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

CP5.241
PSU 100-240V ac I/P 24V dc 5A 120W O/P



- Output current 5 A
- Efficiency up to 94.3%
- 20% power reserve
- Only 32mm wide

PRODUCT DESCRIPTION

The Dimension CP-Series are cost optimized power supplies without compromising quality, reliability and performance. The CP-Series is part of the DIMENSION power supply family.
The CP5.241 power supplies come with three connection terminal options: screw, spring-clamp or push-in terminals, which are optimized for automated wiring. The CP5.241-C1 is equipped with conformal coated pc-boards preferred for the use in harsh environments and the CP5.242 features an enhanced DC input voltage range.
The most outstanding features of these units are the small size, the high efficiency, the electronic inrush current limitation, active PFC and the wide operational temperature range. The devices have a power reserve of 20% included, which may even be used continuously at temperatures up to +45°C. Additionally, they can deliver 3 times the nominal output current for 12ms which helps to trip fuses on faulty output branches.
High immunity to transients and power surges as well as low electromagnetic emission, a DC-OK signal contact for remote monitoring, and a large international approval package for a variety of applications makes this unit suitable for nearly every situation.

- AC 100-240V Wide-range Input
- Widthonly 32mm
- Efficiencyup to 94.3%
- ExcellentPartial Load Efficiency
- 20%Output Power Reserves
- EasyFuse Breaking – 3 times nominal current for 12ms
- SafeHiccupPLUS Overload Mode
- ActivePower Factor Correction (PFC)
- MinimalInrush Current Surge
- Full Power Between -25°C and +60°C
- DC-OKRelay Contact
- 3Year Warranty

SPECIFICATIONS

Input voltage range	Wide-range
Number of phases	1
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	5 A
Input current at 230 V ac typical	6 A
Power Factor at 120 V AC, full load. Typical	0.98
Power Factor at 230 V AC, full load. Typical	0.91
Supply Frequency	50-60 ±6 %
Power Consumption At 120 V AC	1.09 A
Power Consumption At 230 V AC	0.6 A
Type Power Supply	AC-DC

Output voltage	24 V DC
Output voltage min	24 V DC
Output voltage max	28 V DC
Output Current	5 A
Effect	120 W
Power Reduction Of 60 To 70 ° C	3 W/°C
Ripple. max	50 mV pp
Temperature Range Without Derating From	-25 °C
Temperature Range Without Derating To	60 °C

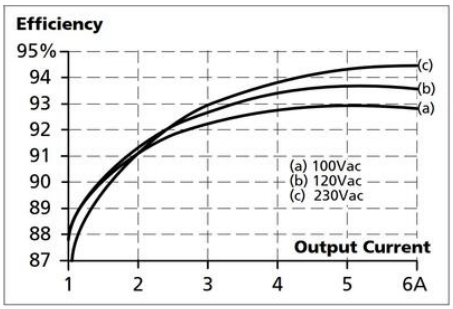
Efficiency At 120 V AC, full load. Typical	93.6 %
Efficiency At 230 V AC. Typical	92 %
Efficiency At 230 V AC, full load. Typical	94.3 %
Lifetime at 120 V ac, full load and +40 ° C	143000 h
Lifetime at 230 V ac, full load and +40 ° C	166000 h
MTBF (IEC 61709) 230 V AC, Maximum Load, 40 ° C	876000 h

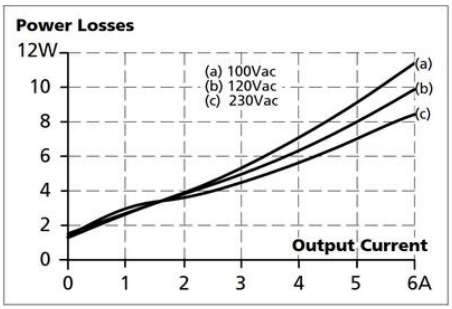
Width	32 mm
Height	124 mm
Depth	102 mm
Weight	0.44 kg

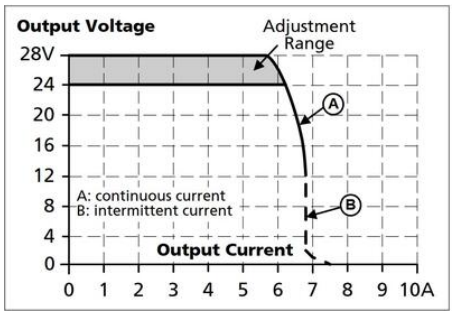
Clamp type	Screw

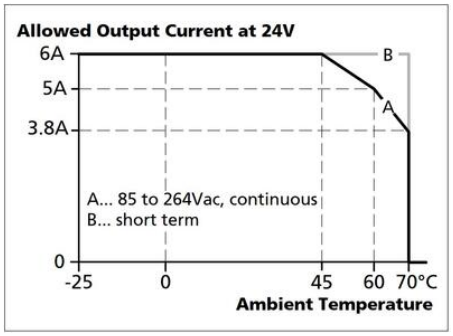
Series	Dimension C
Approvals	ATEX, CE, cULus, IECEx, IEC 62368-1:2018
DC relay output	Yes
Material Protection	Aluminium
Hold-up time at 120 V AC, full load. Typical.	35 ms
Hold-up time at 230 V AC, full load. Typical.	35 ms
IP Class	IP20
Active Transient	Yes

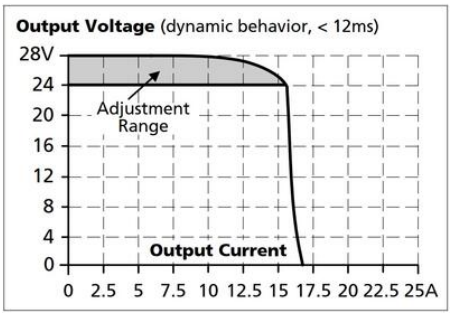
Conformal coated	No

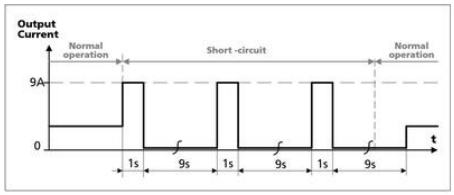




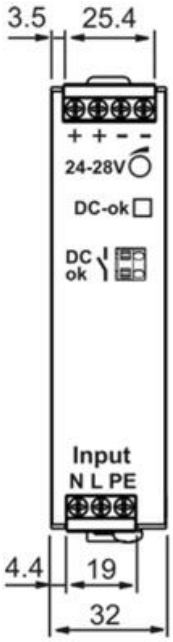


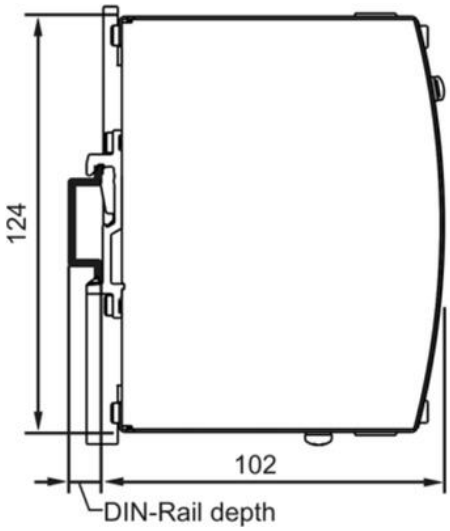


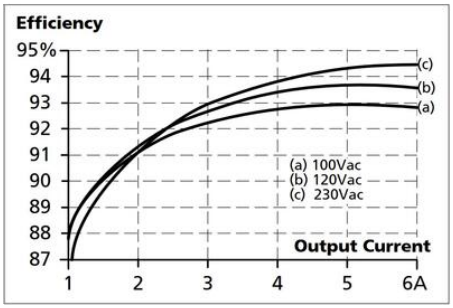


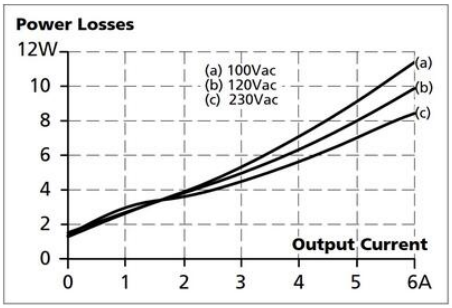


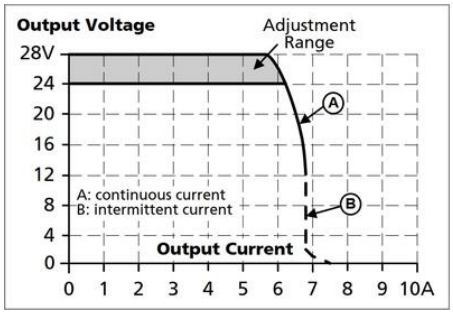

B
+ + − −
DC 24V 5A
24 - 28V
C
DC ok
D
13
14
E
PULS
DIMENSION
CP5.241
Power Supply
AC 100-240V
N L
A

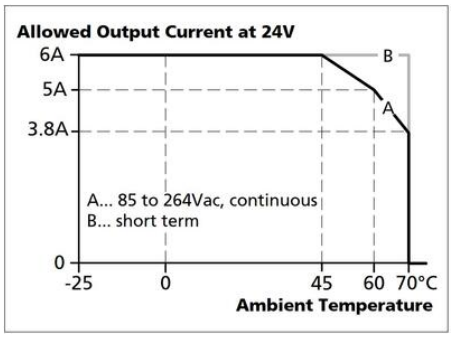

3.5
25.4
+ + − −
24-28V
DC-ok
DC ok
Input
N L PE
4.4
19
32

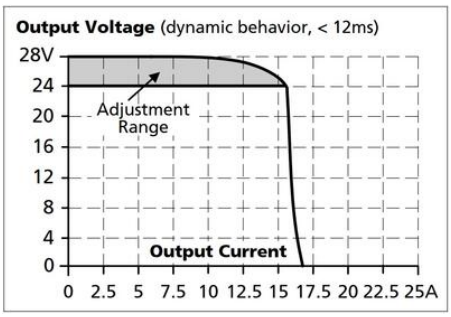

124
102
DIN-Rail depth

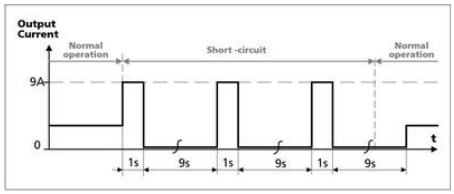

Efficiency
95%
94
93
92
91
90
89
88
87
(c)
(b)
(a)
(a) 100Vac
(b) 120Vac
(c) 230Vac
Output Current
1 2 3 4 5 6A


Power Losses
12W
10
8
6
4
2
0
(a) 100Vac
(b) 120Vac
(c) 230Vac
(a)
(b)
(c)
Output Current
0 1 2 3 4 5 6A


Output Voltage
Adjustment Range
28V
24
20
16
12
8
4
0
A
B
A: continuous current
B: intermittent current
Output Current
0 1 2 3 4 5 6 7 8 9 10A


Allowed Output Current at 24V
6A
5A
3.8A
0
B
A
A... 85 to 264Vac, continuous
B... short term
-25 0 45 60 70°C
Ambient Temperature


Output Voltage (dynamic behavior, < 12ms)
28V
24
20
16
12
8
4
0
Adjustment Range
Output Current
0 2.5 5 7.5 10 12.5 15 17.5 20 22.5 25A


Output Current
Normal operation
Short -circuit
Normal operation
9A
0
1s
9s
1s
9s
1s
9s
t