Sintec Optronics

SYL-YAN70V78A220A
220VAC to 65VDC single output isolation module
Version: V4 13/05/2021

Function description:

- Size: (length × wide × Height) 350mm × 200mm × 50mm
- Rated input: 220Vac
- Rated output: ***65Vdc/75A***
- High efficiency: ≥ 93% (full load)
- Input undervoltage and overvoltage protection
- Output overvoltage protection
- Output overcurrent, short circuit protection
- Over temperature protection

Product Description:

The power input voltage range of this module is 176~264Vac, with a rated input voltage of 220Vac, a rated output voltage of 65Vdc, and a full load output current of ***75A***.

The power supply adopts soft switching technology, resulting in a peak load efficiency of 93% for the entire power module.

Electrical characteristics:

Rated input conditions: TA=25 ℃, Vin=220Vac/50Hz; Rated output 65Vdc/75A.

parameter	condition	minimum	typical	maximum	unit
Input characteristics					
Input voltage range		one hundred and seventy-six	two hundred and twenty	two hundred and sixty-four	Vac
Input frequency range		forty-seven	fifty	sixty-three	Hz
power factor	Rated input, output, full load	zero point nine eight	-	one	-
Voltage harmonics (THD)*	Rated input, output, full load	0	-	ten	%
Input current*	Full load output	-	*twenty-three point eight*	*thirty*	*A*
Working environment temperature*	Power supply flat attached water-cooled board for heat dissipation	-10	twenty-five	fifty	X
Storage temperature*		-25	twenty-five	sixty	X
output characteristic					
Output voltage range	Adjust the output voltage by adjusting the Potentiometer (3296) next to the output terminal	sixty-three	sixty-five	sixty-seven	Vdc
Output current		0	-	*seventy-five*	*A*
Output linear adjustment rate	Full load	-0.5	-	+0.5	%
Output load adjustment rate	Rated input	-1	-	+1	%
Output ripple and noise	Rated input, output, full load	-	-	five hundred	MV
Output voltage rise time*		-	-	five hundred	MS
Output voltage power-on delay time*		-	-	five thousand	MS
efficiency	Rated input, output, full load	ninety-three	-	-	%
Working state indication characteristics					
Input condition indication for AC input status	The AC input is normal, and the AC Input green light is on	two point five	-	three point six	Vdc

	Current injection	0		one point five	MA
	AC input fault (including two types of input overvoltage and undervoltage), AC Input Fault red light is on	0	-	zero point seven	Vdc
	Pulling current	three			MA

DC output status indication (Output condition)	Output normal, DC Output green light on	two point five	-	three point six	Vdc
	Current injection	0		one point five	MA
	Output fault, DC Output Fault red light on	0	-	zero point seven	Vdc
	Pulling current	three			MA
Output voltage status (Voutdisp)	When the output voltage is 65V, simulate the output quantity;	two point three five	two point six	two point eight five	Vdc
Output current state (Ioutdisp)	When the output current is ***75A***, simulate the output quantity;	***two point five***	***two point six two***	***two point seven four***	***Vdc***
Switching logic characteristics					
ON/OFF control	Power on (control pins # 7 and 8 connected to output ground)	0	-	zero point seven	Vdc
		three			MA
	Shutdown (control pins # 7,8 suspended or connected to high level)	two point five	-	three point six	Vdc
Protection characteristics:					
Input undervoltage protection	Shutdown point	one hundred and sixty-six	one hundred and seventy	one hundred and seventy-four	Vac
	Boot point	one hundred and seventy-six	one hundred and eighty-five	one hundred and ninety-four	Vac
	Return difference	ten	-	twenty	Vac
Input Overvoltage Protection	Shutdown point	two hundred and sixty-six	two hundred and seventy	two hundred and seventy-four	Vac
	Boot point	two hundred and forty-six	two hundred and fifty-five	two hundred and sixty-four	Vac
	Return difference	ten	-	twenty	Vac
Output overvoltage protection*	The Protected mode is locked. After the fault is removed, power on again to resume operation.	***seventy-one***	***seventy-two***	***seventy-three***	***Vdc***
Output overcurrent protection	Test overcurrent protection at rated input. The Protected	***seventy-nine***	***eighty-two***	***eighty-five***	***A***

	mode is locked. After the fault is removed, power on again to resume operation.				
Output short-circuit protection	The Protected mode is locked. After the fault is removed, power on again to resume operation.	-	-	-	-
Over temperature protection*	Shutdown temperature (bottom plate)	sixty-five	seventy	seventy-five	℃
	Return difference	five	-	-	℃

Safety regulations and insulation characteristics:

parameter	condition	minimum	typical	maximum	unit
Insulation safety level		Basic insulation			
Isolation voltage	Input to output (≤ 30mA)	one thousand and five hundred	-	-	Vac
	Input to casing (≤ 30mA)	one thousand and five hundred	-	-	Vac
	Shell to output (≤ 10mA)	seven hundred and ten	-	-	Vdc
Isolation impedance	Input to casing, input to output, output to casing (500Vdc)	one hundred	-	-	MOhm

Environmental and reliability testing:

parameter	condition	minimum	typical	maximum	unit
Shock, vibration*	GB/T 4798.2	-	-	-	G
MTBF*	AC220V input, ***65V/75A*** output		thirty thousand	-	Hrs
Weight*		-	-	four point eight	Kg

*To ensure the design of the project, detailed testing is conducted during the design verification phase, and no separate testing is required when the finished products are shipped.

Definition of input, output, and signal interfaces

Serial number	Interface type	Interface model	Interface Definition	Function Introduction	Screen printing requirements
one	Input interface	BA8-03-13.0-00 (as shown in Figure 1)	1 #: Safe Ground (PE)	Input ground wire	Chinese imitation Song black, with a height of 3.5mm
			2 #: AC220V-L	AC input L-line	
			3 #: AC220V-N	AC input N-line	
two	Output interface	Copper rivet nut M3 × ten (The actual object is shown in Figure 2)	1 #: Vout1-	65V output negative	Chinese imitation Song black, with a height of 3.5mm
			2 #: Vout1+	65V output positive	
			3 #: Vout2-	65V output negative	
			4 #: Vout2+	65V output positive	
			5 #: Vout3-	65V output negative	
			6 #: Vout3+	65V output positive	
thre	Signal	Straight double	1. 2 #: Input Condition	Power input status	Chinese

e	interface	row pin (10 cores, gold-plated, with a spacing of 2.54mm and a total height of 11.5mm. The actual product is shown in Figure 3)		signal	imitation Song black, word height 2mm
			3. 4 #: Output Condition	Power output status signal	
			5 #: Voutdisp	Output voltage analog quantity	
			6 #: Ioutdisp	Output current analog quantity	
			7. 8 #: ON/OFF	On/Off Signal	
			9. 10 #: GND	Signal ground	



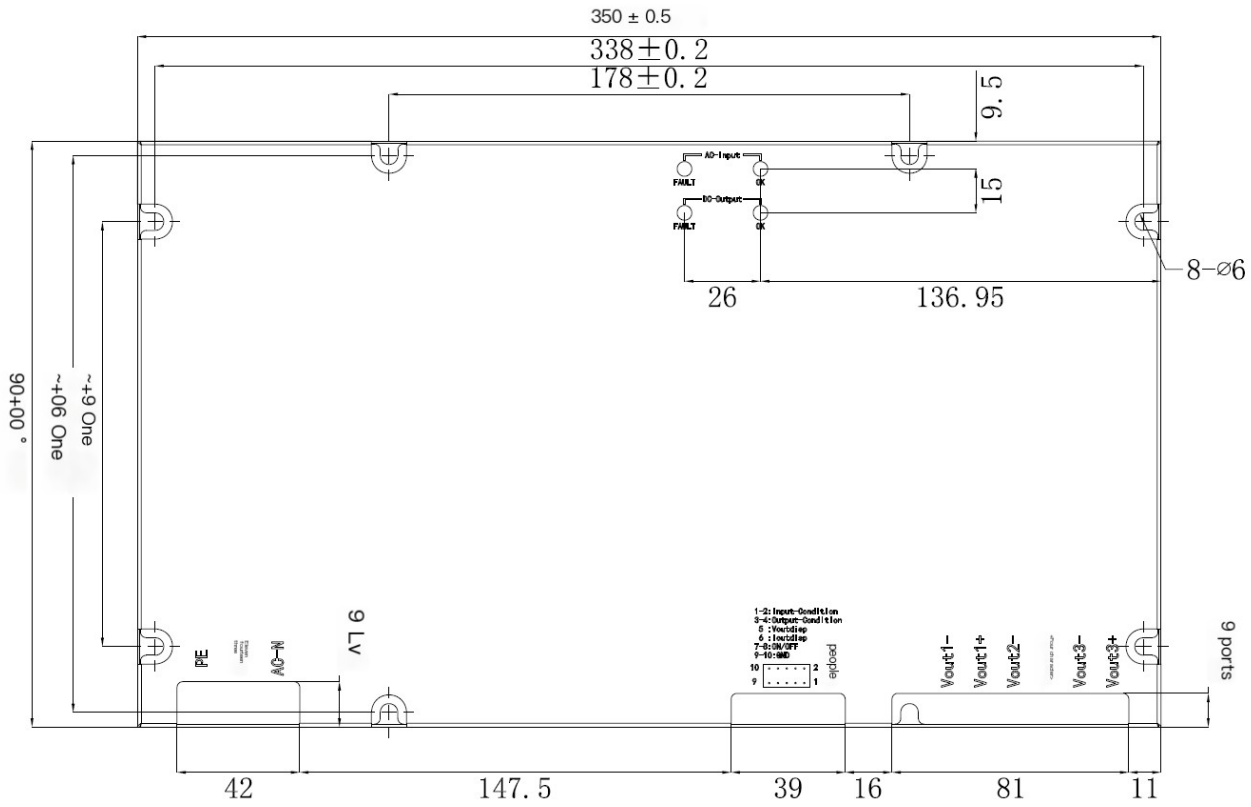
Figure 1 Input Interface Figure 2 Output Interface Figure 3 Signal Interface

Heat dissipation method

The cooling method of the power supply is conduction cooling: heat dissipation is achieved by placing the substrate at the bottom of the power supply flat on the heat sink or on a platform with water cooling measures. It is recommended to use 0.3mm steel mesh coated with thermal conductive silicone grease.

Mechanical specifications:

Unit: mm, for unmarked tolerances, ± 0.5mm, flatness: ≤ 0.4mm.



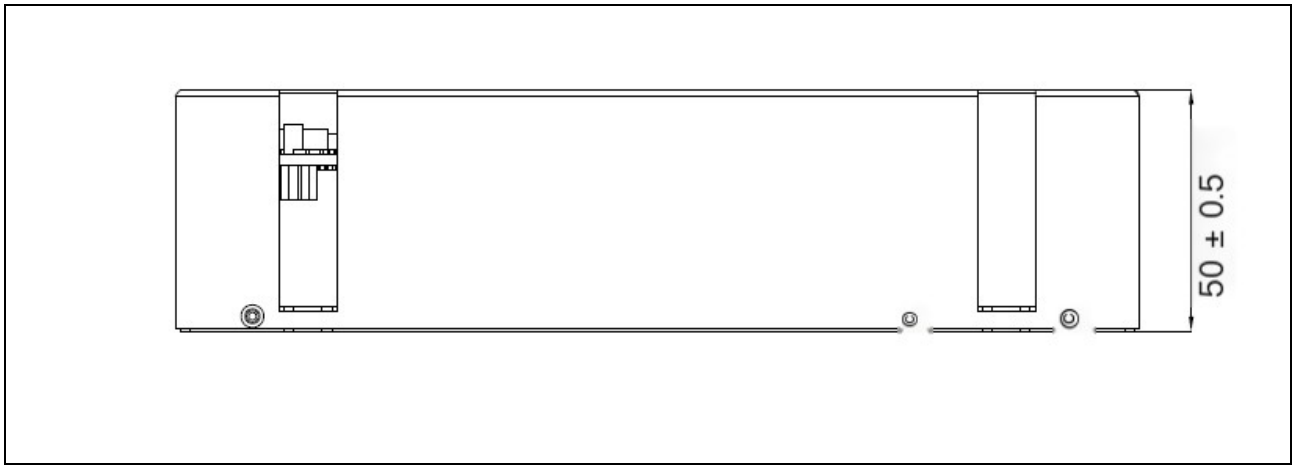


Figure 4 Overall dimensions

Naming convention and detailed models:

Naming convention: