



## SERIES: ETMA 250W U | DESCRIPTION: MEDICAL AC-DC POWER SUPPLY

### FEATURES

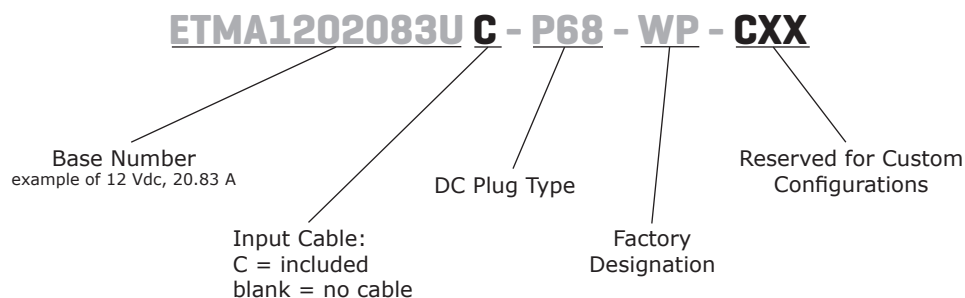
- up to 250 W power
- universal input (90~264 Vac)
- single regulated output from 12~48 V
- over voltage, overload and short circuit protections
- medical 60601-1 4th edition safety approvals
- designed for 2 x MOPP applications
- active PFC
- level V efficiency
- custom designs available



MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise <sup>1</sup> max (mVp-p)	efficiency level
ETMA1202083U	12	20.83	250	240	V
ETMA1601563U	16	15.63	250	300	V
ETMA1901316U	19	13.16	250	300	V
ETMA2001250U	20	12.5	250	300	V
ETMA2401042U	24	10.42	250	300	V
ETMA360694U	36	6.94	250	300	V
ETMA480521U	48	5.21	250	300	V

Notes: 1. At full load, 100 ~ 240 Vac input, 20 MHz bandwidth oscilloscope, each output terminated with 10  $\mu$ F aluminum electrolytic and 0.1  $\mu$ F ceramic capacitors.

### PART NUMBER KEY



## INPUT

parameter	conditions/description	min	typ	max	units
voltage		90		264	Vac
frequency		47		63	Hz
current	at 90 Vac, 60 Hz			3.5	A
inrush current	at 230 Vac, cold start			150	A
no load power consumption				0.5	W

## OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation			±1		%
load regulation			±5		%
hold-up time	at 115 Vac	16			ms
temperature coefficient			±0.05		%/°C

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	12 V output	110		133	%
	16 V output	110		130	%
	19 V output	111		137	%
	20 V output	118		130	%
	24, 36 V outputs	110		125	%
	48 V output	110		120	%
overload protection	shutdown and auto restart	110		160	%
short circuit protection	continuous, auto restart				

## SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 2 seconds			4,242	Vdc
	input to frame ground for 2 seconds			2,121	Vdc
insulation resistance	input to output, at 500 Vdc	20			MΩ
	input to frame ground, at 500 Vdc	20			MΩ
safety approvals	medical UL/cUL UL 60601-1, TUV EN 60601-1, CB IEC 60601-1 4th edition				
EMI/EMC	FCC Part 18 Class B, EN 60601-1, EN 55011				
MTBF	at 25°C, max. load	140,000			hours
RoHS compliant	yes				

## ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature		0		50	°C
storage temperature		-10		70	°C
humidity	non-condensing	20		90	%

## MECHANICAL

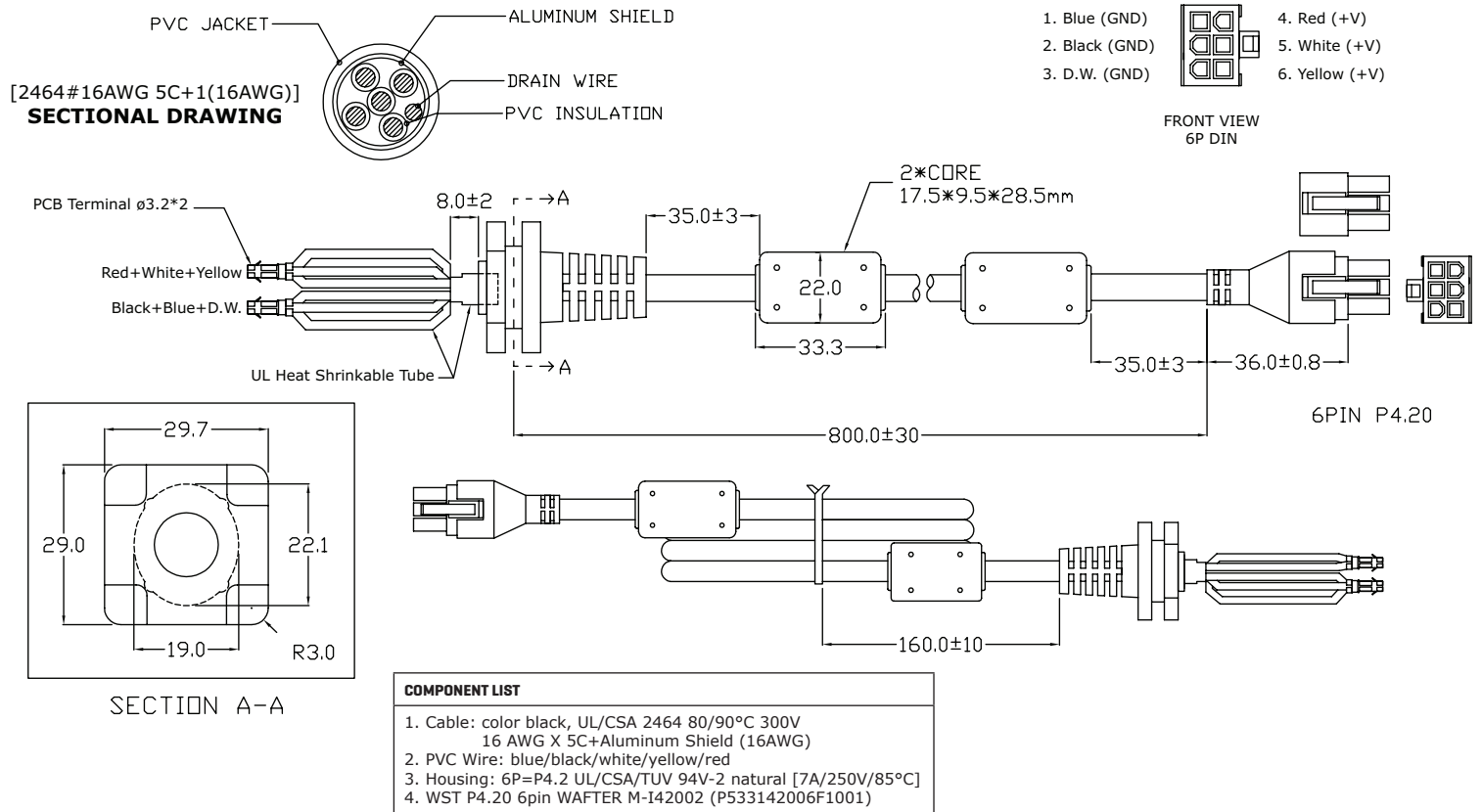
parameter	conditions/description	min	typ	max	units
dimensions	7.42 x 4.11 x 2.36 (188.5 x 104.5 x 60 mm)				inch
weight			1.06		kg
input plug	IEC320 / C14				

## MECHANICAL DRAWING

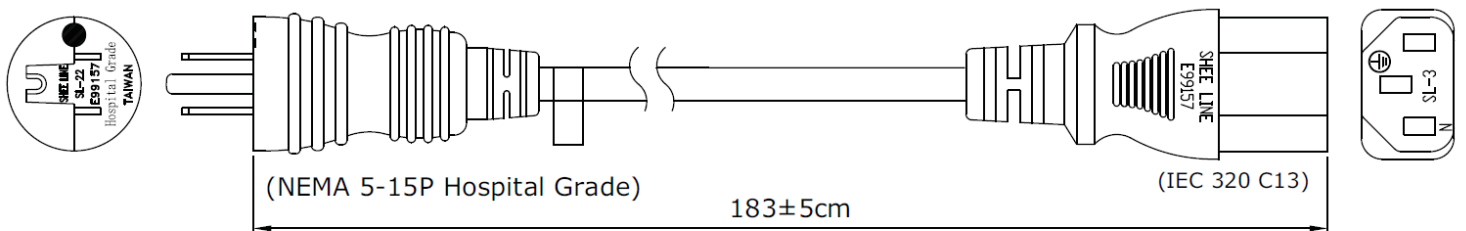
units: mm



## DC CORD

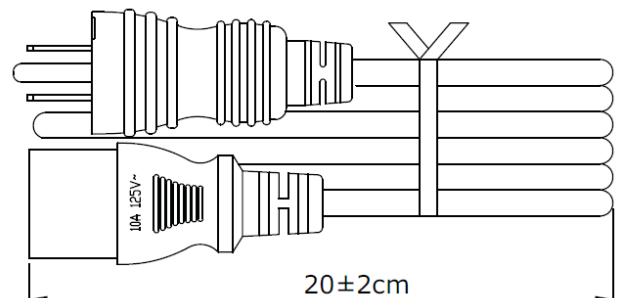


## AC CORD



### SPECIFICATION:

- 1) Length: 1.83m
- 2) Color: black
- 3) Plug: SL-22 (A)10 (V)125 Approval: UL/cUL
- 4) Connector: SL-3(A)10 (V)125 Approval: UL/cUL
- 5) Cable: SJT 18AWG/3C Approval: UL/CSA



## REVISION HISTORY

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rev.	description	date
1.0	initial release	03/05/2012
1.01	updated dc cord drawing	06/05/2012
1.02	description and warranty updated	08/21/2012
1.03	replaced TUV approval with Nemko	09/04/2013
1.04	updated to medical 60601-1 4th edition	06/20/2017

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 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.