

HighTek HK-8616

10/100 Base-TX DIN-Rail Industrial Ethernet Switch

1.Overview:

HighTek HK-8616 has 16x10/100 Base-TX DIN-Rail un-management industrial Ethernet switch, which is specialized in industrial communication highway. For flexible industrial necessary, our switch provided a kind of solution for high industrial Ethernet communication, which make industrial communication more smoothly, more reliable and faster.

The un-management series of switch is suitable for plug-and-play. All 10/100 Base-TX ports support many functions of automated trust negotiation, 10/100Mbps full duplex and half duplex, flow control, Auto-MDI/MDI-X and so on. it has redundancy power supply, which can support DC and AC of wide range to input. In the construction and installation, this switch takes less space up and is convenient to install by card-track.

2.Product characteristic

Industrial features

- ✧ Store and forward mode, Backplane bandwidth is 8.8Gbps.
- ✧ RJ45 port, 10/100Base auto negotiation speed and auto MDI/MDI-X connection
- ✧ Full-duplex flow control, semi-duplex interface flow control
- ✧ Redundancy dual power supply input, suitable for high performance requirement.
- ✧ No interference operation in EMI work Environment.

Industrial application project

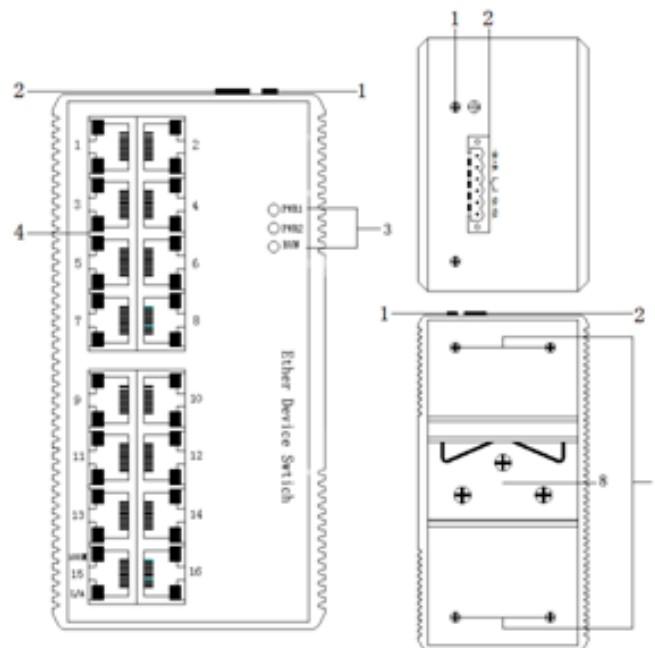
- ✧ Redundancy dual power supply input design.
- ✧ DIN-Rail install
- ✧ Relay output warning for power failure and port break alarm.
- ✧ Real time tracing Network Time Protocol(NTP).

3.Product parameters:

RJ45 port	16 10/100 Base-TX port
Twisted-pair	0~100m, RJ45 port, 10/100Base auto negotiation speed and auto MDI/MDI-X connection
Input Voltage	24VDC(standard);12-36V;48VDC(customized); AC/DC:AC85-265V/DC110-370V (customized);
Watt loss	<20W
Backplane bandwidth	8.8G
Filtering and forwarding	148810bps
MAC address	8K
Flow control	Full-duplex flow control, semi-duplex interface flow control
Broadcast Storm Control	Supports broadcast data packets and broadcast storm control. The data packets out of the limited time will be abandoned.
Operating temperature	-40℃ ~ 75℃
Storage temperature	-45℃ ~ 85℃
Ambient Relative Humidity	0~95% (non-condensing)
Dimension	144mm×110mm×72mm
Installation	DIN-Rail
Weight	0.8kg
Case protection grade	IP40
Casing	Closed high-strength aluminum casing, enabling the system to work reliably in harsh and hazardous industrial environments
IEC61000-4-2 electrostatic prevention	±8kv contact discharge, ±15kv air discharge
IEC61000-4-3 electromagnetic field	10V/m(80~1000MHz)
IEC61000-4-4 fast transient response pulse signal port	±4kv power line, ±2kv data line
IEC61000-4-5 surge guard signal port	±4kv (line-GND) ±2kv(line-line), ±1kv data line
IEC61000-4-6 radio frequency presentation	3V(10kHz~150kHz),10V(150kHz~80kHz)
EN55022	EN55022 Class A
IEEE standard	802.3,802.3u,802.3z,802.3x,802.1P,802.1Q,802.1D/W

5.Hardware construction**HK-8616 Front Panel**

The HK-8616 has 16 100Base-TX industrial Ethernet Switch.



6.LED Indication lights

Function	LED	Lights	Status
System state LED	PWR1/PWR2	On	PWR1/PWR2 is being supplied
		Off	PWR1/PWR2 is not being supplied
	RUN	On	Common straight link mode
		Off	Disable
100Base-FX port state LED	LINK	On	100Base-FX is active
		Blinking	Data is being transmitted
		Off	100Base-FX is inactive
10/100 BaseT(x) Ethernet RJ45 port state LED	10M/100M(Yellow)	On	100Mbps is active(100Base-TX)
		Off	10Mbps is active(10Base-T)
	Link/Act(Green)	On	Port is active
		Blinking	Data is being transmitted
		On	Port is inactive

RJ45 connector

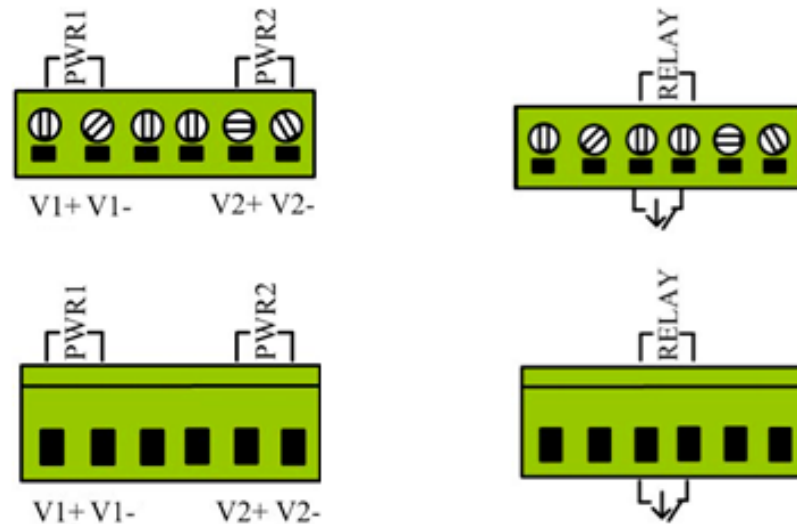
This series has 16 10Base-T/100Base-TX Ethernet RJ45 port. Each RJ45 port has adaptive function, it supports auto MDI/ MDI-X connection. Use straight line/cross-over cable connect with switch, servers, hubs to built network. Each port supports IEEE802.3x adaptive, support half or full duplex and data rate 10Mbps or

100Mbps can be automatically selected (the connected devices must also support this function.) If the equipment do not support automatically adaptive, the switch will send the correct speed, the default set is half duplex mode.

Terminal connector connect with power supply

Standard power supply is 2 channels DC24V redundancy power supply. Connect terminal connector connect with power supply.

Power loss<15W; Power supply: DC12V~36V



Alarm relay

Ethernet switch alarm relay normally is closed relay. When the switch works, the relay power supply is open; when the system power off, the relay power supply is closed. Recommended load capacity of the relay switch 1A (24VDC).

7. Hardware Installation

Installation notice

The Industrial Ethernet switch is used standard 35mm DIN-Rail install. Please make sure a suitable work environment, including power requirements, enough space, connect equipment and other equipment status. Please confirm the following installation requirements:

- Power supply: Standard redundant DC12V ~DC36V power supply, other kind of power supply, please customer order.
- Environmental requirements: Temperature -40 ℃ ~ 75 ℃, relative humidity 0 ~ 95% (no condensation).
- Grounding resistance requirement: <.Ω5
- Configuration requirements under the contract, check the cable is in place, fiber optic connectors is appropriate.

- Avoid direct sunlight and away from heat sources or areas with strong electromagnetic interference.
- Standard 35mm DIN-rail installation. Check for suitable cables and connectors.

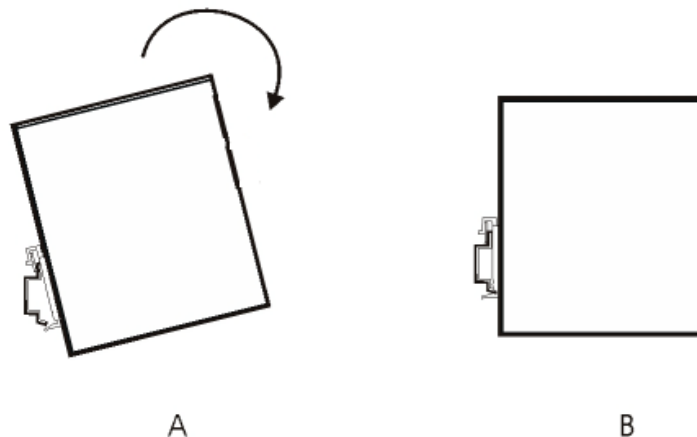
Attention:

- Before installing or connecting Ethernet switch please make ensure that disconnect the power line. Do not exceed Max. current. If exceeds the maximum current, make the wire overheat, causing serious damage to the equipment.
- Separate the power cable and other cables, if the two paths must cross, must ensure that the intersection of these lines are vertical.
- Grounding and cabling can effectively suppress the noise caused by electromagnetic interference. Before connect the switch with equipment please connect GND first. Connected to the grounding screw from the ground surface

DIN-Rail installation

This series equipment back panel have fixed well DIN rail-way connection seat. If need installation, please check DIN rail way condition. Main including 2 terms:

- Checking DIN-Rail is fixed firm, DIN-rail is installed on other equipment, whether there is enough space.
- Checking DIN-Rail whether suitable for power input.
- Please select the correct position. As below behind picture shows:
- Insert DIN-Rail into DIN-Rail slot and as schematics 2-1 shows turning equipment.
- As schematics 2-1 shows, insert DIN-rail into DIN-Rail slot and confirm the HK-8616 reliable equipment installed on the DIN-rail.



Cable connection

After install Ethernet switch, please correct install cable. Cable installation please following behind notice:

Equipment port connection

This series provided 10Base-T/100 RJ45 interface port, use the crossover cable direct connect with terminal equipment, use cross wire connect network equipment.

Industrial Power supply

The HK-8616 Ethernet switch supply DC12--36V power (or 48V DC power, 220V AC power). After all other cables connected, you can connect the power

Industrial Power supply

The HK-8616 Ethernet switch supply DC9--36V power (or 48V DC power, 220V AC power). After all other cables connected, you can connect the power.

8. Testing Guide

Self-examination

When connection equipment, the front panel power supply indicator light will light once, it means working well. After a while Power supply indicator light is on. Run indicator light (system status LED) will blink interval 1s.

Electronic port testing

As picture show, the power port by any two straight lines and two test networked computers connected to the network port, send a Ping command to each other, both sides were able to correctly Ping to each other without loss. That tested the hardware working properly the two power ports.

