


**SERIES:** ETSA 150W U | **DESCRIPTION:** AC-DC POWER SUPPLY

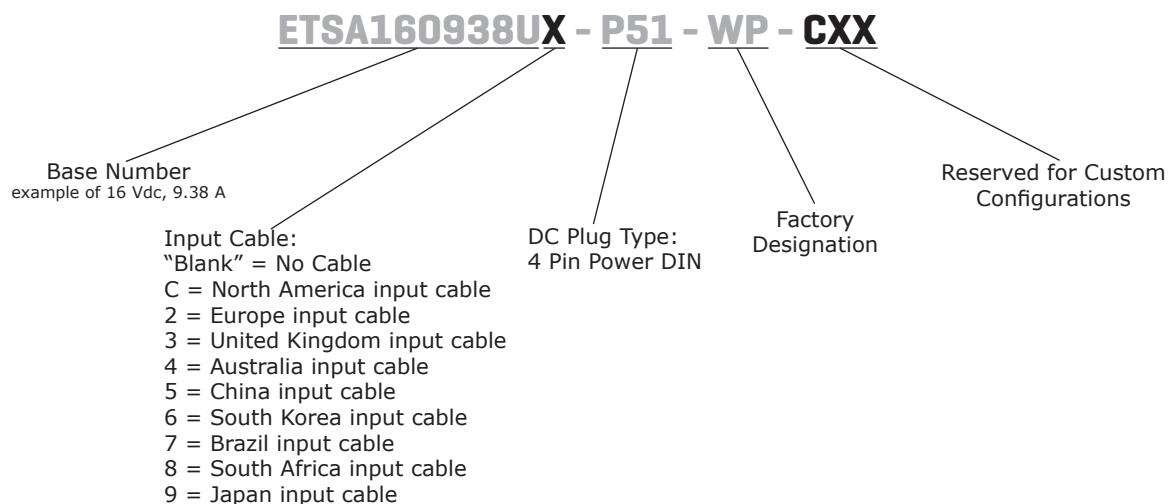
**FEATURES**

- 150 W power
- universal input (90~264 Vac)
- single regulated outputs
- over voltage, over current, and short circuit protections
- UL/cUL safety approvals
- level VI efficiency
- power factor correction
- custom designs available



| MODEL        | output voltage | output current max | output power max | ripple and noise <sup>1</sup> max | efficiency level |
|--------------|----------------|--------------------|------------------|-----------------------------------|------------------|
|              | (Vdc)          | (A)                | (W)              | (mVp-p)                           |                  |
| ETSA1201167U | 12             | 11.67              | 140              | 240                               | VI               |
| ETSA160938U  | 16             | 9.38               | 150              | 320                               | VI               |
| ETSA190790U  | 19             | 7.90               | 150              | 380                               | VI               |
| ETSA240625U  | 24             | 6.25               | 150              | 480                               | VI               |
| ETSA360417U  | 36             | 4.17               | 150              | 480                               | VI               |
| ETSA480313U  | 48             | 3.13               | 150              | 480                               | VI               |

Notes: 1. Ripple and noise measured with 20 MHz bandwidth oscilloscope, each output terminated with 10  $\mu$ F/50 V electrolytic and 0.1  $\mu$ F ceramic capacitors.

**PART NUMBER KEY**


## INPUT

| parameter                 | conditions/description | min | typ | max  | units |
|---------------------------|------------------------|-----|-----|------|-------|
| voltage                   |                        | 90  |     | 264  | Vac   |
| frequency                 |                        | 47  |     | 63   | Hz    |
| current                   | at 90 Vac, 50 Hz       |     |     | 2.5  | A     |
| inrush current            | at 230 Vac, cold start |     |     | 150  | A     |
| power factor correction   | at full load           |     | 0.9 |      |       |
| no load power consumption |                        |     |     | 0.15 | W     |

## OUTPUT

| parameter               | conditions/description       | min | typ | max   | units |
|-------------------------|------------------------------|-----|-----|-------|-------|
| regulation              | 12, 16, 19 Vdc output models |     | ±5  |       | %     |
|                         | 24, 36, 48 Vdc output models |     | ±3  |       | %     |
| hold-up time            | at 115/230 Vac, full load    | 16  |     |       | ms    |
| temperature coefficient |                              |     |     | ±0.05 | %/°C  |

## PROTECTIONS

| parameter                | conditions/description          | min | typ | max | units |
|--------------------------|---------------------------------|-----|-----|-----|-------|
| over voltage protection  | output latch off                | 110 |     | 130 | %     |
| over current protection  | output shut down, auto recovery | 110 |     | 160 | %     |
| short circuit protection | output shut down, auto recovery |     |     |     |       |

## SAFETY & COMPLIANCE

| parameter            | conditions/description                           | min     | typ   | max | units |
|----------------------|--------------------------------------------------|---------|-------|-----|-------|
| isolation voltage    | input to output for 4 seconds                    |         | 4,242 |     | Vdc   |
|                      | input to frame ground for 4 seconds              |         | 2,121 |     | Vdc   |
| isolation resistance | input to output at 500 Vdc                       | 20      |       |     | MΩ    |
|                      | input to frame ground at 500 Vdc                 | 20      |       |     | MΩ    |
| safety approvals     | UL/cUL, GS                                       |         |       |     |       |
| EMI/EMC              | FCC Part 15 Class B, EN55022/EN55024 Class B, CE |         |       |     |       |
| MTBF                 | at full load, 25°C                               | 140,000 |       |     | hours |
| RoHS                 | 2011/65/EU                                       |         |       |     |       |

## ENVIRONMENTAL

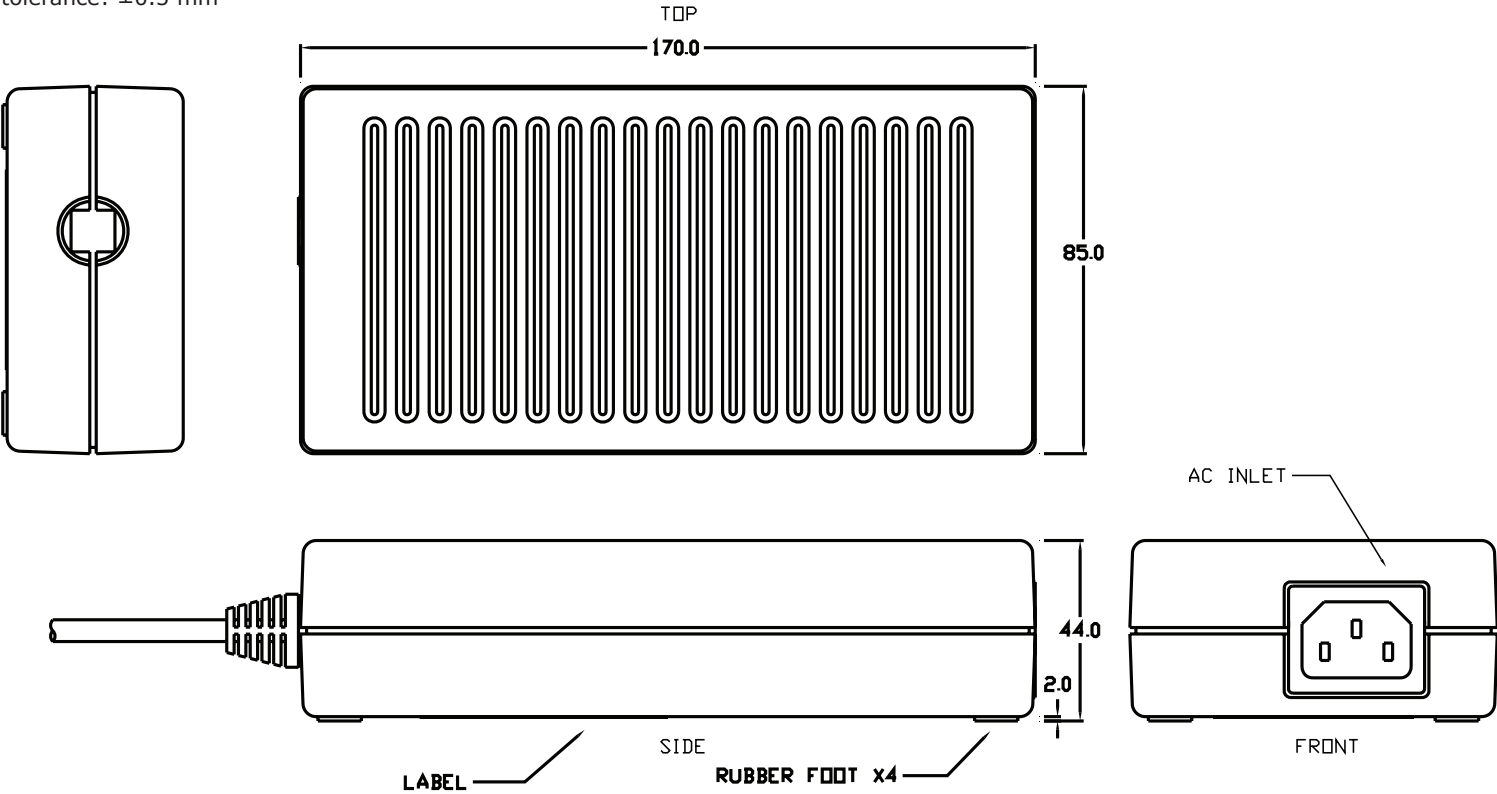
| parameter             | conditions/description                   | min | typ | max | units |
|-----------------------|------------------------------------------|-----|-----|-----|-------|
| operating temperature | derate linearly 2.5% per °C from 41~60°C | 0   |     | 60  | °C    |
| storage temperature   |                                          | -10 |     | 85  | °C    |
| operating humidity    | non-condensing                           | 20  |     | 90  | %     |
| storage humidity      | non-condensing                           | 20  |     | 90  | %     |

MECHANICAL

| parameter  | conditions/description | min | typ | max | units |
|------------|------------------------|-----|-----|-----|-------|
| dimensions | 170 x 85 x 44          |     |     |     | mm    |
| inlet plug | IEC320 / C14           |     |     |     |       |

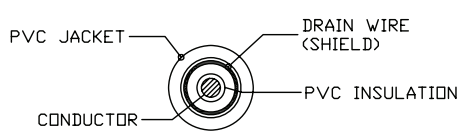
MECHANICAL DRAWING

units: mm  
tolerance: ±0.5 mm

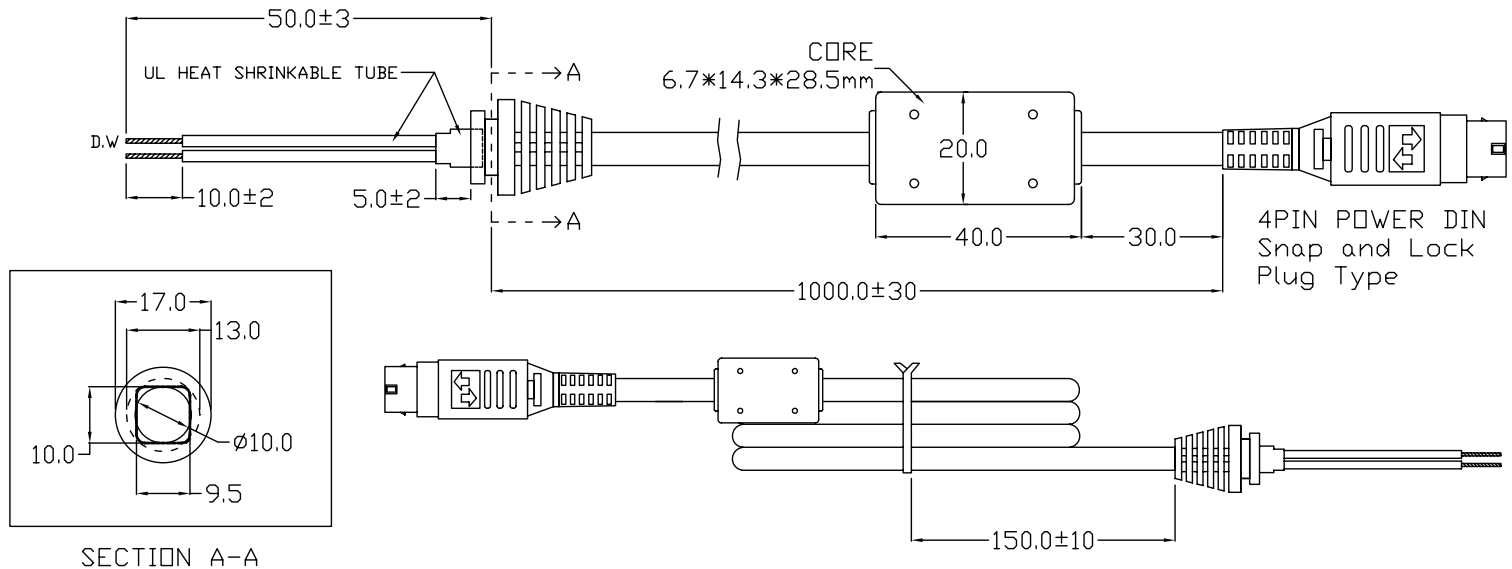
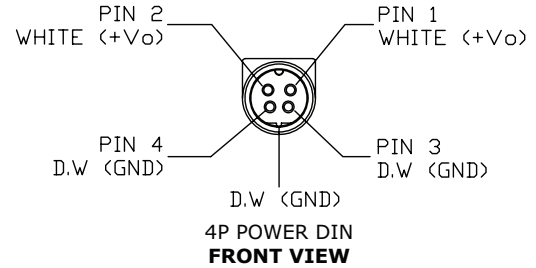


## DC CORD

units: mm



See Table 1  
**SECTIONAL DRAWING**

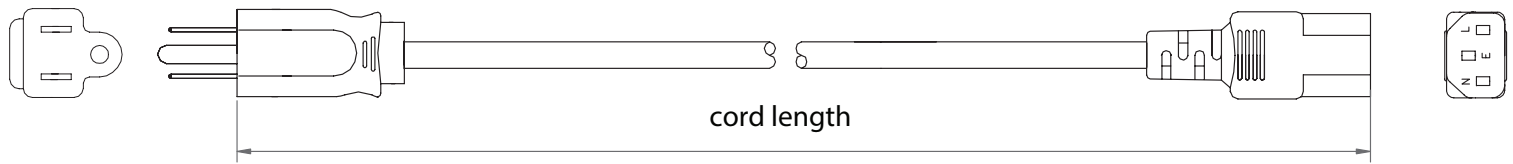


**Table 1**

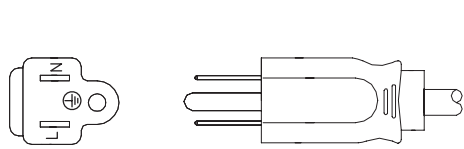
| MODEL NO.    | CABLE                                                                         |
|--------------|-------------------------------------------------------------------------------|
| ETSA1201167U | 14 AWG, Black, UL1571, 80°C, 30 V,<br>14 AWGX1C + aluminum shield (14 AWG)    |
| ETSA160938U  | 14 AWG, Black, UL1571, 80°C, 30 V,<br>14 AWGX1C + aluminum shield (14 AWG)    |
| ETSA190790U  | 14 AWG, Black, UL1571, 80°C, 30 V,<br>14 AWGX1C + aluminum shield (14 AWG)    |
| ETSA240625U  | 14 AWG, Black, UL1571, 80°C, 30 V,<br>14 AWGX1C + aluminum shield (14 AWG)    |
| ETSA360417U  | 16 AWG, Black, UL1185 80/90°C, 300 V,<br>16 AWGX1C + aluminum shield (16 AWG) |
| ETSA480313U  | 16 AWG, Black, UL1185 80/90°C, 300 V,<br>16 AWGX1C + aluminum shield (16 AWG) |

## AC CORD

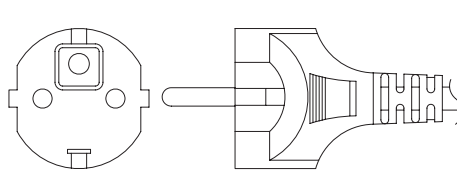
units: mm



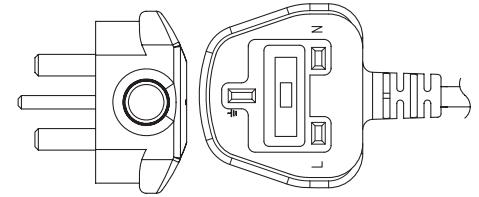
### NORTH AMERICA



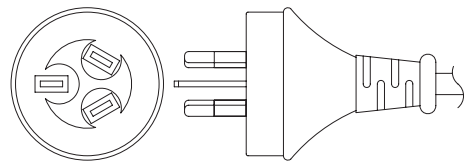
### EUROPE



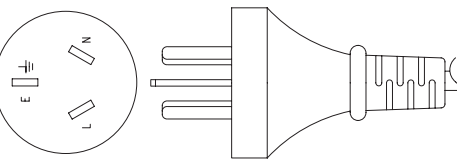
### UNITED KINGDOM



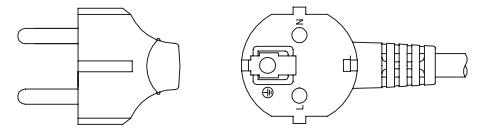
### AUSTRALIA



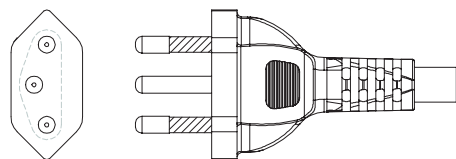
### CHINA



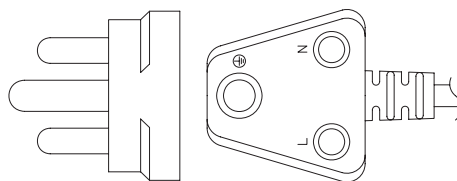
### SOUTH KOREA



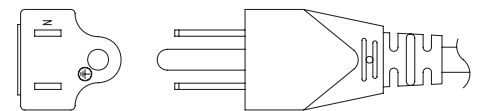
### BRAZIL



### SOUTH AFRICA



### JAPAN



**Table 2**

| AC INPUT       | CORD LENGTH       |
|----------------|-------------------|
| North America  | 1,830 mm $\pm$ 50 |
| Europe         | 1,830 mm $\pm$ 30 |
| United Kingdom | 1,800 mm $\pm$ 50 |
| Australia      | 1,830 mm $\pm$ 30 |
| China          | 1,830 mm $\pm$ 50 |
| South Korea    | 1,800 mm $\pm$ 30 |
| Brazil         | 1,830 mm $\pm$ 30 |
| South Africa   | 1,830 mm $\pm$ 30 |
| Japan          | 1,830 mm $\pm$ 30 |

## REVISION HISTORY

| rev. | description                    | date       |
|------|--------------------------------|------------|
| 1.0  | initial release                | 11/22/2013 |
| 1.01 | added ac cord options          | 10/09/2014 |
| 1.02 | updated to level VI efficiency | 05/08/2015 |

The revision history provided is for informational purposes only and is believed to be accurate.

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This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

CUI offers a one (1) year limited warranty. Complete warranty information is listed on our website.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

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