1. GENERAL DESCRIPTION AND SCOPE

This specification is for Model# ATEC-24V700-PDB, AC-line powered switching power supply. It features Active PFC (Power Factor Correction) circuits with Full Range Input features, and meets EN61000-3-2.
The specification contained is intended to describe in detail the functions and performance of this product. Any comment or additional requirements to this specification from our customers will be highly appreciated and treated as new target for us to approach.

2. REFERENCE DOCUMENTS

The subject power supply meets the EMI requirements and obtain main safety approvals as following:

2.1 EMI REGULATORY

- FCC Part 15 Subpart J, Class 'B' 115 Vac operation.
- CISPR 22 Class 'B' 230 Vac operation.

3. PHYSICAL REQUIREMENTS

3.1 MECHANICAL SPECIFICATIONS

The mechanical drawing of the subject power supply, which indicates the form factor, location of the mounting holes, location, the length of the connectors, and other physical specifications of the subject power supply. (Please refer to the attachment drawing).

3.2 CONNECTOR SPECIFICATIONS

The power supply connectors are:

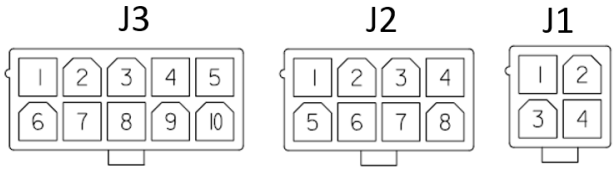
AC Inlet	**: The equivalent of TKP-7619P1-03, 3 pins connector**
1 X 24 Pin	**: The equivalent of Molex 39-01-3245, 24 pins connector**
1 X 4 Pin	**: The equivalent of Molex 8981-04P, 4 pins connector**
+12V	**: The equivalent of Molex 39-01-2041, 4 pins connector**
+24V	**: The equivalent of Molex 39-01-2080, 8 pins connector**

3.3 CONNECTOR PIN DESIGNATIONS

The pin designations and color codes are defined as follows:

Ref ID	Pin No	Wire Color	Signal	Cable Length
8P	8	Brown	+24V	305 +/- 20mm
	7	Brown	+24V	
	6	Brown	+24V	
	5	Brown	+24V	
	4	Black	Gnd	
	3	Black	Gnd	
	2	Black	Gnd	
	1	Black	Gnd	
4P	4	Yellow	+12V	
	3	Yellow	+12V	
	2	Black	Gnd	
	1	Black	Gnd	
4P	4	Red	+5V	
	3	Black	Gnd	
	2	Black	Gnd	
	1	Yellow	+12V	
24P	24	Black	Gnd	
	23	Red	+5V	
	22	Red	+5V	
	21	Red	+5V	
	20	NA	NA	
	19	Black	Gnd	
	18	Black	Gnd	
	17	Black	Gnd	
	16	Green	PS-On	
	15	Black	Gnd	
	14	Brown	+3.3VS	
	13	Orange	+3.3V	
	12	Orange	+3.3V	
	11	Yellow	+12V	
	10	Yellow	+12V	
	9	Purple	+5Vsb	
	8	Gray	PG	
	7	Black	Gnd	
	6	Red	+5V	
	5	Black	Gnd	
	4	Red	+5V	
	3	Black	Gnd	
	2	Orange	+3.3V	
	1	Orange	+3.3V	

Pin	J3	J2	J1
10	+12V		
9	+12V		
8	+12V	+24V	
7	+12V	+24V	
6	+12V	+24V	
5	Gnd	+24V	
4	Gnd	Gnd	+12V
3	Gnd	Gnd	+12V
2	Gnd	Gnd	Gnd
1	Gnd	Gnd	Gnd



Connector on Panel : Top View

4. ELECTRICAL REQUIREMENTS

4.1 OUTPUT ELECTRICAL REQUIREMENTS

The subject power supply will meet all electrical specifications as below, over the full operation temperature range and dynamic load regulation.

4.1.1. OUTPUT RATING

AC Input		100 - 240V 10 - 5A 60 / 50 Hz						
DC Output		+3.3V	+5V	+12V	+24V	-12V	-5V	+5Vsb
700W	Max	18A	18A	30A	12A	1A	NA	3A
	Min	0.2A	0.2A	0.2A	0.2A	0A	NA	0A
	Total	700W						

(1) Total output for this subject power supply is 700 watts.
(2) Ripple and noise measurements shall be made under all specified load conditions through a single pole low pass filter with 20MHz cutoff frequency. Outputs shall by passed at the connector with a 0.luF ceramic disk capacitor and a 47uF electrolytic capacitor to simulate system loading.

4.1.2. HOLD-UP TIME (@FULL LOAD)

115V / 6OHz : 16.5 Sec. Minimum.
230V / 50Hz: 17 mSec. Minimum

4.1.3.OUTPUT RISE TIME

(10% TO 90% OF FINAL OUTPUT VALUE, @FULL LOAD)
115V rms or 230V rms + 5Vdc : 20ms Maximum

4.1.4.SHORT CIRCUIT PROTECTION

Output short circuit is defined to be a short circuit load of less than 0.1 ohm.

In the event of an output short circuit condition on +24V, +5V or +12V, -12V output, the power supply will shut down and latch off without damage to the power supply. The power supply shall return to normal operation after the short circuit has been removed. Meanwhile, after disconnecting the AC power to draw a line on the time of not less than 5 seconds.

4.1.5.OVERLOAD PROTECTION

OPP protection, protection for the full load range of 110% - 150%
The overload protection must be such that the power supply is protected from damage by entering a shutdown condition.

4.2. INPUT ELECTRICAL SPECIFICATIONS

4.2.1. VOLTAGE RANGE

PARAMETER		UNITS
V-in Range	100 - 240	V-rms

4.3.2. INPUT FREQUENCY

INPUT FREQUENCY	50-60Hz

4.3.3. INRUSH CURRENT

(Cold start -25 deg. C)

115V	No damage
230V	No damage

(No damage)

4.3.4. INPUT LINE CURRENT

115V	10.0 Amps -rms maximum
230V	5.0 Amps —rms maximum

4.4. EFFICIENCY

	Full load (100%)	Typical load (50%)	Light load 20%
115VAC	80%	80%	80%
230VAC	80%	80%	80%

5.ENVIRONMENTAL REQUIREMENTS

The power supply will be compliant with each item in this specification for the following Environmental conditions.

5.1. TEMPERATURE RANGE

Operating	**700W**	**0 to +50 deg. C**
Storage		**-20 to +80 deg. C**

5.2. HUMIDITY

Operating	**5-90% RH, Non-condensing**
Storage	**5-95% RH, Non-condensing**

5.3. VIBRATION

The subject power supply will withstand the following imposed conditions without experiencing non-recoverable failure or deviation from specified output characteristics.

Vibration Operating - Sine wave excited, 0.25 G maximum acceleration, 10-250 Hz swept at one octave / min. Fifteen minute dwell at all resonant points, where resonance is defined as those exciting frequencies at which the device under test experiences excursions two times large than non-resonant excursions.

Plane of vibration to be along three mutually perpendicular axes.

5.4. SHOCK

The subject power supply will withstand the following imposed conditions without experiencing non-recoverable failure or deviation from specified output characteristics.

Storage **40G, 11 mSec. half-sine wave pulse in both directions on three mutually perpendicular axes.**

Operating **10G,11 mSec. half-sine wave pulse in both directions on three mutually Perpendicular axes.**

6. LABELLING

Label marking will be permanent, legible and complied with all agency requirements.

6.1. MODEL NUMBER LABEL

Labels will be affixed to the sides of the power supply showing the following:

- Manufacturer's name and logo.
- Model no., serial no., revision level, location of manufacturer. - The total power output and the maximum load for each output. - AC input rating.

6.2 DC OUTPUT IDENTIFICATION

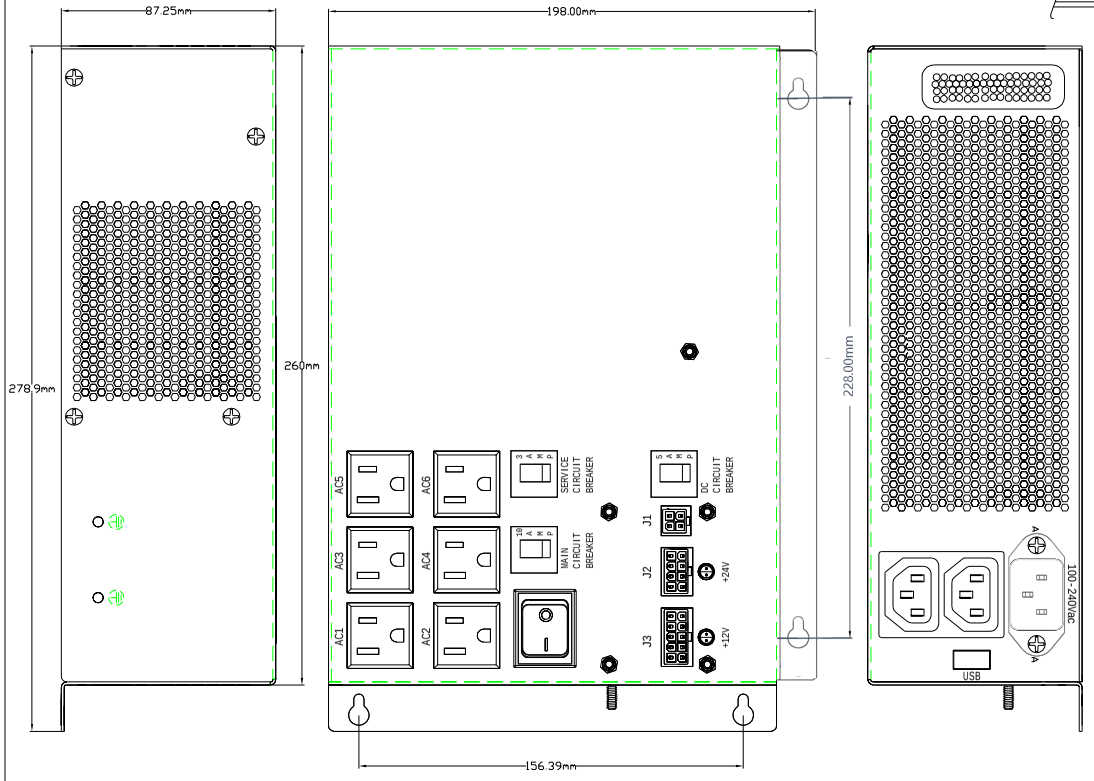
Each output connector will be labeled.

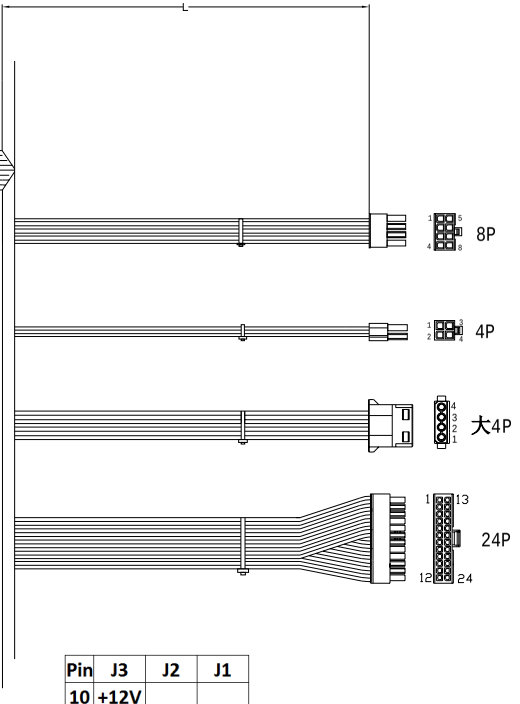
7. RELIABILITY

7.1. MTBF

The power supply have a minimum predicted MTBF(MIL-HDBK-217) of 100,000 hours of continuous operation at 25°C, maximum-output load, and nominal AC input voltage.

ATEC-24V700-PDB

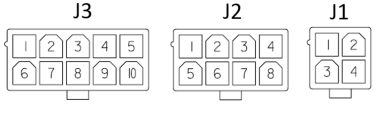




REF ID	PIN ON	WIRE COLOR	SIGNAL
8P	8	BROWN	+24V
	7	BROWN	+24V
	6	BROWN	+24V
	5	BROWN	+24V
	4	BLK	GND
	3	BLK	GND
	2	BLK	GND
	1	BLK	GND
4P	4	YEL	+12V
	3	YEL	+12V
	2	BLK	GND
	1	BLK	GND
大4P	4	RED	+5V
	3	BLK	GND
	2	BLK	GND
	1	YEL	+12V1
24P	24	BLK	GND
	23	RED	+5V
	22	RED	+5V
	21	RED	+5V
	20		
	19	BLK	GND
	18	BLK	GND
	17	BLK	GND
	16	GREEN	PS-ON
	15	BLK	GND
	14	BLUE	-12V
	13	BROWN	+3.3VS
		ORANGE	+3.3V
	12	ORANGE	+3.3V
	11	YEL	+12V1
	10	YEL	+12V1
	9	PURPLE	+5VSB
	8	GRAY	P.G
	7	BLK	GND
	6	RED	+5V
	5	BLK	GND
	4	RED	+5V
	3	BLK	GND
	2	ORANGE	+3.3V
	1	ORANGE	+3.3V

CABLE LENGTH: 305±20mm

Pin	J3	J2	J1
10	+12V		
9	+12V		
8	+12V	+24V	
7	+12V	+24V	
6	+12V	+24V	
5	Gnd	+24V	
4	Gnd	Gnd	+12V
3	Gnd	Gnd	+12V
2	Gnd	Gnd	Gnd
1	Gnd	Gnd	Gnd



Connector on Panel : Top View

MFG	Telstar Electronics	品 名	24V700	型 號	ATEC-24V700-PDB
比 例	合适化	單 位	mm	材 質	SGCC T=1.2
繪 圖	Janes liu	審 核	Benjamin huang	處 理	烤黑漆
投 影		版 本	Rev0	日 期	2019.10.20