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POWER SUPPLY 1-PHASE, 24 V DC DIMENSION C SERIES, GENERATION 2, 20A

CP20.241
PSU 100-240V ac I/P 24V dc 20A 480W O/P



- Output current 20 A
- Efficiency up to 95.6%
- Only 48 mm wide
- 20 % output power reserves

PRODUCT DESCRIPTION

The Dimension CP-Series are cost optimized power supplies without compromising quality, reliability and performance. The most outstanding features of the CP20 series are the high efficiency, electronic inrush current limitation, active PFC, wide operational temperature range and the extraordinary small size.
The CP20.241-C1 is equipped with conformal coated pc-boards preferred for applications in harsh areas.
The CP20.241-S1 is equipped with quick-connect spring-clamp terminals preferred for applications which are exposed to mechanical vibration. The CP20.241-S2 has push-in terminals optimized for easy cabinet wiring.
The CP20.241-V1 is equipped with a remote ON/OFF feature and the CP20.242 features an enhanced DC input voltage range.
The devices have a power reserve of 20% included, which may even be used continuously up to +45°C.
High immunity to transients and power surges as well as low electromagnetic emission, a DC-OK relay contact and a large international approval package makes this unit suitable for nearly every situation.

- AC 100-240V Wide-range Input
- Width only 48mm
- Efficiency up to 95.6%
- Excellent Partial Load Efficiency
- 20% Output Power Reserves
- Easy Fuse Breaking – 3 times nominal current for 12ms
- Safe HiccupPLUS Overload Mode
- Active Power Factor Correction (PFC)
- Minimal Inrush Current Surge
- Full Power Between -25°C and +60°C
- DC-OK Relay Contact
- Current Sharing Feature for Parallel Use
- 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	10 A
Inrush current at 230 V ac typical	4.5 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	0.98
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	20 A
Power	480 W

EFFICIENCY / LIFETIME / MTBF

Efficiency at 120 V ac, full load, typical	94.2 %
Efficiency at 230 V ac, typical	95 %
Efficiency at 230 V ac, full load, typical	95.6 %
Lifetime at 120 V ac, full load and +40 ° C	60000 h
Lifetime at 230 V ac, full load and +40 ° C	94000 h
MTBF (IEC 61709) 230 V ac, max load, 40 ° C	590000 h

DIMENSIONS

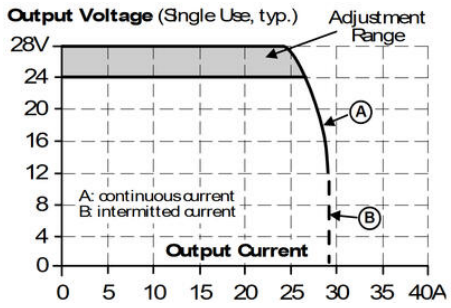
Width	48 mm
Height	124 mm
Depth	127 mm
Weight	0.83 kg

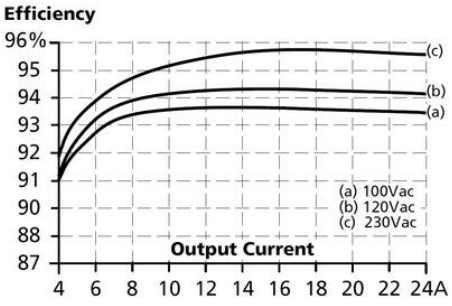
OTHER

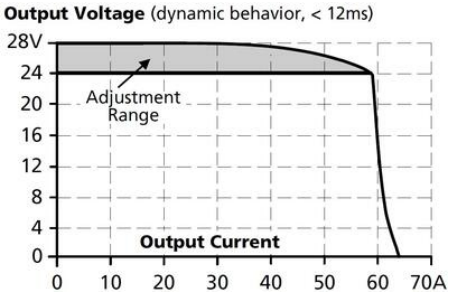
Approvals	ATEX, CB, CE, CSA US, cULus, IECEx
Hold time at 120 V ac, typical full load	32 ms
Hold time at 230 V ac, typical full load	32 ms
IP class	IP20
Clamp type	Screw

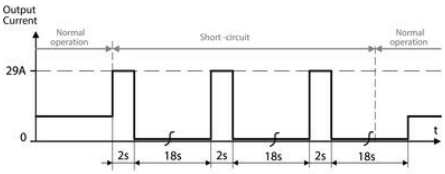
Material protection	Aluminium
Supply frequency	50-60 ±6 %
Ripple max	50 mV pp
Series	Dimension C
Power consumption 120 V ac	4.26 A
Power consumption 230 V ac	2.23 A
Power drop from +60 °C to + 70 °C	12 W/°C
Temperature min without derating	-25 °C
Temperature max without derating	60 °C

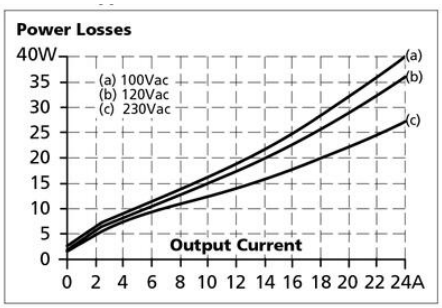
Type Power Supply	AC-DC
Active Transient	Yes
DC relay output	Yes



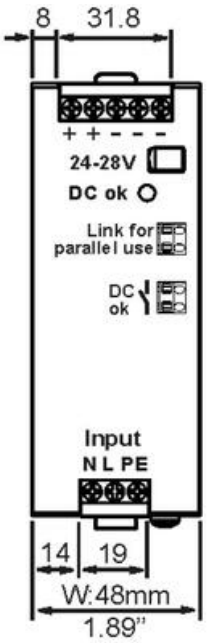


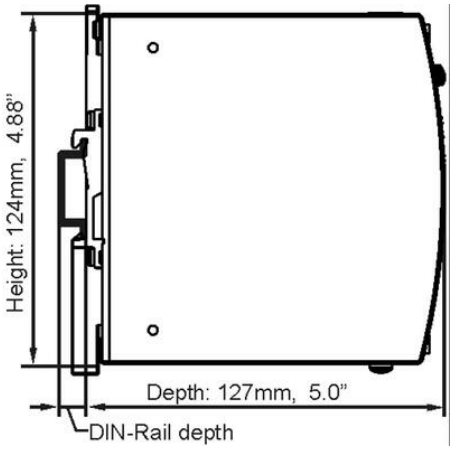


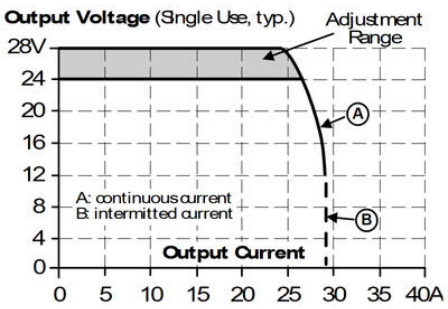


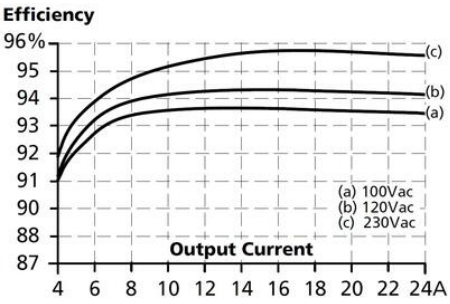


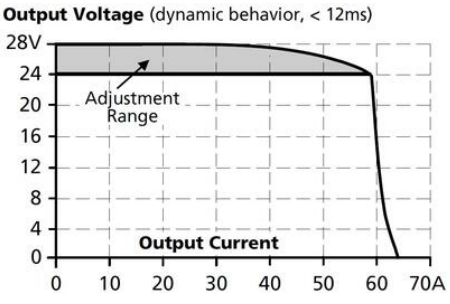


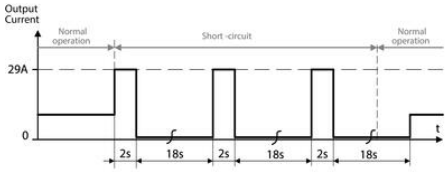

8
31.8
+ + - - -
24-28V
DC ok
Link for parallel use
DC ok
Input
N L PE
14
19
W:48mm
1.89"

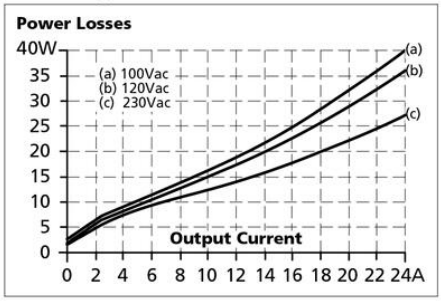

Height: 124mm, 4.88"
Depth: 127mm, 5.0"
DIN-Rail depth


Output Voltage (Single Use, typ.)
Adjustment Range
28V
24
20
16
12
8
4
0
A
B
A: continuous current
B: intermitted current
Output Current
0 5 10 15 20 25 30 35 40A


Efficiency
96%
95
94
93
92
91
90
88
87
(c)
(b)
(a)
(a) 100Vac
(b) 120Vac
(c) 230Vac
Output Current
4 6 8 10 12 14 16 18 20 22 24A


Output Voltage (dynamic behavior, < 12ms)
28V
24
20
16
12
8
4
0
Adjustment Range
Output Current
0 10 20 30 40 50 60 70A


Output Current
Normal operation
Short -circuit
Normal operation
29A
0
t
2s
18s
2s
18s
2s
18s


Power Losses
40W
35
30
25
20
15
10
5
0
(a) 100Vac
(b) 120Vac
(c) 230Vac
(a)
(b)
(c)
Output Current
0 2 4 6 8 10 12 14 16 18 20 22 24A