

20 Watts

CU20 Series



- Low Cost
- Small Size
- Universal Input
- Single Outputs from 3.3 V to 24 V
- Peak Load Capability
- Low Profile
- Non-standard Outputs Available

Specification

Input

Input Voltage	• 85-264 VAC (120-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• 0.25 A rms at 230 VAC
Inrush Current	• 20 A at 115 VAC, 40 A at 230 VAC, cold start +25 °C
Earth Leakage Current	• <1.5 mA
Input Protection	• 2 A fuse

Output

Output Voltage	• See table
Output Voltage Trim	• $\pm 5\%$
Initial Set Accuracy	• $\pm 1\%$
Minimum Load	• No minimum load required
Start Up Delay	• 1.5 s max
Start Up Rise Time	• 14 ms max
Hold Up Time	• 16 ms typical at full load & 115 VAC
Drift	• $\pm 0.6\%$
Line Regulation	• $\pm 0.5\%$ max
Load Regulation	• $\pm 1.0\%$ max
Transient Response	• 4% max deviation, recovery to within 1% in 500 μ s for 25% load change
Ripple & Noise	• 1% max pk-pk (see note 1)
Overvoltage Protection	• 130-150% of Vnom, recycle input to reset
Short Circuit Protection	• Trip and restart (Hiccup mode)
Temperature Coefficient	• 0.05%/°C

General

Efficiency	• Measured with 230 VAC & 100% load (See table)
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• 67 kHz typical
Power Density	• 3.91 W/in ³
MTBF	• >500 kHrs per MIL-HDBK-217F (15 & 24 V units >400 kHrs)

Environmental

Operating Temperature	• 0 °C to +65 °C, derate from 100% load at +45 °C to 0% at +65 °C
Cooling	• Convection-cooled
Operating Humidity	• 95% RH, non-condensing
Storage Temperature	• -20 °C to +85 °C
Operating Altitude	• 3000 m
Vibration	• 10 Hz to 500 Hz, 2 g for 10 mins/cycle 60 min each cycle

EMC & Safety

Emissions	• FCC20780 Level B, EN55022 Class B conducted
ESD Immunity	• EN61000-4-2, level 3, Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 3, Perf Criteria A
EFT/Burst	• EN61000-4-4, level 2, Perf Criteria A
Surge	• EN61000-4-5, level 3, Perf Criteria A
Conducted Immunity	• EN61000-4-6, 10 V, Perf Criteria A
Dips & interruptions	• EN61000-4-11, 30% 10 ms, 60% 1000 ms, 100% 5000 ms, Perf Criteria A, B, B
Safety Approvals	• EN60950-1, UL60950-1, CSA22.2 No. 60950-1, CE Mark LVD

Models and Ratings

CU20 **XP**

Output Power	Output Voltage ⁽³⁾	Output Current		Efficiency (typical)	Model Number
		Nominal	Peak ⁽²⁾		
15 W	3.3 VDC	4.40 A	6.60 A	70%	CU20-00†^
20 W	5.0 VDC	4.40 A	6.60 A	73%	CU20-10†^
	9.0 VDC	2.44 A	4.00 A	77%	CU20-09†
	12.0 VDC	1.80 A	2.70 A	80%	CU20-12†^
	15.0 VDC	1.40 A	2.10 A	80%	CU20-13†^
	24.0 VDC	0.92 A	1.40 A	82%	CU20-14†^

Notes

1. Measured at 20 MHz bandwidth. 3.3 V models are 50 mV maximum.

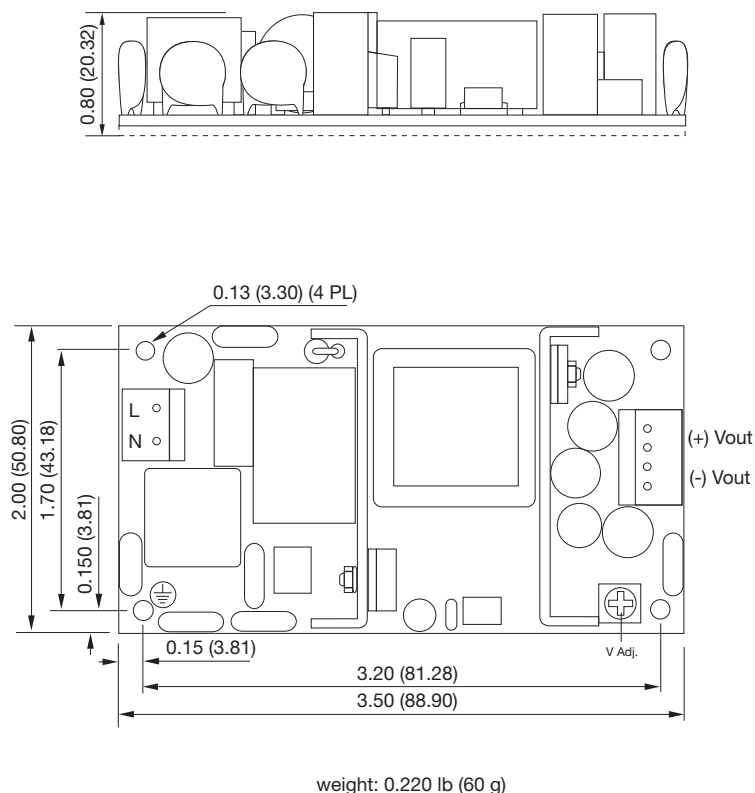
2. Peak load lasting <30 s with a maximum duty cycle of 10%.

3. Alternative output voltages available. Consult sales.

† Available from Farnell. See pages 204-206.

^ Available from Newark. See pages 207-208.

Mechanical Details



Notes

- All dimensions shown in inches (mm).
- CU20 input connector mates with Molex housing 09-50-3031 and Molex 2878 series crimp terminal. Output connector mates with Molex housing 90-50-3041 and Molex 2878 series crimp terminal.
- CU20 cable harnesses with 300mm wire available. Order part number CU20 LOOM KIT †.
- For mating connectors only, order part number CU20-60 CONKIT †.
- Covers available. Order part number CU20 COVER † - 4.02" x 2.52" x 1.34" (102 x 64 x 34mm). To receive unit with cover fitted, add suffix '-C' to model number.