

## DVS-110 series

### Managed Industrial 7-Port FE + 3-Port GbE Combo 100/1000Base-SFP Ethernet Switches



**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\*
- ▶ SNMP v1/v2c/v3 facilitates the exchange of management between network devices
- ▶ Supports EtherNet/IP and MODBUS TCP protocols that facilitate the remote management by SCADA and other industrial devices
- ▶ Proprietary ONE RING and ONE CHAIN high end redundancy technology, easy to build multiple ring topology, self-healing recovery time < 20ms
- ▶ 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
- ▶ 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
- ▶ Cable diagnostic provides the mechanism to detect and report potential cabling issues
- ▶ Intelligent Access Control List (ACL)
- ▶ MAC addresses locking function per port blocks unauthorized access
- ▶ USB console interface for easy connection with laptops
- ▶ 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

Ethernet Switches

IEEE 802.11 WLAN

IIoT Routers

## 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 802.1X 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

### Fast Ethernet

#### RJ45 Ports:

- 10/100Base-T(X), auto MDI/MDI-X, auto negotiation

### Gigabit Ethernet Combo Ports

#### RJ45 Ports:

- 10/100/1000Base-T, auto MDI/MDI-X, auto negotiation

#### SFP Ports:

- 100/1000Base-SFP

### Console Port

- RS-232 (USB B-Type connector)

### LEDs

#### Device:

- ALARM, PWR1, PWR2, DI1, DI2, R.M/CPLG.R, C.HD/C.TL

#### Ports:

- 100/1000M (SFP port), 10/100/1000M (GbE RJ45 port), 10/100M (FE RJ45 port), LINK/ACT

### Digital Inputs (DI)

- 2 sets
- 0~+5V is OFF
- +11V~30V is ON
- Max. input current 6mA

### Alarm Contacts (DO)

- 2 relay outputs
- Carry current 2A @ 24V<sub>DC</sub>

### Reset Button

- 1 set

## PERFORMANCE AND SCALABILITY

### Switching Capacity

- 7.4Gbps, wire-speed, non-blocking switching fabric

### Forwarding Rate

- 11Mpps

### MAC Address Table

- 8K

### Packet Buffer Memory

- 512K bits

### IGMP Multicast Groups

- 256

### Max. VLANs

- 255

### Quality of Service

- 8 priority queues per port

### DHCP/BootP Server

- 1275 IP addresses

### Jumbo Frame

- 9,216 Bytes

## MANAGEMENT

### Software

- STP/RSTP/MSTP, LACP, QoS, IGMP Snooping v1/v2/v3, IGMP Query v1/v2, GARP, GMRP, VLAN, 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, Telnet, Syslog, SMTP, SMTP Server/Client, IPv6, MODBUS TCP, EtherNet/IP

### Security

- MAC/IP/TCP/UDP filtering, 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 48 V<sub>DC</sub> redundant terminal block input

### Input Current

- Max. 0.95A

### Overload Current Protection

- Present, max. input current 3A

### Reverse Polarity Protection

- Present

### Voltage Dips Protection Time

- Min. 12ms at 24V<sub>DC</sub>

## PHYSICAL

### Housing

- IP40 metal case

### Dimensions

- 145.3 mm (H) x 75 mm (W) x 108.7 mm (D)

### Weight

- 564g

### 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 508, EN 60950-1, IEC 61131-2

### EMI

- FCC 47 CFR Part 15 Subpart B Class A, IEC 61000-6-4, EN 55022(CISPR22)

### EMS [IEC 61000-6-2, EN 55024(CISPR24)]

- IEC 61000-4-2 level 3, IEC 61000-4-3 level 3, IEC 61000-4-4 level 4, IEC 61000-4-5 level 3, 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 60255-21-2

#### Freefall:

- IEC 60068-2-32

#### 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	10/100/1000 Base-T	10/100 Base-T(X)	DI	DO (Relay)	Power Input
DVS-110W02-3SFP	-40°C to 75°C	3	---	7	2	2	2

### Optional Products

LCP Series: 100Base-FX/1000Base-X SFP Fiber Transceiver. See the LCP Series datasheets for product information.

DVP/CliQ/PMC Series: 12/24 V<sub>DC</sub> Industrial Power Supply

CliQII/PMC Series: 48V<sub>DC</sub> Industrial Power Supply