



**SERIES:** SDI12-UD | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

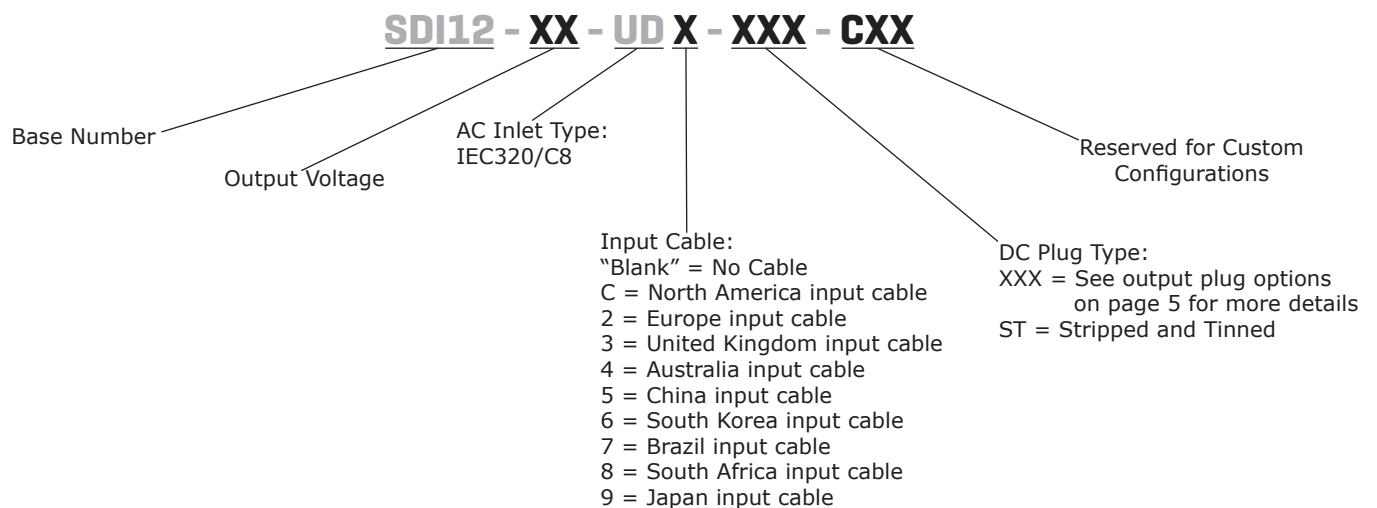
- up to 12 W continuous power
- DoE Level VI, CoC Tier 2 efficiency
- no load power consumption < 0.075 W
- compact size
- universal input voltage range
- over voltage, over current, and short circuit protections
- UL/cUL, GS, CE, PSE safety approvals



| 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> |
|--------------|-------------------------|------------------------------|----------------------------|---|-------------------------------|
| SDI12-5-UD   | 5                       | 2                            | 10                         | 100   | VI                            |
| SDI12-5.9-UD | 5.9                     | 2                            | 11.8                       | 100   | VI                            |
| SDI12-9-UD   | 9                       | 1.33                         | 12                         | 100   | VI                            |
| SDI12-12-UD  | 12                      | 1                            | 12                         | 120   | VI                            |
| SDI12-15-UD  | 15                      | 0.8                          | 12                         | 150   | VI                            |
| SDI12-18-UD  | 18                      | 0.67                         | 12                         | 180   | VI                            |
| SDI12-24-UD  | 24                      | 0.5                          | 12                         | 240   | VI                            |

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, each output terminated with 0.1 µF multilayer ceramic and 47 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                   | at full load                            |     |     | 0.31  | A     |
| inrush current            | at 240 Vac, full load, 25°C, cold start |     |     | 60    | A     |
| leakage current           |   |     |     | 0.25  | mA    |
| no load power consumption | at 115/230 Vac                          |     |     | 0.1   | W     |
|                           | Level VI<br>CoC Tier 2                  |     |     | 0.075 | W     |

## OUTPUT

| parameter    | conditions/description | min | typ | max | units |
|--------------|------------------------|-----|-----|-----|-------|
| regulation   |                        |     | ±5  |     | %     |
| hold-up time | at full load           | 10  |     |     | ms    |

## PROTECTIONS

| parameter                | conditions/description          | min | typ | max  | units |
|--------------------------|---------------------------------|-----|-----|------|-------|
| over voltage protection  | output shut down                |     |     |      |       |
|                          | 5 Vdc output model              |     |     | 9    | Vdc   |
|                          | 5.9 Vdc output model            |     |     | 10.6 | Vdc   |
|                          | 9 Vdc output model              |     |     | 16.2 | Vdc   |
|                          | 12 Vdc output model             |     |     | 21.6 | Vdc   |
|                          | 15 Vdc output model             |     |     | 27   | Vdc   |
| over current protection  | 18 Vdc output model             |     |     | 32.4 | Vdc   |
|                          | 24 Vdc output model             |     |     | 45   | Vdc   |
|                          | output shut down, auto recovery |     |     |      |       |
|                          | 5 Vdc output model              |     |     | 5    | A     |
|                          | 5.9 Vdc output model            |     |     | 5    | A     |
|                          | 9 Vdc output model              |     |     | 3    | A     |
| short circuit protection | 12 Vdc output model             |     |     | 2.5  | A     |
|                          | 15 Vdc output model             |     |     | 2    | A     |
|                          | 18 Vdc output model             |     |     | 2    | A     |
|                          | 24 Vdc output model             |     |     | 1.5  | A     |

## SAFETY & COMPLIANCE

| parameter            | conditions/description                | min     | typ   | max | units |
|----------------------|---------------------------------------|---------|-------|-----|-------|
| isolation voltage    | input to output at 10 mA for 1 minute |         | 3,000 |     | Vac   |
| isolation resistance | input to output at 500 Vdc            | 10      |       |     | MΩ    |
| safety approvals     | UL/cUL, LPS, PSE                      |         |       |     |       |
| EMI/EMC              | FCC Part 15B Class B, CE              |         |       |     |       |
| MTBF                 | as per Telcordia SR-332, 25°C         | 300,000 |       |     | hours |
| RoHS                 | 2011/65/EU                            |         |       |     |       |

## ENVIRONMENTAL

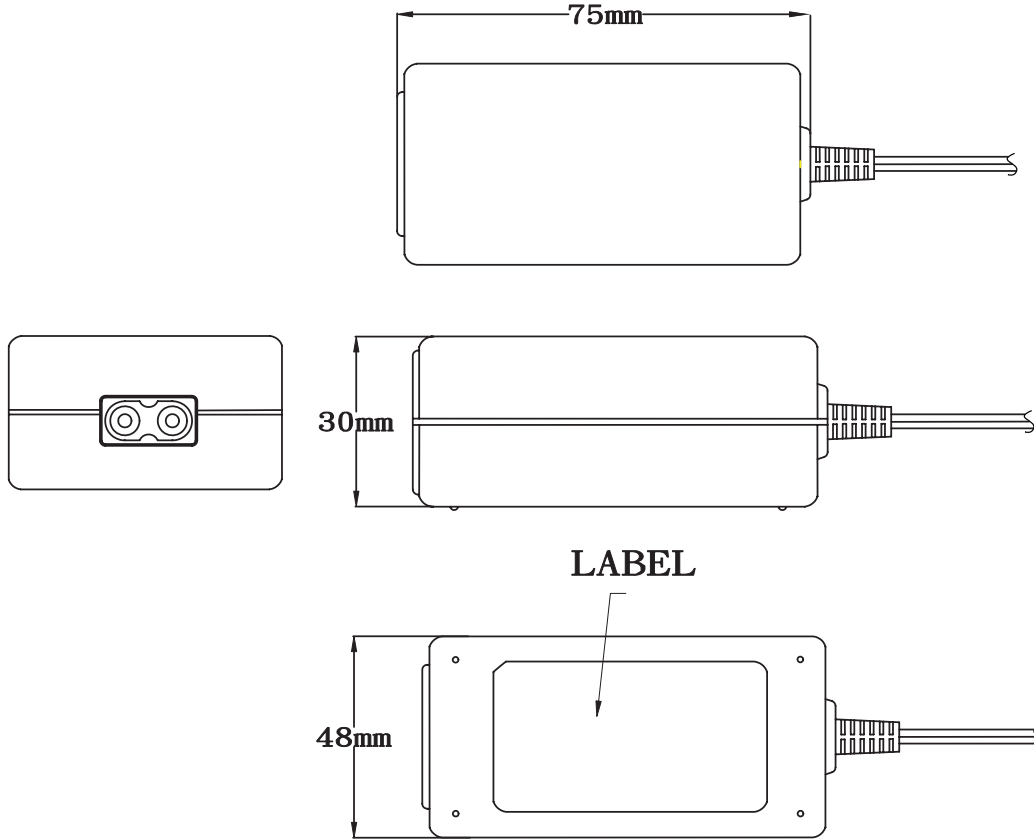
| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | 0   |     | 40  | °C    |
| storage temperature   |                        | -20 |     | 80  | °C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

## MECHANICAL

| parameter  | conditions/description | min | typ | max | units |
|------------|------------------------|-----|-----|-----|-------|
| dimensions | 75 x 48 x 30           |     |     |     | mm    |
| inlet plug | IEC320/C8              |     |     |     |       |
| weight     | without ac cord        |     | 126 |     | g     |

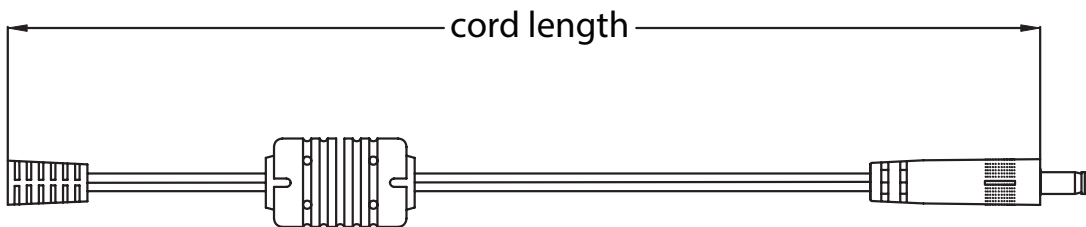
## MECHANICAL DRAWING

units: mm  
tolerance: ±0.5 mm



## DC CORD

units: mm

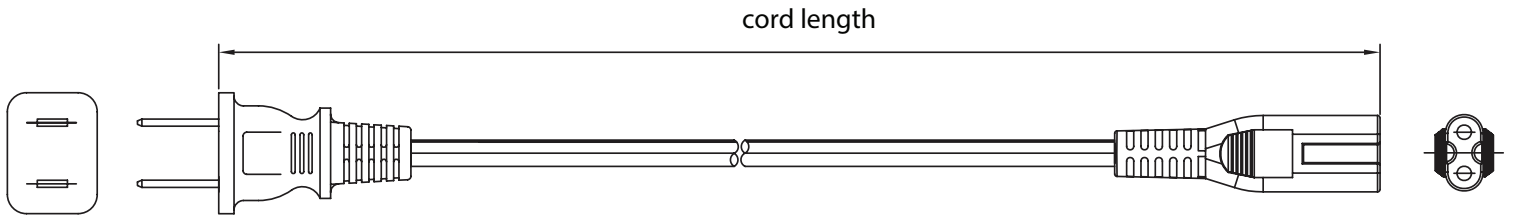


**Table 1**

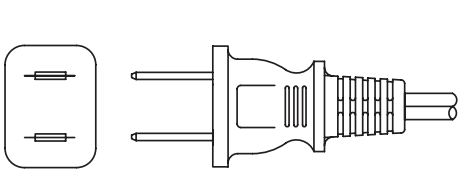
| MODEL NO.    | CABLE          | CORD LENGTH  |
|--------------|----------------|--------------|
| SDI12-5-UD   | UL2468, 20 AWG | 1,500 mm ±30 |
| SDI12-5.9-UD | UL2468, 20 AWG | 1,500 mm ±30 |
| SDI12-9-UD   | UL2468, 20 AWG | 1,500 mm ±30 |
| SDI12-12-UD  | UL2468, 22 AWG | 1,500 mm ±30 |
| SDI12-15-UD  | UL2468, 22 AWG | 1,500 mm ±30 |
| SDI12-18-UD  | UL2468, 22 AWG | 1,500 mm ±30 |
| SDI12-24-UD  | UL2468, 22 AWG | 1,500 mm ±30 |

## AC CORD

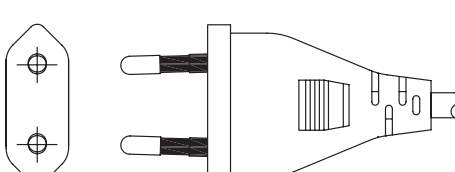
units: mm



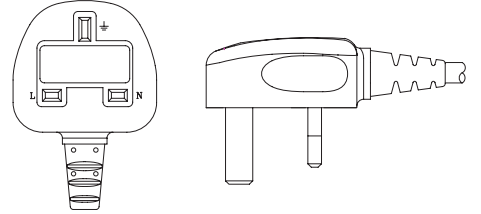
### NORTH AMERICA



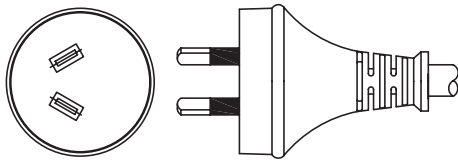
### EUROPE



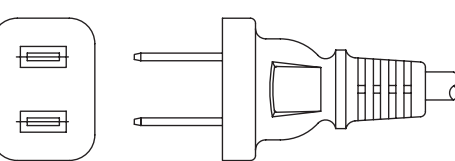
### UNITED KINGDOM



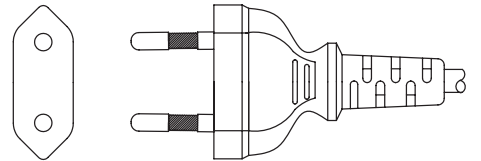
### AUSTRALIA



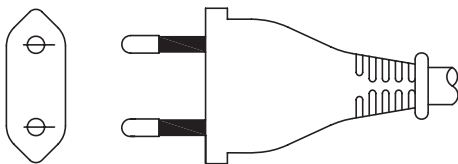
### CHINA



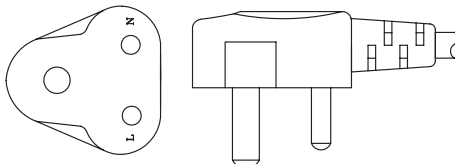
### SOUTH KOREA



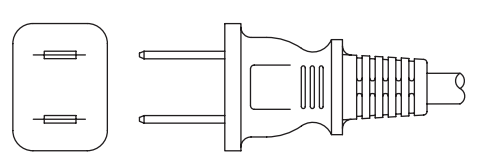
### BRAZIL



### SOUTH AFRICA



### JAPAN

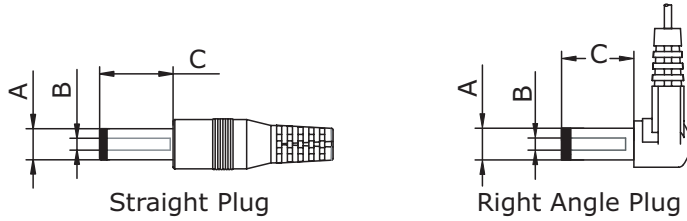


**Table 2**

| AC INPUT       | CORD LENGTH  |
|----------------|--------------|
| North America  | 1,830 mm ±50 |
| Europe         | 1,830 mm ±50 |
| 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 ±50 |

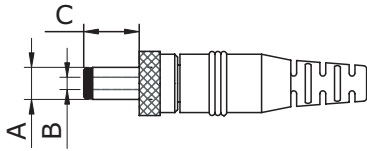
## OUTPUT PLUG OPTIONS

### Standard DC Plug



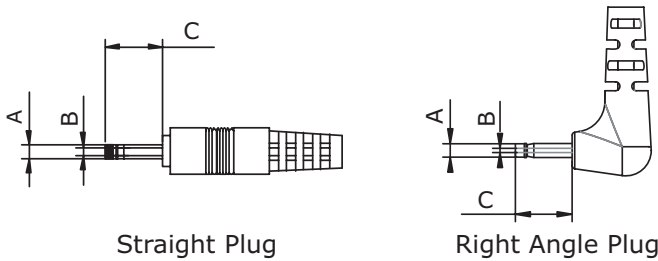
| Size | A   | B    | C   | Unit |
|------|-----|------|-----|------|
| 5    | 5.5 | 2.1  | 9.5 | mm   |
| 6    | 5.5 | 2.5  | 9.5 | mm   |
| 7    | 3.5 | 1.35 | 9.5 | mm   |
| 8    | 3.8 | 1.35 | 9.5 | mm   |
| 9    | 3.8 | 1.05 | 9.5 | mm   |

### Locking DC Plug



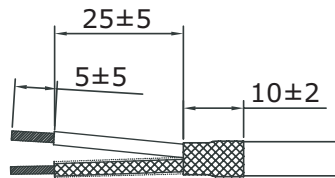
| Size | A   | B   | C   | Unit |
|------|-----|-----|-----|------|
| 10   | 5.5 | 2.1 | 9.5 | mm   |
| 11   | 5.5 | 2.5 | 9.5 | mm   |

### EIAJ DC Plug

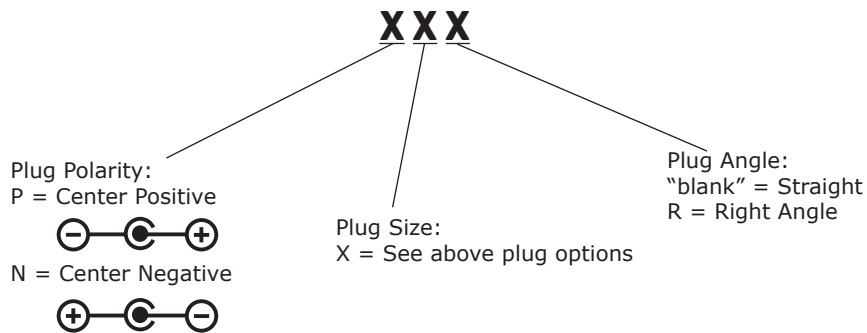


| Size | EIAJ   | A    | B   | C   | Unit |
|------|--------|------|-----|-----|------|
| 12   | EIAJ-1 | 2.35 | 0.7 | 9.5 | mm   |
| 13   | EIAJ-2 | 4.0  | 1.7 | 9.5 | mm   |
| 14   | EIAJ-3 | 4.75 | 1.7 | 9.5 | mm   |

### Stripped and Tinned



### DC Plug Type



\*Contact CUI for additional plug options

## REVISION HISTORY

| rev. | description                     | date       |
|------|---------------------------------|------------|
| 1.0  | initial release                 | 08/21/2015 |
| 1.01 | updated datasheet               | 05/18/2016 |
| 1.02 | updated datasheet               | 09/15/2016 |
| 1.03 | removed GS mark as of 5/31/2019 | 04/10/2019 |

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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