

**DVS-328R02-8SFP**

---

**Hardware Installation Guide**

Published: January, 2017



## FCC Interference Statement

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates radio frequency signal and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## CE Declaration of Conformity

The DVS series switches are CE certificated products. They could be used in any kind of the environments under CE environment specification. For keeping more safe application, we strongly suggest to use the CE-compliant industrial enclosure products.



## Warning .....

- ✓ This instruction sheet only provides information on electrical specifications, general specifications, installation and wiring.
- ✓ The components and the IC on the circuit board can be easily damaged by static electricity; therefore DO NOT touch them before precautions against static electricity are done. To prevent the danger and damage from occurring, people who are not maintenance staff should not operate or accidentally hit the body of the DVS series switch. Besides, DO NOT touch any terminal when the power is switched on.
- ✓ This product is equipped with Class 1 LASER/LED components. DO NOT stare directly at the LASER/LED beam to avoid serious injury to your eyes.
- ✓ Please read this instruction sheet thoroughly, and follow the instructions to prevent the damage to the device or injury to the staff.

# Overview

Thank you for purchasing the DVS Managed Industrial Rack Mount Ethernet Switches. The DVS series switches are equipped with the intelligent alarm, digital input function, and allow the wide range of operating temperature (-20 to 70°C). The DVS series switches are designed to support the application in any rugged environment and comply with UL, CE and FCC standards.

## High Performance Network Technology

1. 10/100Base-T(X) (RJ45), 10/100/1000Base-T (RJ45), 100/1000Base-SFP Fiber
2. IEEE 802.3/802.3u/802.3ab/802.3x/802.3z
3. Auto-negotiation speed
4. Auto-MDI/MDI-X

## Industrial Grade Reliability

1. 1 set of AC power input and 2 set of DC power inputs
2. IEEE 802.3/802.3u/802.3ab/802.3x/802.3z
3. Auto-negotiation speed
4. Auto-MDI/MDI-X

## Robust Design

1. Operating temperature: -20~70°C
2. Storage temperature: -40~85 °C
3. Humidity:0%~95% (non-condensing)
4. Protection: IP40

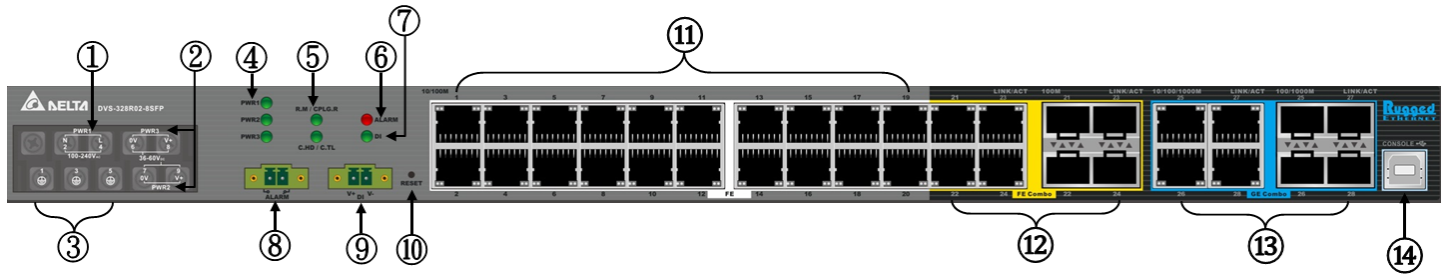
## Package Checklist

- Delta DVS series Managed RackMount Ethernet Switch
- Protective Caps for unused RJ45 ports and fiber ports (insert to the switch)
- USB Type A to Type B console cable
- User manual and software CD
- Instruction Sheet
- Accessories package

## MTBF (Mean Time Between Failures)

More than 1,100,000 hours.

# Front Panel Instruction



No	Description	No	Description
1	AC power input	8	Relay alarm port
2	Redundant DC power input	9	Digital Input
3	Grounding Screw	10	Reset button
4	Power LED	11	Fast Ethernet ports
5	ONE RING/ONE CHAIN/ONE COUPLING LED	12	Fast Ethernet Combo ports
6	ALARM LED	13	Gigabit Ethernet Combo ports
7	DI LED	14	USB CONSOLE port

## LED Indicators

LED	Color	Status	Description
ALARM	Red	ON	An event which has been configured is happened.
		OFF	There is not any event which has been configured happened.
PWR1/ PWR2/PWR3	Green	ON	The power is supplied normally.
		OFF	The power is not supplied.
DI	Green	ON	The DI is triggered.
		OFF	The DI is not triggered.
10/100M (RJ45)	Orange	ON	The port is connected 100 Mbps.
		OFF	The port is connected at 10 Mbps or the port is disconnected.
10/100/1000M (RJ45)	Green	ON	The port is connected at 1000 Mbps.
	Orange	ON	The port is connected at 100 Mbps.
	OFF	The port is connected at 10 Mbps or the port is disconnected.	
100/1000M (SFP Fiber)	Green	ON	The port is connected at 1000 Mbps.
	Orange	ON	The port is connected at 100 Mbps.
	OFF	The port is disconnected.	
LINK/ACT	Green	ON	The Network communication connection has been established.
		Blinking	The data is being transmitted.
		OFF	The network communication connection has not been established.
R.M/CPLG.R	Yellow	ON	As a master of ONE RING, or a forwarding path of Coupling Ring.
		Blinking	Any node disconnection is occurred in ONE RING or Coupling Ring.
		OFF	A slave of ONE RING, or ONE RING or Coupling Ring is not available.
C.HD/C.TL	Green	ON	As a head or a tail of ONE CHAIN.
		Blinking	As a head or a tail of ONE CHAIN, any node disconnection is occurred.
		OFF	ONE CHAIN is not available.

# Power installation

## ■ Pin definition



Pin	Description	Pin	Description
1	Grounding screw	6	Negative connection of DC power for PWR3
2	Neutral connection of AC power for PWR1	7	Negative connection of DC power for PWR2
3	Grounding screw	8	Positive connection of DC power for PWR3
4	Live connection of AC power for PWR1	9	Positive connection of DC power for PWR2
5	Grounding screw		

## ■ Power input

Indicator	Description
PWR1	85-264V <sub>AC</sub> / 88-370V <sub>DC</sub> (tested @ 100-240V <sub>AC</sub> , 50-60Hz, 1.2A MAX)
PWR2	36-72V <sub>DC</sub> (test @ 36-60V <sub>DC</sub> , 0.75-0.45A)
PWR3	36-72V <sub>DC</sub> (test @ 36-60V <sub>DC</sub> , 0.75-0.45A)

## ■ Wiring power cord

Before powering on the switch, the power cord should be installing on the correct position and following the step as below:

Step1. Make sure the power source should be turn off.

Step2. Remove the plastic cover from the power terminal block, and the operation step as blow:

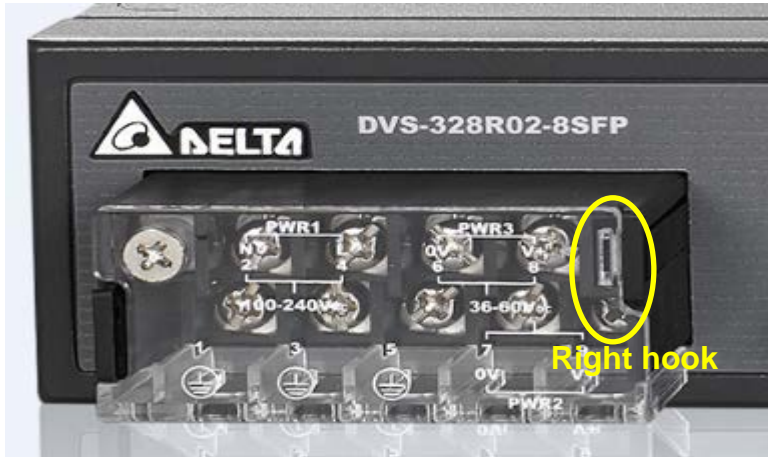


1. Remove the screw up at torque 13kg-cm
2. Move the plastic cover leftward.
3. Then peer up the right hook.

Step3. Installing the power cable to the power terminal on the correct connect pin.

Step4. Adjust the power cable to appropriate direction.

Step5. Install the power plastic cover onto the power terminal block, and make sure the right hook is inside the connector.



Step6. Secure the screw tightly.

Step7. Turn on the power source.



**Note:**

1. We suggest you the AC and DC power voltage should be within the range, and the safety value marked on the plastic cover included the AC input and DC input.
2. Make sure the power source is stable before you power on the AC/DC power inputs.
3. Because of the plastic cover is weakness, please install it carefully.

NOTE: Grounding the ground terminal on the DVS series switch can avoid the noise effect due to the electromagnetic interference (EMI).

	The input terminal block is defined as SERVICE ACCESS AREA, power cord set installed shall be by service persons.
	The equipment can be supplied from an external DC source (36-72V <sub>DC</sub> ) that provides reinforced insulation with AC mains. The devices is intended to be operated under altitude up to 6560ft(2000m), the power supply source comply with the requirement of 6560ft(2000m).
	A warning will be marked on the equipment in prominent position adjacent to the hot part
	Grounding is a requirement. Do not lose the grounding screws or operate without a proper grounding system. Contact the appropriate electrical authority or an electrician if you are uncertain that suitable grounding is available.
	<b>RESTRICTED ACCESS LOCATION:</b> Access can only be gained by SERVICE PERSONS who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken; and Access is through the use of a TOOL or lock and key, or other means of security, and is controlled by the authority responsible for the location
	To completely remove power from the unit, first turn off power and remove all power cables.

# Installation

## ■ Rack Mounting

Step1: Remove the rubber plug from the switch

Step2: Use the M4 screws with screw up at torque 5kg-cm to attach the two brackets the front panel of the switch, as shown in the diagram below.



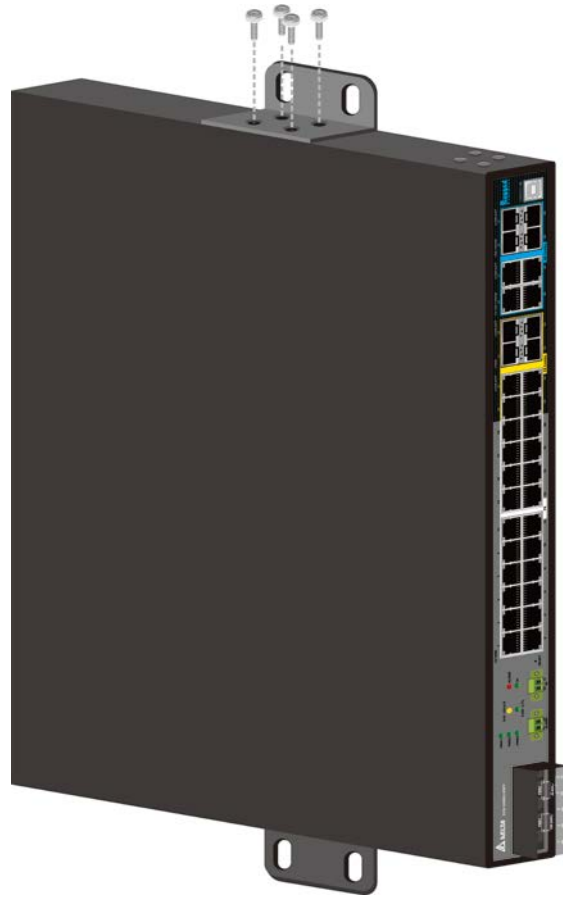
Step2. Use the M5 screws with screw up at torque 7kg-cm to securely attach the bracket to the rack, as shown in the diagram below.



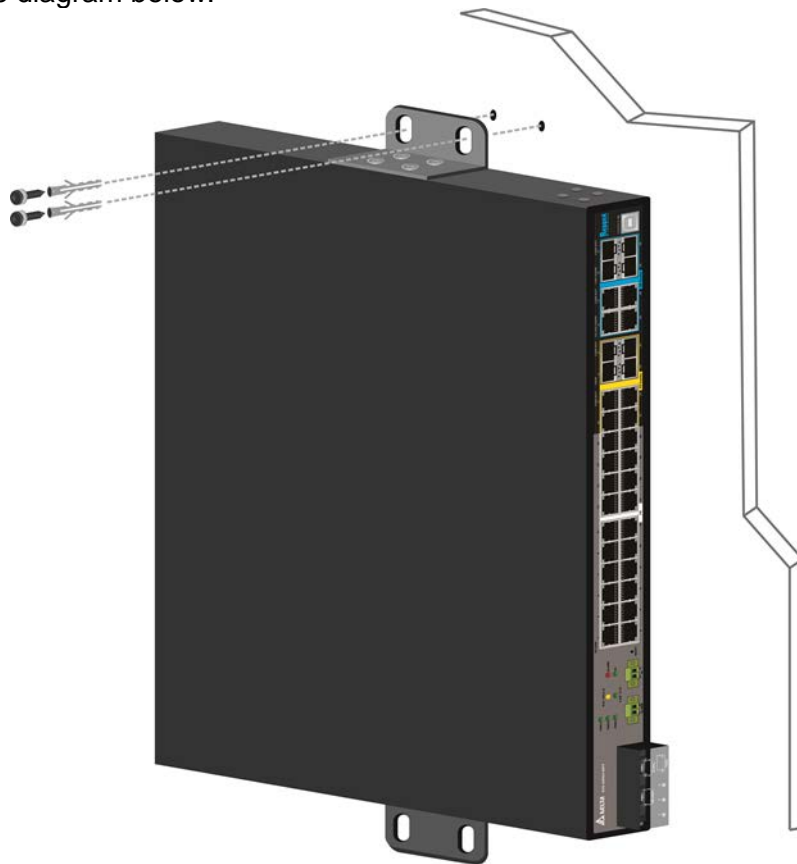
## ■ Wall Mounting

Step1: Remove the rubber plug from the switch

Step2: Use the M4 screws with screw up at torque 5kg-cm to attach the two brackets on the middle-mounting position of the switch, as shown in the diagram below.



Step2. Use the T4 screws with screw up at torque 9kg-cm and anchor screw to securely attach the bracket to the wall, as shown in the diagram below.

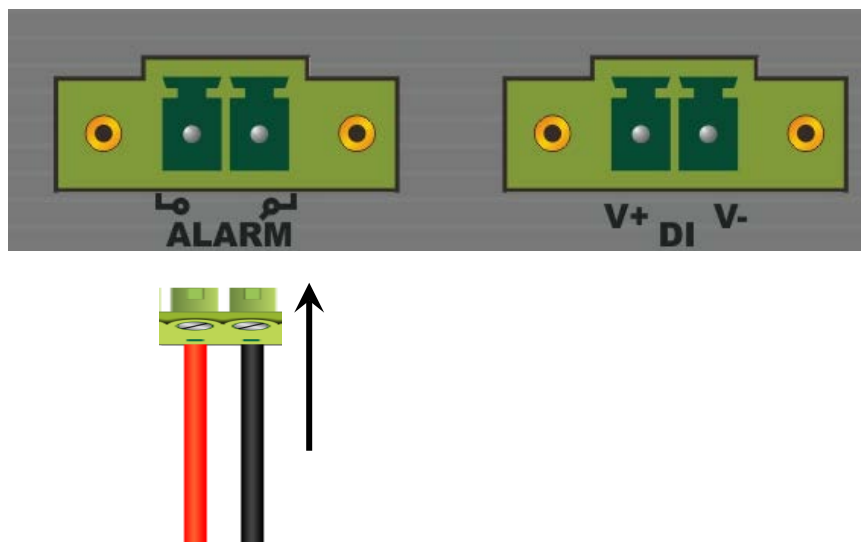




# Wiring the terminal block

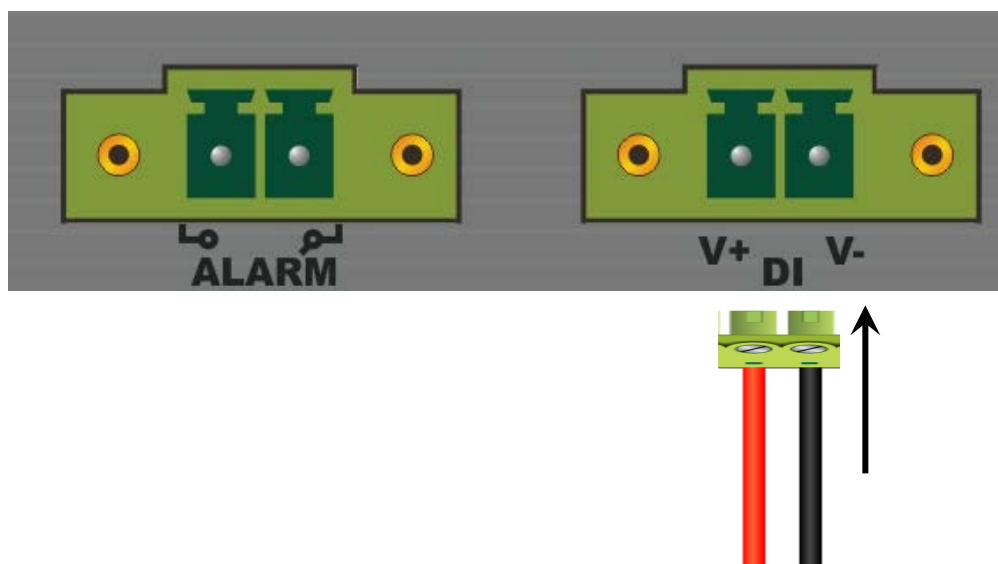
## ■ Alarm Contact

The DVS rack mount switch is equipped with one set of alarm. The alarm contact is a dry relay. If one of the two power sources fails, digital input is triggered or the communication is interrupted, the contact will turn from an “OPEN” circuit to a “CLOSED” circuit. The relay can be connected to a 5A/24V<sub>DC</sub> power source.



## ■ Digital Input

DVS rack mount switch is equipped with one set of digital input. If the power source between 0 to 5V, the state of DI is OFF. If the power source between 11 to 30V, the state of DI is ON. The maximum input current is 6mA.



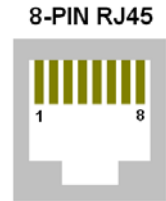
The electrical circuit of DI is independent, so you don't need to care about NPN type or PNP type of DI. If the electrodes positive and electrodes negative of DI has been reversed when you plug the cable, DI still can work properly.

# Ethernet Interface

## ■ 10/100Base-T(X), 10/100/1000Base-T Connection

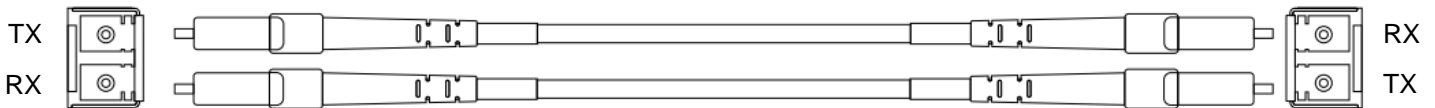
The 10/100Base-T(X) or 10/100/1000Base-T ports of the DVS series switches are used to connect to Ethernet. RJ45 ports support MDI (NIC-type) and MDI-X (HUB/Switch-type) modes, the pin definition of the Ethernet cable is as follows.

PIN	10/100Base-T(X)		1000Base-T
	MDI Mode	MDI-X Mode	MDI/MDI-X Mode
1	Tx+	Rx+	TP0+
2	Tx-	Rx-	TP0-
3	Rx+	Tx+	TP1+
4	n.c.	n.c.	TP2+
5	n.c.	n.c.	TP2-
6	Rx-	Tx-	TP1-
7	n.c.	n.c.	TP3+
8	n.c.	n.c.	TP3-



## ■ 100/1000Base-SFP Fiber Connection

Each SFP module has TX and RX interface, make sure the fiber connect TX interface to RX interface between two SFP modules.



## Mechanical Characteristics

Case	IP40metal case
Dimension(mm)	43.2 (H) x 257(W) x 440(D)
Weight(g)	5360

◆ For more information about the product, please visit <http://www.deltaww.com>