

Integrated Cabinet Dynamic Ring Monitoring Operating Guide V2.0

Please read this manual:

It provides important installation, operation, and maintenance wizards to maximize your devices performance and to extend its service life.

Please keep this manual:

It contains important guidance on the safe use of moving rings and access to services.

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1. Overview

1.1 Product Introduction

The host collects infrastructure data through network SNMP, distribution controller, etc. The default IP address of the moving ring host is 192.168.2.192, and the account number and password is admin. Moving ring host and distribution controller built-in network service, can be directly accessed through the browser login way.

This product is always designed around the concept of high reliability power environment detection, and it is a system specially designed for monitoring and managing the environmental parameters and equipment status in the data center or computer room. It can be applied to a variety of different environmental monitoring and management scenarios to meet the personalized needs of users.

1.2 Main characteristics of the products

1.2.1 Highly intelligent

◆ The moving ring system of VK adopts advanced intelligent technology, which can realize the automatic monitoring and management of data center equipment. Through the connection and data collection, the system can obtain the equipment operation status, energy consumption and other information in real time, and conduct intelligent analysis and processing.

1.2.2 Real-time monitoring and early warning

◆ The system has the real-time monitoring function, can timely find equipment failure, abnormal temperature, energy waste and other problems, and timely issue early warning notice. This can help the data center operations and maintenance personnel to respond quickly and solve problems, and improve the stability and reliability of the overall operation.

1.2.3 Precise energy management

VK moving ring system can accurately monitor energy consumption in data centers, including power, cooling and other aspects. Through real-time analysis and optimization of energy data, energy conservation suggestions and strategies can be provided to help data centers reduce operating costs and improve energy efficiency.

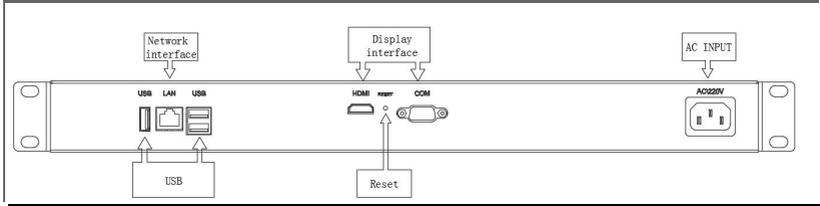
1.2.4 Expansibility

The moving ring system of VK has good scalability, and can be flexibly increased and adjusted with the expansion of data center scale. Users can expand and upgrade the system according to their own needs to adapt to the changing business needs and data center development.

1.2.5 Data security and privacy protection

Data security and privacy protection: VK dynamic ring system attaches great importance to data security and privacy protection, and takes strict data encryption, authority management and access control measures. Users data will be protected from access or compromised by unauthorized personnel.

1.3 Equipment description



name	meaning	name	meaning
USB	USB (keyboard and mouse) interface	HDMI	Display HDMI interface
LAN	network interface	COM	The SMS alarm host interface
RESET	Reset the button	AC220V	Power input interface

* C14 power interface: The moving ring supports AC AC110V and AC220V 50HZ / 60Hz power input.

* LAN network interface: the connection and data acquisition of other sub-devices through the network.

* HDMI display interface: moving ring display output interface.

* COM interface: the input interface of the SMS alarm host.

1.4 Equipment reset

If you forget the device login password and other circumstances, you can choose to reset the moving ring host device.

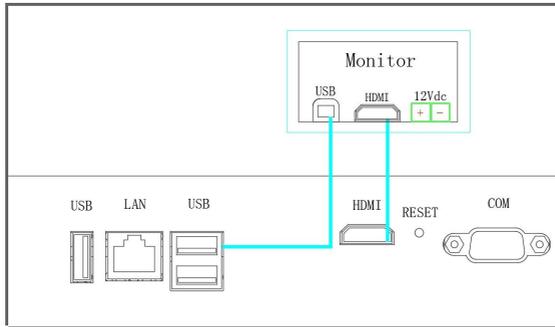
Reset operation: In the normal operation of the moving ring host, press and hold the RESET pinhole reset button for about 15 seconds, and then release, the moving ring host network light flashes, about 1 minute after the moving ring main chance to restart. Account number, password, setting, and other information will be restored to the default value. After the operation is completed, the device information will be reconfigured, and some connected

devices will need to be reconfigured.

2. Device connection diagram

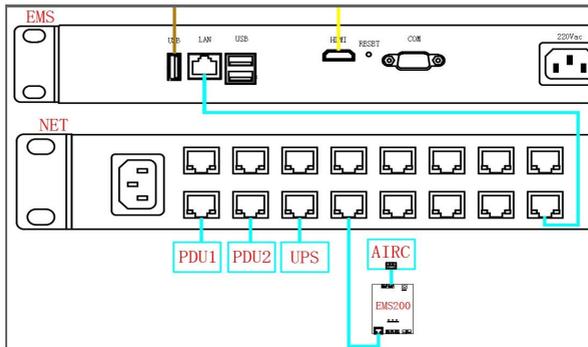
2.1 Display screen connection

The moving ring is connected to the display through the HDMI line and the USB line, and the LAN port of the moving ring is connected to the switch. as illustrated in following figure.



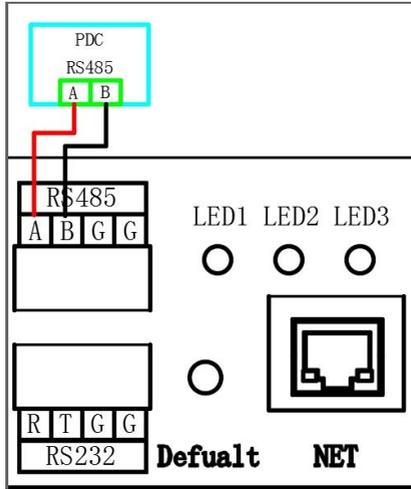
2.2 Connect the air conditioner, PDU and UPS

The connection between moving ring and air conditioner is converted to network connection through RS485 using EMS200, and the connection between moving ring and UPS host is converted to network connection through RS485 / 232 with SNMP card. The connection mode is as follows:



2.3 Distribution box connection

The moving ring and distribution box connection is the RS485 interface using the moving ring distribution controller, which is converted to a network connection through RS485 and then connected to the switch through the network cable. The default RS485 is used in the distribution box, and the connection mode is as follows:



2.4 Connect of dry contact sensor

Smoke, water immersion and other sensors are connected with the dry contact interface of the moving ring distribution controller. When the sensor alarms, the dry contact signal will be transmitted to the moving ring. The connection method is refer to the manual of integrated Cabinet Moving Ring Distribution Controller.

2.5 Temperature and humidity sensor connection

Temperature and humidity, please use the special temperature and humidity sensor. Access the moving ring distribution controller TH port, which supports up to two temperature and humidity insertion connections. If there are more temperature and humidity sensors, the temperature and humidity interface of PDU can be inserted, and the moving ring will read the relevant temperature and humidity sensor data through the SNMP network protocol. The connection method is refer to the manual of integrated Cabinet Moving Ring Distribution Controller.

2.6 Network device connection

PDU, UPS and other network devices using SNMP communication are directly inserted into the switch and the moving ring to realize network communication and connection.

2.7 Equipment installation environment

- ◆ The placement position must be smooth.
- ◆ The distance between the outside of the case and the wall is not less than 10cm.
- ◆ The distance between the front and rear panels of the chassis and the wall is not less than 60cm.
- ◆ Stay away from the heat source, avoid rain, no direct sunlight, no corrosive.
- ◆ Maintain the normal temperature and humidity.
- ◆ Keep the room clean.

kindly reminder:

For your future transportation and packaging convenience, please place the packaging materials in the box, and keep them properly.

pay attention to:

If the accessories are incomplete, please contact the supplier quickly.

Statement

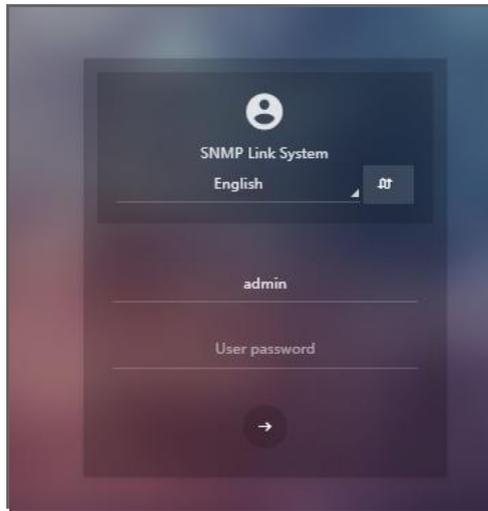
This is A class A product, in the living environment, the product of radio interference may be caused, in this case, users may be required to take practical measures for its interference.

3. Software use

The default IP address is 192.168.2.192. The default IP address of the VK front-end network device is 192.168.2.X. If the user needs to modify the IP address, please modify it to the same network segment together with the front-end device, otherwise the moving ring cannot access the front-end network device, and the front-end network device cannot communicate with the moving ring. The display can use a built-in browser to access the moving ring through the IP address, or use the Android-installed SNMP-Link software, which defaults to 192.168.2.192.

3.1 Software Login

Use the display or PC browser to enter 192.168.2.192 to log in to the browser. Please confirm the IP network segment of the PC or display screen before login. If you use Android SNMP-Link, you can enter the login interface, and enter the correct account and password to enter the system. Default account number and password: admin.



3.2 Main interface of the software

The upper right corner of the main monitoring page is the menu bar, which provides the selection of user functions. The front side is the monitoring bar, showing the distribution box, UPS, PUE and other monitoring information.



Instrument

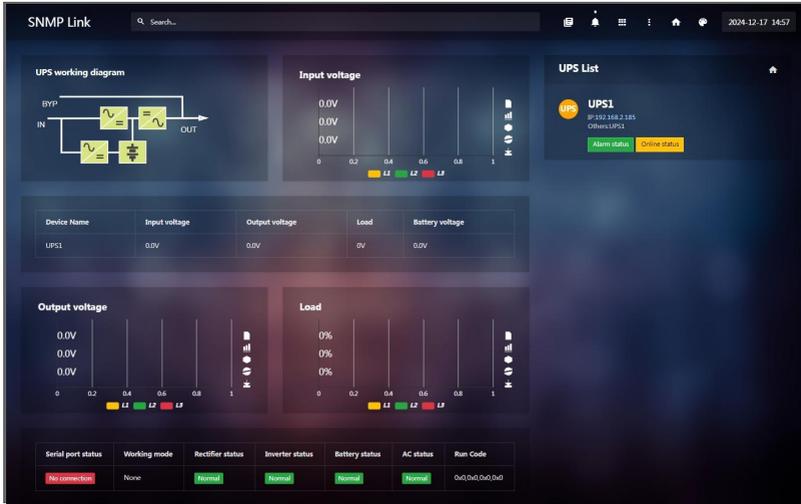
- Instrument part has PUE, total input and temperature and humidity.
- The PUE display is an indicator to evaluate the energy efficiency of the data center, and is the ratio of all the energy consumed by the data center to the energy consumed by the IT load. Provide the quantification of energy efficiency conversion data for the cabinet.
- The total input part displays the input voltage, and the mouse or click on the chart will display the corresponding value.
- The average temperature and humidity of the cabinet is shown on the right side. Statistics of the average of all temperature and humidity sensors.
- The lower half of the instrument is divided into UPS host, air conditioning, power distribution and sensor monitoring information.



3.3 Equipment information viewing



The upper right equipment menu can view the distribution box PDC, UPS, PDU, air conditioning, STS, battery, sensor, camera information. Click on the relevant menu to enter the device information browsing interface. For example, click the UPS device to enter the UPS status to view. The following information shows the UPS device monitoring information on the left and the list of UPS devices on the right:



3.4 Equipment Settings

Equipment setting can set the threshold of all kinds of equipment, if the equipment detection data exceeds the threshold, the alarm will produce. The moving ring will record the relevant alarm situation in the data log, and the alarm warning tag of the main menu title bar also appears. For example, the temperature and humidity threshold is set in the air conditioning setting interface:



3.5 New network equipment

192	168	2	192
↑	↑	↑	↑
Network number	Network number	Network number	Device address

The moving ring monitors the front-end network equipment through the SNMP protocol, including UPS, PDU, STS and other devices. Therefore, in the new equipment monitoring, specify the IP address of the monitored equipment. For example, the moving ring IP address is 192.168.2.192, and other network equipment IP addresses can only be selected between IP address 192.168.2.1~192.168.2.255 to ensure the normal communication between the monitored equipment; change the network number of a device, all equipment need to change the same network number for communication.

Sub-device add Settings: enter the main interface of the moving ring, click the nine grid in the menu bar in the upper right corner, and then click Device Settings to add all subsystem devices (network address) to the device list of the moving ring. After the device is added, click the " " button in the upper right corner to return to the main page, and then enter the device list according to the test item and click the device option to view the data and status. For example, the following figure adds a UPS device:

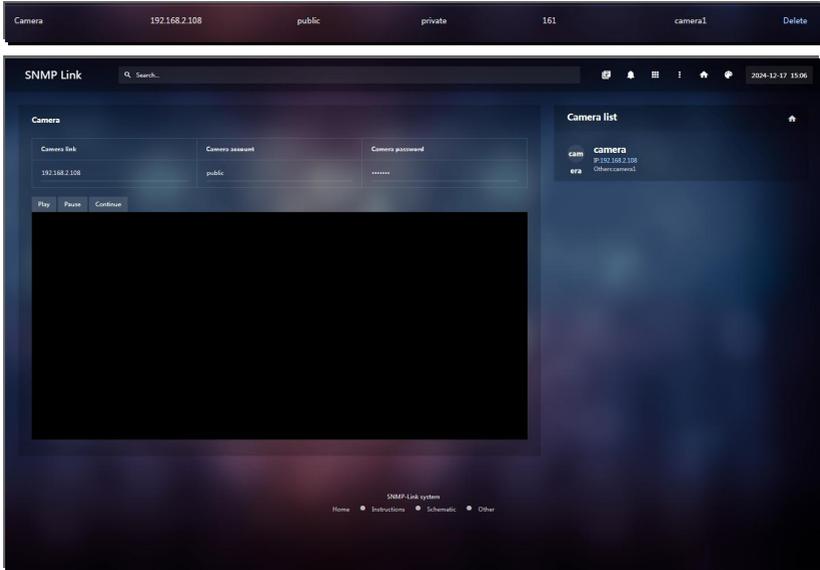
The screenshot shows a dark-themed web interface for editing device information. At the top, it says 'Edit device information' and provides instructions: 'Edit or add data center network devices. After adding, the system automatically uses the SNMP protocol to communicate with the devices. The default port for SNMP reading devices is 161. The IP address of the device must be in the same network segment as the IP address of the dynamic ring host and can communicate with each other.' The form contains several input fields: 'Device name' with 'UPS1', 'Device IP' with '192.168.2.185', 'SNMP get' with 'public', 'S SNMP set' with 'private', 'SNMP port' with '161', and 'Others' with 'UPS1'. A 'Device type' dropdown menu is set to 'UPS'. A green 'Add device' button is at the bottom left.

After filling in the basic network information, select the corresponding device from the device type, and then click the new device to add it. Other devices are similar to the above.

Add camera device: add the camera device to the device setting as in the UPS device, activate the moving ring to monitor the camera instructions; and activate the address of the camera: image code: H.264, image system: NTSC.

Select the camera in the device menu, enter the interface, fill in the link address of the

camera, account and password, and click play to open the real-time monitoring screen of the camera.



3. 6 Network Settings

Network settings include network information settings, such as IP address. The default network IP information is 192.168.2.192. For IP address modification, please ensure that the front-end device can communicate with the moving ring. Click the nine grid in the menu bar in the upper right corner, and then click network Settings to set the network address.

3. 7 User management

Users are divided into administrators and ordinary users, ordinary users can only view but not set. Select User Settings in the nine grid of the menu bar in the upper right corner, and click the new user in the lower left corner to create a new user. If you need to modify the user information, click the edit menu of the user list, and the edit user interface will appear.

The screenshot shows the 'Users list' section of the web interface. It contains a table with the following data:

ID	User Name	customer type	User email	Telephone	Edit	Delete
0	admin	Administrator			Edit	Delete
1	111	Regular Users			Edit	Delete

Below the table is a green button labeled 'Add User'.

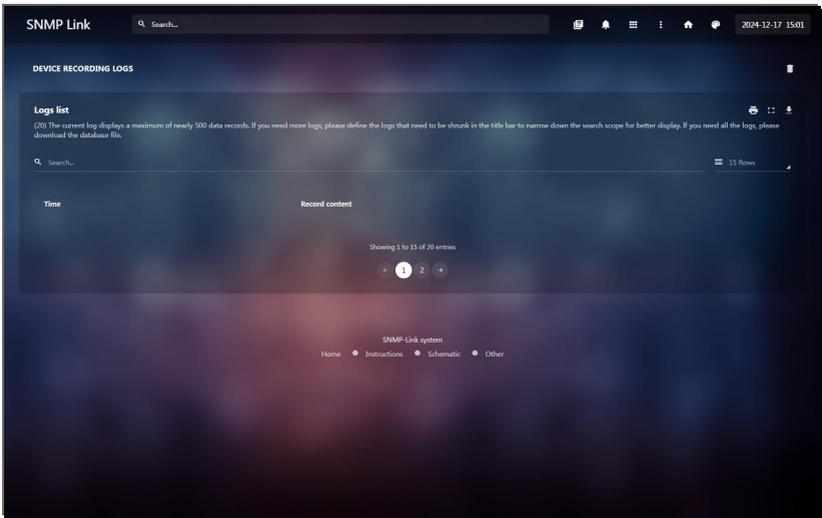
3.8 Door lock control

The moving ring interface can manually open the door lock of the integrated cabinet: click the sensor device of the device menu, click the front door open / back door open popover command to determine.

3.9 Log information

Click the device log button or trap record in the upper right corner to view the log information of the device, the log information is divided into two categories, the first category is trap log, SNMP network device as long as the moving ring host IP for trap receiving address. The generated trap information is reported to the log.

Class 2 equipment information records the operation record and alarm events of the equipment. If the device moves or exceeds the threshold set by the moving ring, the log information generated by it will be recorded there.



POP3/IMAP/SMTP/Exchange/CardDAV/CalDAV服务

开启服务：	POP3/SMTP服务 (如何使用 Foxmail 等软件收发邮件?)	已开启 关闭
	IMAP/SMTP服务 (什么是 IMAP, 它又是如何设置?)	已开启 关闭
	Exchange服务 (什么是Exchange, 它又是如何设置?)	已关闭 开启
	CardDAV/CalDAV服务 (什么是CardDAV/CalDAV, 它又是如何设置?)	已关闭 开启
	(POP3/IMAP/SMTP/CardDAV/CalDAV服务均支持SSL连接。如何设置?)	

温馨提示：在第三方登录QQ邮箱，可能存在邮件泄露风险，甚至危害Apple ID安全，建议使用QQ邮箱手机端登录。
继续获取授权码登录第三方客户端邮箱 (🔗)。生成授权码



3.10 SMTP function setting

Send the email account: set the sender account of the email alarm. Take the QQ mailbox as

an example, its format is in XXXXXX@qq.com, No more than 64 characters in length.

Send email password: set the password of the email sender account, no more than 64 characters long. Take QQ mailbox as an example, this password is not the default password of QQ mailbox. QQ mailbox needs to use a dynamically generated password to send mail using a third-party email client, and the password is located in the QQ mail setting area:

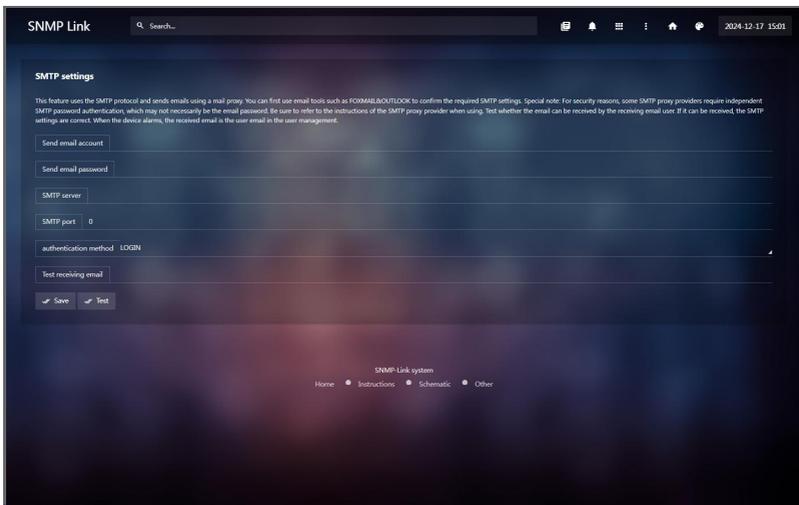
You need to open the POP 3 / SMTP service, and then scan the QR code to generate a dynamic password.

SMTP server: Set the SMTP mail server address. Take the QQ mailbox as an example, the address is smtp.qq.com. To ensure that the domain name is resolved correctly, please fill in the WAN IP address and DNS in the network settings.

SMTP server port: Set up the SMTP server terminal port. Take QQ mailbox as an example, the port uses LOGIN non-encryption 25 and SSL encryption 465. This port is different on the SMTP provided by the service provider. Please check carefully.

Send mailbox authentication mode: select the authentication mode of SMTP mail server, LOGIN is ordinary account login mode, SSL is encryption mode, according to the mode provided by the server provider.

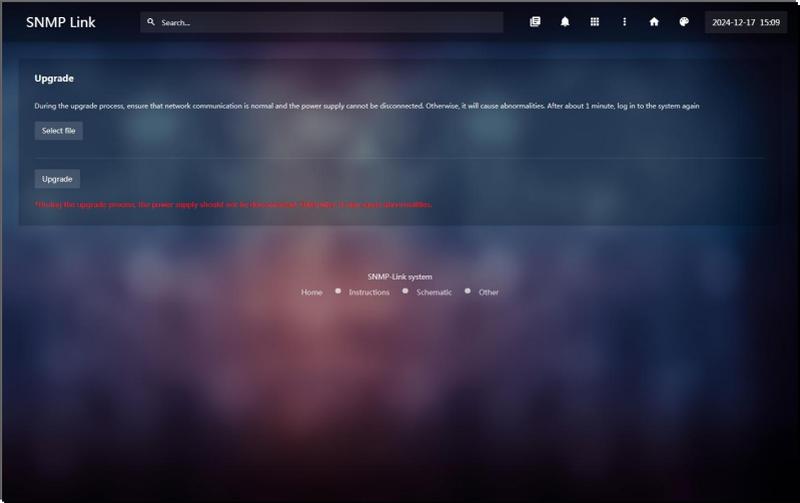
Test mailbox: complete the receiving mail address for the test. Used for testing. Click the "Test" button to test whether the email can be sent or received.



3.1 1 Software upgrade

In the system setting, software upgrade menu, the latest program can be updated, please contact the customer service for the upgrade file. Click the online upgrade in the upper right corner, select to upload the upgrade file in the upgrade interface, and do not modify the file

name. After confirming the upgrade file, click the upgrade button. Please press the instructions for the upgrade process.



4. Schematic diagram of the typical system connection

