

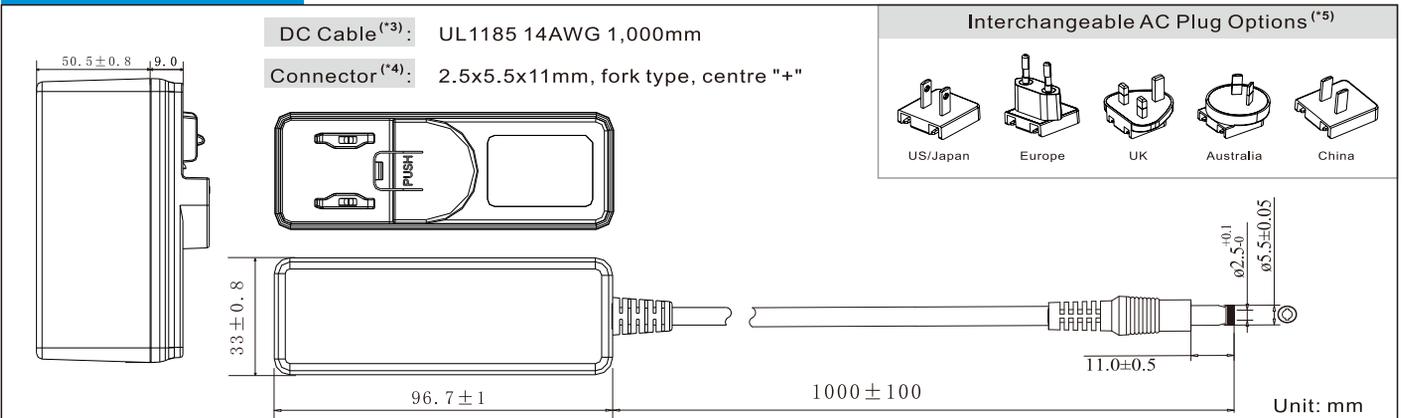

FC IP20 Class II (VI)

Product Features

- Medical & I.T.E. safety approvals
- 2 MOPP input to output isolation
- Low leakage current $\leq 50\mu\text{A}$
- DOE efficiency level VI
- CoC Ver 5 tier 2
- $\leq 0.075\text{W}$ standby power
- 9.0V-36V outputs, up to 36W
- 5,000m operating altitude
- Interchangeable AC plugs


Models & Parameters

| Model Number | Voltage ^(*) (V) | Current (A) | Rated Power | Ripple & Noise (max) ^(*) | Voltage Tolerance | Line & Load Regulation | Efficiency (Average) | Start Up Delay |
|---|-------------------------------|----------------|----------------|--|----------------------|---------------------------|-------------------------|-------------------|
| UES36LCP-XXXXXXSPA UES36LCP-XXXXXXSPA-OP | 9.0-10.0 | 0.01-4.00 | 36.0W | 150mVpk-pk | ±5% | Line: ±1% Load: ±5% | 88.3% | ≤3s |
| | 10.1-11.0 | 0.01-3.56 | 36.0W | 150mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 11.1-12.0 | 0.01-3.24 | 36.0W | 150mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 12.1-13.0 | 0.01-2.97 | 36.0W | 150mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 13.1-14.0 | 0.01-2.74 | 36.0W | 150mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 14.1-15.0 | 0.01-2.55 | 36.0W | 150mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 15.1-16.0 | 0.01-2.38 | 36.0W | 150mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 16.1-17.0 | 0.01-2.23 | 36.0W | 150mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 17.1-18.0 | 0.01-2.10 | 36.0W | 150mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 18.1-19.0 | 0.01-1.98 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 19.1-20.0 | 0.01-1.88 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 20.1-21.0 | 0.01-1.79 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 21.1-22.0 | 0.01-1.70 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 22.1-23.0 | 0.01-1.62 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 23.1-24.0 | 0.01-1.55 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 24.1-25.0 | 0.01-1.49 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 25.1-26.0 | 0.01-1.43 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 26.1-27.0 | 0.01-1.37 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 27.1-28.0 | 0.01-1.32 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 28.1-29.0 | 0.01-1.28 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 29.1-30.0 | 0.01-1.23 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 30.1-31.0 | 0.01-1.19 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 31.1-32.0 | 0.01-1.15 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| | 32.1-33.0 | 0.01-1.12 | 36.0W | 180mVpk-pk | ±5% | | 88.3% | ≤3s |
| 33.1-34.0 | 0.01-1.08 | 36.0W | 180mVpk-pk | ±5% | 88.3% | ≤3s | | |
| 34.1-35.0 | 0.01-1.05 | 36.0W | 180mVpk-pk | ±5% | 88.3% | ≤3s | | |
| 35.1-36.0 | 0.01-1.02 | 36.0W | 180mVpk-pk | ±5% | 88.3% | ≤3s | | |

Mechanical Details

Notes

(*1, 3, 4, 5) Other options are available, please contact our sales representative for details.

(*2) Measured at output connector with 20MHz bandwidth and 0.1uF ceramic in parallel with 10uF electrolytic capacitors

Input

| | |
|--|------------------------------|
| Input Voltage Range | 90-264VAC |
| Frequency Range | 47-63Hz |
| Input Current | 0.5A at 90VAC |
| Inrush Current | 70A max at 240VAC cold start |
| Touch Leakage Current ^(max) | ≤50µA at 264VAC |

Environmental

| | |
|-----------------------|-------------------------------|
| Operating Temperature | 0°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 | 96.7(L)x33(W)x50.5(H)mm |
| Weight | 230g |
| MTBF | >100,000hrs MIL-HDBK-217 at 25°C |
| Isolation | 4,000VAC Input to Output |

Protection

| | |
|---------------|--|
| Overload | 110-200% rated output power, auto recovery |
| Over Voltage | 120-150% 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 | UL60950-1 UL62368-1 |
| | CAN/CSA C22.2 NO. 60601-1 | CAN/CSA C22.2 NO. 60950-1 |
| TüV Rheinland/Mark | EN60601-1 | - |
| TüV Rheinland/GS | - | EN60950-1 EN62368-1 |
| RCM | - | AS/NZS 60950.1 |
| PSE | - | J60950-1 |
| CCC | - | GB4943.1 |
| CE | - | EN62368 |
| FCC | - | FCC PART 15 |
| KC | - | K60950 |

EMC

| Emission | Medical | ITE |
|----------------------|---------------------------|---------------------------------------|
| Conduction | IEC/EN60601-1-2, CISPR 11 | EN55032, CISPR 32 |
| Radiation | IEC/EN60601-1-2, CISPR 11 | EN55032, CISPR 32 |
| Harmonic Currents | IEC/EN61000-3-2, Class A | EN61000-3-2, Class A |
| Voltage Flicker | EN61000-3-3 | EN61000-3-3 |
| Immunity | IEC/EN60601-1-2 | EN55024, CISPR 24 |
| ESD | IEC61000-4-2 | ±15kV air, ±8kV contact |
| Radiated Immunity | IEC61000-4-3 | 10V/m, 3V/m 80MHz - 2.7GHz |
| 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 |