

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		AC Inlet Type	DC Plug Type
	100W => 100			Voltage		A : C14 (Class-I)	1: 5.5×2.5 Barrel
	150W => 150			12V => 12		C : C6 (Class-I)	Straight
				19V => 19		B : C8 (Class-II)	2: Min. DIN 4P with
				24V => 24			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 I²t)		
	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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Electrical Specification

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
Other	Isolation Resistance (Min.)		Primary-Secondary: 100MΩ; Primary-FG: 100MΩ; Secondary-FG: 100MΩ, at 500VDC, 70%RH
	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.

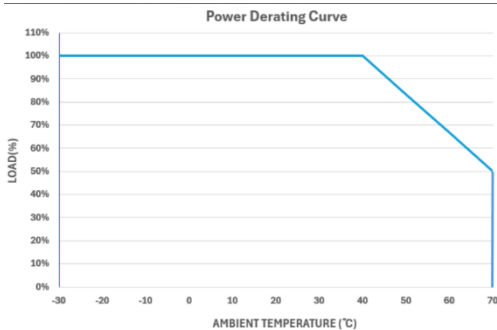
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Output Power VS Ambient Temperature



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

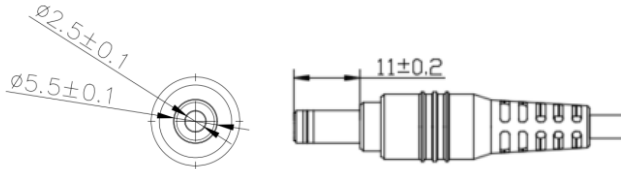
Input Inlet		
		
Input C14; Class-I Safety Approvals	Input C8; Class-II Safety Approvals	Input C6; Class-I Safety Approvals

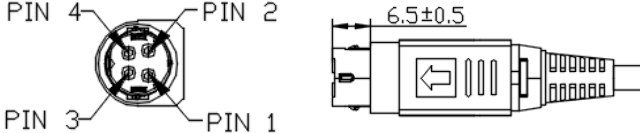
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DC OUTPUT CONNECTOR & PIN CONNECTION

1			
Single pin	Model	PIN Definition	
	5.5*2.5 O-Type or Equivalent	(+) —●— (−) WHITEBLACK	

2			
Min. DIN 4P with Lock	Model	PIN Definition	
	TP84PNiY1BKXXNNRRB or Equivalent	PIN1	+Vo
		PIN2	+Vo
		PIN3	-Vo
		PIN4	-Vo

MECHANICAL AND CONNECTOR INFORMATION

