

Features

- Up to 100 W nominal output power, power density up to 20 W/in³
- Extreme case operating temp. range up to -40° to +110° C on request
- Efficiency up to 85 %
- Possible working without heatsink 95x68x13 (mm) metal aluminum case with flanges (size is without flanges)
- Variants input:
- 110Z - (66-165 VDC) - standard, other: 72Z, 96Z
- Adjustable output voltage
- Remote on/of
- External feedback
- Parallel operation



Description

TESZ100-F6 are the series of isolated DC/DC converters meant to work under both heavy electrical and environmental conditions. Output power is **up to 100 Watts**, power density is up to **20 W/in³**. The units offer you flexibility of wide input range with both extremely low and high case temperatures of **-40° to +110° C**. The units feature a system of over-current and short-circuit protection and over-voltage protection. Standard functions include remote on/off, energy-saving zero-load operation. The units maintain high efficiency across broad load range. Its versatility allows you to implement the converter in a vast number of industrial applications, supplying capacitive, constant-power and impulse load. Application fields: land transport, mining equipment and others - where there are needed compact dimensions, durability and forced air (or conductive cooling via heat sink) is possible.

up to 100 W units (optimized for output power 30-80 W)

Model	Input voltage range*	Power max.	Output voltage nom.**	Output current max.	Efficiency typ.
TESZ 100 - 110ZS12 – F7 – SU	66-165 VDC (385 VAC transient)	100 W	12 V	8.33 A	85 %
TESZ 100 - 110ZS15 – F7 – SU		100 W	15 V	6.67 A	85 %
TESZ 100 - 110ZS24 – F7 – SU		100 W	24 V	4.17 A	85 %

* Models with custom input voltage range may be provided on request.

** Models with custom output voltage may be provided on request.

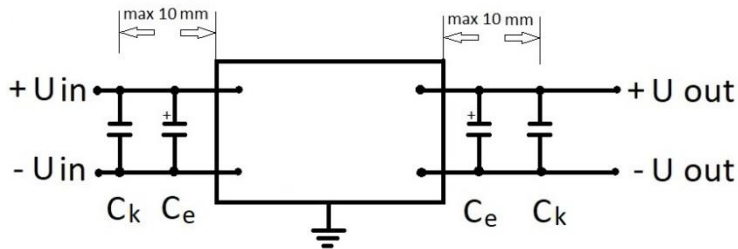
General specifications		
Switching frequency		300 kHz typ. (PWM modulation)
Temperature ranges	operating case temp.	-40° C to +110° C
	storage temp.	-40° C to +110° C
Over-temperature protection		+115 C typ.
Cooling method		Conductive cooling (heat-sink)
Thermal resistance	natural convection without heatsink	3.3 K/W typ.
Humidity (non-condensing)		5-95 % rel. H
Insulation	input/output, input/case	1500 VDC
	output/case	1000 VDC
Isolating resistance @ 500 VDC		>20 MOhm
Thermal shock, mechanical shock & vibration		MIL-STD-810F
Safety standards		IEC/EN 60950-1
Typical MTBF (Tcase = 50° C; Pout = 0.7·Pout,max)		80 000 h
Weight (max)		175 g
Input specifications		
Input voltage range - standard**	110Z	66-165 VDC (20ms transient 385 VDC)
Input surge protection	110Z	385 VDC @ 20 ms, trise=tfall = 2 ms, Rsource=0,2 Ω
Start-up voltage		Start-up at <65 VDC
EMC standard compliance****		MIL-STD-461F, EN 55022 - class A (class B with filter)
Output specifications		
Output voltage adjustment	range	±5 %
Output voltage regulation	input variance Uin,min to Uin,max	±0.5 %
	load variance 10 % to 100 %	±2 %
Ripple and noise (peak-to-peak)	20 MHz bandwidth	<2 %
Protection	over-load	<130 % of Pout,nom
	short-circuit	>150 % of Iout,nom with automatic recovery
	over-voltage	<130 % Uout
Capacitive load (max)	5 VDC model (50% output power)	typ. 3 600 uF
Minimum load		Not required
Remote On/Off	method	Connect ON to -IN or apply 0-0.5 VDC to ON

**** See product page for DC/DC filters at www.aeps-group.com.

Please contact the tech. team at aeps@aeps-group.cz for more information.

All specifications are valid for normal climatic conditions, nominal output voltage and current, unless otherwise stated.

Typical connection scheme (minimum required)



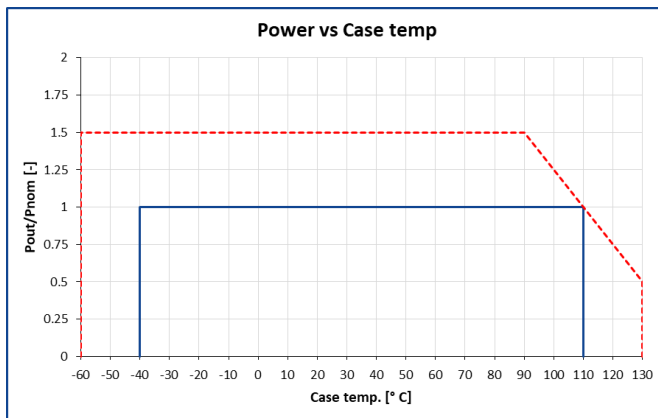
The design of the units allows their use only when mounted on a PCB.

When using the units with typical connection scheme it's necessary to use certain type components.

In the figure: Ck – ceramic capacitors of a certain operating voltage and of several μF capacity; Ce – electrolytic capacitors of a certain operating voltage and of polymer, aluminum or tantalum type of tens to hundreds μF capacity.

Exact information can be found [Technical Materials](http://www.aeps-group.com) on our website www.aeps-group.com

Output power based on case temperature



—— Standard maximum power output based on case temperature.

- - - Possible extreme range of output power for customized product.

When using the unit with heatsink thermal/conductive paste must be placed between the unit surface and a heatsink for quality contact (with thickness less than $100\ \mu\text{m}$, of minimal thermal resistance $2\ \text{W/K.m}$). Mesh stencil should be used to

apply paste in a pattern of $2 \times 2\ \text{mm}$ to $4 \times 4\ \text{mm}$ squares mm with $0.5\text{-}1\ \text{mm}$ spacing between the squares. This allows paste to be evenly spread in a thin layer and excess air to escape when tightening screws during unit mounting.

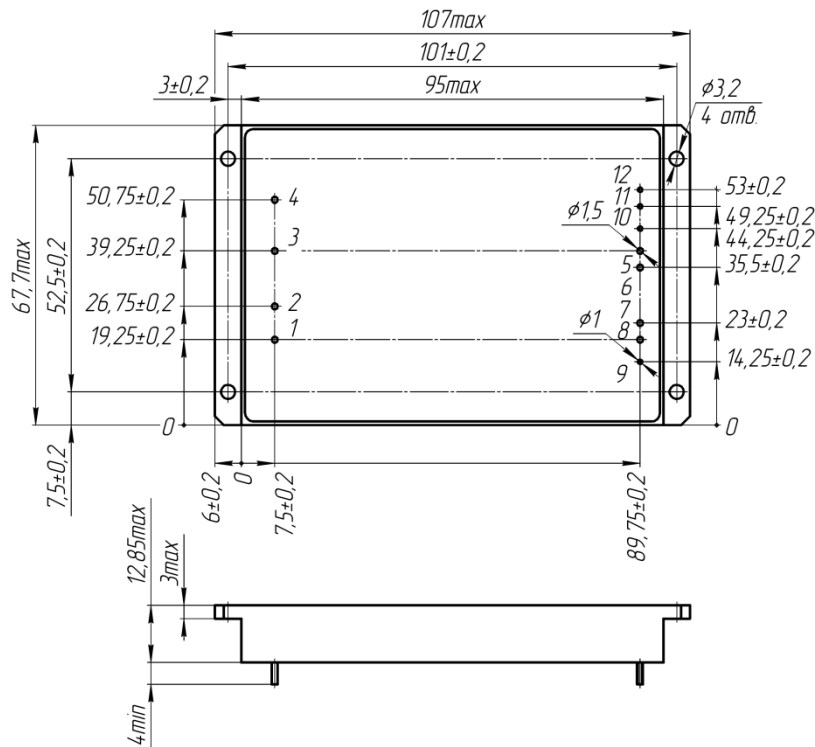
Note:

The units have a short-circuit output protection, which is for emergency only, not for long-term operation. It's prohibited to use the units with reversed input voltage polarity or turn on the units with short-circuited outputs (the units have the special detectors inside).

If you have any questions please contact us directly at aeps@aeps-group.cz.

Dimensions

Pin	1	2	3	4	5	6	7	8	9	10	11	12
Name	On/Off	-IN	+IN	Case	-OUT	-OUT	+OUT	+OUT	+RS	-RS	Trim	Paral



Additional information

Please, note that all information in this material is for reference only. Further detailed information (including: additional requirements, manuals and circuit schemes) is found at www.aeps-group.com or provided via an email request at aeps@aeps-group.cz.

According to company's policy in view of constant improvements of the production design the manufacturer reserves the right to change the contents of specifications and promotional materials without prior notice! Make sure you are using the latest documentation downloadable at www.aeps-group.com.

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