DPtech LSW2300 Series Industrial Switches

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Overview

DPtech LSW5000/3000 Series Industrial Switches are a cost-effective industrial Ethernet communication solution designed to meet the challenge of complex and volatile industrial and outdoor application scenarios. 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 LSW2300 Series industrial switches in compliance with numerous standards and specifications. Based on DPtech's ConPlat software platform, the LSW2300 Series industrial switches provide seamless integration with traditional enterprise networks by offering compatibility with rich L2-L4 network protocols, including VLAN, STP/RSTP/MSTP, QoS,STP/RSTP/MSTP, QoS, traffic control, ACL, and port mirroring. With a fanless heat dissipation circuit design, the Series provides a wide range of operating temperatures between -40 and 85ºC. 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 rich features and robust hardware design of LSW2300 Series enable its wide application in substations, distribution network intelligent transformation, factory automation, intelligent transportation, and other harsh application environments.

Product Features

- **Industrial-grade hardware standards**
  Follow industrial-grade design specifications, strictly control component selection, and adopt dual-power redundant design；
  Support -40~85º C working environment temperature. Meet EMC4 protection standards, provide impact resistance, anti-jamming, anti-shock, anti-dust, anti-corrosion and other protective capabilities to ensure stable operation in various harsh environments；
  Using fanless design, heat conduction and heat dissipation technology；
  The equipment can run on average for more than 35 years without failure.

■ **Flexible deployment capabilities**

Using din rail design, it can be easily stuck on the rail without fixing with screws, easy to maintain；

Support VLAN, STP/RSTP, multicast, port mirroring, QoS and other layer 2 features, fully support IPv6, and provide a smooth transition capability for future network upgrades.

■ **PoE/PoE+/PoE++**

Power supply for PoE /PoE+ / PoE ++；

Support PoE watchdog function, can realize automatic power off and restart.

■ **Redundant networking mechanism**

Independently developed FRRP fast ring network recovery protocol, which can achieve millisecond-level network failure switching;

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 loop monitoring technology**

Independent research and development of network loop monitoring technology, once it is found that there is a loop in the network, it implements a preset alarm or blocking strategy on the loop port to perfectly solve the problem of ring network storms.

■ **Outstanding network performance**

With 1K multicast entries and 16K MAC 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；

Support video security, can identify and access IPC access, monitor the working status of IPC, and improve the online rate of IPC；

Support centralized MAC address authentication and 802.1x authentication. Can effectively prevent illegal users from accessing the network.

■ **Whole machine power off alarm mechanism**

Supports equipment failure alarm information to be sent automatically when the device is powered off, which is convenient for O&M personnel to determine the fault point and reduce O&M pressure.

■ **Network-wide clock synchronization**

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

capabilities.

- **Relay alarm**

  Supports alarm output of abnormal status relays such as power failure, fiber loss, network storm, etc., which facilitates quick response and maintenance and eliminates single point of failure.

Function Descriptions

Product Name	LSW2300-8GT2GP-I-PWR	LSW2300-8GT4GP-I-PWR
Dimension	95mm*130mm*175mm	95mm*130mm*175mm
Weight	2.0Kg	2.0Kg
Maximum power consumption	150W	150W
Power supply	AC: 90V-265V DC:24V-48V Rated current: 0.5A	
Switching capacity	128Gbps	
Packet forwarding rate	≥15Mpps	≥18Mpps
Port configuration	8 FE/GE electrical interfaces + 2 FE/GE optical interfaces	8 FE/GE electrical interfaces + +4 FE/GE optical interfaces
Operating environment	Operating Temperature: -40~85℃ Operating Humidity: 0~95%RH (non-condensing) Mean Time between Failure (MTBF): above 35 years	
L2 Features	With 16K 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	Support static routing, RIP, OSPF	
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 Snooping	
Management	Support IEEE 1588 PTP accurate time synchronization protocol, SNMP, DHCP Client, 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 ≤ 20ms; support FLRP fast link recovery protocol Power supply redundancy
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

Hangzhou DPtech Technologies Co., Ltd.

Address：6th Floor, Zhongcai Building, No. 68 Tonghe Road, Binjiang District, Hangzhou City, Zhejiang Province

Postcode：310051

Official Website：www.dptech.com

Service Hotline：400-6100-598