

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	• 0.05%/°C
Coefficient	

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

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†^

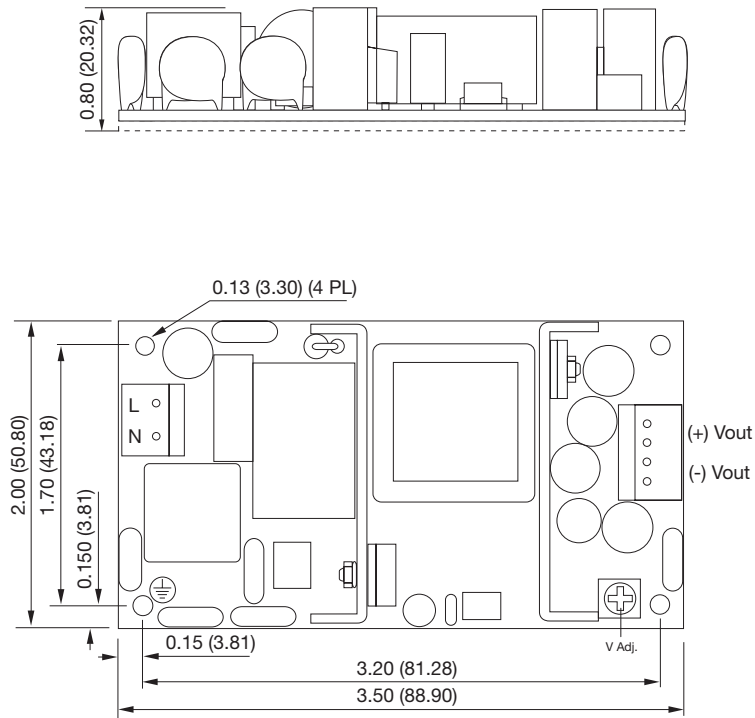
Notes

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



weight: 0.220 lb (60 g)

Notes

1. All dimensions shown in inches (mm).
2. 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.
3. CU20 cable harnesses with 300mm wire available. Order part number CU20 LOOM KIT †.
4. For mating connectors only, order part number CU20-60 CONKIT †.
5. 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.