

**CTK CONTACT ELECTRONICS CO., LTD**

CARE THE KNOW-HOW  
BEYOND YOUR IMAGINATION



# Intelligent Cabling System

**INTRODUCTION**

# Intelligent Cabling System

Intelligent cabling systems offer benefits like improved flexibility, scalability, reduced downtime, and easier management. They use advanced technologies to meet the changing demands of modern networks and ensure efficient data transmission in various industries.

An intelligent cabling system, referred to as an intelligent infrastructure or network, is a sophisticated network cabling solution that combines various technologies to enhance the efficiency, reliability, and management of data transmission within a network. Unlike a traditional structured cabling system, it frequently incorporates host computers (servers), controllers, and patch panels to optimize network connections. Below are key features and components commonly found in an intelligent cabling system:

## **INTELLIGENT PATCHING SYSTEMS**

Intelligent cabling systems frequently incorporate smart patch panels and patch cords to facilitate the effective organization of network connections. These systems may offer functions such as automated labeling, color-coding, and port identification, making the task of patching and reconfiguring network connections more straightforward and efficient.

## **REMOTE MONITORING AND MANAGEMENT**

Intelligent cabling systems provide remote monitoring and management features. This enables network administrators to oversee the performance, status, and connections of network devices and cables through a centralized management system. These capabilities aid in proactive issue resolution, detecting potential problems, and enhancing network performance.

# Network Management System®

The CTK Intelligent Cabling System comprises Network Controllers and Intelligent Patch Panels, each occupying a 1U height. Through the Network Management System® software, data center managers can effectively monitor every network connection point in real-time. Additionally, the system offers a 2D visualization of racks and building layouts, enhancing user experience with its intuitive interface.

## Network Controller

- 1 Connection Area**  
 24 RJ45 ports connect to Intelligent Patch Panels with a Network Controller supporting up to 576 connections.
- 2 Information Screen**  
 Display the Network Controller IP and status.
- 3 Connection Area**  
 The device includes an RJ45 port for connecting to the computer and a USB port for firmware updates.



## Intelligent Patch Panel

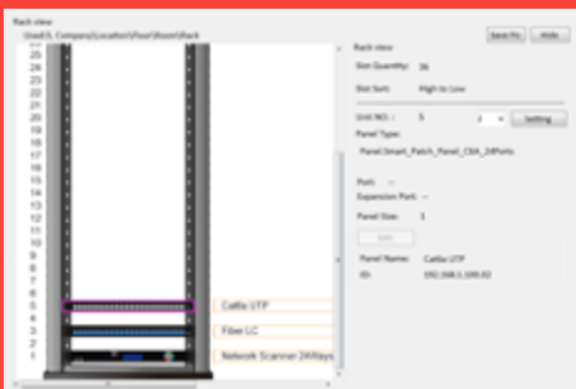
- 1 Connecting Port**  
 It can be assembled using either RJ45 Keystone Jacks or Fiber Keystone Jacks, primarily for connecting switches and devices.
- 2 Middle Connector**  
 Connect with the Network Controller and Intelligent Patch Panel.



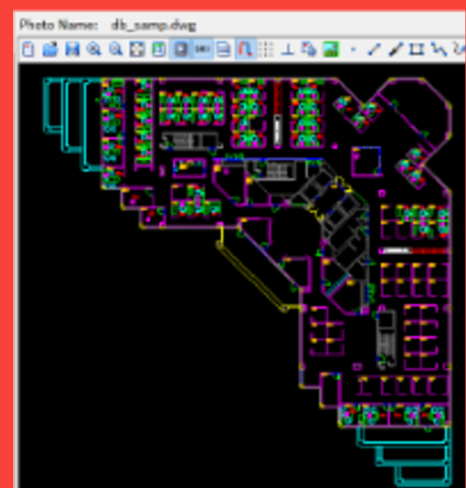
# Network Management System® Software

## FEATURES

- Adjusting, moving, and updating ports automatically yields results.
- Historical records can be checked instantly.
- It offers clear management of the Switch by mapping the relationships of the ports.
- LED indication, alarms, software interface, email, and text messages are provided to alert about unauthorized damage or connections.
- The software's Browser Server structure allows remote management.
- Managers can easily view the status of each link connection.
- Field rack is realistically simulated.
- The Network System can import CAD files to support vector formats and configure the physical locations of all connections.
- Functionality for device management is available.
- Historical information records, work order queries, and exports are supported.



Rack View on the software



Map function traces connection  
(CAD file)

# COMPUTER SYSTEM REQUIREMENTS

## SUPPORTED SYSTEMS

Windows 10, Windows 7, Windows 8, Windows Server 2008 R2 SP1, Windows Server 2012, Windows Vista Service Pack 2

## PROCESSOR

A computer equipped with an Intel processor or processor compatible with 1GHz (or higher) (2GHz or faster is recommended). Intel-compatible processor (processing speed of at least 1GHz) or faster processor.

## RAM

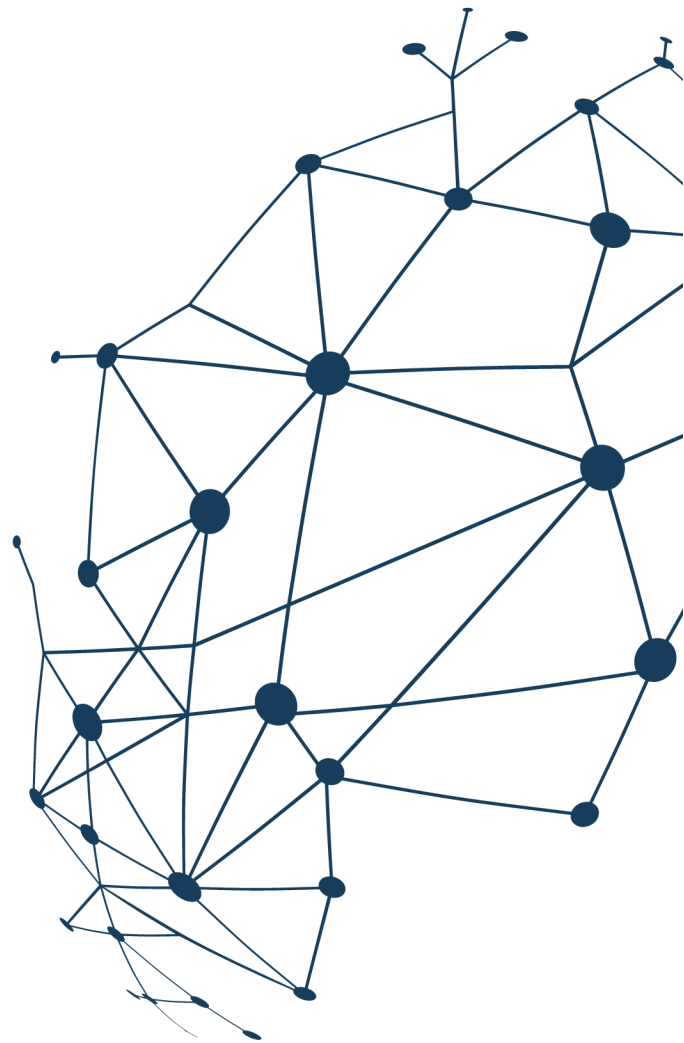
SQL Server Express with Tools and SQL Server Express with Advanced Services of at least 512 MB. The reporting services installed with SQL Server Express and Advanced Services are 4 GB.

## HARD DISK SPACE

Available hard disk space of 4.2 GB.

## NETWORK CONNECTION EQUIPMENT

Limitation: Microsoft SQL Server Express supports 1 physical processor, 1GB memory, and 10 GB storage space



# Network Controller

## PRODUCT INFORMATION

N426Y-024-01



Dimensions & Weight		Environment	
Height	44.5mm/1.75"	Operating Temperature	0 ~ 50°C
Width	482.6mm/19"		
Depth	300mm	Storage Temperature	-10 ~ +70°C
Weight	3.5Kg		
Electrical		UV rating	No exposure to direct radiation from sunlight
Input Voltage	100V ~ 240V AC	Humidity	Not exceeding 60% R.H
Input Current	0.6A ~ 1.2A	Ethernet	
Operation Frequency	50Hz/60Hz	Port Type	RJ45
Power-on Time	<2.5sec	IP rating	N/A
Efficiency	80%(output power/input power)	Ethernet Interface	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX
Circuit Protection	Auto reset short circuit protection is available	Ethernet Speed	10 MB/sec or 100 MB/sec (half duplex or full duplex)
Loading Adjustment	5%	Ethernet Status Indicators	Green LED is for Power ON; Yellow LED is for data transmit and receive
Overload Protection	When the load power is more than 120 -150% of the rating output power, auto reset overload protective device of the product will be active.		

# Intelligent Blank Patch Panel

## PRODUCT INFORMATION

N422Y-231-01



### Environment

Operating Temperature	0 ~ 50°C
Storage Temperature	-10 ~ +70°C
UV rating	No exposure to direct radiation from sunlight
Humidity	Not exceeding 60% R.H

### Ethernet

Port Type	RJ45
IP rating	N/A
Ethernet Interface	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX
Ethernet Speed	10 MB/sec or 100 MB/sec (half duplex or full duplex)
Ethernet Status Indicators	Green LED is for Power ON; Yellow LED is for data transmit and receive

### Safety

- EMC EN 55032:2015/ EN 55035:2017/ EN61000-3-2:2014/ EN61000-3-3:2013
- Electromagnetic Compatibility 2014/30/EU

### Adaptability

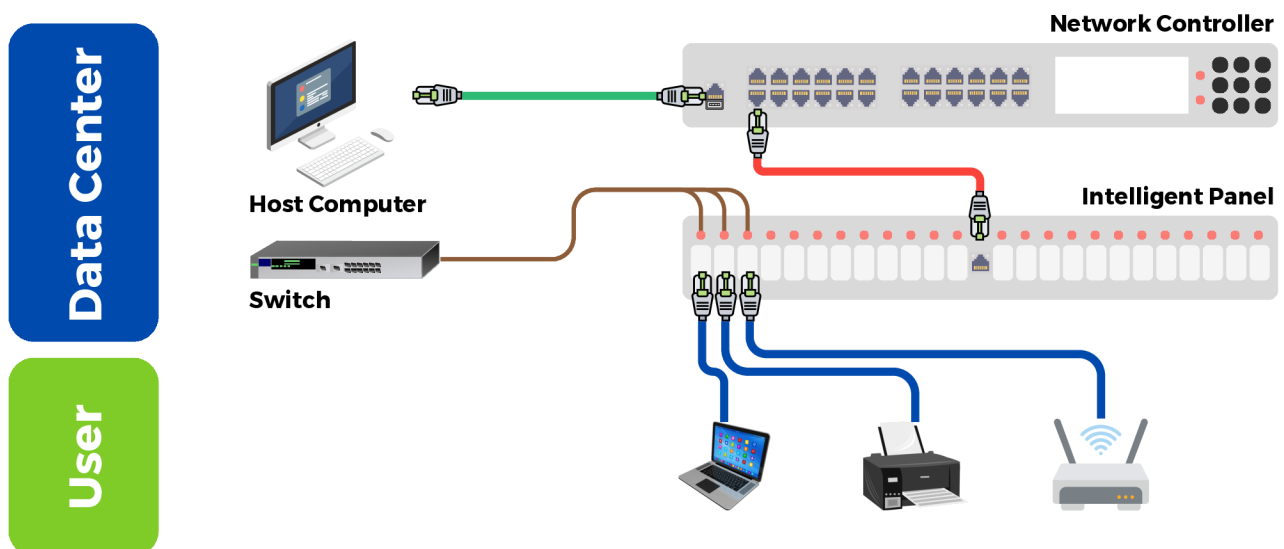
Connectivity	<ul style="list-style-type: none"> <li>• Copper system: It should use an RJ45 connector, which is 8P8C.</li> <li>• Fiber system: it is suitable for LC fiber adapters.</li> </ul>
Cords	Choose the cords that match the connectors' specs and performance to ensure your data transmission performs at high capability.

# Connection Mode

## Single-Mode

### MAX USABLE DEVICES: 576 IN ONE CONTROLLER

It is a standard method of connection where each port links to a single port in the Intelligent Patch Panel, offering a convenient and cost-effective means of connection.



### CONNECTION STEP

1. The RJ45 control connector in the Controller links to the host computer.
2. Attach the Controller to the Intelligent Patch Panel.
3. Connect cables from switches to the Intelligent Patch Panel.
4. Link cables from the Intelligent Patch Panel to the user devices.

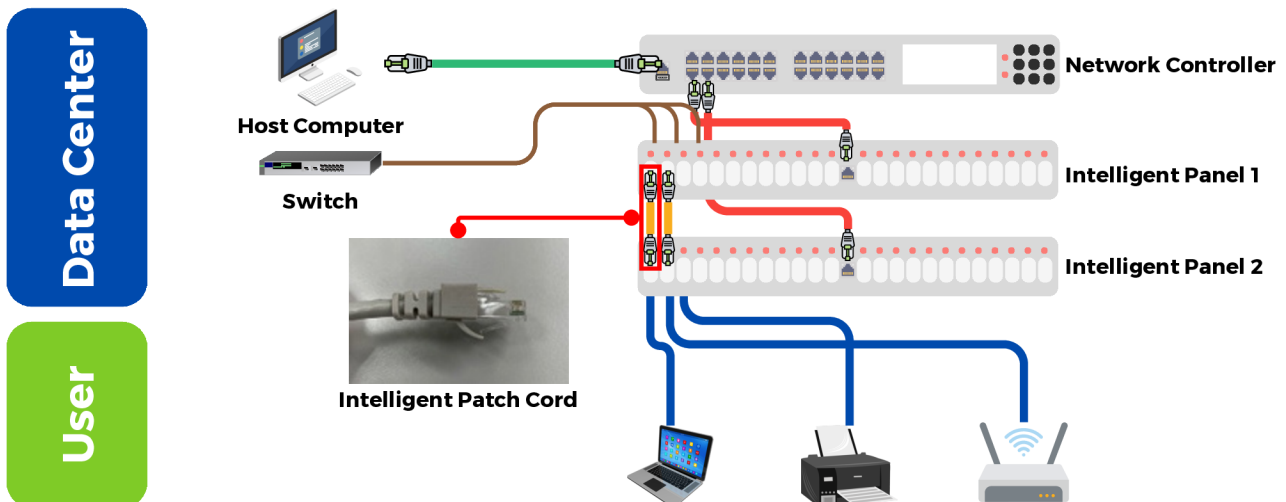


# Connection Mode

## Dual-Mode

### MAX USABLE DEVICES: 288 IN ONE CONTROLLER

It refers to the double insurance connection type, which guarantees uninterrupted network connectivity in case the cable between two patch panels is severed. This is achieved by utilizing an intelligent patch cord (9-pin cord) to link the two panels.



### CONNECTION STEP

1. The RJ45 control connector in the Controller connects to the host computer.
2. Connect the Controller to the Intelligent Patch Panel.
3. Use an Intelligent Patch Cord to connect the ports of Intelligent Patch Panels.
4. Cable from switches to the Intelligent Patch Panel.
5. Cable from the Intelligent Patch Panel to the user devices.

**Note: the single and dual type connections can be mixed-use.**



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