# 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 $^{Plus}$.
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.

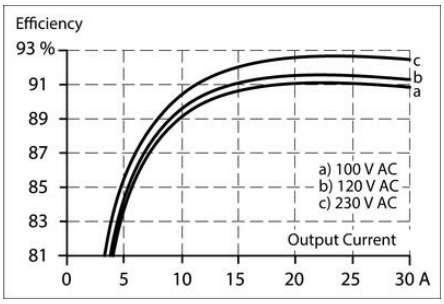
For a good cooling, we recommend a clearance of 40 mm over 20 mm below and 5 mm on the sides. (15 mm on the sides of adjacent product is a heat source, such as another power supply.)

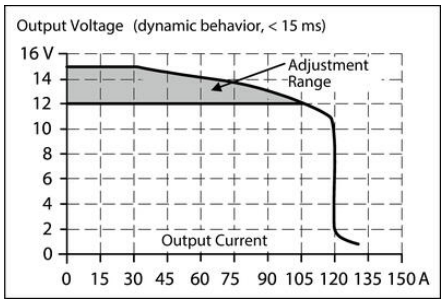
| Stripping sec. fuses | | | | |
|---|---|---|---|---|
| | 0,75 $mm^2$ | 1,0 $mm^2$ | 1,5 $mm^2$ | 2,5 $mm^2$ |
| C-3A | 9 m | 12 m | 18 m | 26 m |
| C-4A | 7 m | 10 m | 14 m | 22 m |
| C-6A | 4 m | 6 m | 10 m | 14 m |
| C-8A | 3 m | 5 m | 8 m | 12 m |
| C-10A | 3 m | 4 m | 7 m | 10 m |
| B-6A | 8 m | 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 |

Specifications

| | |
|---|---|
| **Active Transient** | Yes |
| **Approvals** | ABS, ATEX, CB, CE, CSA US, cRUus, cULus, GL, IECEx |
| **Clamp type** | Screw |
| **DC relay output** | Yes |
| **Depth** | 127 |
| **Effect** | 360 |
| **Efficiency At 120 V AC, full load. Typical** | 91.4 |
| **Efficiency At 230 V AC, full load. Typical** | 92.6 |
| **Efficiency At 230 V AC. Typical** | 91.6 |
| **Height** | 124 |
| **Hold-up time at 120 V AC, full load. Typical.** | 35 |
| **Hold-up time at 230 V AC, full load. Typical.** | 35 |
| **Input current at 230 V ac typical** | 7 |
| **Input voltage AC** | 100-240 V |
| **Input voltage ac max** | 264 |
| **Input voltage ac min** | 85 |
| **Input voltage range** | Wide-range |
| **Inrush current at 120 V ac typical** | 9 |

| | |
|---|---|
| **IP Class** | IP20 |
| **Lifetime at 120 V ac, full load and +40 ° C** | 50000 |
| **Lifetime at 230 V ac, full load and +40 ° C** | 54000 |
| **Material Protection** | Aluminium |
| **MTBF (IEC 61709) 230 V AC, Maximum Load, 40 ° C** | 554000 |
| **Number of phases** | 1 |
| **Output Current** | 30 |
| **Output voltage** | 12 |
| **Output voltage max** | 15 |
| **Output voltage min** | 12 |
| **Power Consumption At 120 V AC** | 3.3 |
| **Power Consumption At 230 V AC** | 1.8 |
| **Power Factor at 120 V AC, full load. Typical** | 0.99 |
| **Power Factor at 230 V AC, full load. Typical** | 0.95 |
| **Power Reduction Of 60 To 70 ° C** | 0.75 |
| **Ripple. max** | 100 |
| **Series** | Dimension C |
| **Supply Frequency** | 50-60 ±6 % |
| **Temperature Range Without Derating From** | -25 |
| **Temperature Range Without Derating To** | 60 |
| **Type Power Supply** | AC-DC |
| **Weight** | 1 |
| **Width** | 65 |



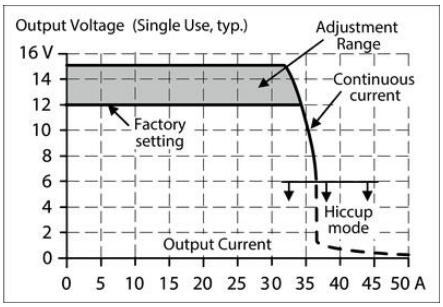



Fig. 15-1 Output current vs. ambient temp.

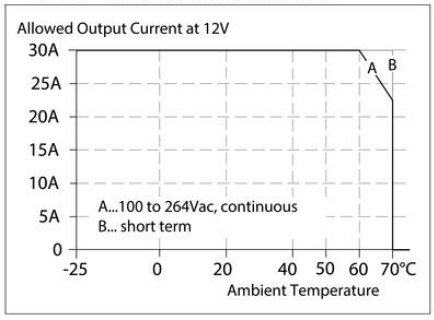
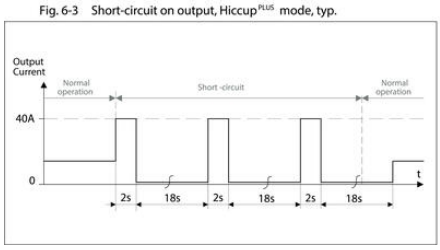



Fig. 6-3 Short-circuit on output, Hiccup$^{PLUS}$ mode, typ.




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

| | 0.75mm² | 1.0mm² | 1.5mm² | 2.5mm² |
|---|---|---|---|---|
| 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.

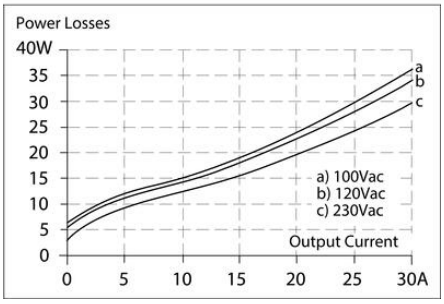



Fig. 13-1 Front side

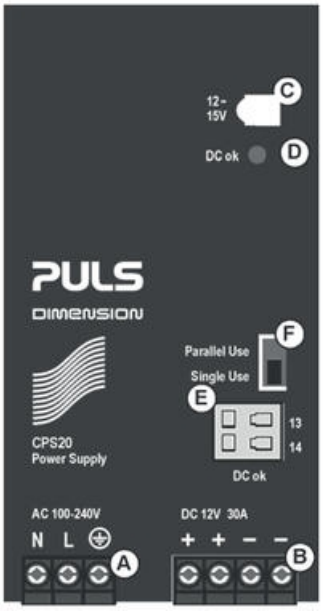



Fig. 20-1 **Front view**

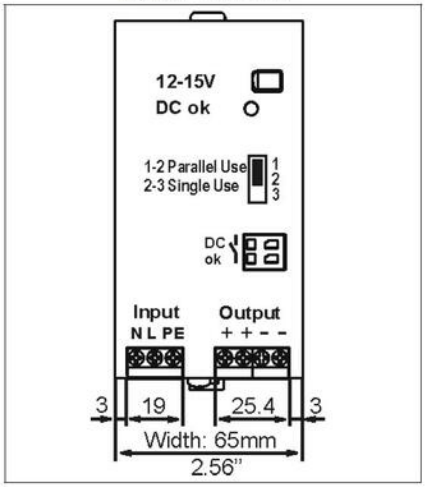
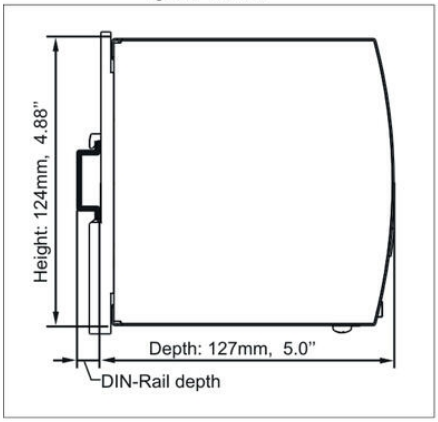
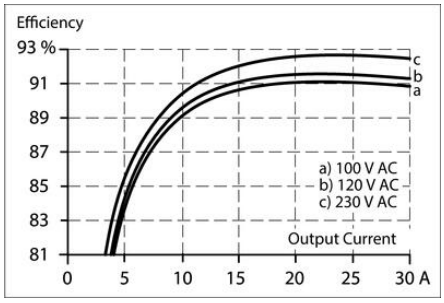
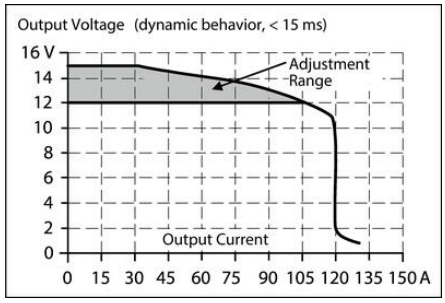



Fig. 20-2 Side view



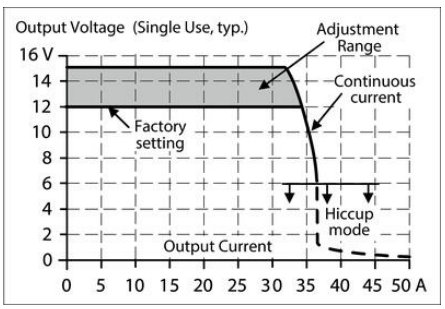




Fig. 15-1 Output current vs. ambient temp.

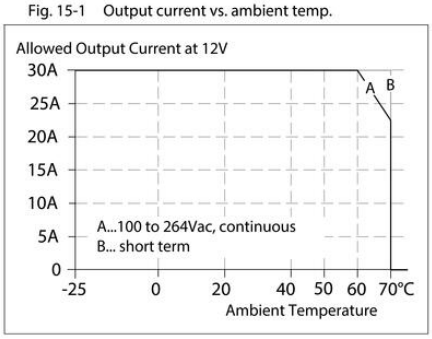



Fig. 6-3 Short-circuit on output, Hiccup$^{PLUS}$ mode, typ.

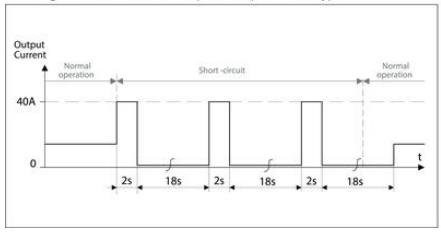


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Fig. 9-2 Losses vs. output current at 12V, typ.

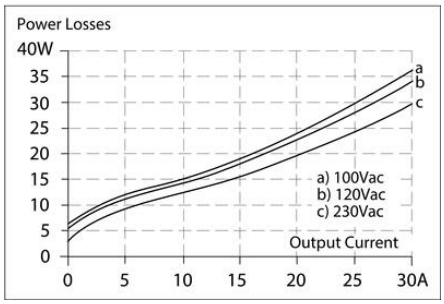


Fig. 13-1 Front side

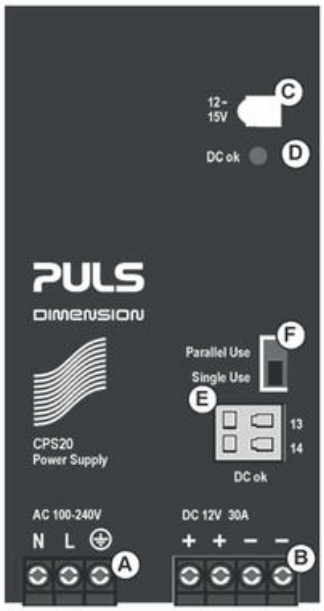


Fig. 20-1 **Front view**

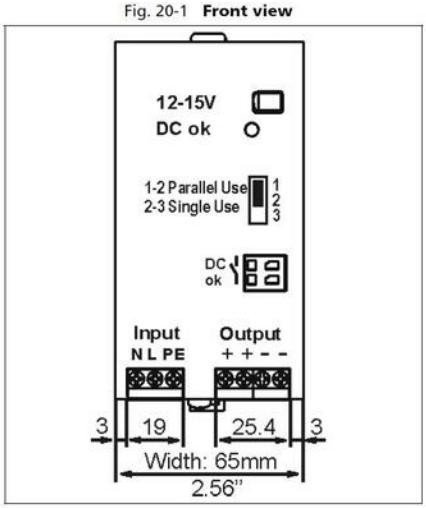


Fig. 20-2 Side view