

### Introduction

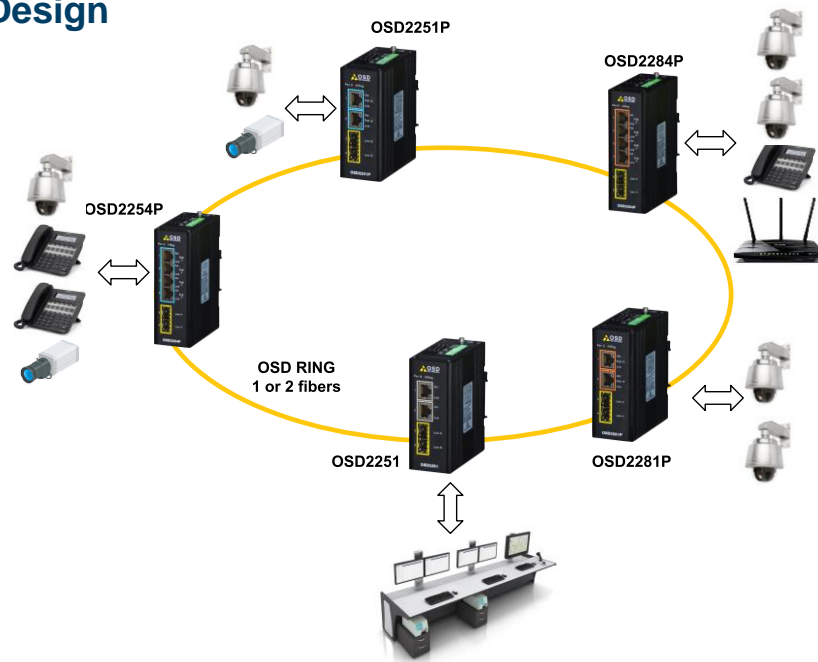
The OSD2281P is a 4-port lite managed industrial ethernet switch with two Gigabit RJ45 ports and two Gigabit SFP uplink ports which can be used as standard ports or as a redundant fiber ring using OSD's proprietary ring protocol. Each RJ45 can provide up to 90W PoE to power a wide range of devices. Along with higher level features including SNMP, VLAN and IGMP snooping the OSD2281P is suitable for use in critical networks. A rugged IP30 casing, fan-less design and wide operating temperature range from -40 to +75°C make it suitable for use in a wide range of harsh industrial environments.



### Features and Benefits

- ▲ Complies with IEEE802.3i/802.3u/802.3ab 10/100/1000Base-T, IEEE802.3u 100Base-Fx, IEEE802.3z 1000Base-Lx/Sx standards
- ▲ Has a total of four ports: two fixed copper ports for 10/100/1000Base-T and two SFP ports for the fibre ring or non-ring (100Base-Fx or 1000Base-X)
- ▲ Ring reconfiguration in the case of cable or switch failures takes less than two milliseconds per hop
- ▲ MDI/MDIX Crossover: no need for crossover cables
- ▲ Can be used with either 1 or 2 singlemode or multimode fiber over a variety of link budgets via plug in SFP module (sold separately)
- ▲ Supports IEEE802.3af/at/bt PoE and PoH
- ▲ Complies with IEEE802.3af/at/bt and HDBase-T (PoH) standard including compliant powered device (PD) signature detection and classification
- ▲ Provides up to 90W to each RJ45 port with a total power budget of 180W
- ▲ Auto-Negotiation for half or full duplex operation
- ▲ Powered by non-critical 46 to 57VDC supplies with dual power supply inputs
- ▲ Integrates with third party NMS system via industry standard SNMP v1, v2c, v3
- ▲ Supports 10KB jumbo frames
- ▲ Supports VLAN and IGMP v1, v2, v3 snooping
- ▲ Port security guaranteed with MAC binding function
- ▲ Remote PoE on/off control and status monitoring
- ▲ Redundant ring operation is compatible with all OSD225\* and OSD228\* series Gigabit Ethernet switches
- ▲ Operates over the temperature range of -40 to +75°C
- ▲ DIN rail or wall mounting
- ▲ Available for operation in ring, bus or point-to-point configuration

## Typical System Design



## Specifications

### Hardware

|   |  |
|---|--|
| Ethernet  | 2 x 10/100/1000Base-T RJ45, IEEE802.3i/802.3u/802.3ab  |
| Data Rate   | 10, 100, 1000Mbps, auto negotiate, auto MDIX   |
| Jumbo Frame Support                                     | 10KB   |
| SFP   | 2 x Gigabit SFP ports (100Mbps or 1000Mbps user selectable)  |
| Optical Data Interface                                  | IEEE802.3z 1000Base-Lx/Sx, IEEE802.3u 100Base-Fx   |
| PoE (set via DIP switch)<br>(user configurable via GUI) | IEEE802.3af/at, IEEE802.3bt, PoH<br>Up to 90W per port with total power budget of 180W<br>Additional PoE modes available via Web-GUI   |
| Enclosure Protection Class                              | IP30   |
| Installation  | DIN rail, wall mount or desktop  |
| Alarm (ring version only)                               | Ring to Bus, High Temperature  |
| Alarm Interface   | Opto isolated MOSFET rated at 100mA @ 46V maximum  |
| Alarm Connector   | 4 way 3.5mm terminal block   |
| DIP Switch  | 8 way DIP switch for configuration   |
| Power Requirements                                      | 46 to 57VDC @ 10VA maximum (no PoE in use) to 192VA maximum (Both ports supplying 90W PoE power)<br>(>52VDC recommended for PoE+ <30W or ≥55VDC for PoE >30W)                          |
| Output PoE Vdrop per port                               | PoE voltage drop per port <0.5V @ 30W, <1V @ 60W   |
| Power Connector   | 4 way 5.08mm terminal block  |
| Indicators  | 2 x Copper Link on each RJ45<br>2 x Copper Activity on each RJ45<br>2 x PoE Operation for each RJ45<br>2 x SFP Speed/Activity/Link on each SFP<br>1 x Initialise/Ring/Bus<br>1 x Power |
| Environmental   | -40 to +75°C   |
| Relative Humidity                                       | 0 to 95% non-condensing  |
| Dimensions  | 43W x 91D x 110H mm  |
| Weight  | 540g   |

## Management

|                     |  |
|---------------------|--|
| Interfaces          | Command Line Interface (CLI) (mini USB)<br>Web browser based Graphical User Interface (GUI) (Chrome or Edge browser)<br>SNMP v1, v2c, v3 |
| Port Configuration  | Port enable/disable, Auto negotiation  |
| Port Status         | Speed, duplex mode, link status  |
| Port Security       | MAC address binding  |
| VLAN                | 802.1Q VLAN  |
| Multicast Protocol  | RFC 2236 IGMP snooping v1, v2, v3  |
| Ethernet Redundancy | OSD-Ring   |
| SNMP MIBs           | RFC 1213 MIB<br>Private MIB Framework<br>Contact OSD for full list of available MIB's  |

## PoE

PoE configurable parameters via Web-GUI:

| Operating Mode           | Legacy detection options | Pair number options | Maximum Power options |
|--------------------------|--------------------------|---------------------|-----------------------|
| BT                       | Enable, Disable          | 2                   | 15W, 30W              |
|                          |                          | 4                   | 15W, 30W, 60W, 90W    |
| PoH                      | Disable                  | 2                   | 45W                   |
|                          |                          | 4                   | 90W                   |
| Pre-BT                   | Enable, Disable          | 2                   | 30W                   |
|                          |                          | 4                   | 60W                   |
| Mode 4P CDP              | Enable                   | 2                   | 30W                   |
|                          |                          | 4                   | 60W                   |
| BT Special               | Enable                   | 2                   | 45W                   |
| BT Class0=Class4         | Enable                   | 2                   | 30W                   |
|                          |                          | 4                   | 60W, 90W              |
| 2P 3Finger               | Enable                   | 2                   | 30W                   |
| 4P 4Finger               | Enable                   | 4                   | 60W                   |
| BT with PoH              | Enable                   | 2                   | 45W                   |
|                          |                          | 4                   | 90W                   |
| BT PoH Like on all Class | Enable                   | 2                   | 45W                   |
|                          |                          | 4                   | 90W                   |
| BT Special Class 4       | Enable                   | 2                   | 30W                   |
|                          |                          | 4                   | 60W                   |

## Warranty

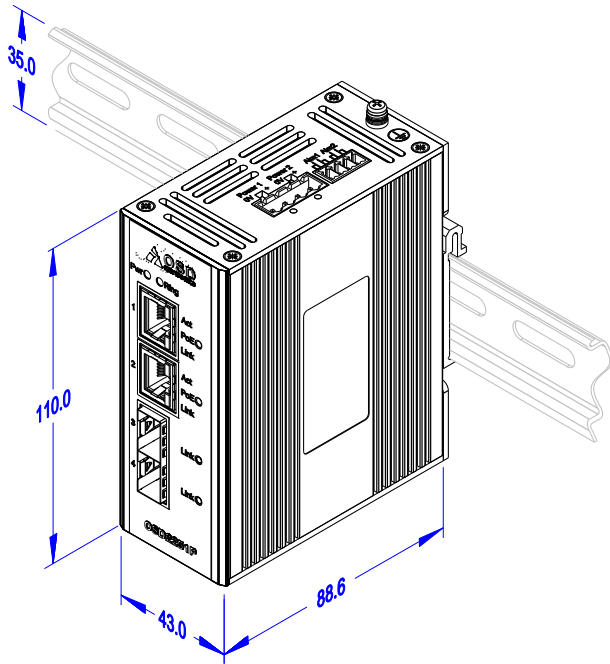
|  |               |
|--|---------------|
| Warranty Period                        | 5 years       |
| MTBF (Ground Benign Environment, 30°C) | 610,000 hours |

## Ordering Information

| Part No. | Description  |
|----------|--|
| OSD2281P | Lite managed 2 x 10/100/1000BaseT + 2 x SFP Gigabit Ethernet Switch with up to 90W PoE on each RJ45 port |
| SFP      | See OSD SFP datasheets #102100XX and #10210000XX   |

## Dimensions

### Din Rail Mounting



### Wall mounting

