

150W Medical AC Adapter CXLA Series

Single Output 150W AC-DC Data Sheet

General description

This AC to DC switching power supply is a single-output adapter, available in both Class-I and Class-II types. It delivers 150 watts of continuous power at an operating temperature range of -30°C to 70°C (refer to the derating curve). It complies with global safety and EMC regulations (refer to details below). This is ECO Green medical adapter series.

Features

- * Wide AC input voltage range
- * Comprehensive protections: Short-circuit, Over-voltage, Over-current, Over-temperature
- * Compliant with IEC60601-1 Ed.3.2
- * Suitable for Type BF medical equipment
- * High efficiency and high reliability
- * 2 x MOPP isolation
- * Meet DOE Level VI efficiency standards (and comply with the latest DOE Level VII requirements)
- * No load power consumption $\leq 0.15W$



Applications

- * Patient Monitoring Systems
- * Diagnostic & Imaging Equipment
- * Home Healthcare
- * Laboratory & Clinical Devices

Model Encoding

CXLA	XXX	F	-	XX	-	X	X
Medical Adaptor	Output Power	Universal input		Output Voltage		AC Inlet Type	DC Plug Type
	100W => 100			12V => 12		A : C14 (Class-I)	1: 5.5×2.5 Barrel
	150W => 150			19V => 19		C : C6 (Class-I)	Straight
				24V => 24		B : C8 (Class-II)	2: Min. DIN 4P with Lock

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Electrical Specification

SAFETY MODEL NO.		CXLA150F-12	CXLA150F-19	CXLA150F-24	
OUTPUT	DC Voltage	12V	19V	24V	
	Rated Current	12.5A	7.89A	6.25A	
	Rated Power (Max.)	150W	150W	150W	
	LINE Regulation	±1%	±1%	±1%	
	LOAD Regulation	±5%	±5%	±5%	
	Startup Time; Rise Time	≤3.0sec; <50ms			
	Hold-up Time (at 115Vac, full load)	20ms			
	Ripple & Noise (at full load) (note#2)	120mVp-p	190mVp-p	240mVp-p	
INPUT	Normal Input Voltage Range	100 to 240Vac			
	Input Voltage Range	90 to 264Vac (Universal)			
	Input Frequency	47 to 63Hz			
	Input Current (Typ.)	2.0A/100Vac, 0.8A/240Vac			
	Inrush Current (Cold start)	No Component Damage (<Fuse/Bridge diode I ² t)			
	Power Factor	>0.9			
	Average Efficiency	>89%			
	Efficiency (Typ.)	90.0%	91.5%	92.5%	
	Leakage Current (at 264Vac/60Hz)	Earth Current <115uA (Class-I and Class-II); Touch Current <100uA (Class-I)			
	Standby Power	≤0.15W			
PROTECTION	Over Voltage Protection	140% of Rated Voltage, Latch Mode			
	Over Current Protection	105% to 150% of Rated Current, Latch Mode			
	Short Current Protection	No Damage, Latch Mode			
	Over Temperature Protection	No Damage, Auto-recovery Mode			
ENVIRONMENT	Working Temperature (note#3)	-30 to +70°C (Refer to "De-rating Curve")			
	Working Humidity	10% to 90% RH non-condensing			
	Storage Temperature/ Humidity	-40 to +85°C, 5 to 95% RH non-condensing			
	Vibration	10 to 500Hz, 2G, 10minute non-operating			
	Operating Altitude (Max.)	5000 m			
	Shock	20G			
EMC & SAFETY	IEC 60601-1-2 Ed. 4.1 Requirements				
	EMI	Conducted Emission	EN/BS EN 55032 (CISPR32), FCC: Class B		
		Radiated Emission	EN/BS EN 55032 (CISPR32), FCC: Class B		
		Harmonic Current	IEC61000-3-2, Class A		
		Voltage Flicker	IEC61000-3-3		
	EMS	ESD	IEC61000-4-2, Level 4, ESD: ±8KV Contact / ±15KV Air, Criteria A		
Radiated Immunity		IEC61000-4-3, Level 3, 10V/m (80MHz to 2.7GHz) Criteria A			

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EMC & SAFETY	IEC 60601-1-2 Ed.4.1 Requirements		
	EMS	EFT/Burst	IEC61000-4-4, Level 3, 2kV, Criteria A
		Surge	IEC61000-4-5, Level 4, 2kV/L-N, 4kV L-FG&N-FG, Criteria A
		Conducted Immunity	IEC61000-4-6, Level 3, Criteria A
		Magnetic Field Immunity	IEC61000-4-8, Level 4, 30A/m, Criteria A
		Voltage Dips, interruption	IEC61000-4-11, (1)100% dip for 10ms, 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°, Criteria A (2) 100% dip for 20ms, 0°, Criteria A (3) 30% dip for 500ms, 0°, Criteria A (4) 100% dip for 5 seconds (short interruption), Criteria B
	Safety Standard		
	ANSI/AAMI ES60601-1, UL62368-1; C-UL (equivalent to CAN/CSA-C22.2 No.60601-1), C-UL (equivalent to CAN/CSA-C22.2 No.62368-1); EN60601-1, EN62368-1; CB/ IEC60601-1, IEC62368-1; CCC GB4943.1; PSE J62368-1; BSMI CNS15598-1; KC62368-1; RCM AS/NZS62368-1; EAC TP TC 004		
	Isolation Level	Primary-Secondary: 2xMOPP; Primary-FG: 1xMOPP; Secondary-FG: 1xMOPP	
	Withstand Voltage	Primary-Secondary: 4000VAC; Primary-FG: 1500VAC; Secondary-FG: 1500VAC	
Isolation Resistance (Min.)	Primary-Secondary: 100MΩ; Primary-FG: 100MΩ; Secondary-FG: 100MΩ, at 500VDC, 70%RH		
Other	Warranty (Min.)	3 years	
	MTBF (Min.) (note#4)	2400K hours	
	Dimension	155.3mm*75.3mm*28.5mm	
	Weight (Typ.)	500 grams (1.102 lbs)	
	Input Terminal	C6, C8 and C14 Socket	
	Output Cable Length	1.0 m	

Notes

#1: All specifications are defined at 230Vac/50Hz, rated power, and 25°C ambient unless otherwise specified.

#2: Ripple and noise are measured with a 0.1 μF ceramic capacitor and a 47 μF electrolytic capacitor connected in parallel, using a 20 MHz bandwidth. Ripple and noise may be higher at light load than at full load.

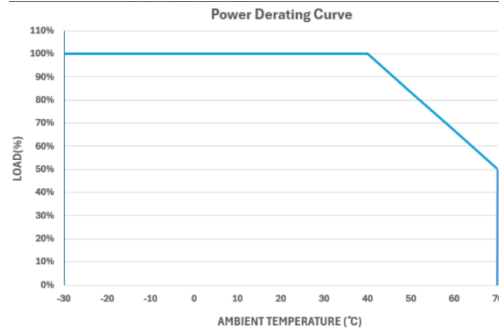
#3: De-rating curve for ambient temperature:

#4: Calculated according to Telcordia SR332 at 100Vac/60Hz, rated power, and 25°C ambient temperatures.

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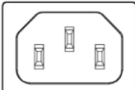


Output Power VS Ambient Temperature



OUTPUT CABLE

Output Cable			
Output Voltage	12V	19V	24V
Cable Length	1.0 m (3.28ft)	1.0 m (3.28ft)	1.0 m (3.28ft)
Wire Gauge	16AWG	18AWG	20AWG

AC INPUT OPTION

Input Inlet		
		
Input C14; Class-I Safety Approvals	Input C8; Class-II Safety Approvals	Input C6; Class-I Safety Approvals

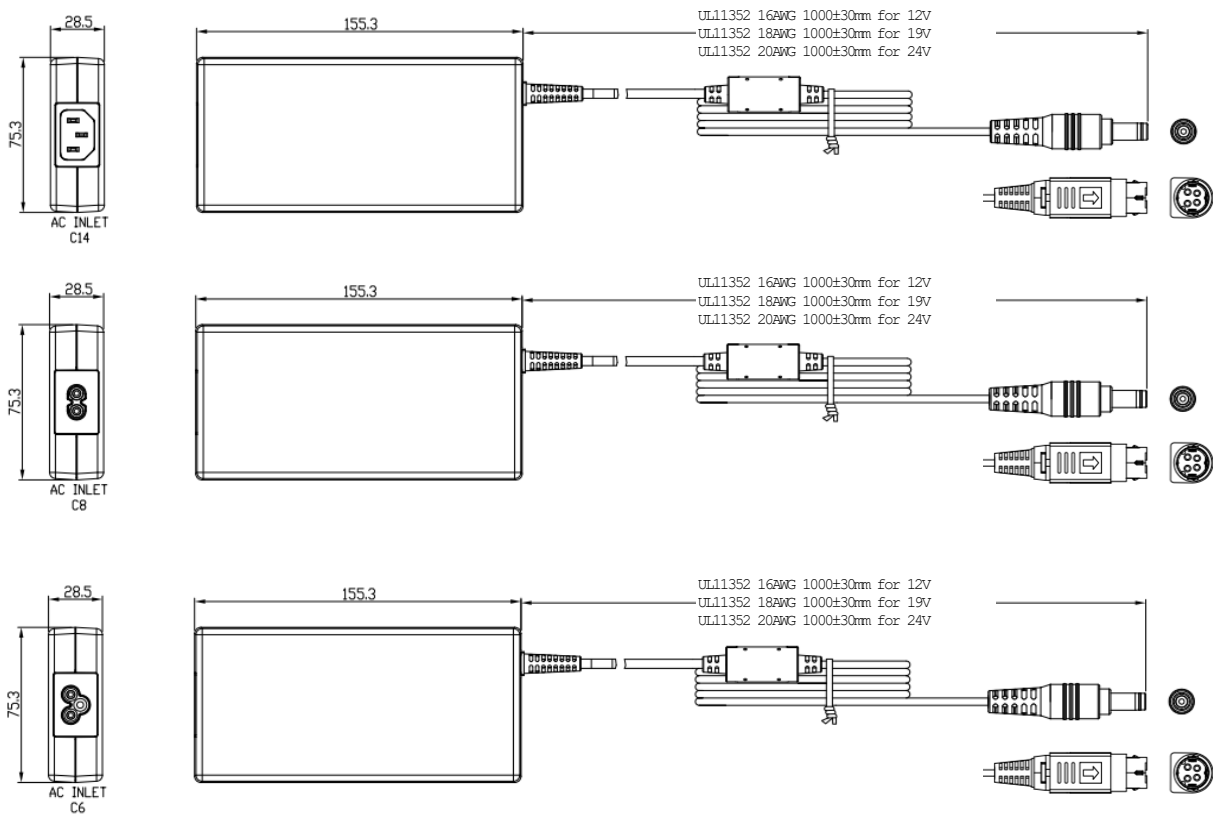
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DC OUTPUT CONNECTOR & PIN CONNECTION

1										
Single pin	Model	PIN Definition								
	<p>5.5*2.5 O-Type or Equivalent</p>	<p>(+) — (−) WHITE BLACK</p>								
2										
Min. DIN 4P with Lock	Model	PIN Definition								
	<p>TP84PNiY1BKXXNRRB or Equivalent</p>	<table border="1"> <tr> <td>PIN1</td> <td>+Vo</td> </tr> <tr> <td>PIN2</td> <td>+Vo</td> </tr> <tr> <td>PIN3</td> <td>-Vo</td> </tr> <tr> <td>PIN4</td> <td>-Vo</td> </tr> </table>	PIN1	+Vo	PIN2	+Vo	PIN3	-Vo	PIN4	-Vo
PIN1	+Vo									
PIN2	+Vo									
PIN3	-Vo									
PIN4	-Vo									

MECHANICAL AND CONNECTOR INFORMATION



Specifications are subject to change without notice, E&OE. ALL PSU Terms & Conditions apply.
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