


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

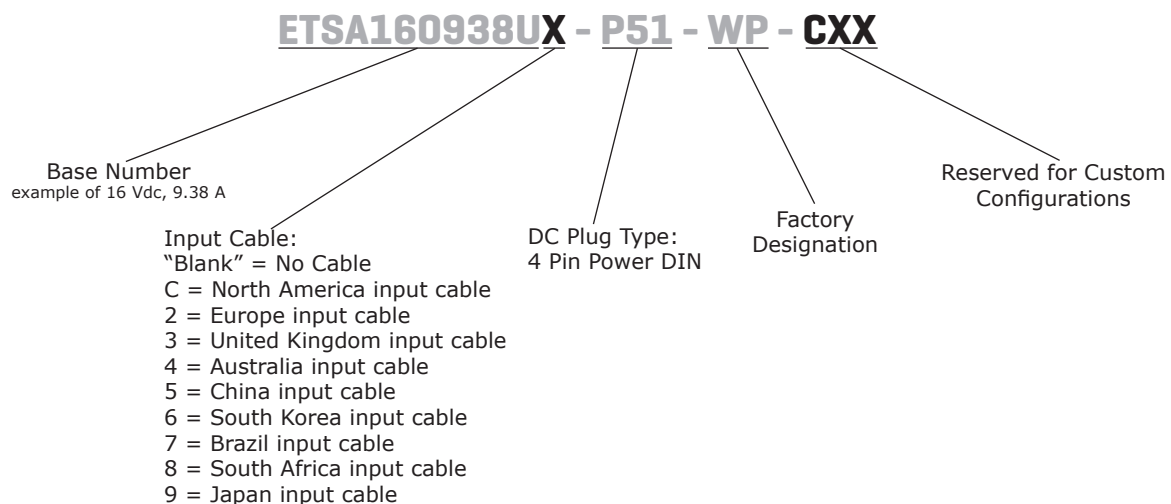
**FEATURES**

- 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<br>voltage | output<br>current<br>max | output<br>power<br>max | ripple<br>and noise <sup>1</sup><br>max | efficiency<br>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

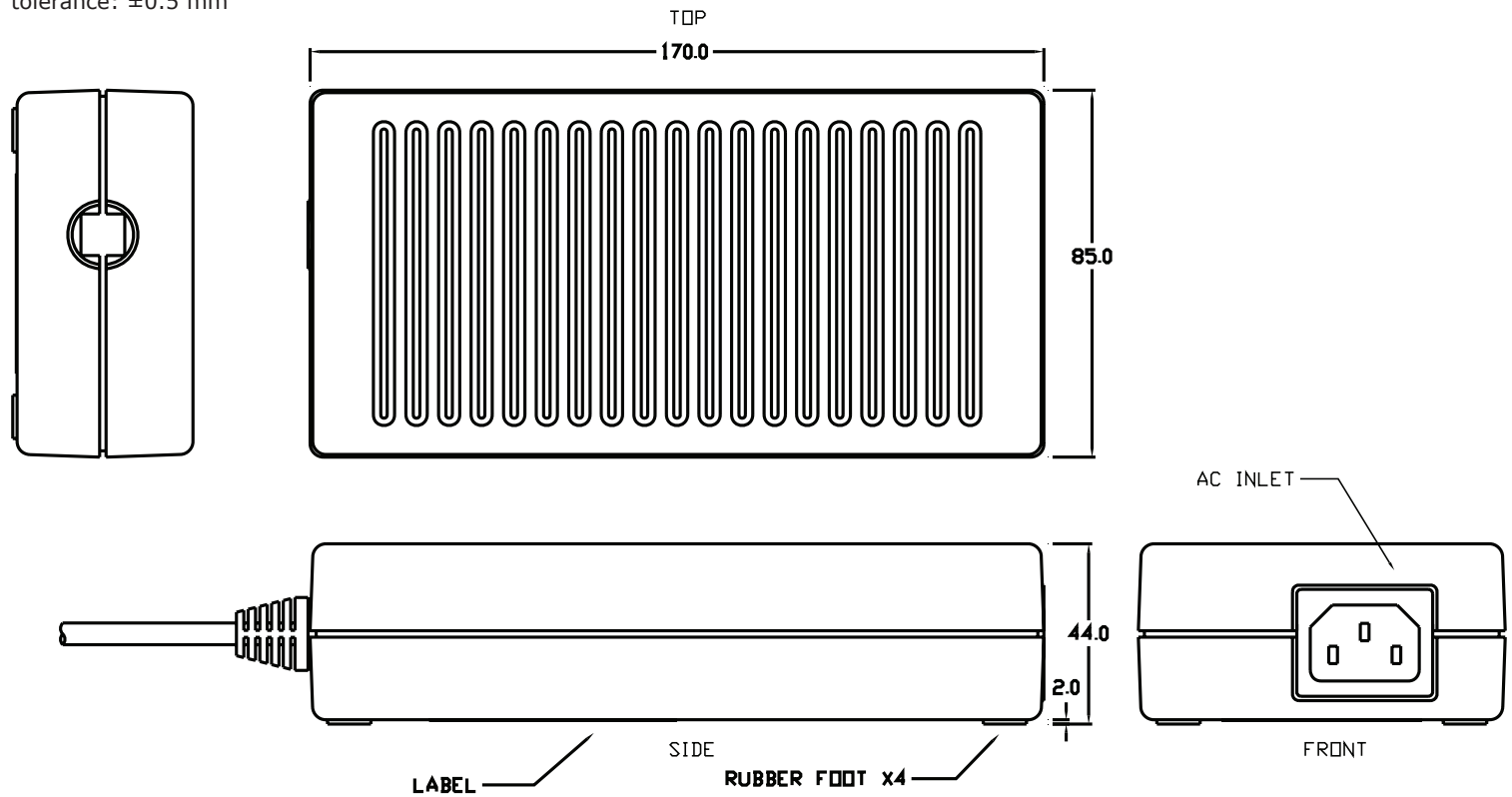
| parameter             | conditions/description                   | min | typ | max | units |
|-----------------------|------------------------------------------|-----|-----|-----|-------|
| operating temperature | derate linearly 2.5% per °C from 41~60°C | 0   |     | 60  | °C    |
| storage temperature   |                                          | -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           |     |     |     |       |

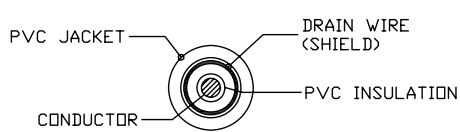
## MECHANICAL DRAWING

units: mm  
tolerance:  $\pm 0.5$  mm

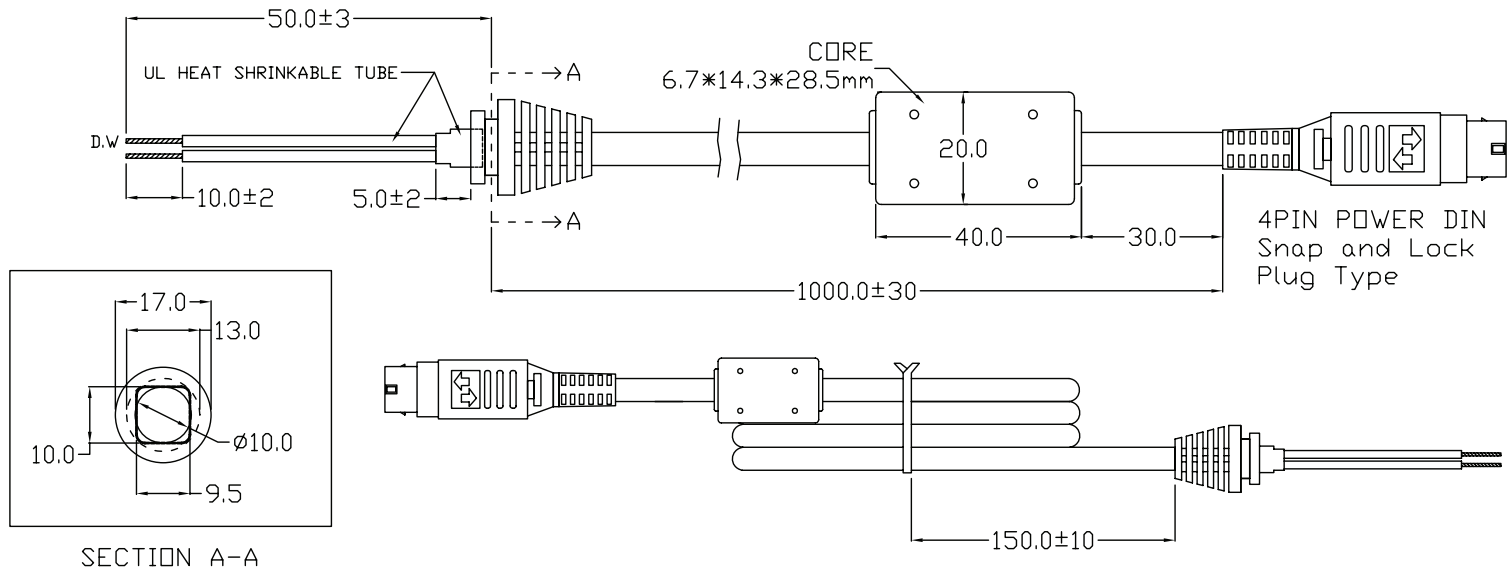
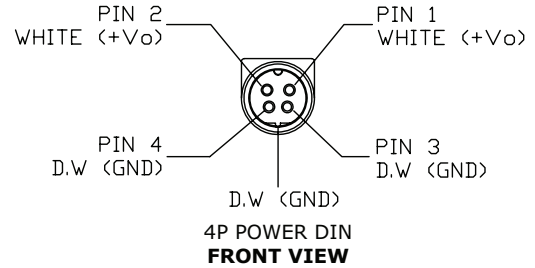


## DC CORD

units: mm



See Table 1  
**SECTIONAL DRAWING**

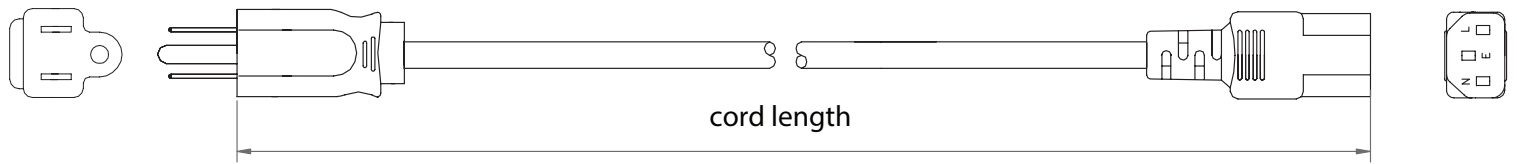


**Table 1**

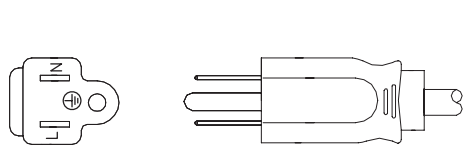
| MODEL NO.    | CABLE                                                                         |
|--------------|-------------------------------------------------------------------------------|
| ETSA1201167U | 14 AWG, Black, UL1571, 80°C, 30 V,<br>14 AWGX1C + aluminum shield (14 AWG)    |
| ETSA160938U  | 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

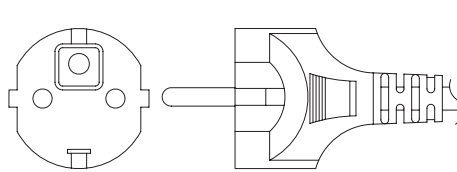
units: mm



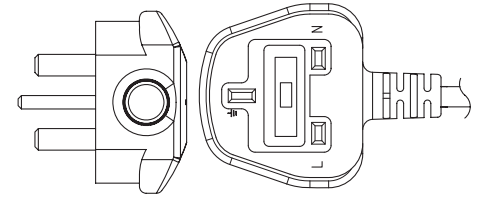
### NORTH AMERICA



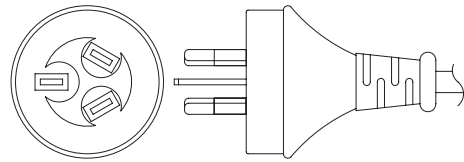
### EUROPE



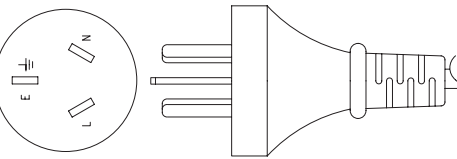
### UNITED KINGDOM



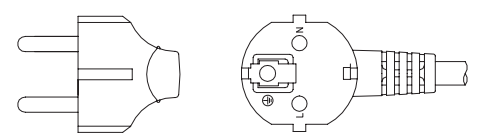
### AUSTRALIA



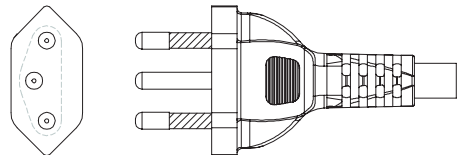
### CHINA



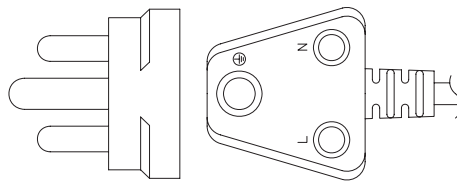
### SOUTH KOREA



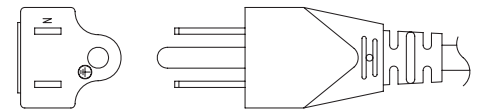
### BRAZIL



### 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.

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