

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

CP10.241-R1

Redundant PSU 100-240 V AC/24 V DC, 10 A

- 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
- fWidth only 39 or 48 mm f
- Built-in Decoupling Mosfet for 1+1 and n+1 Redundancy
- Efficiency up to 94.7% f
- 20% Output Power Reserves f
- Safe HiccupPLUS Overload Mode
- Easy Fuse Breaking – 3 times nominal current for 12ms f
- Active Power Factor Correction (PFC)
- fMinimal Inrush Current Surge f
- DC-OK Relay Contact f
- 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

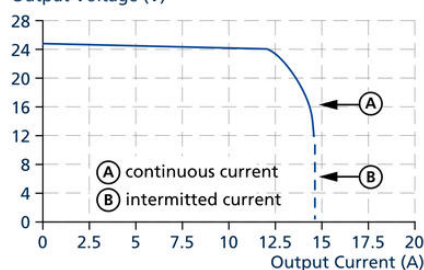
Width	39 mm
Height	124 mm
Depth	117 mm
Weight	0,6 kg

OTHER

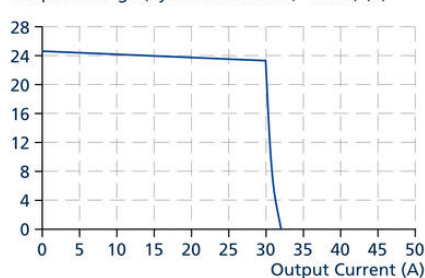
Approvals	ATEX, CE, CSA US, cULus, IECEx
Hold time at 120 V ac, typical full load	37 ms
Hold time at 230 V ac, typical full load	37 ms
IP class	IP20

Clamp type	Spring-clamp
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
DC relay output	Yes
Active Transient	Yes

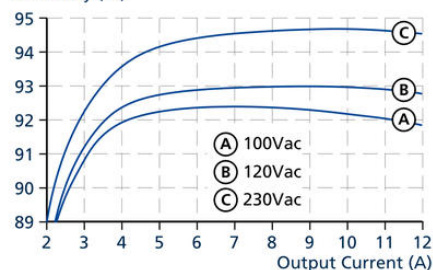
Output Voltage (V)



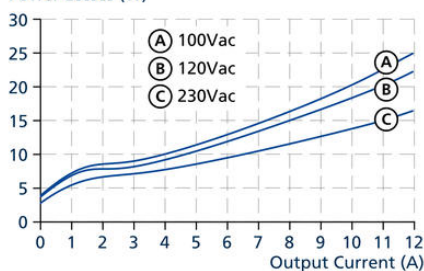
Output Voltage (dynamic behavior, <12ms) (V)



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).

