



Switching Power Supplies

1-Phase CPS Ultra Series



CPS2B1-240-24

Overview

The Compact Ultra series power supplies are approximately 50% smaller than standard industrial power supplies. These power supplies provide maximum efficiency to 93% in housings even smaller than the ECO line.

Features

- Compact footprint
- Aluminum housing
- 35mm DIN rail mount
- IP20 rated
- Power Boost - 150% for 5s
- 5 year warranty



| Switching Power Supplies 1-Phase | | | | | | | | |
|----------------------------------|----------|----------------|----------------|--------------|---------------|-------------|---|---------------------|
| Part Number | Price | Output Voltage | Output Current | Output Power | Input Voltage | Power Boost | Dimensions (W x H x D) | Drawing Link |
| CPS2B1-120-24 | \$155.00 | 24VDC | 5A | 120W | 120/240 VAC | 150% for 5s | 35 x 103 x 126mm [1.37 x 4.05 x 4.96 in] | PDF |
| CPS2B1-240-24 | \$210.00 | | 10A | 240W | | | 40 x 115 x 133mm [1.57 x 4.52 x 5.23 in] | PDF |
| CPS2B1-480-24 | \$335.00 | | 20A | 480W | | | 56 x 140 x 139mm [2.20 x 5.51 x 5.57 in] | PDF |

| 1-Phase Input Specifications | | | |
|------------------------------|----------------------------------|----------------------------------|-----------------------------------|
| Part Number | CPS2B1-120-24 | CPS2B1-240-24 | CPS2B1-480-24 |
| Operation Voltage Range | 90–264 VAC 110–345 VDC | | |
| Frequency Range | 47-63Hz | | |
| Rated Current | 1.4 A @ 120VAC 0.7 A @ 240VAC | 2.4 A @ 120VAC 1.2 A @ 240VAC | 4.8 A @ 120VAC 2.4 A @ 240 VAC |
| Inrush Current | ≤ 32A / 0.49 A²s | ≤ 34A / 0.66 A²s | ≤ 23A / 0.56 A²s |
| Power Factor Correction | > 0.90 enabled | | |
| Recommended Circuit Breaker | C-curve 4A | | C-curve 10A |

| 1-Phase Output Specifications | | | |
|---|--------------------------------------|--------------------------------------|--|
| Part Number | CPS2B1-120-24 | CPS2B1-240-24 | CPS2B1-480-24 |
| Overload Limit In Constant Current Mode | 7.5 A | 11A | 21A |
| Maximum Output Current | 7.5 A 5s @ Hiccup mode | 15A 5s @ Hiccup mode | 30A 5s @ Hiccup mode 21A CC mode |
| Power Dissipation | < 13.5 W | < 19W | < 36.5 W |
| Setting Range | 11.5-29 VDC | 22-29 VDC | 22-29 VDC |
| Load Regulation | ≤ 1% | ≤ 1% | < 1.5% |
| Ripple And Noise | 60mV pp | ≤ 260mV pp | < 150mV pp |
| Hold-Up Time | ≥ 20ms @ 120VAC ≥ 30ms @ 240VAC | ≥ 20ms @ 240VAC | > 25ms @ 240VAC |
| Parallel / Redundant Mode | Yes, via external decoupling diode | | |
| Efficiency (Typical) | > 90% @ 240VAC | > 93% @ 240VAC | > 93% @ 240VAC |
| Short-Circuit | Hiccup mode/ Current limit | Hiccup mode/ Constant current | Adjustable, Hiccup, Constant Current |
| MTBF | 500,000h @ 25°C ambient full load | 600,000h @ 25°C ambient full load | 600,000h @ 25°C ambient full load |

Power Supplies - Switching

CPS Series

| General Specifications | | | | |
|----------------------------|---|-------------------------|---|--|
| Series | ECO Series 1-Phase | Ultra Series 1-Phase | Universal Series - 1/2/3 Phase | 3-Phase Series |
| Overvoltage Protection | ≤ 33VDC | | | CPSB3-120-24 <32V CPSB3-240-24 <32V CPSB3-960-24 <33VDC |
| Overtemperature Protection | Yes | | | |
| Status Indicators | DC ON LED (green): ≥ 21.6 V DC LOW LED (red): ≤ 21.6 V | | CPSB-123-240-24 DC ON LED (green): ≥ 21.6 V DC LOW LED (red): ≥ 21.6 V CPSB-123-480-24 DC ON LED (green): ≥ 21.6 V DC LOW LED (red): $I_{out} > 1.1 I_n$ | CPSB3-120-24 CPSB3-240-24 DC OK LED (green) ON $U_{out} > 95\% U_{set}$ OFF $U_{out} > 90\% U_{se}$ CPSB3-960-24 DC ON LED (green): ≥ 21.6 V DC LOW LED (red): ≥ 21.6 V |
| Humidity | 5 to 95%, non-condensing | | | |
| Vibration | IEC 60068-2-6 | | | |
| Shock | IEC 60068-2-27 | | | |
| Protection Rating | IP20 | | | |
| Mounting | 35mm DIN rail (vertical) | | | |
| Housing Material | Aluminum (enclosed) | | | |
| Agency Approval | CE, UKCA, cULus E249179 | | | |

| Additional Data | | | | | | | |
|---------------------------------|-------------------|-------------------------------|-------------------------------|------------------|-------------------------------|-------------------------------|--------------------------------------|
| Part Number | Weight kg [lb] | Operating Temperature | Storage Temperature | Terminal Type | Solid Wire Size* | | Tightening Torque |
| | | | | | Output | Input | |
| CPSB1-120-24E | 0.45 [0.99] | -40 to 70°C [-40 to 158°F] | -40 to 80°C [-40 to 176°F] | Screw | 0.20 – 2.5 mm² [AWG 24-14] | 0.20 – 2.5 mm² [AWG 24-14] | 0.5 – 0.6 N•m [4.42 – 5.30 lb•ft] |
| CPSB1-240-24E | 0.75 [1.65] | | | | | | |
| CPSB1-480-24E | 1 [2.20] | | | | | | |
| CPS2B1-120-24 | 0.45 [0.99] | -35 to 70°C [-31 to 158°F] | -40 to 80°C [-40 to 176°F] | Screw | 0.20 – 2.5 mm² [AWG 24-14] | 0.20 – 2.5 mm² [AWG 24-14] | 0.5 – 0.6 N•m [4.42 – 5.30 lb•ft] |
| CPS2B1-240-24 | 0.75 [1.65] | | | | | | |
| CPS2B1-480-24 | 1.1 [2.42] | | | | | | |
| CPSB-123-240-24 | 0.65 [1.43] | -40 to 70°C [-40 to 158°F] | -40 to 80°C [-40 to 176°F] | Screw | 0.20 – 2.5 mm² [AWG 30-12] | 0.20 – 2.5 mm² [AWG 30-12] | 0.5 – 0.6 N•m [4.42 – 5.30 lb•ft] |
| CPSB-123-480-24 | 1 [2.20] | | | | 0.20 – 2.5 mm² [AWG 24-14] | 0.20 – 2.5 mm² [AWG 24-14] | |
| CPSB3-120-24 | 0.66 [1.45] | -25 to 70°C [-13 to 158°F] | -40 to 85°C [-40 to 185°F] | Push-in | 0.20 – 2.5 mm² | 0.20 – 2.5 mm² | – |
| CPSB3-240-24 | 0.78 [1.71] | | | | 0.20 – 2.5 mm² | 0.20 – 2.5 mm² | – |
| CPSB3-960-24 | 1.3 [2.86] | -40 to 70°C [-40 to 158°F] | -40 to 80°C [-40 to 176°F] | Screw | 0.20 – 10mm² [AWG 24-14] | 0.20 – 10mm² [AWG 24-14] | max. 62 N•m |

* For other types of wire please see the insert.