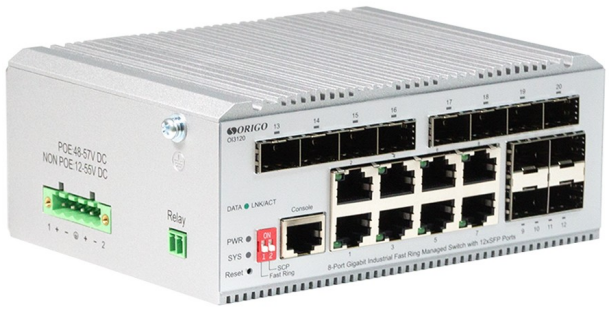
OI3120

20-Port Industrial L2 Managed Switch with 8 GE Ports and 12 SFP Ports

12x100/1000Base-X SFP, 8x1000Base-T (RJ-45), -40 to +75 °C Operating Temperature, IP40-rated, DIN-rail Mountable



The ORIGO OI3120 Industrial L2 Managed Switch is equipped with 8 x 1000Base-T RJ-45 ports and 12x100/1000Base-X SFP[1] ports.

The ORIGO OI3120 is an industrial Layer 2 managed switch designed for building secure and fault-tolerant data transmission networks at sites with strict environmental requirements.

The ORIGO OI3120 switch operates within a wide temperature range from –40 to +75 °C and supports the connection of two independent DC power supplies with redundancy capability, such as the OI75WPSU, OI120WPSU, or OI240WPSU. It is resistant to vibration and electrostatic discharges up to 8 kV. The rugged metal casing with IP40 protection and a reliable fanless ventilation system ensure stable operation in stringent industrial environments.
The OI3120 switch's features include support for static routing, virtual local area networks (VLANs), quality of service (QoS), multicast management, security functions, and user access control.

To enhance network performance and fault tolerance, the switch supports link aggregation (LACP), connection redundancy through STP/RSTP/MSTP protocols, and LoopBack Detection for preventing network loops. SCP and Fast Ring DIP switches allow to quickly activate broadcast storm control and ERPS function, ensuring minimal recovery time in case of a line failure within the ring.

Key Features

- 12×100/1000Base-X SFP ports
- 8×10/100/1000Base-T ports
- Dual redundant 12–55 V DC power inputs
- Alarm relay output (dry contact)
- DIP switches for quick activation of ERPS and storm control
- Surge protection up to 4 kV; ESD protection up to 8 kV
- Operating temperature range: -40 to +75 °C
- Rugged metal housing with IP40 protection; DIN-rail mountable
- Advanced L2 features, including static routing support
- Management via web interface, Telnet, SSH, console, and SNMP

[1] To establish a 100 Mbps connection, the interface must be configured to 100Base-FX full-duplex mode.

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Specifications

Hardware

CPU and Memory	• CPU: RTL8382MI • RAM: 128 MB • Flash- memory: 32 MB
Interfaces	• 12 × 100/1000-X SFP ports[1] • 8 × 10/100/1000-T (RJ-45) ports • RJ-45 console port
Standards and Functions	• IEEE 802.3 10Base-T • IEEE 802.3u 100Base-TX • IEEE 802.3ab 1000Base-T • IEEE 802.3u 100Base-FX • IEEE 802.3z 1000Base-X • IEEE 802.3x Full Duplex Flow Control • IEEE 802.3az Energy-Efficient Ethernet • Auto MDI/MDIX on all copper ports
LEDs	• Power - On: Power on state - Off: Power off state • Link/Act (Ports 1–20) - Always bright: terminal device is connected - Blinking: Data transmission in progress - Off: No connection • SYS - Blinking: System operating normally - Off: System is booting or a fault has occurred
DIP Switches	• Fast Ring (ON) to switch on / off ERPS • SCP (ON) to switch on / off Broadcast Storm Control
Alarm Relay	• One relay output (dry contact) for power failure notification • Relay contact load capacity: - 2A at 30V DC - 0,5A at 125V DC

[1] To establish a 100 Mbps connection, the interface must be configured to 100Base-FX full-duplex mode.

Power	• DC: terminal block for connection of up to two independent power sources (12 to 55 V DC)

Ventilation System	• Fanless
Casing	• Metal • IP40-rated
Mounting	• Wall • DIN-rail

Capacity

Switching Capacity	• 40 Gbps
Packet Forwarding Rate	• 29.76 Mpps
Packet Buffer	• 512 KB
Transfer Mode	• Store-and-forward
MAC Address Table Size	• 8K entries
Routing Table Size	• 512 entries (IPv4/IPv6)
L3 Forwarding Table	• 512 entries (IPv4/IPv6)
Jumbo Frame	• 9 216 bytes

Software Features

L2 Features	• Flow Control • Link Aggregation - Static - 802.3ad - Up to 8 groups per device / up to 8 ports per group • Load Balance - src-mac - dst-mac - src-ip - dst-ip • Loopback Detection • ERPS • MRPP • ULPP
	• ULSM • Spanning Tree Protocol - 802.1D STP

	- 802.1w RSTP - 802.1s MSTP (64 instances) - Root Guard (Restriction) - BPDU Guard (Restriction) • LLDP • LLDP-MED • Port mirroring - One-to-One - Many-to-One - Flow-based - CPU-based - Ingress, egress, both - RSPAN
VLAN	• 802.1Q, 4094 VLAN • Port-based VLAN • MAC-based VLAN • Protocol-based VLAN (802.1v) • Subnet-based VLAN • Private VLAN • VLAN Filtering • Voice VLAN • GVRP • GMRP • Double VLAN (Q-in-Q) - Selective Q-in-Q - Port-based Q-in-Q • VLAN Translation • Multicast VLAN
L2 Multicast	• IGMP Snooping - IGMP v1/v2/v3 - Supports up to 512 groups - IGMP Snooping Fast Leave - IGMP Proxy

	• MLD Snooping - MLD v1/v2

	- Supports up to 512 groups • Multicast Source/Destination (DCSCM)
L3 Features	• Maximum number of IP interfaces: 16 • 8K ARP entries • Static routing for IPv4/IPv6 - 512 IPv4 routes - 512 IPv6 routes • Gratuitous ARP
QoS	• 802.1p • CoS based on: - DSCP - VLAN ID - IP Precedence - IP ACL/ MAC ACL/ IPv6 ACL - IPv6 Flow Labels • Queue handling - Strict Priority (SP) - Weighted Round Robin (WRR) - Weighted Deficit Round Robin (WDRR) • Port-based bandwidth control • Supports up to 8 egress queues per port
Security	• Port Security - Supports up to 8K MAC addresses per port • Port Isolation • Storm Control • Dynamic ARP Inspection • ARP Spoofing Protection • ARP Scanning Prevention • ARP Guard • DoS Attack Prevention • DHCP Snooping • DHCPv6 Snooping • IPv6 SAVI • Security RA • CPU Protection

AAA	• 802.1X Authentication:

	- Port-Based - MAC-Based • Guest VLAN • IPv6 RADIUS Server • RADIUS/TACACS+ Authentication
Access Control Lists (ACL)	• Up to 1.5K ACL entries • ACL based on: - VLAN - MAC address - IPv4 address - DSCP - ToS - TCP/UDP port number - User-defined ACL • Time-based ACLs
OAM	• Cable diagnostics • ULDP (Unidirectional Link Detection Protocol) • 802.3ah Ethernet Link OAM • 802.1ag Connectivity Fault Management (CFM) • DDM (Digital Diagnostics Monitoring)
Management	• Web-based UI • CLI • Telnet • SSH • FTP • TFTP • System Log • SNMP v1/v2c/v3 • SNMP Traps • SNTP • NTP • Firmware Backup/Upgrade • Ping/Traceroute (IPv4/IPv6) • DHCP- Server • DHCPv6- Server • BootP/DHCP- Client • DHCP Relay • DHCPv6 Relay

	• DHCP Option 82, 43, 60, 61, 67 • IPv4/IPv6 DNS-Client

Physical Parameters

Dimensions (W × D × H)	• 145 x 109 x 62 mm
Weight	• 1,12 kg
Package Dimensions	• 23,4 x 19 x 8,6 cm
Gross Weight	• 1,4 kg

Operating Conditions

Power Input	• 12-55 V DC
Current Consumption	• 1,62 A (max.)
Maximum Power Consumption	• 17,49 W
Standby Power Consumption	• 7,09 W
MTBF (hours)	• > 100 000
Surge Protection	• ± 4 kV (common mode) • ± 2 kV (differential mode)
Electrostatic Discharge (ESD) Protection	• Contact discharge: ± 6 kV • Air discharge: ± 8 kV
Temperature	• Operating: -40 to 75 °C • Storage: -40 to 80 °C
Humidity	• Operating: 5% to 95% (non-condensing) • Storage: 0% to 95% (non-condensing)

Package Contents

Package Contents	• OI3120 Switch • RJ-45 Console Cable • Quick Installation Guide

Optional Accessories

Power Supplies	• OI240WPSU • OI120WPSU • OI75WPSU
SFP Transceivers	• OFM211LC • OFM310GT • OFM311GT • OFM314GT
WDM SFP Transceivers	• OFM330R/3KM • OFM330T/3KM • OFM330R/10KM • OFM330T/10KM • OFM331R/20KM • OFM331T/20KM

Order info

OI3120	Industrial Managed Layer 2 Switch, 8x 10/100/1000Base-T ports, 12x 100/1000Base-X SFP slots, operating temperature -40 to +75°C
OI240WPSU	240W DIN-rail Power Supply Unit, 48V DC output
OI120WPSU	120W DIN-rail Power Supply Unit, 48V DC output
OI75WPSU	75W DIN-rail Power Supply Unit, 48V DC output
OFM211LC	SFP Transceiver, 100Base-FX (Duplex LC), 1310nm, multi-mode fiber, up to 2km
OFM310GT	SFP Transceiver, 1000Base-LX (Duplex LC), 1310nm, single-mode fiber, up to 10km
OFM311GT	SFP Transceiver, 1000Base-SX (Duplex LC), 850nm, multi-mode fiber, up to 550m
OFM314GT	SFP Transceiver, 1000Base-LX (Duplex LC), 1550nm, single-mode fiber, up to 50km *Note: Operation over short distances requires an attenuator (not included).*
OFM330T/3KM	WDM SFP Transceiver, 1000Base-BX-D (Simplex SC), Tx: 1550nm, Rx: 1310nm, single-mode fiber, up to 3km
OFM330R/3KM	WDM SFP Transceiver, 1000Base-BX-U (Simplex SC), Tx: 1310nm, Rx: 1550nm, single-mode fiber, up to 3km

OFM330T/10KM	WDM SFP Transceiver, 1000Base-BX-D (Simplex LC), Tx: 1550nm, Rx: 1310nm, single-mode fiber, up to 10km
OFM330R/10KM	WDM SFP Transceiver, 1000Base-BX-U (Simplex LC), Tx: 1310nm, Rx: 1550nm, single-mode fiber, up to 10km
OFM331T/20KM	WDM SFP Transceiver, 1000Base-BX-D (Simplex LC), Tx: 1550nm, Rx: 1310nm, single-mode fiber, up to 20km
OFM331R/20KM	WDM SFP Transceiver, 1000Base-BX-U (Simplex LC), Tx: 1310nm, Rx: 1550nm, single-mode fiber, up to 20km