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<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

Catalogue

2006 Edition

Bobbintron Electrical Corporation

We prompt your power supply design

To a Hi-end age of

Wizardry** and **Gadgetry





Forewords of Management

Bobbintron focus on designing unique and high-end product lineups or custom made power supply to meet certain particular requirements. Within the last 5 years we have completed several micro-controlled intelligent power supply units for specific application.

Our goal is to meet special requirements of customer specification with our resource of firmware programmer and circuitry designer all over the world. To highlight our achievement over the years, for several instances you may find in the following pages of this brochure, we have several top notch designs given pride to our capability.

To our micro-controller firmware programmer, the benefits of build-in micro-controller brings solutions to all kinds of electronic constraints and break the limitation to the farthest ends of possibility and feasibility. When $\pm 1\%$ output voltage or current tolerance constraint is the unconquerable limit of components' limitation, micro-controller came in and took over the tough functionality to cover up the impossible with "nothing is impossible".

Bobbintron's resource consolidates multi-national talented designers with a common belief of building things with thinking outside the box. We strongly believe in **Versatility**, **Originality** and **Creativity** is the only route to Uniqueness and the best means of survival in the harsh competition nature of electronic industry.

When you are building hi-end electronic devices you may leave 2 or 3 signals expecting to communicate with power supply unit to enable a better power source with good tolerance of voltage protection and or overload protection. This trend will expand as we believe the more delicate of battery technologies it will become, the more sophisticate protection it will be required from the power unit. Power supply has come to an age of interactive era.

We believe our effort to devote more resource into the micro-controlled power supply will pay off with more customers and business as this is a flow no one can avoid.

Another Bobbintron's core competency lies at our sourceful strength on allocating all sorts of components for RF, wireless transceiver, receiver device, low to high frequency antenna, special SMA, MMCX, SSMB, TNC,.....coaxial connectors or cable assembly which are familiar and experienced by our engineers. We knew most of where the screw machinery, tool house where and we vertically integrated our resource to help customer easily get what they need most but not standard assembly. Bobbintron therefore gained more than 30% revenue out of this particular system integration.

CEO of Bobbintron Electrical Corp.

Harry Chang



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A few Snapshots over Production facility in China



Product Outline: Battery Fuel Gauge

Micro-controlled

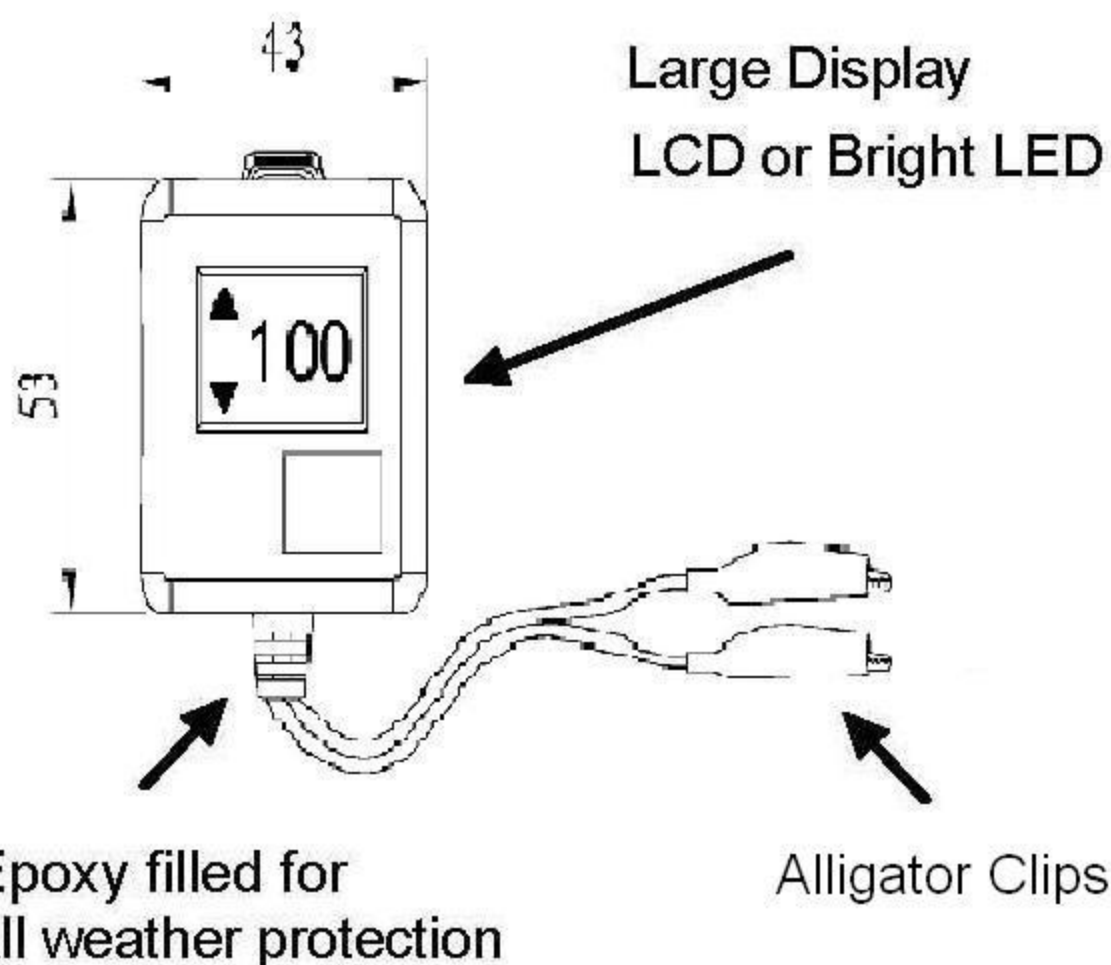
Features

Monitors 12 volt battery charge level.
Accurate during loaded, unloaded, and charging states.
Constant battery monitoring. Always on whenever connected.
Low current draw - <5 mA.
Can be used on any capacity 12 volt battery.
Works in cold temperatures - Down to -20° C - Storage to -40° C.
Water-proof construction



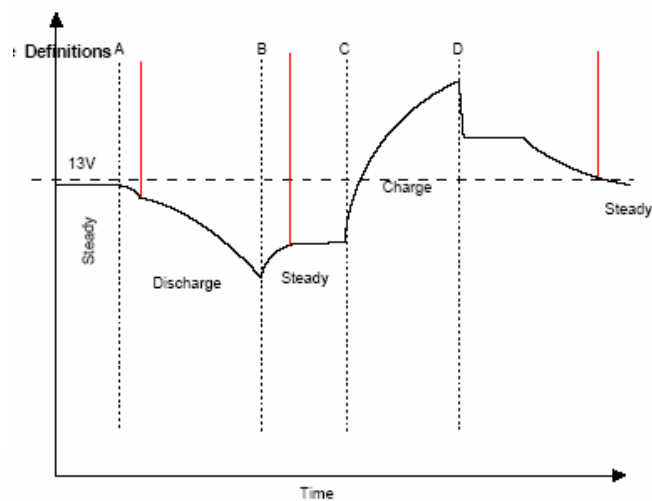
Arrow shows charge mode

Up = Charge Mode
Down = Discharge Mode
No Arrow = Steady Mode



Operation

- Connection to battery positive and negative will show battery charge level percentage.
- A CPU will look at the battery voltage vs change over time and determine the proper state of steady, rising, or falling.
- Steady voltage will show no arrow. Steady Mode
- Falling voltage will show a DOWN arrow. Discharge Mode
- Rising voltage will show an UP arrow. Charge Mode
- Percentage value displayed will change based on different Mode. it is based on dv/dt change
 - 1-In steady Mode the capacity display the approximate capacity value. ex: 12.5V = 50% capacity
 - 2-When the State change to Discharge or Charge Mode, the capacity don't change instantiously
The voltage could change instantiously, but the capacity will remain constant. then follow a slope
This function compensate for different Discharge or Charge current, Capacity is related to dv/dt
 - 3-Above 13volts is considered in Charging Mode.
- A battery could be charged even at 13.5volts, and should show 100% after a while. it will take longer time then if the charging voltage is 14.5Volts.

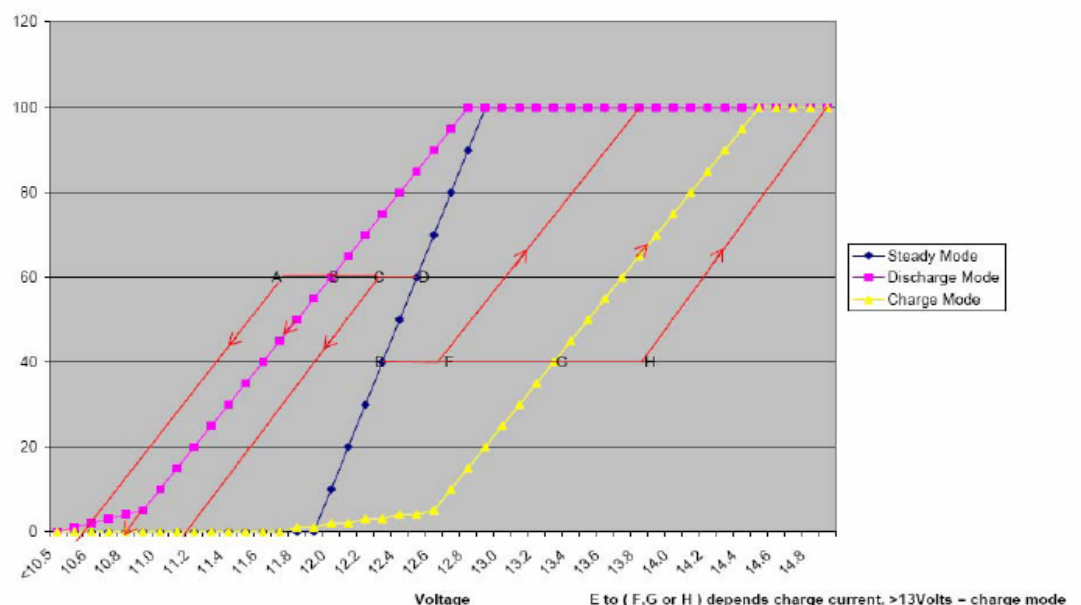


Micro-controlling Features

- A) - CPU detects short rapid voltage drop as battery becomes loaded.
Mode is changed to Discharge. The capacity remain the same for rapid change to red line, then follow a specific slope for decreasing the capacity.
 - B) - CPU detects a short rise in voltage as the load is removed from the battery.
Mode is changed to Steady. The capacity remain the same for short rise Voltage to red line
 - C) - CPU detects rise in voltage as charge is applied.
Mode is changed to Charge. The capacity remain the same in the short rise
Then gradually capacity increase to a specific slope
 - D) - CPU detects voltage drop as charger is removed or switches to float mode. Capacity remains
- The Charge mode remains if the voltage is higher than 13V then change to Steady Mode

Voltage	Steady Mode	Discharge Mode or Charge Mode
<10.5	0	
10.5	0	Capacity = $a \cdot dv + P_{cap}$, for charge and discharge Mode
10.6	0	
10.7	0	a = slope factor,
10.8	0	dv = Previous voltage - actual voltage; if $dv >$ fixed level, $dv = 0$
10.9	0	if dv negative, it is a discharge voltage
11.0	0	if dv positive, then $dv = (dv + \text{factor})$ it is charge Mode
11.1	0	factor is to increase capacity when charge voltage stable <14.5V
11.2	0	
11.3	0	P_{cap} = previous capacity
11.4	0	
11.5	0	Steady Mode
11.6	0	Capacity(steady state) = $a1 \cdot V + b$
11.7	0	V = actual voltage
11.8	0	$a1 = 100, b = -1200$
11.9	0	
12.0	0	
12.1	10	
12.2	20	
12.3	30	
12.4	40	
12.5	50	
12.6	60	
12.7	70	
12.8	80	
12.9	90	
13.0	100	
13.1	100	
13.2	100	
13.3	100	
13.4	100	
13.5	100	
13.6	100	
13.7	100	
13.8	100	
13.9	100	
14.0	100	
14.1	100	
14.2	100	
14.3	100	
14.4	100	
14.5	100	
14.6	100	
14.7	100	
14.8	100	
14.9	100	
15.0	100	
>15.0	100	

Percent Charge vs Voltage D to (A,B or C) depends of load level, <12V = discharge



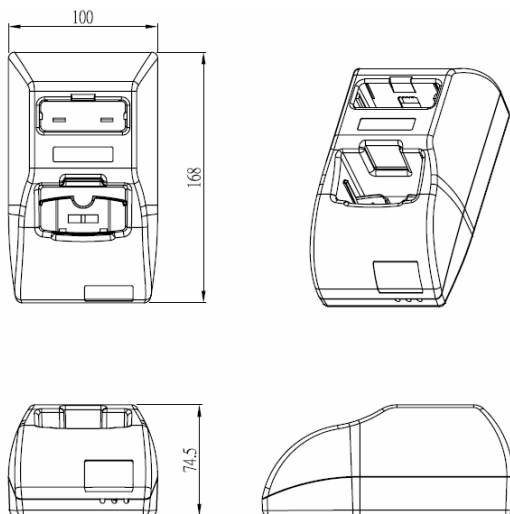


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BOBBINTRON ELECTRICAL CORPORATION

Demo Only

Desktop Battery Charger



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....0.6A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....under +/- 1%(Micro-controlled)

Power (Po).....20W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Feature:

Universal Input 100V to 240VAC

IEC Socket C8 Input

Charger for Li-ion Battery and Transceiver

Three LED for Indicator the status

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C

Storage Temperature:

-20 deg. C to 80 deg.C

Output Electronic Specifications:

Model No.	Po	Vo	Io
Customer's confidentiality	20W	9.4VDC 8.4VDC	0.9A 0.65A

EMI:

Meet FCC Class B and

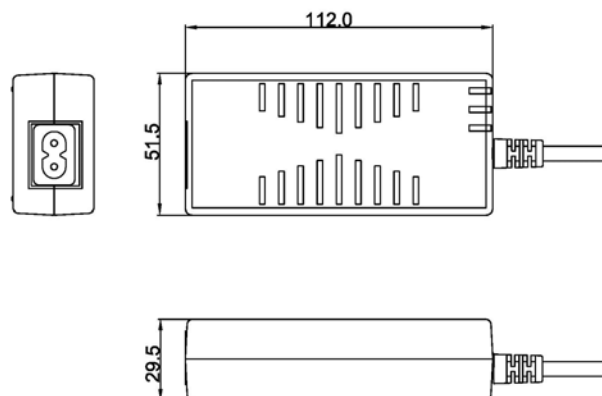
CISPR 22 Class B

Safety: CE



Bobbintron Smart Charger #II

Micro-processed SLA battery charger to detect a sulfated or resistive false battery status available



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....0.7A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....30 W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Feature:

Universal Input 100V to 240VAC

IEC Socket C8 Input

Two-Stage Lead Acid Battery Charger with
Micro-Controller

Two LED Indicator displaying the status

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C

Storage Temperature:

-20 deg. C to 80 deg.C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AP0301-12	30W	14.7VDC	2.0A
AP0301-24	30W	29.4VDC	1.0A

(在此插入 Waveform of normal, Sulfated or Resistive 檔圖表)

EMI:

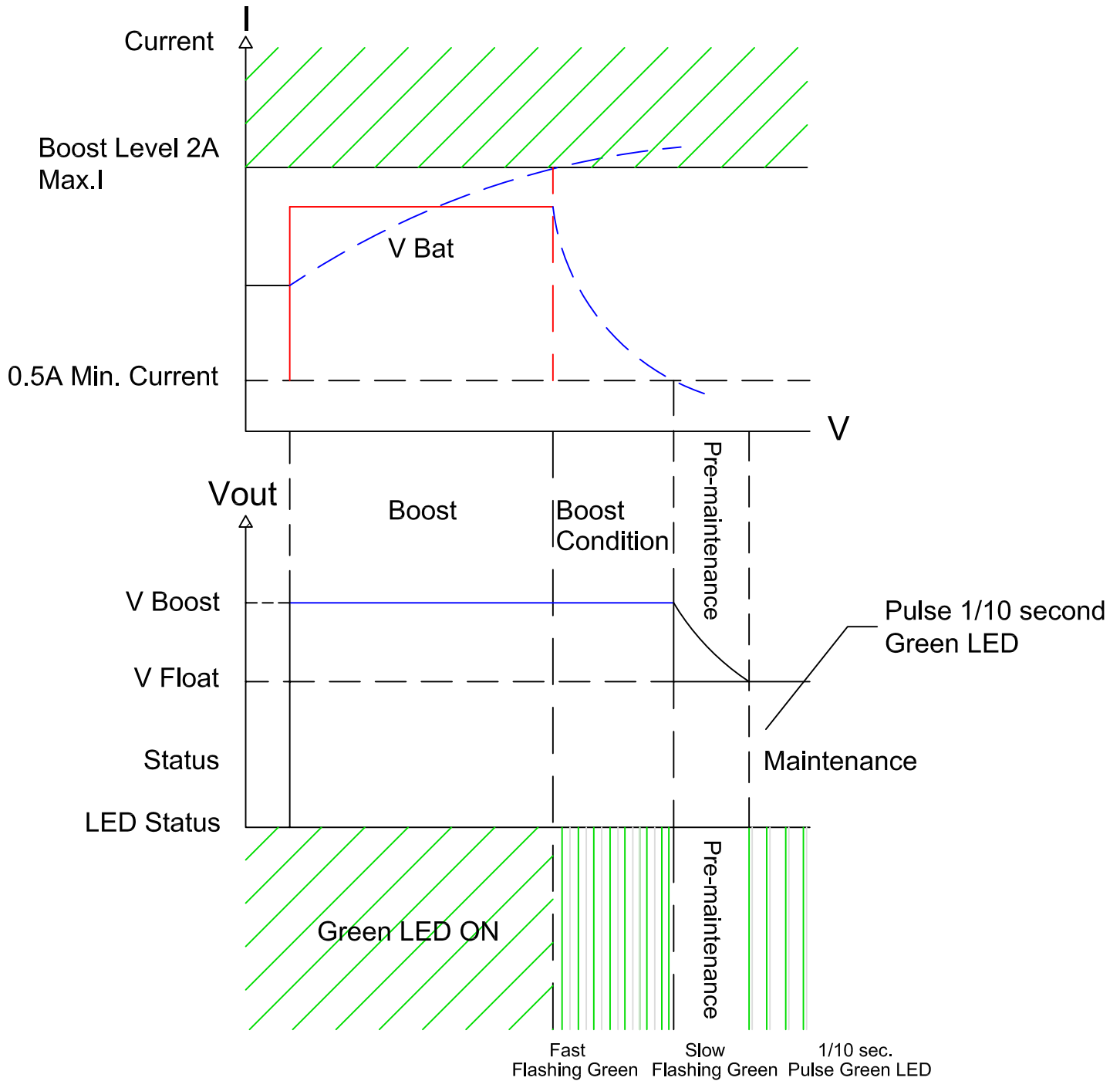
Meet FCC Class B and

CISPR 22 Class B

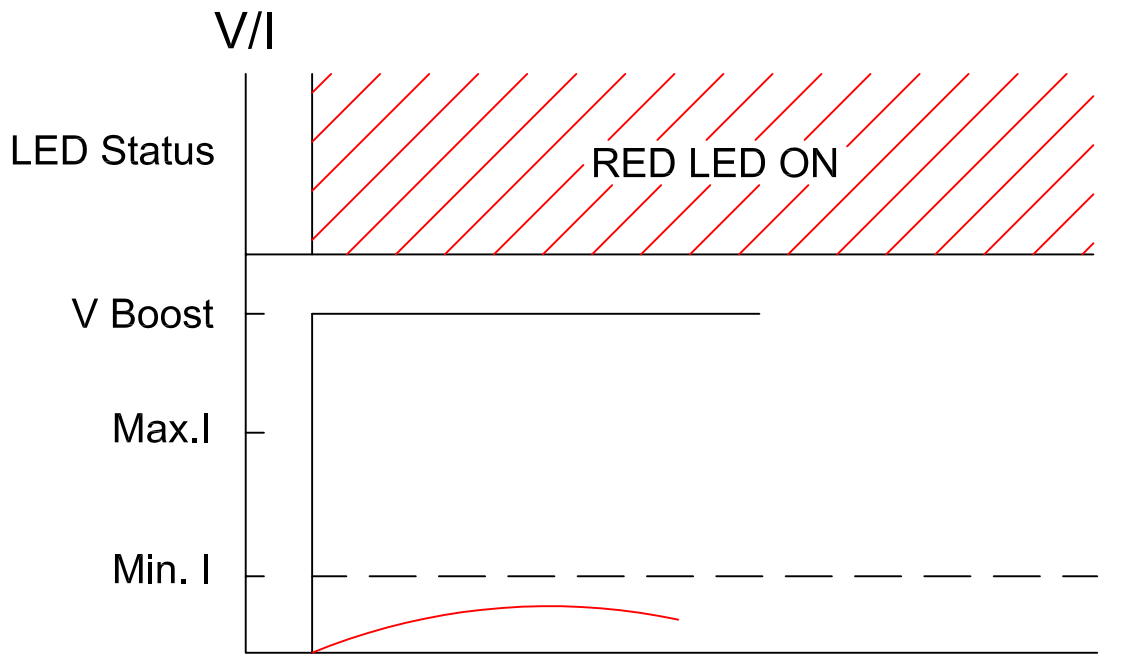
Safety:

UL/cUL/CE(to be applied)

Battery Normal under charging

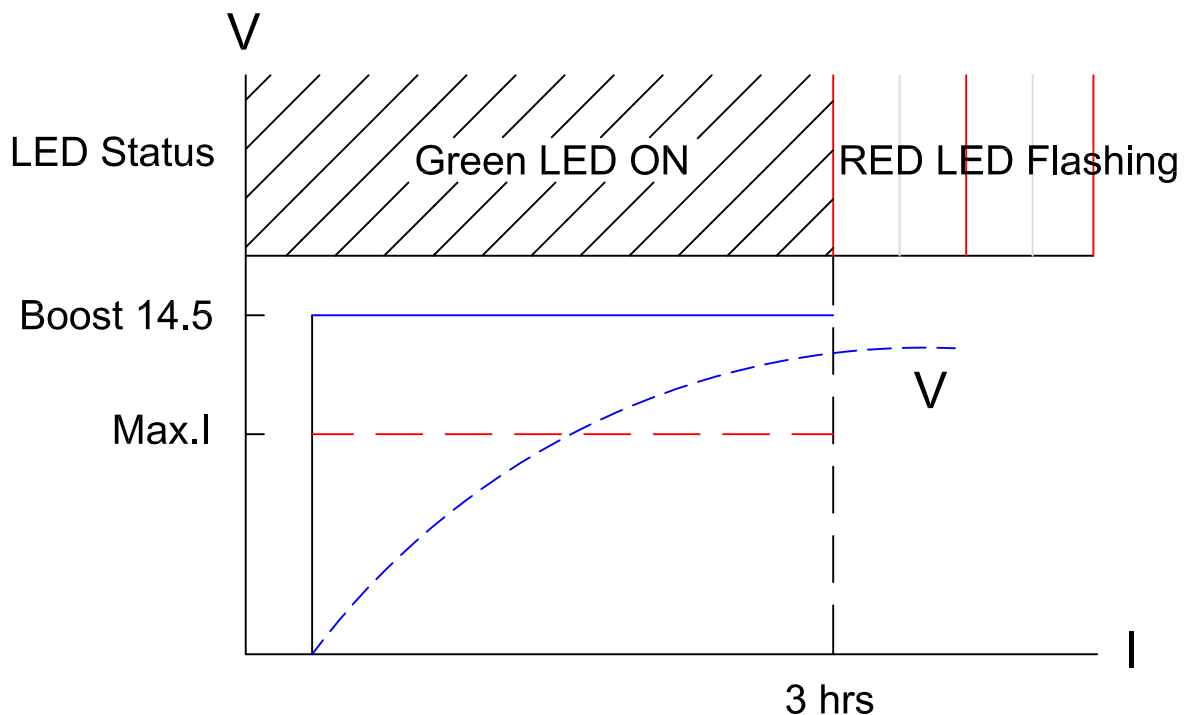


Battery Failure LED INDICATION



SULFATED BATTERY

When charging Current is constantly below minimum current limit line, LED will stay permanantly **RED**



Resistive or shorted Cell Battery:

When battery doesn't increase its Voltage up to the upper limit line of 14.5V(i.e stay low underneath) after 3 hours charging, it means battery failure of resistive.

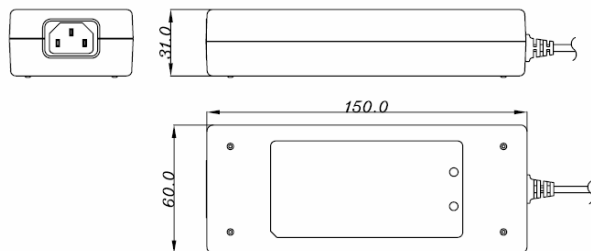
LED Status:RED Flash ON/OFF



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BOBBINTRON ELECTRICAL CORPORATION

FW9014-XXxE Series 90W Desk Top Power Supply



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.5A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....90 W Max

Hold up time.....10mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....1% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Feature:

IEC Socket C14

With V.R. output adjustable

Output status LED indicator

Power Factor Correction

Fully enclosed plastic case

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C

Storage Temperature:

-20 deg. C to 80 deg.C

Output Electronic Specifications:

Model No.	Po	Vo	Io
FW9014-120E	80W Max	12 - 17VDC	6.67A Max
FW9014-190E	96W Max	18 - 25VDC	5.0A Max
FW9014-480E	96W Max	46 - 50VDC	2.0A Max

Notes: Output voltage adjustable by V.R

EMI:

Meet FCC Class B and

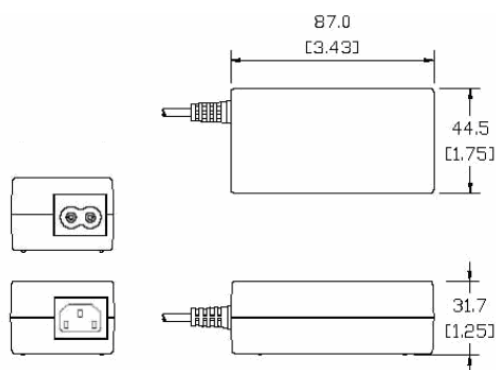
CISPR 22 Class B

Safety:

UL/cUL/CE



FW2014-XXE Series 20W Desk



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.0A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....20 W Max

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....75% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....1% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

FW2014-XXE series is with C14 IEC socket

Model No.	Po	Vo	Io
FW2014-050E	15W Max	5.0VDC	3.0A
FW2014-060E	18W Max	6.0VDC	3.0A
FW2014-090E	20W Max	9.0VDC	2.2A
FW2014-120E	20W Max	12.0VDC	1.66A
FW2014-12AE	24W Max	12.0VDC	2.0A
FW2014-180E	20W Max	18.0VDC	1.1A
FW2014-240E	20W Max	24.0VDC	0.83A
FW2014-24AE	24W Max	24.0VDC	1.0A

Option: FW2008-050E/ 060E/090E/120E/12AE/180E/240E/24AE available for same output as above but with C8 socket.

Feature:

IEC Socket C14

IEC Socket C8 Input

Wide Range AC Input

Power saving state under 0.5W

Fully enclosed plastic case

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety: UL/cUL/CE/CB

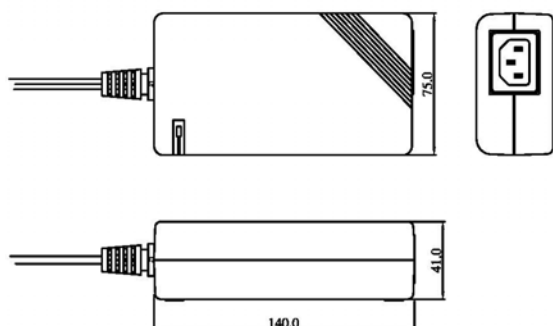


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BOBBINTRON ELECTRICAL CORPORATION

ED1048 Series

60W Medical Power Supply



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.5A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....60W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
ED1048-12M	60W	14.7VDC	4.0A
ED1048-132M	40W	13.2VDC	3.0A
ED1048-18M	54W	18.0VDC	3.0A
ED1048-24M	60W	29.4VDC	2.0A

Manufacturer's note: ED1048-12M is a 3 stage charger

With Fast charge—Timer--- Float charge IC controlled, details see next page.

Feature:

Universal Input 100V to 240VAC

IEC Socket C14 Input

3-stage Lead Acid Battery Charger with timer

Medical Approval

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

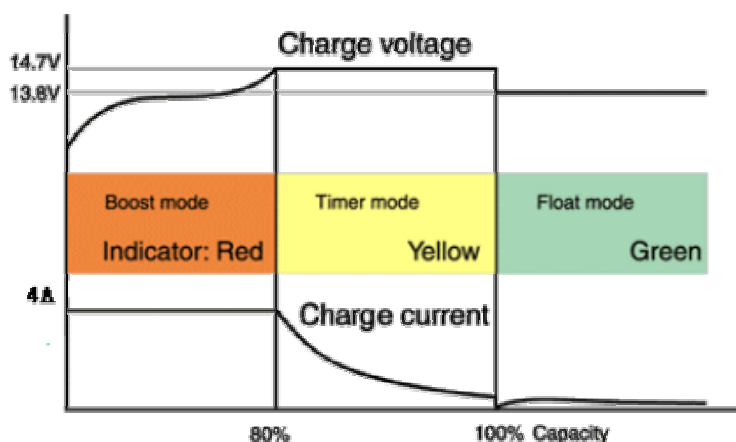
UL2601 /CE(EN60601-1-1)

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BOBBINTRON ELECTRICAL CORPORATION

Model#ED1048-12M Fast charge: **Max. 4Amp** (3-Stage charger for Lead Acid/Li-Ion Battery)



- 3-step charge control with timer
- Switch mode
- Universal input voltage (90-264 VAC)
- LED indicator with three colors
- 3-pin IEC 320 mains connector
- Medical approved (EN 60601)
- UL Medical approved (UL 2601-1)
- Mains cord not included

Input voltage 90 - 264 VAC

Charge voltage • Timer 14,7 V $\pm$ 0,2 • Float 13,8 V $\pm$ 0,3 Max. output power 60 W

Load regulation < 200 mV

Line regulation < 100 mV

Switch frequency, approx. 40 kHz

Leakage current with mains disconnected < 100 uA < 200 uA

Temperature range -10 - +40 °C

Ripple < 100 mV p-p

(ved 100% last) Efficiency (at 100% load) > 81 %

Current limit 4 A $\pm$ 0,3 2 A $\pm$ 0,2

Protection / Mains fuse

Automatically resettable fuse protects the charger against wrong polarity.



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BOBBINTRON ELECTRICAL CORPORATION

Insulation class Electrical safety EN 60601-1, EN 60950, EN 60335-2-29

EMC standards

- **Medical EN 60601-1-2, UL-2601-1**
- **Emission EN 50081-1**
- **Immunity EN 50082-1**

Mains connection 3 pins IEC 320 connector

Indicator - 3 color LED

- **Red: (constant current, boost): 4 A**
- **Yellow: (const. voltage, timer): 14,7 V**
- **Green: (const voltage ,float): 13,8 V**

Timer 2h ± 30min (also available with other values)

Output terminals

DC plug: Alligator clips or other configuration by customers

DC connector

Dimensions (LxWxH) 140 x 75 x 39mm

Weight 350 g

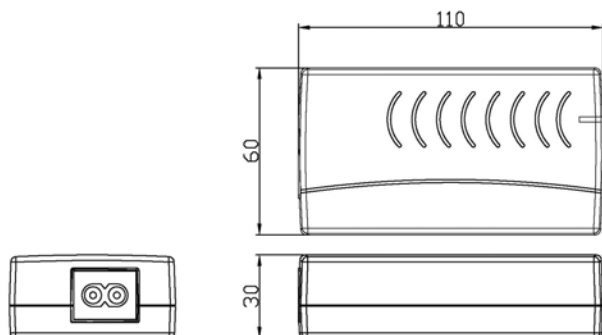
Timer is also available with other values



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BOBBINTRON ELECTRICAL CORPORATION

AP48XX – 1C8 Series 48W Desktop Power Supply



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.2A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....48W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Feature:

Universal Input 100V to 240VAC

IEC Socket C8 Input

With Constant Current Function

Charger for Lead Acid

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AP48069-1C8	31W	6.9VDC	4.5A
AP48120-1C8	48W	12.0VDC	4.0A
AP48138-1C8	48W	13.8VDC	3.5A
AP48240-1C8	30W	24.0VDC	1.25A
AP48276-1C8	48W	27.6VDC	1.8A
AP48330-1C8	33W	33.0VDC	1.0A
AP48480-1C8	48W	48.0VDC	1.0A
AP48552-1C8	48W	55.2VDC	0.8A

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

UL/cUL/CE

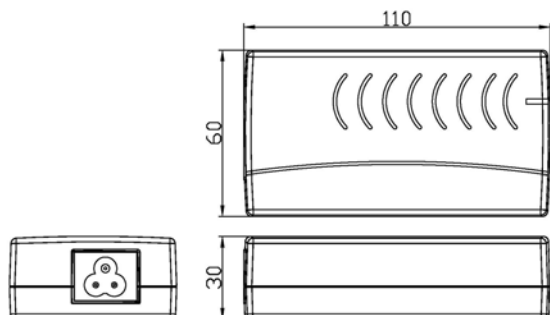


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BOBBINTRON ELECTRICAL CORPORATION

AP48XX – 1C6 Series

48W Desktop Power Supply



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.2A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....48W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AP48069-1C6	31W	6.9VDC	4.5A
AP48120-1C6	48W	12.0VDC	4.0A
AP48138-1C6	48W	13.8VDC	3.5A
AP48240-1C6	30W	24.0VDC	1.25A
AP48276-1C6	48W	27.6VDC	1.8A
AP48330-1C6	33W	33.0VDC	1.0A
AP48480-1C6	48W	48.0VDC	1.0A
AP48552-1C6	48W	55.2VDC	0.8A

Feature:

Universal Input 100V to 240VAC

IEC Socket C6 Input

With Constant Current Function

Charger for Lead Acid

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

UL/CUL CE

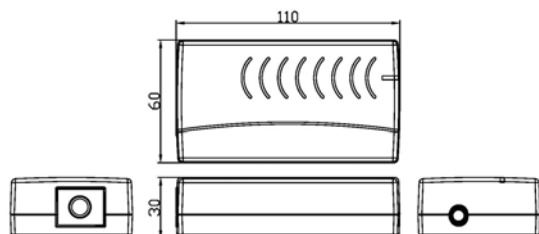


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BOBBINTRON ELECTRICAL CORPORATION

AP48XX – 1X Series

48W Desktop with AC Cord Power Supply



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.2A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....48W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications: U: USA, E: Euro, B: UK

Model No.	Po	Vo	Io
AP48069-1U, E, B	31W	6.9VDC	4.5A
AP48120-1U, E, B	48W	12.0VDC	4.0A
AP48138-1U, E, B	48W	13.8VDC	3.5A
AP48240-1U, E, B	30W	24.0VDC	1.25A
AP48276-1U, E, B	48W	27.6VDC	1.8A
AP48330-1U, E, B	33W	33.0VDC	1.0A
AP48480-1U, E, B	48W	48.0VDC	1.0A
AP48552-1U, E, B	48W	55.2VDC	0.8A

Feature:

Universal Input 100V to 240VAC

With AC Power Cord

With Constant Current Function

Charger for Lead Acid

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

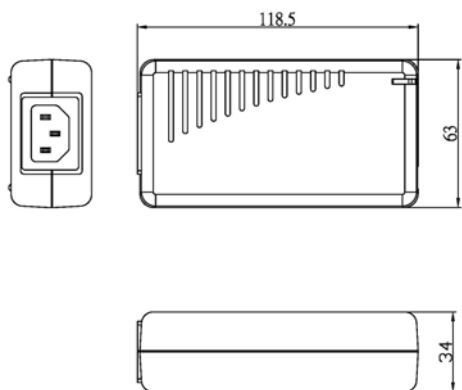
Safety:

UL/CUL/CE



AP48XX – 1C14 Series

48W Desktop Power Supply



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.2A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....48W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AP48069-1C14	31W	6.9VDC	4.5A
AP48120-1C14	48W	12.0VDC	4.0A
AP48138-1C14	48W	13.8VDC	3.5A
AP48240-1C14	48W	24.0VDC	2.0A
AP48276-1C14	48W	27.6VDC	1.8A

Feature:

Universal Input 100V to 240VAC

IEC Socket C14 Input

With Constant Current Function

Charger for Lead Acid

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

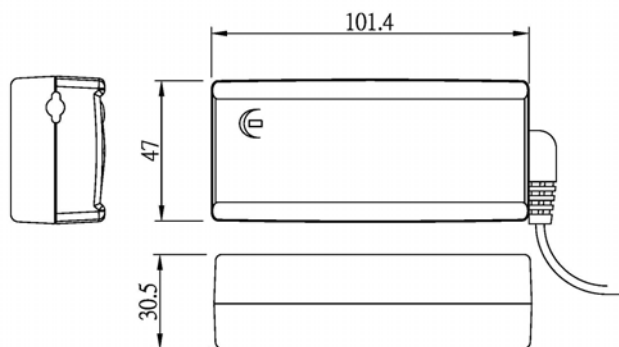
CISPR 22 Class B

Safety:

CE



AP50XX Series 50 W Laptop Charger with AC Cord



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.2A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....50 W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AP5012	31W	12.0VDC	3.0A
AP5016	48W	16.0VDC	3.0A
AP5019	48W	19.0VDC	3.0A
AP5024	48W	24.0VDC	2.0A

Feature:

Universal Input 100V to 240VAC

With AC Power Cord

With Constant Current Function

Charger for NB

Detachable DC cord With rotatable
Swivel

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg..C

EMI:

Meet FCC Class B and
CISPR 22 Class B

Safety:

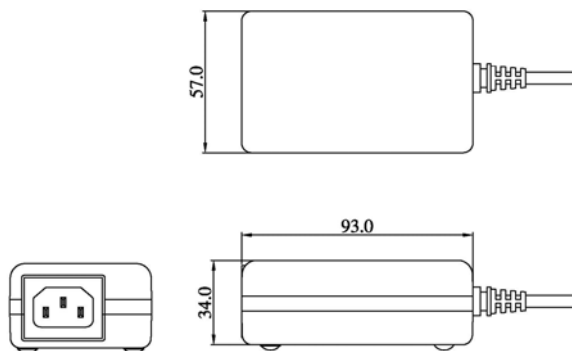
UL/CUL/PSE/ CE



<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

AP1212 – 1 Series 12W Desktop With Low Temperature Operation Power Supply
Case and cable with anti-freeze compound recipes



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....0.4 A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....12W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AP1206-1	12W	6.0VDC	2.0A
AP1209-1	12W	9.0VDC	1.33A
AP1212-1	12W	12VDC	1.0A

Feature:

Universal Input 100V to 240VAC

IEC Socket C14 Input

Wide Range Operating Temp.

Environmental :

Operating Temperature:

-30 deg. C to 60 deg. C ambient

Storage Temperature:

-30 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

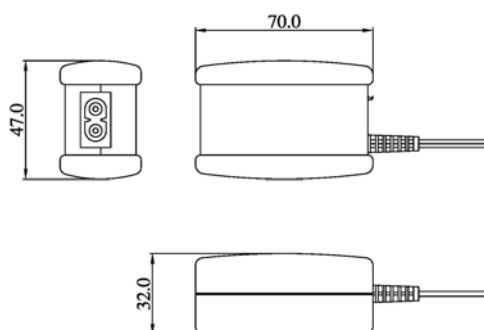
UL / cUL CE



<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

AB12XX Series 12W Desktop Power Supply



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....0.5A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....12 W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AB1206LC	12W	5-6 VDC	1-2A
AB1212LC	12W	9-12VDC	1.0A

Feature:

Universal Input 100V to 240VAC

IEC Socket C8 Input

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

UL / cUL CE



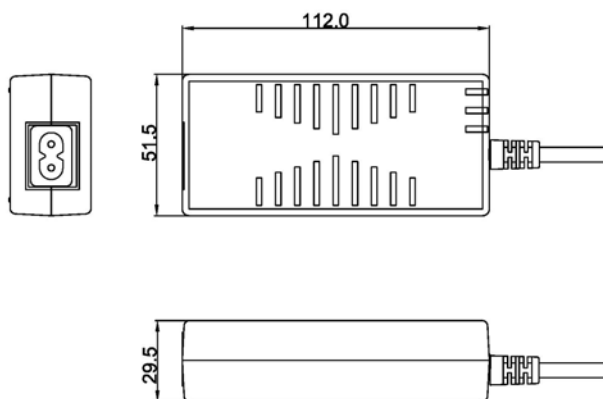
<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

Demo Only

PSS25-1212 Micro-Controlled Smart Charger (Design for **Emerson, Not for sale**) *Output voltage is driven by auto-sensing signal from device and micro-processor.*

Micro-controlled



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.2A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....25W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Feature:

Universal Input 100V to 240VAC

IEC Socket C8 Input

With Micro Controller Function

Charger for Ni-Mh, Ni-Cd ceCell

Smart Charger (Auto Sensing)

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

Output Electronic Specifications:

Model No.	Po	Vo	Io
PSS251212	25W	0-13.6VDC	1.4A
		0-12.6VDC	0.6A

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety: CE

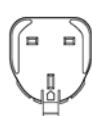
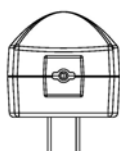
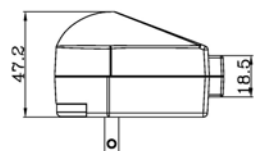
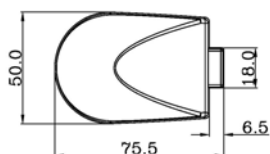


<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

BP0121 – XX Series

12W Wall Mount Interchangeable Power Supp



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....0.5A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....12W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
BP0121-05	10W	5.0VDC	0.5~2.0A
BP0121-06	10W	6.0VDC	0.5~1.7A
BP0121-09	12W	9.0VDC	0.5~1.3A
BP0121-12	12W	12.0VDC	0.5~1.0A
BP0121-15	12W	15.0VDC	0.8A
BP0121-24	12W	24.0VDC	0.5A

Feature:

Universal Input 100V to 240VAC

Interchangeable Plug

Power Saving state under 0.5W

Detachable Output cord

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and
CISPR 22 Class B

Safety:

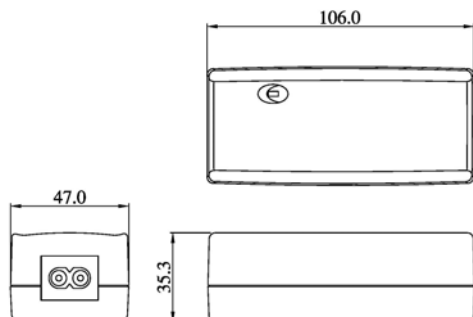
UL/cUL/CB/CE



<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

AP65XX Series 65W Desktop Laptop Charger



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.6A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....65W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Feature:

Universal Input 100V to 240VAC

IEC Socket C8 Input

With Constant Current Function

Charger for Laptop

LED Indicator

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AP6512	48W	12.0VDC	4.0A
AP6512A	60W	12.0VDC	5.0A
AP6516	64W	16.0VDC	4.0A
AP6519	65W	19.0VDC	3.4A
AP6524	65W	24.0VDC	2.7A

EMI:

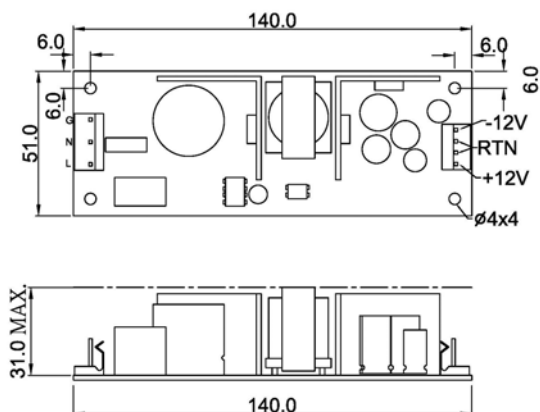
Meet FCC Class B and
CISPR 22 Class B

Safety:

PSE, CE



AP72XX Series 72W Open Frame Power Supply



Electrical specifications :

Input:

Voltage..... 100-240VAC
Current.....1.8A rms Max
Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)
Tolerance.....+/- 5% for Vo1
Power (Po).....72W

Hold up time.....8mS min at Full Load, 120VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AP7212	72W	12VDC	3.0A
		-12VDC	3.0A
AP7215	72W	15.0VDC	2.4A
		-15VDC	2.4A

Feature:

Universal Input 100V to 240VAC

5P-3 3.96mm Molex Input

4P 3.96mm Molex Output

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

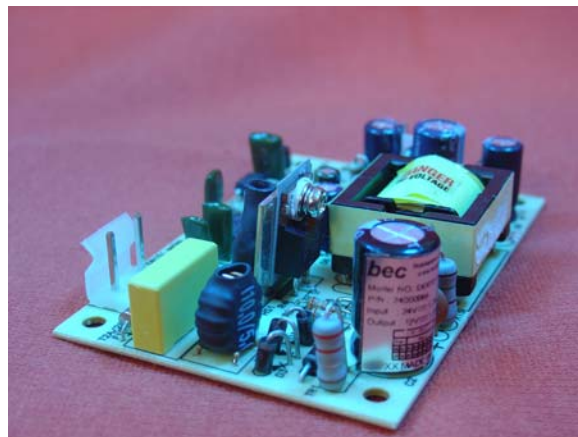
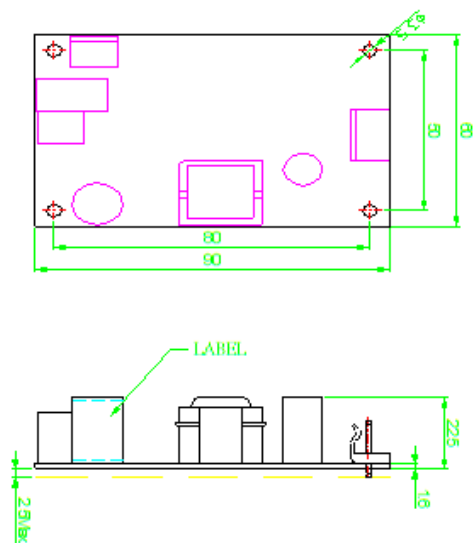
Safety:

CE



AD0151-XX Series

15W Open Frame Power Supply



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....0.4A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....15W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AD0151-05	13W	5.0VDC	2.5A
AD0151-12	15W	12.0VDC	1.3A
AD0151-15	15W	15.0VDC	1.0A
AD0151-24	15W	24.0VDC	0.65A

Feature:

Universal Input 100V to 240VAC

3P-2 3.96mm Molex Input

4P 3.96mm Molex Output

Environmental :

Operating Temperature:

0 deg. C to 50 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

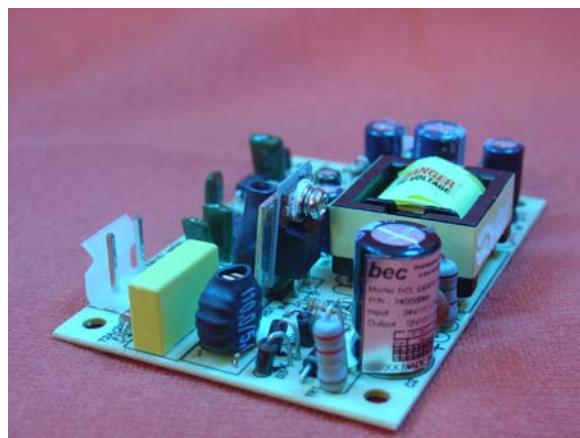
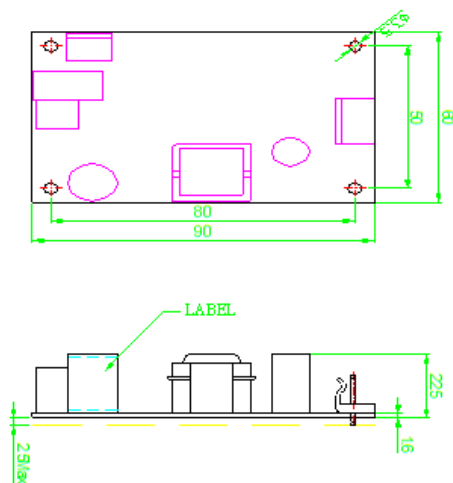
Safety:

UL/cUL/CE



DD0151-XX Series

15W DC – DC converter



Electrical specifications :

Input:

Voltage..... 18 – 30 VDC

Current.....1.0A rms Max

Frequency.....

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....15W

Hold up time.....

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 20VDC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
DD0151-05	13W	5.0VDC	2.5A
DD0151-12	15W	12.0VDC	1.3A
DD0151-15	15W	15.0VDC	1.0A
DD0151-24	15W	24.0VDC	0.65A

Feature:

Wide Range DC Input

3P-2 3.96mm Molex Input

4P 3.96mm Molex Output

Environmental :

Operating Temperature:

0 deg. C to 50 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

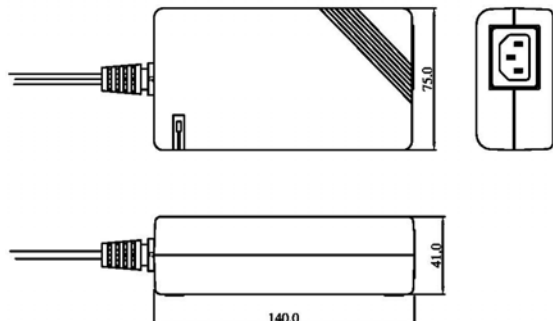
UL/cUL/CE



<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

AP0431-XX Series 43W Multi-Output Desktop Power Supply for Miscellaneous Application



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.2A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5% for Vo1

Power (Po).....43W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AP0431-T12	43W	+5.0VDC	5.0A
		+12VDC	1.0A
		-12VDC	0.5A
AP0431-T12A	43W	+5.0VDC	3.0A
		+12VDC	2.0A
		-12VDC	0.3A

Feature:

Universal Input 100V to 240VAC

IEC Socket C14 Input

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

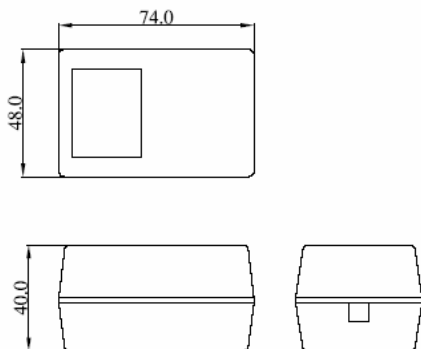
Safety:

UL/cUL/CE



BOBBINTRON ELECTRICAL CORPORATION

EDD0121-XX Series 12W External DC-DC converter (Lead in Lead out)



Electrical specifications :

Input:

Voltage..... 36 - 72VDC

Current.....0.5 A rms Max

Frequency.....

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....12W

Hold up time.....

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 36VDC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Feature:

Wide Range Input 36V to 72VDC

Lead In, Lead Out

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

Output Electronic Specifications:

Model No.	Po	Vo	Io
EDD0121-12	12W	12VDC	1.0A
Model could be modified & expanded upon request			

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

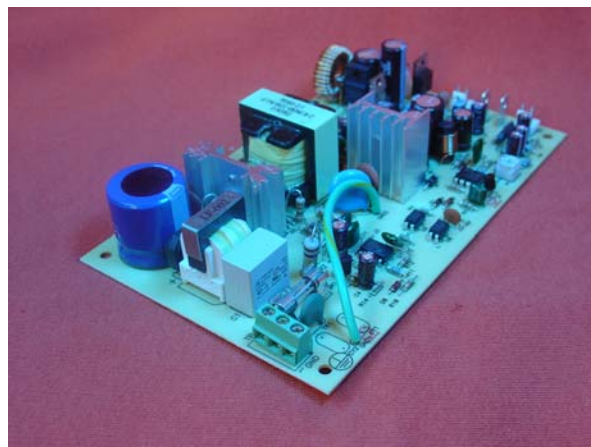
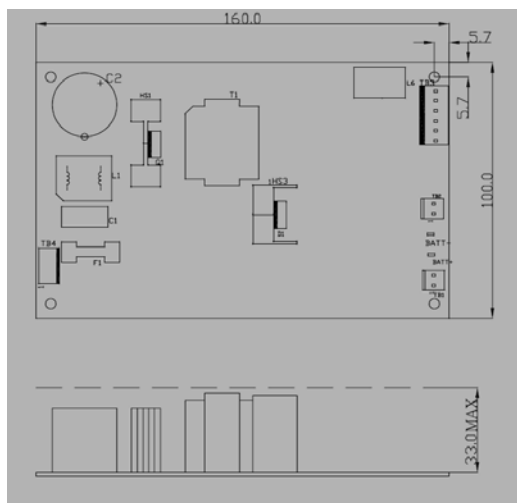
UL/cUL/CE



<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

AD0501-T12 46W Backup Power Supply(for UPS...etc, SLA battery back-up)



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.5A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....46 W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AD0501-T12	46W	13.8VDC	1.0A
		+5.0VDC	4.0A
		+12VDC	1.0A

Feature:

Universal Input 100V to 240VAC

5.0mm Screw Terminal Input

With Constant Current for charging
Function

Charger for Lead Acid and backup
Power supply

5P 3.96mm Molex Output

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

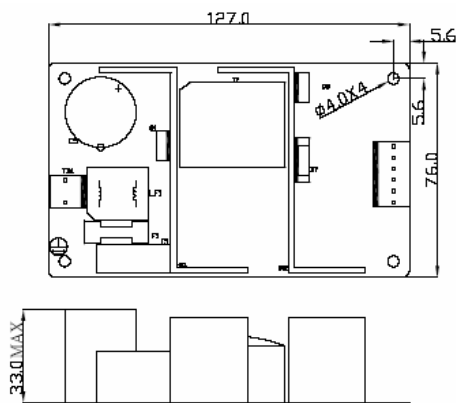
CB, CE



<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

BO60XXX Series 60W Open Frame Power Supply (Single and Multi Output)



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.8A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5% for Vo1

Power (Po).....60W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
BO60112	60W	12.0VDC	5.0A
BO60115	60W	15.0VDC	4.0A
BO60124	60W	24.0VDC	2.5A
BO60329	60W	+5.0VDC	6.0A
		+12.0VDC	2.0A
		-12.0VDC	0.5A
BO60341	60W	+5.0VDC	6.0A
		+24VDC	1.0A
		-12VDC	0.5A

Feature:

Universal Input 100V to 240VAC

3P-2 3.96mm Molex Input

6P 3.96mm Molex Output

Single and Multi-Output

Environmental :

Operating Temperature:

0 deg. C to 50 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

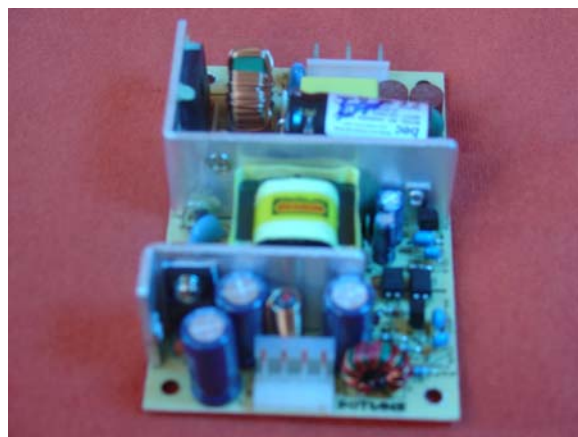
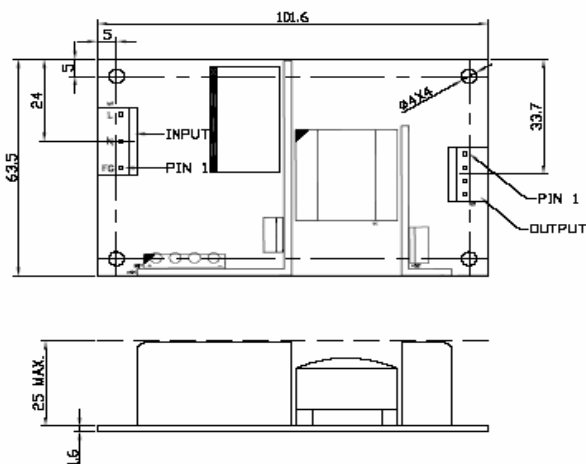
UL/cUL/CE



<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

MO02511XXX. 25W Open Frame **Medical** Power Supply



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....0.7 A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....25W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
MO02511120	25W	12.0VDC	2.1A
MO02511240	25W	24.0VDC	1.0A

Feature:

Universal Input 100V to 240VAC

3P-2 3.96mm Molex Input

4P 3.96mm Molex Input

For Medical Application

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

UL60601

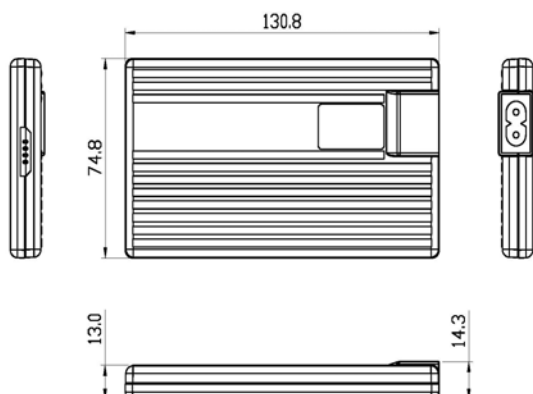


<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

World's slimmest 70 Watts Laptop charger (Thinner than a pack of cigarette)

Micro-controlled



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.8A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....70W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Feature:

Universal Input with Auto Range

IEC Socket C8 Input

With Constant Current Function

Smart Charger for All Laptops

Output Voltage adjustable 12 to 24V adjustable

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

Product Configuration:

SSLC-XXXV-XX



XX=C8 : IEC320 socket C8 type

XX=AC : AC Cord Attached

Output Voltage e.g. 12 = 12V

.....etc

15= 15V

24= 24V

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

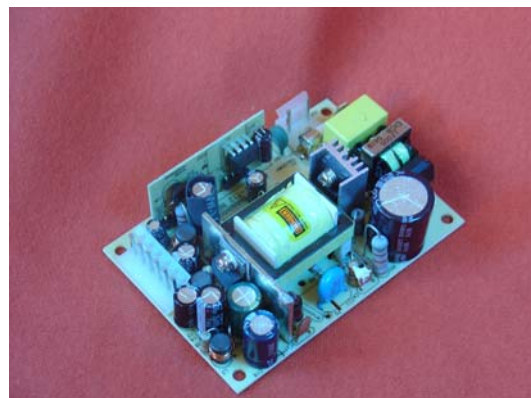
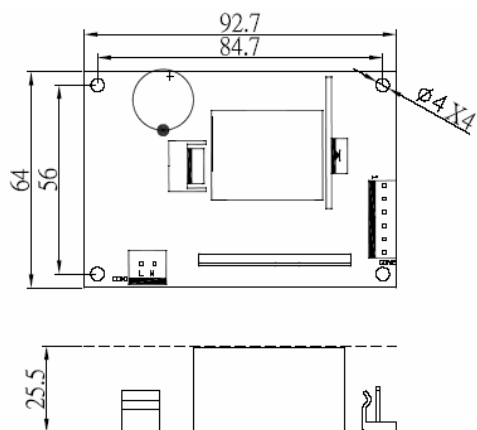
UL/cUL/CE/PSE (Under apply)



BOBBINTRON ELECTRICAL CORPORATION

AD0251-XX Series

25W AC – DC Open Frame Multi-output Power Supply



Electrical specifications :

Input:

Voltage.....100 – 240 VAC

Current.....0.7A rms Max

Frequency.....

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5% for Vo1

Power (Po).....25W

Hold up time.....

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 20VDC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AD0251-T12	25W	5.0VDC	3.0A
		12.0VDC	0.5A
		-12VDC	0.2A
AD0251-T12A	25W	5.0VDC	2.0A
		12.0VDC	1.0A
		-12VDC	0.2A

Feature:

Universal Input 100V to 240VAC

3P-2 3.96mm Molex Input

6P 3.96mm Molex Output

Multi Output Power Supply

Environmental :

Operating Temperature:

0 deg. C to 50 deg. C ambient

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

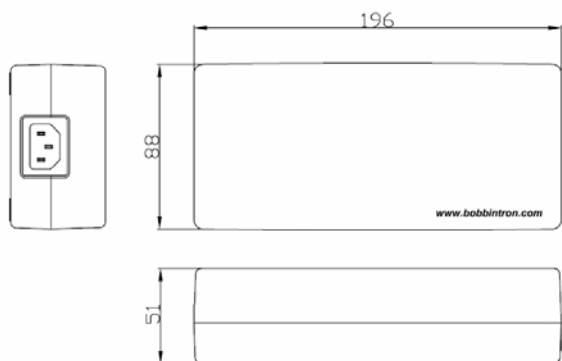
UL950 CE



<http://www.bobbintron.com>

BOBBINTRON ELECTRICAL CORPORATION

AP1001-XXM Series **100W Medical Power Supply**



Electrical specifications :

Input:

Voltage..... 100-240VAC

Current.....1.8A rms Max

Frequency.....50-60 Hz

Output:

Voltage (Vo)..... (see table)

Tolerance.....+/- 5%

Power (Po).....100 W

Hold up time.....8mS min at Full Load, 115VAC

Over voltage protection.....Built-in

Short circuit protection.....Hiccup Mode, Auto Recovery

Efficiency.....70% min, at Full Load and 115VAC

Ripple/Noise (Vp-p).....2% (20M Hz Bandwidth)

Calculated MTBF..... Over 100 Khr at 25C

Output Electronic Specifications:

Model No.	Po	Vo	Io
AP1001-12M	100W	12.0VDC	8.33A
AP1001-24M	100W	24.0VDC	4.16A

Feature:

Universal Input 100V to 240VAC

IEC Socket C14 Input

With Active PFC Circuit

Meet Medical Safety

Environmental :

Operating Temperature:

0 deg. C to 40 deg. C

Storage Temperature:

-20 deg. C to 80 deg.C

EMI:

Meet FCC Class B and

CISPR 22 Class B

Safety:

UL2601/cUL/ CE under apply

Wireless Transmitter for iPod/ iPod Mini



- Dimensions: 51.6 (L) x 26.5(W) x 14.5(T)mm without counting earphone plug.
- Color: Pure Apple White
- Built-in Antenna
- Power Requirement: Supplied by iPod connection.
- Modulation: FM stereo
- Frequencies: ch.1@88.2 /ch.2@ 88.6 /ch.3@ 89 MHz(for Japan) 3 band adjusted by manual switch built on front right side. With silk screen indication. Ch.1@ 88.3, ch.2@ 88.7 and ch.3@ 88.9MHz(for USA & Europe) as from bottom to top indicated beside the manual switch.
- Stereo separation: Greater than 45 dB
- Signal Distortion: Less than .5%
- Frequency response: 50Hz to 15 kHz
- Operating Range Availability: 10~30 ft(Limited by FCC regulation)
- International frequencies software selectable.

Blister package for Retailer's choice.



P/N# i-Trans88