



**THE DATASHEET OF  
SDI50-24-U-P5**



**SERIES:** SDI50-U | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

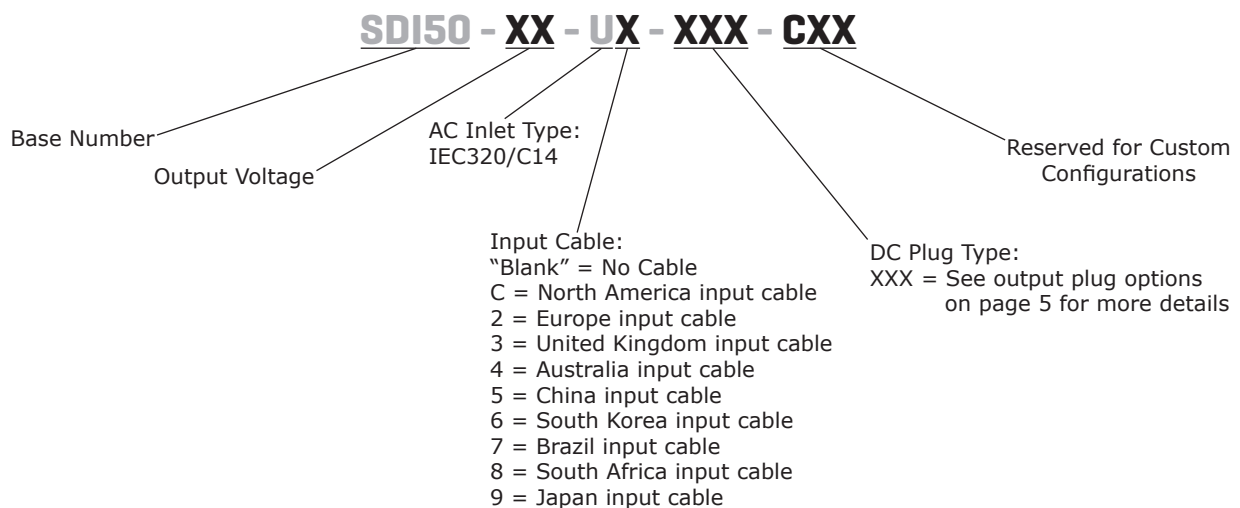
- DoE Level VI, CoC Tier 2 efficiency
- 50 W power
- universal input (90~264 Vac)
- compact size
- single regulated output from 9~48 Vdc
- over voltage and short circuit protections
- UL/cUL and PSE safety approvals
- custom designs available
- certified to 60950-1 and 62368-1 standards



| MODEL      | output voltage | output current max | output power max | ripple and noise <sup>1</sup> max | efficiency level <sup>2</sup> |
|------------|----------------|--------------------|------------------|-----------------------------------|-------------------------------|
|            | (Vdc)          | (A)                | (W)              | (mVp-p)                           |                               |
| SDI50-9-U  | 9              | 5                  | 45               | 100                               | VI                            |
| SDI50-12-U | 12             | 4.2                | 50               | 120                               | VI                            |
| SDI50-15-U | 15             | 3.34               | 50               | 150                               | VI                            |
| SDI50-18-U | 18             | 2.78               | 50               | 180                               | VI                            |
| SDI50-19-U | 19             | 2.64               | 50               | 190                               | VI                            |
| SDI50-24-U | 24             | 2.1                | 50               | 240                               | VI                            |
| SDI50-48-U | 48             | 1.05               | 50               | 480                               | VI                            |

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, each output terminated with 0.1 µF multilayer ceramic and 10 µF low ESR electrolytic capacitors.  
2. CoC Tier 2 compliant

**PART NUMBER KEY**



## INPUT

| parameter                 | conditions/description                        | min | typ | max          | units  |
|---------------------------|---|-----|-----|--------------|--------|
| voltage                   |   | 90  |     | 264          | Vac    |
| frequency                 |   | 47  |     | 63           | Hz     |
| current                   |   |     |     | 1.2          | A      |
| inrush current            | at 230 Vac, full load, 25°C, cold start       |     |     | 70           | A      |
| leakage current           |   |     |     | 3.5          | mA     |
| no load power consumption | at 230 Vac<br>9 Vdc model<br>all other models |     |     | 0.10<br>0.15 | W<br>W |

## OUTPUT

| parameter  | conditions/description | min | typ | max | units |
|------------|------------------------|-----|-----|-----|-------|
| regulation |                        |     | ±5  |     | %     |

## PROTECTIONS

| parameter                | conditions/description          | min | typ | max | units |
|--------------------------|---------------------------------|-----|-----|-----|-------|
| over voltage protection  | output latch off                |     |     | 180 | %     |
| over current protection  | output shut down, auto recovery |     |     | 180 | %     |
| short circuit protection | output shut down, auto recovery |     |     |     |       |

## SAFETY & COMPLIANCE

| parameter            | conditions/description   | min      | typ            | max | units      |
|----------------------|--|----------|----------------|-----|------------|
| isolation voltage    | input to output at 10 mA for 1 minute<br>input to frame ground at 10 mA for 1 minute |          | 3,000<br>1,500 |     | Vac<br>Vac |
| isolation resistance | input to output at 500 Vdc<br>input to frame ground at 500 Vdc                       | 10<br>10 |                |     | MΩ<br>MΩ   |
| safety approvals     | UL/cUL (60950-1, 62368-1), PSE, LPS, UKCA  |          |                |     |            |
| EMI/EMC              | FCC Part 15B Class B, CE   |          |                |     |            |
| MTBF                 | as per Telcordia SR-332, 25°C  | 300,000  |                |     | hours      |
| RoHS                 | yes  |          |                |     |            |

## ENVIRONMENTAL

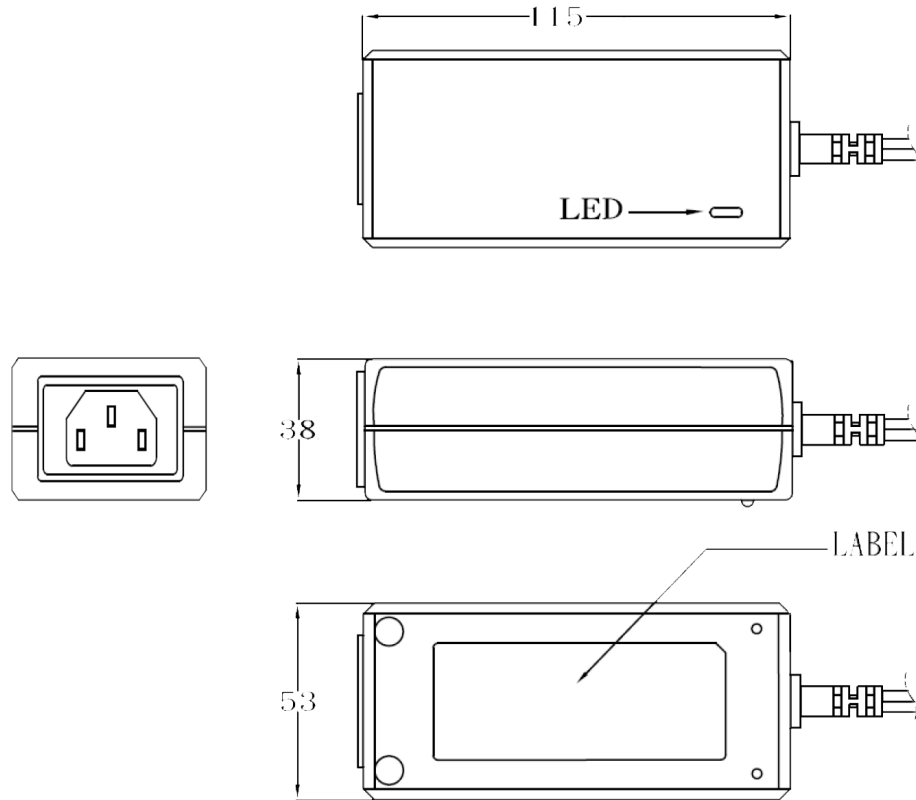
| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | 0   |     | 40  | °C    |
| storage temperature   |                        | -20 |     | 80  | °C    |
| operating humidity    | non-condensing         | 20  |     | 80  | %     |
| storage humidity      | non-condensing         | 10  |     | 90  | %     |

## MECHANICAL

| parameter  | conditions/description | min | typ | max | units |
|------------|------------------------|-----|-----|-----|-------|
| dimensions | 115 x 53 x 38          |     |     |     | mm    |
| inlet plug | IEC320/C14             |     |     |     |       |
| weight     | without ac cord        |     | 310 |     | g     |

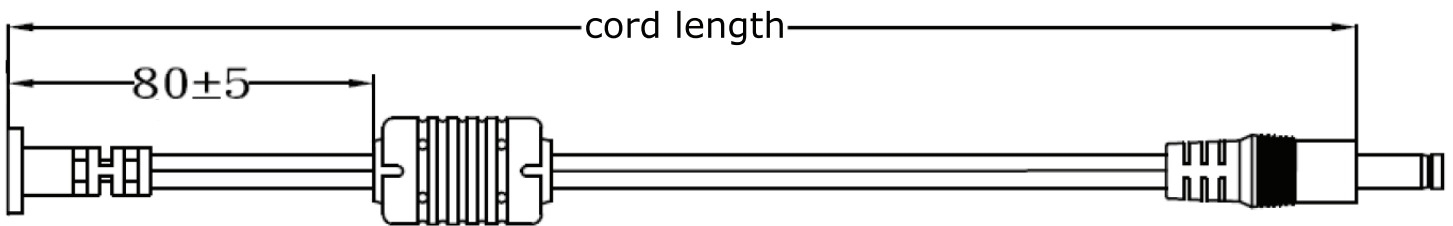
## MECHANICAL DRAWING

units: mm  
tolerance: ±1.0 mm



## DC CORD

units: mm

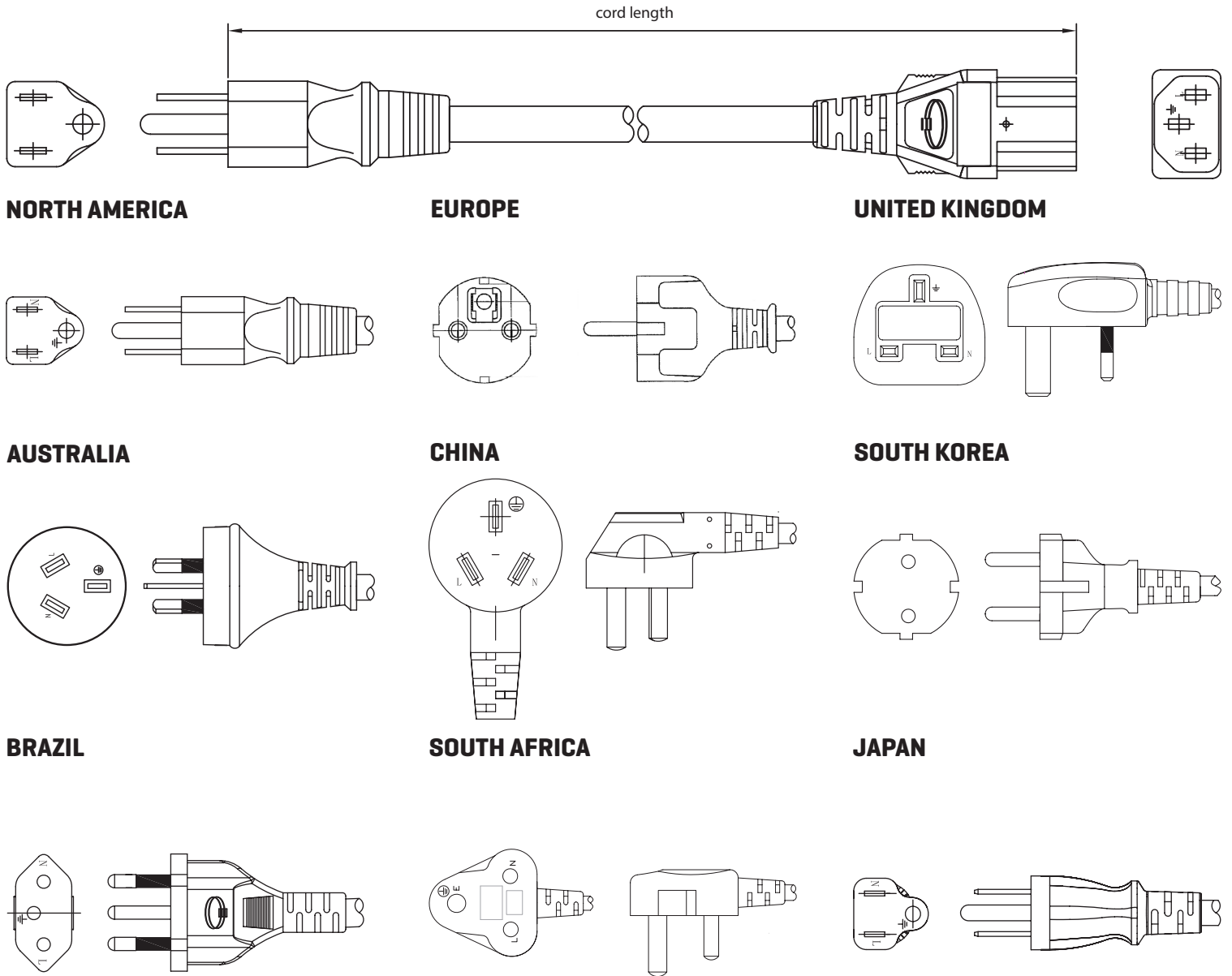


**Table 1**

| MODEL NO.  | CABLE          | CORD LENGTH  |
|------------|----------------|--------------|
| SDI50-9-U  | UL2468, 16 AWG | 1,500 mm ±30 |
| SDI50-12-U | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-15-U | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-18-U | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-19-U | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-24-U | UL2468, 18 AWG | 1,500 mm ±30 |
| SDI50-48-U | UL2468, 20 AWG | 1,500 mm ±30 |

## AC CORD

units: mm



**Table 2**

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

## DC PLUG TYPE PART NUMBER KEY

**XXX**

**Plug Polarity:**  
P = Center Positive  
  
N = Center Negative

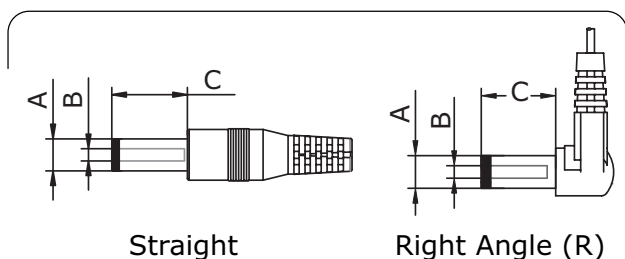
**Plug Code:**  
X = Choose a code from the options below

**Plug Angle:**  
"blank" = Straight  
R = Right Angle

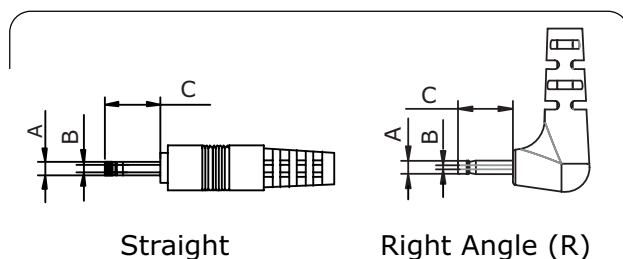
| Plug Polarity |             | Code   |                      | Dimensions (mm) |      |     | Plug Angle |       |
|---------------|-------------|--------|----------------------|-----------------|------|-----|------------|-------|
| Center Pos.   | Center Neg. | Option | Type                 | A               | B    | C   | Straight   | Right |
| •             | •           | 5      | Standard             | 5.5             | 2.1  | 9.5 | •          | •     |
| •             | •           | 6      | Standard             | 5.5             | 2.5  | 9.5 | •          | •     |
| •             | •           | 7      | Standard             | 3.5             | 1.35 | 9.5 | •          | •     |
| •             | •           | 8      | Standard             | 3.8             | 1.35 | 9.5 | •          | •     |
| •             | •           | 9      | Standard             | 3.8             | 1.05 | 9.5 | •          | •     |
| •             | •           | 10     | Locking <sup>2</sup> | 5.5             | 2.1  | 9.5 | •          | N/A   |
| •             | •           | 11     | Locking <sup>2</sup> | 5.5             | 2.5  | 9.5 | •          | N/A   |
| •             | •           | 12     | EIAJ-1               | 2.35            | 0.7  | 9.5 | •          | •     |
| •             | •           | 13     | EIAJ-2               | 4.0             | 1.7  | 9.5 | •          | •     |
| •             | •           | 14     | EIAJ-3               | 4.75            | 1.7  | 9.5 | •          | •     |
| N/A           | N/A         | ST     | Stripped & Tinned    |                 |      | N/A | N/A        | N/A   |

Note: 1. Contact CUI for additional plug options  
2. Maximum insertion depth is 10mm

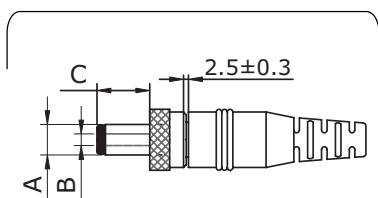
### Standard



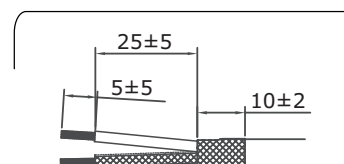
### EIAJ



### Locking



### Stripped & Tinned



## REVISION HISTORY

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| rev. | description                   | date       |
|------|-------------------------------|------------|
| 1.0  | initial release               | 05/13/2015 |
| 1.01 | updated datasheet             | 09/15/2016 |
| 1.02 | added 62368-1 standard        | 08/31/2018 |
| 1.03 | removed GS safety approval    | 03/02/2020 |
| 1.04 | dc cord AWG updated           | 06/09/2020 |
| 1.05 | UKCA added to specification   | 08/11/2021 |
| 1.06 | plug polarity symbols updated | 09/16/2021 |
| 1.07 | dc plugs updated              | 05/23/2022 |

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



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