

DPtech LSW3003 Series Industrial Switches



Overview

DPtech LSW3003 Series industrial switches are specially designed to meet the requirements of industrial systems such as substation automation systems, distribution network automation, and intelligent transportation. To address the actual needs of industrial applications, the DPtech industrial switches can realize real-time communication, network security, intrinsic safety and safety explosion-proof. Compared with commercial switches, industrial switches have a more stringent requirements for design and selection of components, to ensure they can work properly in harsh industrial environments.

As most traditional industrial switches are developed in open-source operating systems based on industrial automation, it is inevitable that they have a large number of vulnerabilities and defects derived from the open-source systems, such as low reliability, poor compatibility for large and new Ethernet protocols, and failure in meeting increasingly complex industrial networking requirements. Based on in-depth understanding of the needs of various industrial scenarios, DPtech launched the next generation LSW3003 Series industrial switches in compliance with numerous standards and specifications. Based on DPtech's ConPlat software platform, the LSW3003 Series industrial switches provide seamless integration with traditional enterprise networks by offering compatibility with rich L2-L4 network protocols, including VLAN, STP/RSTP, QoS, traffic control, ACL, port mirroring, and complex routing protocols such as RIP, OSPF and BGP. With a fanless heat dissipation circuit design, the Series provides a wide range of operating temperatures between -40 and 85°C. Other industrial qualities include vibration resistance, shock resistance, high/low temperature resistance, corrosion resistance, dust proof, and pulsed magnetic field immunity. Besides, the compatibility with rich network protocols for routers, switches and security helps improve its networking capability and enhance the reliability and security of industrial networks. The modular design enables it to support RJ45, ST, SC, LC, SFP and other interfaces, thus providing flexible networking capability as needed. The rich features and robust hardware design of LSW3003 Series industrial switch enable its wide application in substations, distribution network intelligent transformation, factory automation, intelligent transportation, and other harsh application environments.

Product Features

■ Adaptability in harsh environments

With a fanless heat dissipation circuit design, the Series can reduce fault points and provide a wide range of operating temperatures between -40 and 85°C, and dual power supply redundancy. In accordance with industrial design and specifications, it performs stringent selection on components, enabling shock resistance, vibration resistance and dust protection.

- **Flexible port configuration**

With a modular design, it supports 100M electrical/optical interface, Gigabit electrical/optical interface, and multiple interface types such as RJ45, ST, SC, LC, etc. Users may select the type and number of ports as needed.

- **Outstanding network performance**

With 32K MAC address entries, it can adapt to the ever-increasing requirements for network performance, and reserve sufficient space for network expansion.

- **Sound security protection**

The self-developed DPtech ConPlat software eliminates all vulnerabilities and defects of open-source systems, providing high availability while ensuring safe transmission of critical data.

- **Rich network and security features**

Support VLAN, STP/RSTP, multicast, port mirroring, QoS, port security, and other layer 2 features; fully support IPv6 to lay a foundation for future network upgrades.

- **High network reliability**

Supporting fast ring network recovery protocol(FRRP), the series enables 20ms switching in case of network failure.; support single ring, double ring, multi-ring, tangent ring, intersecting ring and other ring topologies, enabling users to design network solutions based on their systems; support ring network link load sharing to improve network bandwidth utilization.

- **Network-wide clock synchronization**

Supports NTP, SNTP, IEEE 1588v2 PTP with high-precision time correction and synchronization capabilities.

- **Easy to manage**

support multiple management modes such as SNMP, WEB and CLI, and providing several default configuration templates to facilitate management and configuration;

Product Series



LSW3003-4GP-I-R



LSW3003-4GT-I-R

Function Descriptions

Product Name	LSW3003-4GP-I-R	LSW3003-4GT-I-R
Dimension	440mm×360mm×44mm	
Weight	5.1KG	
Maximum power consumption	50W 50W	
Power supply	AC: 90V-264V, 50/60Hz DC: 100V~300V, 36V~72V Rated current: 1A	
Switching capacity	256Gbps	
Port configuration	Support 4 GE optical interfaces and 3 expansion slots	Support 4 GE electrical interfaces and 3 expansion slots
Interface Module	LSW-8GP 8GE optical interface module; LSW-4T 4FE electrical interface module; LSW-8ST 8FE(ST) optical interface module LSW-4SC4S 4-way photoelectric conversion interface module (SC)	
Operating environment	Operating Temperature: -40 ~ 85°C Operating Humidity: 0 ~ 95%RH (non-condensing) Mean Time between Failure (MTBF): above 35 years	
L2 Features	With 32K MAC address entries, it supports 802.1Q VLAN, IGMP Snooping, STP/RSTP/MSTP, 802.3x traffic control protocol, QoS (congestion management), 8 queues of hardware priority, rate limit based on ports, link aggregation of a maximum of 16 ports, port mirroring in ingress/egress	
L3 Features	IPv4: static routing, RIPv1/v2, OSPFv1/v2, policy-go-together <>br>IPv6: static routing, RIPng, OSPFv3, policy-go-together	
Security	Support broadcast storm suppression, multicast storm suppression and unknown unicast suppression Support 802.1X authentication, ARP attack prevention, ACL access control list	
Multicast	Support GMRP, IGMP, IGMP Snooping, PIM-SM	

Management	Support IEEE 1588 PTP accurate time synchronization protocol, SNMP, DHCP Client, DHCP Server, DHCP Relay Web management and command line management, enabling viewing system logs, traffic control, software version management and port management
Reliability	Support fast ring network recovery protocol (FRRP) to enable single ring, multi-ring, tangent ring, star, chain and other networks, with a ring network convergence time $\leq 20\text{ms}$ Support FLRP fast link recovery protocol Power supply redundancy Support VRRP
Industry specifications	BG/T 17626 (electromagnetic compatibility) Q/GDW 429-2010 (Technical Specification for Intelligent Substation Network Switch) GB/T 21563-2008 (On-board Installation) IEC61850-3 EN 61000-3-2/EN 61000-3-3 FCC Part 15,EN55022/CISPR22,Class A

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