Industrial L3 Managed Switches
6* 1G/10G SFP+ 48* Giga UTP

MODEL: **3CI-S0648TGM** Datasheet

Highlights

- Abundant Layer 3 routing protocols including RIP/OSPF/VRRP to support a scalable network

- True physical stacking technology supports up to 8 switches for scalability and efficient redundancy

-10 Gigabit Ethernet uplink ports ensure smooth data delivery for high-bandwidth applications

- 2 removable power units minimize downtime(default is 110-220VAC, 12V, or 36-72V are available)

- PIM-SM/PIM-DM/IGMP Snooping for reliably stable video quality

- RJ45/USB Console ports and an out-of-band management port provide a range of management options

- A USB 2.0 port makes it easy to import files and restore configurations.

Overview

3C-LINK 3CI-S0648TGM series L3 managed switches are designed to form highly accessible, scalable and robust networks. With an extensive suite of routing protocols, 10Gbps wired speeds, physical stacking technology, diverse management features and an optional redundant external **power unit**, 3CI-S0648TGM series provide a reliable, secure and cost-effective solution for enterprise, campus and ISP networks.

Advanced L3 Features

3C-LINK 3CI-S0648TGM series switches support Layer 3 routing protocols that include Static Routing, RIP, OSPF and VRRP, helping to build scalable, reliable networks. Multicast routing protocols such as PIM-SM and PIM-DM guarantee efficient routing for multicast groups.

Physical Stacking Technology

The switches are equipped with 6 * 10G SFP+ ports which can be used for stacking. 3CI-S0648TGMG Series switches support up to 8 switches for network simplification. With different port forms including Gigabit Ethernet, SFP Slots, 10G SFP+ Slots, 3CI-S0648TGMG Series switches are capable of high switching capacity for the network. With all units identified by a simple IP address, the stack can be easily configured and monitored.

Rich Out-of-band management port

3CI-S0648TGM series switches provide 3 kinds of out-of-band management ports: RJ45 console ports, USB console ports and RJ45 out-of-band management ports. USB console ports are designed for those laptop computers which do not support the RS232 (DB9) interface. Customers can use a USB cable to manage switches through the CLI (command-line interface). The RJ45 out-of-band management port is used solely for web management, leaving the RJ45 ports free for data transmission.

Specifications

Hardware Features & Performance

Product Picture		
Model	3CI-S0648TGM	

General	Standard and Protocols	IEEE 802.3i 10BASE-T Ethernet IEEE 802.3u 100BASE-TX/FX IEEE 802.3ab 1000BASE-T IEEE 802.3z 1000BASE-X IEEE 802.3ae 10GBASE-SR/LR IEEE 802.3av GVRP IEEE 802.3x Flow control IEEE 802.3ad Link Aggregation IEEE 802.1v Protocol VLAN IEEE 802.1d Spanning Tree Protocol (STP) IEEE 802.1s Rapid Spanning Tree (RSTP) IEEE 802.1w Multiple Spanning Tree (MSTP) IEEE 802.1q VLANs / VLAN tagging IEEE 802.1x Network Login Security IEEE 802.1p QoS
	Network Media	10BASE-T: UTP category 3, 4, 5 cable (maximum 100m) 100BASE-TX/1000Base-T: UTP category 5, 5e or above cable (maximum 100m) 1000BASE-X: MMF, SMF 10GBASE-LR 10GBASE-SR
	Interfaces	48 10/100/1000Mbps RJ45 ports 4 combo Gigabit SFP Slots Up to 4 10G SFP+ Slots (2 fixed and 2 optional 10G SFP+ Slots) 1 RJ45 Console Port 1 Micro-USB Console Port 1 RJ45 out-of-band Management Port 1 USB 2.0 Storage Port
Performance	Switching Capacity	216Gbps
	Packet Forwarding Rate	160.9Mpps
	MAC Address Table	32K
	Packet Buffer	32Mbit
	Jumbo Frame	12KB
Physical & Environment	Power Supply	100-240V AC, 50/60Hz
	Max Power Consumption	58.82W (220V/50Hz)
	Max Heat Dissipation	200.69 BTU/h
	Dimensions (W × D × H)	17.3 × 11.1 × 1.7 in. (440 × 280 × 45 mm)
	Operating Temperature	0°C~40°C (32°F~104°F)
	Storage Temperature	-40°C~70°C (-40°F~158°F)
	Operating Humidity	10% ~ 90%RH, non-condensing
	Storage Humidity	5%~90%RH, non-condensing
	Certification	CE, FCC

Physical Stacking

Installable SFP+ Transceivers and Direct Attach Copper (DAC) Cables	- 3C-SFP+-SR - 3C-SFP+-LR - 3C-SFP+-ER - 3C-SFP+-ZR - 3CW-SFP+23-LR/ 3CW-SFP+32-LR - 3CD-SFP+XX-ZR
Max Number of Stacking Ports Installable	- 6 SFP+
Stacking Speed (Per Port)	- 20Gbps (Full-Duplex)

Software Features

Stack	• Physical Stacking - Up to 1408Gbps of Backplane when 8 units in the stack - Up to 8 units per stack	
L3 Features	• L3 Routing - 128 IPv4 Interface entries - 256 IPv4 Static Routing entries - 8K IPv4 Dynamic Routing entries • RIP v1, v2 • OSPF v1, v2 • IGMP v1, v2, v3	• Multicast Routing - Static Multicast Route - PIM-DM/SM • ARP Proxy • DHCP Server/Relay • VRRP
L2 Features	• Link Aggregation - static link aggregation - 802.3ad LACP - Up to 64 aggregation groups, containing 8 ports per group • Spanning Tree Protocol - 802.1D STP - 802.1w RSTP - 802.1s MSTP - 32 MSTP Instance - STP Security: Loop back detection, TC Protect, BPDU Filter/Protect, Root Protect	• Loopback Detection • Flow Control - 802.3x Flow Control • Port Mirroring - One-to-One - Many-to-One - Flow-Based - Tx/Rx/Both • LLDP, LLDP-MED
L2 Multicast	• 1024 IGMP groups • IGMP Snooping - IGMP v1/v2/v3 Snooping - IGMP Fast Leave - MVR - IGMP Snooping Querier - Limited IP Multicast - Static Multicast Forwarding	• MLD Snooping - MLD v1/v2 Snooping - MLD Snooping Querier - Fast Leave - Limited IP Multicast - Static Multicast Forwarding
VLAN	• VLAN Group - 4K VLAN Groups • 802.1Q tag VLAN • MAC VLAN • Protocol VLAN	• VLAN VPN (QinQ) • GVRP • Private VLAN
QoS	• Class of Service - Port Priority - 802.1p CoS/DSCP priority - 8 Priority Queues - Queue Schedule Mode • Bandwidth Control - Port/Flow based Rating Limiting - Storm Control	- DiffServ - DiffServ Class - DiffServ Policy - DiffServ Service • Auto-VoIP • Voice VLAN

Software Features

ACL	• Supports up to 3328 entries
	• MAC ACL
	  - Source MAC
	  - Destination MAC
	  - VLAN ID
	  - User Priority
	  - EtherType
	• Standard IP ACL
	  - Source IP
	  - Destination IP
	• Time based ACL
		• Extended IP ACL
		  - Source IP
		  - Destination IP
		  - Fragment
		  - IP Protocol
		  - TCP Flag
		  - TCP/UDP Port
		  - DSCP/IP TOS

Security	• AAA
	• DHCP Snooping
	• IP-MAC-Port Binding
	  - Up to 32768 entries
	• ARP Inspection
	  - Up to 32768 entries
	• IP Source Guard
	  - Up to 1020 entries
	• Static/Dynamic Port Security
	  - Up to 64 MAC addresses per port
	• Broadcast/Multicast/Unicast Storm Control
	  - kbps/ratio/pps control mode
	• IP/Port/MAC based access control
	• DoS Defend
		• 802.1X
		  - Port based authentication
		  - MAC(Host) based authentication
		  - Guest VLAN
		  - Support Radius authentication and accountability
		• Port Isolation
		• MAC Filtering
		• Secure web management through HTTPS with SSLv3/TLS1.0
		• Secure Command Line Interface(CLI) management with SSHv1/SSHv2

Management	• Web-based GUI • Command Line Interface(CLI) through console port, telnet • SNMPv1/v2c/v3 • SNMP Trap/Inform • RMON (1,2,3,9 groups) • DHCP Option82	• CPU Monitoring • Cable Diagnostics • Access Control • SNTP • System Log • Dual Image • IPv6 Management • PPPoE Circuit ID • HTTP/TFTP File Transfer
MIBs	• MIB II (RFC1213) • Interface MIB (RFC2233) • Ethernet Interface MIB (RFC1643) • Bridge MIB (RFC1493) • P/Q-Bridge MIB (RFC2674) • RMON MIB (RFC2819)	• RMON2 MIB (RFC2021) • Radius Accounting Client MIB (RFC2620) • Radius Authentication Client MIB (RFC2618) • Remote Ping, Traceroute MIB (RFC2925) • Support 3C-LINK private MIBs

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