

PoE for Managed IP Surveillance

DP310

Industrial 8+2G L2 Managed PoE Switch

DP310 is an industrial 10-port L2 Managed PoE switch that provides 8-port Fast Ethernet, IEEE 802.3af/at compliant PoE to enable devices when power sources are not available. The switch is equipped with additional 2-port RJ45/SFP combo Gigabit Ethernet uplink, prioritized stream such as video and VoIP are also optimized.

For the best traffic control, management side features LACP, VLAN, QinQ, IGMP snooping, QoS, and ITU-T G.8032 v1/v2 ERPS redundancy.



Features & Benefits

High Throughput Ethernet Switching

- 10-port Ethernet, including 8-port Fast Ethernet PoE and 2-port **RJ45/SFP Combo**
- Combo ports provide high flexibility for selecting cable types and distances
- DDM function for high quality fiber connectivity monitoring
- **8K** MAC address table
- Stores and Forwards with non-blocking Switch Fabric

ITU-T G.8032 v1/v2 ERPS Ring Redundancy

- An ITU standard Ring redundancy Protocol
- Provides sub-50ms protection and recovery switching for Ethernet traffic
- Interoperates with 3rd party industrial switch and still remains fast recovery time
- Interoperates with commercial switch instead of STP/RSTP
- Efficient network interconnection and topology with ERPS Chain, multiple chains

Extreme PoE Capability

- 8-port IEEE 802.3af/at compliant PoE, up to 30W/port
- Up to **240W** PoE power budget
- PoE management including per-port Power Budget Control, PoE Scheduling, PD Alive Check and PoE Status

IEC62443-4-2 Level 3 / 4 Cyber Security

- 802.1Q VLAN, Private VLAN
- Multi-Level* user passwords
- HTTPS/SSH/SFTP*, 256-bit encryption
- 802.1X MAB for non-802.1X compliant end devices
- RADIUS/TACACS+* centralized password authentication

Industrial IoT LAN & Cloud Management

- Various configuration paths, including CGI WebGUI, CLI, SNMP and RMON
- Support WoMaster Software Utilities: NetMaster Network Management System, ViewMaster for Configuration Management, ThingMaster*, ThingMaster OTA* for Remote Management on Cloud*
- Support MQTT* protocol, ready to use AWS/Azure, Private Cloud Agent* for cloud management
- LLDP for topology control, auto-topology drawing
- USB for easy field configuration and firmware update

Rugged Design for IP Surveillance with High PoE Power Budget

- 240W ultra high PoE budget and excellent power efficiency even in 75°C operating temperature
- Effective heat dissipation design for operating in -40~75°C environments
- IEC 61000-6-2/4 Heavy Industrial Environment
- EN50121-4 railway trackside EMC



Interfaces

Integrated Power Connector

- 1 x 8-pin terminal block
- 4 pin for redundant power input
- 2 pin DI
- 2 pin DO
- Easy installation

System LED

- 2 x Power
- 1 x System Status
- 1 x DO
- 1 x DI
- 1 x Ring Status
- 8 x Ethernet Port
- 8 x PoE
- 2 x SFP Port
- 2 x SFP 1000M

Easy System Management

- USB for Configuration/Firmware update
- RS232 console

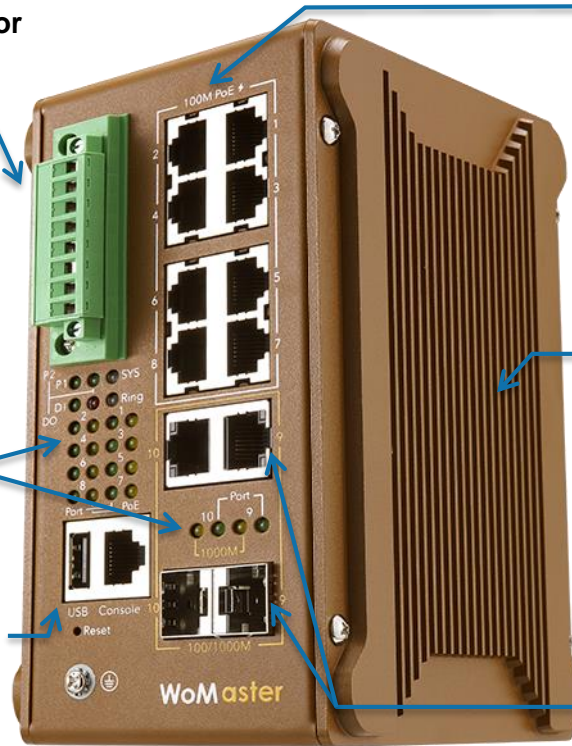
IEEE 802.3 af/at PoE

- 8-port 10/100MBase-TX

DIN Clip

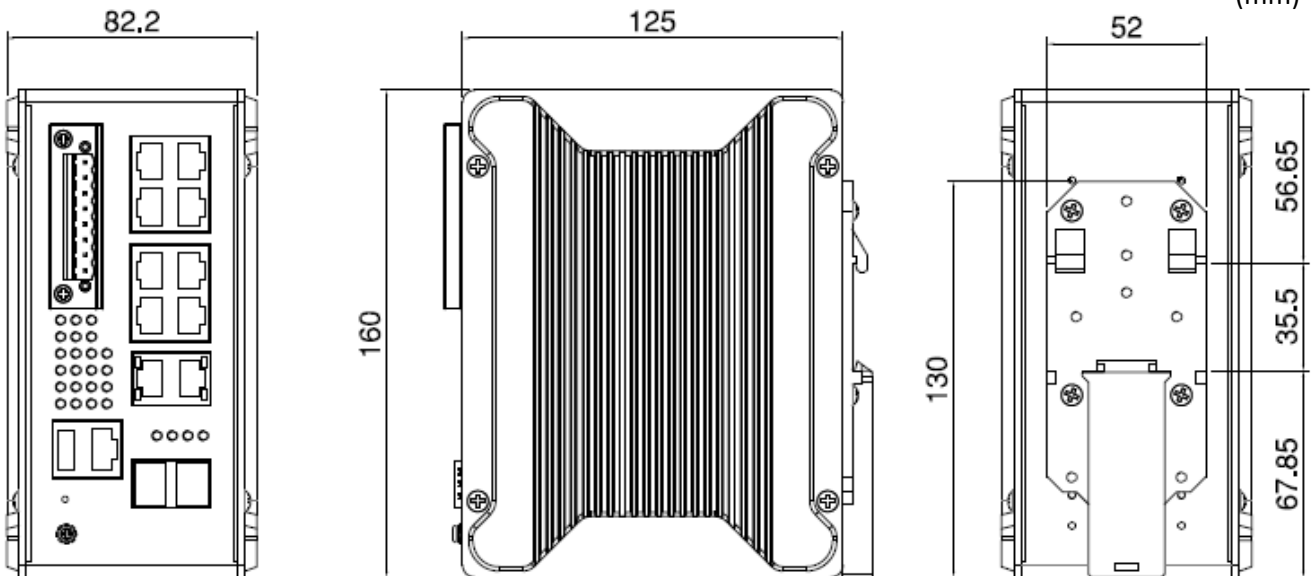
Dual Gigabit Uplink

- 2-port 100/1000M RJ45/SFP combo



Dimensions

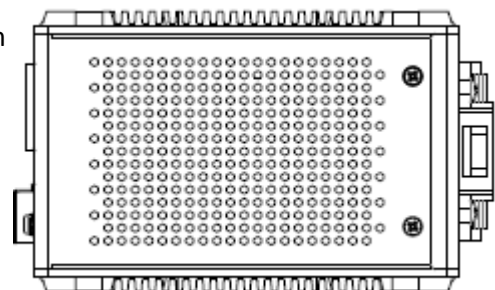
(mm)



Top



Bottom



Technology	
Standard	IEEE 802.3af/at Power over Ethernet
	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 802.1p Class of Service (CoS)
	IEEE 802.1Q VLAN and GVRP
	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP)
	IEEE 802.1Q-2005 Multiple Spanning Tree Protocol (MSTP)
	IEEE 802.3ad Link Aggregation Control Protocol (LACP)
	IEEE 802.1x Port based Network Access Protocol
	IEEE 1588 Precision Time Protocol v2
ITU-T G.8032 version 2 Ethernet ring protection switching(ERPSv2)	
Performance & Scalability	
Switch Technology	Store and Forward Technology with 5.6Gbps Non-Blocking Switch Fabric Internal Packet Buffer: 1Mb Forwarding rate: 10Base-T: 14,880pps, 100Base-TX/FX: 148,800pps, 1000Base-TX/FX: 1,488,100pps
Number of MAC Address	8K
VLAN	256 VLANs, VLAN ID 1~4094
IGMP Groups	256
Traffic Prioritize	4 Priority Queues per Port
Interface	
Ethernet Port	8 x 10/100BaseTX RJ45, Auto Negotiation 2 x 100/1000M RJ45/SFP Combo, Auto Negotiation, SFP DDM
System LED	2 x Power: Green On 1 x System Status: Ready: (Green On), Firmware Updating: (Green Blinking) 1 x DI : Green On 1 x DO: Red On 1 x Ring: Off: Ring disabled, Green On: Ring normal (Not RPL Owner), Green Blinking: Ring normal (RPL Owner), Amber On: Ring abnormal, Amber Blinking: Ring port fail 8 x PoE status: Amber On
Ethernet Port LED	Port: Link (Green On), Activity (Green Blinking) 1000M: Speed 1000M (Amber On), Speed 100M (Off)
Giga SFP LED	Port: Link (Green On), Activity (Green Blinking) 1000M: Speed 1000M (Amber On), Speed 100M (Off)
Reset	System Reboot(2-6 Seconds)/Default Settings Reset(over 7 Seconds)
Console	1 x RJ45 based RS232 for System Configuration. Baud Rate: 115200.n.8.1
USB	1 x USB for Configuration/Firmware Update
Watchdog	Hardware-based 10 seconds timer

Power Input, Digital Input, Digital Output	8-Pin Removable Terminal Block Connector 4 Pins for Redundant Power 4 Pins for DI, DO (Relay Alarm) Digital Output: Dry Relay Output with 0.5A /24V DC Digital Input with Photo-Coupler Isolation Digital High: DC 11V~30V Digital Low: DC 0V~10V
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Power Requirement

Input Voltage	48V(46~57VDC for 802.3af, 50~57VDC for 802.3at)
Reverse Polarity Protect	Yes
Input Current	4.63A@54V
Power Consumption	Max 9.18W @54VDC full traffic without PD loading, suggest to reserve 15% tolerance

PoE

Power forwarding mode	Alternative A
PoE Power Budget	System: Max. 240W @75°C Per Port: Max. 30W
PoE Standard	IEEE 802.3af/at
Management	System/Port Power Budget Control, PD Alive Check, PoE Scheduling, PoE Status

Software

Management	CGI WebGUI, Command Line Interface (CLI), IPv4/IPv6(RFC2460), Telnet, SNMP v1/v2c/v3, SNMP Trap/Informs*, RMON, LLDP, DHCP server/client/Option 82, TFTP, System Log, SMTP
Traffic Management	Flow Control, Rate Control, Port Mirror, CoS, QoS, RFC 2474 DiffServ
Filter	IGMP Snooping v1/v2/v3, IGMP Snooping Fast-Leave/Immediate-Leave, IGMP Query, GMRP, IEEE802.1Q VLAN, QinQ, GVRP, Private VLAN
Security	IEEE 802.1X/RADIUS, Port MAC Secure Learning, TLS v1.2, HTTPs/SSH
Advanced Security	TACACS+*, Mutli-user authentication*, IEEE802.1x MAB, SFTP*
Redundancy	ERPSv2, STP/RSTP/MSTP, Loop Protection, Port Trunk/802.3ad LACP
Time Management	NTP, IEEE 1588 Precision Time Protocol v2
IIoT Industrial Protocol	Modbus TCP, EtherNet/IP*, MQTT*, RESTful API*
Private Cloud	ThingsMaster*, ThingMaster OTA*
Public Cloud	AWS Agent*, Azure Agent*
Utility	ViewMaster, NetMaster
MIB	ERPS MIB, MIB-II, Ethernet-like MIB*, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RMON MIB Group 1, 2, 3, 9*, WoMaster Private MIB

Mechanical	
Installation	DIN Rail
Enclosure Material	Steel Metal with Aluminum
Dimension	82.2 x 160 x 125 (W x H x D) mm / without DIN Rail Clip
Ingress Protection	IP31
Weight	1.4KG (device) / 1.8KG (full package)
Package	240(W)x200(L)x130(H)mm (package) 16pcs / carton 410(W)x 550(L)x490(H)mm (1.5KG)
Environmental	
Operating Temperature & Humidity	-40°C~75°C , 0%~95% Non- Condensing
Storage Temperature	-40°C~85°C
Hi-Pot Insulation	AC1.5KV
MTBF	>200,000 hours
Warranty	5 years
Standard	
Safety	EN60950-1 Compliance
EMC	EN61000-6-2/EN61000-6-4
EMI	CISPR 22, FCC part 15B Class A
EMS	EN61000-4-2 ESD: 8KV(Air), 6KV(Contact) EN61000-4-3 RS: 20V/m(80M~1GHz), 10V/m(1.4G~2.1GHz), 5V/m(2.1G~2.5GHz) EN61000-4-4 EFT: 2KV (Power, Signal Port, GND) EN61000-4-5 Surge: Power: 2KV/1KV(Line to Ground/Line to Line), Signal Port: 2KV(Line to Ground) EN61000-4-6 CS: 10Vrms(Power, Signal Port) EN61000-4-8 Magnetic Field: 30A/m continues /300A for 1~3s
Railway	EN50121-4



Ordering Information

Model Name	Description
DP310	Industrial 8+2G L2 Managed PoE Switch
	Package List
	1 x Product Unit (Without SFP transceiver)
	1 x 8-pin Removable Terminal Connector
	1 x Attached Din Clip
	1 x Quick Installation Guide



Optional Accessory

Item	
MK-D1-2	Wall-mounting kit with 2 plates and 8 screws
CBL-RJ45F9-1.5M	Serial RS232 console cable RJ45 to DB9 Female 1.5Meter
PSD480-48	480W/48VDC DIN-rail power supply
SFPGEM05	SFP, 1000Mbps, LC, multi, 550M, 0~70°C
SFPGEM05T	SFP, 1000Mbps, LC, multi, 550M, -40~85°C
SFPGEM05D	SFP, 1000Mbps, LC, multi, DDM, 550M, 0~70°C
SFPGEM05DT	SFP, 1000Mbps, LC, multi, DDM, 550M, -40~85°C
SFPGEM2	SFP, 1000Mbps, LC, multi, 2KM, 0~70°C
SFPGEM2T	SFP, 1000Mbps, LC, multi, 2KM, -40~85°C
SFPGEM2D	SFP, 1000Mbps, LC, multi, DDM, 2KM, 0~70°C
SFPGEM2DT	SFP, 1000Mbps, LC, multi, DDM, 2KM, -40~85°C
SFPGES10	SFP, 1000Mbps, LC, single, 10KM, 0~70°C
SFPGES10T	SFP, 1000Mbps, LC, single, 10KM, -40~85°C
SFPGES10D	SFP, 1000Mbps, LC, single, DDM, 10KM, 0~70°C
SFPGES30	SFP, 1000Mbps, LC, single, 30KM, 0~70°C
SFPGES30T	SFP, 1000Mbps, LC, single, 30KM, -40~85°C
SFPGES30D	SFP, 1000Mbps, LC, single, DDM, 30KM, 0~70°C
SFPXGM03D	SFP+, 10Gbps, LC, multi, DDM, 300M, 0~70°C
SFPXGS10D	SFP+, 10Gbps, LC, single, DDM, 10KM, 0~70°C
SFPGES10-A	SFP, 1000Mbps, LC, single, 10KM, BiDi TX-1310nm RX-1550nm, 0~70°C
SFPGES10-B	SFP, 1000Mbps, LC, single, 10KM, BiDi TX-1550nm RX-1310nm, 0~70°C
SFPGES10T-A	SFP, 1000Mbps, LC, single, 10KM, BiDi TX-1310nm RX-1550nm, -40~85°C
SFPGES10T-B	SFP, 1000Mbps, LC, single, 10KM, BiDi TX-1550nm RX-1310nm, -40~85°C
SFPGES10D-A	SFP, 1000Mbps, LC, single, DDM, 10KM, BiDi TX-1310nm RX-1550nm, 0~70°C
SFPGES10D-B	SFP, 1000Mbps, LC, single, DDM, 10KM, BiDi TX-1550nm RX-1310nm, 0~70°C
SFPGES10DT-A	SFP, 1000Mbps, LC, single, DDM, 10KM, BiDi TX-1310nm RX-1550nm, -40~85°C
SFPGES10DT-B	SFP, 1000Mbps, LC, single, DDM, 10KM, BiDi TX-1550nm RX-1310nm, -40~85°C