

SP24AS/AL

USER MANUAL

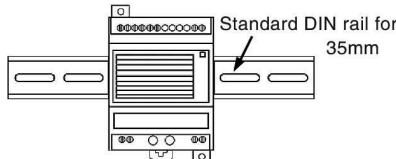
The user manual of the SP-AS/AL Series Switch Power Supply



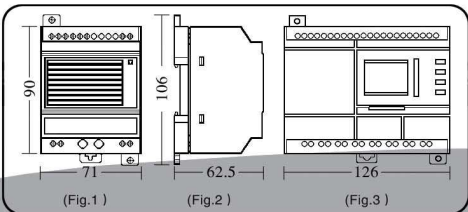
I. Introduction and Installation Dimensions

The SP-AS/AL Series Switch Power have many features: being mini-sized, light weight, high efficiency, good reliability and so on. In special, it has the remote control and UPS function.

- SP-AS Series: SP-05AS (5V/6A)
 SP-12AS (12V/3A)
 SP-24AS (24V/1.5A)
 71mm x 106mm x 65mm
- SP-AL Series: SP-05AL (5V/10A)
 SP-12AL (12V/6A)
 SP-24AL (24V/3A)
 126mm x 106mm x 65mm



(can be used DIN rail installed)

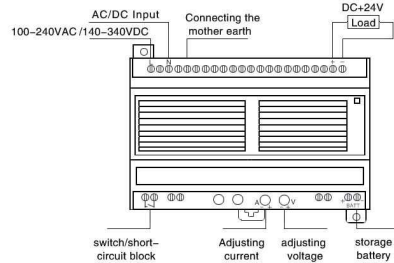


II. Features

- 1、 EMI filter condenser
- 2、 Input frequency: 47-63Hz
- 3、 Output voltage stability: $\pm 0.5\%$
- 4、 Can be used for DIN rail mounting (EN50022-35)
- 5、 Wide range voltage input (100-240VAC/140-340VDC)
- 6、 Ripple voltage tolerance range(85-264VAC/120-370VDC)
- 7、 Output voltage fine adjustment range (-5%~ +10%, adjusting potentiometer V)
- 8、 Have the function of soft-start (to limit the peak current of start and the pressure of the voltage to the components)
- 9、 The current of the load can be roughly adjusted (Means the maximum protective current of the load , adjusting potentiometer A)
- 10、 Effective: >75%
- 11、 Insulation voltage endurance: >1.5KV
- 12、 Power supply output with the LED indicator
- 13、 Ripple: $\leq 150\text{mVp-p}$
- 14、 Have the short circuit and over-load protection(short circuit protection means miss-connect the output voltage in short ,after disconnect,the output will be renew. Over-load protection: 105%-135%)
- 15、 With the UPS function.(External-connected battery, provide with the UPS by the power supply and the battery)
- 16、 With the remote control function (By the switch control the having and non-having of the output voltage)
- 17、 With the over heat protection function (the main control CMOS chip stops output when the temperature is beyond 135°C and the output will renew automatically when the temperature reduces)

III. Using Methods: (Taking SP-24AL as example)

1. General operation:



(Fig.3.1 General application)

Operation Step:

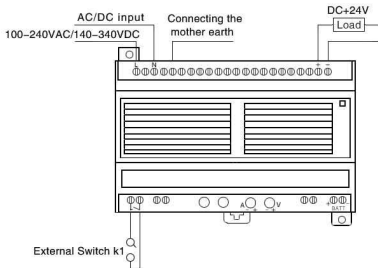
- 1、 Twist firmly the short-circuit block of the switch terminal (If the switch / short-circuit is off,the switch power have no output)
- 2、 Adjusting potentiometer (A) and rotate it to the end clockwise
- 3、 Connect the power (100-240VAC/140-340VDC)
- 4、 Adjusting potentiometer(V) to make the voltage of the output terminal be +24VDC
- 5、 Connect the load in the output terminal (pay attention to the straight polarity and the negative polarity and that the maximum working current must be $\leq 3\text{A}$)

2.Remote Control:

Attn: Externally-Connect the switch terminal,remote the switch to control output voltage having or non-having

Operation step:

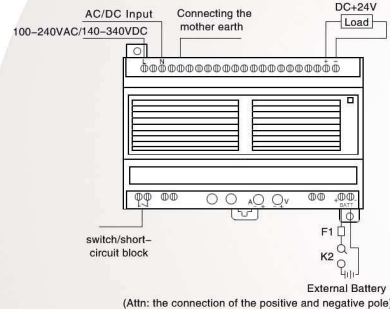
1. Remove the short circuit block from the switch terminal and replace it with a switch k1
2. Adjusting potentiometer (A) and rotate it to the end clockwise
3. Connect the power (100-240VAC/140-340VDC)
4. Adjust potentiometer(V) to make the voltage of the output terminal be +24VDC(Close the switch k1)
5. Load (the working current $\leq 3A$)
6. Close the switch k1,no voltage output



(Fig 3.2 Remote Control application)

3.Using UPS Function:

Attn: If the load can provide with UPS voltage methods, then you can use this function



(Fig 3.3 UPS application)

Operation Step:

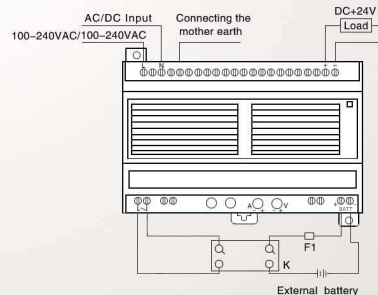
1. Twist firmly the short circuit block of the switch terminal (If the switch / short-circuit block is off,the switch power have no output)
2. Adjusting potentiometer (A) and rotate it to the end clockwise
3. Connect the power (100-240VAC/140-340VDC)
4. Adjusting potentiometer(V) to make the voltage of the output terminal be +24VDC(Due to SP-12AS/AL to make the output voltage be 12V)
5. Disconnect the AC/DC power wire
6. Connect the switch and fuse wire and the battery according to the positive pole and negative pole marked on the crust

7. Connect the power (100-240VAC/140-340VDC)(If the battery voltage is over +24V,you need to adjust potentiometer(V)to make it over battery voltage)

Attn: At this time the main output voltage is provided by load: BATT port charges the accumulator battery by the switch k2 and fuse wire F1; If there is no AC/DC voltage input, battery power supply the load by the internal circuit, the Maximum working current $\leq 3A$

4.Using Remote Control and UPS simultaneously

Attn: Using remote control and UPS simultaneously, the using method is combined by the method 2 and method 3 as below:



(Attn: the connection of the positive and negative pole)
(Fig3.4: Using Remote and UPS simultaneously application)

5.Specification:

Type	SP-05AS	SP-12AS	SP-24AS	SP-05AL	SP-12AL	SP-24AL
Voltage	5V	12V	24V	5V	12V	24V
Current	6A	3A	1.5A	10A	6A	3A
Dimension (WxHxD)	71mmx106mmx65mm			126mmx106mmx65mm		
Gamut voltage	100-240VAC/140-340VDC					
Ripple voltage tolerance range	85-264VAC/120-370VDC					
Input frequency	47-63Hz					
Output voltage Stability	$\pm 0.5\%$					
Ripple	150mVp-p					
Operation Temperature	$-25^{\circ}C - +70^{\circ}C$					
Efficiency	$> 75\%$					