

**LAYER 2 MANAGED 28-PORT ETHERNET SWITCH
WITH 24 x Gb RJ45 & 4 x 10Gb SFP+ TRUNK PORTS
(with optional 802.3bt PoE)**

Introduction

The OSD2890 is a Layer 2 managed 28-port Industrial Ethernet switch with 24 x RJ45 ports and 4 x 10Gb SFP+ ports that may be used as a redundant fiber link or as aggregated uplink ports. Supporting RSTP/STP and ITU-TG 8032 Ethernet Ring Protection Switching protocols the OSD2890 can be used in critical networks where reliability and redundancy are key. Along with support for VLAN, IGMP snooping, QoS and SNMP v3, the OSD2890 supports Layer 2 management functions and integrates with third party NMS systems. Optionally, Power over Ethernet is available on all 24 RJ45 ports 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. Alternatively, all 24 RJ45 ports can support up to 30W per port concurrently. A rugged, fan less 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

Features and Benefits

Security

With increasing demand for security on distribution and edge switches, the OSD2890 supports 802.1x Port based and MAC based access authentication. Private connections are guaranteed with SSH, Radius and TACACS+ options whilst the latest SNMPv3 protocol is supported.

Redundancy

To guarantee performance in critical applications the OSD2890 comes with a dual redundant DC power input or an optional dual redundant AC supply (non PoE only). In case of a break in the fiber network the OSD2890 supports ITU-TG 8032 Ethernet Ring Protection Switching to ensure the system reliability. Loop protection is guaranteed by MSRP/RSTP/STP protocols.

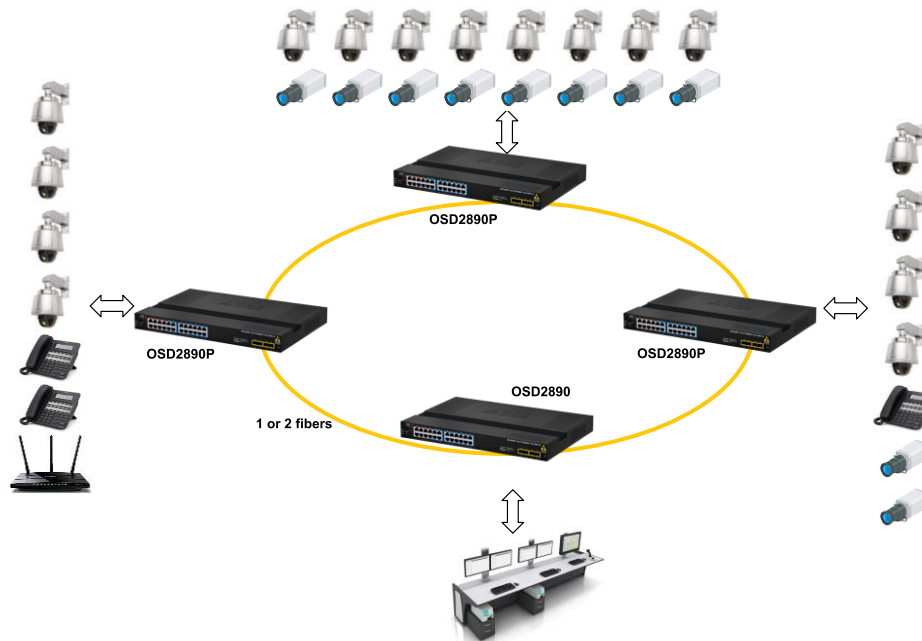
Management

The OSD2890 is a full Layer 2 Managed Industrial Ethernet switch and supports SNMP v1, v2c and V3 for use with a third party NMS. Both standard MIB's and OSD private MIBs provide a wide range of parameters that can be monitored or configured remotely. Each OSD2890 has a built in Web browser GUI where detailed information about the individual unit can be accessed and configuration, settings and logs can be viewed and changed. SNMP traps can be set to alert the user in case of some faults such as a problem with the network or a connected device failure.

IEEE802.3bt compliant

With an overall PoE power budget of 720W the OSD2890P can be deployed in a wide range of communication networks. 8 ports are IEEE802.3bt compliant with each port individually capable of providing up to 90W to support the latest IP PTZ cameras, Wireless Access Points, Thin Clients, PoE lighting and other powered devices. These eight ports can provide up to 480W of total power.

Typical System Design



Specifications

Hardware

Ethernet (RJ45)	24 x 10/100/1000Base-T RJ45, IEEE802.3i/802.3u/802.3ab
Data Rate (RJ45)	10, 100, 1000Mbps with energy detect, auto negotiate, auto MDIX
Jumbo Frame Support	9.6KB
SFP	4 x 10Gigabit SFP+ ports
Optical Data Interface	Supports 100/1000/10000Mbps SFP
CPU Memory	128Mb
Switching Speed	80Gbps switching backplane
Enclosure Protection Class	IP30
Installation	Desktop or 19" rack mount
Mode Selection Switch (push)	Link/Speed, Link/Duplex, Link/Status, PoE status
Reset Button (recessed push)	Reset unit
Power Requirements (non PoE)	90 - 264VAC @ 50VA Max 10 to 36VDC @ 50VA Max
Power Requirements (optional PoE)	47 to 57VDC @ 780VA Max (PoE Budget of 720W) ≥52VDC recommended for PD meeting IEEE802.3at & IEEE802.3bt ≥55VDC recommended for total PoE power requirement >600W
Output PoE Vdrop per port	PoE voltage drop per port <0.5V @ 30W, <1V @ 60W
Power Connector (non PoE)	4 way 5.08mm terminal block for dual redundant DC powering IEC C14 inlet for AC powering
Power Connector (optional PoE)	8 way 5.08mm terminal block for dual redundant DC powering
Indicators	24 x Mode Selectable LEDs (amber/green) for RJ45 ports (Speed/Activity/Link/PoE) 4 x LEDs (green) Speed/Activity/Link (one/SFP) 2 x Power 1 x Status
Environmental	-20 to +70°C
Relative Humidity	0 to 95% non-condensing
Dimensions	440W x 295D x 44H mm (desktop mount)
Weight	4500g 5400g (PoE)

Management

Interfaces	Command Line Interface (CLI mini USB) Web browser based Graphical User Interface (GUI) SNMP v1, v2c, v3
Link OAM (IEEE802.3ah)	Variable, request, and response Discovery process, information, event notification, loopback Dying gasp Dying gasp enhanced Dying gasp SNMP trap
Management	Configuration download or upload. Dot3-OAM-MIB RFC 1213 MIB LLDP-MED power MIB Bridge MIB MSTP MIB LLDP MIB RFC3635 Ethernet-like MIB Private MIB Framework Contact OSD for full list of MIBs

Layer 2

Port Configuration	Port enable/disable, Auto negotiation, Flow control enable/disable
Port Status	Speed, duplex mode, link status, auto negotiation status
VLAN	Virtual LAN Bidirectional VLAN translation Unidirectional VLAN translation (ingress/egress) Private VLAN—static Port isolation—static MAC-based VLAN Protocol-based VLAN IP subnet-based VLAN VLAN trunking iPVLAN Trunking GARP VLAN Registration Protocol (GVRP) Multiple Registration Protocol (MRP) Multiple VLAN Registration Protocol (MVRP) IEEE 802.1ad provider bridge (native or translated VLAN) Loop guard
Link Aggregation (IEEE802.3ad)	Link aggregation—static Link aggregation—Link Aggregation Control Protocol (LACP) AGGR/LACP user interface alignment with Industry standard UNI LAG (LACP) 1:1 active/standby LACP revertive/non-revertive LACP loop free operation
L2 Switching	Bridge Protocol Data Unit (BPDU) guard and restricted role Error disable recovery IGMPv2 snooping IGMPv3 snooping MLDv1 snooping MLDv2 snooping Internet Group Management Protocol (IGMP) filtering profile IP Multicast (IPMC) throttling, filtering, and leave proxy Multicast VLAN Registration (MVR) MVR profile Voice VLAN DHCP snooping ARP inspection Port mirroring Flow mirroring Rmirror DHCPv6 Shield

QoS	<ul style="list-style-type: none"> Traffic classes (8 active priorities) Port default priority User priority Input priority mapping QoS control list (QCL mode) Global storm control for UC, MC and BC Random early discard (RED) Port policers Queue policers Global/VCAP (ACL) policers Port egress shaper Queue egress shapers DiffServ (RFC2474) remarking Tag remarking Scheduler mode
IPv4/IPv6	<ul style="list-style-type: none"> IPv4 and IPv6 dual stack for data & management DHCPv6 relay, DHCPv6 client. NTP
Security	<ul style="list-style-type: none"> Port-based 802.1X Single 802.1X Multiple 802.1X MAC-based authentication VLAN assignment QoS assignment Guest VLAN Remote authentication dial In user service (RADIUS) authentication and authorization RADIUS accounting MAC address limit Persistent MAC learning IP MAC binding IP/MAC binding dynamic to static TACACS+ authentication and authorization TACACS+ command authorization TACACS+ accounting Web and CLI authentication Authorization (15 user levels) ACLs for filtering/policing/port copy IP source guard Secure FTP Client
Management	<ul style="list-style-type: none"> JSON-RPC JSON-RPC notifications Dual CPU (application variant with JSON) RFC 2131 DHCP client RFC 2131 DHCP server DHCP server support for DHCP relay packets DHCP per port RFC 3315 DHCPv6 client RFC 3315 DHCPv6 relay agent RFC 7610 DHCPv6-shield protecting against rogue DHCPv6 servers RFC 1035 DNS client, relay IPv4/IPv6 ping IPv4/IPv6 traceroute HTTP server CLI—console port CLI—Telnet Industrial standard CLI Industrial standard configuration Industrial standard CLI debug commands Port description CLI Management access filtering HTTPS SSHv2 IPv6 management IPv6 ready logo PHASE2 (host only) RFC4884 (ICMPv6)

	System syslog Software upload through web RMON (group 1, 2, 3, and 9) RMON alarm and event (CLI and web) Alarm module IEEE 802.1AB-2005 link layer discovery—LLDP TIA 1057 LLDP—MED Industry standard discovery protocol - ISDP sFlow FTP Client Configuration download/upload— industrial standard Loop detection restore to default Symbolic register access Daylight saving
Ethernet Redundancy	IEEE802.1D Spanning Tree Protocol IEEE802.1w Rapid Spanning Tree Protocol IEEE802.1s Multiple Spanning Tree Protocol ITU-TG.8032 Ethernet Ring Protection

Layer 3

L3 Routing	IPv4/IPv6 static routing
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Environmental

Operating Temperature	-20 to +70°C
Relative Humidity	5 to 95% non-condensing

Warranty

Warranty Period	5 years
MTBF (Ground Benign Environment, 30°C)	340,000 hours

Ordering Information

Part No.	Description
OSD2890	28-port Layer 2 Managed Industrial Ethernet switch with 24 x RJ45 ports and 4 x 10Gb SFP+ ports
OSD2890P	28-port Layer 2 Managed Industrial Ethernet switch with 24 x RJ45 ports and 4 x 10Gb SFP+ ports. Up to 720W PoE budget for 24 ports IEEE802.3af/at with 8 ports IEEE802.3bt

Related Products

Part No.	Description
SFP	See OSD datasheets #10210g000XX for 10Gb SFP+, #1021000XX for GbE SFPs and #102100XX for 100Mbps SFPs
OSD2890SFP	28-port Layer 2 Managed Industrial Ethernet switch with 24 x Gb SFP ports and 4 x 10Gb SFP+ ports

Dimensions (external)

