15 Watts
ECL Series



- Ultra Compact Size
- Single, Dual & Triple Outputs
- Open Frame PCB & Chassis Mount
- Encapsulated PCB & Chassis Mount
- <0.3 W No Load Input Power
- Peak Load Capability
- 3 Year Warranty

GREEN XP POWER

Specification

Input

Input Voltage	85-264 VAC (120-370 VDC)
Input Frequency	47-63 Hz
Input Current	ECL05: 0.1 A rms, ECL10: 0.2 A rms ECL15: 0.3 A rms, ECL25: 0.4 A rms ECL30: 0.8 A rms at 230 VAC
Inrush Current	20 A at 115 VAC, 40 A at 230 VAC, cold start at 25 ° C
Earth Leakage Current	Class II construction no earth
Power Factor	EN61000-3-2, class A
No Load Input Power	<0.3 W
Input Protection	ECL05/10: Internal T1 A/250 VAC fuse ECL15/25/30: Internal T2 A/250 VAC fuse

Output

Output Voltage	See tables
Output Voltage Trim	±5% on output 1 only, on multiple output versions, V2 & V3 will track by same percentage, (not '-E' or '-S' versions)
Initial Set Accuracy	±1% for output 1, ±1% for output 2 of UD01 & UD02 versions, ±5% for output 2 & output 3 of other versions
Minimum Load	Single output versions: none, Multi output versions: UD01 & UD02: 10% V1 & V2 UD03: 10% V1, 20% V2 UT02 & UT03: 10% V1, 20% V2 & V3 to meet regulation specifications
Start Up Delay	3 s max
Start Up Rise Time	14 ms max
Hold Up Time	16 ms typical for single output versions, 12 ms typical for multiple output versions, at full load & 115 VAC
Line Regulation	±0.5% max for single output versions and output 1 of multiple output versions, ±0.9% max for output 2 & output 3 of multiple output versions
Load Regulation	1% max for single output versions, for multiple output versions (see note 5)
Cross Regulation	Multi output versionsonly (see note 5)
Transient Response	4% max deviation, recovery to within 1% in 500 µs for a 25% load change
Ripple & Noise	Single output versions: 3.3-5 V versions: 50 mV pk-pk, 12-15 V versions: 120 mV pk-pk, 24-48 V versions: 200 mV pk-pk, Multiple output versions: 1% pk-pk on any output, 20 MHz bandwidth
Overvoltage Protection	115-140% Vnom, 195-216% Vnom ECL05/10/15/25 with 3.3 V
Overload Protection	Single output versions: ECL05/10/15: 120-150%, ECL25: 120-170% of total power Multiple output versions: 140-200% of total power
Short Circuit Protection	Trip and restart (hiccup mode)
Temperature Coefficient	0.05%/°C

General

Efficiency	See tables
Isolation	3000 VAC Input to Output
Switching Frequency	70 kHz typical
Power Density	ECL05: 2.25 W/In³ (PCB Mount version) ECL10: 5.50 W/In³ (PCB Mount version) ECL15: 5.30 W/In³ (PCB Mount version) ECL25: 5.90 W/In³ (PCB Mount version) ECL30: 7.10 W/In³ (PCB Mount version)
MTBF	ECL05/10: >450 kHrs, ECL15/25/30: >400 kHrs, to MIL-HDBK-217Fat 25 ° C, GB

Environmental

Operating Temperature	-20 ° C to +70 ° C, derate linearly from 100% at +50 ° C to 50% at +70 ° C
Cooling	Convection-cooled
Operating Humidity	95% RH, non-condensing
Storage Temperature	-40 ° C to +85 ° C
Operating Altitude	3000 m
Vibration	2 g, 10 Hz to 500 Hz, 10 mins/cycle, 60 mins each cycle

EMC & Safety

Emissions	EN55022, level B conducted & radiated
Harmonic Currents	EN61000-3-2, class A
Voltage Flicker	EN61000-3-3
ESD Immunity	EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	EN61000-4-3, 10 V/m 80% mod Perf Criteria A
EFT/Burst	EN61000-4-4, level 3, Perf Criteria A
Surge	EN61000-4-5, installation class 3, Perf Criteria A
Conducted Immunity	EN61000-4-6, 10 Vrms Perf Criteria A
Magnetic Fields	EN61000-4-8, 10 A/m, Perf Criteria A
Dips & Interruptions	EN61000-4-11, 30% for 10 ms, 60% for 100 ms, 100% for 5000 ms Perf Criteria A, B, B
Safety Approvals	IEC60950-1, EN60950-1, UL60950-1, CSA22.2 No. 234 per cUL

Models and Ratings

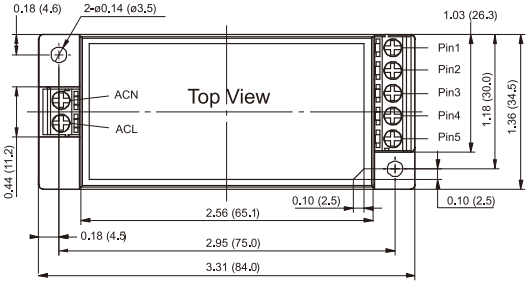
Output Power	Output 1		Output 2		Output 3		Efficiency	Model Number[3,4]
	Voltage	Current[2]	Voltage	Current[2]	Voltage	Current[2]		
15 W	5.0 V[1]	2.00 A	+12.0 V	0.200 A	-12.0 V	0.200 A	81%	ECL15UT02
15 W	5.0 V[1]	2.00 A	+15.0 V	0.150 A	-15.0 V	0.150 A	81%	ECL15UT03

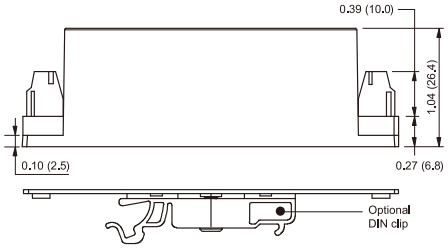
Notes

1. Isolated output
2. Peak load of 130% lasting <30 s with a maximum duty cycle of 10%, average output power not to exceed nominal.
3. Add suffix to model number to define type: add '-P' for PCB mount, add '-T'for chassis mount, add '-E' for encapsulated, add '-S' for screw terminals.
4. A screw terminal version (-S) is available with DIN clip attached, add suffix 'D'
   e.g. ECL15UT02-SD, DIN rail mounting kit is available as a separate item, order code ECL15 DIN CLIP.

Mechanical Details

Screw Terminal (-S)





Pin	UT02/03
1	V3
2	COM
3	V2
4	V1
5	V1 RTN

NC = No connection.

Notes

1. All dimensions in inches (mm).
2. Tolerances: x.xx = ± 0.02 (x.x = ± 0.5)
   x.xxx = ± 0.01 (x.xx = ± 0.25)
3. Weight: ECL15 UD/UT: S Version: 0.26 lbs (120 g)

Mating Connectors (-T version only)
Input Connector: JST PHR-3
Output Connector: JST XHP-5