

# Rugged Switch with High Resilience

## DP410L-LV Series

**Industrial 10-port Full Gigabit L2 Managed PoE Switch, 8x802.3at PoE, Booster PoE**

The DP410L Industrial PoE Switch is a reliable and secure networking solution for industrial environments that require PoE power. It has 8 RJ45 Giga 802.3at/af PoE+ ports and 2 Giga SFP ports for uplink and can accept 12V/24VDC power input with a booster for use in industrial and vehicle applications. This switch offers advanced Layer 2 security features like 802.1X/RADIUS port-based access control, IP Security/Port Security, and VLAN and QoS management. It also supports IGMP Snooping and LACP/Trunking for redundancy and has enhanced RSTP protocol for added reliability.



PoE+ eRSTP -40~70°C



### Features & Benefits

#### Full Gigabit Switching and Ultra High Throughput

- DP410L-LV: 10-port Full Gigabit Ethernet, including 2 100/1000M SFP and 8 Gigabit 802.3at PoE+ RJ45
- High flexibility of cable types and distances for system integrators
- Fiber ports support both 100M and 1000M SFP
- Stores and forwards with non-blocking switch fabric

#### Management Features

- Various configuration paths, including WebGUI, CLI, SNMP
- Layer 2 management features include VLAN, QoS, IGMP Snooping, LACP/Trunk
- Rapid Spanning Tree for Redundancy
- Traffic management: Port classification, Port policing, Port scheduler, Port shaping, QoS control list, WRED, Port Security
- LLDP topology control

#### Extreme PoE Capability

- 8-port IEEE 802.3af/at compliant PoE+, up to 30W/port
- **12/24V Booster PoE Input**
- Complete PoE management including **Power Budget Control** and **PoE Status**

#### Enhanced Cyber Security for Critical Applications

- **802.1X/RADIUS** port-based access control
- IP Security/Port Security
- HTTPs/ Management IP secure access
- Management VLAN separate the control and data vlan

#### Rugged Design for Wayside Network Switching with Wide Power Input Range

- Wide power range includes **24V Booster** design and dual redundant power input
- Excellent heat dissipation design for operating in **-40~70°C** environments
- High level **EMC protection** exceeding traffic control and heavy industrial standards' requirements
- IEC 61000-6-2/4 Heavy Industrial Environment



## Interfaces

### System LED

- 2 x Power
- 1 x ALM/DO

- 8-port 10/100/1000M RJ45, 802.3at/af compliant PoE
- 2-port 100/1000M SFP
- LED Ethernet: Green On/Blinking
- LED PoE: Amber On/Off



DIN Clip

### RS232 System Management Console

### Integrated DO Connector

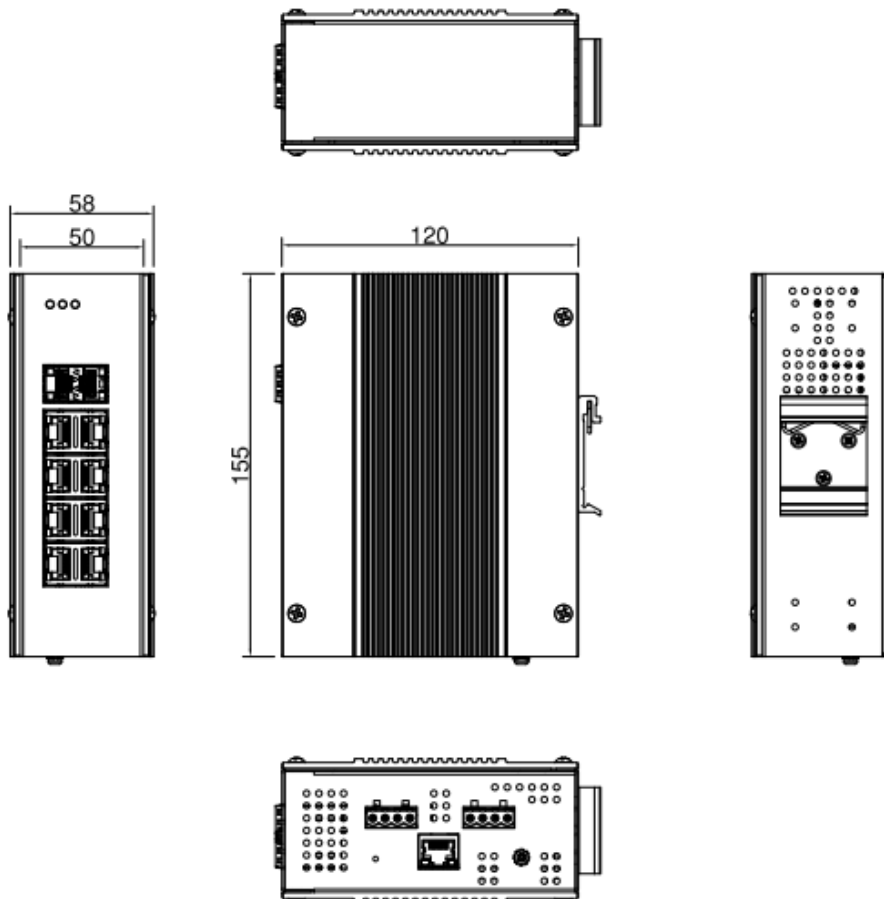
- 2-pin for Relay Output

### Integrated Power Connector

- 1 x 4-pin terminal block for redundant power input



## Dimensions



| Technology                      |  |
|---------------------------------|--|
| <b>Standard</b>                 | IEEE 802.3 10Base-T Ethernet   |
|                                 | IEEE 802.3u 100Base-TX Fast Ethernet   |
|                                 | IEEE 802.3u 100Base-FX Fast Ethernet Fiber   |
|                                 | IEEE 802.3ab 1000Base-T Gigabit Ethernet Copper  |
|                                 | IEEE 802.3z Gigabit Ethernet Fiber   |
|                                 | IEEE 802.3x Flow Control and back-pressure   |
|                                 | IEEE 802.1AB Link Layer Discovery Protocol (LLDP)  |
|                                 | IEEE 802.1p Class of Service (CoS)   |
|                                 | IEEE 802.1Q VLAN   |
|                                 | IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP, backward compatible 802.1w)                                 |
|                                 | IEEE 802.3ad Link Aggregation Control Protocol (LACP)  |
|                                 | IEEE 802.1X Port based Network Access Protocol   |
|                                 | IEEE 802.3at Power Over Ethernet Plus(PoE+), backward compatible with 802.3af PoE                                |
| Performance                     |  |
| <b>Switch Technology</b>        | Store and Forward Technology with Non-Blocking Switch Fabric   |
| <b>Number of MAC Address</b>    | 4K   |
| <b>Packet Buffer Memory</b>     | 1.75M bits   |
| <b>Transfer performance</b>     | 10Base-T: 14,880pps, 100Base-TX/FX: 148,800pps, 1000Base-TX/FX: 1,488,100pps                                     |
| <b>VLAN</b>                     | 4095 VLANs   |
| <b>VLAN ID</b>                  | 1~4095   |
| <b>Traffic Prioritize</b>       | 8 Priority Queues per Port   |
| Interface                       |  |
| <b>Ethernet Port</b>            | 8 x 100/1000Base-T RJ45 Auto Negotiation, Auto MDI/MDIX, 802.3at/af PoE+ complaint<br>2 x 100/1000M SFP          |
| <b>System LED</b>               | DP410L-LV LED: 2 x Power, 1 x DO/ALM<br>DO: Red On<br>Power: Green On  |
| <b>Ethernet Port LED</b>        | Link (Green On), Activity (Green Blinking)<br>PoE power feeding: Amber on, PoE power not feeding: Off            |
| <b>SFP LED</b>                  | Port: Link (Green On), Activity (Green Blinking); 1000M: Speed 1000M (Amber On), Speed 100M (Off)                |
| <b>Reset</b>                    | System Reboot(2-6 Seconds)/Default Settings Reset(over 7 Seconds)  |
| <b>Console</b>                  | 1 x RS232 in RJ45 for System Configuration. Baud Rate: 115200.n.8.1,<br>DS410L Pin Define: 3: RxD, 4: TxD, 6:GND |
| <b>Digital Output</b>           | 1x Digital Output: Dry Relay Output with 0.5A /24V DC  |
| <b>Power Input</b>              | 4-Pin Removable Terminal Block Connector<br>4 Pins for Redundant Power   |
| Power Requirement               |  |
| <b>Input Voltage</b>            | DP410L-LV: Dual 24VDC Booster (12~57VDC to 54V PoE Output)   |
| <b>Reverse Polarity Protect</b> | Yes  |
| <b>Input Current</b>            | DP410L-LV: 6A@24VDC  |
| <b>Power Consumption</b>        | DP410L-LV: Max. 145W@24VDC full traffic with 120W PD loading, suggest to reserve 15% tolerance                   |
| PoE                             |  |
| <b>Power forwarding mode</b>    | Alternative A  |
| <b>PoE Power Budget</b>         | System: Max. 120W@24V~57VDC, Max.60W@12VDC<br>Per Port: Max. 30W   |
| <b>PoE Standard</b>             | IEEE 802.3af/at  |
| <b>Management</b>               | PoE Enable/Disable, System/Port Power Budget Control, PoE Status   |

| Software             |   |
|----------------------|---|
| Management Interface | WebGUI, Command Line Interface (CLI), Telnet, SNMP  |
| Network Management   | IPv4 management, SNMP v1/v2c/v3/Trap, MIBs, LLDP, DHCP client, TFTP, System Log, NTP  |
| Traffic Management   | Flow Control, Port Trunk/802.3ad LACP, VLAN, Private VLAN, Shared VLAN, Rate Limiters, Port Mirror, IGMP Snooping v2, Port classification, Port policing, Port scheduler, Port shaping, QoS control list, Storm policing, WRED, Port Security, ACL, Loop Protection |
| Security             | IEEE 802.1X/RADIUS, Management IP, Management VLAN, SSL   |
| Redundancy           | Rapid Spanning Tree Protocol/Spanning Tree Protocol (RSTP/STP)  |

| Mechanical         |  |
|--------------------|--|
| Installation       | DIN Rail                                       |
| Enclosure Material | Steel Metal                                    |
| Dimension          | 58x155x125 (W x H x D) / without DIN Rail Clip |
| Ingress Protection | IP31   |
| Weight             | ~985g without package                          |

| Environmental                    |                                     |
|----------------------------------|-------------------------------------|
| Operating Temperature & Humidity | -40°C~70°C , 0%~95% Non- Condensing |
| Storage Temperature              | -40°C~85°C                          |
| MTBF                             | >200,000 hours                      |
| Warranty                         | 5 years                             |

| Standard |   |
|----------|---|
| CE       | EN IEC 61000-6-2 Immunity standard for Industrial Environment<br>EN IEC 61000-6-4 Emission standard for Industrial Environment,<br>EN61000-4-2 ESD, EN61000-4-3 RS, EN61000-4-4 EFT, EN61000-4-5, EN61000-4-6 CS,<br>EN61000-4-8 Magnetic Field |
| FCC      | FCC part 15B Class A  |
| Safety   | IEC62368-1/IEC60950-1   |



## Ordering Information

| Model Name | Description   |
|------------|---|
| DP410L-LV  | Industrial 10-port Full Gigabit L2 Managed PoE Switch, 2GSFP+8GT PoE+ |
|            | <b>Package List</b>   |
|            | 1 x Product Unit (Without SFP Transceiver)                            |
|            | 2 x 4-pin Removable Terminal Block Connector                          |
|            | 1 x Attached Din Clip   |
|            | 1 x Quick Installation Guide  |



## DP410L/DS410L Family

|                 | 10/100/1000 Base-T | Combo (GT/SFP) | 100/1000 Base-X   | 802.3at PoE+ | WAN | Console/USB | DI/DO | Power Input  | Software | Redundancy | Temp.      |
|-----------------|--------------------|----------------|-------------------|--------------|-----|-------------|-------|--------------|----------|------------|------------|
| DP410L-LV       | 8                  | -              | 2                 | 8            | -   | 1/0         | 0/1   | 24V (12~57V) | L2+      | STP/RSTP   | -40~70°C   |
| DS410L          | 8                  | -              | 2                 | -            | -   | 1/0         | 0/1   | 12~48V       | L2+      | STP/RSTP   | -40°C~75°C |
| DS410L-MM/SS-SC | 8                  | -              | 2x 1000-X SC Type | -            | -   | 1/0         | 0/1   | 12~48V       | L2+      | STP/RSTP   | -40°C~75°C |
| DS410F          | 2                  | 2              | 6                 | -            | -   | 1/0         | 0/1   | 12~48V       | L2+      | STP/RSTP   | -40°C~75°C |



## Optional Accessory

| Item                   |  |
|------------------------|--|
| <b>MK-D1-2</b>         | Wall-mounting kit with 2 plates and 8 screws                           |
| <b>CBL-RJ45F9-1.5M</b> | Serial RS232 console cable RJ45 to DB9 Female 1.5Meter                 |
| <b>PSD40-24</b>        | 40W/24VDC DIN-rail power supply  |
| <b>SFPGEM05</b>        | SFP, 1000Mbps, LC, multi, 550M, 0~70°C                                 |
| <b>SFPGEM05T</b>       | SFP, 1000Mbps, LC, multi, 550M, -40~85°C                               |
| <b>SFPGEM05D</b>       | SFP, 1000Mbps, LC, multi, DDM, 550M, 0~70°C                            |
| <b>SFPGEM05DT</b>      | SFP, 1000Mbps, LC, multi, DDM, 550M, -40~85°C                          |
| <b>SFPGEM2</b>         | SFP, 1000Mbps, LC, multi, 2KM, 0~70°C                                  |
| <b>SFPGEM2T</b>        | SFP, 1000Mbps, LC, multi, 2KM, -40~85°C                                |
| <b>SFPGEM2D</b>        | SFP, 1000Mbps, LC, multi, DDM, 2KM, 0~70°C                             |
| <b>SFPGEM2DT</b>       | SFP, 1000Mbps, LC, multi, DDM, 2KM, -40~85°C                           |
| <b>SFPGES10</b>        | SFP, 1000Mbps, LC, single, 10KM, 0~70°C                                |
| <b>SFPGES10T</b>       | SFP, 1000Mbps, LC, single, 10KM, -40~85°C                              |
| <b>SFPGES10D</b>       | SFP, 1000Mbps, LC, single, DDM, 10KM, 0~70°C                           |
| <b>SFPGES30</b>        | SFP, 1000Mbps, LC, single, 30KM, 0~70°C                                |
| <b>SFPGES30T</b>       | SFP, 1000Mbps, LC, single, 30KM, -40~85°C                              |
| <b>SFPGES30D</b>       | SFP, 1000Mbps, LC, single, DDM, 30KM, 0~70°C                           |
| <b>SFPGES10-A</b>      | SFP, 1000Mbps, LC, single, 10KM, BiDi TX-1310nm RX-1550nm, 0~70°C      |
| <b>SFPGES10-B</b>      | SFP, 1000Mbps, LC, single, 10KM, BiDi TX-1550nm RX-1310nm, 0~70°C      |
| <b>SFPGES10T-A</b>     | SFP, 1000Mbps, LC, single, 10KM, BiDi TX-1310nm RX-1550nm, -40~85°C    |
| <b>SFPGES10T-B</b>     | SFP, 1000Mbps, LC, single, 10KM, BiDi TX-1550nm RX-1310nm, -40~85°C    |
| <b>SFPGES10D-A</b>     | SFP, 1000Mbps, LC, single, DDM, 10KM, BiDi TX-1310nm RX-1550nm, 0~70°C |
| <b>SFPGES10D-B</b>     | SFP, 1000Mbps, LC, single, DDM, 10KM, BiDi TX-1550nm RX-1310nm, 0~70°C |