

INDUSTRIAL NETWORKING

INDUSTRIAL ETHERNET SWITCH

SN-2648G-4XGF-I-R

Rackmount Industrial Switch L2, 48*1G+4*10G SFP+, Non-PoE, USB+Console, ROS Firmware



HIGHLIGHTS

- 48x1G RJ45 + 4x10G SFP+ Uplinks
- MAC/Port based security Syslog
- PoE 802.3af 802.3at 60W PoE Time Based PoE
- PoE Budget with LLDP negotiation PoE Consumption monitor
- Proxy ARP for IP Routing Loopback IP interface (Source Address Selection)
- VRRP IPv6 static unicast routing
- Industrial-grade Ethernet switching for demanding installations
- DIN-rail or rack-mount options across supported configurations
- Resilient network services and secure remote management
- Fiber and PoE variants for field deployment requirements

2648G-4XGF-I-R

MODEL

INDUSTRIAL NETWORKING

PLATFORM

CUSTOM CONFIGURATION

AVAILABLE

PRODUCT SPECIFICATIONS

SN-2648G-4XGF-I-R is a industrial ethernet switch configured for Rackmount Industrial Switch L2, 48*1G+4*10G SFP+, Non-PoE, USB+Console, ROS Firmware.

Product	SN-2648G-4XGF-I-R
Platform	Industrial Ethernet Switch
Application	Rackmount Industrial Switch L2, 48*1G+4*10G SFP+, Non-PoE, USB+Console, ROS Firmware
Source specification	Corresponding technical product series datasheet

Technical Characteristics

Characteristic	Specification
Switching Capacity	High Performance: 352 Gbps Switching Capacity
Packet Buffer	Packet Buffer 12Mbit
Forwarding Rate	Packet forwarding rate 261Mpps
MAC Address Table	MAC address table 16K
Dimensions	Dimensions 440x245x44mm
Weight	Net Weight 3.6KG
Operating Temperature	Operating Temperature -40 C~+75 C
Operating Humidity	Operating Humidity 10%-90%RH (non-condensing)

The product configuration and applicable interface, power, cooling, and software options are defined by the selected model and project requirements.

NETWORK FEATURES

Quality of Service

Traffic classification and prioritization	Strict priority and weighted scheduling
Rate limiting, traffic shaping, and policing	Policy maps and class-based traffic actions
QoS based on IP, MAC, VLAN, and protocol criteria	

Security

RADIUS and TACACS+ authentication	Port security and role-based access control
DHCP snooping and IP source protection	Access-control lists and management ACLs
DoS protection, secure copy, SSH, and SSL	

Layer 2

802.1Q VLANs, QinQ, and private VLAN services	STP, RSTP, and MSTP loop prevention
Link aggregation and LACP	Port mirroring, isolation, and loopback detection
LLDP and LLDP-MED neighbor discovery	

Layer 3

IPv4 and IPv6 dual-stack operation	Static routing and inter-VLAN routing
Policy-based routing and route maps	DHCP server, relay, and client services
OSPF and RIP capabilities on supported configurations	

Multicast

IGMP and MLD snooping	PIM multicast routing on supported configurations
Multicast VLAN registration	Traffic containment and multicast policy control

High Availability

Redundant network protocols and equal-cost multipath	Virtual router redundancy
Storm control for broadcast, multicast, and unicast traffic	Stacking or redundant chassis operation where supported

MANAGEMENT & COMPLIANCE

Management

Web-based graphical interface	Industry-standard command-line interface
SSH, Telnet, SNMP, and syslog integration	Controller-based or standalone operation where supported
USB, console, and out-of-band management options	

Monitoring and Diagnostics

System event, alarm, and operating logs	Port and traffic statistics
Temperature, power-supply, and fan monitoring where applicable	Ping, traceroute, and cable diagnostics
Digital diagnostic monitoring on supported optical interfaces	

Standards and Compliance

IEEE 802.1 and 802.3 Ethernet standards	RoHS environmental compliance
CE and FCC regulatory conformity where applicable	Energy-efficient Ethernet on supported configurations
PoE and PoE+ standards on power-enabled models	

Source-Specified Standards

High Performance: 352 Gbps Switching Capacity
Switching Performance
LAG / LACP Flow Control 802.3x
Quality of Service
Access Control and logging Radius Authentication/Accounting/802.1x
Ace priority DHCP Snooping
802.1x enhanced (all variants) ARP inspection
802.1x MAC/Port/Web/Time based IP Source Guard

DETAILED TECHNICAL SPECIFICATIONS

TECHNICAL DATA | 1 OF 5

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HARDWARE SPECIFICATIONS

Switching Performance

Switch ASIC	98DX2518
Host CPU Cores	single-Core ARM 55 CPU Cores
Host CPU Speed	1200Mhz
Ports	48x10/100/1000Base-T RJ45 4x10G Base-X SFP+
Capacity	352Gbit/s
Packet Buffer	12Mbit
Packet forwarding rate	261Mpps
MAC address table	16K
VLAN	4K
Forwarding delay	<10us
Jumbo Frame	Support 10Kbytes
SPI Flash	32Mb
DDR	4Gb

Management Port

Serial Console	1
USB	1

Physical and Environmental

Dimensions	440x245x44mm
Net Weight	3.6KG
Operating Temperature	- 40 C~+75 C
Operating Humidity	10%-90%RH (non-condensing)

MTBF

Certificate	□ 100,000 hours
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DETAILED TECHNICAL SPECIFICATIONS

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MARVELL ROS SOFTWARE FEATURES

Basic Functions

Port Speed/duplex management	VLANS (Protocol / MAC / IPv4 based)
Port Auto management	GVRP/GARP
VCT Diagnostics Port features	Multicast/CPE(Triple Play) VLAN
Jumbo Frames (FE and GE)	QinQ
LAG / LACP	Flow Control 802.3x
Green Ethernet	Back Pressure
STP/RSTP/MSTP etc.	Loopback and UDLD (Unidirectional link) detection
Optical Transceiver Analysis	

Quality of Service

Basic / Advanced QOS (Port/Flow)	CoS/QoS
Ingress/egress Rate Limiting/Shaping	SP/WRR Queue settings
L2/L3 CoS->Queue mapping	Per-Flow Actions

Security

Access Control and logging	Radius Authentication/Accounting/802.1x
Time based ACL	TACACS+ Client and Accounting
MAC/Port based security	Syslog
Ace priority	DHCP Snooping
802.1x enhanced (all variants)	ARP inspection
802.1x MAC/Port/Web/Time based	IP Source Guard
Secure Control Technology (protect CPU)	DoS Attach prevention
MACsec	

Monitoring

Mirroring SPAN/RSPAN	Environmental PS/RPS, FAN, Temperature
RMON/SMON	SFLOW v5
SNMP v1/2/3 with MIBs	Counters with History

Multicast

IGMP Snooping v1/2/3	*PIM-SM (optional)
MLD Snooping v1/2	IGMP/MLD Proxy
MLD Querier	Ports, Flows, CP
Unregistered Mcast	

DETAILED TECHNICAL SPECIFICATIONS

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Management

OOB & serial Console support	DNS, DHCP, SNTP, LLDP-MED, UpnP
CLI/SNMP management (IPv4,IPv6) over Telnet or SSH LLDP 802.1ab + LLDP MED	
USB/SD flash storage support	WEB-GUI interface for basic management
DHCP based Self-Configuration/Update	Time based scheduled features
Multi-File Configs, Dual-Firmware	*Detailed REST compatible API (Optional)
RMON, Syslog, Radius, TACACS+	

Power Over Ethernet

PoE 802.3af 802.3at 60W PoE	Time Based PoE
PoE Budget with LLDP negotiation	PoE Consumption monitor
PSE/PD if HW supported	

*IP Routing (Optional)

L3 DHCP Relay	IP SLA
Proxy ARP for IP Routing	Loopback IP interface (Source Address Selection)
OSPF / RIP	Directed Broadcast
Equal Cost Multiple Path (ECMP)	UDP Relay
VRRP	IPv6 static unicast routing

*Stacking (Optional)

Optional Stacking up to 8(16) units using uplinks	Real cross-unit features, not just Management
Stand-alone and Stack-mode operation	Stack Master Election process
Firmware Version Control	Stack Backup capabilities
Unit joining or leaving the stack	Stacking Fast Failover
Stacking LAG	

*Optional Features for ROS

Ring protection	VxLAN
WEB-GUI with flexible configuration options	Radius COA
PTP	BGP



DETAILED TECHNICAL SPECIFICATIONS

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CERTIFICATION & COMPLIANCES

Regulatory

FCC

BIS

TEC

Environmental

RoHS

CE



DETAILED TECHNICAL SPECIFICATIONS

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ORDERING INFORMATION

Models	Description
SN-2648G-4XGF-I-R	48x1G+4x10G SFP+

Switch includes a 3-year HW Warranty.

SUPPORT & CUSTOM ENGINEERING

Service Area	SIDERA Intelligent Systems Capability
Technical support	Pre-sales, deployment, configuration, and operational assistance
Product customization	Customer-specific hardware, software, interface, and mechanical modifications
Project engineering	Application review, design adaptation, validation, and implementation support
Lifecycle support	Documentation, troubleshooting, maintenance guidance, and upgrade planning

TECHNICAL SUPPORT & CUSTOM ENGINEERING

SIDERA Intelligent Systems provides comprehensive technical support and customer-specific product customization, tailored to individual operational and project requirements.

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Technical specifications are subject to change without notice.