SERIES: SDI90B-U | DESCRIPTION: AC-DC POWER SUPPLY

FEATURES

- level VI efficiency
- 90 W power
- universal input (90~264 Vac)
- over voltage, over current, short circuit, and over temperature protections
- UL/cUL, PSE, UKCA safety approvals
- certified to 62368-1 standards
- power factor correction
- -20 ~ 60/70 °C operation with derating
- 133.5 x 53.5 x 33.0 mm case size
- IEC320/C14 AC inlet
- custom designs available

MODEL

MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency level
SDI90B-12-U	12	7.50	90	180	VI
SDI90B-15-U	15	6.00	90	225	VI
SDI90B-16-U	16	5.63	90	240	VI
SDI90B-18-U	18	5.00	90	270	VI
SDI90B-19-U	19	4.70	90	228	VI
SDI90B-24-U	24	3.75	90	288	VI
SDI90B-48-U	48	1.88	90	576	VI
SDI90B-56-U	56	1.60	90	672	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.

PART NUMBER KEY

SDI90B - XX - U X X - XXX - CXX

- Base Number
- Output Voltage
- AC Inlet Type: IEC320/C14
- Input Cable:
  - "Blank" = No Cable
  - C = North America input cable
  - 2 = Europe input cable
  - 3 = United Kingdom input cable
  - 4 = Australia input cable
  - 5 = China input cable
  - 6 = South Korea input cable
  - 7 = Brazil input cable
  - 8 = South Africa input cable
  - 9 = Japan input cable
- Color:
  - "Blank" = black
  - W = white
- DC Plug Type: XXX = See output plug options on page 5 for more details
- Reserved for Custom Configurations

Please read our datasheet & drawing disclaimer here.

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INPUT

parameter	conditions/description	min	typ	max	units
voltage		90	100~240	264	Vac
frequency		47	50~60	63	Hz
current				1.2	A
inrush current	at 230 Vac, full load, 25°C, cold start			80	A
leakage current				3.5	mA
power factor correction	at 115 & 230 Vac, full load	0.9			
no load power consumption	at 115 & 230 Vac, no load			0.21	W

OUTPUT

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

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	latch off (50% load)			150	%
over current protection	auto recovery			180	%
short circuit protection	auto recovery				
over temperature protection	auto recovery				

SAFETY & COMPLIANCE

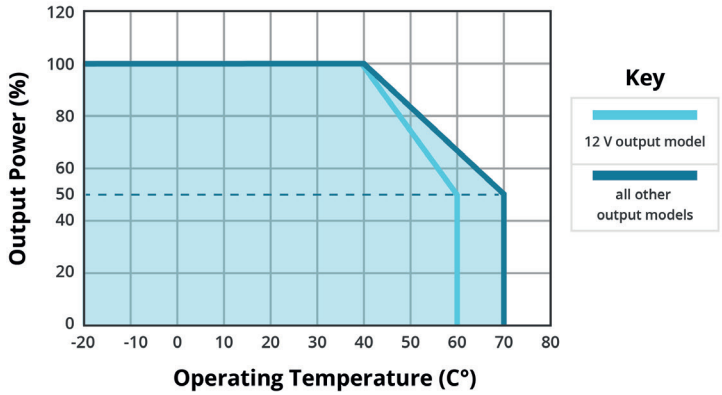
parameter	conditions/description	min	typ	max	units
isolation voltage	input to output at for 1 minute, 10 mA max input to frame ground for 1 minute, 10 mA max		3,000 1,770		Vac
safety approvals	UL / CUL / PSE / UKCA				
EMI/EMC	CE / FCC (conduction & radiation Class B)				
MTBF	as per Telcordia SR-332, 25°C	300,000			hrs
RoHS	yes				

ENVIRONMENTAL

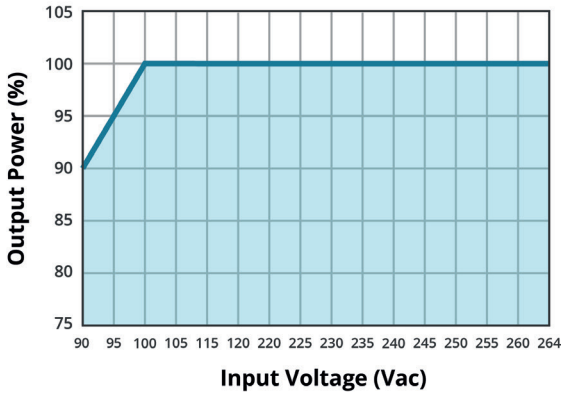
parameter	conditions/description	min	typ	max	units
operating temperature		-20		40	°C
storage temperature		-20		80	°C
operating humidity	non-condensing	20		80	%
storage humidity	non-condensing	10		90	%

DERATING CURVES

TEMPERATURE DERATING CURVE



INPUT VOLTAGE DERATING CURVE



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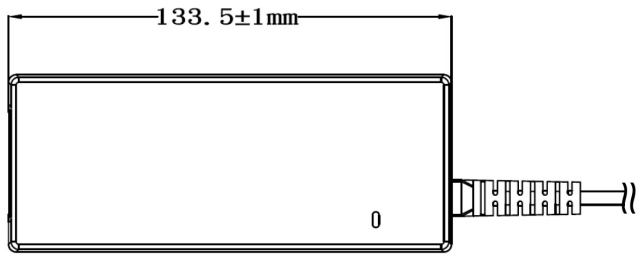
MECHANICAL

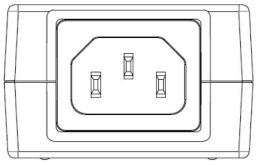
parameter	conditions/description	min	typ	max	units
dimensions	133.5 (L) x 53.5 (W) x 33.0 (H)				mm
inlet plug	IEC320/C14				
weight	12V, 15V, 16V output models all other output models		330 292		g g

MECHANICAL DRAWING

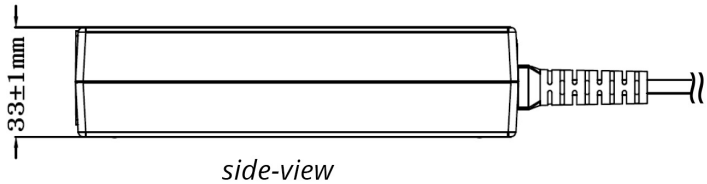
units: mm
tolerance: ±1.0 mm



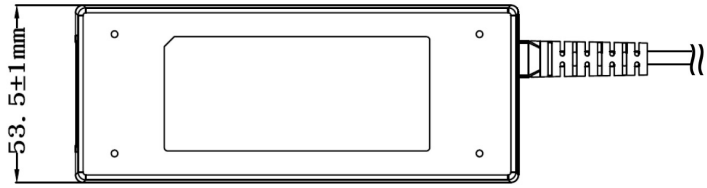
top-view



front-view



side-view



bottom-view

DC CORD

units: mm

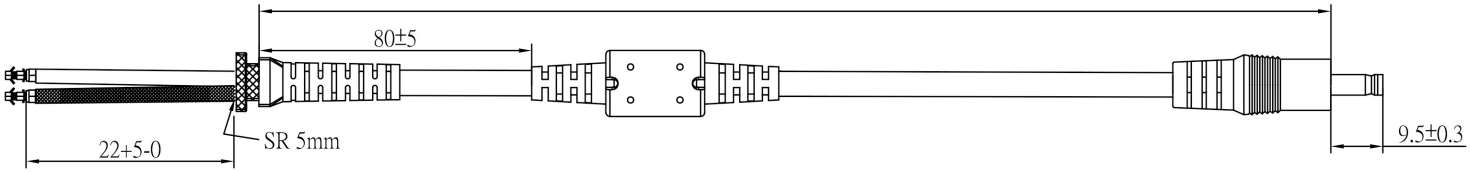
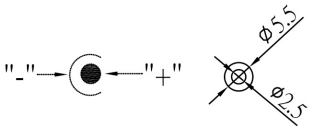


Table 1

MODEL NO.	CABLE	CORD LENGTH
SDI90B-12-U	UL1185, 16 AWG	1,200 mm ±30
SDI90B-15-U	UL1185, 16 AWG	1,200 mm ±30
SDI90B-16-U	UL1185, 16 AWG	1,200 mm ±30
SDI90B-18-U	UL1185, 18 AWG	1,500 mm ±30
SDI90B-19-U	UL1185, 18 AWG	1,500 mm ±30
SDI90B-24-U	UL1185, 18 AWG	1,500 mm ±30
SDI90B-48-U	UL1185, 20 AWG	1,500 mm ±30
SDI90B-56-U	UL1185, 20 AWG	1,500 mm ±30



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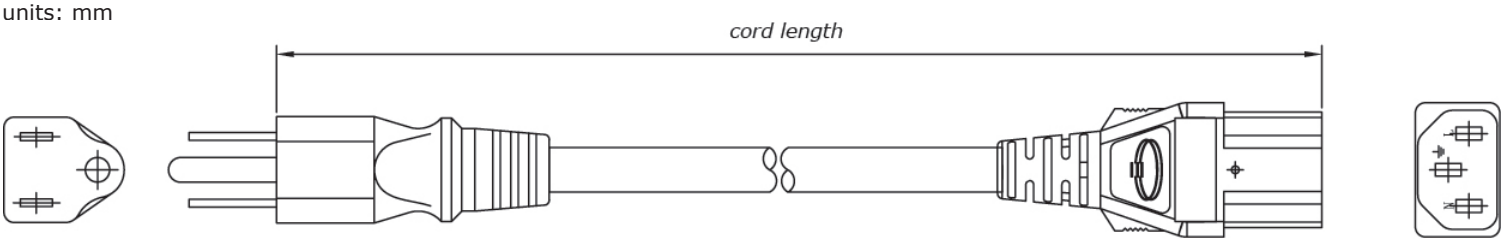
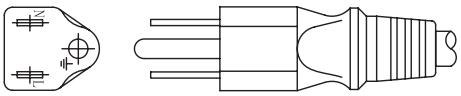
AC CORD

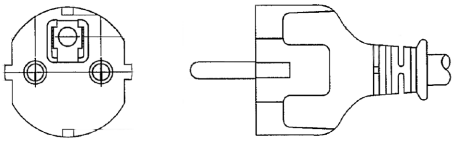
units: mm



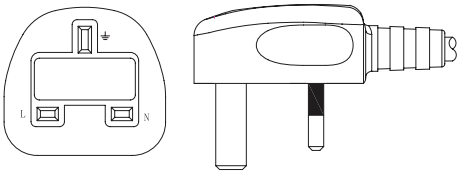
NORTH AMERICA



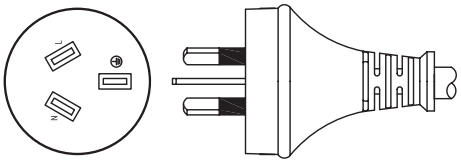
EUROPE



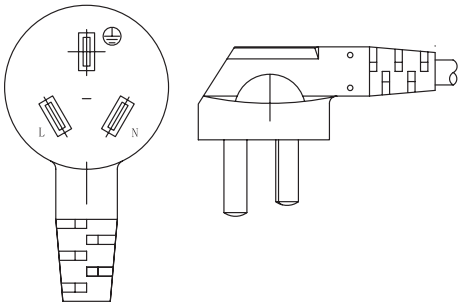
UNITED KINGDOM



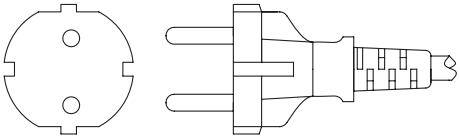
AUSTRALIA



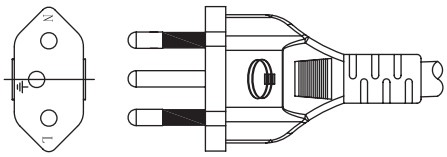
CHINA



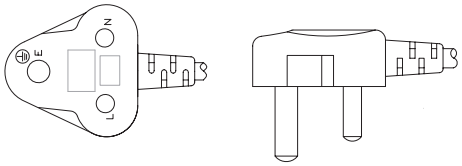
SOUTH KOREA



BRAZIL



SOUTH AFRICA



JAPAN

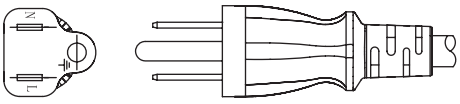


Table 2

AC INPUT	CORD LENGTH
North America	1,830 mm ±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

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DC PLUG TYPE PART NUMBER KEY

X X X

Plug Polarity:
P = Center Positive

N = Center Negative

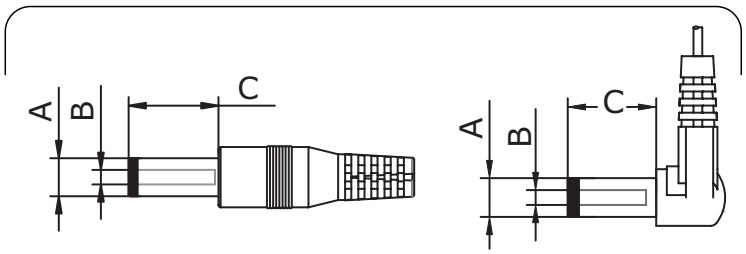
Plug Code:
X = Choose a code from the options below

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	•	•
•	•	10	Locking[2]	5.5	2.1	9.5	•	N/A
•	•	11	Locking[2]	5.5	2.5	9.5	•	N/A
•	•	51	4 pin DIN				•	N/A
N/A	N/A	ST	Stripped & Tinned				N/A	N/A

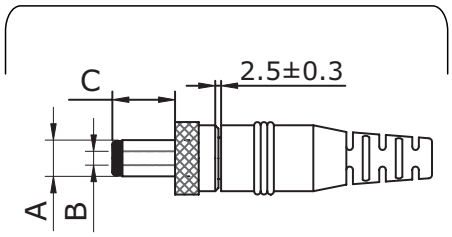
Note:
1. Contact CUI for additional plug options
2. Maximum insertion depth is 10mm
3. P5 plug is not available for the 12V output 7.5A model.

Standard

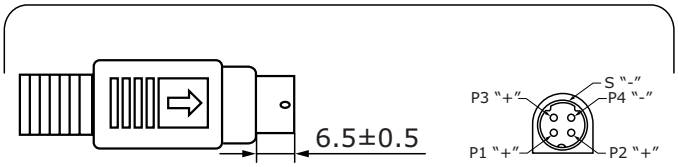


Straight Right Angle (R)

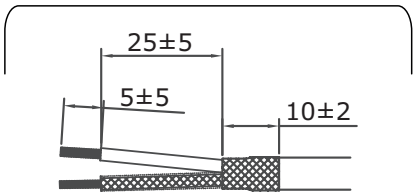
Locking



4 Pin DIN



Stripped & Tinned



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REVISION HISTORY

rev.	description	date
1.0	initial release	11/23/2023

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

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a bel group

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techsupport@cui.com

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.

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