DVS-G116 Series

Managed Industrial 12-Port GbE + 4-Port 100/1000Base-SFP Ethernet Switches

UL61010 -40~75°C EMC LEVEL 4 FANLESS

Rugged ETHERNET

- IPv6 address suitable for larger network and neighbor discovery
- Automatic IP assignment by DHCP/BootP server for easy network construction
- DHCP relay option 82 for sending DHCP requests with clients' identities to a DHCP server
- Port-based DHCP server with IP and MAC binding makes IP maintenance much easier
- Q-in-Q double VLAN to distinguish multiple VLANs
- SNMP v1/v2c/v3 facilitates the exchange of management between network devices
- Supports EtherNet/IP and MODBUS TCP protocols that facilitates the remote management by SCADA and other industrial devices
- Proprietary ONE RING Plus and ONE CHAIN Plus high end redundancy technology, easy to build multiple ring topology, self-healing recovery time < 10ms
- STP/RSTP/MSTP for network redundancy further ensures reliability
- QoS(IEEE 802.1p) and TOS/DSCP for mission-critical applications
- IEEE 802.1Q VLAN, MAC-based VLAN, IP Subnet-based VLAN, VLAN isolation and GVRP optimize network strategy
- Enhanced network security with IEEE 802.1X, TACACS+, SSH, HTTPS and SNMP v3
- Port-isolated for special security environment
- IEEE 802.3ad port trunking in parallel to increase the link bandwidth
- SNTP (simple network time protocol) for network clock synchronization
- Broadcast/Multicast / Unknown Unicast storm control improves throughput problems
- Loopback-Detection to avoid broadcast loops, and shutdown the corresponding ports automatically
- Intelligent Access Control List (ACL)
- MAC addresses locking function per port blocks unauthorized access
- IGMP Snooping and GMVP prunes multicast traffic
- RMON groups 1,2,3,9(history, statistics, alarms and events) for enhanced flow management and analysis
- CPU utilization displays the amount of work the CPU handles
- Port mirroring for Many-to-One ports online troubleshooting
- Versatile system file updates by TFTP, HTTPS or HTTP
- DDM diagnosis function by SFP fiber module
- Auto warning by email, DI, relay, Syslog & SNMP trap
- Compatible with various industrial protocols, including EtherNet/IP, Profinet, CC-LINK IE and DNP 3.0

Specifications

TECHNOLOGY

Standard Compliance

- IEEE 802.3 10Base-T
- IEEE 802.3u 100Base-T(X) and 100Base-FX
- IEEE 802.3ab 1000Base-T
- IEEE 802.3z 1000Base-X
- IEEE 802.3x Flow Control
- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1w Rapid Spanning Tree Protocol
- IEEE 802.1s Multiple Spanning Tree Protocol
- IEEE 802.1p Class of Service, Priority Protocols
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1AD VLAN Q-in-Q
- IEEE 802.1X Port Authentication
- IEEE 802.3ad LACP Aggregation
- IEEE 802.1AB Link Layer Discovery Protocol

Processing Type

- Store and Forward
- IEEE 802.3x Flow control in full duplex, back-pressure flow control in half duplex

INTERFACE

Gigabit Ethernet
RJ45 Ports:
- 12 10/100/1000Base-T, auto MDI/MDI-X, auto negotiation

SFP Ports:
- 4 100/1000Base-SFP

Console Port
- RS-232 (Micro-USB connector)

LEDs
Device:
- PWR1, PWR2, R.M/CPLG.R, C.HD/C.TL, ALARM, DI

Ports:
- 100/1000M(SFP port), 10/100/1000M(RJ45 port), LINK/ACT

Digital Inputs(DI)
- 1 set
- 0~+5V is OFF
- +11V~30V is ON
- Input current 6mA Max

Alarm Contacts(DO)
- 1 relay output
- Carry current 1A @ 24V_{DC}

Reset Button
- 1 set

PERFORMANCE AND SCALABILITY

Switching Capacity
- 32Gbps, Wired speed, Non-blocking switching fabric

Forwarding Rate
- 47.61Mpps

MAC Address Table
- 8K

Packet Buffer Memory
- 4M bits

IGMP Multicast Groups
- 256

Max. VLANs
- 255

Quality of Service
- 4 priority queues per port

DHCP/BootP Server
- 1,275 IP addresses

Jumbo Frame
- 9,600 Bytes

MANAGEMENT

Software
- STP/RSTP/MSTP, LACP, QoS, IGMP Snooping v1/v2/v3, IGMP Query v1/v2, GARP, GMRP, VLAN, VLAN Q-in-Q, VLAN unaware, SSH, DNS, HTTP, HTTPS, RADIUS, TACACS+, SNMP v1/v2c/v3, SNMP Traps, TFTP, RMON, LLDP, BootP Server/Client, DHCP Server/Client, DHCP L2 Relay, DHCP Relay Option 82, DHCP Option 66/67, RARP, Telnet, Syslog, SMTP, SNTP Server/Client, IPv6, MODBUS TCP, EtherNet/IP

Security
- Port Security, HTTPS, SSH, 802.1x, TACACS+, SNMP v3

Configuration
- Web Browser, Cisco-like Telnet CLI, USB Local Console , SNMP, MODBUS TCP, IEXplorer Utility

MIB
- MIB II, Bridge MIB, SNMP MIB, Ether-like MIB, Q-Bridge/P-Bridge MIB, IF MIB, Traceroute MIB, TCP MIB, UDP MIB, IP MIB, RMON Group 1,2,3,9, Delta Private MIB

POWER REQUIREMENTS

Input Voltage
- 2 sets, 12 to 48V_{DC} redundant terminal block input

Input Current
- Max. 0.58A

Overload Current Protection
- Present, Max. Input current 12A

Reverse Polarity Protection
- Present

Voltage Dips Protection Time
- Min. 10ms at 48 V_{DC}

PHYSICAL

Housing
- IP40 metal case

Dimensions
- 135 mm(H) x 65 mm(W) x 135 mm (D)

Weight
- 1,100g

Installation
- Industrial DIN-Rail and wall mounting

ENVIRONMENTAL LIMITS

Operating Temperature
- -40°C to 75°C (-40 °F to 167 °F)

Storage Temperature
- -40°C to 85°C (-40 °F to 185 °F)

Ambient Relative Humidity
- 5% to 95% (non-condensing)

APPROVALS

Safety
- UL 61010, IEC 62368-1

EMI
- FCC 47 CFR Part 15 Subpart B Class A, IEC 61000-6-4, EN 55032 (CISPR 32)

EMS [IEC 61000-6-2, EN 55024]
- IEC 61000-4-2 level 4, IEC 61000-4-3 level 3, IEC 61000-4-4 level 4, IEC 61000-4-5 level 4, IEC 61000-4-6 level 3, IEC 61000-4-8 level 4, IEC 61000-4-29

Environmental Type Tests

Cold Temperature:
- IEC 60068-2-1

Dry Heat:
- IEC 60068-2-2

Humidity:
- IEC 60068-2-30

Shock:
- IEC 60068-2-27

Freefall:
- ISTA-2A

Vibration:
- IEC 60068-2-6

Hi-Pot:
- 1.5KV

Ordering Information

Product		Port Combination			Interface		
Model Name	Operating Temperature	Combo Port 10/100/1000Base-T and 100/1000Base-SFP	100/1000 Base-SFP	10/100/1000 Base-T	DI	DO (Relay)	Power Input
DVS-G116W02-4GF	-40°C to 75°C	---	4	12	1	1	2

Optional Products

LCP Series: 100Base-FX/1000Base-X SFP Fiber Transceiver. See the LCP Series datasheets for product information.
CliQII/PMC Series: 48 V_{DC} Industrial Power Supply
DVP/CliQ/PMC Series: 12/24 V_{DC} Industrial Power Supply