

CL40 SERIES

Single and triple output

Recommended for new design-ins



[2 YEAR WARRANTY]



- 85VAC to 264VAC universal input range
- Pre-approved SELV power solution
- Up to 40W continuous output power
- Up to 50W peak output power
- UL, CSA, VDE and BABT approved
- VDE0871-A conducted noise performance
- Stand alone "listed" equipment

The CL40 series is a family of 40W (50W peak) external switching power supplies. The CL40 enables the system specifier to optimise the design for several reasons. Firstly, because the power supply offers pre-approved SELV (Safety Extra Low Voltage) outputs, the submission of the apparatus for safety approval is simplified. This represents a significant saving of time and money. Secondly, the task of integrating the power supply into the mechanical design is eliminated, presenting further savings in time and money by ensuring a shorter and simpler design cycle. This means that your product gets to market faster. These advantages are complemented by universal input, CE mark, IEC950, UL, CSA, VDE and BABT approvals, to complete a worldwide packaged power solution suitable for a wide variety of low power, desktop applications.

SPECIFICATION All specifications are typical at nominal input, full load at 25°C unless otherwise stated

OUTPUT SPECIFICATIONS		
Line regulation LL to HL, FL	Single outputs Multi's: +5.1V output Multi's: aux. outputs	±0.2% ±0.2% ±1.0%
Total regulation NL to FL (Note 5)	Single outputs Multi's: +5.1V output, Multi's: aux. outputs	±5.0% ±5.0% See table
Overshoot/undershoot	At turn-on	10% max.
Transient response (Single output model)	+5.1V output (50% FL to 100% FL step)	±250mV max. dev., 1ms recovery to 1%
Temperature coefficient	All outputs	±0.02%/°C
Overvoltage protection	+5.1V output only	6.25V ±0.75V
Output power limit	Primary power limited	90W Pin max. 50W Pout min.
Short Circuit Protection		Continuous with auto-restart
INPUT SPECIFICATIONS		
Input voltage range	Note 1	85 to 264VAC
Input frequency range		47 to 440Hz
Input surge current	110VAC 230VAC	12A max. 30A max.
Safety ground leakage current	110VAC, 60Hz 230VAC, 50Hz	0.2mA 0.4mA

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS		
Radiated emissions	EN55022, EN55011, FCC	Level B
Conducted emissions	EN55022, EN55011, FCC	Level A
Electrostatic discharge	EN61000-4-2	Level 4
Electrostat. air discharge	IEC801-2	Level 3
RF field susceptibility	IEC801-3	Level 3
Electrical fast transients/bursts	EN61000-4-4	Level 3
Surge susceptibility	EN61000-4-5	Level 3
GENERAL SPECIFICATIONS		
Hold-up time	110VAC 230VAC	12ms 110ms
Efficiency	110VAC and 230VAC	70% typical
Isolation voltage	Input/output Input/chassis	3000VAC 1500VAC
Switching frequency	Variable	20kHz to 70kHz
Approvals and standards	VDE0805, EN60950 IEC950, IEC1010, UL1950 BABT, CSA C22.2 No. 950	
Case material	ABS plastic	
Material flammability	UL94V-0	
Weight	800g (28oz)	
MTBF	MIL-HDBK-217E	100,000 hours min.
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating Non-operating 0°C to 40°C ambient Peak (0°C to 40°C, max. 60s)	0°C to +40°C -40°C to +85°C 40W 50W
Relative humidity	Non-condensing	5% to 95% RH
Altitude	Operating Non-operating	10,000 feet max. 40,000 feet max.
Vibration, 5Hz to 500Hz	See Note 8	2.4G rms (approx)

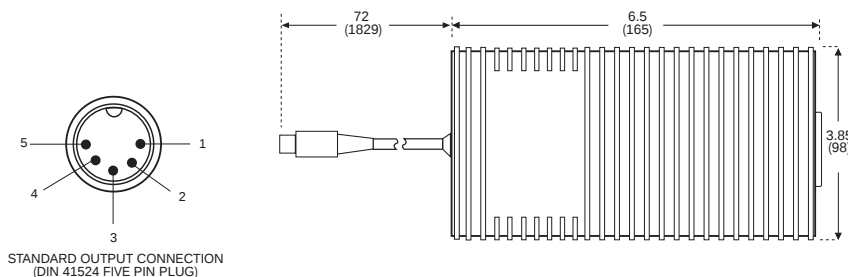
40 Watt AC/DC external power supplies

OUTPUT VOLTAGE	OUTPUT CURRENT (1)		RIPPLE (4)	TOTAL REGULATION (5)	MODEL NUMBER	
	MAX (2)	PEAK (3)				
+5.1V (A)	3.0A	5.0A	50mV	±5.0%	CL40-7608	
+12.0V (B)	1.7A	3.0A	120mV	-3.0%, +7.0%		
-12.0V	0.35A	1.0A	120mV	±5.0%		
+5.1V (A)	3.0A	5.0A	50mV	±5.0%	CL40-7610	
+15.0V (B)	1.3A	3.0A	150mV	-2.0%, +5.0%		
-15.0V	0.35A	1.0A	150mV	±5.0%		
+5.1V	5.0A	5.0A	50mV	±6.0%	CL40-7605	CL40-7605J (7)
+12.0V	3.3A	4.0A	120mV	±5.0%	CL40-7612	CL40-7612J (7)
+13.5V	3.0A	3.7A	130mV	±5.0%	CL40-7613	
+15.0V	2.7A	3.3A	150mV	±5.0%	CL40-7615	CL40-7615J (7)
+16.5V	2.4A	3.0A	160mV	±5.0%	CL40-7616	
+24.0V	1.6A	2.0A	240mV	±5.0%	CL40-7624	CL40-7624J (7)

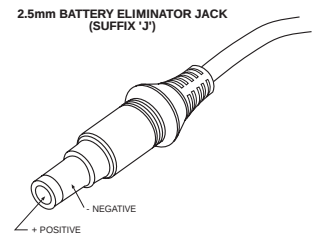
Notes

- For 230VAC operation a minimum output load of 4 Watts is required.
- Natural convection cooling, 40W maximum.
- Peak output current lasting less than 60 seconds with duty cycle less than 10%. During peak loading outputs may go outside of regulation limits. Peak total power must not exceed 50W.
- Figures are peak-to-peak. Output noise is measured across a 20MHz bandwidth using a 12" twisted pair terminated with a 47µF capacitor.
- Total regulation is defined as the static output regulation at 25°C, including initial tolerance, load currents within stated limits, and output voltages adjusted to their factory settings. Also, for 'B' output stated regulation: $I(A)/I(B) < 5$.
- The standard CL40 is IEC950/VDE0805 approved as a stand-alone power supply. The plastic case incorporates an IEC 320 inlet receptacle. **No input cable is supplied in Europe as standard.** **An input cable is supplied to customers in the US only. To order add the suffix 'I' to the end of the model number, e.g. CL40-7605I.** In order to have a stand-alone power supply fully UL and CSA listed (as opposed to certified or recognised) it is required that the manufacturer provide an approved input cable with the power supply.
- The standard output connector is a DIN41524 five-pin plug. As an alternative single output models can be supplied with a 2.5mm battery eliminator jack. To order this option add the suffix "J" to the model number. Example: CL40-7612J. See the table above for availability.
- Three orthogonal axes random vibration, 10 minute test for each axis.

PIN CONNECTIONS			
PIN NUMBER	SINGLES	-7608	-7610
1	+V _{OUT}	+5.1V	+5.1V
2	+V _{OUT}	+12V	+15V
3	Return	Return	Return
4	Return	-12V	-15V
5	Return	Return	Return



STANDARD OUTPUT CONNECTION
(DIN 41524 FIVE PIN PLUG)



International Safety Standard Approvals

VDE0805/EN60950, IEC950, IEC1010
File No. 10401-3336-1062 Licence No. 1062

UL1950 File No. E136005

CSA C22.2 No. 950 File No. LR41062/LR50913/LR101320

Certificate No. PS/603191

ALL DIMENSIONS ARE INCHES (mm)