

# Product Information

# 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

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## 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

<b>Technology</b>		<b>Optical Fiber</b>	
Standard :	IEEE802.3, 802.3u, 802.3x	Mode	Multi-mode      Single Mode
Processing Type :	Store and forward	Transmission Distance	2km                      20km
Broadcast Storm :	Automatic Broadcast Storm Control	Centre Wavelength	1310nm                  1310nm
Flow Control :	Full Duplex Flow Control, Half Duplex Back Pressure Control	Cable Size	62.5/125um            9/125um
Protocols :	CSMA/CD (Carrier Sense Multiple Access/Collision Direct)	TX Power(dBm)	-20~-10dBm          -15~-8dBm
<b>Switch Properties</b>		RX Power(dBm)	< -32dBm              < -32dBm
MAC Table Size :	8K	Transmission Rate	100Mbps                100Mbps
<b>Interface</b>		<b>Standards and Certifications</b>	
RJ45 Port :	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection	EMI :	FCC Part15, CISPR(EN55022) Class A
Fiber Port :	100BaseFX ports (SC/ST connector)	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
LED Indicators :	Power, Port Status, 10/100M		Shock :
<b>Power Requirements</b>		Freefall :	IEC 60068-2-32
Input Voltage :	HES16: 12~36VDC @ 11W MAX 10~24VAC @ 11VA MAX	Vibration :	IEC 60068-2-6
	HES24: 12~36VDC @ 17W MAX 10~24VAC @ 17VA MAX	<b>Warranty</b>	
Input Connection :	Standard four terminal power input	Warranty Period :	3 years
<b>Physical Characteristics</b>			
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		
<b>Environment Limits</b>			
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)		

## Ordering Information

### HES16

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

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