SANHUA

EEV Drivers

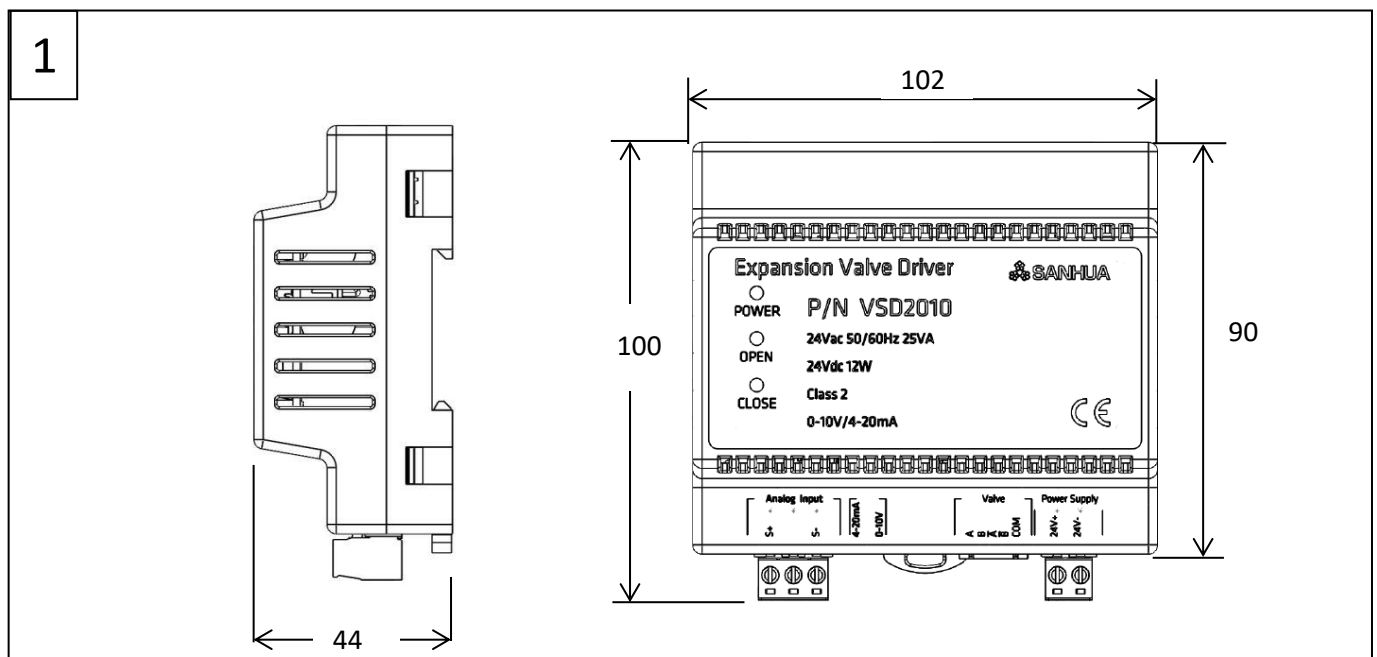## VSD2010 Series

Installation Instructions

1. Product specifications

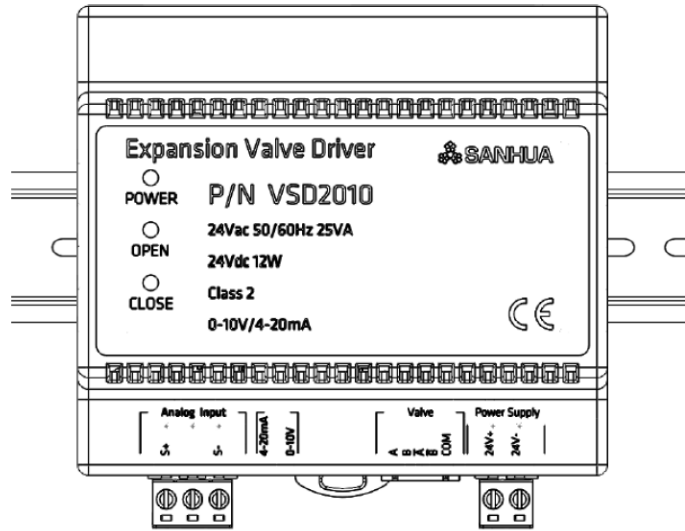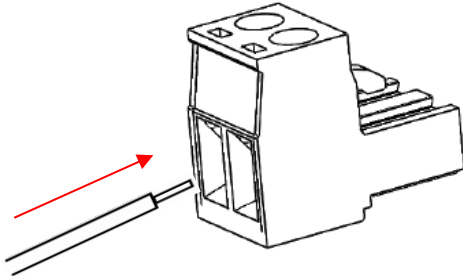| Items	Description
Model	VSD2010 / VSD2010P (with backup battery)
Dimension	102(W)mm×100(H)mm×44(D)mm (with terminal)
Voltage input VSD2010	24Vac(20～28Vac) 50/60Hz 25VA or 24Vdc（20～28Vdc） 12W, class 2
Voltage input VSD2010P	24Vac(20～28Vac) 50/60Hz 35VA or 24Vdc（20～28Vdc） 15W, class 2
Analog input	0～10VDC or 4～20mA
Output	5 wires unipolar stepper motor
Drive speed	30 pps (normal operation) / 90 pps (during backup battery close valve)
Self-holding mechanism	Maintain excitation in stop position min. 0.1s
Insulation resistance	DC500V ≥ 100MΩ
Electric strength	AC2000V 1s, Current leakage ≤5mA
Wiring dimension	28～12AWG (0.08~3.3 mm²), 22AWG (0.3 mm²) is recommended
Protection level	IP20
Operation	-30～+55°C, ≤95%RH (Non-condensing)
Storage	-30～+55°C, ≤95%RH (Non-condensing)
EMC certification	EN55014-1、EN55014-2

2.Manual Guide

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DIN installation
VSD2010 can be installed on the DIN35 through its own shell clip. Please install it in the electric control cabinet to avoid moisture and dust.
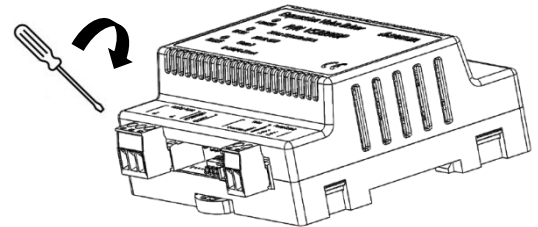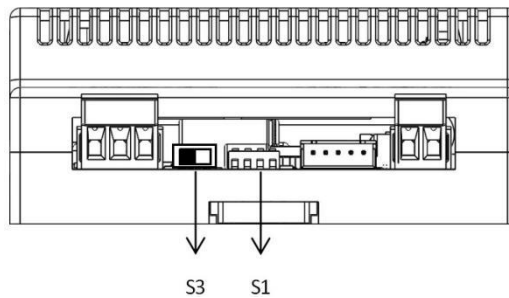
Expansion Valve Driver 🌸 SANHUA
○ POWER   P/N VSD2010
○ OPEN   24Vac 50/60Hz 25VA
          24Vdc 12W
○ CLOSE   Class 2
          0-10V/4-20mA   CE

Analog Input | 4-20mA | 0-10V | Valve A B C D COM | Power Supply 24V+ 24V-

3

0.08mm²~3.3 mm²

4

	Torque (kgf.cm)	Torque（lbf.ft）
Input	4.0	3.5
output	5	4.5

5

S3   S1

Dial name	Dial status	Function
S3	Right	Analog voltage input 0-10V
	Left	Analog voltage input 4-20mA

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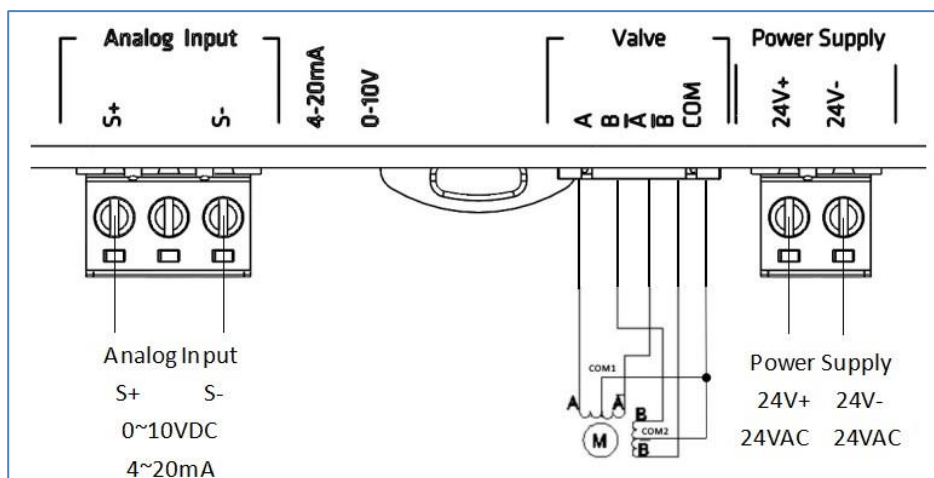|	First	Second	Third	Fourth	—
S1	OFF	OFF	OFF	—	Unipolar EEV (E.g. DPF/LPF...)
	ON	OFF	OFF	—	TBD
	OFF	ON	OFF	—	TBD
	ON	ON	OFF	—	TBD
	OFF	OFF	ON	—	TBD
	ON	OFF	ON	—	TBD
	OFF	ON	ON	—	TBD
	ON	ON	ON	—	TBD
	—	—	—	OFF	Motor rotation forward
	—	—	—	ON	Motor rotation reverse

By default, S3 is in the right dial state 🔲 , and S1 is OFF

6	**Wiring instruction**:

Name	Function	Remark
S+	Analog +	Analog input cathode
S-	Analog -	Analog input negative
A	ORANGE A+	Connect to 5-wires unipolar stepping motor
B	RED B+	
A̅	YELLOW A-	
B̅	BLACK B-	
COM	GRAY	
24V+	24V Power supply+	Could be used for 24VAC or 24VDC
24V-	24V Power supplier-	

When analog input voltage ≤ 0.2V or current ≤ 4.32mA, the valve will full-close action

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7	**LED Light instruction:**		

NO.	Label	Color	Function
1	POWER	Red	Power Indicator
2	OPEN	Greed	Valve open indicator
3	CLOSE	Yellow	Valve close indicator

Red light always on means power supply is normal;

Yellow light blinking means valve is closing, yellow light always on means valve fully closed to 0%

Greed light blinking means valve is opening, green light always on means valve fully opened to 100%

Greed light blinking frequency shows the valve open degree as below :

Blinking frequency	Valve open %	Blinking frequency	Valve open %
1	0 <=open <10	6	50 <=open <60
2	10 <=open <20	7	60 <=open <70
3	20 <=open <30	8	70 <=open <80
4	30 <=open <40	9	80 <=open <90
5	40 <=open <50	10	90 <=open <100

Other application issues please contact application technology team of Sanhua Europe.