

Industrial Managed L3 Switch

ON-7706E-2F

The Optech Network Solutions ON-7706E-2F is a compact 6-port managed industrial Ethernet switch designed for industrial networks requiring reliable Fast Ethernet connectivity and flexible fiber uplinks.

The Optech Network Solutions ON-7706E-2F is a compact 6-port managed industrial Layer 2 Ethernet switch featuring 4 × 10/100BASE-T/TX RJ-45 ports and 2 × SFP fiber ports. It provides reliable copper/fiber connectivity for industrial networks.

Advanced networking features include VLAN, QinQ, GVRP, IGMP/MLD Snooping, QoS, link aggregation, STP/RSTP/MSTP, X-Ring Pro redundancy, 802.1X security, ACL, RADIUS/TACACS+, SNMP, and remote network management.

Designed for industrial environments, the switch features DIN-rail mounting, a rugged metal enclosure, dual redundant 12–48 VDC power inputs, relay fault output, and -10°C to +60°C operation. It is suitable for automation, utilities, industrial control, transportation, and IIoT networks.

Benefits

- VLAN & QinQ Support
- Advanced QoS Management
- Comprehensive Network Security
- Dual Redundant Power
- SNMP Remote Management
- Wide Temperature Operation

Features

- 4 × Fast Ethernet Ports
- 2 × SFP Uplinks
- Managed Layer 2 Switching
- Industrial DIN-Rail Design
- X-Ring Pro Redundancy
- STP/RSTP/MSTP Support

Applications

- Industrial automation networks
- Factory Ethernet networks
- Utility and infrastructure communication
- Industrial control systems

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- Fiber-connected remote equipment
- Transportation and trackside networks
- Industrial IoT networks

Technical Specification

Product Type	Managed Industrial Layer 2 Switch
Model	ON-7706E-2F
Total Ports	6 Ethernet Ports
Fast Ethernet Ports	4 × 10/100BASE-T/TX RJ-45
Fiber Ports	2 × SFP Mini-GBIC
Copper Port Features	Auto-Negotiation, Duplex, Auto MDI/MDI-X
Console Port	RS-232 via RJ-45
Power Connector	6-Pin Screw Terminal
Relay Output	1 Relay Output
Power Input	12–48 VDC, Dual Redundant
Power Consumption	5.28 W at 48 VDC
MAC Address Table	8K MAC Addresses
Packet Buffer	4.1 Mbit
Maximum VLAN Groups	256 VLAN Groups
VLAN ID Range	1–4094
VLAN Features	Tag-Based VLAN, QinQ, GVRP
Port Mirroring	Per-Port, Multi-Source Mirroring
Multicast Features	IGMP v1/v2/v3, MLD Snooping
IGMP Function	Immediate Leave Support
Storm Control	Broadcast, Multicast, Unknown Unicast
QoS Scheduling	WRR, Strict, Hybrid Priority
Class of Service	IEEE 802.1p, IP ToS, DSCP
Rate Limiting	Ingress and Egress
Link Aggregation	IEEE 802.3ad Dynamic/Static Trunking
Redundancy Protocols	X-Ring Pro, STP, RSTP, MSTP
X-Ring Pro Recovery	Less Than 20 ms
Security Features	802.1X, RADIUS, TACACS+, ACL

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Additional Security	IP Source Guard, DHCP Snooping
ARP Protection	ARP Spoofing Prevention
802.1X Authentication	Port-Based, MD5, TLS, TTLS, PEAP
Management Protocols	SNMP v1/v2c/v3, Web, Telnet, RMON
MIB Support	Standard and Private MIB
Secure Management	SSH 2.0, SSL
Software Upgrade	TFTP, HTTP, Dual Image
Time Synchronization	SNTP Client
DHCP Features	Client, Server, Options 66/67/82
Deployment Function	IXM-Based Fast Deployment
NMS Support	Remote Network Monitoring, Management
Enclosure	Metal Housing
Protection Class	IP30
Installation Method	DIN-Rail Mounting
Dimensions (W × H × D)	43 × 120 × 84 mm
Standard Operating Temperature	-10°C to +60°C
Wide-Temperature Variant	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Relative Humidity	10–95%, Non-Condensing
System LED Indicators	PWR1, PWR2, SYS, Alarm, R.M.
Port LED Indicators	Link, Speed, Activity
Power Redundancy	Dual DC Power Inputs
Copper SFP Limitation	1000 Mbps Only
Certifications and Standards	CE, FCC Class A, UL 61010
Additional Standards	EN LVD 62368-1, IEC 61000-4
Environmental Standards	IEC 60068-2 Series
Railway Standard	EN 50121-4
Industrial Security Standard	IEC 62443-4-2

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Network Redundancy	Copper Ethernet	Fiber Connectivity
Supports industrial network redundancy:		
	4 × 10/100BASE-T/TX RJ-45	2 × SFP (Mini-GBIC) slots
X-Ring Pro	Auto-negotiation	Flexible fiber interface selection through compatible SFP modules
IEEE 802.1D STP	Full/Half duplex	copper SFP modules support 1000 Mbps only
IEEE 802.1w RSTP	Auto MDI/MDI-X	
IEEE 802.1s MSTP		

Layer 2 Networking	QoS	Network Security
Tag-Based VLAN	Weighted Round Robin (WRR)	802.1X Port-Based Authentication
QinQ VLAN Stacking	Strict Priority Scheduling	MD5/TLS/TTLS/PEAP Authentication
GVRP Support	Hybrid Priority Scheduling	RADIUS Authentication
Port Mirroring	IEEE 802.1p CoS	TACACS+ Authentication
IGMP Snooping v1/v2/v3	IP ToS Prioritization	Static/Dynamic Security
MLD Snooping	DSCP-Based CoS	IP Source Guard
IGMP Immediate Leave	Ingress Rate Limiting	DHCP Snooping
Broadcast/Multicast/Unknown-Unicast Storm Control	Egress Rate Limiting	ARP Spoofing Prevention
IEEE 802.3ad Link Aggregation		Access Control Lists (ACLs)
STP/RSTP/MSTP Network Redundancy		
X-Ring Pro Redundancy		

Network Management	Standards & Compliance	Power & Fault Monitoring
Management functions include:		
	IEEE 802.1D STP	Dual redundant 12–48 VDC power input
SNMP v1/v2c/v3	IEEE 802.1s MSTP	5.28 W system consumption at 48 VDC
Web-based management	IEEE 802.1w RSTP	1 × relay fault output
Telnet	IEEE 802.3ad	6-pin screw terminal block
RMON	IEEE 802.1X	PWR1/PWR2 power status indication
Standard MIB	CE	
Private MIB	FCC Class A	
SSH 2.0	UL 61010	
SSL	EN LVD 62368-1	
TFTP/HTTP firmware upgrade	IEC 61000-4 series	
Dual-image software	IEC 60068-2 series	
SNTP client	EN 50121-4	
DHCP client/server	IEC 62443-4-2	
DHCP Options 66/67/82		
NMS support for remote monitoring and management		

Physical & Environmental Design
The switch is housed in a compact metal enclosure measuring 43 × 120 × 84 mm and is designed for DIN-rail installation.
Two operating-temperature variants are represented in the source family:
ON-7706E-2F: -10℃ to +60℃
Wide-temperature version: -40℃ to +85℃

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