

Ultra-compact isolated DC/DC converters (modules) are especially designed for industrial applications and harsh environment operation. These compact units (95 x 68 x 13 mm) have output power up to 500 W and wide operating temperature range up to -60...+130°C.

These modules can be switched on/off by a signal, have full protection complex against over current, shorting and overheating and can be connected in parallel or in series.

These modules are built using especially designed electronic components and sealed with heat-conducting potting material. Completely replace the previous generation modules TESD200.



Features

- Class: Industrial, power density up to **3 630 W/dm³** (59 W/ln³)
- **Budget version – for request !**
- High efficiency $\geq 88\%$
- Low profile 13 mm design
- Working case temperature -40°C...+110°C, for special request up to -60°C...+130°C
- Output power up to 300 W, for special order up to 500W
- Input voltage ranges: 10,5...40 VDC, 17...80 VDC
- Output voltage adjustment, remote on/off
- Max capacitance 8000 μ F (for Uout=12 VDC)
- Metal case, with mounting flanges

For all special requirements placed on the last page of datasheet [please click here.](#)

Ordering information

TESBND 300 - 27W S 12 - U T

1 2 3 4 5 6 7 8

- 1 - «TESND» Series
- 2 – For request is possible budget version **B**
- 3 - Output power in the standard version, W
- 4 - Input voltages
 - 12W** - 12 VDC (10,5...40 VDC)
 - 27W** - 27 VDC (17...80 VDC)
- 5 - Index of output channels quantity
 - S** – one
- 6 - Nominal output voltage, VDC (two signs for a channel)
- 7 - Index of case design
 - U** – metal case with flanges
- 8 - Index of operating temperature range of the case
 - T** -40°C...+110°C (standard version), for request up to -60°C...+130°C

Standard models with one output

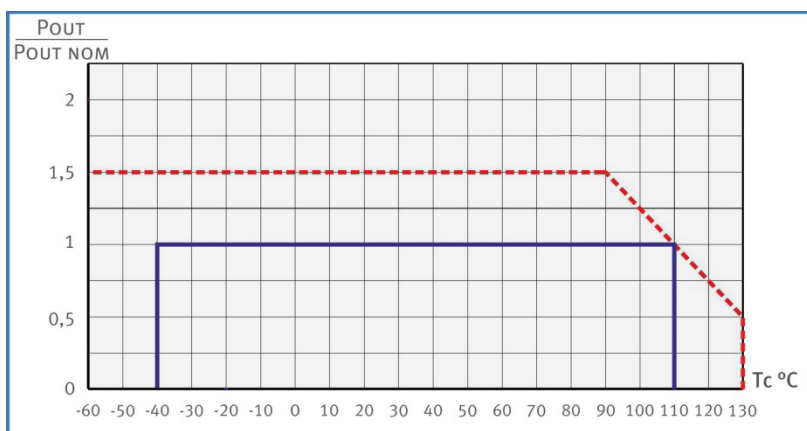
Module	Input voltage range	Output power In the standard version	Output voltage / nominal output current
TESND300-12WS05-XX	10,5...40 VDC	125 W	5 VDC / 25 A
TESND300-12WS12-XX		200 W	12 VDC / 16.7 A
TESND300-12WS15-XX			15 VDC / 13.3 A
TESND300-12WS24-XX		250 W	24 VDC / 10.4 A
TESND300-12WS48-XX			48 VDC / 5.2 A
TESND300-27WS05-XX	17...80 VDC	125 W	5 VDC / 25 A
TESND300-27WS12-XX		250 W	12 VDC / 20.8 A
TESND300-27WS15-XX			15 VDC / 16.7 A
TESND300-27WS24-XX		300 W	24 VDC / 12.5 A
TESND300-27WS48-XX			48 VDC / 6.3 A
TESBND200-27S24-XX	17...80 VDC	200 W	24 VDC / 8.3 A
TESBND200-27S48-XX			48 VDC / 4.2 A

Modules with non-standard output voltage from 5 to 60 VDC up to Iout max = 25 A.

Input specifications	
Input voltage range / transitional deviation, 1 sec 12W	= 10,5...40 VDC / = 9...44 VDC
Input voltage range / transitional deviation, 1 sec 27W	= 17...80 VDC / = 15...84 VDC
Input voltage range / transitional deviation, 1 sec 27	= 17...36 VDC / = 15...84 VDC
Input filter	P-type
Output specifications	
Output voltage adjustment	±5% Uout
Instability of output voltage due to input current change from 10 to 100%	±2%
Instability of output voltage in accordance to changing of input voltage	±0,5%
Ripple and noise (peak-to-peak) (20 MHz)	<2% Uout
Short circuit protection**	>150% Iout nom, auto repair
Overvoltage protection**	< 130 % Uout
Over current protection level**	Pout ... 1.3·Pout
Remote On/Off	Shuts down outputs by applying 0...0,5 VDC or connection of output «ON» and «- IN», I≤5mA
Max capacitance for Uout=12 VDC***	8000 µF , 5300 µF for TESBND200
General specifications	
Case temperature (operating), index T	up to -60°C ...+130°C
Case temperature (storage)	-60°C ...+130°C
High humidity	100% @35 °C
Thermal resistance case — environment without heat sink	5,3 °C/W
Typical efficiency****	88%
Conversion frequency	200 kHz typ.
Insulation voltage input/output	=1500 VDC
Insulation voltage input/case	=1500 VDC
Insulation voltage output/case	=1000 VDC
Isolation resistance @ 500 VDC	>20 MOhm
EMC standards	EN60068, MIL-STD-810F, MIL-STD-461E, EN 55022, class A; EN 55022, class VDC with additional filter
Safety standards	IEC/ EN 60950
Typical MTBF (Tcase = 50°C; Pout = 0,7 Pout max)	100 000 hrs
Cooling metod	Free air convection or forced air cooling
Weight (max)	175 g

- * All specifications are valid for normal climatic conditions, Uin.nom., Iout.nom., unless otherwise stated.
- ** Parameters are stated for the information purposes and could not be used at long term work, exciding maximum output current, at work outside of a range of operating temperatures.
- *** For other output voltages the maximum output capacity is calculated from the fact that $C_{max} \times U_{out}^2$ is a constant.
- **** Typical efficiency - for input 12 VDC (input range 12 W), 27 VDC (input range 27 W) and output 15 VDC, output power is 0.7*Pmax, Tcase +60°C.

Maximum power output as a function of ambient temperature



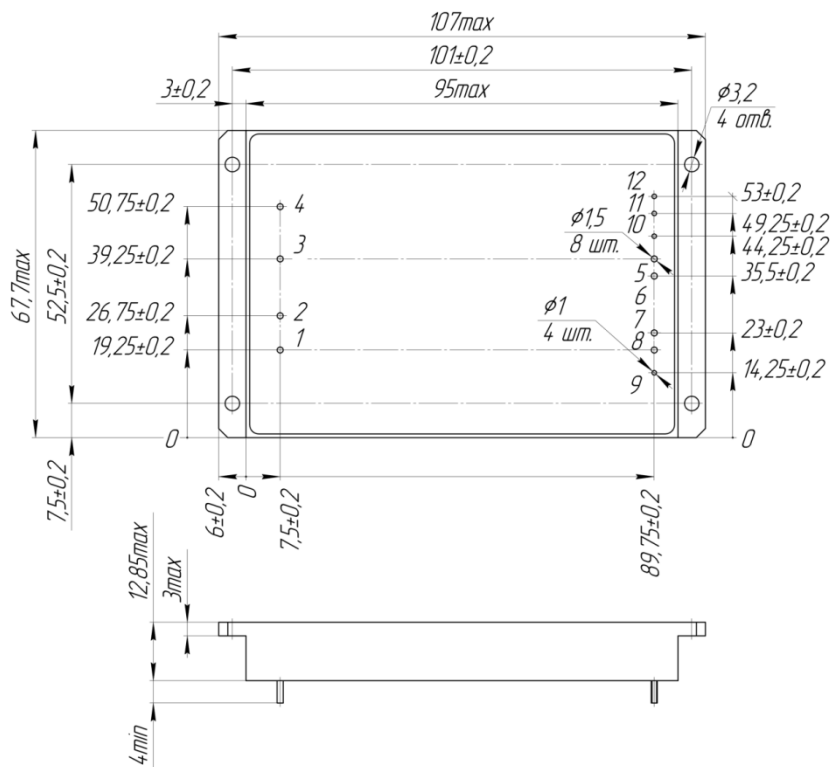
— Allowed power output and case temperature range for standard version of unit.

- - - Possible range of output power for special order.

For modeling optimal heatsink and its delivery, with goal of providing allowed case temperatures, please contact us directly aeps@aeps-group.cz.

Nº Pin	1	2	3	4	5,6	7,8	9	10	11	12
Single output	ON	-IN	+IN	CASE	-OUT	+OUT	+RS	-RS	ADJ	PARAL

Single output model with flanges (VI case type)



Certificates

Certificate ISO 9001*
CE conformity declaration

* Management system and R&D of Alexander Electric is ISO certified

Note

The label with sign "remove before use" can be placed on the top surface of the module and must be removed before installation.

Please, note that all information in this material is for reference only. Further detailed information (including: additional requirements, manuals and circuit schemes) is found on our website <http://www.goncharov-jet.com>.

Contact information

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According to company's policy in view of constant improvements of the production design the manufacturer reserves the right to itself change the contents of promotional materials without prior notification.

Special Requirements

