

**SERIES:** SDI150-U | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

- meets Level VI and CoC Tier 2 efficiency
- 150 W power
- universal input (90~264 Vac)
- single regulated outputs
- over voltage and short circuit protections
- UL/cUL, PSE safety approvals
- power factor correction
- custom designs available



| MODEL       | output voltage<br>(Vdc) | output current<br>max<br>(A) | output power<br>max<br>(W) | ripple and noise <sup>1</sup><br>max<br>(mVp-p) | efficiency level <sup>2</sup> |
|-------------|-------------------------|------------------------------|----------------------------|-------------------------------------------------|-------------------------------|
| SDI150-12-U | 12                      | 12.5                         | 150                        | 240                                             | VI                            |
| SDI150-15-U | 15                      | 10                           | 150                        | 300                                             | VI                            |
| SDI150-18-U | 18                      | 8.34                         | 150                        | 360                                             | VI                            |
| SDI150-19-U | 19                      | 7.9                          | 150                        | 380                                             | VI                            |
| SDI150-24-U | 24                      | 6.25                         | 150                        | 480                                             | VI                            |
| SDI150-28-U | 28                      | 5.36                         | 150                        | 560                                             | VI                            |
| SDI150-36-U | 36                      | 4.17                         | 150                        | 720                                             | VI                            |
| SDI150-48-U | 48                      | 3.13                         | 150                        | 960                                             | VI                            |

Notes:

1. At full load, 115/230 Vac input, oscilloscope at 20 MHz bandwidth, output terminated with a 0.1  $\mu$ F ceramic and 10  $\mu$ F electrolytic capacitor.
2. CoC Tier 2 compliant.
3. All specifications are measured at  $T_a=25^{\circ}\text{C}$ , nominal input voltage, and 75% rated output load unless otherwise specified.

**PART NUMBER KEY**
**SDI150 - XX - U X - P51 - CXX**

Base Number

Output Voltage

AC Inlet Type:  
IEC320/C14Input Cable:  
"Blank" = No Cable  
C = North America input cable  
2 = Europe input cableDC Plug Type:  
4 Pin Power DINReserved for Custom  
Configurations

## INPUT

| parameter                 | conditions/description       | min | typ | max  | units |
|---------------------------|------------------------------|-----|-----|------|-------|
| voltage <sup>1</sup>      |                              | 90  |     | 264  | Vac   |
| frequency                 |                              | 47  |     | 63   | Hz    |
| current                   | at 100 Vac                   |     |     | 2.5  | A     |
| inrush current            | at 240 Vac, cold start, 25°C |     |     | 120  | A     |
| leakage current           |                              |     |     | 3.5  | mA    |
| power factor correction   | meets EN 61000-3-2           |     |     |      |       |
| no load power consumption | at 240 Vac                   |     |     | 0.15 | W     |

Note: 1. Derates linearly from 100% load at 110 Vac to 80% load at 90 Vac.

## OUTPUT

| parameter                  | conditions/description                               | min | typ  | max | units |
|----------------------------|------------------------------------------------------|-----|------|-----|-------|
| voltage set point accuracy | at 60% load                                          |     | ±2.5 |     | %     |
| line regulation            | from 100~240 Vac, full load                          |     | ±1   |     | %     |
| load regulation            | from 60% to full load, 60% to 20% load (60±40% load) |     | ±5   |     | %     |
| start-up time              | at 115 Vac, full load, 25°C                          |     |      | 1.2 | s     |
| rise time                  | at 115 Vac, full load, 25°C                          |     | 20   |     | ms    |
| hold-up time               | at 115 Vac, full load, 25°C                          | 16  |      |     | ms    |

## PROTECTIONS

| parameter                | conditions/description   | min  | typ | max  | units |
|--------------------------|--------------------------|------|-----|------|-------|
| over voltage protection  | 12 Vdc output models     | 14.3 |     | 15.8 | Vdc   |
|                          | 15 Vdc output models     | 17.1 |     | 18.9 | Vdc   |
|                          | 18, 19 Vdc output models | 20.9 |     | 23.1 | Vdc   |
|                          | 24 Vdc output models     | 28.5 |     | 31.5 | Vdc   |
|                          | 28 Vdc output models     | 31.4 |     | 34.7 | Vdc   |
|                          | 36 Vdc output models     | 40.9 |     | 45.2 | Vdc   |
|                          | 48 Vdc output models     | 53.2 |     | 58.8 | Vdc   |
| short circuit protection | continuous               |      |     |      |       |

## SAFETY & COMPLIANCE

| parameter            | conditions/description                            | min     | typ | max | units |
|----------------------|---------------------------------------------------|---------|-----|-----|-------|
| isolation voltage    | input to output for 1 minute                      | 4,242   |     |     | Vdc   |
| isolation resistance |                                                   | 100     |     |     | MΩ    |
| safety approvals     | UL/cUL (UL 60950-1), PSE                          |         |     |     |       |
| safety class         | Class I                                           |         |     |     |       |
| EMI/EMC              | FCC Part 15 Subpart B Class B, CE                 |         |     |     |       |
| MTBF                 | as per MIL-HDBK-217F, at 115 Vac, full load, 25°C | 160,000 |     |     | hours |
| RoHS                 | 2011/65/EU                                        |         |     |     |       |

## ENVIRONMENTAL

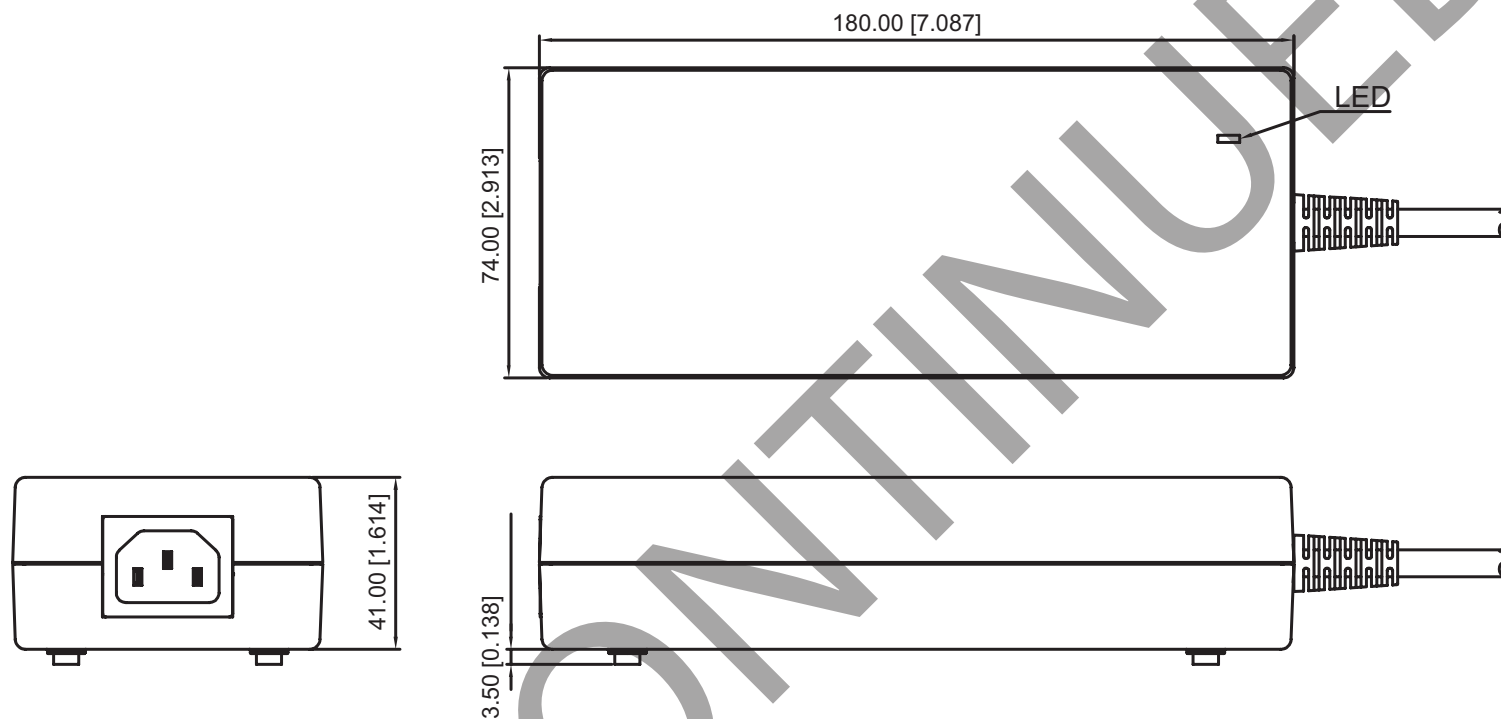
| parameter             | conditions/description                                      | min | typ   | max | units |
|-----------------------|-------------------------------------------------------------|-----|-------|-----|-------|
| operating temperature | derates linearly from 100% load at 40°C to 50% load at 65°C | -30 |       | 65  | °C    |
| storage temperature   |                                                             | -40 |       | 85  | °C    |
| operating humidity    | non-condensing                                              |     |       | 93  | %     |
| storage humidity      | non-condensing                                              |     |       | 93  | %     |
| altitude              |                                                             |     | 5,000 |     | m     |

## MECHANICAL

| parameter  | conditions/description                              | min | typ | max | units |
|------------|-----------------------------------------------------|-----|-----|-----|-------|
| dimensions | 180.00 x 74.00 x 41.00 (7.087 x 2.913 x 1.614 inch) |     |     |     | mm    |
| inlet plug | IEC320/C14                                          |     |     |     |       |
| weight     | without ac cord                                     |     | 950 |     | g     |

## MECHANICAL DRAWING

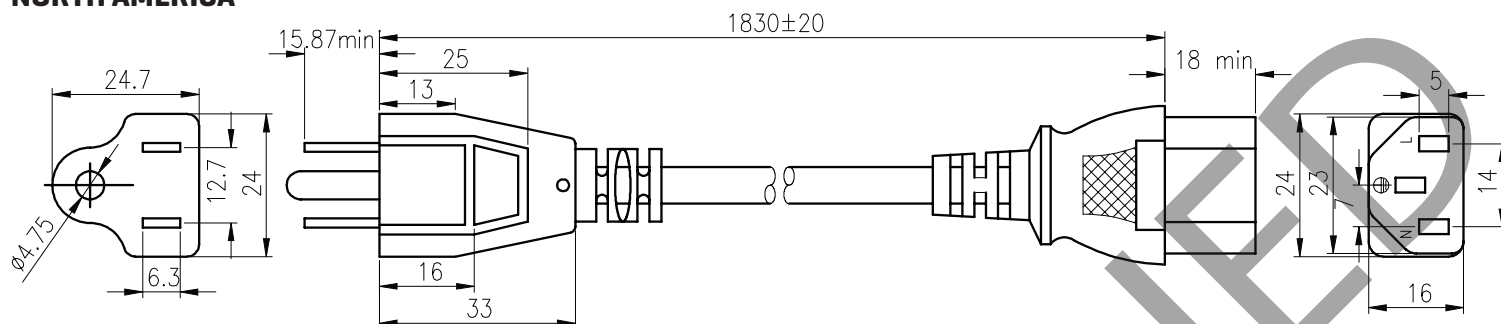
units: mm [inch]

tolerance:  $\pm 0.50$  [ $\pm 0.020$ ]

## AC CORDS

units: mm

### NORTH AMERICA



### EUROPE

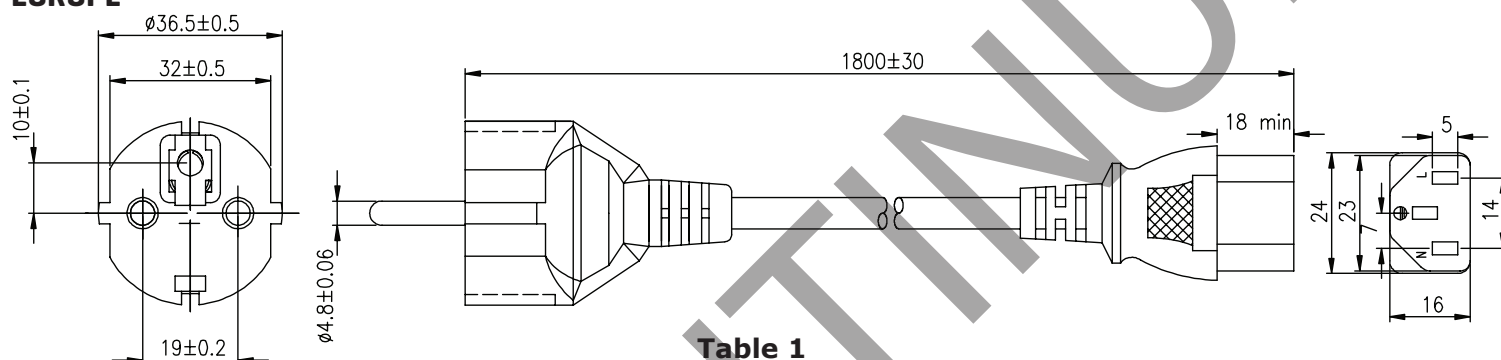


Table 1

| AC INPUT      | CORD LENGTH  |
|---------------|--------------|
| North America | 1,830 mm ±20 |
| Europe        | 1,800 mm ±30 |

## DC CORDS

units: mm

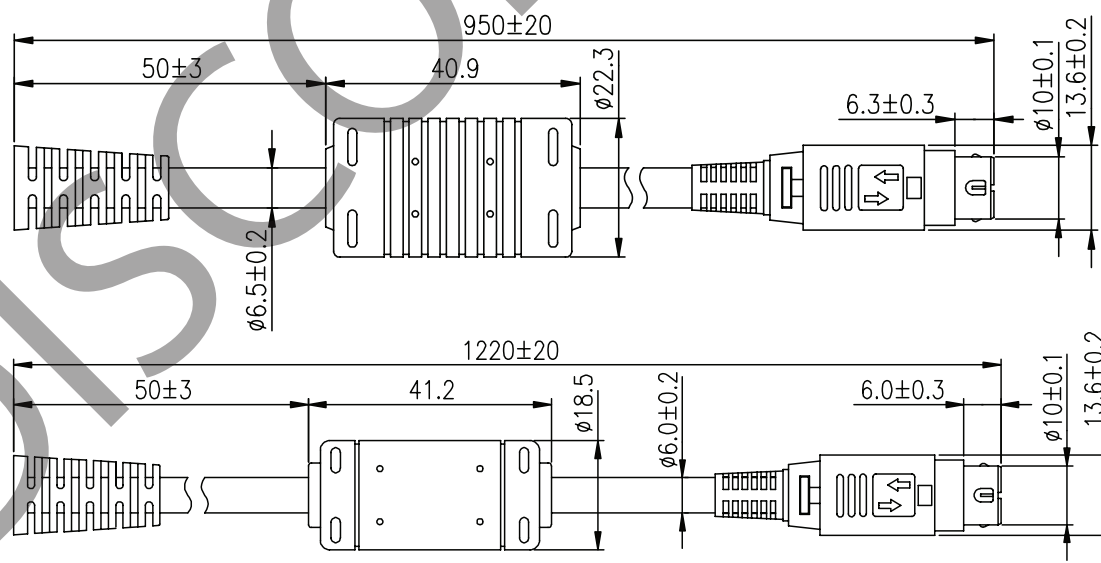
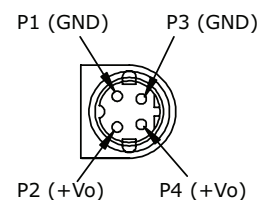


Table 2

| MODEL NO.                   | CABLE              | CORD LENGTH  |
|-----------------------------|--------------------|--------------|
| SDI150-12-U,<br>SDI150-15-U | UL2464, 16 AWG, 4C | 950 mm ±20   |
| all other models            | UL2464, 16 AWG, 2C | 1,220 mm ±20 |



## REVISION HISTORY

| rev. | description          | date       |
|------|----------------------|------------|
| 1.0  | initial release      | 06/14/2018 |
| 1.01 | company logo updated | 07/23/2020 |
| 1.02 | safeties updated     | 12/09/2020 |

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.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.