

## 36 Ports SMART+ Industrial switch with 24x 10/100/1000M RJ45, 8x 1000M SFP & 4x 1/10G SFP+

Lightem SMART+ Industrial switch Fiber Switch LIROX36-8SFP-4TG is a 24 x RJ45 port 10/100/1000M, 8 x 1000M SFP 4 x 1/10G SFP+ ports and 1 x console port Managed (L3) Industrial Switch. It consumes low power consumption, supports wide operating temperature (-40 to +85°C). These switches are specially designed for harsh industrial environments. It is suitable for wind power, subway PIS, power SCADA, sewage treatment, intelligent transportation systems applications.



### FEATURES

- 24x 10/100/1000M RJ45 ports, 8 x 1000M SFP, 4x 1/10G SFP+ and 1x console port
- Better manageability, security, QoS, and performance.
- L3 features IPV4/V6 management, static route
- L3 Switching features including 802.1Q VLAN, Mirroring, Port isolation, IGMP Snooping, DHCP Snooping, LLDP, IP Source Guard, ARP inspection, ACLs etc.
- Support spanning tree STP(802.1D) and RSTP(802.1W). Jumbo frames support up to 9.6K kilobytes.
- Support enhanced management through WEB, CLI, TELNET, SSH, SNMP and cable diagnosis
- G.8032, ERPS Ethernet Ring Protection Switching (<50ms)

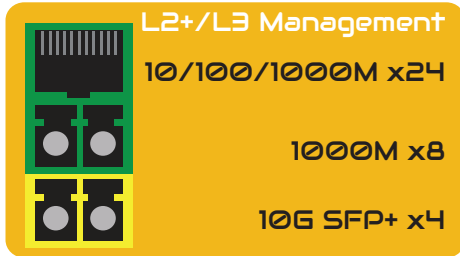
### SPECIFICATIONS

Number of RJ45 ports (10/100/1000BaseT)	24
Number of 1000M SFP ports	8
Number of 1/10G SFP+ ports	4
Console Port	YES (RJ45-RS232), Reset switch to restore the factory settings
Ethernet Port	Port 1-24 support 10/100/1000Base-T, auto-sensing, Full/half duplex MDI/MDI-X self-adaption
Optical Fiber Port	Gigabit SFP /10G SFP+ optical fiber interface, default matching optical modules (optional order single-mode / multi-mode, single fiber / dual fiber optical module. LC)
SFP Port Expansion	Turbo overclocking 2.5G optical module and ring
Optical Cable/ Distance	Multi mode: 850nm / 0 ~ 550M, 0 ~ 300M (10G); single mode: 1310nm / 0 ~ 40KM, 1550nm 0 ~ 120KM.
Network Management Type	L3
Network Protocol and Standards	IEEE802.3 10BASE-T; IEEE802.3i 10Base-T; IEEE802.3u 100Base-TX; IEEE802.3x ; IEEE802.3ab 1000Base-T; IEEE802.3z 1000Base-X; IEEE802.3x; IEEE802.3ae 10GBase-LR/SR
Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	598Gbps
Forwarding Rate@64byte	107.14Mpps
MAC	32K
Buffer Memory	32M
Jumbo Frame	9.6K
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP(≤100 meter) ; 100BASE-TX: Cat5e or later UTP(≤100 meter) ; 1000BASE-T: Cat5e or later UTP(≤100 meter)
Lightening and protection level	Lightening protection: 6KV 8/20us; Protection level: IP40
Operating temperature / humidity	-40 to 80 °C(5 ~ 95% non condensation)
Storage temperature / humidity	-40 to 85 °C(5 ~ 95% non condensation)
Power Supply	Dual input power interface design, AC power supply priority, support anti-reverse protection, power-off automatic switching DC connection;
	2*DC12-48V power input ports; Power-off alarm switch; 1*AC power input port
Power Consumption	Standby<35W, Full Load<60W

<i>LED</i>	Power Indicator : PWR (green); System Indicator :SYS (green); Network Indicator: Link/ (yellow);SFP Indicator: L/A (green);
<i>Physical</i>	
<i>Dimensions(L*W*H)</i>	440x 298x 44mm
<i>Net /Gross Weight</i>	<5.0kg / <5.8kg
<i>Installation</i>	Desktop type ,19 inch 1U cabinet installation

<i>Lightning protection / protection level</i>	Lightning protection: 6KV 8/20us; Protection level: IP40 IEC61000-4-2(ESD):±8kV contact discharge,±15kV air discharge ; IEC61000-6-2(Common Industrial Standard) IEC61000-4-3(RS):10V/m(80-1000MHz) ; IEC61000-4-4(EFT): power cable:±4kV; data cable:±2kV IEC61000-4-5(Surge):power cable:CM±4kV/DM±2kV; data cable:±4kV ; FCC Part 15/CISPR22(EN55022):Class A ; IEC61000-4-6(radio frequency transmission):10V(150kHz-80MHz) ; IEC61000-4-8(power frequency magnetic field):100A/m;1000A/m ,1s to 3s IEC61000-4-9(pulsed magnet field):1000A/m ; IEC61000-4-10(damped oscillation):30A/m 1MHz IEC61000-4-12/18(shockwave):CM 2.5kV,DM 1kV ; IEC61000-4-16(common-mode transmission):30V; 300V,1s
<i>Mechanical Properties</i>	EC60068-2-6 (anti vibration) ; IEC60068-2-27 (anti shock) ; IEC60068-2-32 (free fall)
<i>Certification</i>	CCC;CE mark, commercial; CE/LVD EN60950;FCC Part 15 Class B; RoHS
<i>Network Management Interface</i>	IEEE802.3X (Full-duplex) ; Port temperature protection setting ; Port green Ethernet Energy-saving setting; Broadcast storm control based on port speed ; The speed limit of the message flow in the access port ; The minimum particle size is 64Kbps.
<i>Layer 3 Features</i>	L3 network management ,IPV4/IPV6 management ; L3 soft routing forwarding, Static route, Default route @ 128 pcs, APR @ 1024 pcs
<i>VLAN</i>	4K VLAN based on port, IEEE802.1q ; VLAN based on the protocol ; VLAN based on MAC ; Voice VLAN, QinQ configuration ; Port configuration of Access, Trunk, Hybrid
<i>Port Aggregation</i>	LACP, Static aggregation; Max 18 aggregation groups and 8 ports per group
<i>Spanning Tree</i>	STP (IEEE802.1d),RSTP (IEEE802.1w),MSTP (IEEE802.1s)
<i>Industrial Ring Network Protocol</i>	G.8032 (ERPS),Recovery time less than 20ms ; 250 Ring at most, Max 254 devices per ring
<i>Multicast</i>	MLD Snooping v1/v2,Multicast VLAN ; IGMP Snooping v1/v2, Max 250 multicast groups, Fast log out
<i>Port Mirroring</i>	Bidirectional data mirroring based on port
<i>QoS</i>	Flow-based Rate Limiting ; Flow-based Packet Filtering ; 8*Output queues of each port ; 802.1p/DSCP priority mapping; Diff-Serv QoS,Priority Mark/Remark ; Queue Scheduling Algorithm (SP, WRR, SP+WRR)
<i>ACL</i>	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, and VLAN, etc
<i>Security</i>	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 and password protection
<i>DHCP</i>	DHCP Client,DHCP Snooping, DHCP Server,DHCP Relay
<i>Management</i>	One-key recovery ; Cable Diagnose,LLDP ; Web Management (HTTPS) ; NTP,System work log,Ping Test CPU instant utilization status view ; Console/AUX Modem/Telnet/SSH2.0 CLI Download & Management on FTP, TFTP, Xmodem, SFTP,SNMP V1/V2C/V3 ; smart network management system platform(LLDP+SNMP)
<i>System</i>	Category 5 Ethernet network cable ; Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 or later; TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in a network

## FUNCTIONAL DIAGRAM



## ORDERING INFORMATION

PN	DESCRIPTION
LIROX36-8SFP-4TG	36 Ports 10/100/1000M SMART+ Industrial switch with 24x RJ45, 8x 1000M SFP & 4x 1/10G SFP+