# OPTICAL SYSTEMS DESIGN



Engineered Industrial Ethernet Solutions www.osd.com.au



# Unmanaged Ethernet Media Converters & Switches

## Unmanaged Fast Ethernet Media Converters & Switches with PoE option

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Product Range	OSD2041	OSD2043	OSD2051	OSD2053P
10/100 Base-T RJ45 ports	1	1	1	1
Optical port	Fixed x 1	Fixed x 1	SFP x 1	SFP x 1
Power Input	9-36VDC 24VAC	9-36VDC 47-57VDC (PoE)	9-36VDC 24VAC	10-36VDC or 46-57VDC
Module Mounting		Wall		DIN / Wall
Card version (requires OSD350 or OSD370 rack)	✓	-	-	-
РоЕ	-	1 port (optional)	-	1 port
PoE Classification	-	IEEE802.3af (max 15W)	-	IEEE802.3af (max 15W)
IP rating (module version)	IP30			
Operating Temperature	-40 to 75°C	0 to 60°C Optionally -40 to 75°C	-40 to 75°C	
Ambient Relative Humidity	5 to 95% (non-condensing)			
Warranty	5 years			

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Product Range	OSD2052	OSD2054P	OSD2044	
10/100 Base-T RJ45 ports	2	2	4	
Optical port	SFP x 1	SFP x 1	Fixed x 1	
Power Input	9-36VDC 24VAC	10-36VDC or 46-57VDC	9-36VDC 24VAC	
Module Mounting	Wall	DIN / Wall	Wall	
Card version (requires OSD350 or OSD370 rack)	-	-	✓	
PoE	-	1 port	-	
PoE Classification	-	IEEE802.3af (max 15W)	-	
IP rating (module version)	IP30			
Operating Temperature	-40 to 75°C			
Ambient Relative Humidity	5 to 95% (non-condensing)			
Warranty	5 years			





# Unmanaged Ethernet Media Converters & Switches

## Unmanaged Gigabit Ethernet Media Converters & Switches with PoE option

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Product Range	OSD2151	OSD2153	OSD2155	OSD2166	OSD2167
10/100/1000 Base-T RJ45 ports	1	1	1	1	1
Optical port	SFP x 1	SFP x 1	SFP x 1	Fixed x 1	Fixed x 1
Power Input	9-36VDC 24VAC	9-36VDC, 24VAC 47-57VDC (PoE)	Rack Mount	9-36VDC	48-56VDC
Module Mounting	Wall		-	Wall	
Card version (requires OSD350 or OSD370 rack)	✓	-	✓	-	-
Jumbo Frames	-	10kB	10kB	10kB	10kB
PoE (optional or fixed)	-	1 port (optional)	-	-	1 port
PoE Classification	-	IEEE802.3af (max 15W)	-	-	IEEE802.3af (max 15W)
Additional Features	-	-	-	-	-
IP rating (module version)	IP30		-	IP30	
Operating Temperature	-40 to 75°C			0 to 60°C or -40 to 75°C	
Ambient Relative Humidity	5 to 95% (non-condensing)				
Warranty	5 years				

Product Range	OSD2168	OSD2139	OSD2175	OSD2144A	OSD2244
10/100/1000 Base-T RJ45 ports	1	1	1	2	2
Optical port	Fixed x 1	SFP x 1	SFP x 2	SFP x 3	SFP x 3
Power Input	50-56VDC	9-35VDC	-44 to -56VDC or 100-264VAC	8-35 22-28	
Module Mounting			Wall		
Card version (requires OSD350 or OSD370 rack)	-	-	-	✓	✓
Jumbo Frames	10kB	10kB	10kB	-	-
РоЕ	1 port	-	1 port (optional)	-	-
PoE Classification	IEEE802.3af/at (max 30W)	-	IEEE802.3af/at (max 30W)	-	-
Additional Features		Duplex transmission of two alarm signals, one RS485 or RS422 and one RS232	llink loss Forwarding	Dual power supply inputs	Redundant Ring (OSD proprietary ring) IEEE802.1Q VLAN Tag
IP rating (module version)	IP30				
Operating Temperature	'0 to 60°C or -40 to 75°C -20 to 75°C				
Ambient Relative Humidity	5 to 95% (non-condensing)				
Warranty	5 years				





# Managed Ethernet Switches

## Lite Managed Gigabit Ethernet Switches with PoE option

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Product Range	OSD2154P	OSD2184P	OSD2251	OSD2254	OSD2258
10/100/1000 Base-T RJ45 ports	2	2	2	4	8
Optical port	SFP x 1	SFP x 1	SFP x 2	SFP x 2	SFP x 2
Power Input	46-57VDC	46-57VDC or 12-57VDC	9-36VDC 46-57VDC (POE)		
Module Mounting			DIN / Wall		
Jumbo Frames			10kB		
PoE	2 ports	2 ports	2 ports (optional)	4 ports (optional)	8 ports (optional)
PoE Classification	IEEE802.3af/at PoE++ (max 60W/port)	IEEE802.3af/at IEEE802.3bt HDBase-T (POH) (max 90W/port)	IEEE802.3af/at PoE++ (max 60W/port)		
PoE Power Budget	120W	170W	120W	240W	480W
Management Features	CLI, Web GUI	CLI, Web GUI	CLI, Web GUI, SNMP v1, v2c, v3 CLI, Web GU		CLI, Web GUI
Redundant Fiber Ring	-	-	Redundant Ring (OSD proprietary ring)		
Additional Features	Customisable PoE via Web GUI Non Managed option	Wide voltage input range option Non Managed option			Customisable PoE via Web GUI
IP rating (module version)	IP30				
Operating Temperature	-40 to 75°C -20 to 75°C				
Ambient Relative Humidity	5 to 95% (non-condensing)				
Warranty	5 years				

## **Featured Product**

The OSD2184P is a 3-port industrial ethernet switch offering Power over Ethernet meeting the latest IEEE802.3bt PoE specification with continued support for devices requiring IEEE802.3af/at and HDBase-T (PoH) PoE. Each of the two RJ45 ports is capable of providing 90W of power with a total power budget of 170W. This allows the latest PoE devices such as IP cameras, Wireless Access Points, microwave links and VOIP phones to be easily connected to your network. With a compact design the OSD2184P can easily be mounted inside a network enclosure or a Smart Pole using the DIN rail or wall mounting brackets provided. Additionally, the OSD2184PW version can be powered from a 12VDC to 57VDC supply. A rugged IP30 casing, fanless design and wide operating temperature range from -40 to +75°C make this product ideally suited for use in a wide range of harsh industrial environments.







# Managed Ethernet Switches

## Layer 2 Managed Gigabit Ethernet Switches with PoE option

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Product Range	OSD2512	OSD2524	OSD2790	OSD2790SFP	
10/100/1000 Base-T RJ45 ports	12	24	24	-	
Optical port	SFP x 2	SFP x 6	SFP x 4	SFP x 28	
Combo Ports	-	4 x RJ45/SFP ports	-	-	
Power Input	46-57VDC or 46-57VDC or 100-264VAC   100-264VAC   Dual Input power option   Dual Input power opt				
Module Mounting		19" Rack Moi	unt / Desktop		
Jumbo Frames		9.6	ikB		
РоЕ	12 ports	24 ports	24 ports	-	
PoE Classification	IEEE802.3af/at, IEEE802.3bt (8 ports) (max 90W/port)				
PoE Power Budget		720W		-	
Management Features		CLI, Web GUI, S	NMP v1, v2c, v3		
Redundant Fiber Ring		ITU-TG8032 ERPS	, MSTP/RSTP/STP		
VLAN	IEEE802.1Q VLAI	N. Private VLAN, Voice VLA	N, Protocol based VLAN, G	VRP, MVRP, MRP	
Security	IEEE802.1x Port Access Authentication, MAC based authentication, ACLs, DHCP snooping, BPDU Guard, RADIUS, TACACS+, SSL, SSH, HTTPS, SSLv3, Port Mirroring, sflow, Dynamic ARP Inspection, IP source guard, UDLD/equivalent, RMON				
QoS	Traffic Classes, Port policers, Port egress shaper, QoS Control List, DiffServ, Scheduler priority, Storm Control				
Multicast Protocol	RFC 2236 IGMP snooping v2, v3, MLD snooping v1, v2				
Layer 3 Routing	IPV4/IPV6 static rollfing			RFC2328 OSPFv2 dynamic C-1812 L3 checking	
IP rating (module version)	IP30				
Operating Temperature	-20 to 70°C				
Ambient Relative Humidity	5 to 95% (non-condensing)				
Warranty	5 years				

## **Featured Product**

The OSD2524P is a Layer 2 managed 26-port industrial ethernet switch offering Power over Ethernet meeting the latest IEEE802.3bt PoE specification with continued support for devices requiring IEEE802.3af/at. Eight RJ45 ports are each capable of supplying up to 90W of power to support the latest PoE devices with a total power budget of 720W. All 24 RJ45 ports can support up to 30W per port concurrently. For increased flexibility there are four RJ45/SFP combo ports along with two Gigabit SFP uplink ports which can be used as uplink ports or as an ITU-TG 8032 redundant ring. With support for VLAN, IGMP snooping, industry standard RSTP or MSTP and IEEE802.1x port security, it is suitable for use in critical networks. A rugged, fanless 1RU high, IP30 19" rack mounting enclosure and an operating temperature range from -20 to +70°C make it suitable for use in a wide range of harsh industrial environments.







# Managed Ethernet Switches

## Layer 2 Managed 10Gb Ethernet Switches with PoE option

Product Range	OSD2888	OSD2890	OSD2892	OSD2890SFP	
10/100/1000 Base-T RJ45 ports	12	24	36	-	
Gb Optical port	-	-	-	SFP x 24	
10Gb Optical Ports	SFP x 4	SFP x 4	SFP x 4	SFP x 4	
Power Input		46-57VDC or 100-264VAC(non PoE) Dual Input power option		46-57VDC or 100-264VAC Dual Input power option	
Module Mounting		19" Rack Mou	unt / Desktop		
Jumbo Frames		9.6	ikB		
РоЕ	12 ports	24 ports	24 ports	-	
PoE Classification	IEEE8	02.3af/at, IEEE802.3bt (8 (max 90W/port)	3 ports)	-	
PoE Power Budget		720W		-	
Management Features		CLI, Web GUI, S	NMP v1, v2c, v3		
Redundant Fiber Ring		ITU-TG8032 ERPS	, MSTP/RSTP/STP		
VLAN	IEEE802.1Q VLAN	N. Private VLAN, Voice VLA	N, Protocol based VLAN, G	/RP, MVRP, MRP	
Security	IEEE802.1x Port Access Authentication, MAC based authentication, ACLs, DHCP snooping, BPDU Guard, RADIUS, TACACS+, SSL, SSH, HTTPS, SSLv3, Port Mirroring, sflow, Dynamic ARP Inspection, IP source guard, UDLD/equivalent, RMON				
QoS	Traffic Classes, Port policers, Port egress shaper, QoS Control List, DiffServ, Scheduler priority, Storm Control				
Multicast Protocol	RFC 2236 IGMP snooping v2, v3, MLD snooping v1, v2				
Layer 3 Routing	IPv4/IPv6 static routing, RFC2328 OSPFv2 dynamic routing, UPnP, RFC-1812 L3 checking				
IP rating (module version)	IP30				
Operating Temperature	-20 to 70°C				
Ambient Relative Humidity	5 to 95% (non-condensing)				
Warranty	5 years				

## **Featured Product**

The OSD2892 is a full Layer 2 managed 40-port industrial ethernet switch offering some Layer 3 routing functions. It has four 10Gb uplink ports that can be aggregated to support a 40Gbps trunk. Alternatively, two of the uplink ports can be used in a redundant ring topology with industry standard ITU-TG 8032 ERPS with RSTP/MSTP support. To meet the increasing demand for network security, the OSD2892 supports IEEE802.1x Port and MAC based security protocol making it suitable for deployment in critical networks. A rugged, fanless 1RU high, IP30 19" rack mounting enclosure and an operating temperature range from -20 to +70°C make it suitable for use in a wide range of harsh industrial environments







# PoE Injectors & Extenders

## PoE Injectors & Extenders

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Product Range	OSD2971/48VDC	OSD2971/240VAC	OSD2975		
RJ45 Port Speed		10/100/1000 Base-T			
Power Input	-47 to -57VDC	100-264VAC	20 to 57VDC		
Power Input Connection Type	2way 5.08mm Terminal Block Australian standard plug with 1.4m lead		3way 5.08mm Terminal Block		
Module Mounting	Wa	all	DIN / Wall		
PoE Classification	IEEE802.3af/at		IEEE802.3af/at, PoE++ (60W)		
PoE Power Budget	30W	35W	60W		
PoE Power Output	Vin - 0.5V	55VDC	55VDC		
PoE PSE Pins	Alt A(1/2+, 3/6-) & Alt B (4/5+, 7/8-)		Alt A(1/2+, 3/6-) & Alt B (4/5+, 7/8-)		
Maximum Cable Distance	100m				
IP Rating (module version)	IP30				
Operating Temperature	-20 to 65°C		-40 to 75°C		
Ambient Relative Humidity	5 to 95% (non-condensing)				
Warranty	5 years				

## PoE Extender & Mode Converter

#### OSD2910 Miniature Gigabit PoE++ extender

Supports 100/1000Mbps speeds and 10kB jumbo frames
Can be daisy chained to extend the PoE range to 500m
Supports up to 60W PoE over either Alt A or Alt B wiring
No external power required. Consumes less than 2W of PoE power per hop
Extremely small and robust design. Operating temperature range of -20 to +75°C



#### OSD2010 Industrial Fiber mode converter

Protocol transparent SFP to SFP mode converter

Operates with SFPs up to 10Gbps

Can also operate as an optical repeater to extend optical fiber transmission distances

Alarm outputs for loss of input power and for laser failure

Dual power supply inputs for 10 to 36VDC or 24VAC







## Accessories

#### Accessories

#### **SFPs**

Large range of SFPs supporting speeds up to 10Gbps

2 Fiber & Single Fiber SFPs transmitting over distances from a few meters to 180km

CWDM and DWDM wavelengths available



Industrial temperature range operating from -40 to +85°C

#### 19" rack mount chassis for OSD cards

**OSD370B** 3RU high chassis for 14 cards and single **OSD921** power supply **OSD350B** 3RU high chassis for 12 cards and dual **OSD921** power supply **OSD3700** 2RU high chassis for 18 cards and single **OSD9221** power supply



#### **Power Supplies**

Large range of power supplies for use with OSD products Australian plug packs for direct conversion to 12VDC power

Desktop power supplies for use with IEC C13 power cord with DC output from 12V to 56V providing up to 280W of power. Industrial rated DIN rail mount power supplies with DC output from 12V to 55V providing up to 960W of power.

## **Engineered Industrial Ethernet Solutions**

Optical Systems Design Pty Ltd is an Australian designer and manufacturer of rugged industrial networking solutions.

Since 2007 OSD has applied the extensive fiber optic experience and expertise it has developed over more than 30 years to the design and development of products which meet the market's growing demand for industrial ethernet based networks. OSD works closely with both end users and system integrators to provide the best technical and economic solution along with ongoing support for the OSD network implementation.

OSD products are used throughout the world in environments ranging from roadside cabinets to remote mine sites, large campuses to single buildings. OSD has many thousands of systems operating reliably day in day out in extreme environments, some for well over a decade. Contact us today to find out how we can assist with your networking requirements.



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