

CUSTOMER

JAMES

SPECIFICATION FOR APPROVAL

AC/DC ADAPTOR

CUSTOMER SPEC: INPUT: 100-240V AC 50/60Hz OUTPUT: 12VDC 10A

CUSTOMER DWG./PART NO.

PART NO. 2ABU120F

SAMPLE NO: A211220-01 REV.: ISSUE DATE: 2021-12-21

PRDUCT NO:

Unit Color: Black



White



APPROVED SIGNATURES/客户确认		
核准/APPROVED BY	审核/CHECKED BY:	检测/TESTED BY:

Manufacturer/制造商			
业务/SALES	品管/QE	核准/APPROVED BY	制样/DESIGNED BY
EDDY 袁	周松平	宋军	阳灿

Von Development Ltd. 旺怡發展有限公司

1A, Fook Ying Bldg, 379 Kings Road, North Point, Hong Kong

TEL: 852-2187-2875

FAX: 852-3012-1881

info@vonhk.com

	MODEL NO : 2ABU120F ENGINEERING SPECIFICATION SHEET
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1 SCOPE

This document describes basic electrical characteristics and mechanical requirements of Model No. _____
2ABU120F switching power supply.

2 ELECTRICAL SPECIFICATION

2.1 INPUT REQUIREMENT

2.1.1 INPUT VOLTAGE RANGE

Power supply shall operate within specification from 90 to 264Vrms or provide automatic switching in two ranges. The table below shows common input voltage range.

Input Range	Minimum	Nominal	Maximum	Unit
	90	100-240	264	Vac, rms

Table 1 - Input Voltage Range

2.1.2 INPUT FREQUENCY RANGE

The power supply shall operate within specification from 47 to 63 Hz.

2.1.3 AC INRUSH CURRENT

It shall be limited to a level below the I^2t of the fuse and the bridge diode. No damage.

2.1.4 INPUT CURRENT

Maximum steady state input current shall not exceed 2.0 A for any line voltage specified in 2.1.1.

2.1.5 LOW POWER CONSUMPTION

Vin	Load	Power consumption
230Vac / 50Hz	0A	< 0.15 W

2.1.6 POWER FACTOR

$PF > 0.9$ (at 115V/230VAC with Full load)

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2.2 INPUT PROTECTION

2.2.1 INPUT CURRENT PROTECTION

A fuse with rating of 3.15 A / 250 V(Time Lag) shall be installed on the input line side near the input connector to provided protection to the power supply.

2.2.2 INPUT CURRENT HARMONIC

Input current harmonic of the power supply should meet IEC 61000-3-2 requirement.

2.3 OUTPUT REQUIREMENT

2.3.1 OUTPUT POWER

Unit total output power, under steady state conditions, shall not exceed 120 W .

2.3.2 OUTPUT VOLTAGE AND CURRENT

Under any combination of line and load variation and environmental conditions, all outputs shall remain within tolerance defined in Table 2. Output voltage(s) shall be measured at the load side of output connector.

	Output Voltage	Voltage Range		Current Range		
		Lower Limit	Upper Limit	Minimum Load	Full rated load	Peak Load
1	+12V	11.4V	12.6V	0A	10A	13A@10s (115/230VAC)

Table 2 - Output Voltage and Current

2.3.3 RIPPLE AND NOISE

Measurements shall be made with an oscilloscope with minimum of 20MHz bandwidth. Output shall be bypassed at the connector with a 0.1µF ceramic disk capacitor and a 10µF electrolytic capacitor for general testing purpose.

Output Voltage	Maximum Ripple & Noise (Vp-p)
+12V	240mV

Table 3 – Ripple and Noise

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2.3.4 OVER VOLTAGE PROTECTION

The power supply shall be provided with over voltage protection such that under any single component failure, output channel shall exceed the voltages specified, the first will clamp, second will latch minimum load 0.1A.

Output Voltage	Maximum OVP Trip Voltage
+12V	+22V

Table 4 – Over Voltage Protection

Note : In the event of latch an over - voltage condition on output voltage, the power supply shall shutdown and require remove the AC mains.

2.3.5 OVER CURRENT PROTECTION

Over current protection shall be operated within specify 14.5A (min) ~ 20A (Max) , defined in section 2.3.1 at 100~240Vac line input or temperature conditions.

2.3.6 OVERSHOOT AND UNDERSHOOT

During turn on, turn off condition, the output overshoot shall not exceed nominal voltage by more than 10 %, and output shall not change its polarity with respect to its return line.

2.3.7 SHORT CIRCUIT PROTECTION

Power supply shall have self-limiting protection to protect against short circuit or overload conditions. No damage to the supply shall result from a continuous or intermittent short circuit condition.

2.3.8 AUDIBLE NOISE

There is no audible noise can be heard when it works at rated spec

2.4 PERFORMANCE REQUIREMENT

2.4.1 EFFICIENCY

Efficiency (watt out / watt in) shall be a minimum of 89% with average mode at 115V/60Hz & 230Vac/50Hz input

Shall comply with DOE level 6

European CoC - EPS Version 5 Tier 2

2.4.2 TURN ON DELAY TIME

Output shall reach steady state in 3 seconds after turn on.

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2.4.3 HOLD-UP TIME

Hold-up time shall be a minimum of 8_ms at 45 degrees, 115Vac / 60Hz of input.

Hold-up time shall be a minimum of 8_ms at 45 degrees, 230Vac / 50Hz of input.

2.4.4 DYNAMIC LOAD

Power supply shall operate within regulation defined at following conditions:

Rate output voltage: +/-10%

Step load change: from 0 to 5A and 5 to 10A on the output

Dwell Time: 100Hz & 1 KHz 50% duty.

Slew rate: 2.5A/usec

3 ENVIRONMENTAL SPECIFICATION

3.1 TEMPERATURE

Operation within specification: 0 to 40 degrees C.

Storage: -20 to 80 degrees C

3.2 HUMIDITY

Operation: 10% to 90% relative humidity, non-condensation.

Storage: 5% to 95% relative humidity, non-condensation.

3.3 VIBRATION

Operating: 10-250Hz, 0.25G peak to peak, 3 axes, 15 min sweep.

Storage: 10-300Hz, 2.0G peak to peak, 3 axes, 15 min sweep.

3.4 ALTITUDE

Power supply shall operate to an altitude of 5000 m

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3.5 CALCULATED MEAN TIME BETWEEN FAILURES (MTBF)

The MTBF for the power shall equal or exceed 200,000 hours when operated at full rated load and AC110V or AC230V in an ambient temperature of 40 °C by Telcordia SR-332, issue 2.

Minimum E-capacitor lifetime is 3 years at 25°C at AC 110V/230V and with 100% nominal load.

4 REGULATORY COMPLIANCE

4.1 EMC SPECIFICATION

4.1.1 FCC REQUIREMENTS

Power supply shall comply with the radiated and conducted emission requirements for FCC Class B.

4.1.2 CISPR REQUIREMENTS

Power supply shall comply with the radiated and conducted emission requirements for CISPR 22 Class B.

4.2 IMMUNITY

4.2.1 ELECTROSTATIC DISCHARGE (ESD), EN 61000-4-2

The power supply shall compliance to EN61000-4-2, withstand the following ESD conditions at any point on the power supply enclosure when tested as following condition.

+/- 8KV discharge by air & +/- 4KV discharge by contact, no damage.

The storage capacitance shall be 150 pF and the discharge resistance shall be 330 ohms. The power supply shall meet all discharge requirements for the CE Mark designation.

4.2.2 RADIATED FIELD IMMUNITY, EN 61000-4-3

Power supply shall withstand following condition:

Frequency Range: 80 - 1000MHz

Field Strength: 3 V/m with 80% amplitude modulation of 1 kHz

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4.2.3 FAST TRANSIENT IMMUNITY, EN 61000-4-4

Power supply shall withstand EN 61000-4-4 +/-1kV requirements.

4.2.4 SURGE IMMUNITY, EN 61000-4-5

Power supply shall withstand 1kV (L – L) and 2kV (L – PE) without functional failure.

4.2.5 CONDUCTED IMMUNITY, EN 61000-4-6

Power supply shall withstand following condition:

Frequency Range: 0.15 - 80MHz

Field Strength: 3 V/m with 80% amplitude modulation of 1 kHz

4.2.6 VOLTAGE DIPS AND INTERRUPTIONS, EN 61000-4-11

Power supply shall meet EN61000-4-11 requirements.

4.3 AGENCIES CERTIFICATIONS

Unless otherwise specified, the supply is designed to meet IEC 60950-1 and/or equivalent safety standards for use in Information Technology Equipment. For desktop universal adapter, CB certificate will identify and support worldwide deviations. Specific agency certifications will be applied at customer's request and cost.

4.3.1 PRODUCT SAFETY COMPLIANCE

Agency	Countries
(cUL)	Canada
(UL)	USA
(TUV)	Europe

Table 5 - Safety Compliance

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4.3.2 LEAKAGE CURRENT

Power supply touch current shall not exceed 3.5 mA at input voltage of 264Vac / 60Hz.

4.3.3 DIELECTRIC STRENGTH

The power supply shall withstand following Hi-pot test without breakdown.

4242 Vdc input(L & N) to output for 3 seconds.

2121 Vdc primary(L & N) to PE(primary earth ground) for 3 seconds.

4.3.4 INSULATION RESISTANCE

It shall be more than 50M ohm 500VDC 60S, between primary and secondary. 25°C
/55%RH.

5 MECHANICAL**5.1 INPUT CONNECTOR AND OUTPUT CABLE****5.1.1 INPUT CONNECTOR**

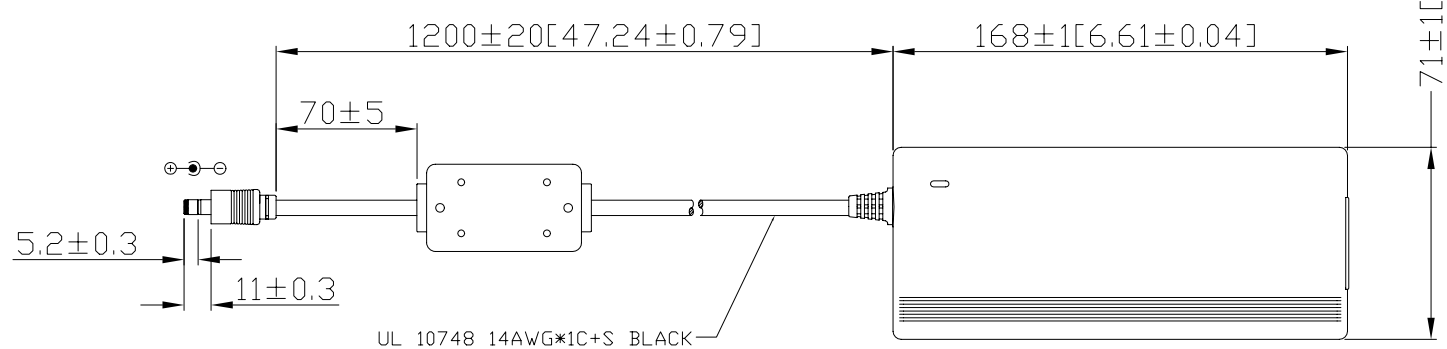
AC Input connector shall be an IEC60320 C14 power connector (International Class I Plug Style).

5.1.2 OUTPUT CABLE:

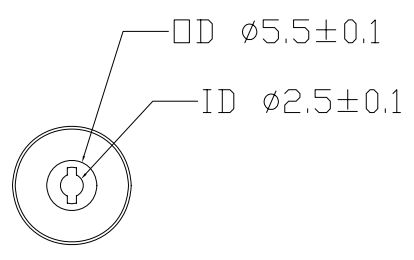
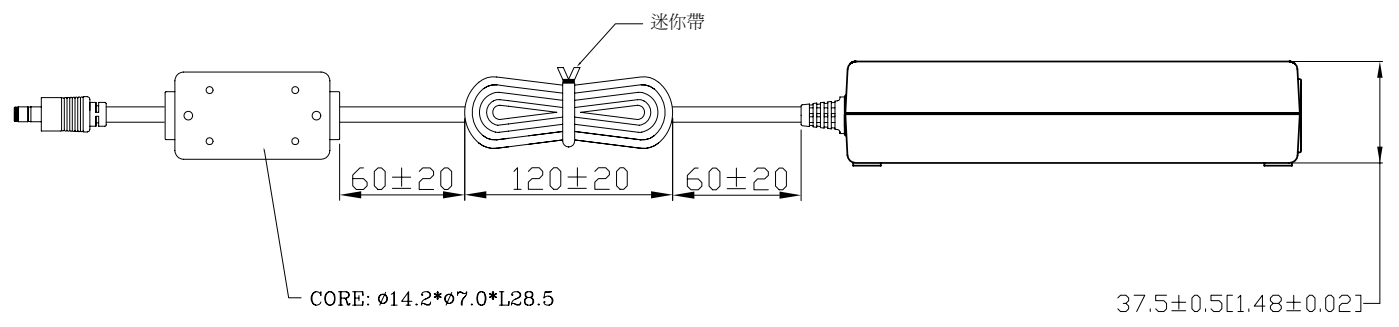
Refer to Refer to drawing.

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REV.	DESCRIPTION	DESIGNED	DATE
A01	新製	wb. liao	2016-02-17



PLUG TYPE: Ø5.5*Ø2.5*L11
音叉長叉溝式,內縮1.5±0.2mm



NOTES:

- CASE & CABLE COLOR : BLACK
- CABLE SPEC.:CABLE ARE UL 10748 14AWG*1C+S BLACK
- MODEL:G99-ABU120F-N025
- PART NO.:G18-B3W112A-M400

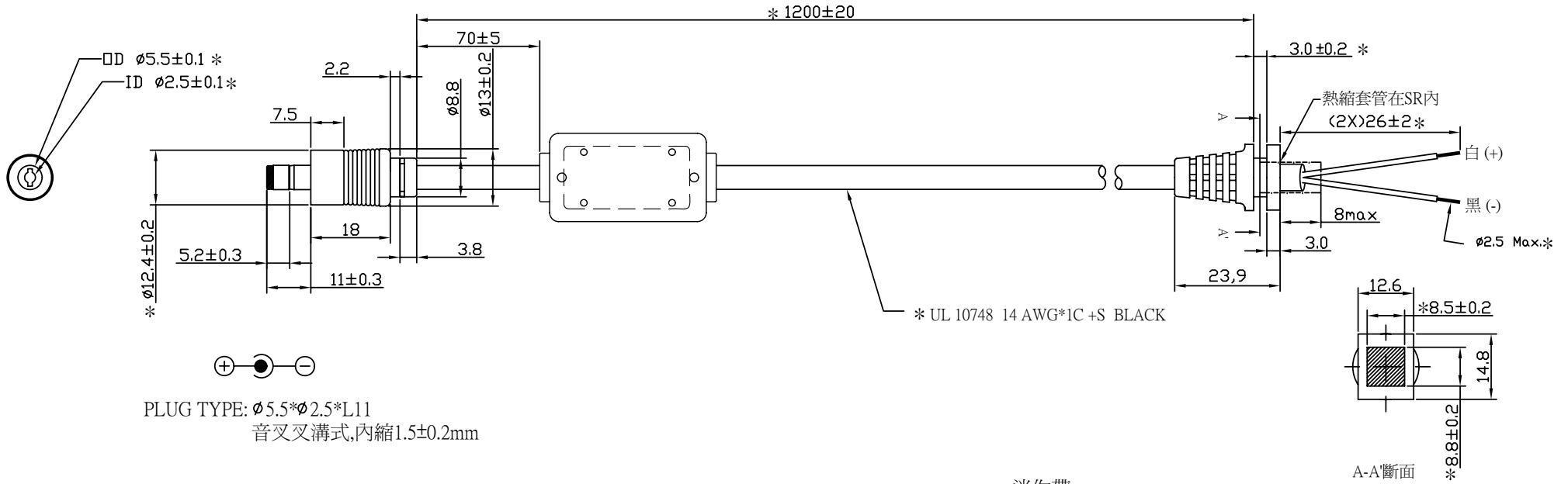
	APPROVED	DRAWING NO.	UNIT	REV.
	WB.LIAO		INCHES(MM)	A
TITLE	DATE	MODEL NO.	TOLERANCES:	SHEET
Desktop Switching Adapter	2016.02.17	2ABU120F	.X = ±0.1 .XX = ±0.15	1/1

A

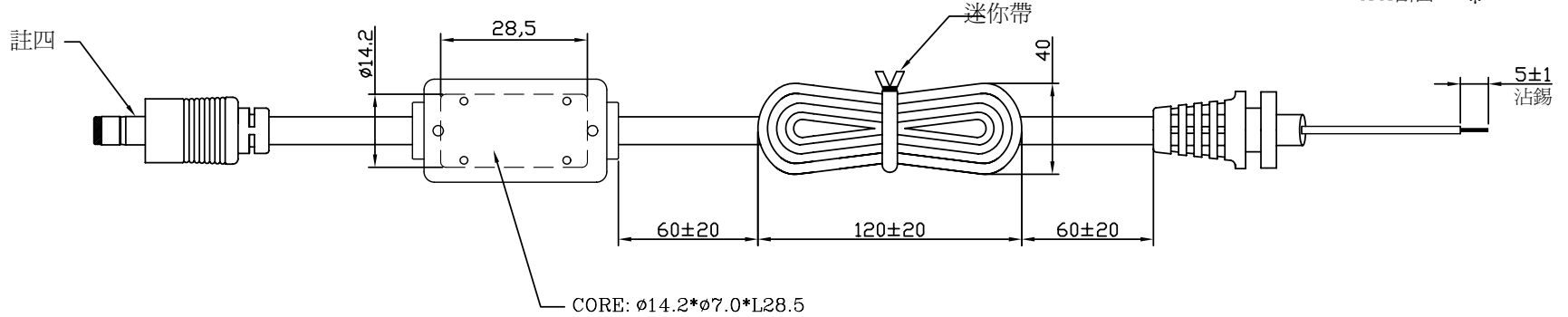
B

C

D



PLUG TYPE: $\phi 5.5 \times \phi 2.5 \times L11$
音叉叉溝式, 內縮 $1.5 \pm 0.2 \text{mm}$



- 註:
- 電性測試:
 - 耐電壓: AC 500V/秒, 測試無異常.
 - 絕緣抵抗: DC 500V 50MΩ以上.
 - 導通測試: 無斷線、短路、極性反(芯線接內極).
 - 拉力測試: 電線與S/R間吊重 9Kg經過1分鐘 無斷線脫落等異常.
 - 折曲測試: 電線吊重300g, 左右各 60°往復搖擺, 45次/分, 往復3,000 回後, 不完全斷線且外觀無脫落、斷裂等異常.
 - PLUG 需耐10A, 深圳泰及電子有限公司 NUMBER SF552250240-01 5.5X2.5X24音叉長叉溝, 或同等級.

標註 "*" 為 IQC 必須檢驗的尺寸或內容.

環保材料標準:

No	有害物質名稱	含量標準	SHEET METAL TOLERANCE (UNLESS OTHERWISE SPECIFIED)				0.1	在G18-B3W112A-M300上修改DC頭為5.5*2.5*11		
1	鎘 (Cd)	<75ppm					REV	DESCRIPTION		
2	鉛 (Pb)	<800ppm	DIMENSION	PIERCING	BENDING	ANGULAR		UNIT: mm	MODEL NO.: 120W (12V)	
3	汞 (Hg)	<800ppm	X < 8	±0.1	±0.15	±0.3*		MATERIAL	PART NO.: G18-B3W112A-M400	
4	六價鉻 (Cr)	<800ppm	8 ≤ X < 25	±0.1	±0.2	±0.5*		DRAWING NO.: 2012CBL060		
5	多溴聯苯 (PBB)	<800ppm	25 ≤ X < 100	±0.15	±0.25	±0.5*	APPROVED	CHECKED	DESIGNED	DC CABLE
6	多溴二苯醚 (PBDE)	<800ppm	100 ≤ X < 300	±0.2	±0.3	±1*		xq wu	jh huang	SCALE:
7	鎘, 鉛, 六價鉻, (包裝材料) 總含量 < 100ppm	<100ppm	300 ≤ X < 800	±0.3	±0.5	±1.5*	DATE:	DATE: 2012.10.30	DATE: 2012.10.30	THIRD ANGLE PROJECTION

A

B

C

D



NOTES:

1. MATERIAL:
Base on grid 50# Dumb white PET/網格底50#啞白PET WITH ADHESIVE ON THE BACK.
THE BACK ADHESIVE MUST CONFORM TO THE UL REQUIREMENT.
THE LABEL IS NOT ALLOWED TO CURL UPWARDS OR WINKLE AT 80 C FOR 2 HOURS.
2. PRINTED:
BLACK BACKGROUND WITH WHITE CHARACTERS.
3. Factory ID(製造廠代碼):G(貴冠廠)
4. SURFACE TREATMENT(表面處理): DUMB FILM(啞膜).

Material standard of environmental protection:

No	Hazardous Substances	Content Standards
1	鎘 (Cd)	< 56 ppm
2	鉛 (Pb)	< 700 ppm
3	汞 (Hg)	< 700 ppm
4	六價鉻 (Cr ⁶⁺)	< 700 ppm
5	多溴聯苯 (PBB)	< 700 ppm
6	多溴二苯醚 (PBDE)	< 700 ppm
7	鄰苯二甲酸二(2-乙基己)酯 (DEHP)	< 700 ppm
8	鄰苯二甲酸二(2-丙基)酯 (DBP)	< 700 ppm
9	鄰苯二甲酸二(1,3-丁二)酯 (DBP)	< 700 ppm
10	鄰苯二甲酸二(4-丁基)酯 (DBP)	< 700 ppm
11	包裝材料(Packaging materials)	總含量 < 100 ppm
12	多環芳烴(化合物)(PAHs)	NA

GENERAL TOLERANCE ± (UNLESS OTHERWISE SPECIFIED)				D01	NEW					
LEVEL	DIMENSION	SELECT LEVEL:			ANGULAR TOLERANCE	REV.	DESCRIPTION			
		A	B	C			UNIT: mm	MODEL NO.: 2ABU120F	MATERIAL	PART NO.: G35-DF
	X < 8	± 0.1	± 0.15	± 0.2	± 0.3°					
	8 ≤ X < 20	± 0.1	± 0.2	± 0.3	± 0.5°					
	25 ≤ X < 100	± 0.15	± 0.25	± 0.4	± 0.5°	APPROVED	SAFETY	CHECKED	DESIGNED	
	100 ≤ X < 300	± 0.2	± 0.3	± 0.5	± 1°	qun.li	ken.hu	qun.li	Nickole	SCALE:
	300 ≤ X < 800	± 0.3	± 0.5	± 0.8	± 1.5°	DATE: 2021.06.16	DATE: 2021.06.16	DATE: 2021.06.16	DATE: 2021.06.16	THIRD ANGLE PROJECTION

