

POWER SUPPLY 1-PHASE WITH BUILT IN REDUNDANCY, 24 V DC DIMENSION C SERIES, GENERATION 2

CP10.241-R2
Redundant PSU, 100-240 V AC/24 V DC, 10 A Hot Swap

- Output current of 10 or 20 A
- Efficiency up to 95.2%
- 20% power reserves
- Built-in decoupling mosfet for 1+1 and n+1 redundancy
- Hot-Swap



PRODUCT DESCRIPTION

Click below link to download the white paper

[Efficient redundancy for power supplies](#)

Also visit our page for [Redundancy Modules](#)

The Dimension CP-Series are cost optimized power supplies without compromising quality, reliability and performance. The most outstanding features of the CP20.241-R1/-R2/-R3 units are the high efficiency, electronic inrush current limitation, active PFC, wide operational temperature range and the extraordinary small size. The units include a decoupling MOSFET for building 1+1 or n+1 redundant power supply systems.

These redundancy power supplies come with three connection terminal options; screw terminals, spring-clamp terminals or plug connector terminals which allows replacement on an active application.

CP20.242-R2 version feature an enhanced DC input voltage range and the CP20.241-R2-C1 is additionally equipped with conformal coated pc-boards.

CP10.242-R2 version feature an enhanced DC input voltage range.

With high immunity to transients and power surges, low electromagnetic emission, a DC-OK signal contact for remote monitoring, and a large international approval package, makes this unit suitable for nearly every application.

- AC 100-240V Wide-range Input
- Width only 39 or 48 mm
- Built-in Decoupling Mosfet for 1+1 and n+1 Redundancy
- Efficiency up to 94.7%
- 20% Output Power Reserves
- Safe HiccupPLUS Overload Mode
- Easy Fuse Breaking – 3 times nominal current for 12ms
- Active Power Factor Correction (PFC)
- Minimal Inrush Current Surge
- DC-OK Relay Contact
- Current Sharing Feature Included
- 3 Year Warranty

TECHNICAL DATA

INPUT DATA

| | |
|----------------------|-----------|
| Input voltage ac | 100-240 V |
| Input voltage ac min | 85 V AC |

| | |
|--|------------|
| Input voltage ac max | 264 V AC |
| Input voltage dc | 110-150 V |
| Input voltage dc min | 88 V DC |
| Input voltage dc max | 180 V DC |
| Inrush current at 120 V ac typical | 6 A |
| Inrush current at 230 V ac typical | 9 A |
| Input voltage range | Wide-range |
| Power factor at 120 V ac, full load. Typical | 0.99 |
| Power factor at 230 V ac, full load. Typical | 0.97 |
| Number of phases | 1 |

OUTPUT DATA

| | |
|--------------------|---------|
| Output voltage | 24 V DC |
| Output voltage min | 24 V DC |
| Output voltage max | 28 V DC |
| Output current | 10 A |
| Power | 240 W |

EFFICIENCY / LIFETIME / MTBF

| | |
|---|----------|
| Efficiency at 120 V ac, full load, typical | 93 % |
| Efficiency at 230 V ac, typical | 93.9 % |
| Efficiency at 230 V ac, full load, typical | 94.7 % |
| Lifetime at 120 V ac, full load and +40 ° C | 78000 h |
| Lifetime at 230 V ac, full load and +40 ° C | 109000 h |
| MTBF (IEC 61709) 230 V ac, max load, 40 ° C | 641000 h |

DIMENSIONS

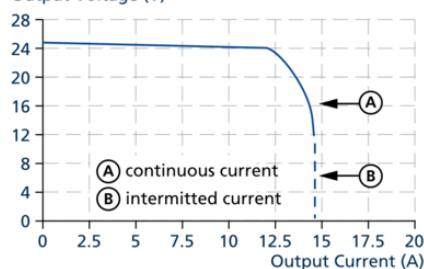
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|--------|--------|
| Width | 39 mm |
| Height | 124 mm |
| Depth | 117 mm |
| Weight | 0.6 kg |

OTHER

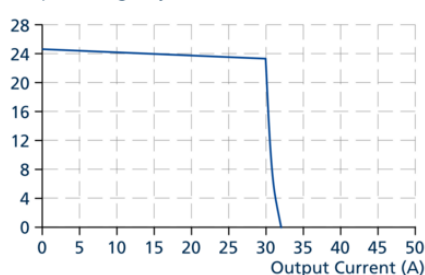
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|--|--------------------------------|
| Approvals | ATEX, CE, CSA US, cULus, IECEx |
| Hold time at 120 V ac, typical full load | 37 ms |
| Hold time at 230 V ac, typical full load | 37 ms |
| IP class | IP20 |

| | |
|----------------------------------|-----------------|
| Clamp type | Hot-swap |
| Material protection | Aluminium |
| Supply frequency | 50-60 ± 6 % |
| Ripple max | 50 mV pp |
| Series | Dimension C |
| Power consumption 120 V ac | 2.17 A |
| Power consumption 230 V ac | 1.14 A |
| Power drop from +60 °C to +70 °C | 6 W/°C |
| Temperature min without derating | -25 °C |
| Temperature max without derating | 60 °C |
| Type Power Supply | Redundant |
| Active Transient | Yes |
| DC relay output | Yes |

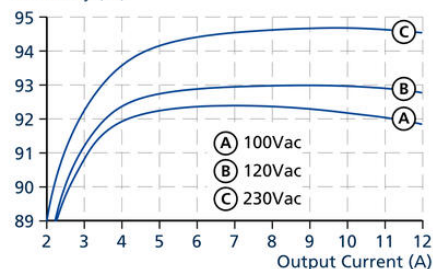
Output Voltage (V)



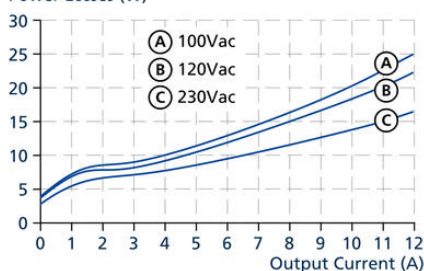
Output Voltage (dynamic behavior, <12ms) (V)



Efficiency (%)



Power Losses (W)

Maximal wire length^{*)} for a fast (magnetic) tripping:

| | 0.75mm ² | 1.0mm ² | 1.5mm ² | 2.5mm ² |
|-------|---------------------|--------------------|--------------------|--------------------|
| C-2A | 30 m | 37 m | 54 m | 84 m |
| C-3A | 25 m | 30 m | 46 m | 69 m |
| C-4A | 9 m | 15 m | 25 m | 34 m |
| C-6A | 3 m | 3 m | 4 m | 7 m |
| C-8A | | | | |
| B-6A | 12 m | 15 m | 21 m | 34 m |
| B-10A | 3 m | 3 m | 4 m | 9 m |
| B-13A | 2 m | 2 m | 3 m | 6 m |

*) Don't forget to consider twice the distance to the load (or cable length) when calculating the total wire length (+ and - wire).

