



# OI3112

## 12-Port Industrial L2 Managed Switch with 8 GE Ports and 4 SFP Ports

8×10/100/1000Base-T (RJ-45), 4×100/1000Base-X SFP, -40 to 75 °C Operating temperature, IP40-rated, DIN-rail Mountable



The ORIGO OI3112 Industrial Managed L2 Switch is equipped with 8×10/100/1000Base-T ports and 4×100/1000Base-X SFP<sup>1</sup> ports.

The ORIGO OI3112 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 OI3112 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 OI3112 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

- 8×10/100/1000Base-T ports
- 4x100/1000Base-X SFP 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 with support for static routing
- Management via web interface, Telnet, SSH, console, and SNMP

<sup>1</sup> To establish a 100 Mbps connection, the interface must be configured to 100Base-FX full-duplex mode.



## Specifications

### Hardware

CPU and Memory	<ul style="list-style-type: none"><li>• CPU: RTL8382MI</li><li>• RAM: 128 MB</li><li>• Flash: 32 MB</li></ul>
Interfaces	<ul style="list-style-type: none"><li>• 8 × 10/100/1000-T (RJ-45) ports</li><li>• 4 × 100/1000Base-X SFP<sup>1</sup> ports</li><li>• RJ-45 console port</li></ul>
Standards and Functions	<ul style="list-style-type: none"><li>• IEEE 802.3 10Base-T</li><li>• IEEE 802.3u 100Base-TX</li><li>• IEEE 802.3ab 1000Base-T</li><li>• IEEE 802.3u 100Base-FX</li><li>• IEEE 802.3z 1000Base-X</li><li>• IEEE 802.3x Full Duplex Flow Control</li><li>• IEEE 802.3az Energy-Efficient Ethernet</li><li>• Auto MDI/MDIX on all copper ports</li></ul>
LEDs	<ul style="list-style-type: none"><li>• Power<ul style="list-style-type: none"><li>- On: Power on state</li><li>- Off: Power off state</li></ul></li><li>• Link/Act (Ports 1 – 12)<ul style="list-style-type: none"><li>- Always bright: terminal device is connected</li><li>- Blinking: Data transmission in progress</li><li>- Off: No connection</li></ul></li><li>• SYS<ul style="list-style-type: none"><li>- Blinking: System operating normally</li><li>- Off: System is booting or a fault has occurred</li></ul></li></ul>
DIP Switches	<ul style="list-style-type: none"><li>• Fast Ring (ON) to switch on / off ERPS</li><li>• SCP (ON) to switch on / off Broadcast Storm Control</li></ul>
Alarm Relay	<ul style="list-style-type: none"><li>• One relay output (dry contact) for power failure notification</li><li>• Relay contact load capacity:<ul style="list-style-type: none"><li>- 2A at 30V DC</li><li>- 0,5A at 125V DC</li></ul></li></ul>
Power	<ul style="list-style-type: none"><li>• DC: terminal block for connection of up to two independent power sources (12 to 55 V DC)</li></ul>

<sup>1</sup> To establish a 100 Mbps connection, the interface must be configured to 100Base-FX full-duplex mode.



Ventilation System	<ul style="list-style-type: none"><li>• Fanless</li></ul>
Casing	<ul style="list-style-type: none"><li>• Metal</li><li>• IP40-rated</li></ul>
Mounting	<ul style="list-style-type: none"><li>• Wall</li><li>• DIN-rail</li></ul>

### Capacity

Switching Capacity	<ul style="list-style-type: none"><li>• 24 Gbps</li></ul>
Packet Forwarding Rate	<ul style="list-style-type: none"><li>• 17.85 Mpps</li></ul>
Packet Buffer	<ul style="list-style-type: none"><li>• 512 KB</li></ul>
Transfer Mode	<ul style="list-style-type: none"><li>• Store-and-forward</li></ul>
MAC Address Table Size	<ul style="list-style-type: none"><li>• 8K entries</li></ul>
Routing Table Size	<ul style="list-style-type: none"><li>• 512 entries (IPv4/IPv6)</li></ul>
L3 Forwarding Table	<ul style="list-style-type: none"><li>• 512 entries (IPv4/IPv6)</li></ul>
Jumbo Frame	<ul style="list-style-type: none"><li>• 9 216 bytes</li></ul>

### Software Features

L2 Features	<ul style="list-style-type: none"><li>• Flow Control</li><li>• Link Aggregation<ul style="list-style-type: none"><li>- Static</li><li>- 802.3ad</li><li>- Up to 8 groups per device / up to 8 ports per group</li></ul></li><li>• Load Balance<ul style="list-style-type: none"><li>- src-mac</li><li>- dst-mac</li><li>- src-ip</li><li>- dst-ip</li></ul></li><li>• Loopback Detection</li><li>• ERPS</li><li>• MRPP</li><li>• ULPP</li><li>• ULSM</li></ul>
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	<ul style="list-style-type: none"> <li>• Spanning Tree Protocol             <ul style="list-style-type: none"> <li>- 802.1D STP</li> <li>- 802.1w RSTP</li> <li>- 802.1s MSTP (64 instances)</li> <li>- Root Guard (Restriction)</li> <li>- BPDU Guard (Restriction)</li> </ul> </li> <li>• LLDP</li> <li>• LLDP-MED</li> <li>• Port mirroring             <ul style="list-style-type: none"> <li>- One-to-One</li> <li>- Many-to-One</li> <li>- Flow-based</li> <li>- CPU-based</li> <li>- Ingress, egress, both</li> <li>- RSPAN</li> </ul> </li> </ul>
VLAN	<ul style="list-style-type: none"> <li>• 802.1Q, 4094 VLAN</li> <li>• Port-based VLAN</li> <li>• MAC-based VLAN</li> <li>• Protocol-based VLAN (802.1v)</li> <li>• Subnet-based VLAN</li> <li>• Private VLAN</li> <li>• VLAN Filtering</li> <li>• Voice VLAN</li> <li>• GVRP</li> <li>• GMRP</li> <li>• Double VLAN (Q-in-Q)             <ul style="list-style-type: none"> <li>- Selective Q-in-Q</li> <li>- Port-based Q-in-Q</li> </ul> </li> <li>• VLAN Translation</li> <li>• Multicast VLAN</li> </ul>
L2 Multicast	<ul style="list-style-type: none"> <li>• IGMP Snooping             <ul style="list-style-type: none"> <li>- IGMP v1/v2/v3</li> <li>- Supports up to 512 groups</li> <li>- IGMP Snooping Fast Leave</li> <li>- IGMP Proxy</li> </ul> </li> <li>• MLD Snooping             <ul style="list-style-type: none"> <li>- MLD v1/v2</li> <li>- Supports up to 512 groups</li> </ul> </li> <li>• Multicast Source/Destination (DCSCM)</li> </ul>

L3 Features	<ul style="list-style-type: none"><li>• Maximum number of IP interfaces: 16</li><li>• 8K ARP entries</li><li>• Static routing for IPv4/IPv6<ul style="list-style-type: none"><li>- 512 IPv4 routes</li><li>- 512 IPv6 routes</li></ul></li><li>• Gratuitous ARP</li></ul>
QoS	<ul style="list-style-type: none"><li>• 802.1p<ul style="list-style-type: none"><li>CoS based on:<ul style="list-style-type: none"><li>- DSCP</li><li>- VLAN ID</li><li>- IP Precedence</li><li>- IP ACL/ MAC ACL/ IPv6 ACL</li><li>- IPv6 Flow Labels</li></ul></li></ul></li><li>• Queue handling<ul style="list-style-type: none"><li>- Strict Priority (SP)</li><li>- Weighted Round Robin (WRR)</li><li>- Weighted Deficit Round Robin (WDRR)</li></ul></li><li>• Port-based bandwidth control</li><li>• Supports up to 8 egress queues per port</li></ul>
Security	<ul style="list-style-type: none"><li>• Port Security<ul style="list-style-type: none"><li>- Supports up to 8K MAC addresses per port</li></ul></li><li>• Port Isolation</li><li>• Storm Control</li><li>• Dynamic ARP Inspection</li><li>• ARP Spoofing Protection</li><li>• ARP Scanning Prevention</li><li>• ARP Guard</li><li>• DoS Attack Prevention</li><li>• DHCP Snooping</li><li>• DHCPv6 Snooping</li><li>• IPv6 SAVI</li><li>• Security RA</li><li>• CPU Protection</li></ul>
AAA	<ul style="list-style-type: none"><li>• 802.1X Authentication:<ul style="list-style-type: none"><li>- Port-Based</li><li>- MAC-Based</li></ul></li><li>• Guest VLAN</li><li>• IPv6 RADIUS Server</li></ul>

	<ul style="list-style-type: none"> <li>• RADIUS/TACACS+ Authentication</li> </ul>
<p>Access Control Lists (ACL)</p>	<ul style="list-style-type: none"> <li>• Up to 1.5K ACL entries</li> <li>• ACL based on:             <ul style="list-style-type: none"> <li>- VLAN</li> <li>- MAC address</li> <li>- IPv4 address</li> <li>- DSCP</li> <li>- ToS</li> <li>- TCP/UDP port number</li> <li>- User-defined ACL</li> </ul> </li> <li>• Time-based ACLs</li> </ul>
<p>OAM</p>	<ul style="list-style-type: none"> <li>• Cable diagnostics</li> <li>• ULDP (Unidirectional Link Detection Protocol)</li> <li>• 802.3ah Ethernet Link OAM</li> <li>• 802.1ag Connectivity Fault Management (CFM)</li> <li>• DDM (Digital Diagnostics Monitoring)</li> </ul>
<p>Management</p>	<ul style="list-style-type: none"> <li>• Web-based UI</li> <li>• CLI</li> <li>• Telnet</li> <li>• SSH</li> <li>• FTP</li> <li>• TFTP</li> <li>• System Log</li> <li>• SNMP v1/v2c/v3</li> <li>• SNMP Traps</li> <li>• Sntp</li> <li>• NTP</li> <li>• Firmware Backup/Upgrade</li> <li>• Ping/Traceroute для IPv4/IPv6</li> <li>• DHCP- Server</li> <li>• DHCPv6- Server</li> <li>• BootP/DHCP- Client</li> <li>• DHCP Relay</li> <li>• DHCPv6 Relay</li> <li>• DHCP Option 82, 43, 60, 61, 67</li> <li>• IPv4/IPv6 DNS-Client</li> </ul>

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### Physical Parameters

Dimensions (W × D × H)	<ul style="list-style-type: none"><li>• 145 x 109 x 62 mm</li></ul>
Weight	<ul style="list-style-type: none"><li>• 0.88 kg</li></ul>
Package Dimensions	<ul style="list-style-type: none"><li>• 23.4 x 19 x 8.6 cm</li></ul>
Gross Weight	<ul style="list-style-type: none"><li>• 1.14 kg</li></ul>

### Operating Conditions

Power Input	<ul style="list-style-type: none"><li>• 12-55 V DC</li></ul>
Current Consumption	<ul style="list-style-type: none"><li>• 0.9 A (max.)</li></ul>
Maximum Power Consumption	<ul style="list-style-type: none"><li>• 9.08 W</li></ul>
Standby Power Consumption	<ul style="list-style-type: none"><li>• 4.13 W</li></ul>
MTBF (hours)	<ul style="list-style-type: none"><li>• &gt; 100 000</li></ul>
Surge Protection	<ul style="list-style-type: none"><li>• ± 4 kV (common mode)</li><li>• ± 2 kV (differential mode)</li></ul>
Electrostatic Discharge (ESD) Protection	<ul style="list-style-type: none"><li>• Contact discharge: ± 6 kV</li><li>• Air discharge: ± 8 kV</li></ul>
Temperature	<ul style="list-style-type: none"><li>• Operating: -40 to 75 °C</li><li>• Storage: -40 to 80 °C</li></ul>
Humidity	<ul style="list-style-type: none"><li>• Operating: 5% to 95% (non-condensing)</li><li>• Storage: 0% to 95% (non-condensing)</li></ul>

### Package Contents

Package Contents	<ul style="list-style-type: none"><li>• OI3112 Switch</li><li>• RJ-45 Console Cable</li><li>• Quick Installation Guide</li></ul>
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### Optional Accessories

Power Supplies	<ul style="list-style-type: none"><li>• OI240WPSU</li><li>• OI120WPSU</li><li>• OI75WPSU</li></ul>
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Industrial SFP Transceivers	<ul style="list-style-type: none"> <li>• OFMS310LX</li> </ul>
SFP Transceivers	<ul style="list-style-type: none"> <li>• OFM211LC</li> <li>• OFM310GT</li> <li>• OFM311GT</li> <li>• OFM314GT</li> </ul>
WDM SFP Transceivers	<ul style="list-style-type: none"> <li>• OFM330R/3KM</li> <li>• OFM330T/3KM</li> <li>• OFM330R/10KM</li> <li>• OFM330T/10KM</li> <li>• OFM331R/20KM</li> <li>• OFM331T/20KM</li> </ul>

### Order Info

OI3112	Industrial L2 Switch, 8×1000Base-T, 4×1000Base-X SFP, -40...75 °C
OI240WPSU	240 W DIN-rail power supply, 48 V DC output
OI120WPSU	120 W DIN-rail power supply, 48 V DC output
OI75WPSU	75 W DIN-rail power supply, 48 V DC output
OFMS310LX	Industrial SFP transceiver, 1000Base-LX (Duplex LC), 1310 nm, single-mode, up to 10 km, -40°..85°C
OFM211LC	SFP transceiver, 100Base-FX (Duplex LC), 1310 nm, multi-mode, up to 2 km
OFM310GT	SFP transceiver, 1000Base-LX (Duplex LC), 1310 nm, single-mode, up to 10 km
OFM311GT	SFP transceiver, 1000Base-SX (Duplex LC), 850 nm, multi-mode, up to 550 m
OFM314GT	SFP transceiver, 1000Base-LX (Duplex LC), 1550 nm, single-mode, up to 50 km <i>Short-distance operation requires an attenuator (not included)</i>
OFM330T/3KM/A1	WDM SFP transceiver, 1000Base-BX-D (Simplex LC), Tx:1550 nm, Rx:1310 nm, single-mode, up to 3 km
OFM330R/3KM/A1	WDM SFP transceiver, 1000Base-BX-U (Simplex LC), Tx:1310 nm, Rx:1550 nm, single-mode, up to 3 km
OFM330T/3KM/B1	WDM SFP transceiver, 1000Base-BX-D (Simplex SC), Tx:1550 nm, Rx:1310 nm, single-mode, up to 3 km



OFM330R/3KMB1	WDM SFP transceiver, 1000Base-BX-U (Simplex SC), Tx:1310 nm, Rx:1550 nm, single-mode, up to 3 km
OFM330T/10KM/A1	WDM SFP transceiver, 1000Base-BX-D (Simplex LC), Tx:1550 nm, Rx:1310 nm, single-mode, up to 10 km
OFM330R/10KM/A1	WDM SFP transceiver, 1000Base-BX-U (Simplex LC), Tx:1310 nm, Rx:1550 nm, single-mode, up to 10 km
OFM331T/20KM/A1	WDM SFP transceiver, 1000Base-BX-D (Simplex LC), Tx:1550 nm, Rx:1310 nm, single-mode, up to 20 km
OFM331R/20KM/A1	WDM SFP transceiver, 1000Base-BX-U (Simplex LC), Tx:1310 nm, Rx:1550 nm, single-mode, up to 20 km