CUI INC
a bel group

SERIES: SDM120-U | **DESCRIPTION:** EXTERNAL AC-DC POWER SUPPLY

FEATURES

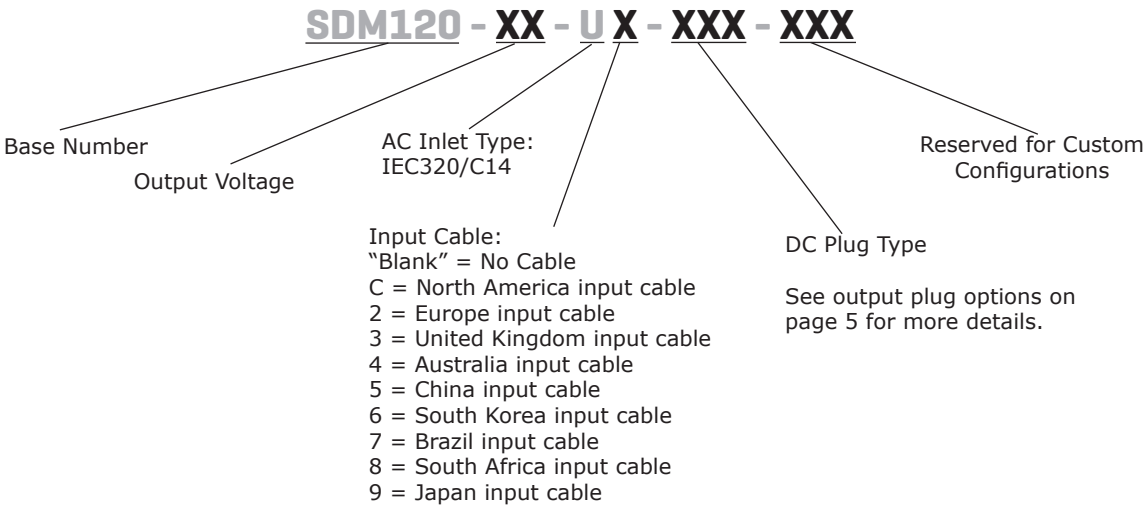
- up to 130W continuous power
- DoE Level VI compliant
- no-load power consumption ≤ 0.21 W
- universal input voltage range
- over voltage and short circuit protections
- UL/cUL & TUV safety approvals
- Medical 60601-1 edition 3.1 safety approvals
- LED indicator for power on



MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency level
SDM120-12-U	12	9.16	110	240	VI
SDM120-16-U	16	7.5	120	240	VI
SDM120-19-U	19	6.31	120	285	VI
SDM120-24-U	24	5.0	120	360	VI
SDM120-48-U	48	2.7	130	720	VI

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, 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	at 100 Vac, full load at 240 Vac, full load			2.0 1.0	A
inrush current	at 110 Vac, full load, cold start at 220 Vac, full load, cold start		60 120		A
leakage current	at 240 Vac / 50 Hz		100		uA
no load power consumption				0.21	W

OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation				±1	%
load regulation			±5		%
rise time	at 100~240 Vac, full load 10~90% of output voltage			50	ms
hold-up time	at full load	10			ms

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	output shut-down, latch			150	%
over current protection	12, 48 Vdc output, continuous, auto recovery 16, 19, 24 Vdc output, continuous, auto recovery	110 110		170 150	% %
short-circuit protection	continuous, auto recovery				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	12 Vdc output, input to output at 10mA for 2 seconds 16 Vdc output, input to output at 5mA for 2 seconds 19 Vdc output, input to output at 5mA for 2 seconds 24 Vdc output, input to output at 5mA for 2 seconds 48 Vdc output, input to output at 10mA for 2 seconds		4,000 1,800 1,800 1,800 4,000		Vac Vac Vac Vac Vac
isolation resistance	input to output at 500 Vdc for 3 seconds	50			MΩ
safety approvals	TUV, UL/cUL & CE				
EMI/EMC	FCC PART 15 Class B, EN 55011 Class B				
ESD	IEC 61000-4-2 Contact: ± 8KV, Air: ± 15KV				
radiated immunity	IEC 61000-4-3 Frequency: 80~2700MHz, Field Strength: 10V/M, 80% AM(1KHz)				
EFT	IEC 61000-4-4 ± 2.0 KV on input AC power ports				
surge	IEC 61000-4-5 Line to Line: ± 1KV (peak), Line to F.G : ± 2KV (peak)				
MTBF	as per MIL-HDBK-217F at 25°C	100,000			hours
RoHS	yes				

ENVIRONMENTAL

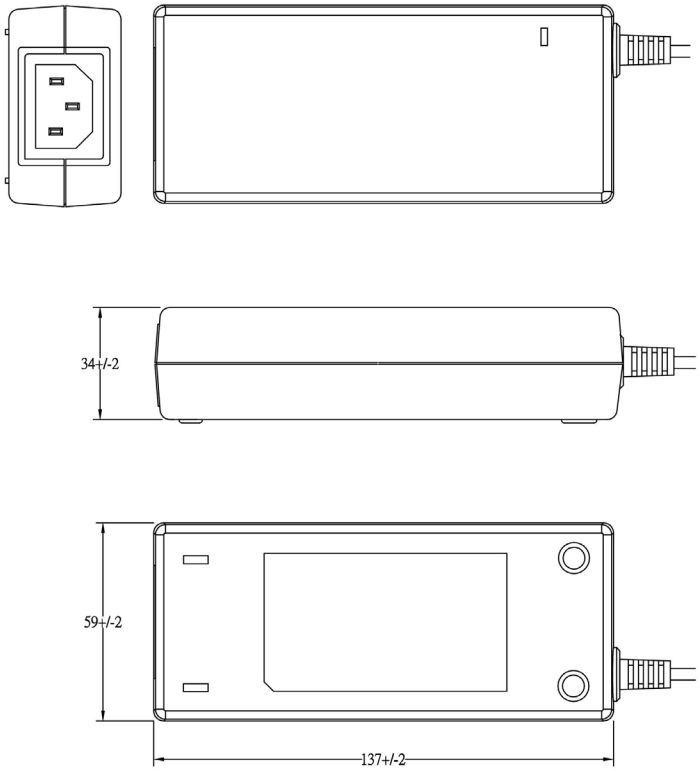
parameter	conditions/description	min	typ	max	units
operating temperature		0		40	°C
storage temperature		-20		85	°C
operating humidity		10		90	%
storage humidity		5		90	%

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	137 (L) x 59 x (W) x 34 (H)				mm
inlet plug	IEC320/C14				
weight			450		g

MECHANICAL DRAWING

units: mm
tolerance: ±2.0



DC CORD

units: mm

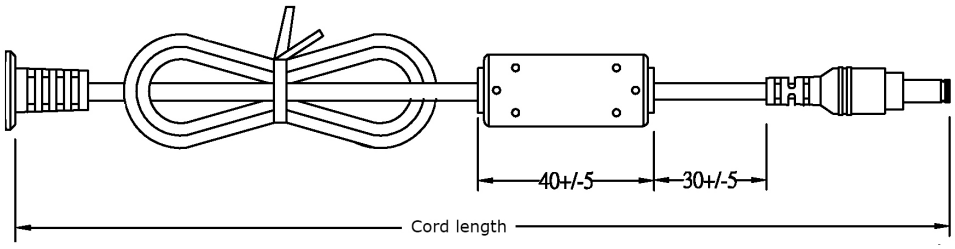
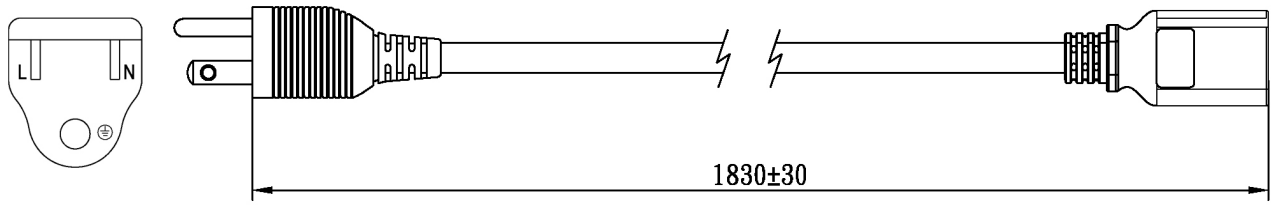


Table 2

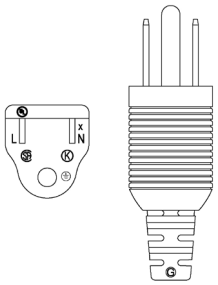
MODEL NO.	CABLE	CORD LENGTH
SDM120-12-U	UL 1866 AWG 14	1,200 mm ±30
SDM120-16-U	UL 1866 AWG 14	1,200 mm ±30
SDM120-19-U	UL 1185 AWG 16	1,200 mm ±30
SDM120-24-U	UL 1185 AWG 16	1,200 mm ±30
SDM120-48-U	UL 1185 AWG 18	1,200 mm ±30

AC CORDS

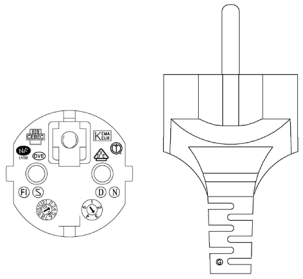
units: mm



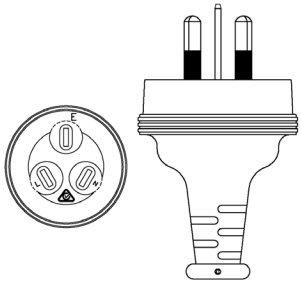
NORTH AMERICA



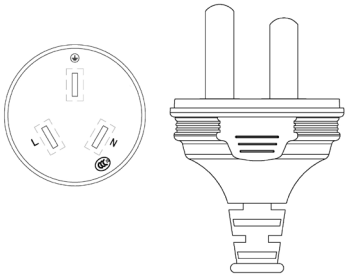
EUROPE



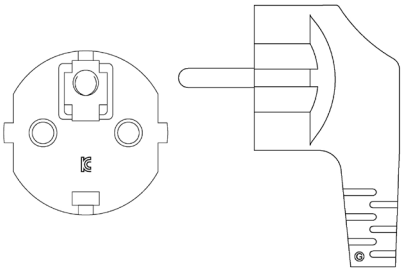
AUSTRALIA



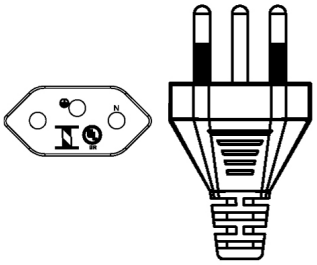
CHINA



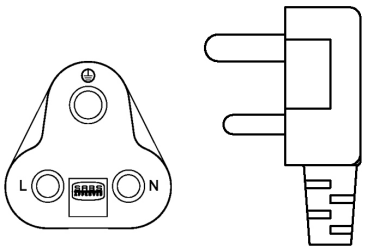
KOREA



BRAZIL



SOUTH AFRICA



JAPAN

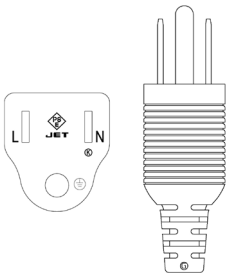


Table 2

AC Input	Cord Length
North America	1,830 mm ±30
Europe	1,800 mm ±50
Australia	1,830 mm ±50
China	1,800 mm ±50
South Korea	1,830 mm ±50
Brazil	1,800 mm ±50
South Africa	1,830 mm ±50
Japan	1,830 mm ±50

DC PLUG TYPE PART NUMBER KEY

XXX

Plug Polarity:
P = Center Positive



N = Center Negative



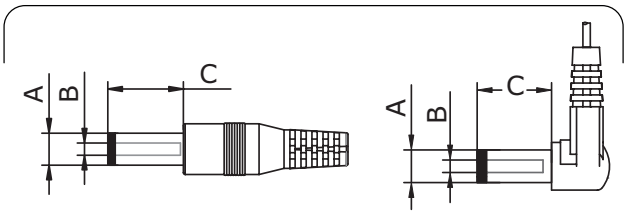
Plug Code:
X = Choose a code from the options below

Plug Code:
"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
N/A	N/A	ST	Stripped & Tinned				N/A	N/A

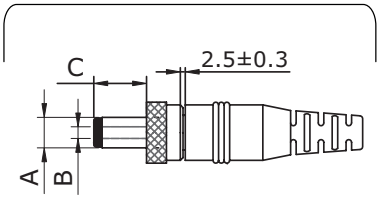
Note: 1. Contact CUI for additional plug options.
2. Maximum insertion depth is 10mm

Standard

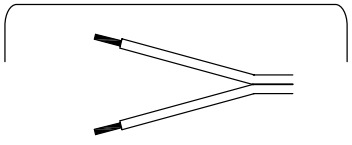


Straight Right Angle (R)

Locking



Stripped & Tinned



REVISION HISTORY

rev.	description	date
1.0	initial release	08/10/2020
1.01	dc cord length updated, mechanical drawing updated	01/10/2022
1.02	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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CUI offers a two (2) 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.