



IP20 Class I & II (VI)

Product Features

- Meets medical & I.T.E. safety
- 2 MOPP input to output isolation
- Touch current ≤ 100µA
- Earth Leakage current ≤ 5mA
- Energy efficiency level VI
- PF>0.95@230VAC full load
- ≤ 0.15W standby power
- 11V-48V outputs, up to 150W
- Up to 5,000m operating altitude
- 4 types of AC inlet



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Models & Parameters

Model Number	Voltage ^(*) (V)	Current (A)	Rated Power	Ripple & Noise (max)	Voltage Tolerance	Line & Load Regulation	Efficiency	Start Up Delay
	11.0-12.0	0.01-11.00	132.00W	150mVpk-pk	±5%		89.0%	≤3s
	12.1-13.0	0.01-11.00	143.00W	150mVpk-pk	±5%		89.0%	≤3s
	13.1-14.0	0.01-10.70	150.00W	150mVpk-pk	±5%		89.0%	≤3s
	14.1-15.0	0.01-10.00	150.00W	150mVpk-pk	±5%		89.0%	≤3s
	15.1-16.0	0.01-9.37	150.00W	180mVpk-pk	±5%		89.0%	≤3s
	16.1-17.0	0.01-8.82	150.00W	180mVpk-pk	±5%		89.0%	≤3s
	17.1-18.0	0.01-8.33	150.00W	180mVpk-pk	±5%		89.0%	≤3s
	18.1-19.0	0.01-7.89	150.00W	180mVpk-pk	±5%		89.0%	≤3s
	19.1-20.0	0.01-7.50	150.00W	200mVpk-pk	±5%		89.0%	≤3s
	20.1-21.0	0.01-7.14	150.00W	200mVpk-pk	±5%		89.0%	≤3s
	21.1-22.0	0.01-6.81	150.00W	200mVpk-pk	±5%		89.0%	≤3s
	22.1-23.0	0.01-6.52	150.00W	200mVpk-pk	±5%		89.0%	≤3s
	23.1-24.0	0.01-6.25	150.00W	240mVpk-pk	±5%		89.0%	≤3s
	24.1-25.0	0.01-6.00	150.00W	240mVpk-pk	±5%		89.0%	≤3s
	25.1-26.0	0.01-5.76	150.00W	240mVpk-pk	±5%		89.0%	≤3s
	26.1-27.0	0.01-5.55	150.00W	240mVpk-pk	±5%		89.0%	≤3s
	27.1-28.0	0.01-5.35	150.00W	300mVpk-pk	±5%		89.0%	≤3s
	28.1-29.0	0.01-5.17	150.00W	300mVpk-pk	±5%		89.0%	≤3s
	29.1-30.0	0.01-5.00	150.00W	300mVpk-pk	±5%		89.0%	≤3s
	30.1-31.0	0.01-4.83	150.00W	300mVpk-pk	±5%		89.0%	≤3s
	31.1-32.0	0.01-4.68	150.00W	300mVpk-pk	±5%		89.0%	≤3s
	32.1-33.0	0.01-4.54	150.00W	360mVpk-pk	±5%		89.0%	≤3s
	33.1-34.0	0.01-4.41	150.00W	360mVpk-pk	±5%		89.0%	≤3s
	34.1-35.0	0.01-4.28	150.00W	360mVpk-pk	±5%		89.0%	≤3s
	35.1-36.0	0.01-4.16	150.00W	360mVpk-pk	±5%		89.0%	≤3s
	36.1-37.0	0.01-4.05	150.00W	360mVpk-pk	±5%		89.0%	≤3s
	37.1-38.0	0.01-3.94	150.00W	360mVpk-pk	±5%		89.0%	≤3s
	38.1-39.0	0.01-3.84	150.00W	360mVpk-pk	±5%		89.0%	≤3s
	39.1-40.0	0.01-3.75	150.00W	360mVpk-pk	±5%		89.0%	≤3s
	40.1-41.0	0.01-3.65	150.00W	480mVpk-pk	±5%		89.0%	≤3s
	41.1-42.0	0.01-3.57	150.00W	480mVpk-pk	±5%		89.0%	≤3s
	42.1-43.0	0.01-3.48	150.00W	480mVpk-pk	±5%		89.0%	≤3s
	43.1-44.0	0.01-3.40	150.00W	480mVpk-pk	±5%		89.0%	≤3s
	44.1-45.0	0.01-3.33	150.00W	480mVpk-pk	±5%		89.0%	≤3s
	45.1-46.0	0.01-3.26	150.00W	480mVpk-pk	±5%		89.0%	≤3s
	46.1-47.0	0.01-3.19	150.00W	480mVpk-pk	±5%		89.0%	≤3s
	47.1-48.0	0.01-3.12	150.00W	480mVpk-pk	±5%		89.0%	≤3s
UES150-XXXYYYSPAZ						Line: ±1% Load: ±5%		

Notes

(*1, 2, 3) Other options are available, please contact our sales representative for details.

Input

Input Voltage Range	90-264VAC
Frequency Range	47-63Hz
Input Current	2.5A at 90VAC
Inrush Current	120A max at 240VAC cold start
Touch Leakage Current ^(max)	Class I & Class II ≤ 100µA at 264VAC

Environmental

Operating Temperature	-20°C to 40°C
Storage Temperature	-20°C to 60°C
Operating Humidity	10% to 90% RH, non-condensing
Storage Humidity	5% to 90% RH
Operating Altitude	5,000m

General

Dimensions	190(L)x71.5(W)x37(H)mm
Weight	710g
MTBF	>100,000hrs MIL-HDBK-217 at 25°C

Protection

Overload	120-170% rated output power, auto recovery
Over Voltage	120-150% rated output voltage input to reset
Short Circuit	Trip and restart (hiccup mode)

Mechanical Details

Interchangeable AC Plug Options

C8 (SPA1) C6 (SPA2) C14 (SPA3) C18 (SPA4)

DC Cable ^{(*)2}: UL 2464 16AWG*4C 1,200mm with ferrite for 12- 19V
UL 2464 18AWG*4C 1,200mm with ferrite for 20- 48V

Connector ^{(*)3}: 31*10mm, 1&4"+", 2&3"-"

Unit: mm

Safety Approvals

Safety Agency / Mark	Lamp	Medical
CB	IEC61347	IEC60601-1
UL	UL 8750	ANSI/AAMI ES60601-1
TüV-SUD/Mark	EN 61347	CAN/CSA-C22.2 NO. 60601-1
CE	EN61347	EN60601-1
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EMC

Emissions	Lamp	Medical
Conducted	EN 55015, CISPR 15	IEC/EN60601-1-2, CISPR 11
Radiated	EN 55015, CISPR 15	IEC/EN60601-1-2, CISPR 11
Harmonic Currents	EN61000-3-2, Class C	IEC/EN61000-3-2, Class A
Voltage Flicker	EN61000-3-3	EN61000-3-3
Immunity	Lamp	Medical
ESD	IEC61000-4-2	±15KV air, ±8KV contact
Radiated Immunity	IEC61000-4-3	10V/m, 3V/m 80MHz - 2.7GMHz
EFT/Burst	IEC61000-4-4	±2KV on AC port, ±1KV on signal ports
Surge	IEC61000-4-5	±2KV line to line (different mode)
Conducted Immunity	IEC61000-4-6	3Vrms, 6Vrms (0.15MHz-80MHz)
Magnetic Field	IEC61000-4-8	30 A/m
Dips & Interruptions	IEC61000-4-11	0%, 70%, 0% of UT

Others

Dielectric Withstand Voltage	5,656VDC for Class I & Class II input to output
Insulation Resistance	10M Ohms, 500VDC input to output