

# EA10603B-19V

- ▲EFFICIENCY OVER 80%
- ▲OVER-VOLTAGE PROTECTIVE INSTALLATION
- ▲SHOT-CIRCUIT PROTECTIVE INSTALLATION
- ▲PROTECTION TYPE : AUTO-RECOVERY
- ▲OPERATION TEMPERATURE 0°C ~40°C
- ▲IEC 320 RECEPTACLE 3P(SMALL SIZE)
- ▲COMPACT SIZE : L107×W61×H30MM



## 1-0 INPUT REQUIREMENTS

### 1-1 INPUT VOLTAGE

100 TO 240± 10%Vac , FULL RANGE

### 1-2 INPUT FREQUENCY

47 TO 63 Hz

### 1-3 INPUT CURRENT

- 1.) 1.6 A MAX., AT 115Vac , FULL LOAD
- 2.) 0.8 A MAX., AT 230Vac , FULL LOAD

### 1-4 EFFICIENCY

82% MIN. AT FULL LOAD, NOMINAL LINE

### 1-5 INRUSH CURRENT

- 1.)50A MAX. AT 115Vac , COLD START
- 2.) 100A MAX. AT 230Vac , COLD START

### 1-6 HOLD UP TIME

10mS MIN.AT FULL LOAD, NOMINAL LINE

### 1-6-1 TRUN-ON TIME

3 SEC. MAX.(AT AC 115V, COLD START)

### 1-7 CONFIGURATION

3-WIRE INPUT AC LINE (LINE ,NEUTRAL,FG)

### 1-8 INPUT FUSE

THE HOT LINE SIDE OF THE INPUT SHALL HAVE A FUSE

### 1-9 LINE REGULATION

THE MAXIMUM VOLTAGE CHANGE ON DC OUTPUT SHALL BE WITHIN TOLERANCE WHEN AC INPUT VOLTAGE VARIES WITHIN THE RANGE SPECIFIED IN 1-1

### 1-10 INPUT PROTECTION DEVICE

AN ADEQUATE INTERNAL FUSE ON THE AC INPUT LINE SHALL BE PROVIDED

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## 1-11 POWER LINE NOISE

THE POWER SUPPLY WILL HAVE AN ON BOARD AC FILTER THAT WILL MEET CONDUCTED NOISE SPECIFICATIONS OF FCC AND CISPR

## 1-12 HI-POT TESTS

PRIMARY-SECONDARY 1.8KV<sub>ac</sub> FOR 1 MINUTE (LEAKAGE CURRENT 10mA)

## 1-13 INSULATION RESISTANCE

INSULATION RESISTANCE SHALL BE MORE THAN 100Mohm AT 500V<sub>dc</sub> BETWEEN PRIMARY LINE, NEUTRAL LINE AND SECONDARY

## 2-0 OUTPUT REQUIREMENTS

### 2-1 DC OUTPUT

|                     | TOLERANCE  | OUTPUT CURRENT |        |  |
|---------------------|------------|----------------|--------|--|
| OUTPUT VOLTAGE      | (ACCURACY) | MIN.           | MAX.   |  |
| +19 V <sub>dc</sub> | +/-5 %     | 0              | 3.16 A |  |

### 2-2 LOAD REGULATION

| VOLTAGE             | TOLERANCE | REGULATION            |
|---------------------|-----------|-----------------------|
| +19 V <sub>dc</sub> | +/-5 %    | 18-20 V <sub>dc</sub> |

### 2-3 DYNAMIC LOAD REGULATION

+/-5% EXCURSION FOR 50% - 100% OR 100%-50% LOAD CHANGE OF DC OUTPUT AT FREQUENCY UP TO 1KHz (DUTY 50%)

### 2-4 RIPPLE & NOISE

THE POWER SUPPLY SHALL NOT EXCEED THE FOLLOWING LIMITS ON THE INDICATED VOLTAGES FOR 60Hz OR 50Hz RIPPLE , SWITCHING FREQUENCY RIPPLE AND NOISE AND DYNAMIC LOAD VARIATIONS MEASURED WITH A 20MHz BANDWIDTH

| A                   | B     |
|---------------------|-------|
| +19 V <sub>dc</sub> | 250mV |

COLUMN A: OUT VOLTAGE

COLUMN B: 60Hz RIPPLE + SWITCHING RIPPLE AND NOISE

© RIPPLE & NOISE ARE MEASURED AT THE END OF OUTPUT CABLES WHICH ARE ADDED A 0.1uF CERAMIC CAPACITOR AND A 47uF ELECTROLYTIC CAPACITOR

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## 2-5 OVER CURRENT PROTECTION (OVER POWER PROTECTION)

THE POWER SUPPLY SHALL NOT BE DAMAGED BY A OVER CURRENT FROM THE OUTPUT TO RETURN LINE

| OUTPUT VOLTAGE | MIN. | MAX.  |
|----------------|------|-------|
| +19 Vdc        | ---  | 4.2 A |

## 2-6 OVER — VOLTAGE PROTECTION

27V MAX. (OUTPUT CLAMPED WITH ZENER DIODE, DO NOT TEST WITH EXTERNAL DC SOURCE)

## 2-7 SHORT-CIRCUIT PROTECTION

A SHORT CIRCUIT PLACE AT ANY OUTPUT WILL CAUSE NO DAMAGE TO THIS ADAPTER

## 2-8 OPEN CIRCUIT PROTECTION

WHEN PRIMARY POWER IS SUPPLIED WITH NO LOAD ON OUTPUT LEVEL,NO DAMAGES OR HAZARDOUS CONDITIONS SHOULD OCCUR

## 2-9 STABILITY

2% MAX. AT CONSTANT LOAD WITH CONSTANT INPUT (AFTER 30 MINUTES OF OPERATION)

## 2-10 DROP-OUT(POWER LINE DISTURBANCE)

OUTPUT VOLTAGES SHALL REMAIN WITHIN THE SPECIFIED REGULATION RANGE , THROUGH THE ABSENCE OF A LINE INPUT DURING 1/2 CYCLE, AT FULL LOAD AND MIN.AC LINE INPUT

## 2-11 VOLTAGE ISOLATION

THE DC GROUND WILL BE ISOLATED FROM THE AC NEUTRAL AND AC LINE

## 2-12 COOLING

COOLING SHALL BE NEUTRAL CONVECTION COOLING ,THE POWER SUPPLY MUST BE CAPABLE OF OPERATION WHEN MOUNTED EITHER VERTICALLY OR HORIZONTALLY ACCORDING TO THE MECHANICAL DRAWING

## 2-13 LEAKAGE CURRENT

0.25mA MAX.

## 2-14 LED DISPLAY

| DESCRIPTION | GREEN |
|-------------|-------|
| POWER ON    | ON    |
| POWER OFF   | OFF   |

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## 3-0 ENVIRONMENTAL REQUIREMENTS

### 3-1 TEMPERATURE :

- 1.)OPERATION : 0 TO 40°C
- 2.)STORAGE : -20 TO 85°C

### 3-2 HUMIDITY

- 1.)OPERATION : 8%~90%RH
- 2.)STORAGE : 5%~90%RH

### 3-3 VIBRATION AND SHOCK

NO EVIDENCE OF ANY MECHANICAL OR FUNCTIONAL DAMAGE AFTER THE VIBRATION AND SHOCK TESTING

#### 1.)SHIPPING VIBRATION

THIS AC ADAPTER MAY BE VIBRATED IN THE THREE MUTUALLY PERPENDICULAR AXES OF 0.5mm DISPLACEMENT PEAK TO PEAK AT 2 TO 55 TO 2Hz , 7 MINUTES PER CYCLE FOR A DURATION OF 30 MINUTES

#### 2.)SHIPPING SHOCK

THIS AC ADAPTER IN THE SHIPPING PACKAGE MAY BE DROPPED 8 TIMES FROM A HEIGHT OF 900mm

### 3-4 ALTITUDE

- 1.)OPERATION : 10 , 000 FEET
- 2.)STORAGE : 40 , 000 FEET

## 4-0 EMI/EMC REQUIREMENTS

THE RADIATED AND CONDUCTED EMISSIONS OF THIS AC ADAPTER COMPLIES WITH THE REQUIREMENTS OF THE FCC PART 15 , CLASS B & EN 55022 CLASS B

## 5-0 APPROVAL

THIS AC ADAPTER IS DESIGNED TO MEET BY FOLLOWING STANDARDS

### 5-1 UL , CUL , TUV, CB, CE

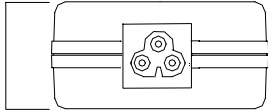
## 6-0 RELIABILITY

THE POWER SUPPLY SHALL BE DESIGNED AND PRODUCED TO HAVE A MEAN TIME BETWEEN FAILURES(MTBF) OF 30000 OPERATING HOURS AT 90% CONFIDENCE-LEVEL WHILE OPERATING UNDER THE FOLLOWING CONDITIONS

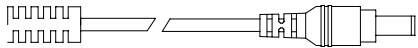
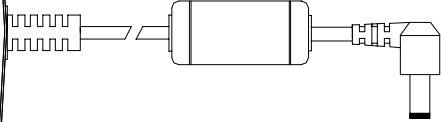
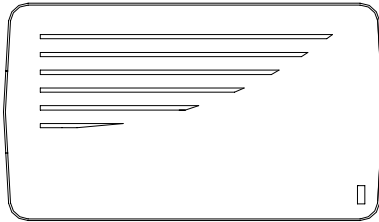
TEST CONDITION : INPUT VOL. 220Vac AND 40 PCS OF UNITS FOR 30 DAYS BURN-IN AT FULL LOAD AND 40°C AMBIENT WITHOUT FAILURE

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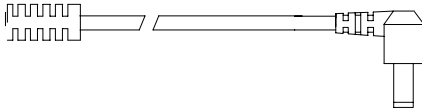
30+/-0.5



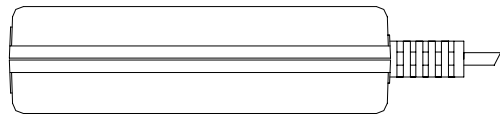
60.5+/-0.5



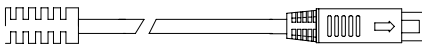
5.5X2.5 or 5.5X2.1



5.5X2.5 or 5.5X2.1



107+/-0.5



MINI DIN