10-Port Full Giga Rugged Managed Switch

DS410L Series

Industrial 10-port Full Gigabit L2 Managed Ethernet Switch

The 10-port Full Giga DS410L switch is designed for industrial applications requiring high-speed and secure fiber communications such as industrial automation, road traffic control, etc. Full Layer 2 managed features are supported such as VLAN, QoS, IGMP Snooping, LACP/Trunk, as well as standard network redundancy protocol Rapid Spanning Tree (RSTP) or enhanced RSTP for large ring network topology with up to 80 switches. The traffic management features include port classification, port policing, port scheduler, port shaping, and QoS control list. Radius and port security further strengthen cybersecurity protection. The industrial rugged design and user-friendly NetMaster NMS makes DS410L a great value for money in various industrial solutions.

eRSTP   **NetMaster**   FC   CE   IEC61000-6-2 IEC61000-6-4

Features & Benefits

Full Gigabit Switching and Ultra-High Throughput
- DS410L: 10-port Full Gigabit Ethernet, including 2 100/1000M SFP and 8 Gigabit RJ45
- DS410L-SS/MM-SC support 2 1000Base-X Single/Multi-mode SC Connector
- High flexibility of cable types and distances for system integrators
- Fiber ports support both 100M and 1000M SFP, or SC connectors
- 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…etc.
- Rapid Spanning Tree for Redundancy
- Enhanced RSTP for large ring network topology with up to 80 switches.
- 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
- Management VLAN separate the control and data vlan

Rugged Design for Wayside Network Switching with Wide Power Input Range
- **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
- EN61000-6-2/4 Heavy Industrial Environment

NetMaster

Network Discovery and Visualization

- Automatic discovery and intuitive visualization of network devices, wireless devices, physical link and network topology
- Real-time status of device availability and traffic performance for physical links
- Server-client operation to ensure network system reliability especially in large scale networks
- High scalability for up to 2000 network nodes by license upgrade
- Free download and permanently valid for 20 nodes trial
- VLAN view for VLAN network in topology

Configuration & Fault Management

- Centrally manage configurations and firmware versions
- Group IP Address assignment
- Group ERPS ring configuration & assignment
- MIB compiler and MIB browser for private MIBs and MIBs of 3rd party device
- Fault Alert and event logs including source IP filter, network error, login record and warning
- SNMP Trap receiver for all or specific IP addresses
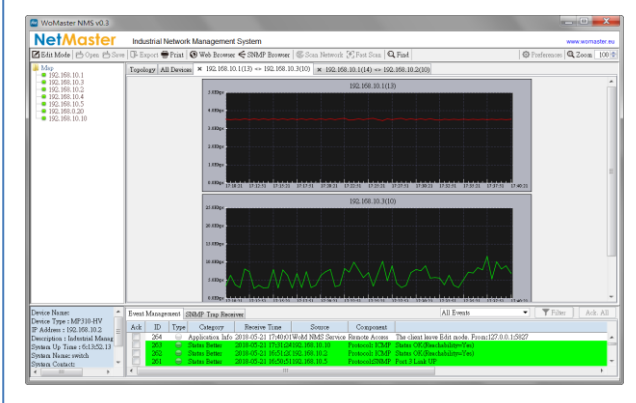- Multi-language support including English, Chinese & Russian

Automatic Discover and Intuitive Visualization of Network Devices and Topology
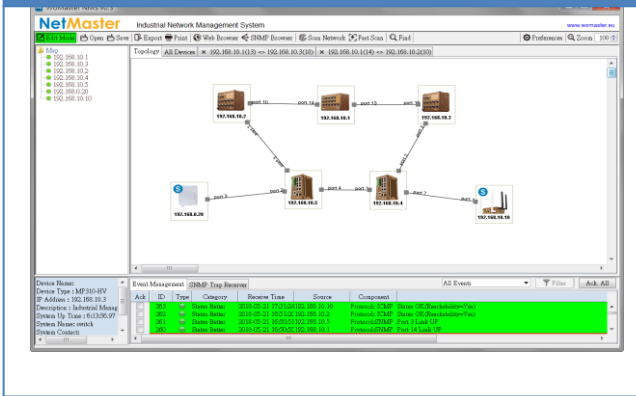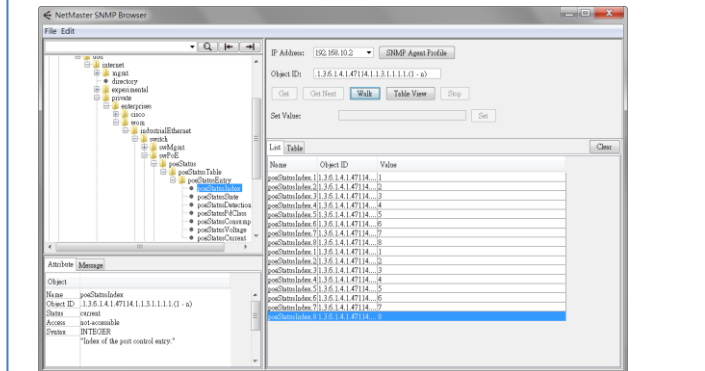

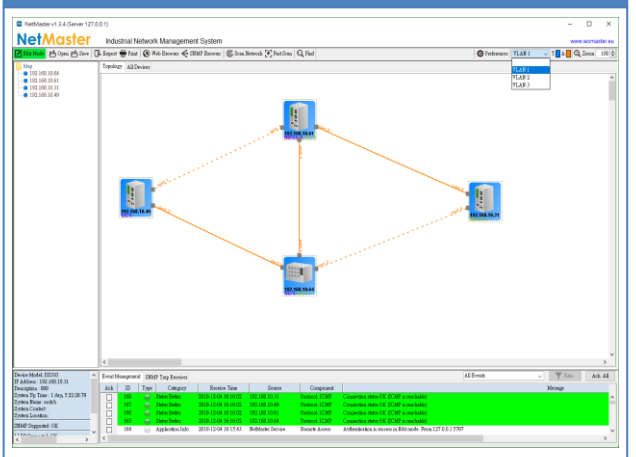### IP Device Lists, Device Information, Fault Alert and Event Logs
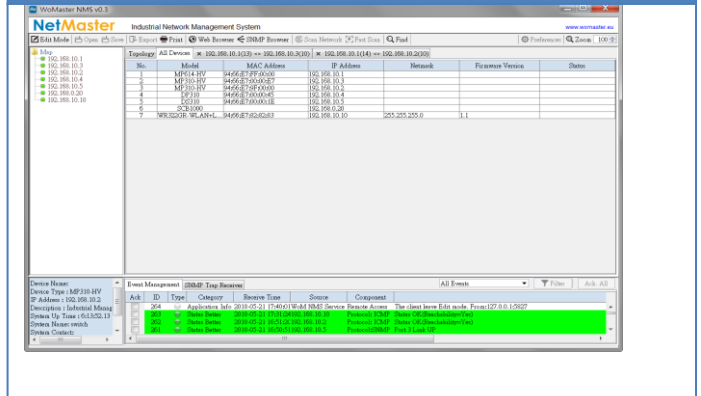
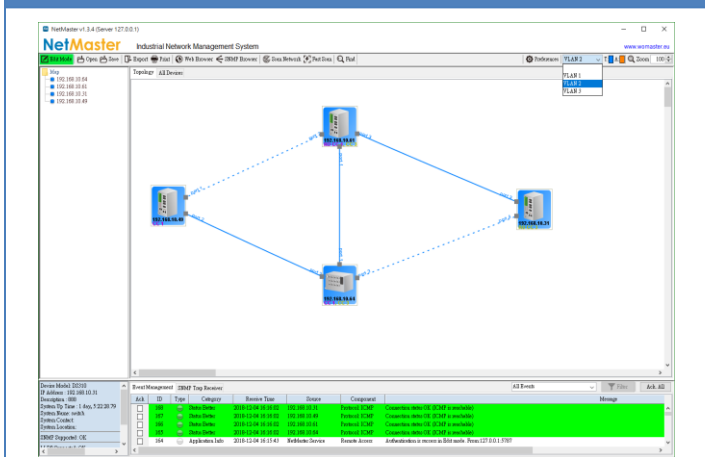### Physical Link Path Status and Monitoring

MIB Browser and Compiler for 3rd Party Device Management

Devices, ports, and links with the VLAN ID will be colored-coded

Device in Blue, trunk port/access port in Blue/Orange, link in Blue/Orange/Grey for trunk/access/mixed link

Interfaces

System LED
· 2 x Power
· 1 x ALM/DO
DS410L-MM/SS-SC:
· P9/P10 Fiber LED
· SYS

10-port Full Gigabit Ethernet
· 8-port 10/100/1000M RJ45
· 2-port 100/1000M SFP or 1000Base-X SS/MM SC

DIN Clip

RS232 System Management Console
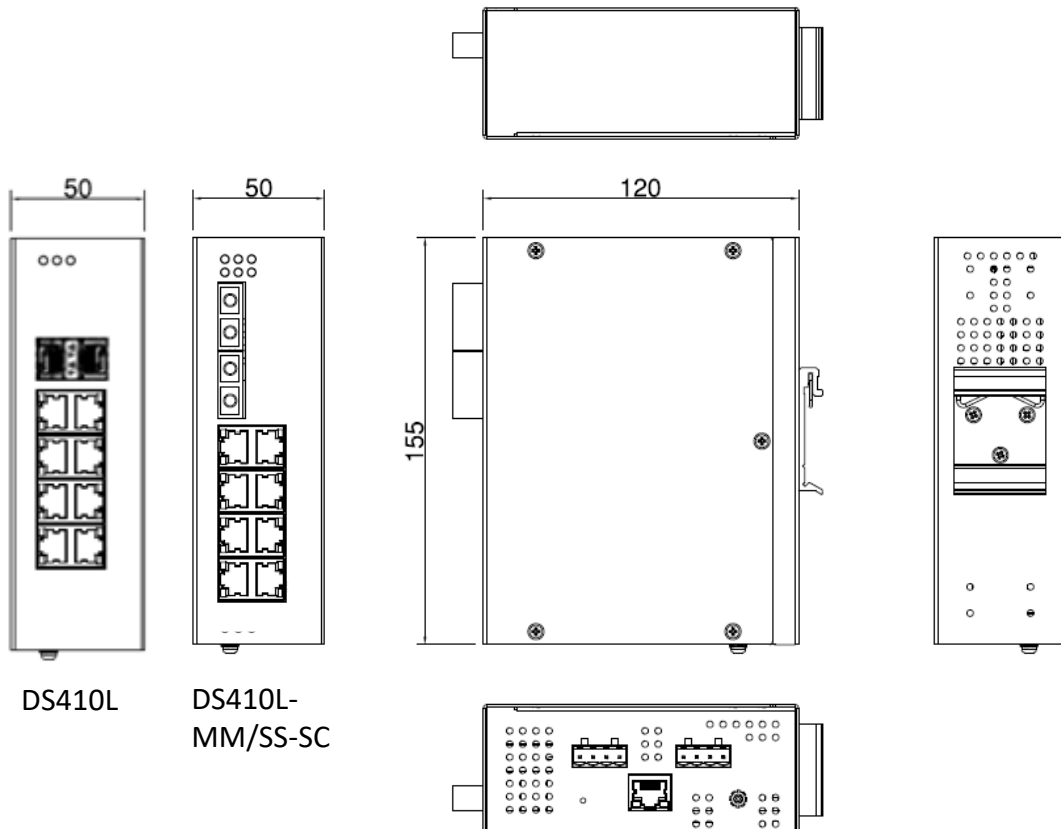
Integrated DI/DO Connector
· 1 x 4-pin terminal block
  2-pin for DI
  2-pin for DO

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

Dimensions

DS410L

DS410L-MM/SS-SC

50   50   120   155

⚙ 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	8 x 10/100/1000Base-T RJ45 Auto-Negotiation, Auto MDI/MDIX 2 x 100/1000M SFP(DS410L) or 2x 1000M SC connectors (DS410L-MM/SS-SC) **DS410L-MM-SC-2:** Multi-mode SC Type, Typical Wave: 1310nm (1260~1360nm), 2KM **DS410L-SS-SC-40**: Single-mode SC Type, Typical Wave: 1310nm (1260~1360nm), 40KM
System LED	DS410L LED: 2 x Power, 1 x DO/ALM DS410L-MM/SS-SC: 2x Power, 1xDO/ALM, 2x Port 9/10 Fiber, 1x SYS DO: On (Red) P1/P2 Power: On (Green) SYS: Ready (Green On), Firmware Upgrading (Green Blinking)
Ethernet Port LED	Link (Green On), Activity (Green Blinking), Speed 1000M(Amber On), Speed 100M (Off)
SFP/SC Fiber LED	DS410L SFP LED: Port: Link (Green On), Activity (Green Blinking); 1000M: Speed 1000M (Amber On), Speed 100M (Off) DS410L-MM/SS-SC Fiber LED: Link (Green On), Activity (Green Blinking)
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, DS410L Pin Define: 3: RxD, 4: TxD, 6: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 (*Software by request) 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, Telnet
Network Management	IPv4 management, SNMP v1/v2c/v3/Trap, MIBs, LLDP, DHCP client, TFTP, System Log, RMON, NTP
Traffic Management	Flow Control, Port Trunk/802.3ad LACP, IEEE 802.1Q VLAN, IEEE802.1AD (QinQ), 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), Enhanced RSTP
Mechanical	
Installation	DIN-Rail
Enclosure Material	Steel Metal
Dimension	50x155x120 (W x H x D) / without DIN Rail Clip
Ingress Protection	IP31
Weight	~1.15Kg with 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	
EMC	EN61000-6-2/EN61000-6-4 EN61000-4-2 ESD, EN61000-4-3 RS, EN61000-4-4 EFT, EN61000-4-5, EN61000-4-6 CS, EN61000-4-8 Magnetic Field
EMI	CISPR 22, FCC part 15B Class A

Ordering Information

Model Name	Description
DS410L	Industrial 10-port Full Gigabit L2 Managed Ethernet Switch, 2GSFP+8GT
DS410L-MM-SC-2	Industrial 8G+2GF(SC Multi-mode) L2 Managed Ethernet Switch, multi-mode 1310nm, 2KM, SC
DS410L-SS-SC-40	Industrial 8G+2GF(SC Single-mode) L2 Managed Ethernet Switch, Single-mode 1310nm, 40km, SC
	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
	*Other type SC Connector by Request

DS410L/410F 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.
DS410L	8	-	2	-	-	1/0	1/1	12~48V	L2+	STP/RSTP	-40°C~75°C
DS410L-MM/SS-SC	8	-	2x 1000-X	-	-	1/0	1/1	12~48V	L2+	STP/RSTP	-40°C~75°C
DS410f	2	2	6	-	-	1/0	1/1	12~48V	L2+	STP/RSTP	-40°C~75°C

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