10-15 Watts
CU10-15 Series

- Low Cost
- Small Size
- PCB Mount
- 15 Watt Medical Version
- Single Output 3.3–24 V
- Peak Load Capability
- Non-standard Outputs Available

**Specification**

### Input
- **Input Voltage**: 85-264 VAC (120-370 VDC)
- **Input Frequency**: 47-63 Hz
- **Input Current**: 0.13 A rms at 230 VAC (CU10), 0.20 A rms at 230 VAC (CU15)
- **Inrush Current**: 20 A at 115 VAC, 40 A at 230 VAC, cold start 25 °C
- **Earth Leakage Current**: Class 2 (no earth)
- **Input Protection**: 1A fuse (CU10), 2A fuse (CU15, CU15-M)

### Output
- **Output Voltage**: See table
- **Output Voltage Trim**: ±5%
- **Initial Set Accuracy**: ±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 and 115 VAC
- **Drift**: 0.6%
- **Line Regulation**: 0.5% max
- **Load Regulation**: 1.0% max 10% load to full load
- **Transient Response**: 4% max deviation, recovery to within 1% within 500 μs 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**: See tables
- **Isolation**: 3000 VAC Input to Output (CU10/15), 4000 VAC Input to Output (CU15-M)
- **Switching Frequency**: 100 kHz typical for 10 W models, 67 kHz typical for 15 W models
- **Power Density**: 2.43 W/in³ (CU10); 3.17 W/in³ (CU15)
- **MTBF**: >500 kHrs per MIL-HDBK-217F (15 & 24 V units >400 kHrs)

### Environmental
- **Operating Temperature**: CU10/15: 0 °C to +65 °C, derate from full load at +45 °C to no load at +65 °C, CU15-M: 0 °C to +70 °C, derate from full load at +50 °C to 50% load at +70 °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**: CU15-M: EN55011 Level B conducted, Others: 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**: CU15-M: EN60601, UL2601-1, CSA22.2 No. 601.1 per cUL, Others: EN60950, UL1950, CSA22.2 No. 234 per cUL
### Models and Ratings

<table>
<thead>
<tr>
<th>Output Power</th>
<th>Output Voltage(^{(3)})</th>
<th>Output Current</th>
<th>Efficiency (typical)</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nominal</td>
<td>Peak(^{(5)})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.25 W</td>
<td>3.3 VDC</td>
<td>2.50 A</td>
<td>3.80 A</td>
<td>65%</td>
</tr>
<tr>
<td></td>
<td>5.0 VDC</td>
<td>2.00 A</td>
<td>2.80 A</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td>9.0 VDC</td>
<td>1.12 A</td>
<td>1.50 A</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td>12.0 VDC</td>
<td>0.84 A</td>
<td>1.20 A</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>15.0 VDC</td>
<td>0.67 A</td>
<td>1.00 A</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>24.0 VDC</td>
<td>0.42 A</td>
<td>0.65 A</td>
<td>78%</td>
</tr>
<tr>
<td>10 W</td>
<td>3.3 VDC</td>
<td>3.00 A</td>
<td>4.50 A</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td>5.0 VDC</td>
<td>3.00 A</td>
<td>4.50 A</td>
<td>73%</td>
</tr>
<tr>
<td></td>
<td>9.0 VDC</td>
<td>1.67 A</td>
<td>3.00 A</td>
<td>75%</td>
</tr>
<tr>
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<td>1.25 A</td>
<td>1.80 A</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>15.0 VDC</td>
<td>1.00 A</td>
<td>1.50 A</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>24.0 VDC</td>
<td>0.63 A</td>
<td>0.95 A</td>
<td>82%</td>
</tr>
<tr>
<td>15 W</td>
<td>3.3 VDC</td>
<td>3.00 A</td>
<td>4.50 A</td>
<td>70%</td>
</tr>
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</table>

**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.
4. Medical approved 15 W version available. Add suffix ‘-M’ to part number.

### Mechanical Details

#### CU10 models

![CU10 models diagram]

**Notes**

1. All dimensions shown in inches (mm).
2. For mating connectors only, order part number CU20-60 CONKIT.