

# EtherDevice™ Switch EDS-308/305 Series

## Industrial 8- or 5-Port Unmanaged Ethernet Switches

### Features

#### High Performance Network Switching Technology

- 10/100BaseT(X) (RJ45), 100BaseFX (SC connector, Multi/Single mode)
- Broadcast storm protection
- Support IEEE 802.3/ 802.3u/ 802.3x
- Store and Forward switching process type
- 10/100M, Full/Half-Duplex, MDI/MDI-X auto-sensing

#### Industrial Grade Reliability

- Power failure, port break alarm by relay output
- Redundant dual DC power inputs

#### Rugged Design

- Operating temperature ranges from 0 to 60°C, or extended operating temperature from -40 to 75°C
- IP30, rugged high-strength metal case



- DIN-Rail or panel mounting ability
- Long-haul transmit distance of 40 km or 80 km
- For hazardous location (Class 1 Div. 2/Zone 2)

#### Recommended Accessories

- DR Series DIN-Rail 24 VDC Power Supplies

### Overview

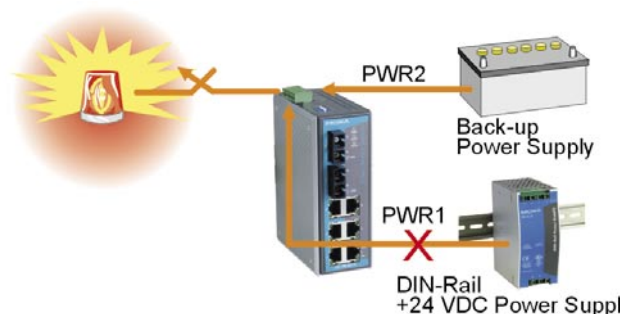
The EDS-308/305 Series includes 8- and 5-port Ethernet switches that provide an economical solution for your industrial Ethernet connection, and the built-in relay warning function alerts maintainers when power failures or port breaks occur.

These switches have been designed for harsh industrial environments, such as in hazardous locations (class I division 2 or zone 2) that comply with FCC, TÜV, UL, and CE standards. EDS-308/305 Series includes 2 models: one with an operating

temperature range of 0 to 60°C, and the other one with extended operating temperature range of -40 to 75°C. These 2 models are designed for standard and extended operating temperatures respectively, and go through a 100% burn-in test to ensure that they fulfill the special needs of industrial automation control.

### Redundant Power Inputs

EDS-308/305 provides two power inputs that can be connected simultaneously to live DC power sources. If one of the power inputs fails, the other live source acts as a backup to provide the EDS-308/305's power needs automatically.



## Relay Output Alarm for Port Breaks, Power Failure

EDS-308/305 provides relay contact outputs to warn technicians on the shop floor when the power fails or a port

link breaks, so that they can respond quickly with appropriate emergency operation procedures.

## Broadcast Storm Protection

EDS-308/305 protects itself from receiving too many broadcast packets. During normal use, broadcast packets will be forwarded to all ports except the source port. However, EDS-308/305 will discard broadcast or multicast packets if the

number of those packets exceeds a threshold in a preset period of time. When the preset period expires, it will then resume receiving broadcast or multicast packets until the threshold is reached again.

## Transmits VLAN Tag Packets Transparently

IEEE 802.1 standard defines the VLAN tag, including TPID Control (Information) with an additional 4 bytes inserted into

an untagged Ethernet frame. EDS-308/305 can transmit and receive these data packet without any change.

## Specifications

### Technology

**Standards:** IEEE802.3, 802.3u, 802.3x

**Processing Type:** Store and Forward

**Flow Control:** IEEE802.3x flow control, back pressure flow control

### Interface

**RJ45 Ports:** 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection

**Fiber Ports:** 100BaseFX ports (SC connector)

**LED Indicators:** Power, Faults, 10/100M

**DIP Switch:** Port break alarm mask

**Alarm Contact:** One relay output with current carrying capacity of 1A @ 24 VDC

### Optical Fiber

#### Distance:

Multi mode: 0 to 5 km, 1310 nm (50/125  $\mu$ m, 800 MHz\*km)  
0 to 4 km, 1310 nm (62.5/125  $\mu$ m, 500 MHz\*km)  
Single mode: 0 to 15 km, 1310 nm (9/125  $\mu$ m, 3.5 PS/(nm\*km))  
0 to 40 km, 1310 nm (9/125  $\mu$ m, 3.5 PS/(nm\*km))  
0 to 80 km, 1550 nm (9/125  $\mu$ 0m, 19 PS/(nm\*km))

#### Min. TX Output:

Multi mode : -20 dBm  
Single mode: 0 to 15 km, -15 dBm  
0 to 40 km, -5 dBm  
0 to 80 km, -5 dBm

#### Max. TX Output:

Multi mode : -14 dBm  
Single mode: 0 to 15 km, -6 dBm  
0 to 40 km, 0 dBm  
0 to 80 km, 0 dBm

**Sensitivity:** -36 to -32 dBm (Single), -34 to -30 dBm (Multi)

### Power

**Input Voltage:** 24 VDC (12 to 48 VDC), redundant inputs

#### Input Current (@24V):

0.25A (EDS-305, EDS-305-M, EDS-305-S, EDS-308)  
0.35A (EDS-308-M, EDS-308-S, EDS-308-MM, EDS-308-SS)

#### Overload Current Protection:

1.1A (EDS-305, EDS-305-M, EDS-305-S, EDS-308)  
1.6A (EDS-308-M, EDS-308-S, EDS-308-MM, EDS-308-SS)

**Connection:** Removable 6-pin Terminal Block

**Reverse Polarity Protection:** Present

### Mechanical

**Casing:** IP30 protection, metal case

**Dimensions:** 53.6 x 135 x 105 mm (W x H x D)

**Weight:** 0.63 kg

**Installation:** DIN-Rail, Wall Mounting

### Environmental

#### Operating Temperature:

0 to 60°C (32 to 140°F),  
-40 to 75°C (-40 to 167°F) for -T models

**Storage Temperature:** -40 to 85°C (-40 to 185°F)

**Ambient Relative Humidity:** 5 to 95% (non-condensing)

### Regulatory Approvals

**Safety:** UL60950 (E212360), UL 508, CSA C22.2 No. 60950, EN60950

#### Hazardous location:

UL/cUL Class 1, Division 2, Groups A, B, C and D (E238559)  
ATEX Class 1, Zone 2, EEx nC IIC (03CA24537)

**EMI:** FCC Part 15, 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

**Shock:** IEC60068-2-27

**Free Fall:** IEC60068-2-32

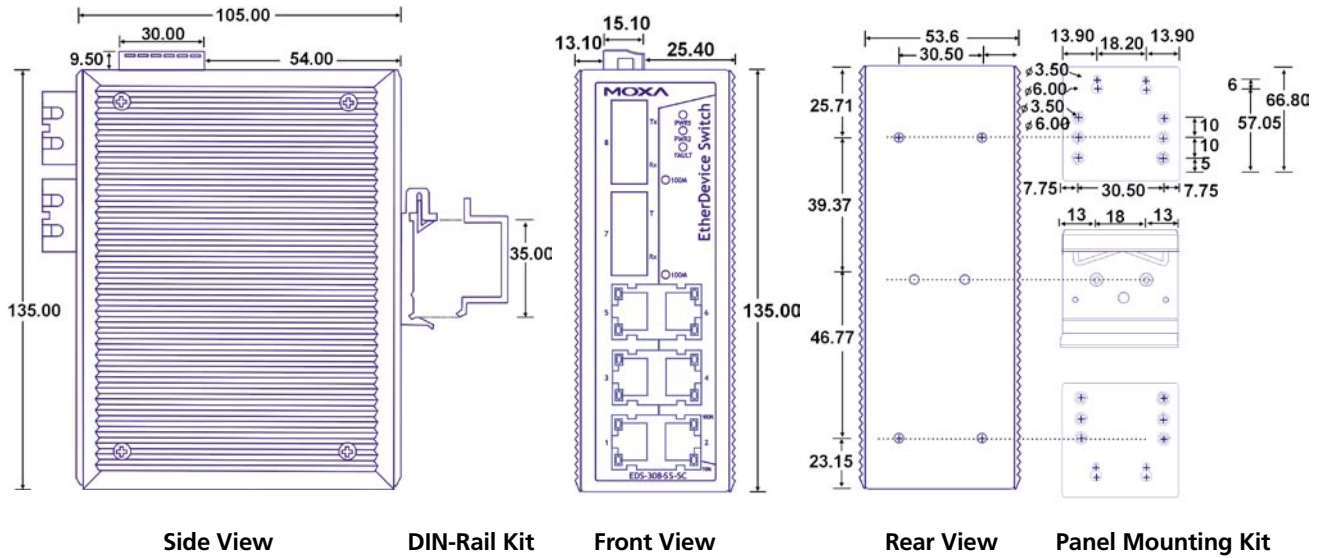
**Vibration:** IEC60068-2-6

**MTBF:** EDS-305 420,000 hrs  
EDS-308 310,000 hrs

**Data Base:** MIL-HDBK-217F, GB

**WARRANTY:** 5 years

Dimensions (unit = mm)



Ordering Information

**Industrial 8-port Unmanaged Ethernet Switch (Operating Temperature from 0 to 60°C)**

**EDS-308:** Unmanaged Ethernet Switch with 8 10/100BaseT(X) ports

**EDS-308-M-SC:** Unmanaged Ethernet Switch with 7 10/100BaseT(X) ports, 1 multi mode 100BaseFX port, SC connector, 0 to 60°C

**EDS-308-S-SC:** Unmanaged Ethernet Switch with 7 10/100 BaseT(X) ports, 1 single mode 100 BaseFX port, SC connector, 0 to 60°C

**EDS-308-MM-SC:** Unmanaged Ethernet Switch with 6 10/100BaseT(X) ports, 2 multi mode 100BaseFX ports, SC connector, 0 to 60°C

**EDS-308-SS-SC:** Unmanaged Ethernet Switch with 6 10/100BaseT(X) ports, 2 single mode 100BaseFX ports, SC connector, 0 to 60°C

**Industrial 5-port Unmanaged Ethernet Switch (Operating Temperature from 0 to 60°C)**

**EDS-305:** Unmanaged Ethernet Switch with 5 10/100BaseT(X) ports, 0 to 60°C

**EDS-305-M-SC:** Unmanaged Ethernet Switch with 4 10/100BaseT(X) ports, 1 multi mode 100 BaseFX port, SC connector, 0 to 60°C

**EDS-305-S-SC:** Unmanaged Ethernet Switch with 4 10/100BaseT(X) ports, 1 single mode 100BaseFX port, SC connector, 0 to 60°C

**All items include:** User's Manual

**Extended Operating Temperature Models (-40 to 75°C) are also available with the following ordering numbers**

EDS-308-T, EDS-308-M-SC-T, EDS-308-S-SC-T, EDS-308-MM-SC-T, EDS-308-SS-SC-T, EDS-305-T, EDS-305-M-SC-T, EDS-305-S-SC-T

*Long haul transmit models for Single mode optical fiber of 40 km and 80 km are also available.*

**Optional Accessories**

**DR-4524:** 45W/2A DIN-Rail 24 VDC Power Supply with universal 85 to 264 VAC input

**DR-75-24:** 75W/3.2A DIN-Rail 24 VDC Power Supply with universal 85 to 264 VAC input

**DR-120-24:** 120W/5A DIN-Rail 24 VDC Power Supply with 88 to 132 VAC/176 to 264 VAC input by switch

*\*See page 5-6 for more detailed information about these DIN-Rail Power Supplies.*

**WK-46:** Wall Mounting kit