Rugged Switch with High Resilience

DS410F/DS410 Series

Industrial 10-port Full Gigabit L2 Managed Fiber/Ethernet Switch

DS410F/DS410 series is designed for industrial environments requiring high quality fiber communication such as industrial automation, road traffic control, etc. DS410F provides 10-port **full-gigabit** Ethernet including 6-port SFP, 2-port SFP/RJ45 combo and 2-port RJ45 (up to 8-port SFP); while DS410 provides 6-port RJ45, 2-port SFP/RJ45 combo and 2-port SFP for multi-port Giga copper requirement. Full Gigabit capability and rugged industrial design ensures system high performance and reliability in harsh environments. For convenient traffic control and zero packet loss data transmission, DS410F/DS410 offer contemporary management and security functions.

FC CE IEC61000-6-2 / IEC61000-6-4 -40~75°C **NetMaster ViewMaster**

Features & Benefits

Full Gigabit Switching and Ultra High Throughput
- DS410F: 10-port Full Gigabit Ethernet, including 2 Gigabit RJ45, 2 100/1000M RJ45/SFP Combo and 6 100/1000M SFP ports
- DS410: 10-port Full Gigabit Ethernet, including 2 100/1000M SFP, 2 100/1000M RJ45/SFP Combo and 6 Gigabit 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 protocol…etc.
- Traffic management: Port classification, Port policing, Port scheduler, Port shaping, QoS control list, WRED, Port Security
- LLDP topology control

Enhanced Cyber Security for Critical Applications
- **802.1X/RADIUS** port-based access control
- IP Security/Port Security
- HTTPs/ Management IP secure access

Rugged Design for Wayside Network Switching with Wide Power Input Range
- **NEMA-TS2** compliance for wayside traffic control assemblies
- **10~60V** wide power range design with redundant power input
- Excellent heat dissipation design for operating in **-40~75ºC** environments
- High level **EMC protection** exceeding traffic control and heavy industrial standards' requirements
- IEC 61000-6-2/4 Heavy Industrial Environment
- EN50121-4 railway trackside EMC compliance

Interfaces

System LED
- 1 x DI
- 1 x DO
- 1 x Ring status
- 2 x Power
- 1 x System Status

DS410: 6G+2GC+2GF
- 4-port 10/100/1000M RJ45
- 2-port 100/1000M SFP

DS410F: 6GF+2GC+2G
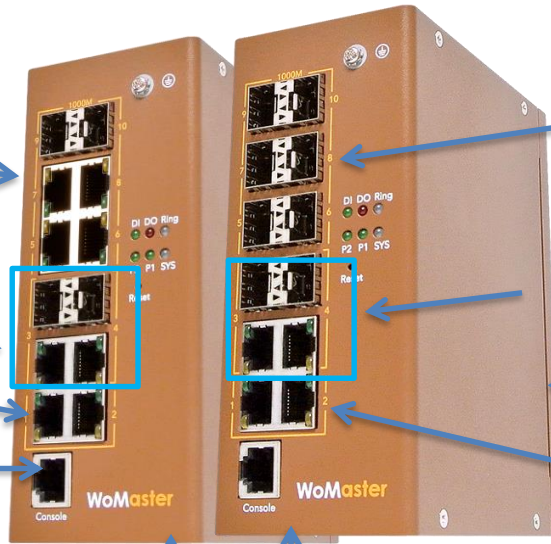- 6-port 100/1000M SFP

2-port 100/1000M
SFP/RJ45 Combo

2-port 100/1000M
SFP/RJ45 Combo

2-port 10/100/1000M RJ45

DIN Clip

**RS232 System
Management Console**

2-port 10/100/1000M RJ45

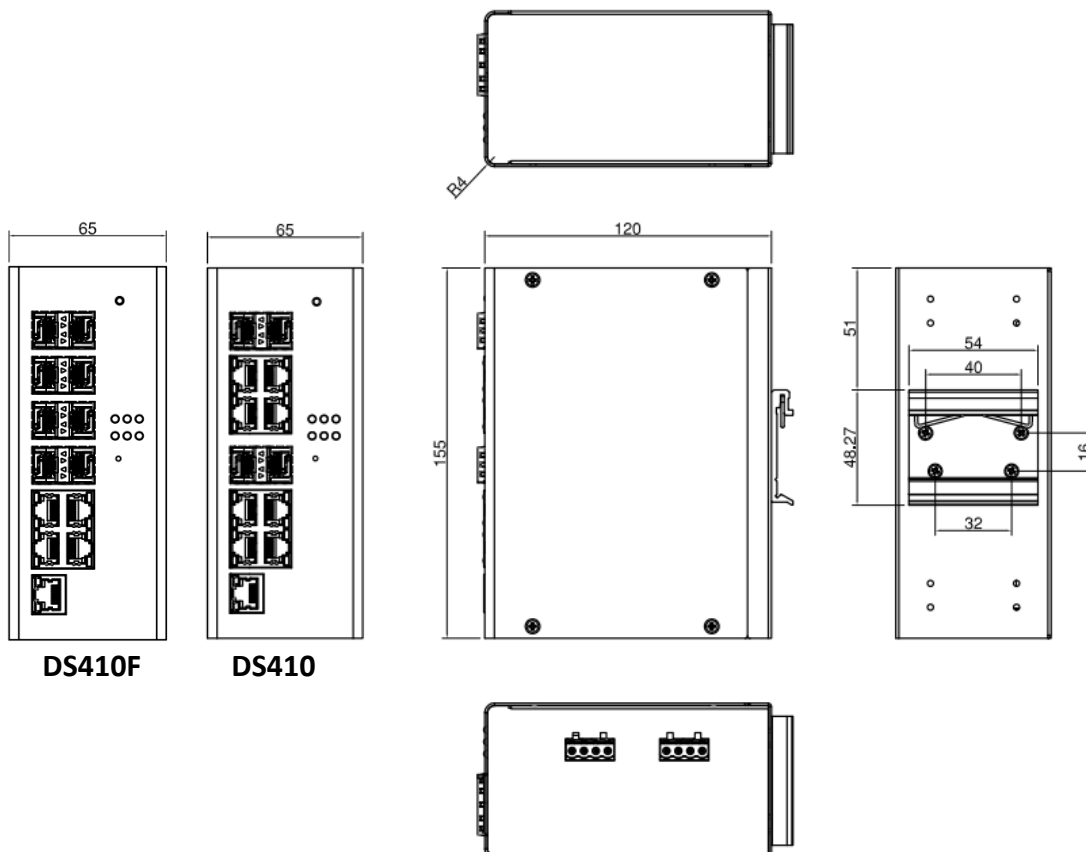**Integrated DI/DO Connector**
- 1 x 4-pin terminal block
  2-pin for DI
  2-pin for DO

**Integrated Power
Connector**
- 1 x 4-pin terminal block for
  redundant power input

Dimensions

DS410F   **DS410**

⚙️ Specifications

Technology	
Standard	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)
	IEEE 802.3ad Link Aggregation Control Protocol (LACP)
	IEEE 802.1X Port based Network Access Protocol

Performance	
Switch Technology	Store and Forward Technology with Non-Blocking Switch Fabric
Number of MAC Address	4K
Packet Buffer Memory	1.75M bits
Transfer performance	10Base-T: 14,880pps, 100Base-TX/FX: 148,800pps, 1000Base-TX/FX: 1,488,100pps
VLAN	4095 VLANs
VLAN ID	1~4095
Traffic Prioritize	8 Priority Queues per Port

Interface	
Ethernet Port	**DS410F:** 2 x 10/100/1000Base-T RJ45, Auto Negotiation, Auto MDI/MDIX 2 x 100/1000M RJ45/SFP Combo, Auto Negotiation, Auto MDI/MDIX 6 x 100/1000M SFP **DS410:** 2 x 100/1000M SFP 2 x 100/1000M RJ45/SFP Combo, Auto Negotiation, Auto MDI/MDIX 6 x 100/1000Base-T RJ45 Auto Negotiation, Auto MDI/MDIX
System LED	1 x DI : Green On 1 x DO: Red On 1 x Ring: Reserved 2 x Power: Green On 1 x SYS: Ready: Green On, Firmware Updating: Green Blinking
Ethernet Port LED	Link (Green On), Activity (Green Blinking), Speed 1000M(Amber On), Speed 100M (Off)
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 RS232 in RJ45 for System Configuration. Baud Rate: 115200.n.8.1, Pin Define: 3: TxD, 6:RxD, 5:GND

Digital Input, Digital Output	4-Pin Removable Terminal Block Connector
	 2-Pins for DI
	 2-Pins for DO (Relay Alarm)
	1x Digital Output: Dry Relay Output with 0.5A /24V DC
	1x Digital Input with Photo-Coupler Isolation
	  Digital High: DC 11V~30V
	  Digital Low: DC 0V~10V

Power Input	4-Pin Removable Terminal Block Connector 4 Pins for Redundant Power

Power Requirement	
Input Voltage	24VDC (10~60VDC)
Reverse Polarity Protect	Yes
Input Current	0.38A@24V
Power Consumption	Max 9.12W@24VDC full traffic, suggest to reserve 15% tolerance

Software

Management Interface	WebGUI, Command Line Interface (CLI), SNMP
Network Management	IPv4, SNMP v1/v2c/v3/Trap, MIBs, LLDP, DHCP client, TFTP, System Log,
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 (RSTP)

Mechanical

Installation	DIN Rail
Enclosure Material	Steel Metal with Aluminum
Dimension	65x155x120 (W x H x D) / without DIN Rail Clip
Ingress Protection	IP31
Weight	~985g without package

Environmental

Operating Temperature & Humidity	-40°C~75°C , 0%~95% Non- Condensing
Storage Temperature	-40°C~85°C
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, EN61000-4-3 RS, EN61000-4-4 EFT, EN61000-4-5, EN61000-4-6 CS, EN61000-4-8 Magnetic Field
Railway	EN50121-4 Compliance

Ordering Information

Model Name	Description
DS410F	Industrial 10-port Full Gigabit L2 Managed Fiber Switch, 6GSFP+2G+2GC
DS410*	Industrial 10-port Full Gigabit L2 Managed Ethernet Switch, 2GSFP+6G+2GC

Package List
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

*Production by Request

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
PSD40-24	40W/24VDC 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
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