

High-Speed 10G Layer 2+ Switch with 12-Port Giga and 4-Port 10G SFP+

IDS616XG-4XGF

16-port L2+ Managed Switch with 12xGiga and 4x10Gbps SFP+

The IDS616XG-4XGF is a **lite industrial Layer 2+ switch** designed for **transportation, energy, automation, and surveillance** applications. It features **12 Gigabit Ethernet ports** and **4 10Gbps fiber uplinks**, ensuring **high-speed, low-latency connectivity**. With **IPv4/IPv6 routing, Surveillance VLAN, LLDP-MED, VLANs, ACL/QoS**, and **advanced security**, it enhances network performance. **ERPS (<20ms)** and **STP/RSTP/MSTP (<50ms)** provide seamless redundancy. Easily managed via **Web, CLI, SNMP, and Telnet**, it is built for **lite industrial environments** with a **durable metal housing, 6KV surge protection, IP40 rating, dual DC power, and fanless operation**. The IDS616XG-4XGF delivers **reliable, high-speed networking** for essential industrial applications.



Hardware Features

- Optical hybrid uplink port:** flexible adaptation of network cable and fiber optic connection, adapt to a variety of networking cascade and expansion.
- 10Gb uplink high-speed transmission:** Ensures high-bandwidth stability with per-port rate and flow control, to achieve long-distance transmission to meet diverse user needs.
- Industrial-Grade Chip:** High-bandwidth switching chip with a robust backplane and large cache reduces network congestion.
- Intelligent Flow Control:** Supports IEEE802.3X full-duplex flow control for smooth, lag-free HD transmission.
- Advanced Port Features:** Automatic MAC address learning and updating, plus Auto MDI/MDI-X functionality for seamless connectivity.
- Enhanced Protection:** Service ports include 6KV anti-surge protection, overload safeguards for secure use.
- Durable Build:** Aluminum alloy shell ensures excellent heat dissipation, interference shielding, rust resistance, and long-lasting durability.
- Flexible Power Options:** Dual DC redundant power supply (DC12-52V) meets industrial wide-voltage requirements.
- Industrial Design:** IP40-rated, DIN35 rail mounting, and wide temperature range (-25°C to +75°C) provide stability in harsh environments.
- Energy Efficient:** Low power consumption with fanless, silent operation for easy installation and maintenance.

Software Features

- IPv4 Static Routes:** Supports up to 128 static routes and 1024 ARP entries for efficient routing and address resolution.
- Advanced Port Management:** Offers flexible bandwidth and traffic configuration with optical port DDMMI diagnostics for precise network management.
- Comprehensive VLAN Support:** Includes IEEE 802.1Q, protocol VLAN, and QinQ VLAN for flexible VLAN configuration based on user needs.
- Quality of Service (QoS):** Features three priority modes (port-based, 802.1P, and DSCP) and four queue scheduling algorithms (Equ, SP, WRR, SP+WRR) to optimize traffic handling.
- Access Control Lists (ACLs):** Provides customizable security policies with rule-based filtering, processing actions, and time-based permissions for enhanced network protection.
- Multicast Protocols:** Supports IGMP V1/V2 and IGMP Snooping V1/V2/V3 for seamless multi-terminal HD video surveillance and conferencing.
- Redundancy Protocols:** Supports ITU-T G.8032 v1/v2 ERPS Standard Ring Redundancy protocol and STP/RSTP/MSTP for loop elimination, link backup, and network stability.
- Link Aggregation:** Supports static and dynamic (LACP) aggregation for higher bandwidth, load balancing, link redundancy, and reliability.

Security Features

- User Authentication:** Supports WEB interface authentication for secure access.
- CPU Protection:** Prevents large data stream attacks on the switch for enhanced stability.
- Advanced Authentication Protocols:** Supports 802.1x, remote RADIUS, and TACACS+ authentication for robust access control.
- Comprehensive ACL Support:** Hardware supports IP ACL, MAC ACL, port filtering, MAC address binding, and multi-factor binding (IP+MAC+VLAN+Port) for enhanced security.
- Enhanced Network Control:** Features DHCP Snooping V1/V2/V3, port isolation, and broadcast storm suppression for reliable and secure network operation.



Interfaces

IDS616XG-4XGF

Power Connector

- 1 x 6 pin terminal block
4 pin for power input
2 pin for FALL output

- Reset Button
- Console for management
- Chassis Ground

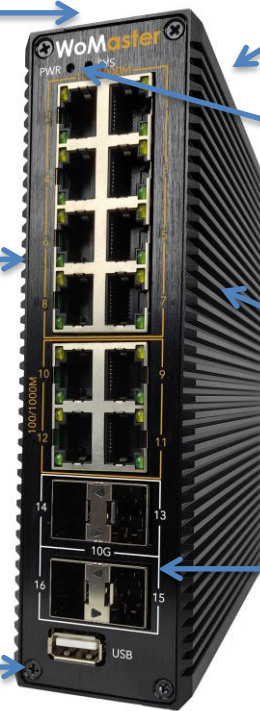
12x 100/1000M RJ-45

SYS/Power LED

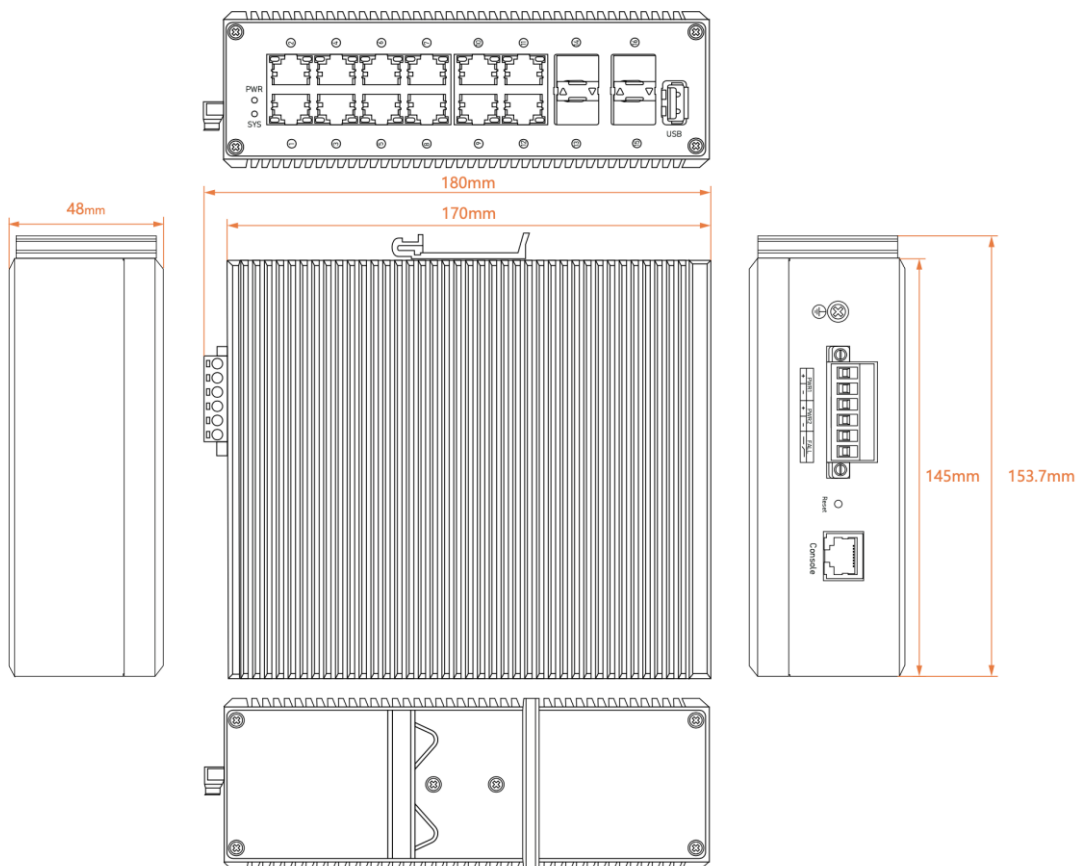
IP40 Metal Enclosure

4x 1000M/10G SFP Fiber

- USB for Configuration/Firmware update



Dimensions



(mm)

Technology	
Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE802.3z 1000Base-X
	IEEE 802.3ab 1000Base-T Gigabit Ethernet Copper
	IEEE 802.3z Gigabit Ethernet Fiber
	IEEE 802.3x Flow Control and back-pressure
	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	IEEE 802.1p Class of Service (CoS)
	IEEE 802.1Q VLAN
	IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP)
	IEEE 802.3ad Link Aggregation Control Protocol (LACP)
	IEEE 802.1X Port based Network Access Protocol
Performance	
Switch Technology	Store and Forward Technology with Non-Blocking Switch Fabric
Number of MAC Address	16K
Packet Forwarding Cache	12Mbits
Transfer performance	Backplane Bandwidth: 56 Gbps (non-blocking), Packet forwarding rate @ 64byte: 77.38 Mpps
Jumbo Packet	10KBytes
Interface	
Ethernet Port	12 x 10/100/1000Base-T RJ45 4 x 1/10G SFP+
System LED	1 x Power, Green ON(Power is on) 1 x SYS:Green Blinking (System is ready)
Ethernet Port LED	Link (Green On), 10/100M(Amber Off), 1000M(Amber On), Activity (Green Blinking)
SFP LED	Link (Green On), Activity (Green Blinking)
Reset	Default Settings Reset(over 7 Seconds)
Console	1 x RS232 in RJ45 for System Configuration. Baud Rate: 115200.n.8.1
Power Input	6-Pin Removable Terminal Block Connector: 4 Pins for Redundant Power 2 Pins for FALL output
Power Requirement	
Input Voltage	24VDC (12~52VDC)
Power Consumption	Standby power consumption: <13W
Software	
IP Routing	L2+ network management functions. Support IPv4/IPv6 static/dynamic routing, Support IPv4/IPv6 dual-stack management Support RIPv1/v2, RIPv6, OSPFv1/v2, OSPFv3 ARP protocol with a maximum of 1024 entries
VLAN	port-based VLANs (4K),IEEE802.1q VLANs, protocol-based VLANs Access, Trunk, and Hybrid port configurations.
Port Aggregation	static aggregation and dynamic aggregation (LACP) up to 8 aggregation groups, each aggregation group supports up to 8 ports

Redundancy	STP/RSTP/MSTP spanning tree protocols ITU-T G.8032 v1/v2 Ethernet Ring Protection Switching (ERPSv2) (single-ring, multi-ring, intersecting ring and tangent ring configurations), ring self-healing time less than 20ms Virtual Router Redundancy Protocol (VRRP)
IGMP, Mirroring	IGMP Snooping v1/v2/v3 and up to 1024 multicast groups. bi-directional traffic mirroring on basic ports
DHCP	DHCP Server, DHCP Client, DHCP Snooping v1/v2/v3
QoS	port-based, 802.1P and DSCP/ToS prioritization, and supports 8 output queues per port. Four priority scheduling modes: Equ, SP, WRR, SP+WRR. Priority Mark/Remark, Flow-based rate limiting, packet filtering, redirection
ACL	L2 to L4 packet filtering function and provides ACLs defined based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN, etc. Port-based and VLAN-based ACL issuance
Security	Hierarchical management and password protection, Port-based IEEE802.1X authentication AAA & RADIUS with TACACS+ authentication, MAC address learning number limit, MAC address blacklist, address binding, SSH 2.0 encrypted channel for user login, Port isolation, ARP message speed limit function, IP source address protection, ARP intrusion detection, Anti-DoS attacks, Port broadcast message suppression, Host data backup/restore mechanism, IP+MAC+VLAN+Port Quad Binding
Management	Web-based, CLI command line (Console, Telnet), SNMP (V1/V2c/V3), HTTP, TFTP file upload/download, RMON 1, 2, 3 and 9 groups, one key to restore factory settings NTP clock and local clock, local logs and system logs (SYSLOG), Ping detection, cable status checking, instant CPU utilization status, Link Layer Discovery Protocol LLDP, NMS (LLDP+SNMP)
Mechanical	
Installation	Din- Rail
Enclosure Material	Steel Metal
Dimension	145x48x180 (W x H x D) / without DIN Rail Clip
Ingress Protection	IP40
Weight	~1.5Kg with no package
Environmental	
Operating Temperature & Humidity	-25 to +75°C; 5% to 95% RH non-condensing
Storage Temperature	-40 to +85°C; 5% to 95% RH non-condensing
MTBF	500,000 hours
Warranty	5 Years
Standard	
CE-EMC	EN 55032:2015/A11:2020/A1:2020, EN 55035:2017/A11:2020, EN IEC 61000-3-2:2019/A1:2021/A2:2024, EN 61000-3-3:2013/A1:2019/A2:2021, EN 61000-4-2:2009, EN IEC 61000-4-3:2020, EN 61000-4-4:2012, EN 61000-4-5:2014/A1:2017, EN IEC 61000-4-6:2023, EN 61000-4-8:2010, EN IEC 61000-4-11:2020
CE-LVD	EN IEC 62368-1:2024+A11:2024
RoHS	IEC 62321-5:2013& IEC 62321-4:2013+A1:2017& IEC 62321-7-2:2017& IEC 62321-6:2015& IEC 62321-8:2017 &IEC 62321-3-1:2013 & IEC 62321-7-1:2015



Ordering Information

Model Name	Description
IDS616XG-4XGF	Lite Industrial 12 Ports Gigabit + 4 Ports 10G SFP Din Rail Layer 2+ Switch, 12-48VDC Input
	Package List
	1 x Product Unit (Without SFP Transceiver)(without Power supply)
	1 x 6-pin Removable Terminal Block Connector
	1 x Attached Din Clip
	1 x Quick Installation Guide



Optional Accessory

SFPGEM05DT	1000M	550M	Multi	SFP, 1000Mbps, LC, multi, DDM, 550M, -40~85°C
SFPGES10DT	1000M	10KM	Single	SFP, 1000Mbps, LC, single, DDM, 10KM, -40~85°C
SFPGES30DT	1000M	30KM	Single	SFP, 1000Mbps, LC, single, DDM, 30KM, -40~85°C
SFPXGM03D	10G	300M	Multi	SFP+, 10Gbps, LC, multi-mode, DDM, 300M, 0~70°C
SFPXGM03DT	10G	300M	Multi	SFP+, 10Gbps, LC, multi-mode, DDM, 300M, -40~85°C
SFPXGS10D	10G	10KM	Single	SFP+, 10Gbps, LC, single-mode, DDM, 10KM, 0~70°C
SFPXGS10DT	10G	10KM	Single	SFP+, 10Gbps, LC, single-mode, DDM, 10KM, -40~85°C

MDR-40-24	INPUT:85-264VAC, 120-370VDC, OUTPUT: 24VDC/1.7A, -20 ~ +70°C
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