

PRODUCT OVERVIEW



LN-3848G-SERIES

Highlights

- ▶ AC5/AC5X Solution with MACsec (Optional)
- ▶ Stacking With 8 Devices
- ▶ ITU-T G.8032 ERPS L2 Ring Protection
- ▶ Comprehensive and Field-Proven Software Features for ISPs/ Carriers, Providing Broadband Access, IPTV Services
- ▶ Full L3 Features with Commonly-Used Unicast and Multicast Routing Protocols, Redundant Routing Protocols, and DHCP Relay and Server
- ▶ Complete Private MIB to Fully Control and Monitor the Switch via Customer's EMS
- ▶ Enhanced Security, IPv6, and Multicast Features
- ▶ Simple Management (CLI, SNMP, Web)
- ▶ Marvell ROS Support
- ▶ SONiC OS Support



HARDWARE SPECIFICATIONS

	1G RJ45 Downlinks	1G Fiber Uplinks	25G Fiber Uplinks	25G Fiber Uplinks DSP	PoE	2x PSU + PSU Hot-Swap
LN-3848G-6Y	48	-	4	2	-	+
LN-3848GP-6Y	48	-	4	2	PoE+ 750W	+

Switching Performance

Switch ASIC	Marvell AC5 or AC5X
Ports	48 RJ-45 10/100/1000BASE-T Ports + 4 25G Uplink Ports + 2x25G DSP Uplink Ports
Capacity	396 Gbps
Forwarding Rate	295 Mpps
MAC Address Table	32 K
Jumbo Frames	10 KB
Auto-negotiation, Auto-MDI/MDIX	Yes

Hardware

CPU	Dual-Core ARM - 8.2 Cortex - A55
Memory	1 GB DDR4
Storage	SPI 32MB + 256 MB NAND Flash Memory
Pluggable transceivers support	1000Base-T, 1000Base-LX, 1000Base-SX, 10GBase-SR, 10GBase-LR, 10GBase-ER

Management Port

USB	1 x USB 2.0
Serial Console	1 x RJ45
Stacking	2 x SFP28 stacking led

Power

Power supply units	1x120W Open frame PSU 100-240V 50/60Hz or 1x450W Open frame PSU 100-240V 50/60Hz (model with PoE)
Power consumption	TBD
Fan units	2
PoE	40x 802.3at@30W, 8x 802.3bt@90W
PoE Budget	750 W
Power Consumption	≤900 W (at 100% throughput, incl. PoE, 15.4 W/port), ≤100 W (at 100% throughput, no PoE)

HARDWARE SPECIFICATIONS

Physical and Environmental

Dimensions	442x420x43.6 (WxDxH)
Storage temperature	-40°C – 70°C
Storage humidity	5% – 95% (non-condensing)
Operating Temperature	-5°C to 45°C
Operating Humidity	5% – 95% (non-condensing)

Approvals

Certificate	FCC Class A/CE/Safety
	Compliance: CB/Safety
	Compliance: UL

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	IEEE 802.3az Energy Efficient Ethernet

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 Attack 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	

MARVELL ROS SOFTWARE FEATURES

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+	API/Automation: OpenFlow, NETCONF, RESTCONF, YANG

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

SONIC OS SOFTWARE FEATURES

Layer 2/3 Feature list

BGP / BGP MP	BGP/Neighbor-down fib-accelerate
BGP-EVPN support (type 5), (related HLD Fpmsyncd,Vxlanmgr,template)	ECMP
LAG	ACL permit/deny, IPv6 ACL
LLDP	DHCP
VLAN	CoPP
IPv6	VLUN Trunk
FRR	Priority Flow Control
Asymmetric PFC	PFC Watermark
DHCP Relay Agent	Tunnel Decap
LACP Fallback	MTU Setting
Vlan Trunk	Static Port breakout
Dynamic ACL Upgrade	MAC Aging
L3 RIF counter support	Configurable drop counters
IEEE 802.3az Energy Efficient Ethernet	Policy Based Routing (PBR)
Private VLAN	

Monitoring

SNMP	Syslog
EverFlow	OOM
TCPDump	Critical Recourse Monitor
Dtel	Mirroring
Egress mirroring	ACL action support check via SAI
Streaming Telemetry	Everflow enhancement
sFlow	HW resource monitor

QoS

RDMA	ECN
PFC WD	WRED
COS	Watermark

Virtualization

L3 VxLAN	VRF
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SONIC OS SOFTWARE FEATURES

System

NTP	ONIE Install
CLI	TACACS+
ConfigDB	SONiC to SONiC upgrade
Multiple Images support	gRPC
Sensor transceiver monitoring	LLDP extended MIB: lldpremtable, lldploctable, lldpremanaddrtable, lldplocmanaddrtable, lldploctable, lldpLocalSystemData
Warm Reboot	Incremental Config (IP, LAG, Port shut/unshut)
Routing Stack Graceful Restart	Mgmt VRF
Management Framework	Multi-DB optimization-Part 1
Sub-port support	

ORDERING INFORMATION

Model	Description
LN-3848G-6Y	L3HCX, 48x1G+4x25G, 2X25G DSP
LN-3848GP-6Y	L3HCX, 48x1G+4x25G, 2X25G DSP, PoE+ 750W

Models include a 1-year HW Warranty.