ORIGO

OI3106

6-Port Industrial L2 Managed Switch

4x10/100/1000Base-T (RJ-45), 2x100/1000Base-X SFP, -40 to 75 °C Operating temperature, IP40-rated, Wall/DIN-rail Mountable

The ORIGO OI3106 Industrial Managed L2 Switch is equipped with 4 Gigabit RJ-45 ports and 2×100/1000Base-X SFP[1] ports.

The ORIGO OI3106 switch is designed for building secure and fault-tolerant data transmission networks at sites with strict environmental requirements.

The ORIGO OI3106 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 ORIGO OI3106 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

- 4×10/100/1000Base-T ports
- 2x100/1000Base-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

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

ORIGO

Specifications

Hardware

CPU and Memory	• CPU: RTL8380MI • RAM: 128 MB • Flash: 32 MB
Interfaces	• 4×10/100/1000-T (RJ-45) ports • 2×100/1000Base-X SFP[1] 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 – 6)
	  - 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

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

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

ORIGO

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

Capacity

Switching Capacity	• 12 Gbps
Packet Forwarding Rate	• 8.92 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
	- 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
	• 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
	• oS 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

ORIGO

Access Control Lists (ACL)	• 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 for IPv4/IPv6 • DHCP- Server • DHCPv6- Server • BootP/DHCP- Client • DHCP Relay • DHCPv6 Relay • DHCP Option 82, 43, 60, 61, 67 • IPv4/IPv6 DNS-Client

ORIGO

Physical Parameters

Dimensions (W × D × H)	• 110 x 90 x 46 mm
Weight	• 0.4 kg
Package Dimensions	• 23.4 x 19 x 8.6 cm
Gross Weight	• 0.68 kg

Operating Conditions

Power Input	• 12-55 V DC
Current Consumption	• 0.75 A (max.)
Maximum Power Consumption	• 7.81 W
Standby Power Consumption	• 2.81 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	• OI3106 Switch • RJ-45 Console Cable • Quick Installation Guide

Optional Accessories

Power Supplies	• OI240WPSU • OI120WPSU • OI75WPSU
Industrial SFP Transceivers	• OFMS310LX

ORIGO

SFP Transceivers	• OFM211LC • OFM310GT • OFM311GT • OFM314GT
WDM SFP Transceivers	• OFM330R/3KM • OFM330T/3KM • OFM330R/10KM • OFM330T/10KM • OFM331R/20KM • OFM331T/20KM

Order Info

OI3106	Industrial Managed L2 Switch, 4×1000Base-T, 2×1000Base-X SFP, -40…75°C
OI240WPSU	240W DIN-rail Power Supply, 48V DC Output
OI120WPSU	120W DIN-rail Power Supply, 48V DC Output
OI75WPSU	75W DIN-rail Power Supply, 48V DC Output
OFMS310LX	Industrial SFP Transceiver, 1000Base-LX (Duplex LC), 1310 nm, Single-mode, up to 10 km, -40 to +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 *Short-distance operation requires an attenuator (not included).*
OFM330T/3KM/A1	WDM SFP Transceiver, 1000Base-BX-D (Simplex LC), Tx:1550 nm / Rx:1310 nm, Single-mode, up to 3 k
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/3KM/B1	WDM SFP Transceiver, 1000Base-BX-U (Simplex SC), Tx:1310 nm / Rx:1550 nm, Single-mode, up to 3 km

ORIGO

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