

Specification Sheet PSU-4341-03

60W / 24V / 2,5A



- **Wide range input**
- **High power density with minimized losses**
- **Efficiency up to 91,5%**
- **Tu up to +70°C, without derating**
- **International approvals**
- **Protection Class II, no grounding conductor required**
- **Simple mounting and wiring**
- **Very compact size with optimized aeration**
- **Dynamic overload (150% of rated current up to 2,5 seconds)**

Input:

Rated voltage:	100-240Vac, 50-60Hz
Operational voltage:	85-264Vac, 47-63Hz (DC 100-375V) Wide range power supply, no ranging necessary.
Input current:	< 0.7A @ Uac = 230V < 1.3A @ Uac = 100V Complies with EN61000-3-2 (Harmonic input current)
Fuse:	Internal in power supply, T4AH/250V, not operator accessible.

Efficiency (typical):

Uac = 230V	91.5% @ nom. load	losses (typ.) 5.6W
Uac = 115V	90.0% @ nom. load	losses (typ.) 6.7W
Uac = 100V	88.0% @ nom. load	losses (typ.) 8.2W

Reliability:

Load life of capacitors:	All electrolytic capacitors are dedicated 105°C long life types with at least 50.000 hours load life @ T _A = 50°C (Ambient temperature of power supply)
Safety and functional testing:	100% factory tested

Output: U1

Output voltage DC:	24.0V nominal
Accuracy:	±1% over complete load and input voltage range
Adjustment range:	23.0V – 29.0V (minimal range)
Output current (max.):	2.5A continuous (@ 24V) 3.15A (125 % of nominal load) for max. 7 seconds 3.75A (150 % of nominal load) for max. 2.5 seconds
Output current (min.):	0A
Ripple voltage (< 20MHz):	≤ 40mV _{SS} , measured at limited BW; 20MHz, 50Ohm terminated
Current limiting (typ.):	2.7A continuous 5.0A dynamic

Startup:

Startup time:	typ. 400ms Over complete input voltage range
Startup duration:	depends on load, typ. 5-10 ms
Startup with cap. load:	up to 8.000uF and nominal load

Safety:

Output:	Safety extra low voltage (SELV) IEC60950-1:2005, EN60950-1:2006 + A11:2009
Class of protection:	II
Enclosure type:	IP 20
Leakage current:	max. 0.25 mA, @ 47-63Hz and max. 264Vac

Safety Approvals:

Outstanding:	Approvals up to T_A = 70°C without derating
	IEC60950-1:2005, EN60950-1:2006 + A11:2009, UL60950-1:1 st Edition, CSA22.2-60950-1-03
	Information technology equipment
UL508	Industrial control equipment
EN60204	Safety of machinery
EN50178	Electronic equipment for use in power installations
	DIN EN 60079-0:2004, DIN EN 60079-15:2003
	IEC 60079-0:2004 (4th Edition), IEC 60079-15:2005 (3rd Edition)
Ex nA II T4 X	Electrical apparatus for explosive gas atmospheres
Tip:	For use in explosive gas atmospheres the power supply had to be mounted in an enclosure of type IP54 or better, e.g. the enclosure of the end use equipment.



EMV + Nieder-Spg.-Richtlinie / CSA-NRTL/C

All technical data are specified at Uac = 230V / 50Hz, +25°C ambient, nominal load and after 10 min @ nominal load unless otherwise noted.

All information meet the technical design at time of printing and were therefore not binding. inpotron reserves the right for changes at any time and without giving any information.

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Operating Conditions:

Operating temperature:	-10°C to +70°C, without forced air Cooling
Load derating:	Functional not necessary. For extend long term reliability: 2% of nominal load per degree above +60°C to max. +70°C
Storage temperature:	-25°C to +85°C
Humidity:	max. 95% r.H., no condensation

Protection and Monitoring:

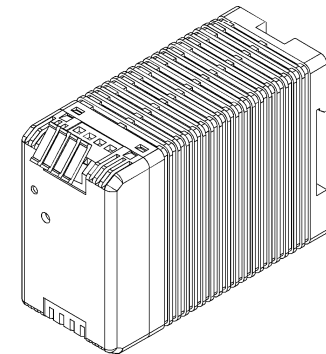
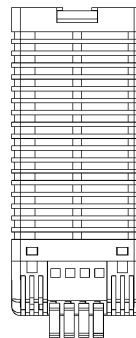
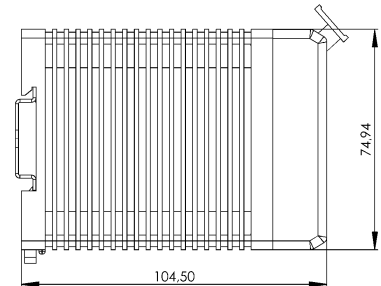
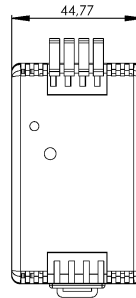
Over-voltage protection:	Yes, U1 limited to max. 35V
Function	In case of a fault in the power supply, e.g. failure of the voltage regulation, the output voltage will rise up to appr. 35V. In this condition an independent monitoring will shut-down the output. This protection is reset by disconnecting the power supply from AC mains. After a delay of approx. 1 minute the reset is finished and the power supply can start again. The delay time depend on former AC supply voltage. If the Fault is not eliminated the shutdown will start again.
Current limiting:	Yes, output is short circuit save In case of overload the output voltage will be reduced down to approx. 17V below this the power supply will enter hicc-up mode to protect power supply and load from over temperature or burning.
No load operation:	Yes, indefinite no load safe
Overload protection:	Yes
Inrush current:	< 40A @ Uac = 264V, Cold and warm start and after AC mains interruptions.
Hold-up time:	100ms @ Uac = 230V 15ms @ Uac = 115V
Temperature controlled power limiting:	Yes
Operating indicator:	Yes, green LED on front side.
High-voltage test:	Yes, type test according to standards: 3.000V / 50Hz primary – secondary
100% testing in series production:	3.000V / 50Hz primary – secondary

EMV in conformance to CE

Emission:	EN 61000-6-3 / -4 EN 55011, EN 55022 Class B Harmonic input current, fulfils EN 61000-3-2
Immunity:	EN 61000-6-1 / -2
Electrostatic discharge EN61000-4-2	8 kV contact discharge Level 4 15kV air discharge
Electromagnetic RF field EN61000-4-3	10V/m Level 3
Burst IEC1000-4-4	4kV AC mains Level 4 2kV output, capacitive coupling Level 3
Surge EN61000-4-5	2kV symmetrical, Insulation class 4 protection class II, no asymmetrical testing
Conducted disturbance EN61000-4-6	10V, 150kHz to 80MHz Level 3
AC Main voltage and interruptions	EN61000-4-11

Dimensions: DIN Rail Power Supply In Plastic Housing

AC mains on bottom of front cover, output on top.



Dimensions (D x W x H):	104.5 x 44.8 x 75 mm
Weight:	ca. 250 Gramm
Wiring:	Spring clamp terminals. No tools required. Safe contact without maintenance. Primary: 2 x L1 / 2 x N on bottom Secondary: 2 x U1 / 2 x GND on top
Cross section of wires	
Stranded wire:	0.3...2.5mm ² (AWG22 – 14)
Solid wire:	0.3...4mm ² (AWG22 – 12)
Mounting:	Snap-on element for fixing on DIN rail according to EN 50022-35. Use rails TS35/7.5 or TS35/15 Tight fixing on DIN rail.