

SERIES: SDI90-U | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

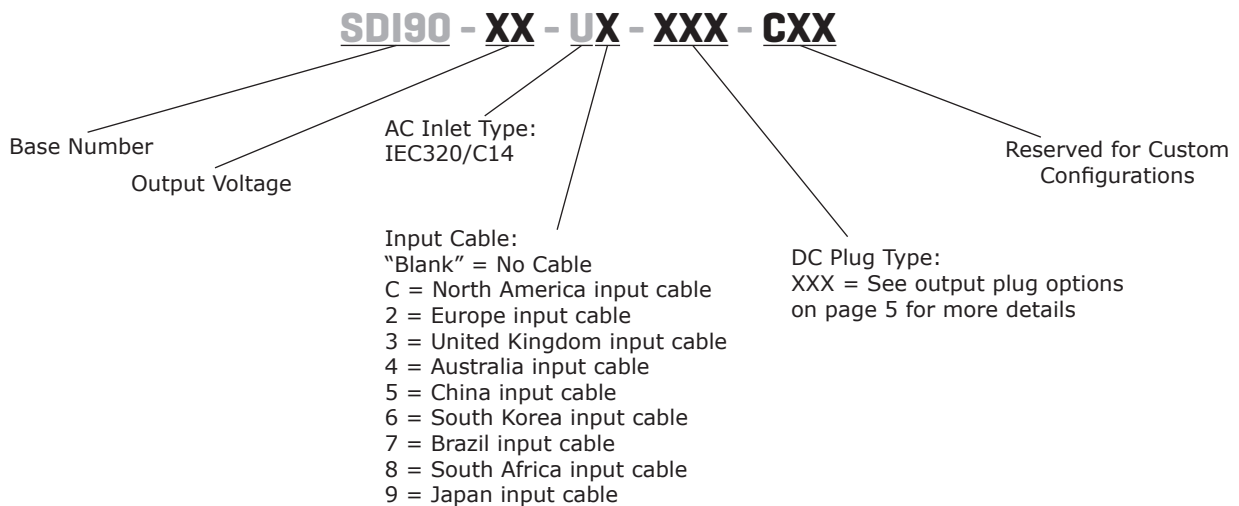
- level VI efficiency
- 90 W power
- universal input (90~264 Vac)
- single regulated outputs
- over voltage and short circuit protections
- UL/cUL, PSE safety approvals
- power factor correction
- custom designs available
- certified to 60950-1 and 62368-1 standards



| MODEL | output voltage | output current max | output power max | ripple and noise ¹ max | efficiency level |
|------------|----------------|--------------------|------------------|-----------------------------------|------------------|
| | (Vdc) | (A) | (W) | (mVp-p) | |
| SDI90-12-U | 12 | 7 | 84 | 150 | VI |
| SDI90-15-U | 15 | 6 | 90 | 150 | VI |
| SDI90-18-U | 18 | 5 | 90 | 180 | VI |
| SDI90-19-U | 19 | 4.74 | 90 | 190 | VI |
| SDI90-24-U | 24 | 3.75 | 90 | 240 | VI |
| SDI90-48-U | 48 | 1.88 | 90 | 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.

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 | | | 60 | A |
| leakage current | | | | 3.5 | mA |
| power factor correction | at full load | 0.9 | | | |
| no load power consumption | at 230 Vac | | | 0.21 | W |

OUTPUT

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

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|--------------------------|---|-----|-----|------------|--------|
| over voltage protection | output shut down | | | 150 | % |
| over current protection | output shut down, auto recovery for 12, 24 Vdc models output shut down, auto recovery for all other models | | | 130 150 | % % |
| 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 input to frame ground at 10 mA for 1 minute | | 3,000 1,500 | | Vac Vac |
| isolation resistance | input to output at 500 Vdc input to frame ground at 500 Vdc | 10 10 | | | MΩ MΩ |
| safety approvals | UL/cUL (60950-1, 62368-1), PSE ¹ , LPS, UKCA | | | | |
| EMI/EMC | FCC Part 15B Class B, CE | | | | |
| MTBF | as per Telcordia SR-332, 25°C | 300,000 | | | hrs |
| RoHS | yes | | | | |

Notes: 1. PSE not available on 48 Vdc output model.

ENVIRONMENTAL

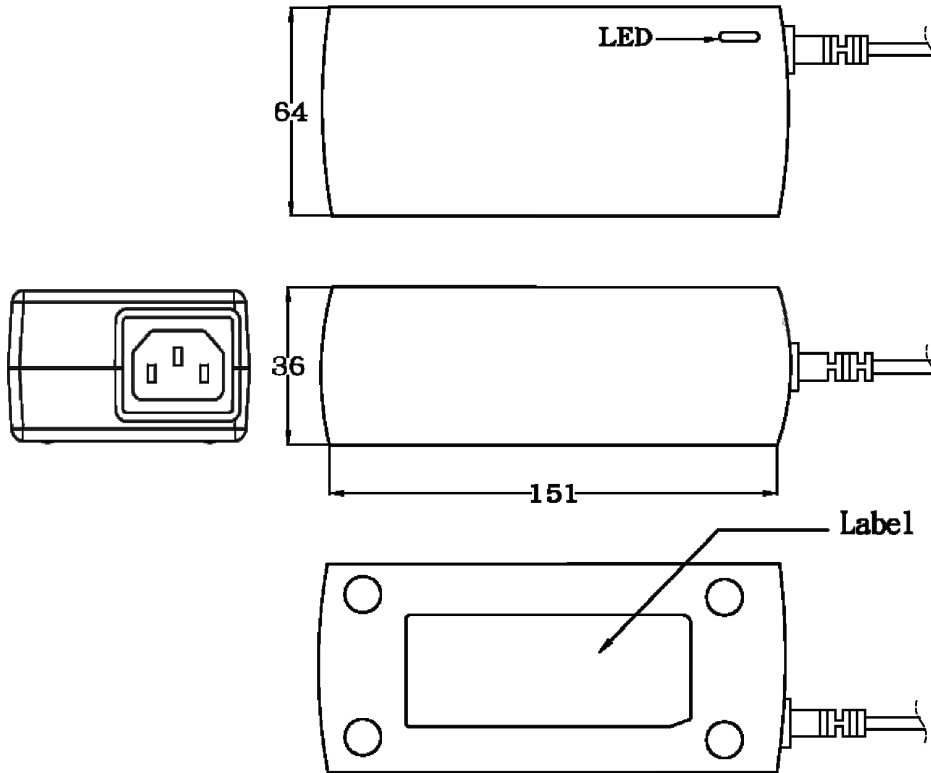
| parameter | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature | | 0 | | 40 | °C |
| storage temperature | | -20 | | 80 | °C |
| operating humidity | non-condensing | 20 | | 80 | % |
| storage humidity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

MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|------------|------------------------|-----|-----|-----|-------|
| dimensions | 151 x 64 x 36 | | | | mm |
| inlet plug | IEC320/C14 | | | | |
| weight | without ac cord | | 460 | | g |

MECHANICAL DRAWING

units: mm
tolerance: ±1.0 mm



DC CORD

units: mm

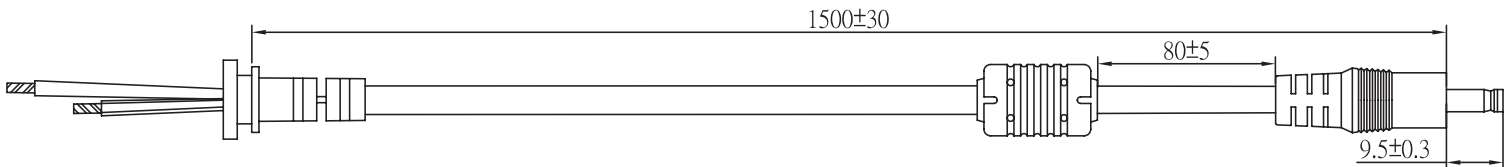


Table 1

| MODEL NO. | CABLE | CORD LENGTH |
|------------|----------------|--------------|
| SDI90-12-U | UL1185, 16 AWG | 1,500 mm ±30 |
| SDI90-15-U | UL1185, 16 AWG | 1,500 mm ±30 |
| SDI90-18-U | UL1185, 16 AWG | 1,500 mm ±30 |
| SDI90-19-U | UL1185, 18 AWG | 1,500 mm ±30 |
| SDI90-24-U | UL1185, 18 AWG | 1,500 mm ±30 |
| SDI90-48-U | UL1185, 20 AWG | 1,500 mm ±30 |

AC CORD

units: mm

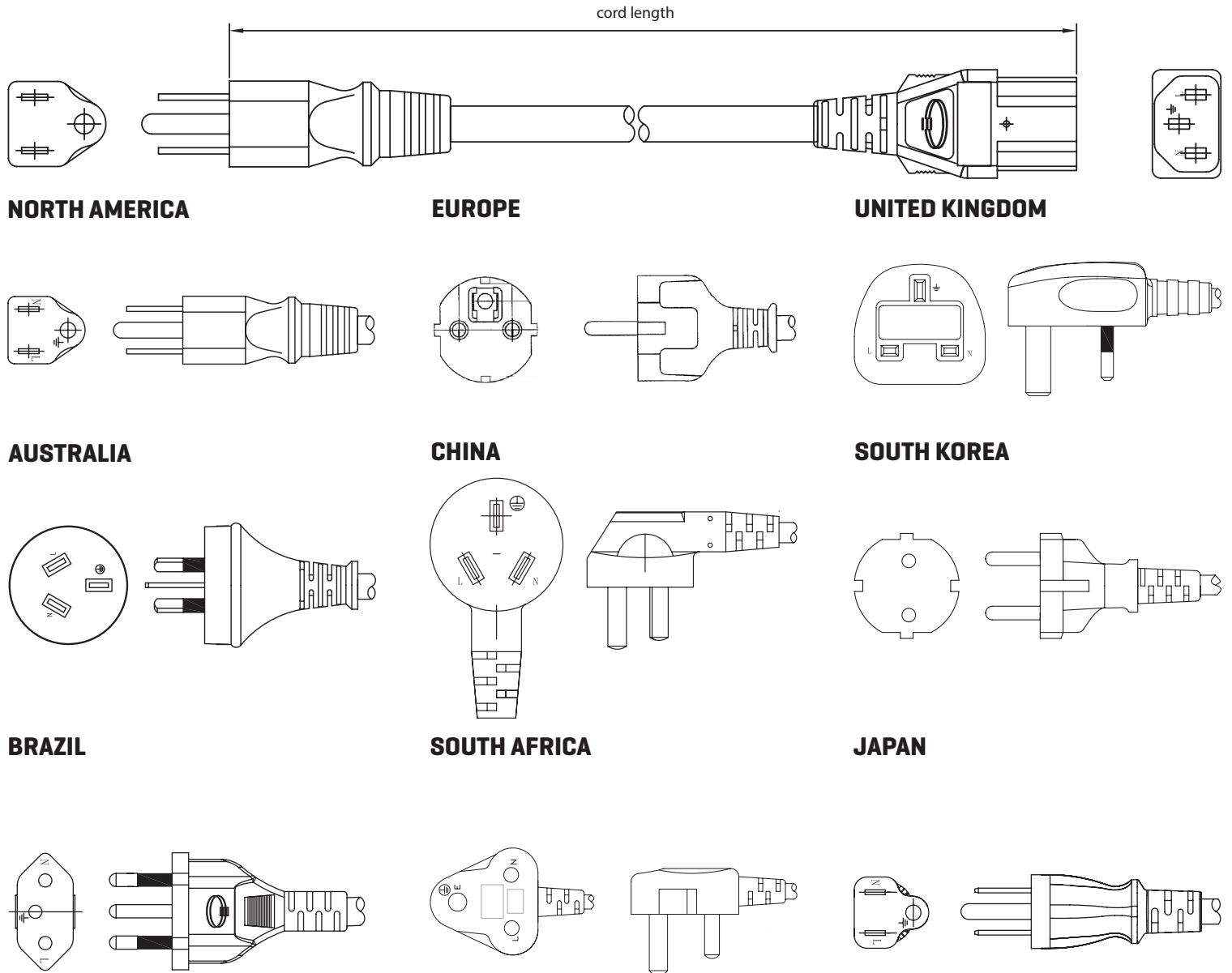
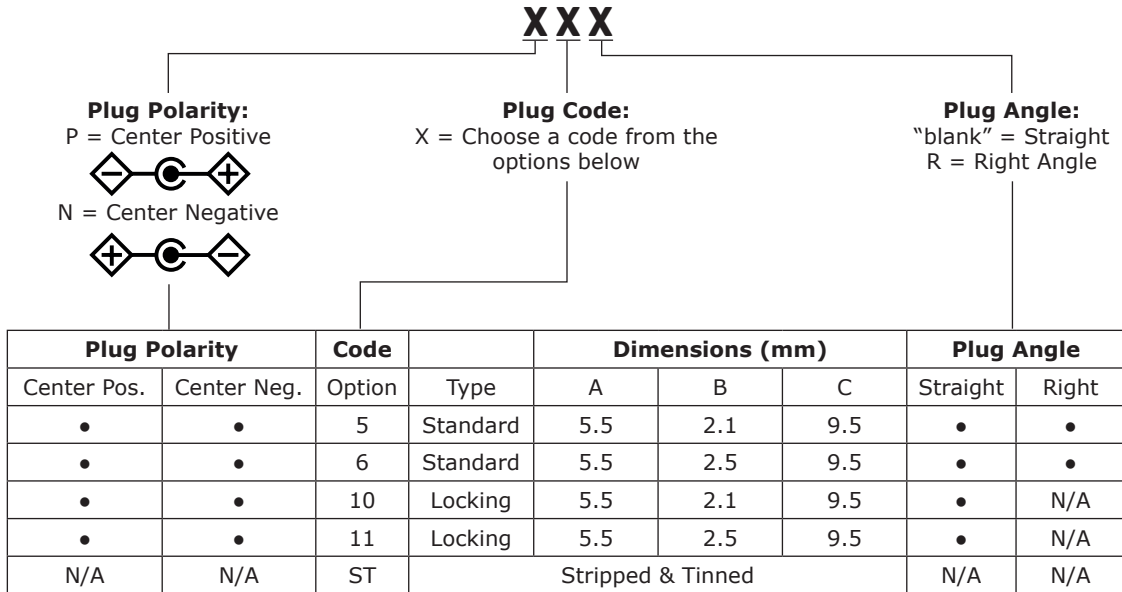


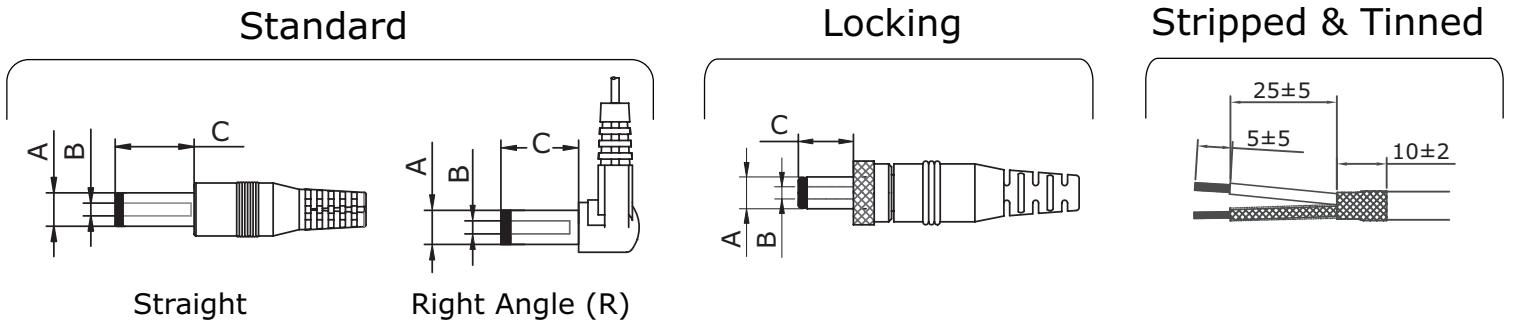
Table 2

| 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



Note: 1. Contact CUI for additional plug options



REVISION HISTORY

| rev. | description | date |
|------|---------------------------------|------------|
| 1.0 | initial release | 03/18/2015 |
| 1.01 | updated datasheet | 04/15/2015 |
| 1.02 | added 62368-1 standard | 08/31/2018 |
| 1.03 | removed GS mark as of 5/31/2019 | 04/10/2019 |
| 1.04 | removed GS in features list | 12/05/2019 |
| 1.05 | company logo updated | 07/23/2020 |
| 1.06 | UKCA added to specification | 08/11/2021 |
| 1.07 | plug polarity symbols updated | 09/16/2021 |

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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