



SURE STAR COMPUTER CO., LTD 添誠資訊股份有限公司
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NO.2-1, DAAN ROAD, SHULIN .DIST., NEW TAIPEI CITY 238, TAIWAN

SPECIFICATION

Model Name :

SS-2UxxEx series

Description :

400W 、 500W 、 600W 、 700W 2U Single Power Supply

Version : B0

Issued Date : 20230803



1. General Description

This specification defines the characteristic of Single power supply with 2Unit high. And **SURE STAR** model name is SS-2U40ES for 400W 、SS-2U50ES for 500W 、SS-2U60EL for 600W 、SS-2U70EL for 700W output.

2. Input Characteristic

2.1. Input connector

The input connector shall be an IEC60320 C14 inlet, rated for 15A/250Vac.

2.2. Input Voltage and Frequency

<i>Minimum</i>	<i>Nominal</i>	<i>Maximum</i>	<i>Measure</i>
90	100~240	264	Vac
47	50~60	63	Hz

2.3. Input Current and Inrush Current

<i>Input Voltage</i>	<i>MAX. Input Current</i>	<i>Inrush Current</i>
115Vac	8A/8A/10A/10A	25A
230Vac	4A/4A/5A/5A/	50A

2.4. Power Factor

The minimum power factor shall be 0.95 with full load and input 230Vac/50Hz.

3. Output Characteristic

3.1. DC Output Characteristic

<i>Output Voltage</i>	<i>Min. Current</i>	<i>Max. Current</i>	<i>Regulation</i>	<i>Ripple & Noise</i>
+3.3V	1A	25A	±5%	50mV
+5V	1A	25A	±5%	50mV
+12V	1A	32A/40A/48A/56A	±5%	120mV
-12V	0A	0.8A	±5%	120mV
+5VSB	0.1A	3.5A	±5%	50mV

Note: :

1. The combined power from +3.3V and +5V shall not exceed 160W/170W/180W/180W.
2. The max total power shall not exceed 400W/500W/600W/700W.
3. Ripple and noise bandwidth is set to 20MHz.
4. Add a 0.1uF ceramic capacitor in parallel with a 10uF tantalum capacitor at output connector terminals for ripple and noise measurement.



3.2. Efficiency

The minimum efficiency of power supply is 80% with full load and 115Vac/60Hz input.

3.3. Hold up Time

The output voltages stay in regulation at least 16ms with 100% load after loss of AC input.

3.4. Rise Time

The output voltages rise from 10% to 90% with full load shall be in 20ms maximum.

3.5. Dynamic Loading

The output voltages shall remain in regulation for the step loading, and in the limits for the capacitive loading specified below :

<i>Output</i>	<i>Step Load Size</i>	<i>Load Slew Rate</i>	<i>Capacitive Load</i>
+3.3V	30% of max load	0.5A / μ sec	1000uF
+5V	30% of max load	0.5A / μ sec	1000uF
+12V	65% of max load	0.5A / μ sec	2200uF
+5VSB	25% of max load	0.5A / μ sec	1uF

3.6. PSON Remote on/off Control

The PSON signal is required to remotely turn on/off the power supply.

PSON is an active low TTL compatible signal that turns on the main power rails.

	<i>PSU On</i>	<i>PSU Off</i>
PSON Signal	LOW (0.8V max.)	HI (2V min.)

3.7. Power Good Signal

Power Good, also called PG or PWOK, is an active high TTL compatible signal.

PG signal is to indicate that all output voltages are in regulation and ready for use.

Below is for a representation of the timing characteristics of PG signal.

Power Good on delay time	100ms to 500ms
Power Good off delay time	1ms (min.)



4. Protection

4.1. Over Current Protection

<i>Output</i>	<i>Min.</i>	<i>Max.</i>	<i>Comment</i>
+3.3V	110%	150%	PSU shutdown
+5V	110%	150%	PSU shutdown
+12V	110%	150%	PSU shutdown

4.2. Over Voltage Protection

<i>Output</i>	<i>Min.</i>	<i>Max.</i>	<i>Comment</i>
+3.3V	3.7V	4.1V	PSU shutdown
+5V	5.7V	6.5V	PSU shutdown
+12V	13.1V	14.5V	PSU shutdown

4.3. Short Circuit Protection

<i>Output</i>	<i>Comment</i>
+3.3V	PSU shutdown
+5V	PSU shutdown
+12V	PSU shutdown

4.4. Over Temperature Protection

The power supply would be protected against over temperature condition by loss of cooling or excessive ambient temperature. The PSU will shutdown in an OTP condition.

5. Insulation

5.1. Dielectric Withstand Voltage

Primary to Ground	1500Vac (10mA) for 1 second
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5.2. Leakage Current

Leakage current is 3.5mA maximum at 240Vac/50Hz.

6. Safety

CB、CE、TUV、UL、BSMI、CCC。

Please visit our website and get the latest safety certificate.



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7. EMC

CE 、 FCC 、 BSMI 、 CCC ◦ (Class A)

Please visit our website and get the latest EMC certificate.

8. Environmental Requirement

8.1. Temperature

Operating: 0°C to +45°C.

Non Operating: -20°C to +70°C.

8.2. Humidity

Operating: 20% to 90%,non-condensing.

Non Operating: 5% to 95% ,non-condensing.

8.3. Altitude

Operating: Up to 2000m.

8.4. Cooling Method

By DC fan.

9. Reliability

9.1. MTBF

Using MIL - HDBK -217F the calculated MTBF > 100,000 hours at 25°C.

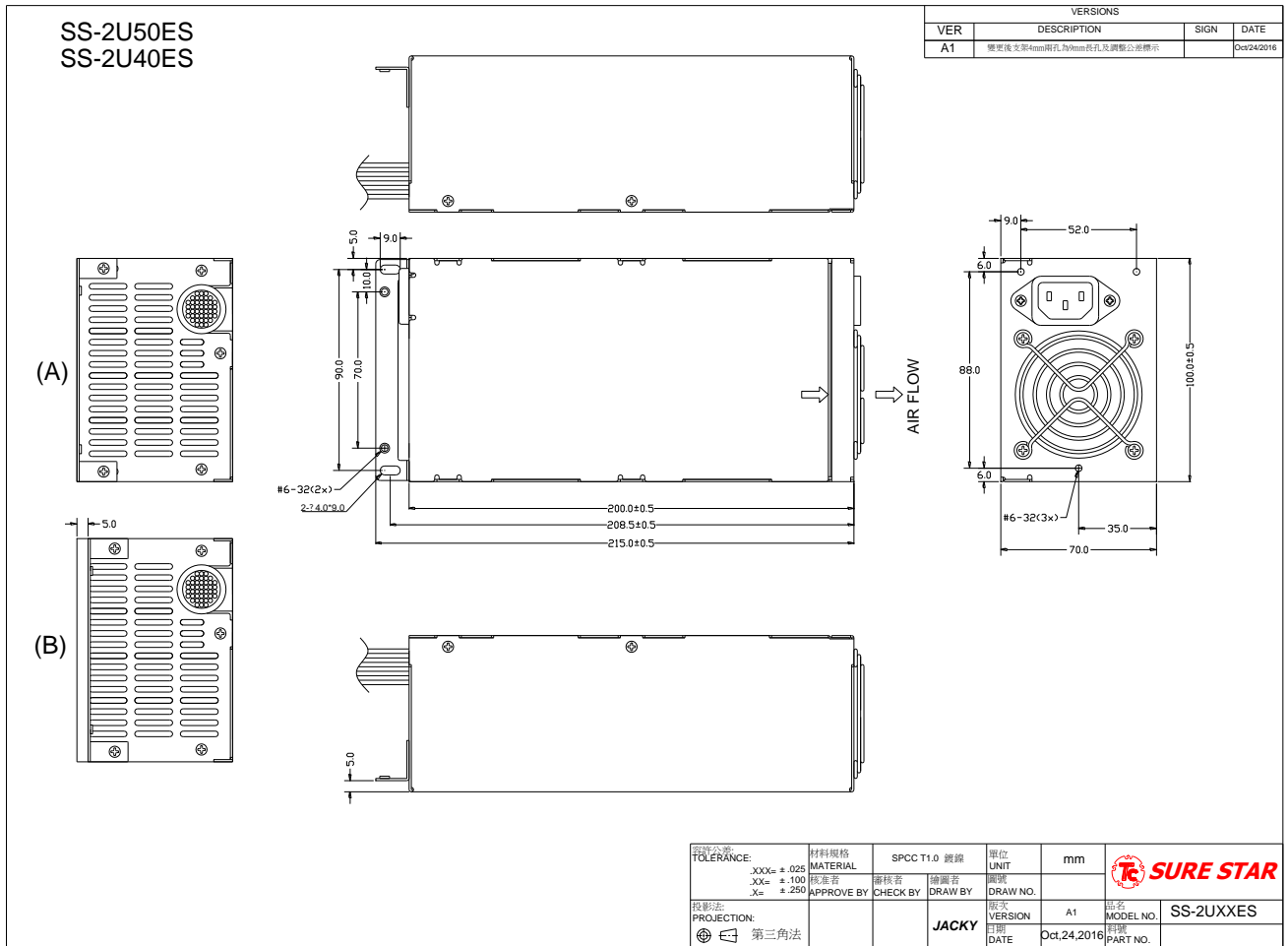


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10. Mechanical Drawing and Output Wire

10.1. Outline (bracket optional): L 200 x W 100 x H 70 mm.

For SS-2U40ES,SS-2U50ES





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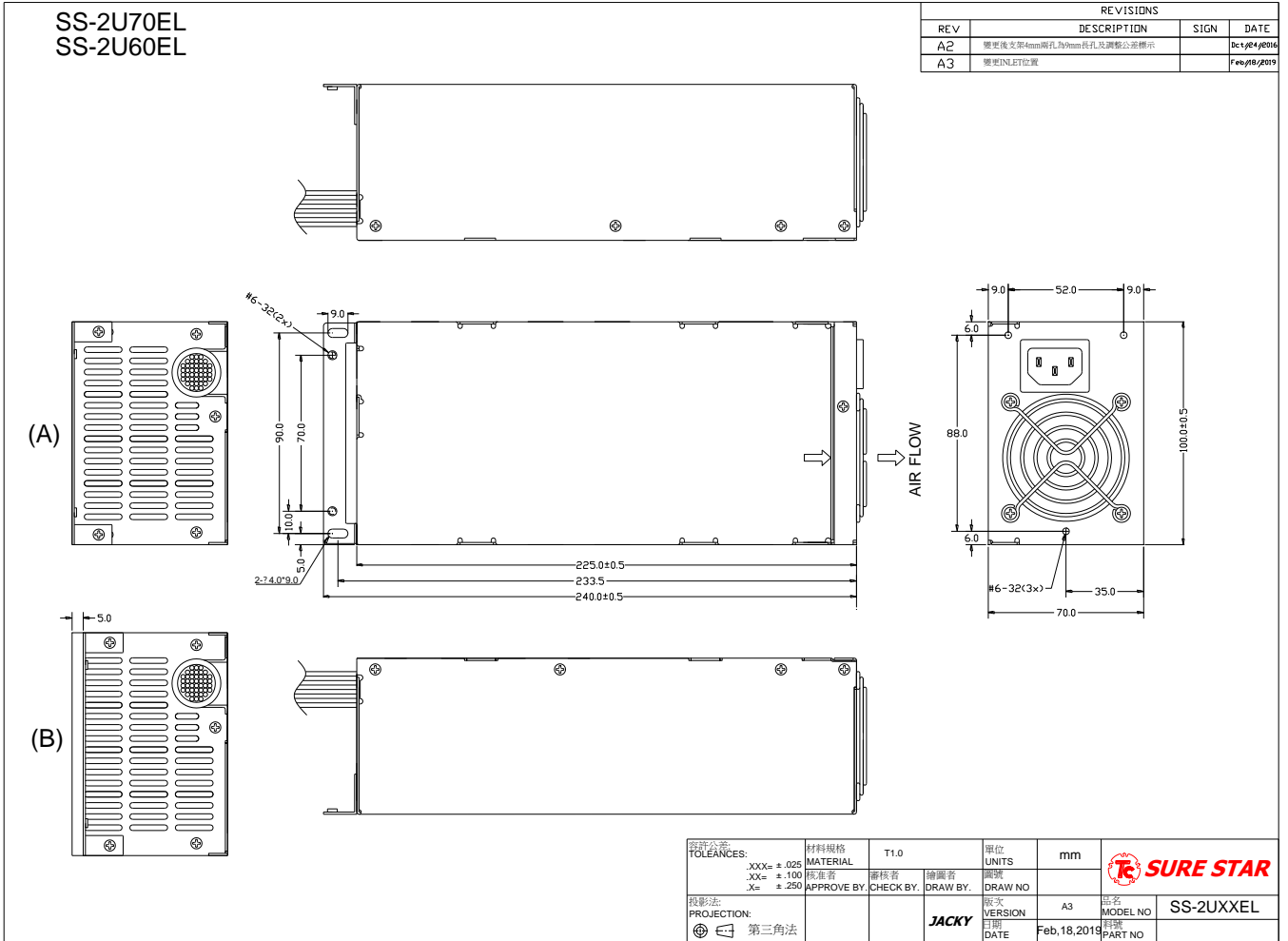
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10.2. Outline (bracket optional): L 225 x W 100 x H 70 mm.

For SS-2U60EL,SS-2U70EL





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10.3. Output Wire (could be customization): For SS-2U40ES,SS-2U50ES

VERSIONS			
VER	DESCRIPTION	SIGN	DATE

20+4Pins(EPS12V)				
HOUSING : MOLEX 5557 series or equivalent				
TERMINAL : MOLEX 5556 series or equivalent				
Housing No.	PIN No.	WIRE COLOR	LENGTH	PIN No.
P24	1	ORANGE(+3.3V)	20mm±18AWG	13
	2	ORANGE(+3.3V)	20mm±18AWG	14
	3	BLACK(GND)	20mm±18AWG	15
	4	RED(+5V)	20mm±18AWG	16
	5	BLACK(GND)	20mm±18AWG	17
	6	RED(+5V)	20mm±18AWG	18
	7	BLACK(GND)	20mm±18AWG	19
	8	GRAY(PG)	20mm±18AWG	20
	9	PURPLE(+5VSB)	20mm±18AWG	21
	10	YELLOW(+12V)	20mm±18AWG	22
	11	YELLOW(+12V)	20mm±18AWG	23
	12	ORANGE(+3.3V)	20mm±18AWG	24

8Pins(EPS12V)				
HOUSING : MOLEX 5557 series or equivalent				
TERMINAL : MOLEX 5556 series or equivalent				
4Pins(ATX12V FOR P4)				
HOUSING : MOLEX 5557 series or equivalent				
TERMINAL : MOLEX 5556 series or equivalent				
Housing No.	PIN No.	WIRE COLOR	SIGNAL	WIRE TYPE
P8	1	BLACK/BLACK	COM	18AWG/18AWG
	2	BLACK/BLACK	COM	18AWG/18AWG
	3	BLACK/BLACK	COM	18AWG/18AWG
	4	BLACK/BLACK	COM	18AWG/18AWG
	5	YELLOW	+12V	18AWG
	6	YELLOW	+12V	18AWG
	7	YELLOW	+12V	18AWG
	8	YELLOW	+12V	18AWG
P4	1	BLACK	COM	18AWG
	2	BLACK	COM	18AWG
	3	YELLOW	+12V	18AWG
	4	YELLOW	+12V	18AWG

4Pins(HD/CD-ROM/RW)				
HOUSING : MOLEX 8981 series or equivalent				
TERMINAL : MOLEX 8980 series or equivalent				
Housing No.	PIN No.	WIRE COLOR	SIGNAL	WIRE TYPE
P4H	1	YELLOW/YELLOW	+12V	18AWG
	2	BLACK/BLACK	COM	18AWG
	3	BLACK/BLACK	COM	18AWG
	4	RED/RED	+5V	18AWG
P4H1	1	YELLOW/YELLOW	+12V	18AWG
	2	BLACK/BLACK	COM	18AWG
	3	BLACK/BLACK	COM	18AWG
	4	RED/RED	+5V	18AWG
P4H2	1	YELLOW	+12V	18AWG
	2	BLACK	COM	18AWG
	3	BLACK	COM	18AWG
	4	RED	+5V	18AWG

4Pins(HD/CD-ROM/RW)				
HOUSING : MOLEX 8981 series or equivalent				
TERMINAL : MOLEX 8980 series or equivalent				
4Pins(FLOPPY DISK)				
HOUSING : AMP 171822 series or equivalent				
TERMINAL : AMP 170262 series or equivalent				
Housing No.	PIN No.	WIRE COLOR	SIGNAL	WIRE TYPE
P4H3	1	YELLOW/YELLOW	+12V	18AWG
	2	BLACK/BLACK	COM	18AWG
	3	BLACK/BLACK	COM	18AWG
	4	RED/RED	+5V	18AWG
P4H4	1	YELLOW/YELLOW	+12V	18AWG
	2	BLACK/BLACK	COM	18AWG
	3	BLACK/BLACK	COM	18AWG
	4	RED/RED	+5V	18AWG
P4H5	1	YELLOW/YELLOW	+12V	18AWG
	2	BLACK/BLACK	COM	18AWG
	3	BLACK/BLACK	COM	18AWG
	4	RED/RED	+5V	18AWG
P4F1	1	YELLOW	+12V	22AWG
	2	BLACK	COM	22AWG
	3	BLACK	COM	22AWG
	4	RED	+5V	22AWG

SATA HDD				
HOUSING : MOLEX 67582 series or equivalent				
TERMINAL : MOLEX 67581 series or equivalent				
Housing No.	PIN No.	WIRE COLOR	SIGNAL	WIRE TYPE
S1	1	ORANGE	+3.3V	18AWG
	2	BLACK/BLACK	COM	18AWG
	3	RED/RED	+5V	18AWG
	4	BLACK/BLACK	COM	18AWG
	5	RED/YELLOW/RED	+12V	18AWG
S2	1	ORANGE	+3.3V	18AWG
	2	BLACK	COM	18AWG
	3	RED	+5V	18AWG
	4	BLACK	COM	18AWG
	5	YELLOW	+12V	18AWG

比例尺: 300% X=	材料: 第三角法	日期: 2023/7/25	零件: mm	
公差: 300% X=	材料: 第三角法	日期: 2023/7/25	零件: mm	
比例尺: 300% X=	材料: 第三角法	日期: 2023/7/25	零件: mm	
公差: 300% X=	材料: 第三角法	日期: 2023/7/25	零件: mm	



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10.4. Output Wire (could be customization): For SS-2U60EL,SS-2U70EL

VERSIONS			
VER	DESCRIPTION	SIGN	DATE

20+4Pins(EPS12V)					
HOUSING : MOLEX 5557 series or equivalent					
TERMINAL : MOLEX 5556 series or equivalent					
Housing	PIN No.	WIRE COLOR	LENGTH	WIRE No. COLOR LENGTH	
P24	1	ORANGE(+3.3V)	420mm±18AWG	13	ORANGE(+3.3V) 420mm±18AWG
	2	ORANGE(+3.3V)	420mm±18AWG	14	BLUE-12V 420mm±18AWG
	3	BLACK(GND)	420mm±18AWG	15	BLACK(GND) 420mm±18AWG
	4	RED(+5V)	420mm±18AWG	16	BLACK(GND) 420mm±18AWG
	5	BLACK(GND)	420mm±18AWG	17	BLACK(GND) 420mm±18AWG
	6	RED(+5V)	420mm±18AWG	18	BLACK(GND) 420mm±18AWG
	7	BLACK(GND)	420mm±18AWG	19	BLACK(GND) 420mm±18AWG
	8	GRAY(PG)	420mm±18AWG	20	NC
	9	PURPLE(+5VSB)	420mm±18AWG	21	RED(+5V) 420mm±18AWG
	10	YELLOW(+12V)	420mm±18AWG	22	RED(+5V) 420mm±18AWG
	11	YELLOW(+12V)	420mm±18AWG	23	RED(+5V) 420mm±18AWG
	12	ORANGE(+3.3V)	420mm±18AWG	24	BLACK(GND) 420mm±18AWG

8Pins(EPS12V)					
HOUSING : MOLEX 5557 series or equivalent					
TERMINAL : MOLEX 5556 series or equivalent					
4Pins(ATX12V FOR P4)					
HOUSING : MOLEX 5557 series or equivalent					
TERMINAL : MOLEX 5556 series or equivalent					
Housing	PIN No.	WIRE COLOR	SIGNAL	WIRE TYPE LENGTH	
P8	1	BLACK	BLACK	COM 18AWG±18AWG	440mm±20mm
	2	BLACK	BLACK	COM 18AWG±18AWG	
	3	BLACK	BLACK	COM 18AWG±18AWG	
	4	BLACK	BLACK	COM 18AWG±18AWG	
P4	5	YELLOW	+12V	18AWG	150mm±15mm
	6	YELLOW	+12V	18AWG	
	7	YELLOW	+12V	18AWG	
	8	YELLOW	+12V	18AWG	

4Pins(HD/CD-ROM/RW)					
HOUSING : MOLEX 8981 series or equivalent					
TERMINAL : MOLEX 8980 series or equivalent					
Housing	PIN No.	WIRE COLOR	SIGNAL	WIRE SIZE LENGTH	
P4H	1	YELLOW	YELLOW	+12V 18AWG	430mm±20mm
	2	BLACK	BLACK	COM 18AWG	
	3	BLACK	BLACK	COM 18AWG	
	4	RED	RED	+5V 18AWG	
P4H1	1	YELLOW	YELLOW	+12V 18AWG	150mm±15mm
	2	BLACK	BLACK	COM 18AWG	
	3	BLACK	BLACK	COM 18AWG	
P4H2	1	YELLOW	YELLOW	+12V 18AWG	150mm±15mm
	2	BLACK	BLACK	COM 18AWG	
	3	BLACK	BLACK	COM 18AWG	

4Pins(HD/CD-ROM/RW)					
HOUSING : MOLEX 8981 series or equivalent					
TERMINAL : MOLEX 8980 series or equivalent					
4Pins(FLOPPY DISK)					
HOUSING : AMP 171822 series or equivalent					
TERMINAL : AMP 170262 series or equivalent					
Housing	PIN No.	WIRE COLOR	SIGNAL	WIRE SIZE LENGTH	
P4H3	1	YELLOW	YELLOW	+12V 18AWG	430mm±20mm
	2	BLACK	BLACK	COM 18AWG	
	3	BLACK	BLACK	COM 18AWG	
	4	RED	RED	+5V 18AWG	
P4H4	1	YELLOW	YELLOW	+12V 18AWG	150mm±15mm
	2	BLACK	BLACK	COM 18AWG	
	3	BLACK	BLACK	COM 18AWG	
P4H5	1	YELLOW	YELLOW	+12V 18AWG	150mm±15mm
	2	BLACK	BLACK	COM 18AWG	
	3	BLACK	BLACK	COM 18AWG	
P4F1	1	YELLOW	YELLOW	+12V 22AWG	150mm±15mm
	2	BLACK	BLACK	COM 22AWG	
	3	BLACK	BLACK	COM 22AWG	
	4	RED	RED	+5V 22AWG	

SATA HDD					
HOUSING : MOLEX 67582 series or equivalent					
TERMINAL : MOLEX 67581 series or equivalent					
Housing	PIN No.	WIRE COLOR	SIGNAL	WIRE TYPE LENGTH	
S1	1	ORANGE	ORANGE	+3.3V 18AWG	430mm±20mm
	2	BLACK	BLACK	COM 18AWG	
	3	RED	RED	+5V 18AWG	
	4	BLACK	BLACK	COM 18AWG	
	5	YELLOW	YELLOW	+12V 18AWG	
S2	1	ORANGE	ORANGE	+3.3V 18AWG	150mm±15mm
	2	BLACK	BLACK	COM 18AWG	
	3	RED	RED	+5V 18AWG	
	4	BLACK	BLACK	COM 18AWG	
	5	YELLOW	YELLOW	+12V 18AWG	

圖形標準 TOLERANCE XXX+ XXX- X±	材料標準 MATERIAL 材料標準 APPROVE BY	檢查 CHECK BY	繪圖 DRAW BY	mm	
第三角法	Waylon			AD	Wireout_SS-2U60-70EL
				DATE	2023/7/25



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11. Customization Note

Customization note shall be listed here.

End of File

NOTE : This data is subject to change without notice.