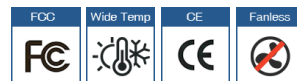


# HES16/24 Series

## 16 and 24-Port Din-rail Unmanaged Ethernet Switches

### Features

- 10/100BaseT(X), 100BaseFX(multi/single-mode, SC or ST connector)
- Broadcast storm protection
- Redundant dual 12 to 36 VDC, 12 to 24VAC power inputs
- Relay output warning for power failure and port break alarm
- -40 to +75°C Operating Temperature Range (W models)
- IP30 aluminum housing



### Introduction

The HES16/24 are 16-port and 24-port unmanaged Ethernet switches that provide an economical solution for your industrial Ethernet connections. The built-in relay warning function alerts network engineers when power failures or port breaks occur, and the switches are designed for harsh industrial environments, such as in hazardous locations. The switches comply with FCC and CE standards, and come with two model types. Standard operating temperature range models (-10 to +60°C) and wide operating temperature range models (-40 to +75°C). Both models undergo a 100% burn-in test to ensure that they fulfill the special needs of industrial automation control applications.

### Specifications

Technology	
Standard	IEEE802.3, 802.3u, 802.3x
Processing Type	Store and forward
Broadcast Storm	Automatic Broadcast Storm Control
Flow Control	Full Duplex Flow Control, Half Duplex Back Pressure Control
Protocols	CSMA/CD (Carrier Sense Multiple Access/Collision Detect)
Switch Properties	
MAC Table Size	8K
Interface	
RJ45 Port	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
Fiber Port	100BaseFX ports (SC/ST connector)
LED Indicators	Power, Port Status, 10/100M
Power Requirements	
Input Voltage	HES16 12~36VDC @ 11W MAX 10~24VAC @ 11VA MAX
	HES24 12~36VDC @ 11W MAX 10~24VAC @ 11VA MAX

## Physical Characteristics

Case	Slim Metal Case, IP30 Design
Dimensions	70.4×149.1×132mm (HES16) 91.2×149.1×132mm (HES24)
Installation	DIN Rail or Panel Mounting

## Environment Limits

Operating Temp	Standard Models: -10 to 60°C Wide Temp. Models: -40 to 75°C
Storage Temp	-40 to 85°C
Ambient Relative Humidity	5 to 95%(Non-condensing)

## Optical Fiber

Mode	Multi-mode	Single Mode
Transmission Distance	2km	20km
Centre Wavelength	1310nm	1310nm
Cable Size	62.5/125um	9/125um
TX Power(dBm)	-20~-10dBm	-15~-8dBm
RX Power(dBm)	< -32dBm	< -32dBm
Transmission Rate	100Mbps	100Mbps

## Standards and Certifications

EMI	FCC Part15, CISPR(EN55022) Class A
EMS	EN61000-4-2(ESD) Level 3, EN61000-4-3(RS) Level 3, EN61000-4-4(EFT) Level 3, EN61000-4-5(Surge) Level 3, EN61000-4-6(CS) Level 3, EN61000-6-2
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

## Warranty

Warranty Period	3 years
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## Ordering Information

HES16-VL	Din-rail Unmanaged, 16 x 100Mbps Copper Port, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES16-VLW	Din-rail Unmanaged, 16 x 100Mbps Copper Port, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC
HES16-2SC-VL	Din-rail Unmanaged, 14 x 100Mbps Copper Port, 2 x Multi-Mode Fiber Port with SC Connectors, 2KM, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES16-2SC-VLW	Din-rail Unmanaged, 14 x 100Mbps Copper Port, 2 x Multi-Mode Fiber Port with SC Connectors, 2KM, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC

HES16-2SSC-VL	Din-rail Unmanaged, 14 x 100Mbps Copper Port, 2 x Single-Mode Fiber Port with SC Connectors, 20KM, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES16-2SSC-VLW	Din-rail Unmanaged, 14 x 100Mbps Copper Port, 2 x Single-Mode Fiber Port with SC Connectors, 20KM, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC
HES16-4SC-VL	Din-rail Unmanaged, 12 x 100Mbps Copper Port, 4 x Multi-Mode Fiber Port with SC Connectors, 2KM, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES16-4SC-VLW	Din-rail Unmanaged, 12 x 100Mbps Copper Port, 4 x Multi-Mode Fiber Port with SC Connectors, 2KM, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC
HES16-4SSC-VL	Din-rail Unmanaged, 12 x 100Mbps Copper Port, 4 x Single-Mode Fiber Port with SC Connectors, 20KM, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES16-4SSC-VLW	Din-rail Unmanaged, 12 x 100Mbps Copper Port, 4 x Single-Mode Fiber Port with SC Connectors, 20KM, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC

Note: All of the Above Products SC Connector can be replaced by ST Connector

HES24-VL	Din-rail Unmanaged, 24 x 100Mbps Copper Port, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES24-VLW	Din-rail Unmanaged, 24 x 100Mbps Copper Port, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC
HES24-2SC-VL	Din-rail Unmanaged, 22 x 100Mbps Copper Port, 2 x 100Mbps Multi-Mode Fiber Port with SC Connectors, 2KM, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES24-2SC-VLW	Din-rail Unmanaged, 22 x 100Mbps Copper Port, 2 x 100Mbps Multi-Mode Fiber Port with SC Connectors, 2KM, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC
HES24-2SSC-VL	Din-rail Unmanaged, 22 x 100Mbps Copper Port, 2 x 100Mbps Single-Mode Fiber Port with SC Connectors, 20KM, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES24-2SSC-VLW	Din-rail Unmanaged, 22 x 100Mbps Copper Port, 2 x 100Mbps Single-Mode Fiber Port with SC Connectors, 20KM, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC
HES24-4SC-VL	Din-rail Unmanaged, 20 x 100Mbps Copper Port, 4 x 100Mbps Multi-Mode Fiber Port with SC Connectors, 2KM, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES24-4SC-VLW	Din-rail Unmanaged, 20 x 100Mbps Copper Port, 4 x 100Mbps Multi-Mode Fiber Port with SC Connectors, 2KM, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC
HES24-4SSC-VL	Din-rail Unmanaged, 20 x 100Mbps Copper Port, 4 x 100Mbps Single-Mode Fiber Port with SC Connectors, 20KM, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES24-4SSC-VLW	Din-rail Unmanaged, 20 x 100Mbps Copper Port, 4 x 100Mbps Single-Mode Fiber Port with SC Connectors, 20KM, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC

HES24-6SC-VL	Din-rail Unmanaged, 18 x 100Mbps Copper Port, 6 x 100Mbps Multi-Mode Fiber Port with SC Connectors, 2KM, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES24-6SC-VLW	Din-rail Unmanaged, 18 x 100Mbps Copper Port, 6 x 100Mbps Multi-Mode Fiber Port with SC Connectors, 2KM, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC
HES24-6SSC-VL	Din-rail Unmanaged, 18 x 100Mbps Copper Port, 6 x 100Mbps Single-Mode Fiber Port with SC Connectors, 20KM, Industrial Temperature -10°C to +60°C, Power Input 12~36VDC or 10~24VAC
HES24-6SSC-VLW	Din-rail Unmanaged, 18 x 100Mbps Copper Port, 6 x 100Mbps Single-Mode Fiber Port with SC Connectors, 20KM, Industrial Wide Temperature -40°C to +75°C, Power Input 12~36VDC or 10~24VAC

Note: All of the Above Products SC Connector can be replaced by ST Connector