to install

1. The equipment is wall-mounted or screw fixing



2.3Example

- 1.Connect the device and the computer
- 2.When used, place the character overlay in the same LAN with the camera

Link Schematic

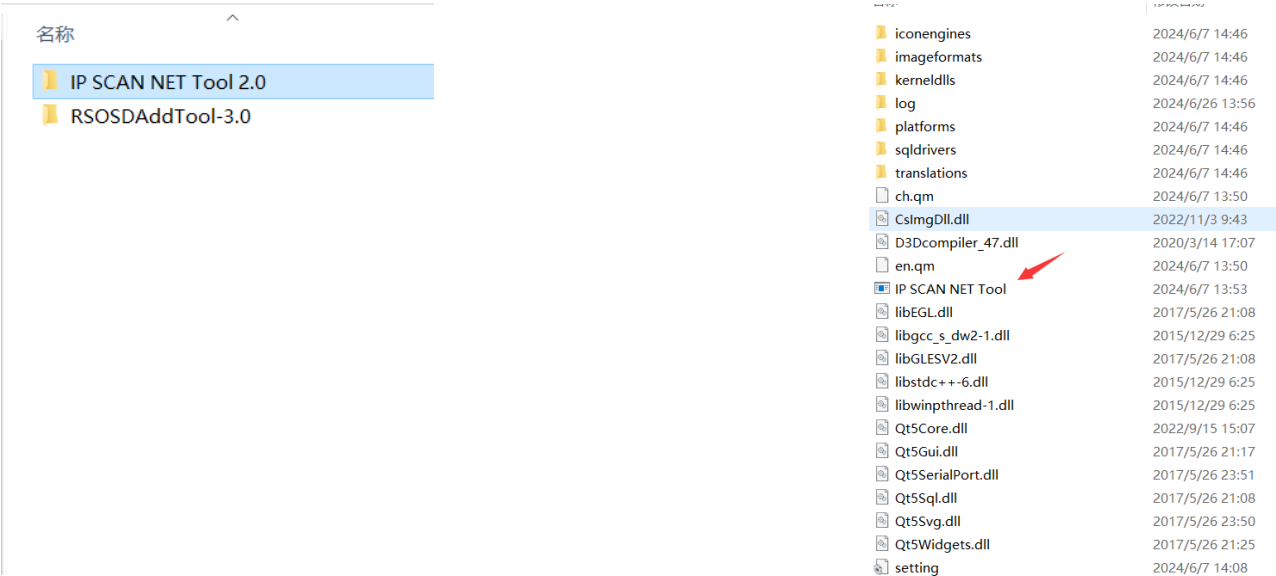


3:Configuring the software for installation and use

3.1 : Basic parameter reading and setting

Connect the computer to the same LAN Open the configuration software to run IP scan settings, click Search, the software will search all character superposition devices in the same LAN, double click the searched device, modify the IP, camera and the idle IP address of the computer in the same network segment, and then click download, click search again to see whether the IP modified successfully.

Close IP scan settings and run the* setup* program to the parameter configuration page



Visual IoT JVM-VS4001A Network Setting Tool V2.1

Local Information

192.168.5.11

2312

scan

	Device IP	Device Name	Mac addr	/ersion
1	192.168.5.44	VS40014053...	00562217...	02.04

double click

tip infor

clear

Scanning

Scan Failed

Scanning

Scan Success

Read ...

Read success

Network parameters

Language

Device Network Property Settings

static ip

192

.

168

.

5

.

44

Subnet Mask

255

.

255

.

255

.

0

gateway

192

.

168

.

5

.

1

revise

download

by the 485 device is

box is n 8 rows (the

maximum number of supported rows depends on the camera). For example, default "aaa" in the first line of the camera. If the RS485 receiver of the character stack does not receive the content sent by the 485 device, "aaa" will be displayed at the first position of the camera area. If the RS485 receives "Temperature: 18°C", and "Temperature: 18°C" in the camera 1 area, "aaa" will no longer be displayed.

3.3 .Display the adjustable location of the area, modify the value of the coordinate XY, and click "Download" after the modification. The "message area" in the lower left corner will show that the download is complete (Note: this function only functions the Haion camera, and the position of the camera should be set in the camera configuration)

3.4 485 The parameter settings

1.Click "485 parameters" and then click read, the page displays the 485 parameters uploaded by the device. The user can fill in the parameters of the 485 device according to the requirements, the user changes and click the download, the information prompt area shows that the download is completed and the modification is completed

Visual IoT Stacker JVM-VS4001A V2.3

Local Information

192.168.5.144

2312

scan

device li

export

import

	Device IP	Device Name	Mac addr	/ersion
1	192.168.5....	VS40014030...	00DD0C15...	02.04

tip informati

clear

Download ...

Download Success

Download ...

Download Success

Download ...

Download Success

Download ...

Download Success

Download ...

Download Success

Download ...

Download Success

Read ...

Read success

Network parameters

485 communication protocol

Program Upgrade

La

485 communication protocol:

Internal regulations

485 rotation interval:

1000

100-65535ms

485 timeout:

100

100-65535ms

485 communication fault tolerance times:

100

1-65536times

485 communication baud rate:

115200

Parity check:

NONE

485 slot number:

slot4

485 slot enable Video channel display p

4

slave addr

function

start addr

reg number

1

+

4

=

12557

1

Data register offset de

0

data type

16 bit unsigned inte

outcome=A*X+B A:

0.010000

B:

0.000000

Data decimal places

2

485 slot name

Load current:

485 slot uint

A

Switching alarm valu

000000

Alarm display content:

Normal display content:

1

read

download

2

PAGE * MERGEFORMAT 1

3.5.485Communication parameter settings

Visual IoT Stacker JVM-VS4001A V2.3

Local Information

192.168.5.144 2312 scan

device li export import

	Device IP	Device Name	Mac addr	/ersion
1	192.168.5....	VS40014030...	00DD0C15...	02.04

tip informati clear

Download ...
Download Success
Download ...
Download Success
Download ...
Download Success
Download ...
Download Success
Download ...
Download Success
Read ...
Read success

Network parameters 485 communication protocol Program Upgrade La

485 communication protocol: Internal regulations

485 rotation interval: 1000 100-65535ms

485 timeout: 100 100-65535ms

485 communication fault tolerance times: 100 1-65536times

485 communication baud rate: 115200 Parity check: NONE

485 slot number: slot4

☒ 485 slot enable Video channel display p 4

slave addr fuction start addr reg number
1 + 4 = 12557 1

Data register offset de 0 data type 16 bit unsigned inte

outcome=A*X+B A: 0.010000 B: 0.000000

Data decimal places 2

485 slot name Load current: 485 slot uint A

Switching alarm valu 00000

Alarm display content: Normal display content:

read download

Modbus protocol 485.

ask the next device. Setting
t, the character superposition
re optional

Visual IoT Stacker JVM-VS4001A V2.3

Local Information

192.168.5.144 2312 scan

device li export import

	Device IP	Device Name	Mac addr	/ersion
1	192.168.5....	VS40014030...	00DD0C15...	02.04

tip informati clear

Download ...
Download Success
Download ...
Download Success
Download ...
Download Success
Download ...
Download Success
Download ...
Download Success
Download ...
Download Success
Download ...
Download Success

Network parameters 485 communication protocol Program Upgrade La

485 communication protocol: Internal regulations

485 rotation interval: 1000 100-65535ms

485 timeout: 100 100-65535ms

485 communication fault tolerance times: 100 1-65536times

485 communication baud rate: 115200 Parity check: NONE

485 slot number: slot1

☒ 485 slot enable Video channel display p 1

slave addr fuction start addr reg number
1 + 4 = 12544 1

Data register offset de 0 data type 16 bit unsigned inte

outcome=A*X+B A: 0.010000 B: 0.000000

Data decimal places 2

485 slot name Solar Voltage: 485 slot uint V

Switching alarm valu 00000

Alarm display content: Normal display content:

read download

the slot setting parameters are not enabled

The video channel shows the location. The camera displays up to 4 channels, in this position select to display the information
uploaded by the device in the number channel.(Note: When one channel displays up to 44 bytes of a slot. When one channel
displays multiple slot information, each slot is separated by one byte. When the last slot information exceeds 44 bytes, the last
slot information will no longer be displayed.)

From the station address: Fill in the equipment address. Range: 1~255.

function cod: Select the read function code that the device can use.

Start-register address: Fill in the register address for the data to be uploaded

Number of registers: Fill in the length of the uploaded data register.

Data register is offset: When the device only allows to read the fixed command, the starting register of the read is read from
the register after the offset value.

data type: Select the type of data uploaded by the device. The large end indicates that the high end is behind the front and low

end, and the small end is opposite.

output =A*X+B: Data processing before the data is uploaded to the camera. A is the coefficient and B is the constant.

Data with the decimal points: Select the decimal point position of the upload data display.

485 Slot position name: Fill in the name of the slot, the name will be displayed to the camera according to the filling content, up to 8 Chinese characters and 24 English letters.

485 slot unit: Fill in the slot unit, the unit will display to the camera according to the filling, fill in up to 4 Chinese characters and 12 English letters.

Set instances

5. Camera parameter configuration

5.1 OSD set up

1.Up to four video cameras can be configured

2 Camera brand to choose the corresponding brand. The source port defaults to 0 without modification. Fill in the camera IP to be added in the camera address bar, and fill in the camera port according to the actual situation, hik/DAHUA/TVTCamera by default 80, UNV Default 1026.

Up to 6 rows supported (adjustable by camera actual OSD channel)

Coordinates can be adjusted by the software

The screenshot displays the 'Visual IoT Stacker JVM-VS4001A V2.3' software interface. The 'Local Information' section on the left shows a table with one device entry: IP 192.168.5.11, Name VS40014053..., Mac 00562217..., and Version 02.04. The 'Network parameters' section on the right is active, showing 'Device Network Property Settings' with static IP 192.168.5.44, Subnet Mask 255.255.255.0, Gateway 192.168.5.1, and Remote IP 192.168.5.44. Below this, the 'camera1' tab is selected, showing camera-specific settings: IP 192.168.5.119, Port 80, User admin, Password a1234567, Line num 6, and Brand dahua. The 'OSD' section shows a table for 8 lines of text, with the first line set to 'testline1' at x=20, y=0. A 'bad param' button is at the bottom.

Device IP	Device Name	Mac addr	Version
1 192.168.5.44	VS40014053...	00562217...	02.04

Network parameters: 485 communication protocol, Program Upgrade, Language

Device Network Property Settings

static ip: 192 . 168 . 5 . 44
Subnet Mask: 255 . 255 . 255 . 0
gateway: 192 . 168 . 5 . 1 ☐ dhcp
remote ip: 192 . 168 . 5 . 44

camera1 camera2 camera3 camera4

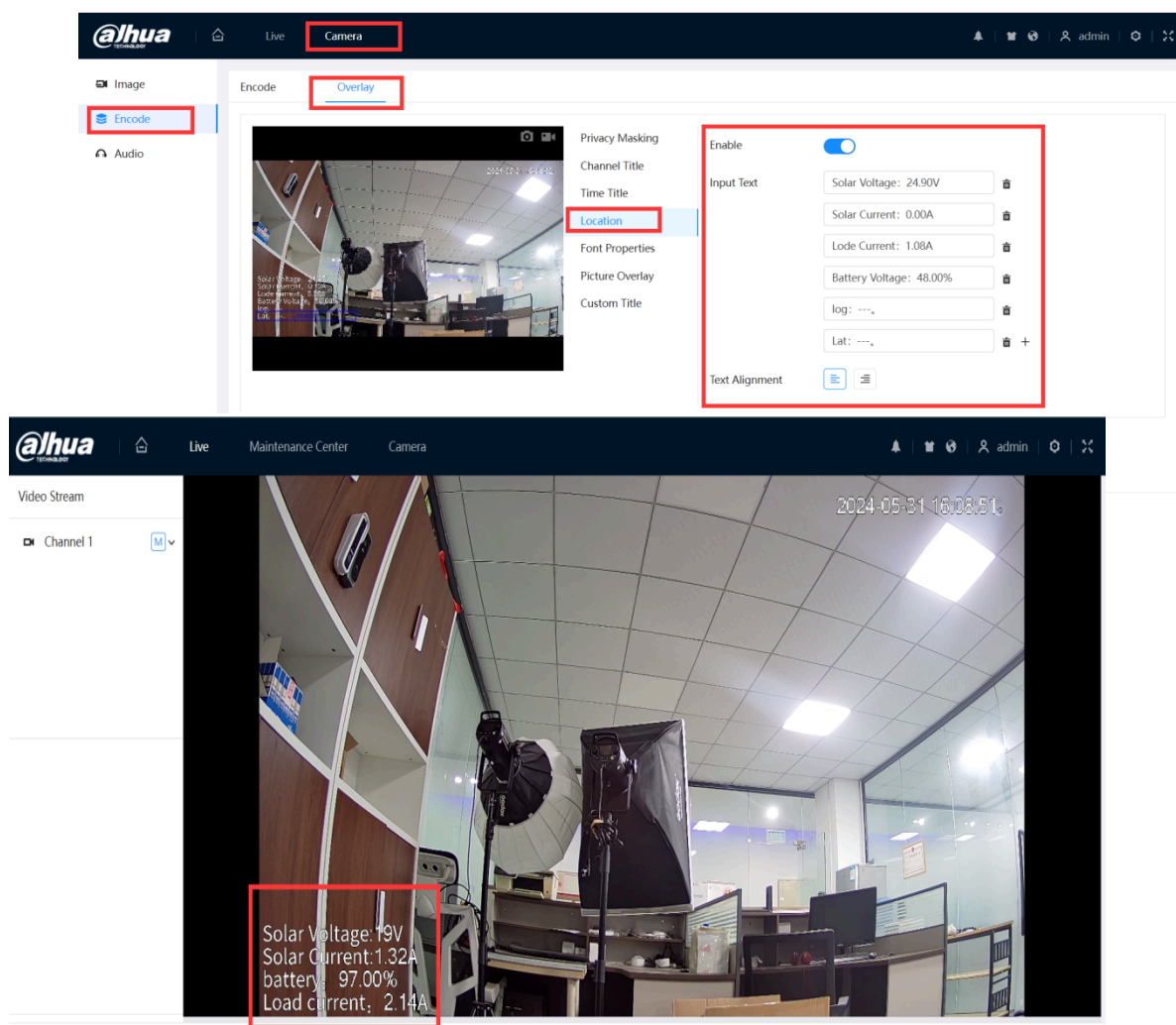
camera i: 192 . 168 . 5 . 119 camera p: 80 camera s: 0
user name: admin password: a1234567 line num: 6 dahua

default x position y position

line	text	x position	y position
line 1	testline1	20	0
line 2	testline2	20	0
line 3	testline3	20	0
line 4	testline4	20	0
line 5		0	0
line 6		0	0
line 7		0	0
line 8		0	0

bad param

DAHUA:



Other parameters refer to the communication protocol of the data terminal

6.Common problems and solutions

The camera does not display the overlay character information:

1. Check whether the 485 equipment AB cable is connected and reverse
2. Check whether the network video character overlay IP, camera IP, and PC terminal IP are under the same network segment
3. Check whether the power supply of the video character superlay is normal
4. Check whether the camera IP and target port in the configuration software are set correctly
5. Check whether the port rate is set correctly in the configuration
6. Whether the multi-channel camera is selected as a single-channel camera
7. Whether the superposition number is checked or enabled
8. 485 Whether the communication protocol is selected is wrong
9. Whether the corresponding slot number is not enabled
10. Whether the address and the data type are selected correctly

7. size: 82.2mm*65mm*25mm

