Industrial grade central control mainframe

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xPRO6 is an industrial-grade central control host that can be applied to smart buildings, smart factories, smart education, smart transportation and other scenarios, and is installed using DIN rails. This host system can customize the integrated management and control of different brands and models of products supporting RS485, RS232 and LAN control. Make the IoT access operation of equipment more humane, more environmentally friendly and more efficient.

xPRO6 central control host supports Internet communication of all modules of the system running in various application scenarios, and then unified management of equipment in the cloud based on the Internet. The xPRO6 central control host supports remote system control through the UControl mobile APP of mobile terminals (devices supporting Android and iOS operating systems). The xPRO6 central control host can be remotely connected to the Wecontrol APP on the WEB side (devices supporting Windows, macOS and Linux operating systems).

The xPRO6 central control host can be programmally customized through S-Net, so as to upload the system data of the connected equipment in each application scenario to the corresponding intelligent centralized control management system for device status management and data statistical analysis. The entire data transfer and device control comply with the latest industry standards. The scene management and scene timing settings of the system can be operated remotely through the UControl mobile app or Wecontrol APP. The simple and convenient operation mode meets the needs of the current IoT system.

The xPRO6 central control host can be linked with the FMS middleware platform for the realization of a series of functions such as rail transit central control host connection, central control host data collection of sub-devices, sub-device data reporting to third-party cloud platforms, and third-party cloud platform issuance and control hardware equipment and device management.

The xPRO6 central control host can be linked with DMS middleware and fog computing platform to realize the interconnection between devices, between platforms, and between devices and platforms based on unified and standardized interfaces, so that the access and status management of various IoT equipment systems in the project can be carried out on the visual page.

The xPRO6 central control host adopts industrial fanless heat dissipation design, which can avoid noise pollution caused by fans, and can be used in occasions with high noise requirements. This design also improves equipment reliability, reduces equipment maintenance costs and better environmental adaptability.

The xPRO6 central control host supports access to BACnet MS/TP protocol, which can provide reliable and real-time data transmission services for the field control bus, realize the standardization and openness of the entire building control system, and make the use of building automatic control technology simpler.

The xPRO6 central control host supports access to BACnet/IP, which can match fast and high-performance DDC controller to handle complex control tasks, and can directly control information from the protocol layer, such as trend, scheduling, alarm, file transfer and other functions, suitable for the most demanding intelligent buildings at this stage.

The xPRO6 central control host supports access to KNX equipment, which can convert the KNX standard protocol into a cloud protocol, realize cloud and mobile terminal connection, and realize the communication between Modbus/RS485/RS232 and KNX bus.

The xPRO6 central control host supports the control of various equipment types such as lighting and air conditioning.

xPRO6

Industrial grade central control mainframe

operating system

The operating system is a Linux system, which makes the work processing faster and more stable; Uninterrupted working life up to 10 years.

Programmable customization

Provides a high-speed, multitasking system. The programmable custom architecture allows programmers to independently develop and run device-specific programs for lighting, HVAC, security, audio and video, and more. System upgrades via remote network operation greatly improve customization efficiency.

Watchdog function

The device has a hardware and software watchdog function, and the watchdog command has the highest priority in the interruption of the program. Regularly check the internal situation of the chip, and send an automatic reset signal to the chip once an error occurs, so as to avoid the program entering an endless loop;

Presence management

Presence management is the online status management of the device system that accesses the host system, which can accurately obtain or judge the online status of the smallest unit of each device system currently accessed.

S-Net bus modular design

The device is designed with ARM pure hardware architecture, with local data processing and channel control, low power consumption of the module as a whole, and timely task processing. The module communicates via the dedicated bus S-Net to ensure the stability and reliability of data transmission.

BACnet/IP access

It can provide interfaces for connecting, monitoring and controlling building automation equipment, such as HVAC HVAC, including heating, ventilation, air conditioning, lighting control, access control systems, fire detection systems and related equipment. Think of a large number of software applications providing real-time data.

Communication transmission

S-Net communication mode and TCP/IP communication mode conversion device. As an intermediate device for intelligent centralized control management system and other regulation and control devices. The function setting and configuration of the device can be carried out through the PC control software.

Programmable space management platform

SCHIDERON WeControl is a programmable space management platform or application for smart IoT, smart home and hospitality. Programmable interface, users can drag and drop to customize the configuration page. It can be operated through Windows, macOS, and Linux operating systems.

Data management

Upload all data (including loop status, energy consumption information, etc.) of the intelligent lighting system, smart home system and room management system access module to the intelligent centralized control management system. This can use powerful background processing capabilities to process resource data and improve processing efficiency. Especially used in enterprise management, school classrooms, conference studios and other occasions as a data transmission aggregation node.

Centralized control of APP

SCHIDERON UControl is an IP-based control system that opens up enormous new possibilities for control and monitoring via LAN, WAN integrated systems and the Internet. And this APP supports more control methods, your world you control! You can control any device system you access from your iPhone®, iPad® and Android™ devices anytime, anywhere.

BACnet MS/TP protocol access

Support BACnet MS/TP protocol is mainly used for data communication protocols in building automation and HVAC industry, support fans, pumps and ventilation devices and other equipment to communicate with PLC resumes, which can make buildings reach a high level of automation.

xPRO6

Industrial grade central control mainframe

UDP_Client protocol

Support access to UDPClient protocol, module after power on to monitor the set of shorts, do not actively establish a link, when the serial device sends data to the module serial port, the serial device server sends data to the set target IP and port, the PC side can set the target IP and port to the module's own IP module's own port, and then the PC side sends data, can send data to the module serial port end.

TCP_Client protocol

Support TcpClient protocol, can actively initiate a connection to the remote server, can transmit data between the client and the server, receive data and process commands. When a client application starts, it can actively connect to a specific TCPServer in order to communicate with it.

UDP_Server protocol

A normal UDP server can not verify the source IP on the basis of UDP, and after receiving UDP packets, change the

IEC104 protocol

Support IEC104 protocol, used to realize remote monitoring, data acquisition, control and protection in the power system, can meet the requirements of communication reliability and real-time in the store system, and provide important support for the safe and stable operation of the power system.

MQTT_Client

Support MQTT Client, stable, can support large data volume, lightweight, less resource occupation, can seamlessly connect mbedtls encrypted transportation, has a simplified API interface, does not depend on external dependence.

Bracket mounting

Support bracket installation, adapt to multiple application scenarios, can be applied to a variety of computer room layout, more humane.

TCP_Server protocol

Supports TCPServer protocol for listening on network ports and accepting client connection requests. Based on the TCP protocol, listen on a certain port of the network and wait for the client's connection request. Once a client connection request is accepted, TCPServer handles the communication with the client, including data transmission, command interpretation, and other related processing.

HTTP_Client interface

Support HTTP Client interface, support HTTPS protocol, establish a transparent connection through HTTP proxy, and support automatic processing of cookies in Set-cookies. You can access the corresponding URL address through the HTTP network protocol to obtain the required files or data.

HTTP_Server

Support for HTTP Server, fast, reliable, and extensible through a simple API, with cross-platform row and security. You can debug on your local server.

KNX device access

Support access to KNX equipment, support RS485 equipment and RS232 equipment, integrate a variety of equipment, more convenient to use, only need a central control, can meet a variety of configurations.

DIN rail mounting

The "modular" equipment is flexible for installation and application in real-world environments, and the system supports standard 35mm DIN rail mounting, which provides a very space-saving, cost-effective modular solution for configuring a complete system with automation.

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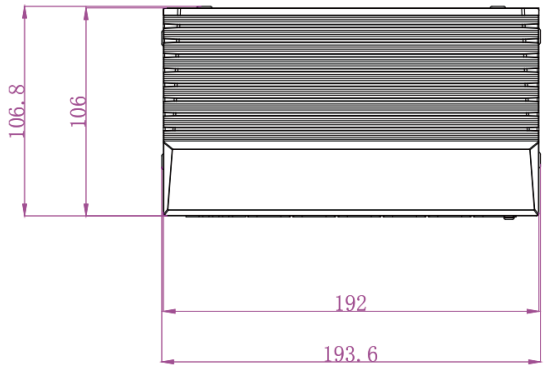
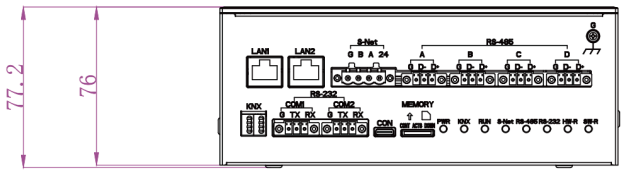
Exterior structure specifications





Appearance characteristics

Material: 1.2mm high quality sheet metal shell, high temperature resistance
Terminal: PA66, fire rating UL94-V0 class 5VA (2.0mm), high temperature resistance
Length: 193.6mm (7.62in)
Width: 106.8mm (4.20in)
Height: 77.2mm (3.04in)

Description of the device terminals

1.<LAN1>: Standard RJ-45 Ethernet interface, 10Base-T/100Base-TX;
2.<LAN2>: Standard RJ-45 Ethernet interface, 10Base-T/100Base-TX;
3.<KNX>: Bus connection terminal (red/black)
4.: <S-Net>S-Net communication port, 2×5.08-4pin separable terminal (Note: 24DC must be one in and one out)
5.<RS485-A>: RS485 port, 3.81-3pin separable terminal
6.<RS485-B>: RS485 port, 3.81-3pin separable terminal
7.<RS485-C>: RS485 port, 3.81-3pin separable terminal
8.<RS485-D>: RS485 port, 3.81-3pin separable terminal
9.<RS232-COM1>: RS232 interface, baud rate up to 115200bps, 3.81-3pin separable terminal
10.<RS232-COM2>: RS232 interface, baud rate up to 115200bps, 3.81-3pin separable terminal

Specifications

Protocol type: S-Net, KNX
Operating system: Linux
CPU: Quad-Core ARM Cortex-A53 clocked at up to 2GHz
Memory: 2GB DDR4L high-performance memory
Storage: 8GB MLC eMMC
Ethernet port: 10/100Mbps, support AUTO MDI/MDIX
Card slot: TF card slot, support TF card expansion storage
CON socket: typc-C interface for debugging
Grounding socket: Used for device grounding
Power supply: 24VDC, support overcurrent, lightning resistance, reverse polarity protection
Operating temperature: -25-85°C
Storage temperature: -25~85°C(-40~185°F)
Installation method: DIN rail installation, bracket installation

Indicators and buttons

HW-R: Restart button for device restart;
SW-R: Reset button, clear data after long press for 5s;
PWR: LED, ON means that the device is powered on;
KNX: Flashing indicates that the KNX bus is transmitting data
RUN: LED, ON represents the system running;
S-Net: Green LED, flashing indicates that the S-Net bus is transmitting data;
RS-485: green LED, flashing indicates RS-485 transmitting data;
RS-232: Green LED, flashing indicates that RS-232 is transmitting data;

xPRO6

Industrial grade central control mainframe

Available models and accessories

Product Model:
xPRO6 (aluminum alloy housing)
xPRO6-C (sheet metal housing)
Product Accessories:
S-Net bus: one RVVP4×0.75 cable; Function: Provide 24V working voltage and S/N two-channel communication signal to the product;

Product wiring and operating instructions

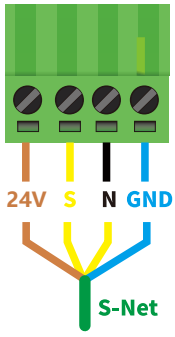
xPRO6 (Central Control Master) needs to be connected to the SCHIDERON intelligent control system via the S-Net bus protocol price module;

S-Net communication network

SCHIDERON intelligent control system adopts the communication protocol of the dedicated network seat and its communication network. According to the definition of S-Net, each segment of the communication network can support 32 nodes, the number of single-segment communication network devices exceeds 32, you need to increase the bridge, when the number of devices does not exceed 32, and the total length of the communication distance exceeds 400 meters, you need to increase the bridge to extend the communication distance. The SCHIDERON control system communication network (S-Net) uses Rvvp4×0.75 as the communication cable.

KNX communication network

KNX system can be connected to up to 64 KNX devices per line, each domain can contain 15 branch lines, each line is connected to the trunk line through a line coupler, the trunk line requires a system power supply to provide equipment fault power, a system includes 15 domains, the total number of devices in the entire system can reach 14400 devices, and then add the coupler can reach 43200. When there are more than 64 devices on a bus, they can be connected via couplers.



Terminal dimension	24V	S	N	GND
Terminal color	brown	Yellow	Black	blue

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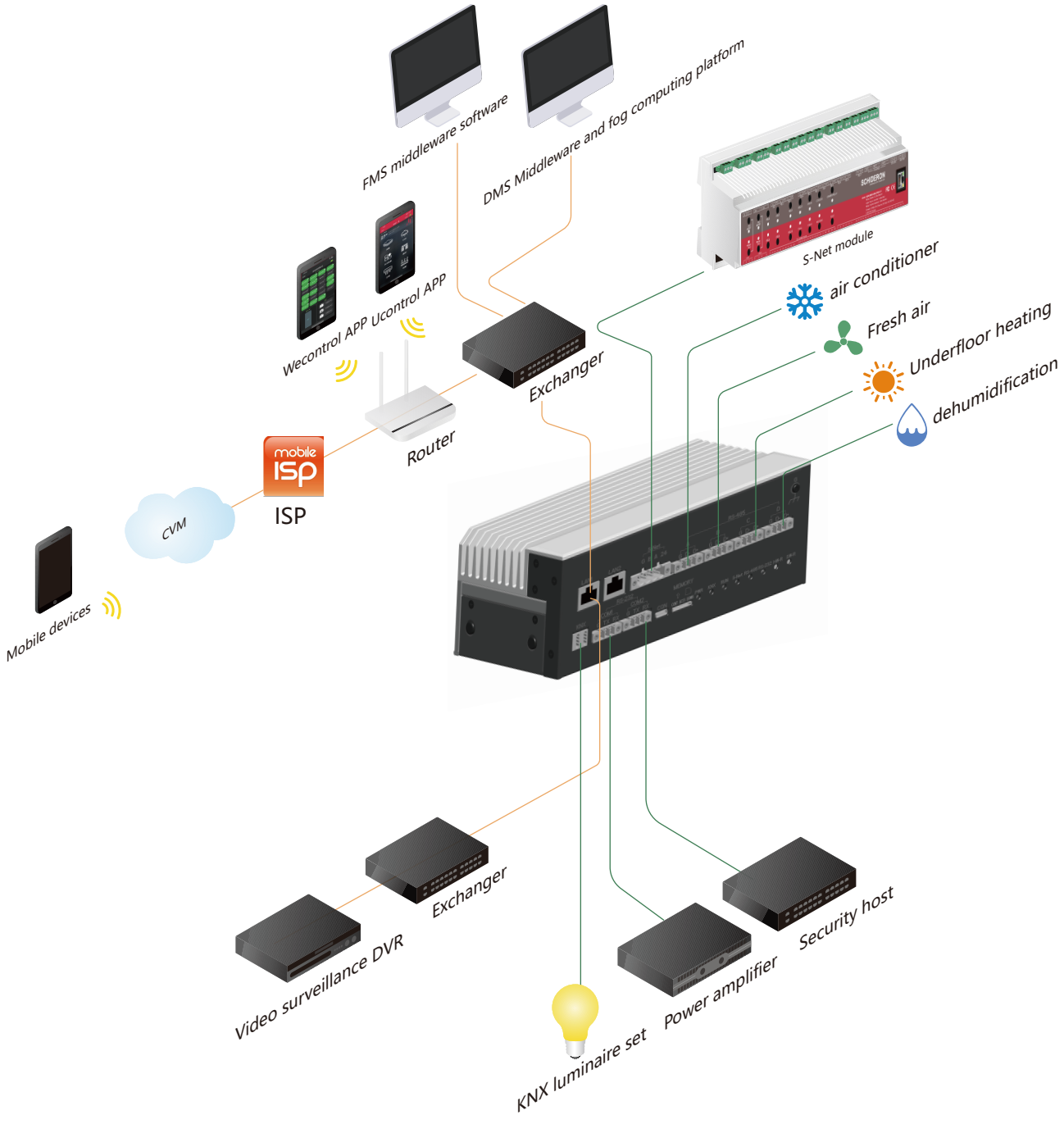
Schematic diagram of smart home docking



RVVP4*0.75:

C A T 6 :

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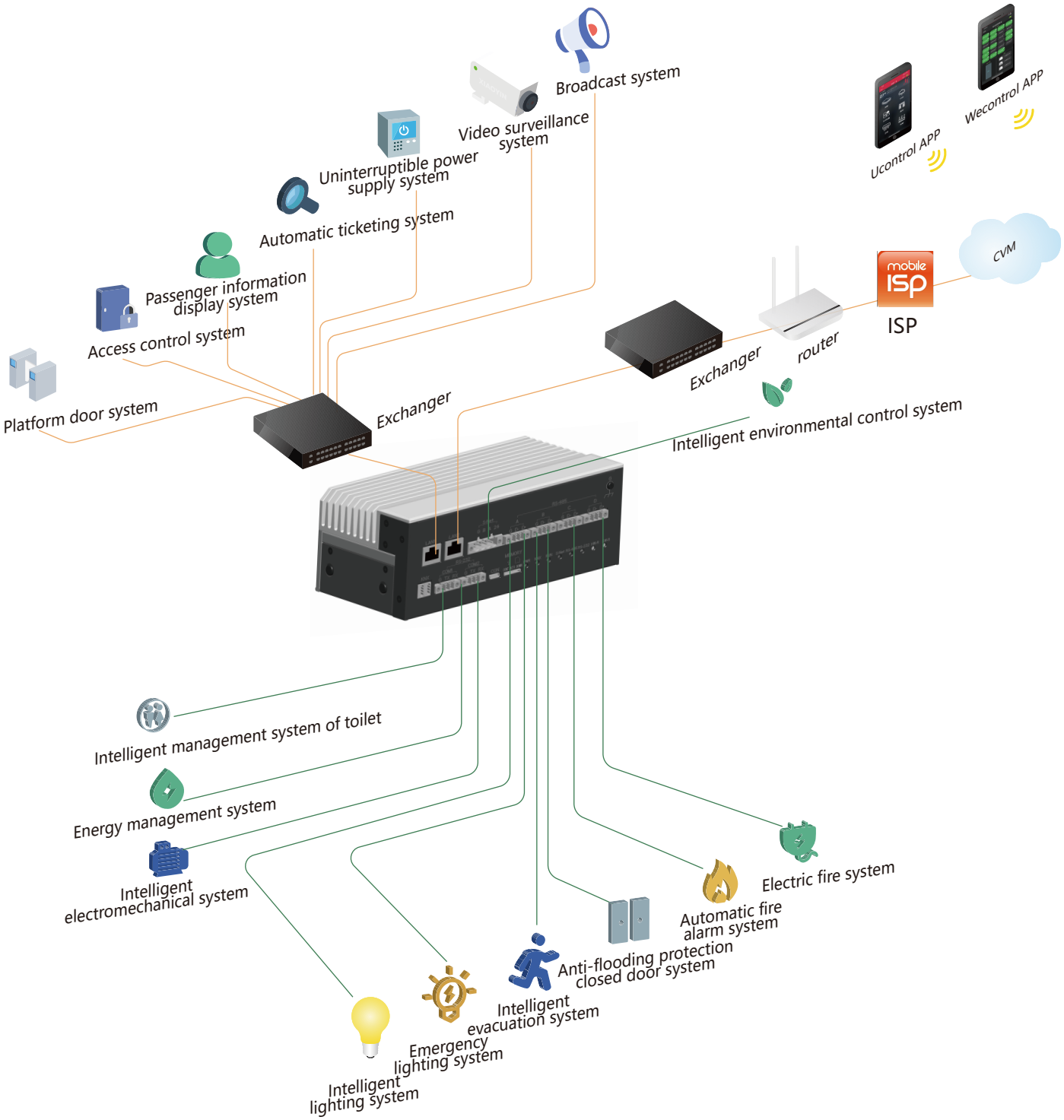
Rail transit docking diagram



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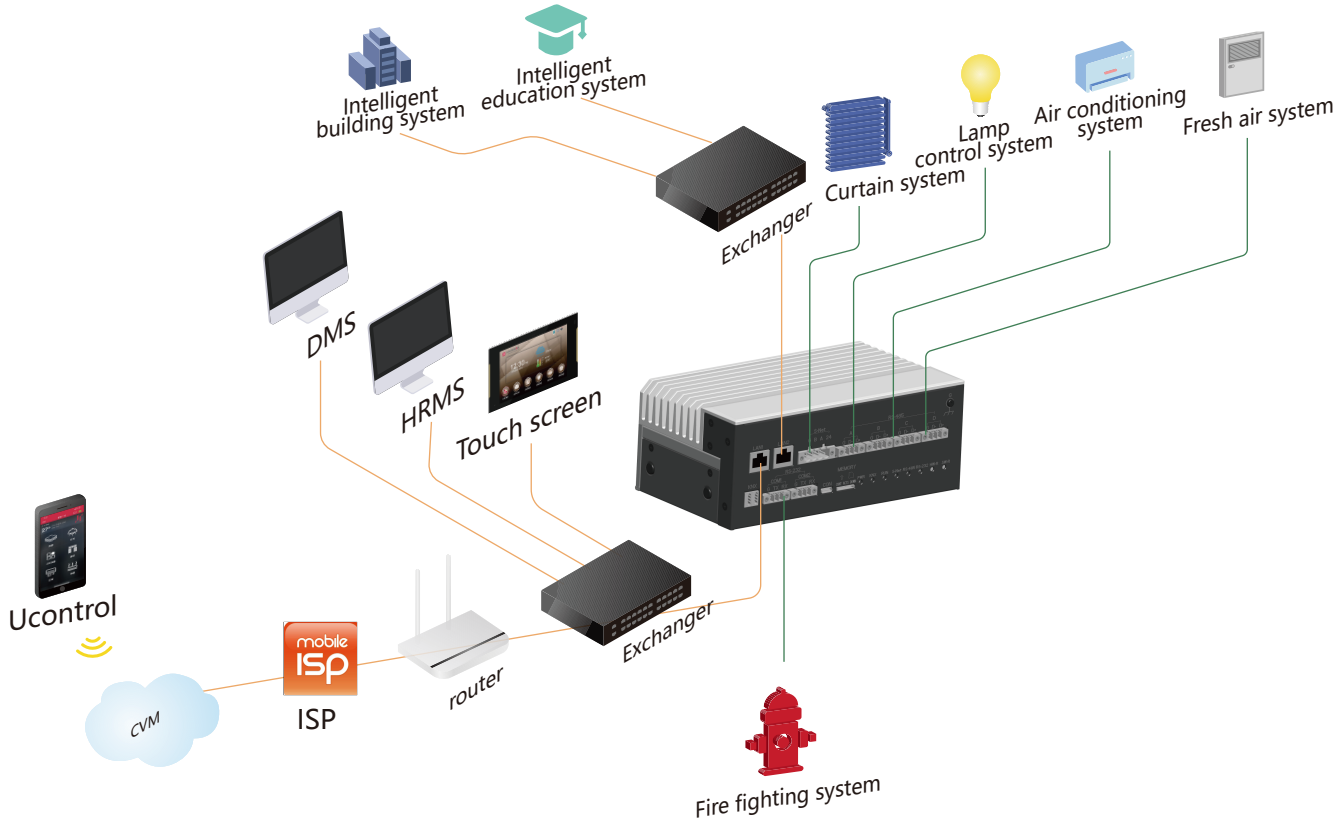
Industrial grade central control mainframe

Schematic diagram of commercial space docking



Schematic diagram of docking of XEndue physical framework