CUI INC®

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

RoHS c UL us PSE CE FC LPS

MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency level[2]
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

SDI12 - XX - UD X - XXX - CXX

Base Number

Output Voltage

AC Inlet Type:
IEC320/C8

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

DC Plug Type:
XXX = See output plug options on page 5 for more details
ST = Stripped and Tinned

Reserved for Custom Configurations

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 Level VI CoC Tier 2			 0.1 0.075	 W 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 5.9 Vdc output model 9 Vdc output model 12 Vdc output model 15 Vdc output model 18 Vdc output model 24 Vdc output model			 9 10.6 16.2 21.6 27 32.4 45	 Vdc Vdc Vdc Vdc Vdc Vdc Vdc
over current protection	output shut down, auto recovery 5 Vdc output model 5.9 Vdc output model 9 Vdc output model 12 Vdc output model 15 Vdc output model 18 Vdc output model 24 Vdc output model			 5 5 3 2.5 2 2 1.5	 A A A A A A A
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		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

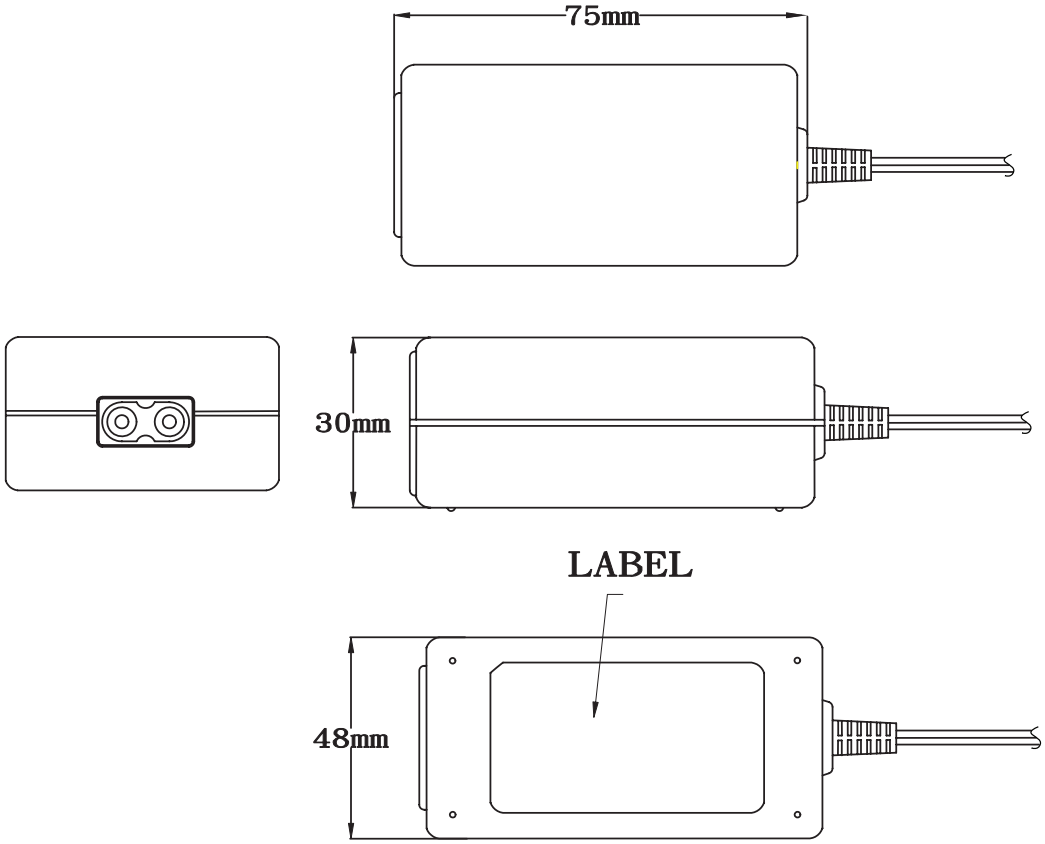
parameter	conditions/description	min	typ	max	units
operating temperature		0		40	°C
storage temperature		-20		80	°C
operating humidity	non-condensing	20		80	%
storage humidity	non-condensing	10		90	%

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

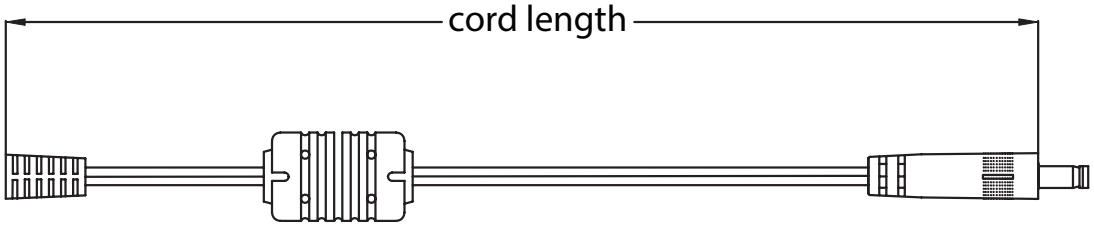
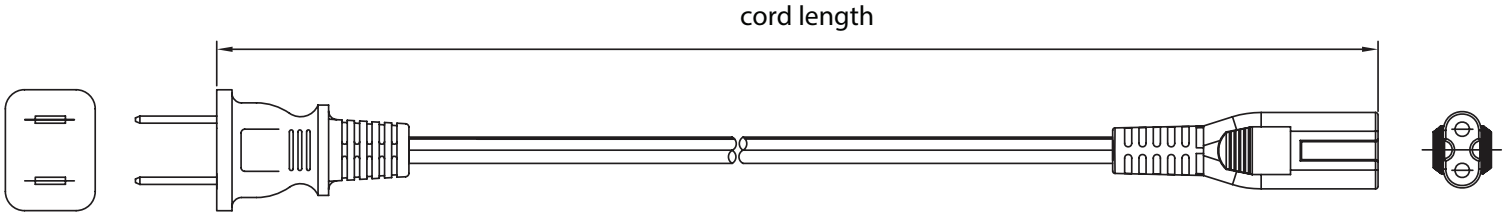


Table 1

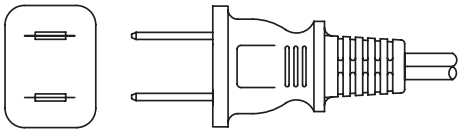
MODEL NO.	CABLE	CORD LENGTH
SDI12-5-UD	UL2468, 20 AWG	1,500 mm ±30
SDI12-5.9-UD	UL2468, 20 AWG	1,500 mm ±30
SDI12-9-UD	UL2468, 20 AWG	1,500 mm ±30
SDI12-12-UD	UL2468, 22 AWG	1,500 mm ±30
SDI12-15-UD	UL2468, 22 AWG	1,500 mm ±30
SDI12-18-UD	UL2468, 22 AWG	1,500 mm ±30
SDI12-24-UD	UL2468, 22 AWG	1,500 mm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

AC CORD

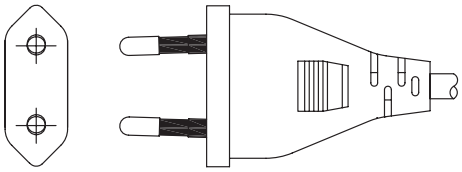
units: mm



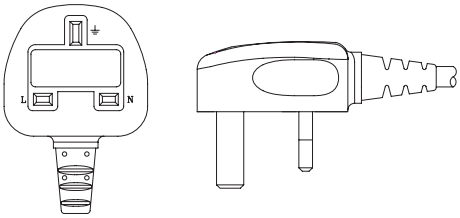
NORTH AMERICA



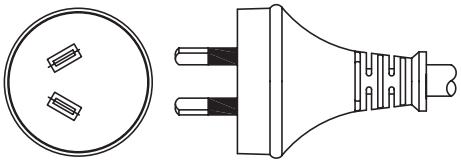
EUROPE



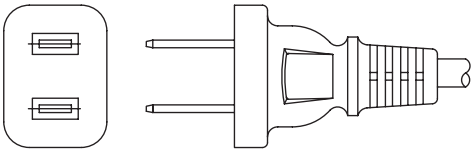
UNITED KINGDOM



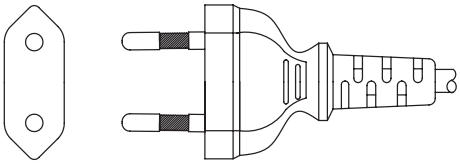
AUSTRALIA



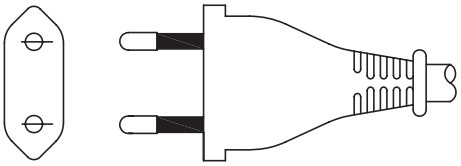
CHINA



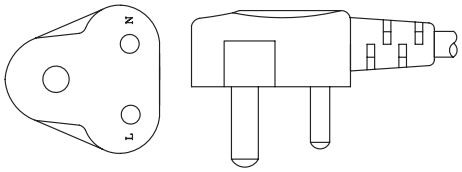
SOUTH KOREA



BRAZIL



SOUTH AFRICA



JAPAN

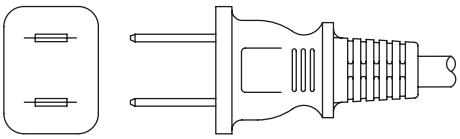
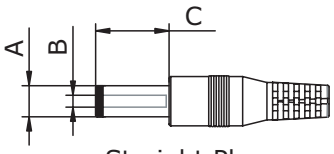


Table 2

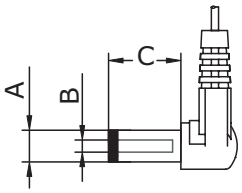
AC INPUT	CORD LENGTH
North America	1,830 mm ±50
Europe	1,830 mm ±50
United Kingdom	1,830 mm ±30
Australia	1,830 mm ±30
China	1,830 mm ±30
South Korea	1,830 mm ±50
Brazil	1,830 mm ±30
South Africa	1,830 mm ±50
Japan	1,830 mm ±50

OUTPUT PLUG OPTIONS

Standard DC Plug



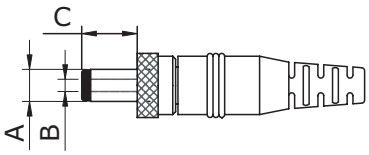
Straight Plug



Right Angle Plug

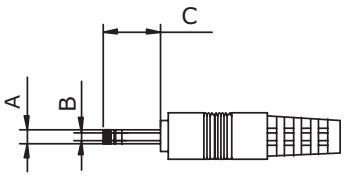
Size	A	B	C	Unit
5	5.5	2.1	9.5	mm
6	5.5	2.5	9.5	mm
7	3.5	1.35	9.5	mm
8	3.8	1.35	9.5	mm
9	3.8	1.05	9.5	mm

Locking DC Plug

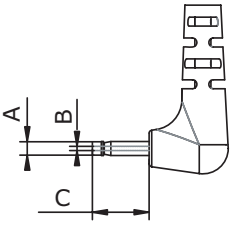


Size	A	B	C	Unit
10	5.5	2.1	9.5	mm
11	5.5	2.5	9.5	mm

EIAJ DC Plug



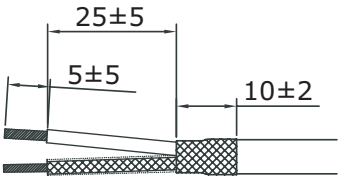
Straight Plug



Right Angle 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

X X X

Plug Polarity:
P = Center Positive

N = Center Negative

Plug Size:
X = See above plug options

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

*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.

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.