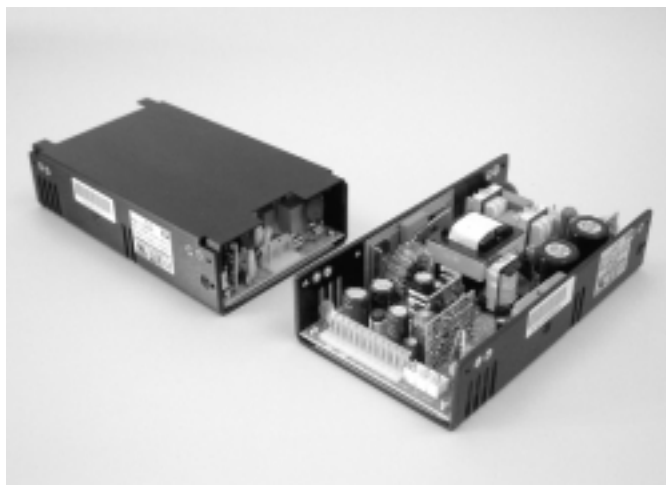


AC-DC Chassis Mount

150-300 Watts ACL Series



THE **XP**ERTS IN POWER

- Compact Size
- Up To 5.1 W/in³
- Single & Multi Outputs
- Convection Cooled Ratings
- Remote Inhibit
- DC OK Signal
- Floating 4th Output

Specification

Input

- | | |
|-----------------------|--|
| Input Voltage | <ul style="list-style-type: none">• 90-132 VAC, 180-264 VAC PFC, complies with EN61000-3-2, 3 |
| Input Frequency | <ul style="list-style-type: none">• 47-63 Hz |
| Input Current | <ul style="list-style-type: none">• 3.5 A at 115 VAC, 1.8 A at 230 VAC for ACL150• 5.0 A at 115 VAC, 2.5 A at 230 VAC for ACL200• 6.3 A at 115 VAC, 3.15 A at 230 VAC for ACL300 |
| Inrush Current | <ul style="list-style-type: none">• 35 A at 115 VAC, 70 A at 230 VAC cold start |
| Earth Leakage Current | <ul style="list-style-type: none">• <3.5 mA at 230 VAC 50 Hz |

Output

- | | |
|-------------------------|---|
| Output Voltage | <ul style="list-style-type: none">• See Tables |
| Output Voltage Adj | <ul style="list-style-type: none">• $\pm 5\%$ output 1 |
| Minimum Load | <ul style="list-style-type: none">• See Tables |
| Start Up Delay | <ul style="list-style-type: none">• 1 s max |
| Start Up Rise Time | <ul style="list-style-type: none">• 20 ms max |
| Hold Up Time | <ul style="list-style-type: none">• 20 ms min at 125 VAC @ 80% load |
| Initial Set Accuracy | <ul style="list-style-type: none">• $\pm 1\%$ max single output, $\pm 5\%$ auxiliary outputs |
| Regulation | <ul style="list-style-type: none">• $\pm 1\%$ max single output models, $\pm 5\%$ multi output models |
| Transient Response | <ul style="list-style-type: none">• 5% max for 50% load change, recovery to 1% within 500 μs |
| Ripple & Noise | <ul style="list-style-type: none">• 1% pk-pk max |
| Overvoltage Protection | <ul style="list-style-type: none">• 130% on V1 only, recycle mains to reset |
| Overcurrent Protection | <ul style="list-style-type: none">• 110-135%, auto recovery |
| Temperature Coefficient | <ul style="list-style-type: none">• $\pm 0.1\%/^{\circ}\text{C}$ max |

Remote Sense

- Compensates for 0.5 V drop on 3.3 V output

Fan Output

- 12 V, 300 mA

General

- | | |
|---------------------|--|
| Efficiency | <ul style="list-style-type: none">• 80% typical |
| Isolation | <ul style="list-style-type: none">• 3000 VAC Input to Output• 1500 VAC Input to Ground• 500 VAC Output to Ground |
| Switching Frequency | <ul style="list-style-type: none">• 42 kHz |
| MTBF | <ul style="list-style-type: none">• 100,000 hours to MIL-HDBK-217F |

Environmental

- | | |
|-----------------------|---|
| Operating Temperature | <ul style="list-style-type: none">• 0 $^{\circ}\text{C}$ to +60 $^{\circ}\text{C}$, derate linearly from 100% load at 40 $^{\circ}\text{C}$ to 50% at 60 $^{\circ}\text{C}$ |
| Storage Temperature | <ul style="list-style-type: none">• -20 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$ |
| Relative Humidity | <ul style="list-style-type: none">• 5-95% RH, non-condensing |
| Operating Altitude | <ul style="list-style-type: none">• 3000 m |
| Cooling | <ul style="list-style-type: none">• See Notes |
| Vibration | <ul style="list-style-type: none">• 5-50 Hz, 7.35 ms² on x, y & z axis |

EMC & Safety

- | | |
|--------------------------|--|
| EMC | <ul style="list-style-type: none">• EN55022 level B (300 W level A) CISPR 22 conducted |
| ESD Susceptibility | <ul style="list-style-type: none">• EN61000-4-2, Level 3, Perf Criteria A |
| Radiated Susceptibility | <ul style="list-style-type: none">• EN61000-4-3, Level 2, Perf Criteria A |
| EFT/Burst | <ul style="list-style-type: none">• EN61000-4-4, Level 2, Perf Criteria A |
| Surge | <ul style="list-style-type: none">• EN61000-4-5, Level 3, Perf Criteria A |
| Conducted Susceptibility | <ul style="list-style-type: none">• EN61000-4-6, Level 2, Perf Criteria A |
| Magnetic Field | <ul style="list-style-type: none">• EN61000-4-8, Level 1, Perf Criteria A |
| Safety Approvals | <ul style="list-style-type: none">• UL1950, CSA C22.2 No. 234, IEC 950 (EN60950) |

OUTPUT VOLTAGE & CURRENT RATINGS - 200 WATT MODELS

ACL

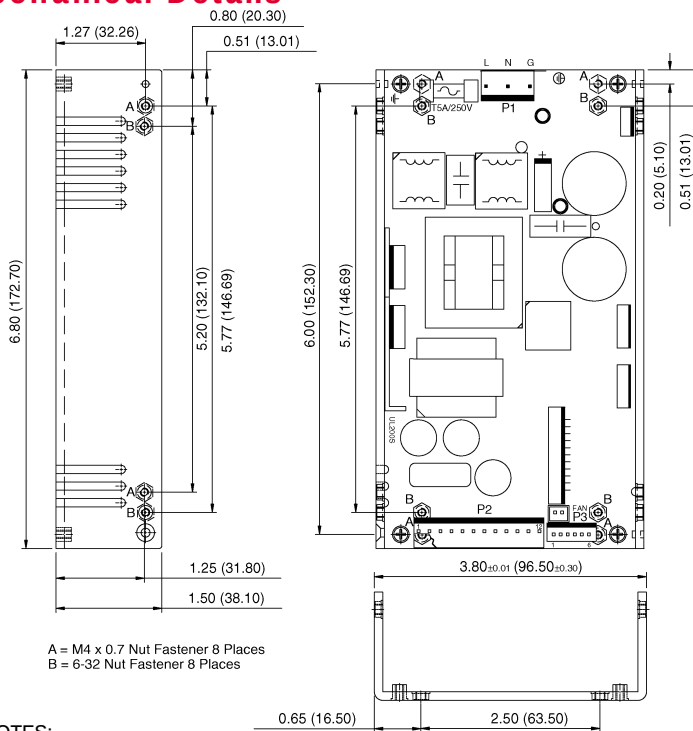
Output 1			Output 2			Output 3			Output 4 ⁽¹⁾			Model Number ⁽⁴⁾
Voltage Nom	Current		Voltage Nom	Current		Voltage Nom	Current		Voltage Nom	Current		
	Min	Max		Min	Max		Min	Max		Min	Max	
3.3 V	0.5 A	30.00 A										ACL200PS03*
5.0 V	0.5 A	40.00 A										ACL200PS05*
12.0 V	0.5 A	16.70 A										ACL200PS12*
15.0 V	0.5 A	13.30 A										ACL200PS15*
24.0 V	0.5 A	8.30 A										ACL200PS24*
36.0 V	0.5 A	5.5 A										ACL200PS36
48.0 V	0.5 A	4.10 A										ACL200PS48*
+5.0 V	0.5 A	20.00 A	+12.0 V	0.0 A	8.0 A							ACL200PM23*
+5.0 V	0.5 A	20.00 A	+15.0 V	0.0 A	6.6 A							ACL200PM26*
+5.0 V	0.5 A	20.00 A	+24.0 V	0.0 A	4.2 A							ACL200PM25*
+5.0 V	0.5 A	20.00 A	+12.0 V	0.0 A	8.0 A				F 12.0 V	0.0 A	1.0 A	ACL200PM31*
+5.0 V	0.5 A	20.00 A	+15.0 V	0.0 A	5.0 A				F 15.0 V	0.0 A	1.0 A	ACL200PM32*
+5.0 V	0.5 A	20.00 A	+12.0 V	0.0 A	6.0 A	-5.0 V	0.0 A	1.0 A	F 12.0 V	0.0 A	1.0 A	ACL200PM40*
+5.0 V	0.5 A	20.00 A	+24.0 V	0.0 A	3.0 A	-12.0 V	0.0 A	1.0 A	F 12.0 V	0.0 A	1.0 A	ACL200PM45*
+5.0 V	0.5 A	20.00 A	+15.0 V	0.0 A	5.0 A	-5.0 V	0.0 A	1.0 A	F 15.0 V	0.0 A	1.0 A	ACL200PM46*

Notes

- Output 4 is floating and can be connected externally for positive or negative output.
- Total output power for ACL200PS03 is 100 W with 18.7 CFM forced air cooling. 73 W convection cooled.
- Total output power for single output models is 200 W with 18.7 CFM forced air cooling, 150 W convection cooled.
Total output power for multi output models is 200 W with 18.7 CFM forced air cooling, 100 W convection cooled.
- For optional oring diode on single output versions, add suffix 'O'.

* Also available from Farnell InOne, see pages 350 & 351.

Mechanical Details



A = M4 x 0.7 Nut Fastener 8 Places
B = 6-32 Nut Fastener 8 Places

NOTES:

- Dimensions shown in inches (mm).
- Tolerance 0.02 (0.5) maximum.
- Input connector P1 mates with Molex housing 09-91-0500 and Molex 2478/2578/8818 series crimp terminal.
- Output connector P2 mates with Molex housing 09-91-1200 and Molex 2478/2578/8818 series crimp terminal.
- Fan connector P2 mates with JST housing XHP-2 and JST SXH-002T-P0.6 crimp terminals.
- Weight: 800 grams approx.
- Covered versions are available, add suffix '-C' to model number for cover only (96.5 x 172.7 x 42.10 mm), '-FC' for fan cover (96.5 x 172.7 x 63.0 mm).
- Output is turned off by taking the Remote ON/OFF pin low (connect to Return).
- Loom kits with 300 mm wire available, order part number ACL200 LOOM-S for single output models, ACL200 LOOM-D for dual output models, ACL200 LOOM-T for triple output models or ACL200 LOOM-Q for quad output models. For mating connectors only, order part ACL200 CON KT*.
- Covers are available separately. Order part ACL200 COVER* or ACL200 F/COVER* for Fan Cover.

P2 PIN CONNECTIONS

Pin	Single Output	Multi Output
1	Output 1	Output 3
2	Output 1	Return
3	Output 1	Return
4	Output 1	Return
5	Output 1	Return
6	Output 1	Output 1
7	Return	Output 1
8	Return	Output 1
9	Return	Output 1
10	Return	Output 2
11	Return	Output 4
12	Return	Output 4 Return

P3 PIN CONNECTIONS

Pin	Single Output
1	Fan +
2	Return
3	Return
4	DC OK
5	Remote ON/OFF
6	Return

Multi output models have three separate 2 pin connectors for Fan, Power Good and Remote ON/OFF. These are clearly marked on the PCB.

OUTPUT VOLTAGE & CURRENT RATINGS - 300 WATT MODELS

ACL

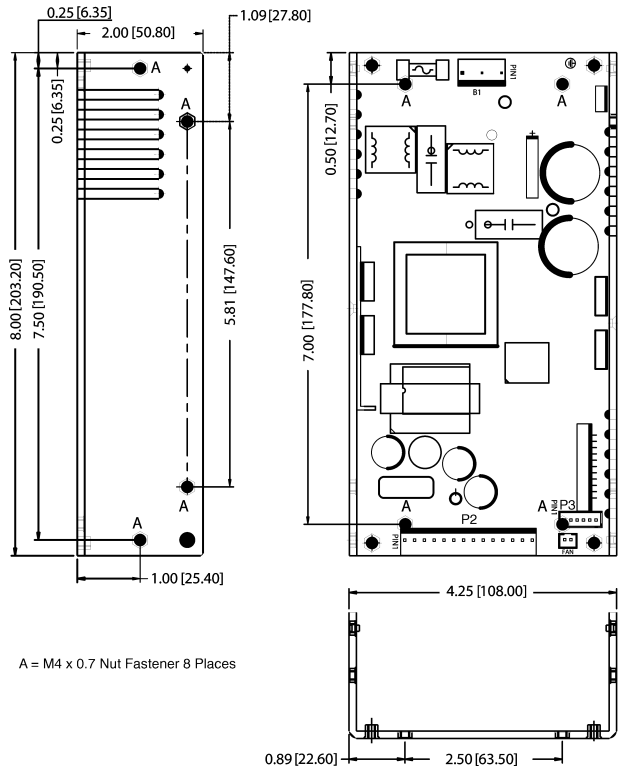
Output 1			Output 2			Output 3			Output 4 ⁽¹⁾			Model Number
Voltage Nom	Current		Voltage Nom	Current		Voltage Nom	Current		Voltage Nom	Current		
	Min	Max		Min	Max		Min	Max		Min	Max	
3.3 V	0.5 A	60.00 A										ACL300PS03*
5.0 V	0.5 A	60.00 A										ACL300PS05*
12.0 V	0.5 A	25.00 A										ACL300PS12*
15.0 V	0.5 A	20.00 A										ACL300PS15*
24.0 V	0.5 A	12.50 A										ACL300PS24*
36.0 V	0.5 A	8.33 A										ACL300PS36
48.0 V	0.5 A	6.25 A										ACL300PS48*
+5.0 V	0.5 A	30.00 A	+12.0 V	0.0 A	12.5 A							ACL300PM23*
+5.0 V	0.5 A	30.00 A	+15.0 V	0.0 A	10.0 A							ACL300PM26*
+5.0 V	0.5 A	30.00 A	+24.0 V	0.0 A	6.3 A							ACL300PM25*
+5.0 V	0.5 A	30.00 A	+12.0 V	0.0 A	10.5 A				F 12.0 V	0.0 A	2.0 A	ACL300PM31*
+5.0 V	0.5 A	30.00 A	+15.0 V	0.0 A	8.0 A				F 15.0 V	0.0 A	2.0 A	ACL300PM32*
+5.0 V	0.5 A	30.00 A	+12.0 V	0.0 A	10.0 A	-5.0 V	0.0 A	2.0 A	F 12.0 V	0.0 A	2.0 A	ACL300PM40*
+5.0 V	0.5 A	30.00 A	+24.0 V	0.0 A	4.3 A	-12.0 V	0.0 A	2.0 A	F 12.0 V	0.0 A	2.0 A	ACL300PM45*
+5.0 V	0.5 A	30.00 A	+15.0 V	0.0 A	7.4 A	-5.0 V	0.0 A	2.0 A	F 15.0 V	0.0 A	2.0 A	ACL300PM46*

Notes

- Output 4 is floating and can be connected externally for positive or negative output.
- Total output power for ACL300PS12, 15, 24 & 48 is 300 W with 30 CFM forced air cooling, 200 W convection cooled. Total output power for all other models is 300 W with 30 CFM, 150 W convection cooled.

* Also available from Farnell InOne, see pages 350 & 351.

Mechanical Details



A = M4 x 0.7 Nut Fastener 8 Places

P2 PIN CONNECTIONS		
Pin	Single Output	Multi Output
1	Output 1	Output 3
2	Output 1	Output 1
3	Output 1	Output 1
4	Output 1	Output 1
5	Output 1	Output 1
6	Output 1	Return
7	Output 1	Return
8	Return	Return
9	Return	Return
10	Return	Return
11	Return	Output 2
12	Return	Output 2
13	Return	Output 4
14	Return	Output 4 Return

P3 PIN CONNECTIONS		
Pin	Single	Multi
1	Fan+	Return
2	Return	DC OK
3	DC OK	Return
4	Power Good	Remote ON/OFF
5	Remote ON/OFF	Return
6	Return	Power Good

NOTES:

- Dimensions shown in inches (mm).
- Tolerance 0.02 (0.5) max.
- Input connector P1 mates with Molex housing 09-91-0500 and Molex 2478/2578/8818 series crimp terminal.
- Output connector P2 mates with Molex housing 09-91-1400 and Molex 2478/2578/8818 series crimp terminal.
- Weight: 1000 g approx.
- Covered versions are available, add suffix '-C' to model number for cover only (108.0 x 203.2 x 54.8 mm), '-FC' for fan cover (108.0 x 203.2 x 75.7 mm).
- Fan connector P2 mates with JST housing XHP-2 and JST SXH-002T-P0.6 crimp terminals.
- Output is turned off by taking the Remote ON/OFF pin low (connect to Return).
- Loom kits with 300 mm wire available, order part number ACL300 LOOM-S for single output models, ACL300 LOOM-D for dual output models, ACL300 LOOM-T for triple output models or ACL300 LOOM-Q for quad output models. For mating connectors only, order part ACL300 CON KT*.
- Covers are available separately. Order part ACL300 COVER* or ACL300 F/COVER* for Fan Cover.

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