

Slim size Industrial Switch for Automation

DS105A and DS105-M/S series

Industrial 5-port Unmanaged Ethernet Switch

The DS105A and DS105-M/S industrial Ethernet switches are designed with network features for the industrial automation application. With the Broadcast filtering, VLAN and CoS function, it enhances the network transmission performance.

The 10~60Vdc wide range power input or low voltage 18~30Vac can be used for building automation control.

The wide operation temperature -40~75°C and heavy industrial EMC design makes DS105A and DS105-M/S suitable for any industrial application.



Features & Benefits

Broadcast Storm Protection

- Auto drop incoming broadcast packets which are over the threshold to ensure network reliability
- Fast enable/disable through DIP Switch for customer requirement

QoS Service for Time-Sensitive Applications

- Easy DIP Switch Configuration
- VLAN Tag Hi/ Low priority ID, 16:1 scheduling scheme

Pre-defined High Performance VLAN Group

- Member port individual grouping with Uplink port #5
- Easy DIP Switch Configuration
- VLAN Group: Port 5 -1, Port 5-2, Port 5-3. Port 5-4

Easy DIP switch Configuration

- QoS Control
- Port Based VLAN / Port Isolation
- Broadcast Storm Protection

DS105A-M/S with One Fiber Port

- Multi-Mode Fiber 2KM/ SC Type Connector
- Single-Mode Fiber 30KM/ SC Type Connector

Long Packet Forwarding

- 64~1536 Bytes for double-tag VLAN

Hardened System Design

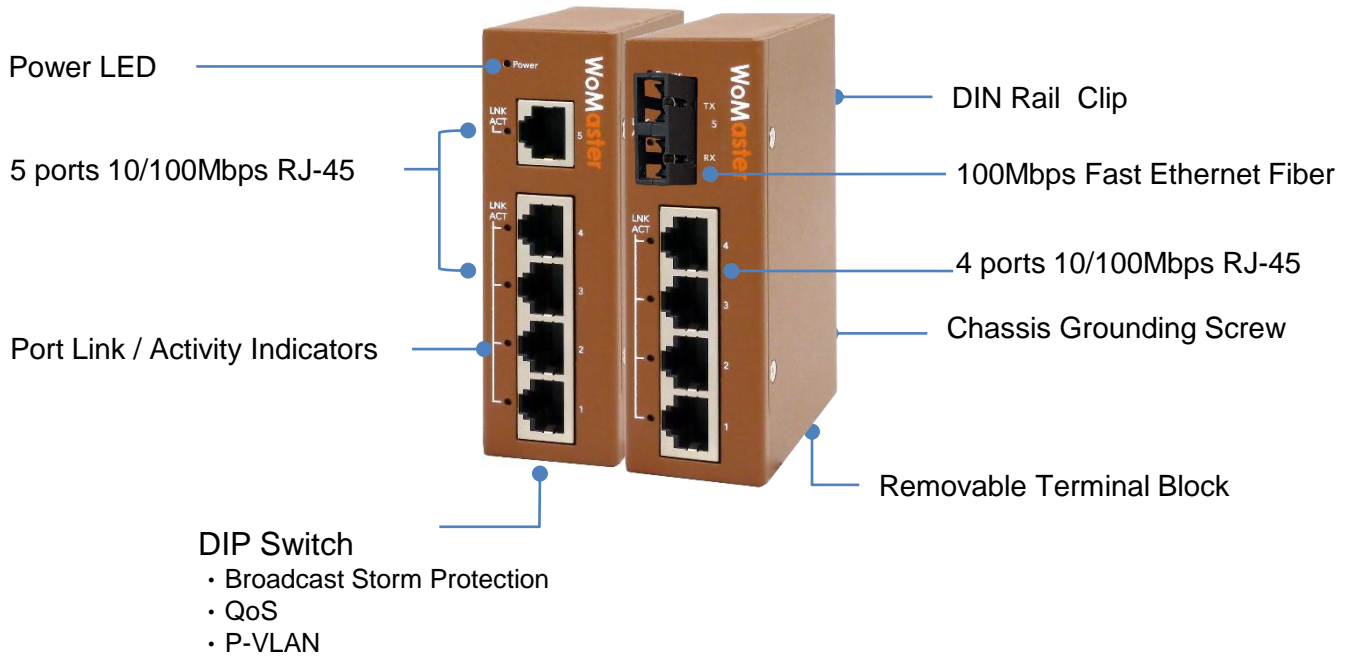
- Operates Under -40 ~75°C Environment
- Wide Range Redundant Power Input, DC 9.6~60V or AC18~30V
- Ingress Protection – IP31

Special Vertical Market Application

- Factory Automation – Real Time Machine Communication
- Low AC Voltage application – AC18~30V Building Automation

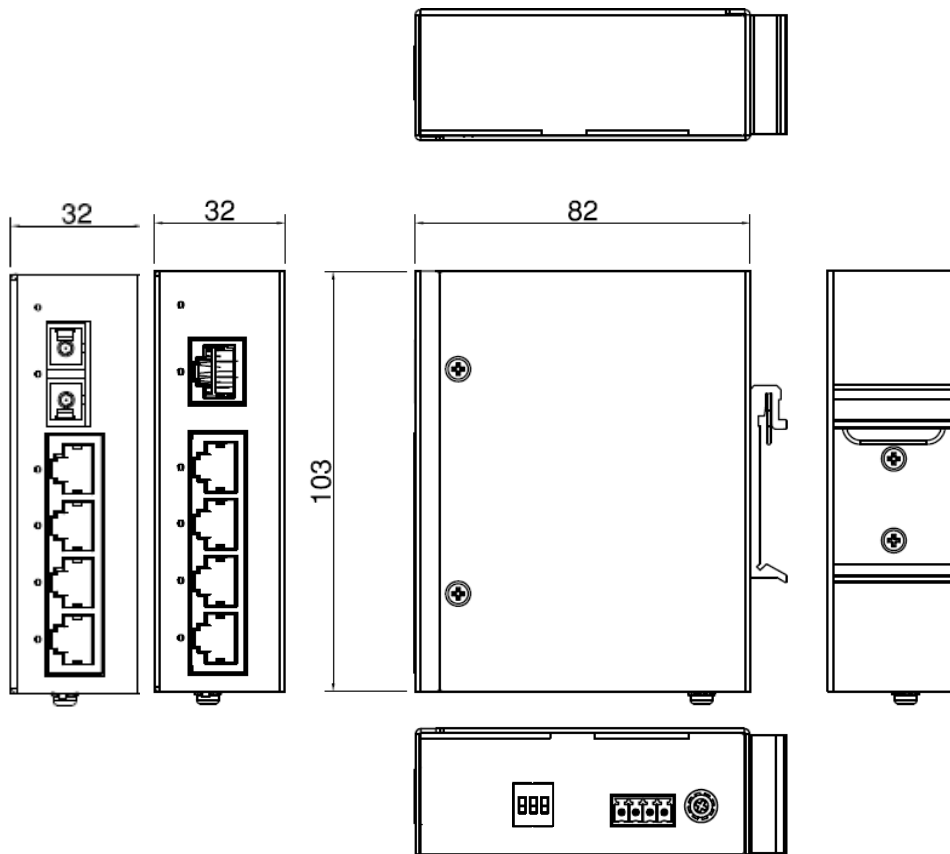


Interfaces



Dimensions

Dimension (mm): 32x 103x 82 (W x H x D)



Technology	
Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE 802.3x Flow Control and back-pressure
	IEEE 802.1p Class of Service (CoS)
	IEEE 802.1Q Quality of Service

Performance	
Switch Technology	Store and Forward Technology
MAC Address Table	1K
Packet Buffer	448K bits
Transfer performance	10Base-T: 14,880pps, 100Base-TX: 148,800pps
Forwarding Packet	64~1536 Bytes
Broadcast Filtering	DIP Switch Configurable. (DIP Switch -1) Broadcast Storm Packet Filtering Threshold: 100Mbps Link Speed: 600 Packets/ Per Second 10Mbps Link Speed: 60 Packets /Per Second Default Setting (Off)
Quality of Service	DIP Switch Configurable. (DIP Switch -2) Compliance with IEEE 802.1p class of service with Tag Based Priority. Each port support 2 priority queues, the output queue scheduling with 16 (High):1(Low) scheme. Default Setting (Off)
Port Based VLAN	DIP Switch Configurable. (DIP Switch -3) Port VLAN Grouping Rule: Port 5-1 / Port 5-2 / Port 5-3 / Port 5-4 (Port 5 Uplink Port) Default Setting (Off)

Interface	
Ethernet Port	DS105A: 5 x 10/100Base-TX RJ45, Auto Negotiation , Auto MDI/MDI-X DS105A-M: 4 x 10/100Base-TX , 1 x 100Base-FX Multi-Mode, RJ45 Auto Negotiation, Auto MDI/MDI-X DS105A-S: 4 x 10/100Base-TX RJ45, 1 x 100Base-FX Single-Mode, RJ-45 Auto Negotiation, Auto MDI/MDI-X
System LED	1 x Power: Green On
Ethernet Port LED	RJ-45:Link (Green On), Activity (Green Blinking) DS105A-M/S Fiber Port: Link (Green On), Activity (Green Blinking)
DIP Switch	DIP Switch -1: Broadcast Storm Protection Control (Default Disable/ Off) DIP Switch -2: QoS Control (Default Disable/ Off) DIP Switch -3: Port Based VLAN (Default Disable/ Off)
Power input	4-Pin Removable Terminal Connector with Power Redundancy, Polarity Auto Reverse • V+ (L): DC + or Live • V- (N): DC - or Neutral • Negative DC Power Input Supported (-48V or -24V Power System)

Optical Fiber Specification					
	Distance	Wavelength	TX Power	RX Sensitivity	Link Budget
Single Mode 8~10/125um (DS105A-S)	30KM	1310 (1260~1360)	-8~-3dBm	-32~-3dBm	24dB
Multi-Mode 50~62.5/125um (DS105A-M)	2KM	1310 (1260~1360)	-20~-12dBm	-30~-3dBm	10dB
Single Mode 8~10/125um (DS105A-WDM13) Note-1	20KM	TX:1310nm RX:1550nm	-15~ -3dBm	-32dBm	29dB
Single Mode 8~10/125um (DS105A-WDM15) Note-1	20KM	TX:1550nm RX:1310nm	-15~ -3dBm	-32dBm	29dB

Power Requirement	
Input Voltage	DC 24V, Rating 9.6~60Vdc, Redundant Power Input with Auto Polarity Reverse function Low AC Voltage 18~30Vac for the Building Automation Control
Auto Polarity Reverse	Yes
Power Consumption	3 watts (Maximum) / DC 24V Power Input
Mechanical	
Installation	DIN Rail
Enclosure Material	Steel Metal
Dimension	32mm (W) x 103mm (H) x 82mm (D) / without DIN Rail Clip
Ingress Protection	IP31
Weight	305g without package
Environmental	
Operating Temperature & Humidity	-40°C~75°C , 0%~95% Non-Condensing
Storage Temperature	-40°C~80°C
MTBF	>200,000 hours
Hi-Pot Insulation	AC1.0 KV for Power- Chassis Ground, Power – Ethernet, Chassis Ground- Ethernet, Ethernet - Ethernet
Warranty	5 years
Standard	
EMC	EN61000-6-2/ EN61000-6-4 *
EMI	CISPR 22, FCC part 15B Class A
EMS	EN61000-4-2 ESD: 8KV(Air), 4KV(Contact) EN61000-4-3 RS: 20V/m(80M~1GHz), 10V/m(1.4G~2.1GHz), 5V/m(2.1G~2.5GHz)* EN61000-4-4 EFT: 2KV (Power), 1kV (Signal Port) EN61000-4-5 Surge: Power: 1KV Ethernet Port: 1KV Clamping EN61000-4-6 CS: 10Vrms(Power, Signal Port)* EN61000-4-8 Magnetic Field: 30A/m continues /300A for 1~3s*



Ordering Information

Model Name	Description
DS105A	Industrial 5-port Fast Ethernet Switch, 24V DC/AC
DS105A-M-SC2	4-port 10/100TX, 1 100FX ,Industrial Fast Ethernet Switch, Multi-Mode 2KM,SC, 24V DC
DS105A-S-SC30	4-port 10/100TX, 1 100FX ,Industrial Fast Ethernet Switch, Single-Mode 30KM,SC, 24V DC
DS105A-WDM13-SC20 * (MOQ 100)	4-port 10/100TX, 1 100FX ,Industrial Fast Ethernet Switch, Single-Mode 20KM,WDM TX1310 /RX1550nm SC, 24V DC
DS105A-WDM15-SC20 * (MOQ 100)	4-port 10/100TX, 1 100FX , Industrial Fast Ethernet Switch, Single-Mode 20KM,WDM TX1550 /RX1310nm SC, 24V DC
	Package List
	1 x Product Unit
	1 x 4-pin Removable Terminal Connector
	1 x Attached Din Clip
	1 x Quick Installation Guide



Optional Accessory

Model Name	Description
PSD5-24	5W/24VDC DIN-rail power supply