



IP20 Class I & II (V)

Product Features

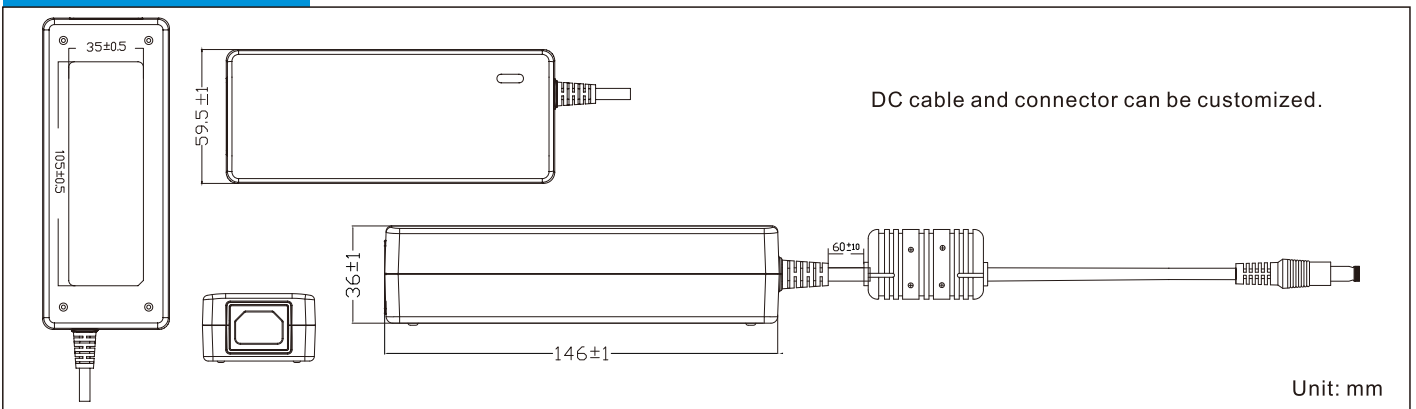
- Medical & I.T.E. safety approvals
- 2 MOPP input to output isolation
- Touch current $\leq 100\mu\text{A}$
- Earth Leakage current $\leq 5\text{mA}$
- Energy efficiency level VI
- PF $>0.9@230\text{VAC}$ full load
- $\leq 0.15\text{W}$ standby power
- 12V-52V outputs, up to 90W
- Up to 5,000m operating altitude
- 4 types of AC inlet



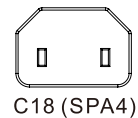
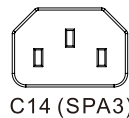
Models & Parameters

Model Number	Voltage (*1) (V)	Current (A)	Rated Power	Ripple & Noise (max)	Voltage Tolerance	Line & Load Regulation	Efficiency (Average)	Start Up Delay
UES90-XXXYYYSPAZ UES90-XXXYYYSPA-OP	12.0	0.01-7.00	84.00W	150mVpk-pk	$\pm 5\%$	Line: $\pm 1\%$ Load: $\pm 5\%$	88.60%	$\leq 3\text{s}$
	12.1-15.0	0.01-5.67	85.05W	180mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	15.1-17.0	0.01-5.00	85.00W	200mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	17.1-19.0	0.01-4.76	90.44W	200mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	19.1-22.0	0.01-4.10	90.20W	200mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	22.1-24.0	0.01-3.75	90.00W	200mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	24.1-26.0	0.01-3.46	89.96W	200mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	26.1-30.0	0.01-3.00	90.00W	200mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	30.1-33.0	0.01-2.73	90.09W	200mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	33.1-36.0	0.01-2.50	90.00W	200mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	36.1-39.0	0.01-2.31	90.90W	240mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	39.1-43.0	0.01-2.10	90.30W	360mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	43.1-46.0	0.01-1.96	90.16W	480mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	46.1-48.0	0.01-1.88	90.24W	560mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$
	48.1-52.0	0.01-1.73	89.96W	560mVpk-pk	$\pm 5\%$		88.60%	$\leq 3\text{s}$

Mechanical Details



AC Inlet Options



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

Input

Input Voltage Range	90-264VAC
Frequency Range	47-63Hz
Input Current	1.5A at 90VAC
Inrush Current	100A max at 240VAC cold start
Touch Leakage Current ^(max)	≤100μA at 264VAC

Environmental

Operating Temperature	0°C to 40°C
Storage Temperature	-20°C to 80°C
Operating Humidity	10% to 90% RH, non-condensing
Storage Humidity	5% to 90% RH
Operating Altitude	5,000m

General

Dimensions	146(L) 59.5(W) 36(H)mm
Weight	420g
MTBF	>50,000hrs MIL-HDBK-217 at 25°C

Protection

Overload	130-200% rated output power, auto recovery
Over Voltage	130-150% rated output voltage input to reset
Short Circuit	Trip and restart (hiccup mode)

Safety Approvals

Safety Agency / Mark	Medical	ITE
CB	IEC60601-1	IEC60950-1 IEC62368-1
UL	ANSI/AAMI ES60601-1 CAN/CSA C22.2 NO. 60601-1	UL60950-1 UL62368-1
TUV Rheinland/Mark	EN60601-1	-
TUV Rheinland/GS	-	EN62368-1
CE	-	EN62368
CCC	-	GB4943.1
FCC	-	FCC PART 15
PSE	-	J60950

EMC

Emission	Medical
Conduction	IEC/EN60601-1-2, CISPR 11
Radiation	IEC/EN60601-1-2, CISPR 11
Harmonic Currents	EN61000-3-2, Class A
Voltage Flicker	EN61000-3-3
Immunity	IEC/EN60601-1-2
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 ±1KV 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 input to output
Insulation Resistance	10M Ohms, 500VDC input to output