REV.	Description	Date
S00	SPEC ISSUE	2021/12/16

台達電子工業股份有限公司
DELTA ELECTRONICS, INC.

DESCRIPTION :
電氣規格 (Electrical Specification)

MODEL NO. :
ADP-84BR

Date	Drawn	Design (EE)	Design (ME)	DOCUMENT NAME. :	REV.
2021/12/16		Ichun	Ray	**ES-84BR**	S00

File Name:

1 Electronic Design Spec

1.1. INPUT VOLTAGE

Rated input voltage: 100-240VAC
Input voltage range: 90-264VAC
Rated input frequency: 50-60Hz
Input frequency range: 47-63Hz

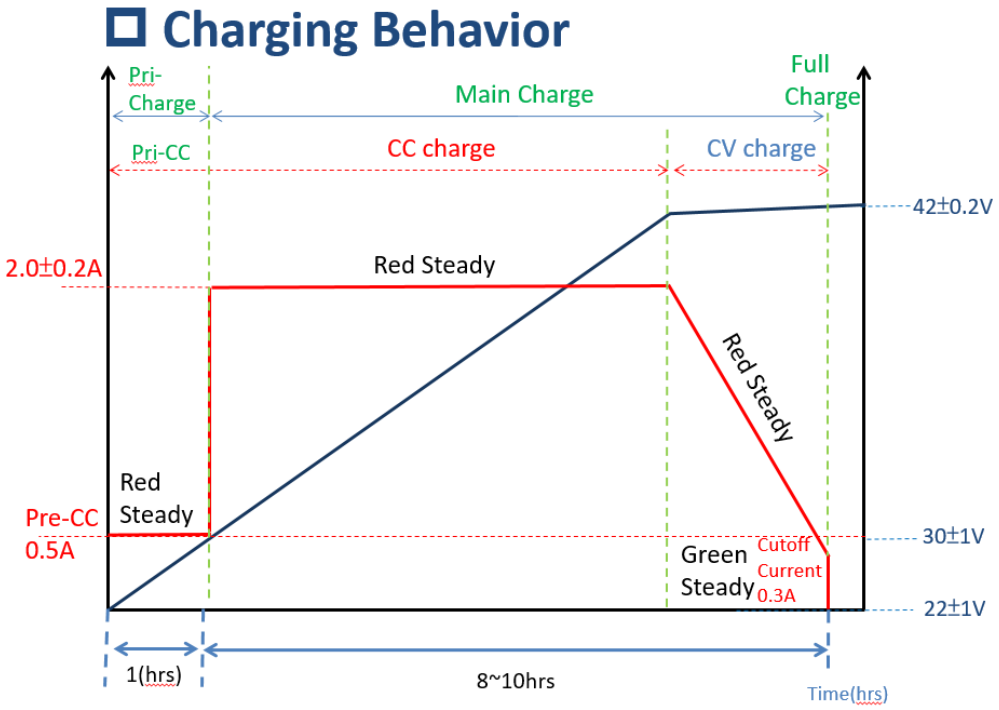
1.2. CONSTANT VOLTAGE

The fully charge voltage is 42V±0.2V.

1.3. CONSTANT CURRENT

The constant current is 2A±0.2A.

1.4. Charging curve



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1.5. STATUS INDICATION (LED)

A visual indicator (LED for instance) must inform of the following status:

When charger is stand-by mode: Green steady
When charger is pre-charge mode: Red steady
When charger is charge mode: Red steady
When charger is fully charge mode: Green steady
When charger is over timing mode: Green 1sec/ Red 1sec blinking
When charger is protect mode: LED off.

1.6. Harmonic

Class A

1.7. ALTITUDE

3000m

1.8. Inrush current

No damage.

1.9. Acoustic Noise

At 1 meter the noise must be < 35dB

2. CERTIFICATIONS (Safety / EMC)

The charger has to comply with regulation, standard and laws and pass every Safety and EMC certifications.
Certification: The charger has to be UL1310, IEC60335-1 and IEC60335-2-29.

2.1. Lightning surge immunity:

Follow the norm of IEC-61000-4-5 requirements

Line to Line: 1kV 50us 5 time performance Criterion B

2.2. Electric Fast transients (EFT):

Follow the norm of IEC-61000-4-4 requirements

IEC61000-4-4 level 3 (2kV), performance Criterion B

2.3. Electrostatic Discharge (ESD):

Follow the norm of IEC-61000-4-2 requirements

(1). +/-15KV air discharge performance Criterion B

(2). +/-8KV contact discharge performance Criterion B

2.4. Voltage Dips/Short Interruption:

Follow the norm of EN61000-4-11 requirements

(1). Voltage Dips 30% reduction 10ms, performance Criterion B

(2). Voltage Dips 60% reduction 100ms, performance Criterion C

(3). Voltage Dips 95% reduction 5000ms, performance Criterion C

2.5. Dielectric Withstand Voltage (HI-POT)

Primary to Secondary: 3000Vac, 10mAmax for 1 minute

2.6. Leakage current

It shall be less than 300uA at 264Vac/60Hz

2.7. Insulation Resistance (IR)

PRIMARY(L,N) to SECONDARY use 500Vdc test；Insulation resistance limit: >50M ohm

2.8. Electromagnetic interference (EMI)

CISPR 14 Class B

3. PROTECTION

3.1. OVER VOLTAGE PROTECTION

The charger shall auto-recovery and no damage occurs if the output is over voltage.

3.2. OUTPUT CURRENT PROTECTION

The charger shall auto-recovery and no damage occurs if the output is over current.

3.3. OUTPUT SHORT CIRCUIT PROTECTION

The charger shall auto-recovery and no damage occurs. If the short circuit is applied to the output.

3.4. OVER TEMPERATURE PROTECTION

The charger shall auto-recovery and no damage occurs if the component temperature is higher than normal work.

3.5. TIMING PROTECTION

When pre-charge mode charging time over 1hour±20min, the charger stops charging and Green 1sec/ Red 1sec blinking.

When charge mode charging time over 9hours±1hour, the charger stops charging and Green 1sec/ Red 1sec blinking.

3.6. BATTERY OVER TEMPERATURE PROTECTION

When 2.22kohm ≤ NTC ≤ 37.86kohm (-7℃ ≤ battery NTC temperature ≤ 70℃), The charger is normal charging.

When 2.22kohm ≤ NTC ≤ 2.7kohm (63℃ ≤ battery NTC temperature ≤ 70℃), The charge current reduced to 0.5±0.2A.

4. TEMPERATURE

4.1. Operation

4.1.1 Temperature Operating

The charger shall be capable of operating at full load with an ambient temperature range of 0℃ to +40℃.

4.1.2 Temperature Storage

The charger shall be capable of withstanding ambient temperature from -20℃ to +70℃.

4.1.3 Humidity Operating

The charger shall be capable of operation in relative humidity of 10% to 90%.

4.1.4 Humidity Storage

The charger shall be capable of withstanding ambient relative humidity of 5% to 95%.

5. Reliability requirements

MTBF（standard, environmental temperature, load requirement）≥100Khour
Testing condition：full load/ 25℃.