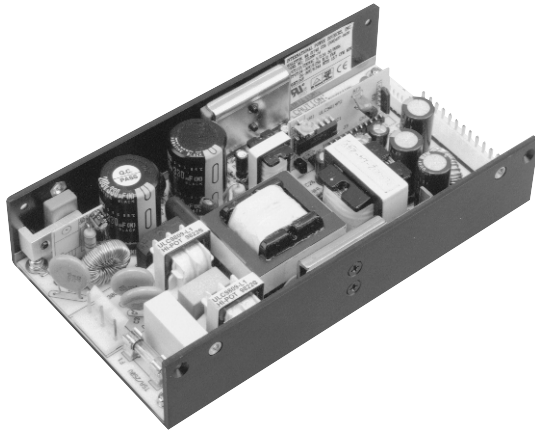


AC/DC U-Channel

200 Watts HUL200 Series

XPiQ inc.

Intelligent Design Quality Product



- Meets EN61000-3-2, -3
- Low Profile 1.5" Height
- Remote On/Off
- Thermal Shutdown
- Short Circuit Protection With Auto Recovery
- Power Good/LED on Power Supply
- International Safety Approvals with CE Mark (LVD)

Specification

Input

- **Input Voltage** 90-132 VAC, 180 to 264 VAC (auto-ranging)
- **Input Frequency** 47-63 Hz
- **Input Current** 5.0 A max at 115 VAC
2.5 A at 230 VAC
- **Leakage Current** 3.5 mA at 230 VAC

Output

- **Output Voltage** See Tables
- **Output Current** See Tables
- **Hold Up Time** 20 ms min at 125 VAC/80% load
- **Ripple & Noise** 1% pk-pk or 100mV maximum
- **Overvoltage Protection** Set at 110-135% of maximum output voltage (on output #1 only)
- **Overcurrent Protection:** All outputs protected to short circuit conditions
- **Temperature coefficient:** ±0.1%/°C maximum
- **Transient Response** Maximum excursion of 5% recovering to 1% of final value in less than 500 µs after a 50% step load change
- **Overtemperature Protection** Standard

General

- **Efficiency** 70% typical at 230 VAC
- **Line Regulation** 1% maximum at full load
- **Inrush Current** 35 A at 115 VAC or 70 A at 230 VAC at +25 °C cold start
- **Withstand Voltage** 3000 VAC from input to output
1500 VAC from input to ground
- **Switching Frequency** 30 kHz
- **Hold Up Time** 20 msec min at 125 VAC/80% load

Environmental

- **Operating Temperature** 0 °C to +60 °C, derate linearly from 100% load at +40 °C to 50% load at +60 °C
- **Storage Temperature** -25 °C to +85 °C
- **Relative Humidity** 5% to 90% non condensing
- **MTBF** 100,000 hours

EMC & Safety

- **Safety Approvals** UL 1950, CSA C22.2 No. 234 IEC 950 (EN60950)
- **EMI** In compliance with CISPR22 (EN55022), Class B and FCC Class B

OUTPUT VOLTAGE & CURRENT RATINGS

HUL200

Output #1				Output #2				Output #3				Output #4				Model Number
Vnom	Imin	Imax	Tol.	Vnom	Imin	Imax	Tol.	Vnom	Imin	Imax	Tol.	Vnom	Imin	Imax	Tol.	
3.3 V	0.5 A	30.0 A	2%													HUL200-10-1
5.0 V	0.5 A	40.0 A	2%													HUL200-10
12.0 V	0.5 A	16.7 A	2%													HUL200-12
15.0 V	0.5 A	13.3 A	2%													HUL200-13
24.0 V	0.5 A	8.3 A	2%													HUL200-14
48.0 V	0.5 A	4.1 A	2%													HUL200-18
+5.0 V	0.5 A	20.0 A	5%	+12 V	0 A	8.0 A	5%									HUL200-23
+5.0 V	0.5 A	20.0 A	5%	+15 V	0 A	6.6 A	5%									HUL200-24
+5.0 V	0.5 A	20.0 A	5%	+24 V	0 A	4.2 A	5%									HUL200-25
+5.0 V	0.5 A	20.0 A	5%	+12 V	0 A	8.0 A	5%					F12 V	0 A	1 A	5%	HUL200-31
+5.0 V	0.5 A	20.0 A	5%	+15 V	0 A	5.0 A	5%					F15 V	0 A	1 A	5%	HUL200-32
+5.0 V	0.5 A	20.0 A	5%	+12 V	0 A	6.0 A	5%	-5.0 V	0 A	1 A	5%	F12 V	0 A	1 A	5%	HUL200-40
+5.0 V	0.5 A	20.0 A	5%	+24 V	0 A	3.0 A	5%	-12.0 V	0 A	1 A	5%	F12 V	0 A	1 A	5%	HUL200-45
+5.0 V	0.5 A	20.0 A	5%	+15 V	0 A	5.0 A	5%	-5.0 V	0 A	1 A	5%	F15 V	0 A	1 A	5%	HUL200-46

Notes

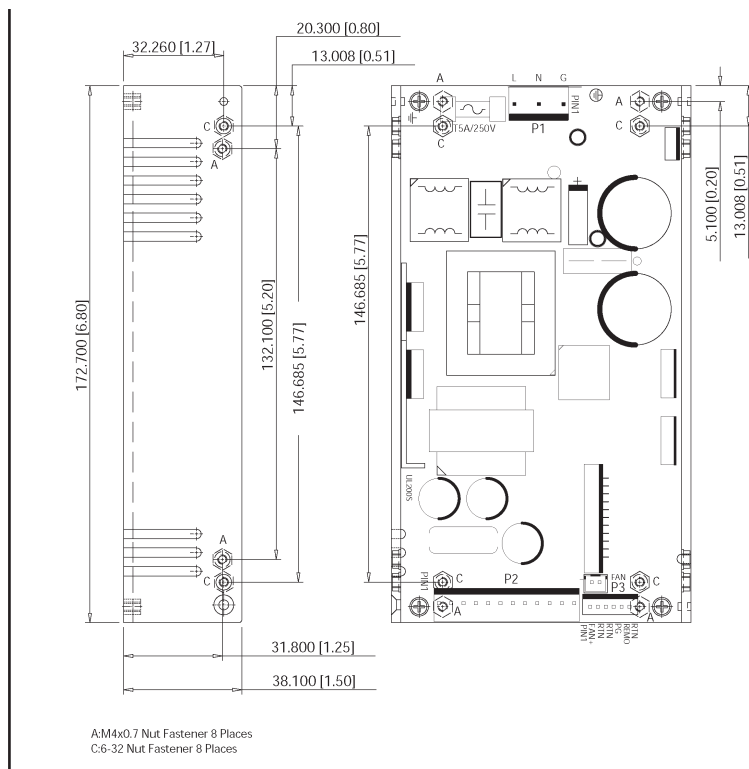
1. Use part number UL200-XX for product without harmonic correction. Example: UL200-10.
2. Total output power for HUL200-10-1 is 73 W convection cooled, 100 W with 18.7cfm forced air cooling.
3. Output #4 is floating. It can be connected externally for positive or negative output.
4. Total output power for HUL200 single output models is 150 W convection cooled, 200 W with 18.7 cfm forced air cooling.
5. Total output power for HUL200 multi output models is 100 W convection cooled, 200 W with 18.7 cfm forced air cooling.

Pin Chart

Output Connector P2

Pin	1	2	3	4	5	6	7	8	9	10	11	12
Single O/P Models	Output #1	Output #1	Output #1	Output #1	Output #1	Output #1	Return	Return	Return	Return	Return	Return
Multiple O/P Models	Output #3	Common Return	Common Return	Common Return	Common Return	Output #1	Output #1	Output #1	Output #1	Output #2	Output #4	Output #4 Return

Mechanical Details



Single Output P3 Pinout	
Pin 1	FAN+
Pin 2	Return
Pin 3	Return
Pin 4	Power Good
Pin 5	Remote ON/OFF
Pin 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.

NOTES:

1. Dimensions shown in mm (inches).
2. Tolerance 0.5 (0.02) maximum.
3. Input connector P1 mates with Molex housing 09-91-0500 and Molex 2478/2578/8818 Series crimp terminal.
4. Output connector P2 mates with Molex housing 09-91-1200 and Molex 2478/2578/8818 Series crimp terminal.
5. Connector P3 mates with JST XHP-6 or equivalent.
5. Weight: 800 grams approx.

