

Operating Manual UWAPS-TINY Series

Powecon Oy
WWW.POWECON.FI

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1 Warranty

Powecon Oy warrants its products to be free from defects in material and workmanship under normal use and service for one year, beginning on the date of shipment. The warranty does not cover manuals, fuses, disposable batteries, damage from neglect, misuse, contamination, alteration, accident or abnormal conditions of operation or handling, including failures caused by use outside of the product's specifications, or normal wear and tear of mechanical components.

2 Safety information

Before use read this operating manual.

Do not open the unit cover or remove any parts of the unit.

In case of unit failure send it always to the Powecon repair service.

The instrument must always be connected to grounded mains socket.

This unit is only for indoor use. Pollution degree 2.

Operation ambient temperature range is $-40^{\circ}\text{C} - +55^{\circ}\text{C}$

Use only 24-250VAC/24-220VDC supply voltage. Unit has 500A breaking capacity fuses inside.

Do not ever connect this unit to low impedance current source like battery or similar without fuse with adequate breaking capability in series.

Do not ever exceed maximum voltage of the unit.

Do not reverse the output polarity of the unit.

This unit is for professional use only.

3 Abbreviations and terminology

EUT	Equipment under test
Tamb	Ambient temperature
ELU	Electronic load unit
EMC	Electromagnetic compatibility
Max	Maximum
Min	Minimum
PWB	Printed wire board
TBD	To be defined

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4 List of appendices

5 Introduction

UWAPS-TINY series is universal power supply equipped with several features.

Input voltage range is ultra wide. It is unique on the market.

No limitation on capacitive load.

EMI performance is excellent. It is protected against lightning and ESD-spikes.

Free convection cooling. No fans are needed.

6 Specification

Absolute maximum ratings

Input voltage range 20-300VAC 45-66HZ or 18-420VDC.

Storage temperature -20°C - +50°C

Operating temperature -40°C - +55°C

6.1 Safety

According to IEC-60950-1

6.2 EMC

6.2.1 Emissions

Input: Conductive EN55022 B

Output: Conductive EN55022 B

Radiated: EN55022 B

6.2.2 Immunity

ESD: EN 61000-4-2

Surge: EN 61000-4-5 (Line-to-line ±4kV, Line/N-to-PE ±4kV)

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6.3 Electrical

6.3.1 AC-Input/DC-Input

UWAPS-TINY series power supplier are possible to feed using AC or DC. Same input connector is for both AC and DC. For DC there is no polarity demand on the input connector.

Nominal input voltage range:	24-250VAC	or	24-220VDC
Minimum input voltage:	24VAC	or	18VDC
Startup voltage:	24VAC	or	18VDC
Shutdown voltage:	20VAC	or	17VDC
Absolute maximum input voltage:	300VAC	or	420VDC
Maximum input current:	2A ±0.5A		
Frequency range in AC use:	50-60Hz		
Min/max frequency in AC use:	45-66Hz		

Mains fuse in both lines

Thermally fused varistors and surge arrester gives extreme reliability surge protection.

6.3.1 DC-Output

Default output voltage and power:	24VDC ±2% 10W		
Voltage ripple and noise:	<20mVrms 20MHz bandwidth U _{out} =24VDC 10W		
Hold up time:	25ms U _{in} 24VDC		
	250ms U _{in} 230VAC 50Hz		

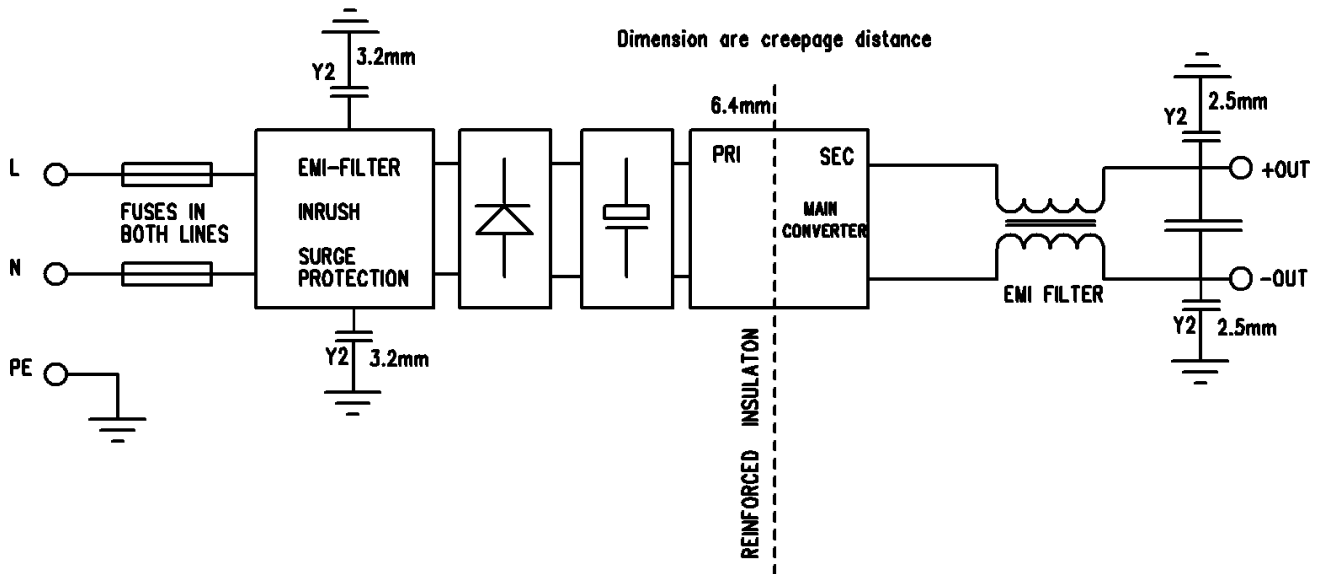
Output is floating. See blockdiagram. Output Y2 capacitors are 250V rated.

Protections:

Short circuit proof
Over temperature protection

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7 Block diagramm

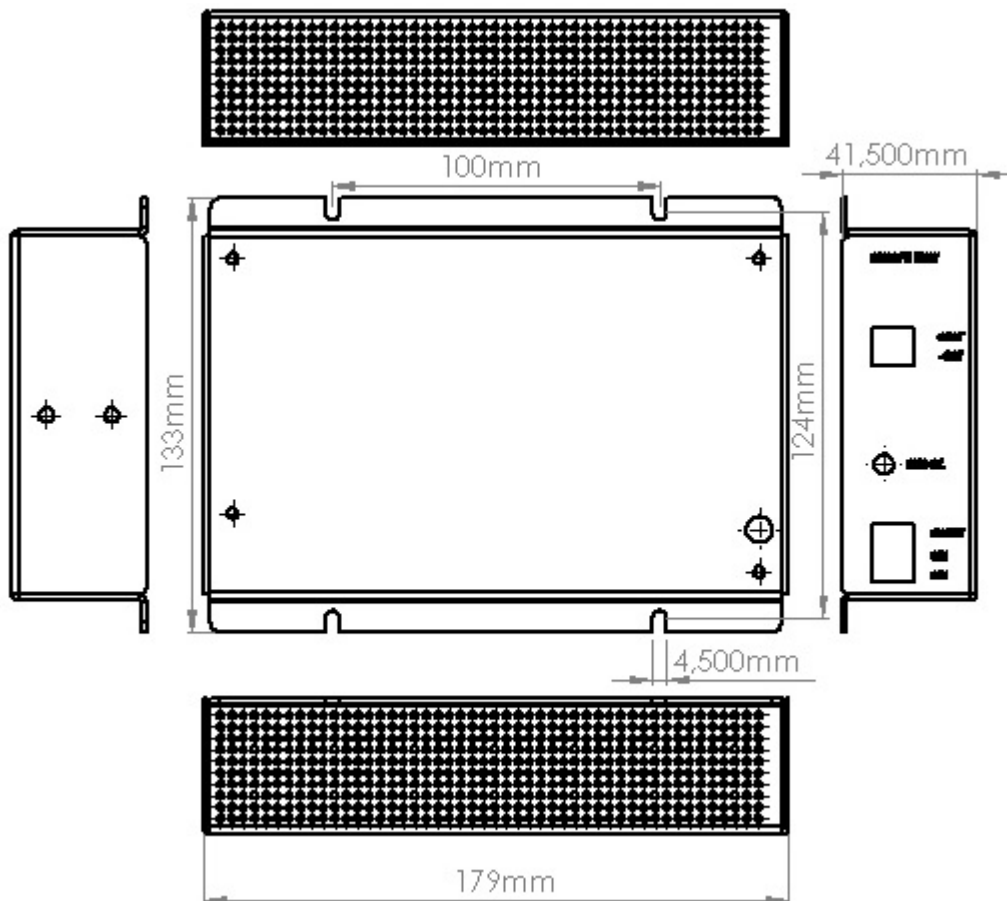


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8 Mechanical dimension

Width 45mm
 Depth 185mm
 Height 135mm
 Weight 0.3kG

Mounting direction must be upright. Otherwise cooling air circulating is blocked.
 Keep free top and underside to allow air convection.
 If cooling is inadequate, over temperature protection can shut down power supply.
 And long time over temperature cause reducing of components lifetime.



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9 Connectors

Input connector

Type: Phoenix Contact MSTB 2,5/3-G 5.0mm, Phoenix Contact code: 1754452

Output connector

Type: Phoenix Contact MSTB 2,5/2-G 5,0mm, Phoenix Contact code: 1754436



Input and output connectors.

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DIN Rail clip mounting.

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