16*10/100/1000Base-T+8*Gigabit Combo+ 4*1G/2.5/10GBase-X SFP+

L3 Managed Industrial Rack-mount PoE Switch

LT-IS6528XGP-4XS16GT8GC-U Series

Features:

➤ 16*10/100/1000Base-T RJ45 PoE, 8*1G Combo RJ45/SFP, 4*1G/2.5/10GGBase-X SFP+

➤ DC/DC redundant power 44-57V input with polarity reverse/over-voltage/over-current protection

➤ Complies with IEEE802.3af PoE and IEEE802.3at PoE+ standard

➤ Support USB one key configuration and upgrading

➤ Support DI/DO/RS485/Modbus data

➤ Layer 3 features: Supports static and dynamic routing, RIP, OSPF, BGP4,ECMP, VRRP

➤ Layer 2 features: VLAN; ERPS, STP/RSTP/MSTP; Link aggregation, IGMP snooping, port mirroring, QinQ, 802.1X, port isolation, RMON, NTP client, DHCP snooping/client, Ping/Tracert test, ACL, QoS and SFP DDM function

➤ Management and maintenance: IPv4 and IPv6 management, PoE management; Support Web, SNMP, CLI, Telnet/SSH management method; Support user management, system log, configuration upload/download through web interface, firmware upgrade via HTTP/TFTP/USB

➤ Support G.8032 ERPS protocol, recovery time ≤20ms

➤ Support 6KV surge protection and ESD: Air-15kV, Contact-8kV Protection

➤ IP40 fan-less and rack-mount hardware design

➤ Operation temperature: -40 ℃ ~+ 75 ℃

Overview

The SmartByte LT-IS6528XGP-4XS16GT8GC-U series are the highly reliable Layer 3 managed industrial PoE switches with 16-port 10/100/1000Base-T PoE ,8-port 1000Base Combo and 4-port 1G/2.5G/10GBase-X SFP+. They comply with IEEE802.3af, IEEE802.3at standard PoE protocol, the Max power consumption can reach 30W (PoE+) per port. With full gigabit downlink and 10G uplink capability, they can provide high performance and the ability to quickly transfer large amounts of video, voice, and data across a network. They support DI/DO/RS485/Modbus data, G.8032 ERPS, MSTP/RSTP/STP redundancy technologies, Layer 3 static routing & dynamic routing features, powerful Layer 2 management and secure function, which all making them ideal for large-scale industrial networks.

LT-IS6528XGP-4XS16GT8GC-U series are also a high cost-effective easy-to-use devices, which provide essential industrial Ethernet networking function, including wide range voltage input 44-57VDC, redundant power design with DC/DC, robust IP40 fan-less housing with rack-mount installation, wide operation temperature from -40°C to 75 °C as well as high-level EMI/EMC capability. They are the best choice for heavy industrial factory, transportation, oil & gas, chemical, IP Surveillance and processing automation area where environmental conditions are harsh and critical.

Technical specification

Model No.	LT-IS6528XGP-4XS16GT8GC-U/LT-IS6528XGP-4XS16GT8GC-U-D		
Interface	1G/2.5G/10G Fiber ports	10/100/1000M RJ45	Gigabit Combo
	4	16	8
Ethernet	16*10/100/1000Base-T RJ45 PoE 8*COMBO SFP/RJ45 4*1G/2.5G/10GBase-X SFP+		
Management port	1*RJ45 Console port (115200,8,N,1) , 1*USB 2.0 for configuration and firmware update		
Data & Alarm channel(optional)	1 channel RS485 1 channel DI(digital input) 1 channel DO(digital output)		
Standard	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Ethernet IEEE 802.3ab 1000Base-T Ethernet IEEE 802.3z 1000Base-X Ethernet IEEE802.3x Flow Control and Back Pressure		

	IEEE 802.1D Spanning Tree Protocol	
	IEEE 802.1w Rapid Spanning Tree Protocol	
	IEEE 802.1Q VLAN	
	ITU-T G.8032 ERPS	
	IEEE 802.1X Port Authentication Network Control	
	IEEE 802.1ab LLDP	
	IEEE 802.3ad LACP	
	IEEE802.3af PoE	
	IEEE802.3at PoE+	
LED Indicators		
P (Power indicator)	Off: the device is power off or failed	On: the device power on is normal
S (System status indicator)	Blinking: device initialization	On: device on normal operation
USB (USB status indicator)	Off: USB flash drive not insert or not detected by device	
	On: USB flash drive is detected by device	
	Blinking: the device is reading and writing the data from USB flash drive	
ALM (Fault status indicator) Red	Off: Device on normal working state	On: Fault alarm
1-16 (Copper ports indicators) Green	Off: ports link down	
	On: ports link up	
	Blinking: data on TX/RX	
1-16(PoE status indicators) Yellow	Off: PoE not working	
	On: PoE working	
17-24 (Copper ports indicators) Green	Off: ports link down	
	On: ports link up	
	Blinking: data on TX/RX	
17-24(PoE status indicators) Yellow	Off: PoE not working	
	On: PoE working	
17-24(Fiber ports indicators) Green	Off: ports link down	
	On: ports link up	
	Blinking: data on TX/RX	

25-28(Fiber ports indicators) Green	Off: ports link down
	On: ports link up
	Blinking: data on TX/RX
Power parameter	
Input voltage	44-57V DC,redundant power input
Input current	9A DC input Max
Total power consumption	Full loading without PoE≤36W PoE power budget ≤ 370W
Connector	Removable 2-pin terminal block
Reverse polarity protection	Support
Over-voltage protection	Support
Over-current protection	Support
Layer 2 functions	
Port aggregation	Support GE port aggregation Support 2.5GE aggregation Support 10GE aggregation Support static aggregation Support LACP dynamic aggregation Up to 64 aggregation groups and up to 8 ports per group
Port features	Support IEEE802.3x flow control Support interface counters Support port isolation Port mirroring (One-to-One, Many-to-One) Support loop detection(Port-based; VLAN-based) Support broadcast storm suppression(broadcast; unknown multicast; unknown unicast)
Mac-address table management	Support static Mac-address management Support dynamic Mac-address Management Support filtering Mac-address Support MAC limit based on port and VLAN Support MAC flapping based on port and VLAN
VLAN	Support access mode Support trunk mode Support hybrid mode
VLAN classification	Mac Based VLAN

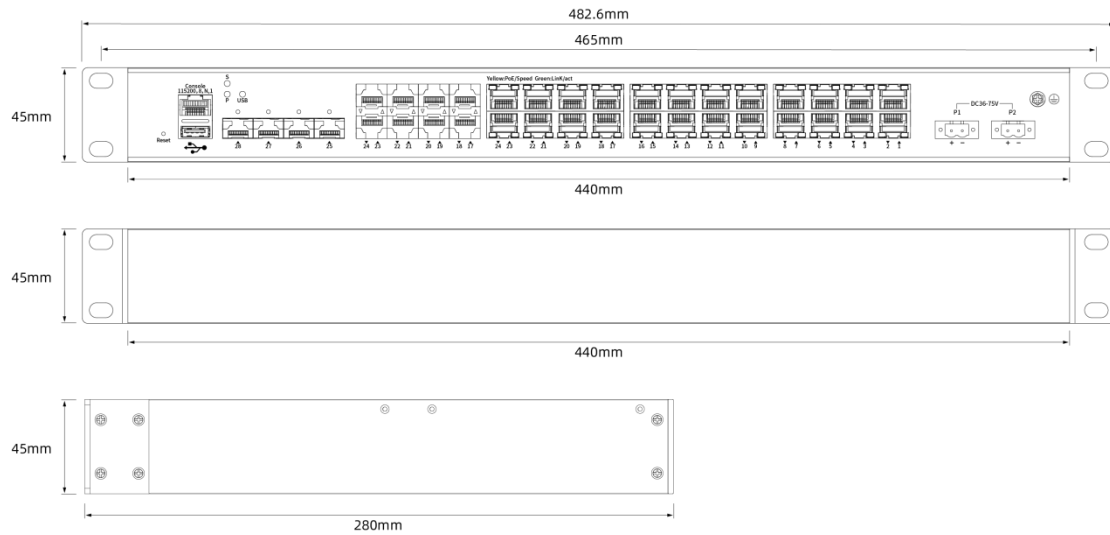|	
	IP Based VLAN
	Protocol Based VLAN
GVRP	Normal mode
	Fixed mode
	Forbidden mode
QinQ	Port-based QinQ
	VLAN-based QinQ (VLAN-stacking; VLAN-mapping)
	Flow-based QinQ
LLDP	LLDP (Link Layer Discovery Protocol)
Ring network protocol	Support IEEE802.1D-STP
	Support IEEE802.1W-RSTP
	Support IEEE802.1S-MSTP
	Support G.8032 ERPS protocol， single ring, sub Ring and major ring
	Recovery time ≤20ms
L2 Multicast	
IGMP snooping	Support IGMP snooping
Group address	Support group address
Security functions	
ACL	IP Standard ACL
	MAC extend ACL
	IP extend ACL
	IPv6 ACL
QoS	Support QoS Class, remarking
	Support SP, WRR queue scheduling
	Ingress port-based rate-limit
	Egress port-based rate-limit
	Support policy-based QoS
802.1x	Port access control
	Mac-address access control
	RADIUS server
Port-security	Port-security
IP source guard	IP Port/MAC binding
ARP-check	Support ARP-check and ARP packet filtering for illegal users
Access control	Support Telnet/SSH/HTTP/HTTPS user access control
Management & Maintenance functions	

User Management	Support password protection Support user authorization management
SNMP	Supporting SNMP V1/V2C/V3 version
Web Management	Web Management Support HTTP V1.1 Support HTTPS
CLI management	Console/Telnet command line management
RMON	Support RMON(Remote Monitoring) alarm
Firmware upgrade	Firmware upgrade
Fault Detection	Ping/Tracerout Dying gasp Support optical transceiver DDM function
Cable detection	Support copper port cable detection
PoE management	Support 802.3af/802.3at
	Support PD watchdog
	Support PoE priority management
	Support Max PoE power configuration for each port
	Support alarm waterline configuration
	Support reserved power configuration
NTP	Network Time Protocol
Syslog/Debug	Syslog/Debug Syslog send to three servers
Configuration import/export	Support FTP/TFTP remote import/export Support USB import/export
Dual partition management	Support dual partition switching
Application Protocol Functions	
DHCP Snooping	DHCP snooping trust port Support remote-id/circuit-id configuration DHCP option-82
DHCP client	Support DHCP client
Telnet server	Support telnet server
Telnet client	Support telnet client
SSH server	Support SSH server

TACACS	Support TACACS(the terminal access controller accesses the control system)
sflow	Support network traffic analysis
TFTP	Support TFTP Client
Layer 3 functions	
ARP	ARP table aging
DHCP server	
IPv4 / IPv6	static routing
ECMP	Support ECMP (Equal-cost multi-path routing)
	Support the configuration of ECMP Max next-hop
	Support capacity balanced configuration
Route policy	IPv4 prefix-list
VRRP	Virtual Router Redundancy Protocol
Routing Protocol Specification	
RIP	RIPv1/v2
OSPFv2	OSPFv2
BGP4	BGP4
	BGP Support Routing Recursive ECMP
	Support to view the number of neighbors and up/down state
IS-IS	IS-ISv4
Routing entry	13K
Switching features	
Switching capacity	128Gbps
Packet forwarding rate	190.4Mpps
MAC address table	16K
VLAN	4K
Buffer	12M bit
Forwarding delay	<5us

Jumbo Frame	Support 10Kbytes
MDX/MIDX	Support
Watchdog	Support
Mechanical structure	
Case protection	IP40
Installation method	Rack mountable
Dimension(W*D*H)mm	440*44*280mm
Weight	LT-IS6528XGP-4XS16GT8GC-U:5.3kg; LT-IS6528XGP-4XS16GT8GC-U-D:5.4kg
Operating environment	
Operating temperature	-40℃~+ 75℃
Storage/transportation temperature	-40℃~+ 85℃
Relative humidity	Operation humidity: 10%-90%RH Storage humidity: 5%-95%RH
Industrial Standard	
EMS	Surge protection of power: IEC 61000-4-5 DC:6KV/6KV (8/20us) Surge protection of Ethernet ports: IEC 61000-4-5　6KV/2KV（10/700us） RS：IEC 61000-4-3 80 MHz-1 GHz：10 V/m EFT：IEC 61000-4-4 power 4K, signal 2K CS：IEC 61000-4-6 10V ESD：IEC 61000-4-2　Contact: 8K；Air: 15K
EMI	FCC Part 15B Class A
Shock	IEC 60068-2-27
Free fall	IEC 60068-2-32
Vibration	IEC 60068-2-6
Certification	CCC/CE/UKCA/RoHS/REACH/FCC
MTBF	> 200,000 hours
Warranty	5 years

Structure diagram

LT-IS6528XGP-4XS16GT8GC-U-2DC

482.6mm
465mm
45mm
440mm

45mm
440mm

45mm
280mm

LT-IS6528XGP-4XS16GT8GC-U-D-2DC

482.6mm
465mm
45mm
440mm

45mm
440mm

45mm
280mm
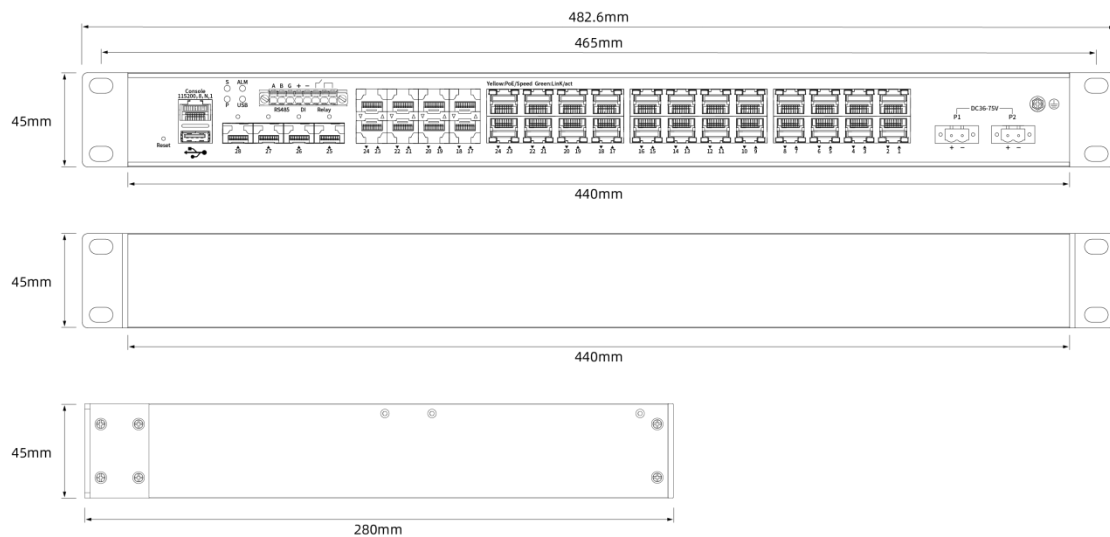
Order information

Model	Description
LT-IS6528XGP-4XS16GT8GC-U	L3 Managed industrial PoE switch with 16*10/100/1000Base-T RJ45 PoE ports, 8*1G Combo RJ45/SFP ports and 4*1G/2.5G/10GBase-X SFP+ ports, complies with IEEE802.3af, IEEE802.3at standard, DC44-57V input, redundant dual power supply, rack mountable. Operation temperature: -40℃～+75℃
LT-IS6528XGP-4XS16GT8GC-U-D	L3 Managed industrial PoE switch with 16*10/100/1000Base-T RJ45 PoE ports, 8*1G Combo RJ45/SFP ports and 4*1G/2.5G/10GBase-X SFP+ ports, Support DI/DO and RS485,complies with IEEE802.3af, IEEE802.3at standard, DC44-57V input, redundant dual power supply, rack mountable. Operation temperature: -40℃～+75℃