POWER SUPPLY 1-PHASE, 24 V DC PIANO SERIES

PIC120.241D
Powersupply 100-120/200-240VAC 24VDC/5A

- Output current of 5 A
- Up to 90.5% efficiency
- Only 39 mm wide
- Very affordable
- DC OK relay output

PRODUCT DESCRIPTION

Pulse Piano Series is very compact unit that meets the essential industrial demands of today's applications. With the excellent relationship between price and performance gives Piano Series new opportunities without compromising on quality or reliability.

Life expectancy is remarkably high compared to similar products on the market. The long lifetime is achieved through the efficient and sophisticated thermal design, but also through the sole use of detailed quality components. The unit has a MTBF values over 1.7 million hours and a service life of 47,000 hours at 40 ° C.

The powerful house of molded polycarbonate with a clever circuit design and low weight gives great advantages in shock- and vibration-rich environments. In addition, the units very little space in the cabinet and gives a stylish impression.

PIC120.241C the DC-OK relay outputs for status indication of 24 V DC.

Many industrial applications require no more clamping alternative, the reduction of the input voltage is only 230 V AC circuits simplifies and gives significant cost advantages.

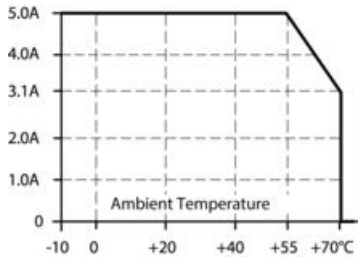
A global version of the 115/230 V AC is available, PIC120.241D, for applications where multi voltage required.

TECHNICAL DATA

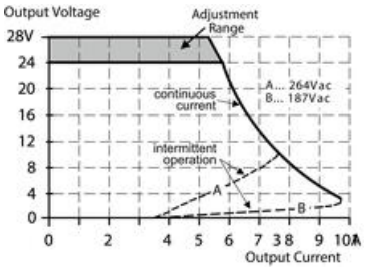
Input	
Supply voltage AC	180-264 V AC
Supply voltage DC	Not available
Power consumption at 230 V AC	1.12 A
Supply frequency	47-63 Hz
Holding time at 230 V AC	33 ms
Protection from mains transients VDE0160	Yes
Output	
Output voltage, adjustable	24-28 V DC

Load regulation 0 A to max load	150 mV
Voltage regulation	10 mV
Ripple	Max. 100 mVpp
Output current, nominal	5 A (120 W)
Max short circuit	See diagram below
Other data	
Efficiency at 230 V AC/max. load	90.5 %
Power loss 230 V AC/max. load	12.6 W
Power loss at 0 A No load current	0.6 W
Cable connections	Screw connection
Cable size stranded	0.5-4 mm^2
Working temperature without power reduction	-10 to +55 °C
Power reduction over +55 to +70 °C	3 W/°C
IP Class	IP20
MTBF (IEC 61709) 230 V AC, Max. load, +40 °C	1 720 000 h
Shock and vibration	30 g 6 ms / 20 g 11 ms
Approvals	UL60950-1, UL508 Listed
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4 Class B
Compliant standards	EN60950-1, EN60204-1, EN50178, IEC62103, IEC60364-4-41

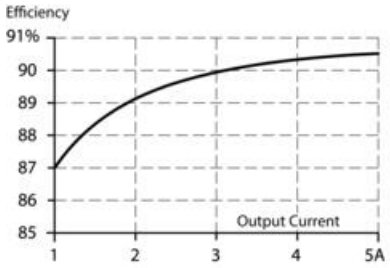
Power reduction at high temperatures



Output characteristics

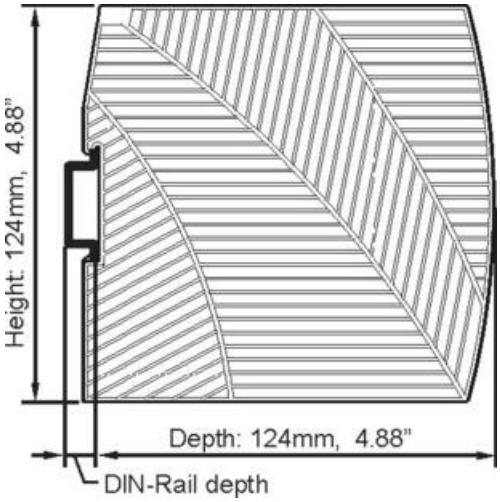


Efficiency



DIMENSIONS

Front	Side



For good cooling recommended free space of 40 mm above and 20 mm below the unit. Pages 5 mm when the unit is charged continuously with more than 50% of the rated current. Increase the distance to 15 mm on nearby products emit heat.

WIRING

A = Primary side. 230 V AC

B = Secondary side. 24-28 V DC

C = Potentiometer for voltage output

D = DC-OK Led. Lights green when the output voltage is over 18 V DC

E = OD-OK output relay (PIC120.241C)

PART NUMBERS

Order number	Input voltage	Output data

PIC120.242C	180-264 V AC	24-28 V DC / 5 A
PIC120.241C	180-264 V AC	24-28 V DC / 5 A. DC-OK output relay
PIC120.241D	100-120/200-240 V AC	24-28 V DC / 5 A. DC-OK output relay

SPECIFICATIONS

Input voltage range	Auto-select
Number of phases	1
Input voltage AC	100-120, 200-240 V
Input voltage ac min	90 V AC
Input voltage ac max	264 V AC
Inrush current at 120 V ac typical	22 A
Inrush current at 230 V ac typical	33 A
Power Factor at 120 V AC, full load. Typical	0.64
Power Factor at 230 V AC, full load. Typical	0.54
Supply Frequency	50-60 ±6 %
Power Consumption At 120 V AC	1.72 A
Power Consumption At 230 V AC	1.05 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	100 mV pp
Temperature Range Without Derating From	-10 °C
Temperature Range Without Derating To	55 °C
Efficiency At 120 V AC, full load. Typical	91.2 %
Efficiency At 230 V AC. Typical	90.6 %
Efficiency At 230 V AC, full load. Typical	92.3 %
Lifetime at 120 V ac, full load and +40 ° C	68000 h

Lifetime at 230 V ac, full load and +40 ° C	83000 h
MTBF (IEC 61709) 230 V AC, Maximum Load, 40 ° C	1379000 h

Width	39 mm
Height	124 mm
Depth	124 mm
Weight	0.37 kg

Clamp type	Screw

Series	Piano
Approvals	CB, CE, cRUus, cULus
DC relay output	Yes
Material Protection	Polycarbonate
Hold-up time at 120 V AC, full load. Typical.	51 ms
Hold-up time at 230 V AC, full load. Typical.	50 ms
IP Class	IP20

Fig. 9-1 Efficiency vs. output current at 24V, typ.

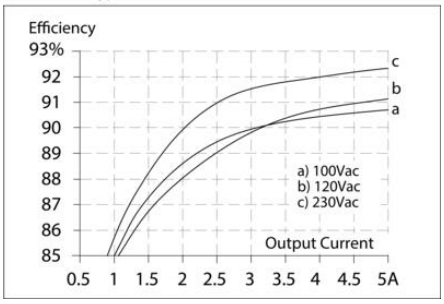


Fig. 15-1 Output current vs. ambient temp.

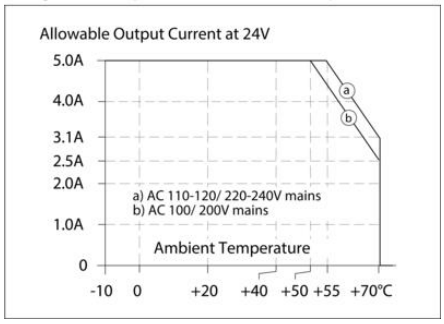
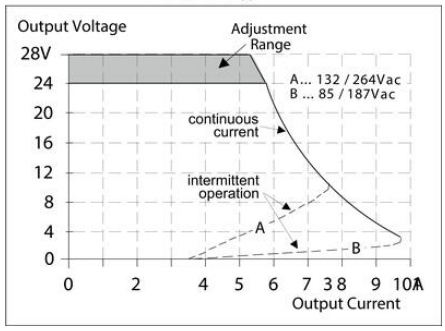
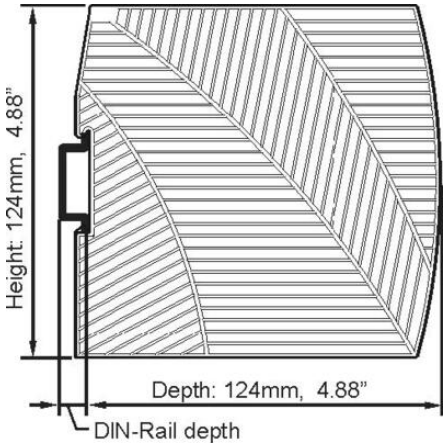


Fig. 6-1 Output voltage vs. output current, RMS current, typ.




+ + − −
B
DC 24V 5A
DC ok
D
24-28V
C
DC ok
13
14
E
PULS
PIANO
PIC 120.241C
Power Supply
AC 200-240V
A
N L


Height: 124mm, 4.88”
Depth: 124mm, 4.88”
DIN-Rail depth


+ + − −
DC ok
24-28V
DC ok
N L PE
Width:
39mm
1.54”