



PSE100-series AC/DC 60 to 100 W

Input / Output

- 110 or 230 Va.c. models 100 W, PSE100.
- Worldwide AC input 85 to 264Va.c. 60 W.
- Train born AC inputs.
- Single outputs from 5 to 48 Vd.c.

Operation

- High efficiency.
- Operating temperature range -25 to +70 °C.
- Fully encapsulated, meets IP30 as standard.
- Convection cooled.

Features

- Conformally coating, tropic.
- Accesible on front panel:
 - Output voltage adjustment.
 - Output voltage measurement.
 - Output OK status green LED.

EMC

- EN/IEC 61000-6-3, Emission.
- EN/IEC 61000-6-2, Immunity.
- EN/IEC 61000-4-4, 4 kV.
- Both input and output.

Output ratings and type code

Output			Input		
Voltage	Current	Power	85 - 264 V	85 - 135 V	176 - 264 V
5 V ¹⁾	12.0 A	60 W	PSE60ACW5		
5 V ¹⁾	20.0 A	100 W		PSE100ACR5	PSE100ACR5
13.2 V	4.50 A	60 W	PSE60ACW13.2		
13.2 V	7.60 A	100 W		PSE100ACR13.2	PSE100AC13.2
15 V	4.00 A	60 W	PSE60ACW15		
15 V	6.70 A	100 W		PSE100ACR15	PSE100AC15
24 V	2.50 A	60 W	PSE60ACW24		
24 V	4.20 A	100 W		PSE100ACR24	PSE100AC24
48 V	1.30 A	60 W	PSE60ACW48		
48 V	2.10 A	100 W		PSE100ACR48	PSE100AC48

1) -25 to +55 °C 100 % load, 70 °C at 75 % load. With extra cooler, see mechanical drawing figure 5, the rating is 100 % load @ +70 °C.

How to read our product code:

Example **PSE100 AC24**
PSE100 = Family code
AC = input voltage code AC
24 = Output voltage 24 V

Input and output ratings

Nominal inputs	Input range	Code
100, 110, 220, 230, 240 Va.c.	85 - 264 V	ACW
100, 110 Va.c.	85 - 135 V	ACR
220, 230, 240 Va.c.	176 - 264 V	AC

Features

Conformal coating

PSE100 is conformal coated to withstand non condensing tropical environment Rh 95 %.

Voltage adjust

Voltage adjustment and output voltage measurement accesable from frontpanel.

Over Voltage Limit OVL

A second regulation circuit takes over in case the main regulation fails. The output voltage is limited to approximately +15 % over nominal output voltage.

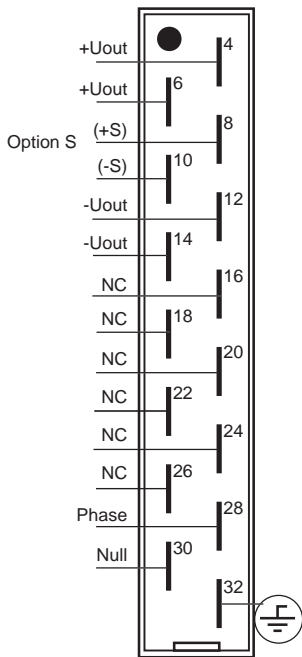


Figure 1. Standard pin-out DIN 41612, H15

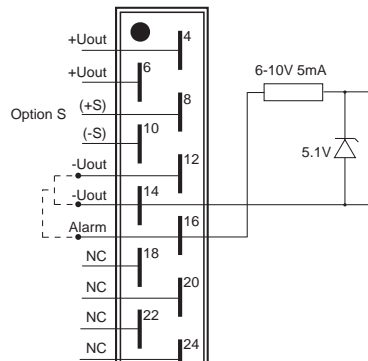


Figure 2. 5 V logic alarm signal Option B1

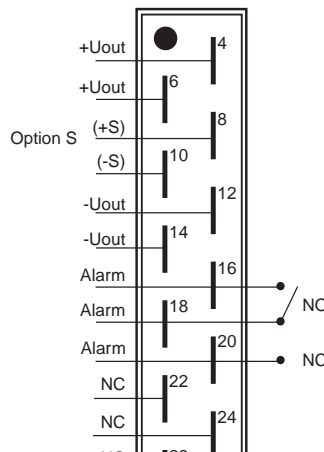


Figure 3. Alarm relay output Option B2

Optional Features

Overvoltage protection OVP-A

The output voltage is limited to 15 % over nominal output voltage. A thyristor short-circuits the output.

Built in series diode -C

A series diode on the output, which is mounted inside the case. Use this option when output is connected in parallel with other power supplies to achive redundancy. The output power might be derated. It's model dependent, please contact factory.

Remote sense -S

The voltage sensing can be put at the load to compensate for voltage drop. Is a standard feature on 5 V output. The sense can compensate for voltage drops up to 5 % of the nominal voltage.

2.5 kVa.c. isolation Output/Case -E2

The emission level increase to level A.

Logic under voltage alarm -B1

A built in logic alarm changes to alarm state if the converter output voltage drops below -10 % of nominal output. The alarm circuit also controls the DC OK LED.

A standard unit is equipped with a logic signal. DCOK or POWER GOOD signal use logic 1. The drive voltage is 6 to 10 V, 5 mA = logic 1, see figure 2.

Under voltage alarm relay -B2

The logic alarm output is replaced with a relay with selectable alarm logic NO or NC. Alarm = No input or low output <-10 % of nominal output, see figure 3. The relay is rated 30 V, 0.5 A (a.c. & d.c.).

Extra cooler, option T3

To meet EN 50155/IEC 60571 specified T3 ambient temperature demand +85 °C during 10 minutes. The unit is then 10TE wide as a slide in unit. With option N, wall/chassi mount, the unit will be 52 mm high.

General data / Input data

Design topology	Push-Pull
Switching frequency	100 kHz
Emission / Immunity	See page 4
Safety EN/IEC 60950	Class I
AC frequency range	48 - 400 Hz
Inrush current limit	With NTC
Power consumption at no load	3 - 5 W
Vibration EN/IEC 61373	Body mounted Class B
Isolation	See table page 4
Dimension (D x W x H) mm	172 x 36.3 x 106
Weight	0.80 - 1.15 kg

Mechanical Options

Euro panel, option L

8TE for PSE60 & PSE100

10TE for 5 V output with extra cooler, see figure 4 - 6.

Wall mounting panels, option N

Wall mounting panel with connector holder, see figure 7 & 8. The female connector has to be chosen.

H15 Screw type female-H15-S

H15 FastOn 6.3 mm female -H15-T

- Output ripple might increase to 0.5 % RMS of V_{out} , when EN/IEC 61000-4-3, 10 V/m test is applied
- Lowest efficiency measured within the whole input voltage range at 100 % load.

Mechanical drawing

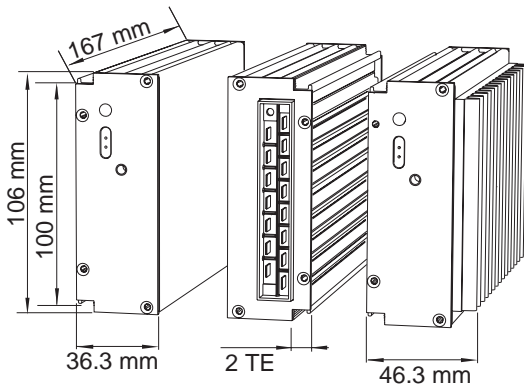
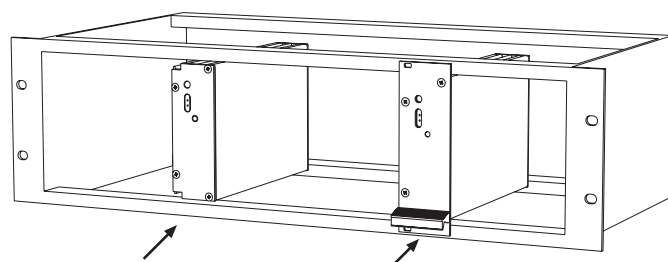


Figure 4. Dimensions.
Weight: 0.80 kg.

Figure 5. Optional extra cooler version
Weight: 1.00 kg



PSE mounted in a 19" Sub-rack. Standard unit. PSE mounted in a 19" Sub-rack with L panel 8TE & 10TE (Optional)

Figure 6. 3HE 19" sub rack mounting.

Output data

Source regulation	0.2 %
Load regulation (0 to 100 % load)	0.2 %
Transient recovery time for a load step of 10% to 100% voltage deviation	<2 ms 3 %
Output ripple (100 kHz) ¹	Typ. 10 mV p-p
Input ripple (100 Hz) U_{in} 230 Va.c.	<10 mVrms, 50 mVp-p
Input ripple (100Hz) U_{in} 110Va.c.	<20 mVrms, 100 mVp-p
Emission / Immunity	See page 4
Temperature coefficient	0.02 %/°C
Min output adjustment range adjustable with a 15 turn potentiometer	90 to 110 %
Current limit, rectangular.	105 %
Remote sense	Option S
Soft start	Yes
Start-up time	<1 s
Reverse voltage protection on output	Parallel diode
Hold-up time, contact factory	
PSE60ACW (230 Va.c.)	20 ms
PSE60ACW (110 Va.c.)	3 ms
PSE100AC (230 Va.c.)	10 ms
PSE100AC (110 Va.c.)	3 ms
Efficiency ²	
PSE60ACW	80-85 %
PSE100AC (230 Va.c.)	80-88 %
PSE100ACR (110 Va.c.)	82-91 %
Operating temperature range at 100 % load Conduction cooling with outputs >10 V	-25 to +70 °C
Operating temperature range at 100 % load Conduction cooling with outputs <10 V	-25 to +55 °C
Storage temperature range	-40 to +85 °C
Optional	-40 °C

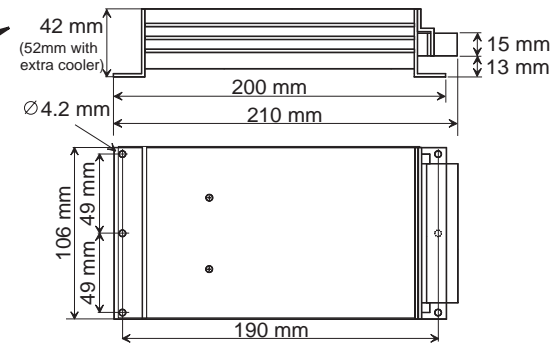


Figure 7. Dimensions with option N, wall mounting
Weight: 0.95 kg with extra cooler 1.15 kg

PSE wall mounted.

Using PSE wall mounting kit, option N with connector holder. Female H15 connector with screw or tab connectors (Optional).

PSE DIN-rail mounted.

Using PSE wall mounting kit, option N with addition of 2x DIN-rail clips option Q

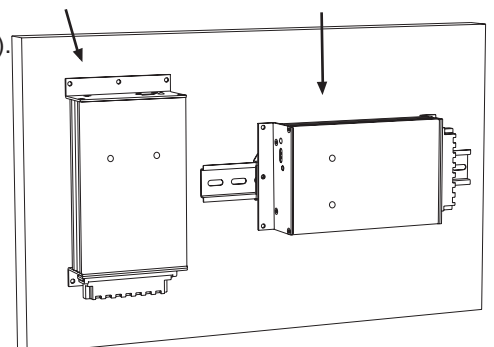


Figure 8. Wall mounting Option -N.

Safety and EMC

CE Safety standard EN/IEC 60950

PSE100 meets the requirements defined by CE mark as apparatus.

PSE100 meets requirements of EMC directive and low voltage directive (LVD).

Thus a PSE100 can be used as free standing unit or in installations as well as systems designed according to "The modular approach". PSE100 can be used in installation without further EMC tests, if our installation instructions are followed. Please note that product standards can demand different levels or other basic standard tests. We test according to levels below. For higher levels or other tests, contact factory.

Isolation testable levels	Test voltage
Input / Output	2.5 Va.c. / 4 kVd.c.
Input / Case	2.5 Va.c. / 4 kVd.c.
Output / Case all outputs	2 kVd.c.
Isolation, not testable level	Safety isolation
Transformer isolation In/out	4 kVa.c. / 8 mm

We use the product standard Low voltage power supplies, DC outputs EN/IEC 61204-3 and the generic EMC standards:
EN/IEC 61000-6-2 (Immunity)
EN/IEC 61000-6-3 (Emission)

EMC

EMC-standards	EMC-performance		
Emission standards	Input	Output	Remarks
EN 55011/EN 55022 (0.15-30 MHz)	Level B	Level B	
EN 55011/EN 55022 (30-1000 MHz)	Level B		Enclosure test
Immunity standards	EN/IEC 61000-6-2		
EN/IEC 61000-4-2	8 kV / 15 kV		Contact / air, Enclosure test
EN/IEC 61000-4-3	10 V/m AM-Modulated		Output ripple can increase to 0.5 % of Vout Enclosure test
EN/IEC 61000-4-4	4 kV	4 kV	
EN/IEC 61000-4-5	1 kV / 2 kV ¹	0.5 kV / 1 kV	Line-line 2 Ω / Line-case 12 Ω
EN 50121-3-2/IEC 62236-3-2	1 kV / 2 kV	1 kV / 2 kV	Line-line 42 Ω / Line-case 42 Ω
EN/IEC 61000-4-6	10 V _{RMS}	10 V _{RMS}	AM-Modulated
EN/IEC 61000-4-8	Not sensitive		Enclosure test
EN/IEC 61000-4-10	Not sensitive		Enclosure test

1 Higher level 2 kV / 4 kV with external filters, contact factory.

Contact

For updates on this datasheet we refer to www.polyamp.com
Specifications subject to change without notice.



Switch Craft S.A. Ruel bel Air 63
CH-2300 La Chaux-de-Fonds Switzerland
Telephone: +41 32 96 78800 Telefax: +41 32 96 78809
E-mail: terranova@switchcraft.ch

Polyamp AB Box 229 597 25 Åtvidaberg Sweden
Telephone: +46 120 85 400 Telefax: +46 120 85 405
E-mail: info@polyamp.se

Distributor

Elsophils Service
Jilemnického 2; 911 01 Trenčín
tel: +421 32 6582410, 7431690
fax: +421 32 6582592
email: elso@elso.sk
web: www.elso.sk

