

## POWER SUPPLY 1-PHASE, 12 V DC DIMENSION C SERIES

CPS20.121  
PSU 100-240V ac I/P 12V dc 30A 405W O/P

- Output current 30 A
- Up to 92.5% efficiency
- 65 mm wide
- Active PFC
- Hiccup Plus



### PRODUCT DESCRIPTION

Puls Dimension C-series stands for cost optimization without compromising quality, reliability or performance. CPS20.121 high efficiency over a wide load range, which results in reduced power consumption and longer life regardless of load current. An average efficiency is 91.6% with a peak value of 92.6%. In addition, power losses very low at idle, only 3 W at 230 V ac.

**Short-circuit currents.** CPS20 can leave short-circuit currents which is 4 times the nominal current for 15 ms, which helps secondary fuses and achieve selectivity.

#### Hiccup<sup>Plus</sup>.

With new pulse short circuit protection you get optimum protection. The unit leaves a very high short circuit that solves fuses and provides sufficient starting current for example DC motors. If the output voltage falls below 6 V dc is 2x the rated power is left for 2 seconds, then close the unit by the end to make a new restart attempts after about 18 seconds. This feature ensures a high short-circuit/overload current while avoiding a constant high current that can lead to heat and component damage.

**Technical advantages.** CPS20 has active power factor correction (PFC) and actively current inrush protection that effectively reduces start currents which are ideal if several units are connected in the same phase or if the supply is current limited through example. AC UPS. The protection is always active, regardless of the temperature. DC-OK output, wide temperature range, a large number of approvals and transient filter which ensures operation in interference prone electrical environment makes the unit suitable for virtually all installations.

For a good cooling, we recommend a clearance of 40 mm over 20 mm below and 5 mm on the sides. (15 mm on the sides of adjacent product is a heat source, such as another power supply.)

Stripping sec. fuses				
	0,75 mm <sup>2</sup>	1,0 mm <sup>2</sup>	1,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>
C-3A	9 m	12 m	18 m	26 m
C-4A	7 m	10 m	14 m	22 m
C-6A	4 m	6 m	10 m	14 m
C-8A	3 m	5 m	8 m	12 m
C-10A	3 m	4 m	7 m	10 m
B-6A	8 m	11 m	14 m	24 m
B-10A	5 m	7 m	10 m	17 m
B-13A	4 m	6 m	9 m	14 m
B-16A	3 m	5 m	7 m	11 m

## TECHNICAL DATA

### INPUT DATA

Input voltage ac	100-240 V
Input voltage ac min	85 V AC
Input voltage ac max	264 V AC
Inrush current at 120 V ac typical	9 A
Inrush current at 230 V ac typical	7 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	0.95
Number of phases	1

### OUTPUT DATA

Output voltage	12 V DC
Output voltage min	12 V DC
Output voltage max	15 V DC
Output current	30 A
Power	360 W

### EFFICIENCY / LIFETIME / MTBF

Efficiency at 120 V ac, full load, typical	91.4 %
Efficiency at 230 V ac, typical	91.6 %
Efficiency at 230 V ac, full load, typical	92.6 %
Lifetime at 120 V ac, full load and +40 ° C	50000 h
Lifetime at 230 V ac, full load and +40 ° C	54000 h
MTBF (IEC 61709) 230 V ac, max load, 40 ° C	554000 h

## DIMENSIONS

Width	65 mm
Height	124 mm
Depth	127 mm
Weight	1 kg

## OTHER

Approvals	ABS, ATEX, CB, CE, CSA US, cRUus, cULus, GL, IECEx
Hold time at 120 V ac, typical full load	35 ms
Hold time at 230 V ac, typical full load	35 ms
IP class	IP20
Clamp type	Screw
Material protection	Aluminium
Supply frequency	50-60 ±6 %
Ripple max	100 mV pp
Series	Dimension C
Power consumption 120 V ac	3.3 A
Power consumption 230 V ac	1.8 A
Power drop from +60 °C to + 70 °C	0.75 W/°C
Temperature min without derating	-25 °C
Temperature max without derating	60 °C

Type Power Supply	AC-DC
Active Transient	Yes
DC relay output	Yes

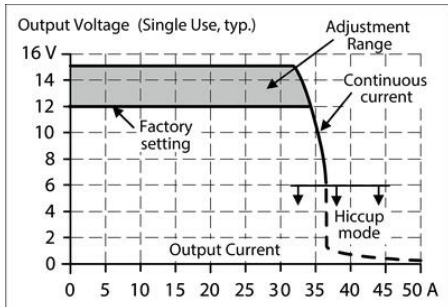
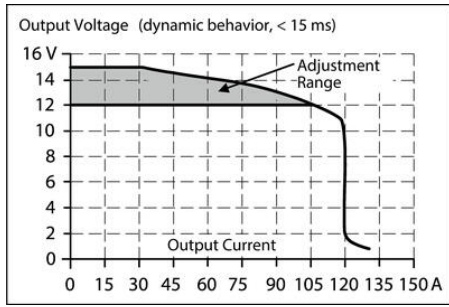
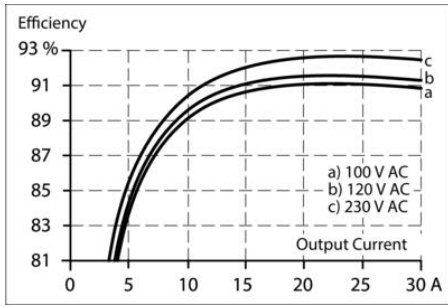


Fig. 15-1 Output current vs. ambient temp.

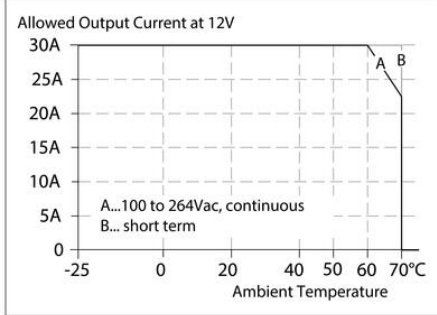
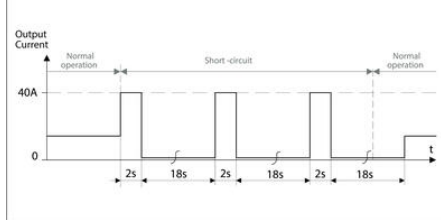


Fig. 6-3 Short-circuit on output, Hiccup<sup>PLUS</sup> mode, typ.



Maximal wire length<sup>\*)</sup> for a fast (magnetic) tripping:

	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>
C-3A	9m	12m	18m	26m
C-4A	7m	10m	14m	22m
C-6A	4m	6m	10m	14m
C-8A	3m	5m	8m	12m
C-10A	3m	4m	7m	10m
B-6A	8m	11m	14m	24m
B-10A	5m	7m	10m	17m
B-13A	4m	6m	9m	14m
B-16A	3m	5m	7m	11m

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

Fig. 9-2 Losses vs. output current at 12V, typ.

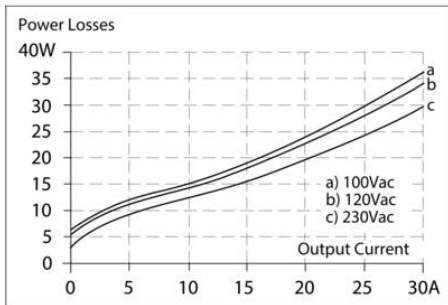


Fig. 13-1 Front side

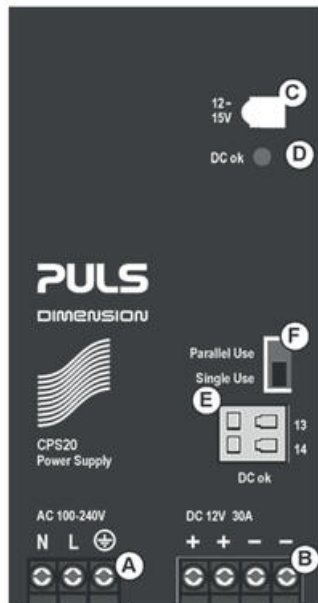


Fig. 20-1 Front view

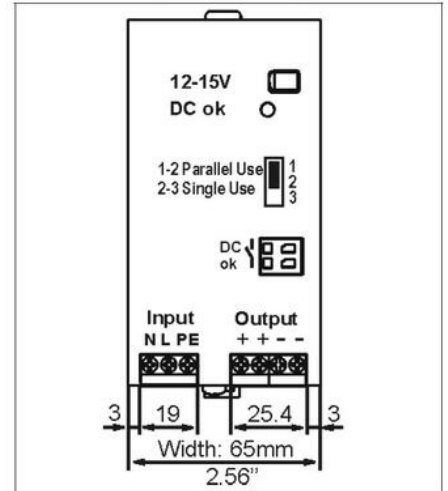
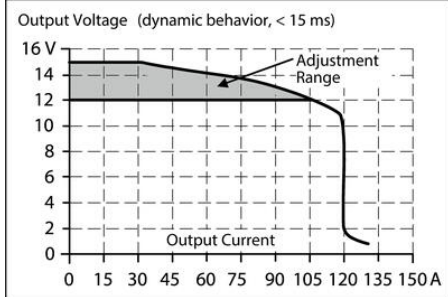
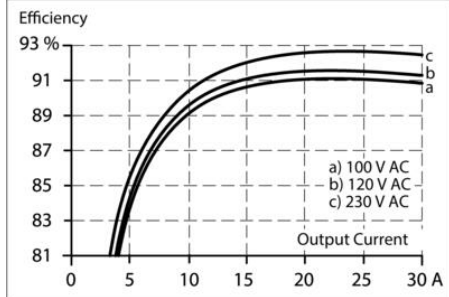
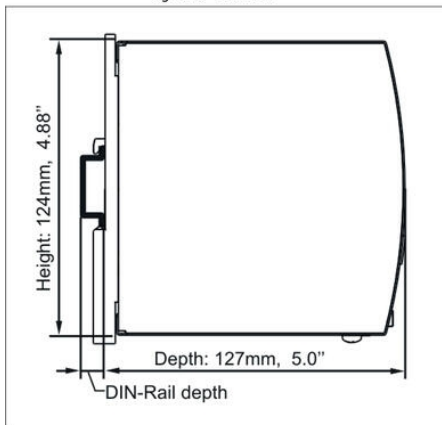


Fig. 20-2 Side view



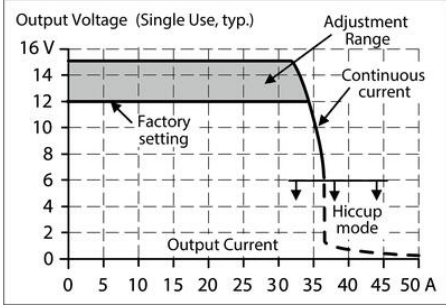


Fig. 15-1 Output current vs. ambient temp.

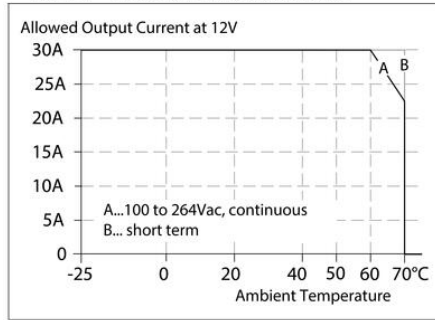
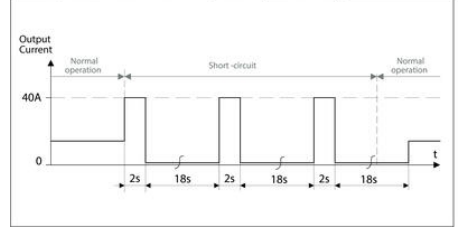


Fig. 6-3 Short-circuit on output, Hiccup<sup>PLUS</sup> mode, typ.



Maximal wire length<sup>\*)</sup> for a fast (magnetic) tripping:

	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>
C-3A	9m	12m	18m	26m
C-4A	7m	10m	14m	22m
C-6A	4m	6m	10m	14m
C-8A	3m	5m	8m	12m
C-10A	3m	4m	7m	10m
B-6A	8m	11m	14m	24m
B-10A	5m	7m	10m	17m
B-13A	4m	6m	9m	14m
B-16A	3m	5m	7m	11m

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

Fig. 9-2 Losses vs. output current at 12V, typ.

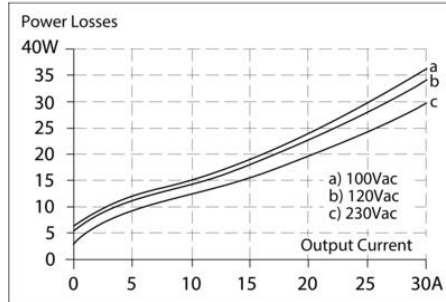


Fig. 13-1 Front side



Fig. 20-1 Front view

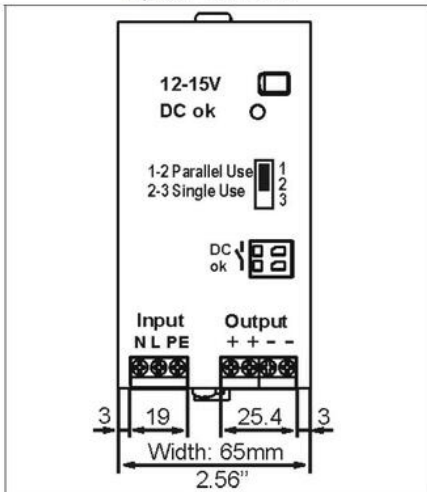


Fig. 20-2 Side view

