

DVS-328 series

Managed Industrial 20-Port FE + 4-Port FE combo 100Base-SFP + 4-Port GbE combo 100/1000Base-SFP Rack Mount Ethernet Switch



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 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 works 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

Specifications

INTERFACE

Fast Ethernet

RJ45 Ports

- 20 10/100Base-T(X), auto MDI/MDI-X, auto negotiation

Fast Ethernet Combo Ports

RJ45 Ports:

- 4 10/100Base-T(X), auto MDI/MDI-X, auto negotiation

SFP Ports:

- 4 100Base-SFP

Gigabit Ethernet Combo Ports

RJ45 Ports:

- 4 10/100/1000Base-T, auto MDI/MDI-X, auto negotiation

SFP Ports:

- 4 100/1000Base-SFP

Console Port

- RS-232 (USB B-Type connector)

LEDs

Device:

- PWR1, PWR2, PWR3, R.M/CPLG.R, C.HD/C.TL, ALARM, DI

Ports:

- 100M(SFP port), 100/1000M(SFP port), 10/100M(RJ45 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 2A @ 24V_{DC}

Reset Button

- 1 set

PERFORMANCE AND SCALABILITY

Switching Capacity

- 12.8Gbps, Wired speed, Non-blocking switching fabric

Forwarding Rate

- 19Mpps

MAC Address Table

- 16K

Packet Buffer Memory

- 1.5M bits

IGMP Multicast Groups

- 256

Max. VLANs

- 255

Quality of Service

- 8 priority queues per port

DHCP/BootP Server

- 1,275 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, 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, SMTP Server/Client, IPv6, DoS/DDoS auto prevention, MODBUS TCP, EtherNet/IP

Security

- MAC 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

- Installation: Front cabling. Industrial terminal block
- LV: 2 sets 36 to 72V_{DC} (Tested @ 36 to 60V_{DC})
- HV: 1 set 85 to 264V_{AC} / 88 to 370V_{DC} (Tested @ 100 to 240V_{AC})

Input Current

- LV: 0.75A
- HV: 1.2A

Overload Current Protection

- Present, Max. Input current 8A

Reverse Polarity Protection

- Present (V_{DC} input)

Voltage Dips Protection Time

- Min. 12ms at 48 V_{DC}

PHYSICAL

Housing

- IP40 metal case

Dimensions

- 44 mm(H) x 440 mm(W) x 257 mm (D)

Weight

- 4,950g

Installation

- 19" Rack mounting and wall mounting

ENVIRONMENTAL LIMITS

Operating Temperature

- -40°C to 70°C (-40 °F to 158 °F)

Storage Temperature

- -40°C to 85°C (-40 °F to 185 °F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

APPROVALS

Safety

- UL 60950-1, IEC 60950-1, CCC

EMI

- FCC 47 CFR Part 15 Subpart B Class A, IEC 61000-6-4, EN 55022(CISPR 22), EN 55032

EMS(IEC 61000-6-2)

- IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, 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	Combo Port 10/100Base-T(X) and 100Base-SFP	10/100 Base-T(X)	DI	DO (Relay)	Power Input
DVS-328R02-8SFP	-40°C to 70°C	4	4	20	1	1	3

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