



ISD-1212-L3

Die ISD-1212-L3 eignen sich für komplexe Hochgeschwindigkeitsnetzwerke, die auf hohe Datendurchsätze und geringe Latenzzeiten optimiert sind.

Die ISD-1212-L3 industriellen Switches bieten 12 Gigabit-Ethernet Ports und 12 Gigabit SFP-ports, welche flexibel mit verschiedenen SFP Modulen (z.B. Glasfaser, Singlemode, Multimode, RJ-45, VDSL) bestückt werden können

12 x 10/100/1000 Base-T(X) Ports
8 x 100/1000 Base-F(X) SFP Ports
4 x 1/10G SFP+ Ports

- **Redundante Spannungsversorgung:**
**12~48VDC, Verpolungsschutz, 6KV
 Überspannungsschutz**
- **Erweiterter Betriebstemperaturbereich:**
-40°C bis +80°C
- **IPv4/IPv6 Dual-Stack Protokoll:** unterstützt
TACACS+, ACL, IEEE 802.1X, HTTPS und SSH
- **Unterstützt 9K Jumbo Frames**
- **G.8032 ERPS: Ring Protection (< 20 ms),
 Spanning Tree (STP, RSTP & MSTP)**
- **Port-basiertes und Tag-basiertes VLAN:**
unterstützt IEEE 802.1ad/QinQ VLAN



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Ports	<ul style="list-style-type: none"> • 12x 10/100/1000Base-T RJ45 Port (Daten) • 8x 100/1000Base-X SFP fiber Slot Port (Daten) • 4x 1/10G uplink SFP+ slot ports (Daten) • 1x RS232 Konsolenport (115200,N,8,1) • 2x V+,V- redundant DC • 1x Alarmkontakt für Spannungsversorgung
Ethernet Port	<ul style="list-style-type: none"> • 10/100/1000Base-T, Auto-sensing, Full/halfduplex MDI/MDI-X self-adaption
Netzwerk Management Type	<ul style="list-style-type: none"> • L3
Netzwerk Protokolle	<ul style="list-style-type: none"> • IEEE802.3 10BASE-T, • IEEE802.3i 10Base-T • IEEE802.3u 100Base-TX, • IEEE802.3ab 1000Base-T • IEEE802.3z 1000Base-X • IEEE802.3ae 10GBase-LR/SR IEEE802.3x
Forwarding Mode	<ul style="list-style-type: none"> • Store and Forward (Full Wire Speed)
Switching Capacity	<ul style="list-style-type: none"> • 598 Gbps
Forwarding Rate@64byte	<ul style="list-style-type: none"> • 89.28Mpps
MAC	<ul style="list-style-type: none"> • 32K
Buffer Memory	<ul style="list-style-type: none"> • 32M
Jumbo Frame	<ul style="list-style-type: none"> • 9,6K
LED Anzeige	<ul style="list-style-type: none"> • Power: PWR (grün), System: SYS (grün), Network: Link (gelb), SFP:L/F (grün)
Betriebsspannung	<ul style="list-style-type: none"> • 12-48 VDC, unterstützt Verpolungsschutz
Spannungsaufnahme	<ul style="list-style-type: none"> • Standby<30W;Fullload<36W
Total PWR / Input Voltage	<ul style="list-style-type: none"> • 36W/48VDC
Power Supply	<ul style="list-style-type: none"> • optional 24V/60W industrial power supply
Betriebstemperatur/Luftfeuchte	<ul style="list-style-type: none"> • -40°C ~ +80°C; 5%~90% RH nicht kondensierend
Lager Temperatur/Luftfeuchte	<ul style="list-style-type: none"> • -40°C ~ +85°C; 5%~90% RH nicht kondensierend
Maße (L*B*H)	<ul style="list-style-type: none"> • 166x149x89 mm
Gewicht Netto/Brutto	<ul style="list-style-type: none"> • <2,2kg / <2,8kg
Montage	<ul style="list-style-type: none"> • Desktop / Hutschienenmontage

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Schnittstelle	<ul style="list-style-type: none"> IEEE802.3X (Full-duplex) Einstellung des Port Temperaturschutzes Broadcast stormcontrol basierend auf der Port-Geschwindigkeit Geschwindigkeitsbegrenzung des Nachrichtenflusses im Zugangsport Die minimale Partikelgröße beträgt 64 Kbps
Layer 3 Optionen	<ul style="list-style-type: none"> L3 network management, IPv4/IPv6 management L3 soft routing forwarding, Static route, Default route @128pcs, APR @ 1024pcs
Certification	<ul style="list-style-type: none"> CE-Kennzeichen, LV DEN60950; FCC Part 15 Class B; RoHS
VLAN	<ul style="list-style-type: none"> VLAN portbasierend, IEEE802.1q VLAN protokoll basierend, VLAN MAC basierend, Voice VLAN, QinQ Konfiguration, Trunk, Hybrid
Spanning Tree	<ul style="list-style-type: none"> STP(IEEE802.1d), RSTP(IEEE802.1w), MSTP(IEEE802.1s)
Industrielles Ring Netzwerkprotokoll	<ul style="list-style-type: none"> G.8032 (ERPS), Recovery time less than 20ms 250 Ring at most, Max 1024 devices per ring.
Multicast	<ul style="list-style-type: none"> MLD Snooping v1/v2, Multicast VLAN IGMP Snooping v1/v2, Max 1024 multicast groups, Fast log out
Port Mirroring	<ul style="list-style-type: none"> Bidirectional data mirroring based on port
QoS	<ul style="list-style-type: none"> Flow-based Rate Limiting Flow-based Packet Filtering 8x Output queues of each port 802.1p/DSCP priority mapping Diff-Serv QoS, Priority Mark/Remark Queue Scheduling Algorithm (SP, WRR, SP+WRR)
ACL	<ul style="list-style-type: none"> Port-based Issuing ACL, ACL based on port and VLAN L2 to L4 packet filtering, matching first 80 bytes message. Provide ACL based on MAC, Destination MAC address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range, und VLAN, etc.
Security	<ul style="list-style-type: none"> IP-MAC-VLAN-Port binding ARP inspection, Anti-DoS attack AAA & RADIUS, MAC learning limit Mac black holes, IP source protection IEEE802.1X & MAC address authentication Broadcast storm control, Backup for host datum SSH 2.0, SSL, Port isolation, ARP message speed limit User hierarchical management & password protection
DHCP	<ul style="list-style-type: none"> DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	<ul style="list-style-type: none"> One-key recovery, Cable Diagnose, LLDP, Web Management(HTTPS), NTP, System worklog, PingTest, Konsole/ AUX Modem/ Telnet/ SSH2.0 CLI, Download & Management on FTP, TFTP, SFTP, SNMPV1/V2C/V3

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Management	<ul style="list-style-type: none"> • One-key recovery • Cable Diagnose, LLDP • Web Management(HTTPS) • NTP, System worklog, PingTest • CPU instantutilization status view • Console/AUX Modem/Telnet/SSH2.0 CLI • Download & Management on FTP, TFTP, Xmodem, SFTP, SNMPV1/V2C/V3
DHCP	<ul style="list-style-type: none"> • DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
System	<ul style="list-style-type: none"> • Category 5 Ethernet network cable • Webbrowser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer 10 or later; • TCP/IP, network adapter, and network operating system(such as Microsoft Windows, Linux, or MacOSX) installed on each computer in a network
Lightning protection/protectionlevel	<ul style="list-style-type: none"> • Lightning protection: 6KV 8/20us; • Protectionlevel: IP40 • IEC61000-4-2(ESD): ±8kV contact discharge, ±15kVairdischarge • IEC61000-4-3(RS): 10V/m (80–1000MHz)IEC61000-4-4(EFT): power cable: ±4kV; • Data cable:±2kV • IEC61000-4-5(Surge): powercable:CM±4kV/ DM±2kV;datacable:±4kV • IEC61000-4-6 (radiofrequencytransmission):10V(150kHz–80MHz) • IEC61000-4-8 (power frequency magnetic field): 100A/m; 1000A/m,1s to 3s • EC61000-4-9 (pulsedmagnetfield): 1000A/m • IEC61000-4-10 (damped oscillation): 30A/m 1MHz • IEC61000-4-12/18 (shockwave): CM2.5kV, DM 1kV • IEC61000-4-16 (common-mode transmission): 30V;3 00V, 1s FCC Part15/CISPR22(EN55022): ClassA • IEC61000-6-2 (Common Industrial Standard)
Mechanical Properties	<ul style="list-style-type: none"> • IEC60068-2-6 (anti vibration) • IEC60068-2-27 (anti shock) • IEC60068-2-32 (free fall)
Certification	<ul style="list-style-type: none"> • CCC; CE mark, commercial; CE/LVD EN60950; FCC Part 15Class B; RoHS