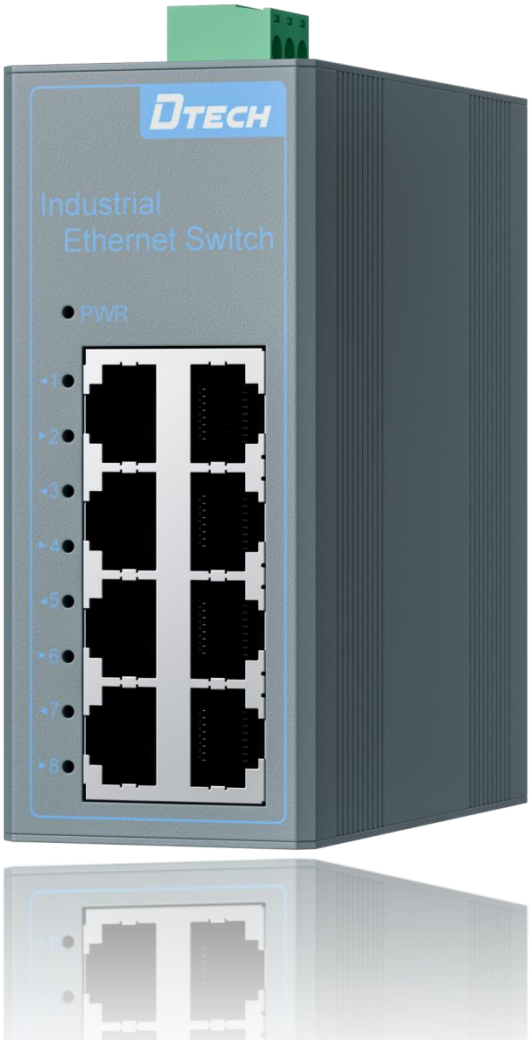
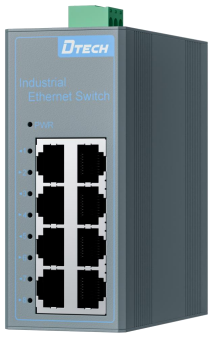
Industrial-grade DIN-rail unmanaged Ethernet switch



SW2000-8FT-IU-2D Product Series Specification Document v1.0.1



SW2000-8FT-IU-2D Series
Industrial-grade Ethernet Switches

- Auto-Negotiation: Supports full/half-duplex, automatic port matching
- Redundant Power Input: Dual DC 12–52 V wide-voltage inputs with built-in reverse polarity protection; uninterrupted operation during single-power failure
- Industrial operating temperature range: -40°C to +85°C with stable performance across the entire spectrum
- Enhanced EMC protection: ESD rating of ±6 kV/±8 kV, network port surge resistance of 2 kV, and strong anti-interference capability
- High Reliability: MTBF ≥ 300,000 hours, durable and long-lasting
- Body Protection: Full metal housing, IP40 protection rating
- Line-rate forwarding: Full-port line-rate transmission with low latency and zero packet loss
- Plug-and-play, zero configuration: Non-management-oriented design, plug-and-play

Product Presentation

The SW2000-8FT-IU-2D is a next-generation industrial Ethernet switch tailored for complex industrial environments, such as industrial automation, smart buildings, and power monitoring and control. It enables rapid data interconnection across multiple industrial terminals with zero configuration required. Engineered in strict compliance with international regulatory frameworks, the product seamlessly meets all compliance requirements for domestic engineering exports, bidding processes, and foreign trade.

The device supports uninterrupted operation across a wide temperature range of -40°C to 85°C and features dual redundant power supplies with automatic failover to guarantee continuous communication. Its high-strength metal enclosure provides dustproof and crush-resistant protection, while its compact form factor is perfectly suited for tight control cabinets. It supports 35mm DIN-rail mounting and holds an IP40 protection rating, effectively blocking solid dust and debris from penetrating the internal circuitry, thereby mitigating the risk of short circuits and signal attenuation caused by dust accumulation. Featuring true plug-and-play functionality, the switch delivers stable integration with PLCs, industrial cameras, data acquisition meters, serial device servers, and HMIs, offering a highly cost-effective and reliable networking solution for industrial sites.

Specification Details

Protocol Standards

•IEEE 802.3 10Base-T

•IEEE 802.3u 100Base-TX

Interfaces

•RJ45 Ports: 8 × 10/100Base-T(X) auto-sensing, full/half duplex, auto MDI/MDI-X

•LED Indicators: Power indicator, Network indicator

Switch Properties

•Transmission Type: Store-and-Forward

•MAC Table Size: 2K

•Switching Capacity: 1 Gbps

•Packet Forwarding Rate: 0.74 Mpps

•Buffer Space: 1.2 Mbit

•Switching Delay: < 10 μs

Power Input

•Input Voltage: 12/24/48 VDC (10.8 to 52.8 VDC)

•Terminal Block: 3-pin Phoenix terminal

•Redundant Power: Supported (Dual power inputs)

•Reverse Polarity Protection: Supported

Mechanical Characteristics

Housing: IP40 protection rating, aluminum alloy enclosure

Mounting: 35mm DIN-rail mounting

Cooling: Natural cooling, fanless design

Dimensions (W × H × D): 102 mm × 95 mm × 44 mm

Operating Environment

Operating Temperature: -40°C to 85°C

Storage Temperature: -40°C to 85°C

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

Industry Standards & Certifications

IEC 61000-4-2 (ESD): ±6 kV contact discharge, ±8 kV air discharge

IEC 61000-4-3 (RS): 10 V/m (80 MHz to 1000 MHz)

IEC 61000-4-4 (EFT): Power supply: ±2 kV; Ethernet port: ±1 kV

IEC 61000-4-5 (Surge): Differential mode: ±2 kV; Common mode: ±1 kV

IEC 61000-4-6 (CS): 3 V (10 kHz to 150 kHz), 10 V (150 kHz to 80 MHz)

IEC 61000-4-8 (PFMF): Passed

Shock: IEC 60068-2-27

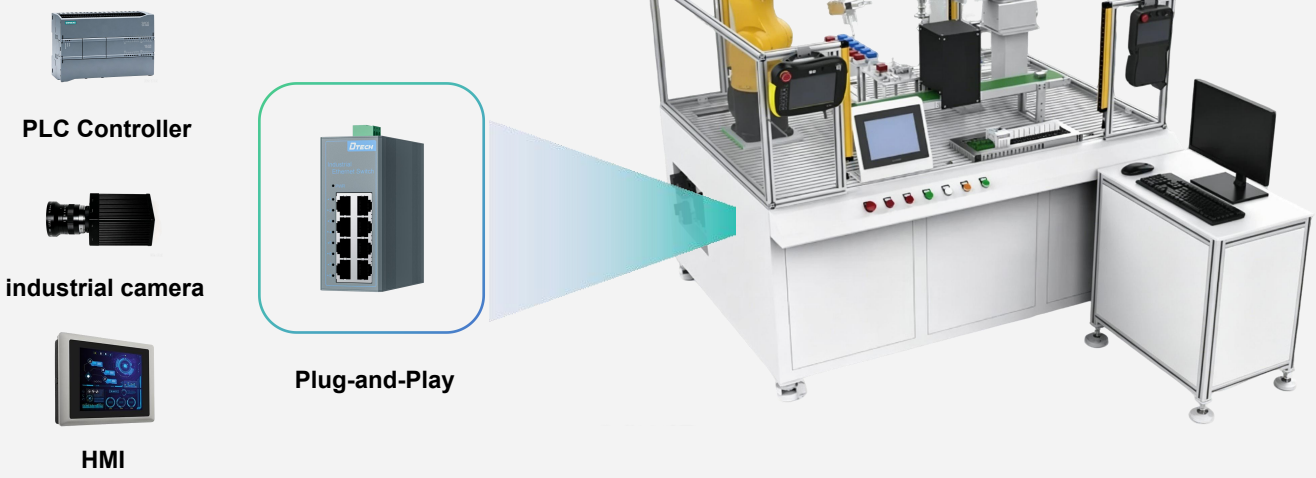
Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Product Application

1. Integration of Production Line PLC and Visual Inspection Systems

Modern automated production lines adopt PLC Controllers paired with Industrial Cameras for visual inspection, requiring low-delay, anti-interference industrial network. When insufficient ports or long transmission distance occur at on-site workstations, 5/8-port industrial switches realize economical local network convergence.



2. Other Typical Application Areas

AGV Vehicle Integration

Numerical Control Machine Tool (CNC): Extended Network Ports

Networking of Industrial Robots

Networking of purification equipment for wastewater treatment plants

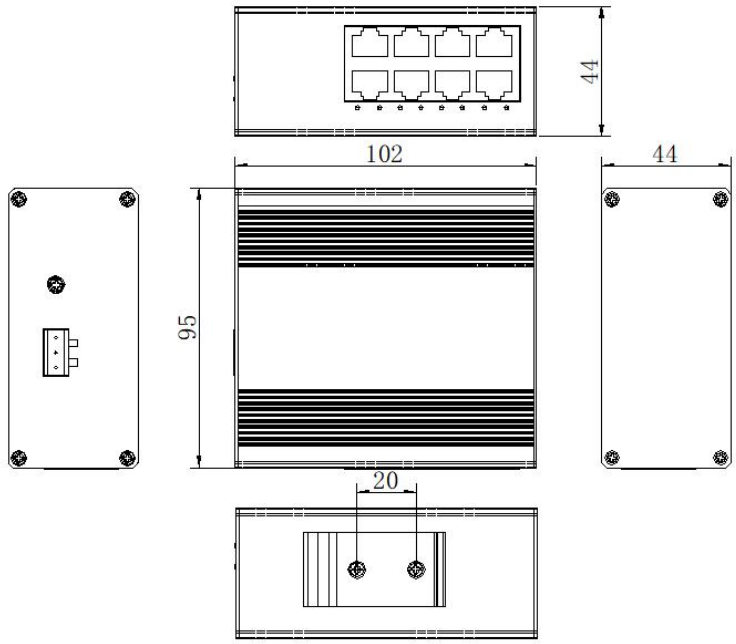
Networking of outdoor intelligent power distribution cabinets

Park Security Monitoring Network Configuration

Intelligent Storage Networking

Product Size

Dimensions: (W × D × H) 102 x 95 x44 mm



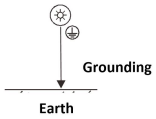
Installation Instructions

Guided installation

To install the product using the rail-mounted installation method, follow these steps: Step 1: Check the grounding and stability of the rail by inserting the switch's rail slot into the rail; Step 2: Tighten the positioning screws along the rail from the center toward both sides in sequence; Step 3: Secure the rail slots to the fixed guide grooves at both ends of the rail with screws, ensuring the rail is mounted perpendicularly and stably on the switch.

Grounding

Secure the grounding wire to the grounding screw on the switchgear and ensure a reliable connection within the proper grounding system.



Power Connection

Insert the power cable into the designated position of the three-pin terminal, then connect it to the power input interface (V+ and V-terminals). These terminals support supply voltages of 12/24/48 VDC (12–52 VDC).

⚠ Practical Considerations

Do not reverse polarity: Reversing V+ and V-connections will immediately cause the device to fail or even permanently damage the device.
Grounding recommendations: The third cores ground connection (FG) must be reliably connected to effectively enhance surge and anti-static performance.
Voltage selection: Preferably use the device's rated power supply of 12/24/48 V, and avoid prolonged operation at extreme voltages of 10.8 V or 52.8 V.

Packing List

1 x Industrial-grade Ethernet switch
1 x 5.08mm wire terminal
1x Product Manual

Order Model

Model	Specifications	Working Voltage	Working Temperature
SW2000-8FT-IU-2D	8 × 10/100Base-TX Ethernet Ports	DC 12-52V	-40 °C to 85 °C