

Ordering information

TESA 1500 - 400 S 15 - S H N

1 2 3 4 5 6 7 8

- 1 - «TESA» Series
- 2 - Max output power, W
- 3 - Input voltages
400 – 3 ph. 400 VAC (304...456 VAC)
- 4 - Index of output channels quantity
S – one
- 5 - Nominal output voltage, VDC (two signs for a channel)
- 6 - Index of design option
S - modification with polymer potting protection
- 7 - Index of case design and outputs
H - case with a cover and blade solder pins (basic version)
C - case with a cover and terminal blocks
- 8 - Index of operating temperature range of the case
N -40°C ...+85°C (basic version)
P -50°C ...+85°C

Technical information

Standard models with one output

Module	Input voltage range	Output power	Output voltage / nominal output current	Typical efficiency
TESA1500-400S24-XXX	~304...456 VAC	1500 W	24 VDC / 62,5A	88%
TESA1500-400S27-XXX	~304...456 VAC	1500 W	27 VDC / 55,5 A	88%
TESA1500-400S48-XXX	~304...456 VAC	1500 W	48 VDC / 31,25 A	89%

Modules with non-standard output voltage from 15 to 60 VDC with maximal output current up to 100 A, could be delivered by request.

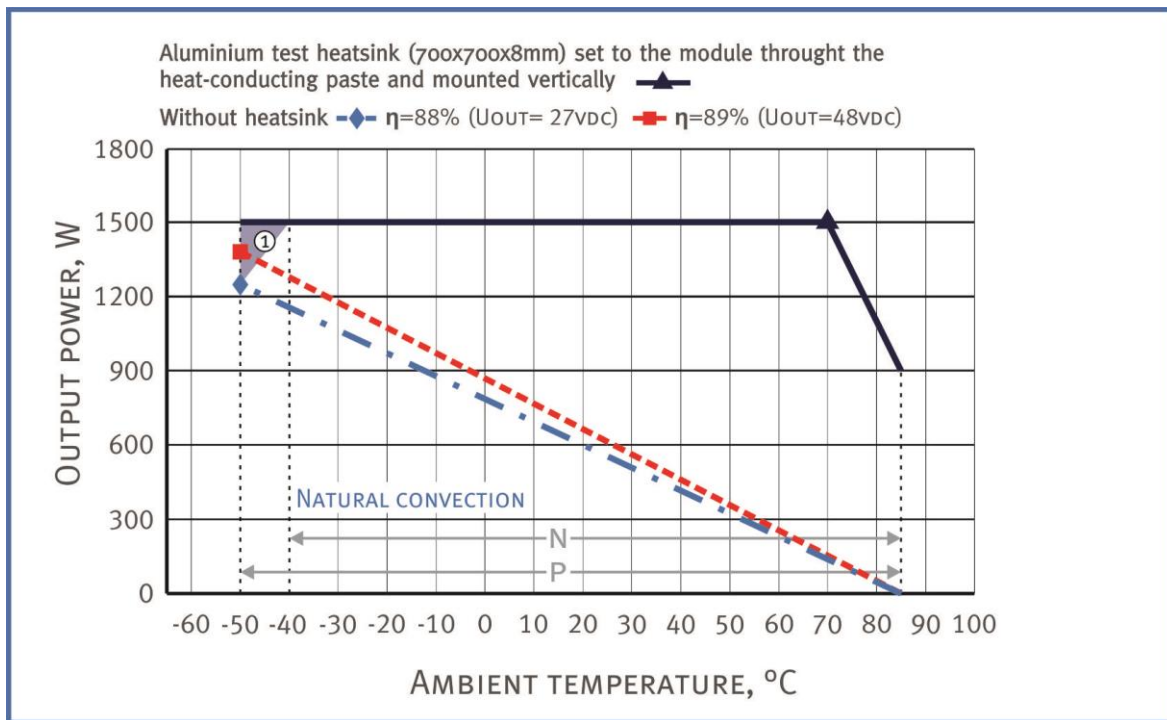
Input specifications	
Input voltage range 400	~ 304...456 VAC (accepted=428...643V)
Input frequency	47...440 Hz
Output specifications	
Output voltage adjustment	±5%
Instability of output voltage in accordance to changing of output current from 10 to 100%	±2%
Instability of output voltage in accordance to instability 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**	<125% Uout
Over current protection level**	Pout ... 1.3·Pout
Remote On/Off (inverse control – optional)	Shuts down outputs by applying 3...5VDC (≤5 mA) on "+REM", "-REM" or by shorting pins "+AUX" and "+REM"
The maximum output power without the heatsink, Tamb=50°C	321 W
Max capacitance for Uout=24 VDC, 50% Output power	45000 µF***
General specifications	
Case temperature (operating N)	-40°C...+85°C
Case temperature (operating P)	-50°C ...+85°C
Case temperature (storage)	-50°C ...+85°C
Output power derating (natural convection)	See diagram (dashed, dash-dotted curves)
Output power with heatsink	See diagram (solid curve)
High humidity	95% @ 35 °C
Conversion frequency, fixed	130-150 kHz
Insulation voltage input/case	~1500 VAC
Insulation voltage input/output	~3000 VAC
Insulation voltage output/case	~500 VAC
Isolation resistance @ 500 VDC	20 MOhm
EMC standards	EN55022, class A
Safety standard	IEC/EN60950
Thermal resistance case – environment without heat sink	0,8 °C/W
Typical MTBF (Tcase = 50°C; Pout = 0,7 Pout max)	30 000 hrs
Cooling method	Free air convection with heat sink or forced air
Weight (max)	2400 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 working temperatures, at module's work with the output voltage over a range of adjustment.

*** For other output voltages the maximum output capacity is calculated from the fact that $\frac{C_{max} \times U_{out}^2}{2}$ is a constant.

Output power vs an ambient temperature



Dropping parts of the dashed and dash-dotted curves are in accordance with the **maximum temperature of the case** (for modules with index «N», «P» equal to +85 °C). Output power must not exceed the values which are limited by corresponding curve for a given ambient temperature.

Modules can be used without a heat sink only when screwing them heat conductive plate with thermal paste and with the length and width not less than case size and thickness of not less than 6 mm.

At point ▲, ◆ and ■ simultaneously present several extreme worst-case conditions, such as the combination of maximum case temperature and maximum output power. Continuous module operation at these points should be avoided.

① - For ambient temperature -50°C...-40°C in gray areas of diagrams some specification parameters may not be met.

Pin out (models with blade solder pins)

Nº Pin	1	2	3	4	5	6	7	8	9	10	11
Single output	C	B	A	⊕	OUT PFC	IN PFC	-REM	+REM	+AUX	+RS	-RS

Nº Pin	12	13	14	15	16	17	18	19	20	21	22
Single output	PARAL	ADJ	+OGOOD	-OGOOD	-U FAN	+U FAN	NOT USE	+OUT1	+OUT	-OUT	-OUT

Pin out (models with the terminal blocks)

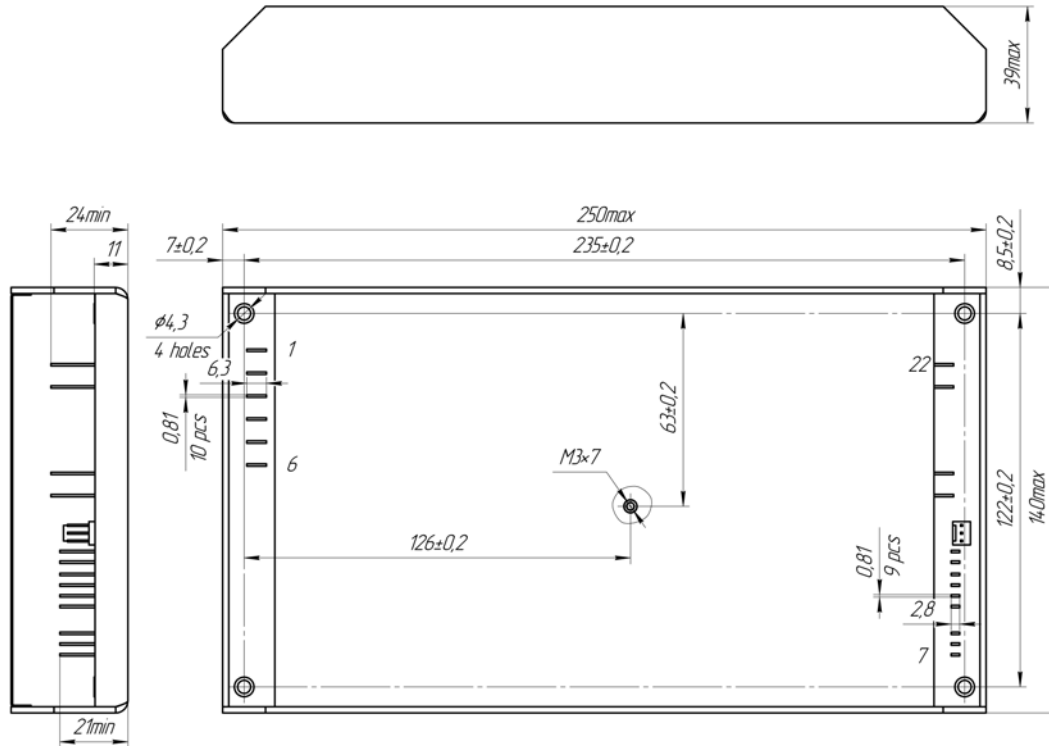
Nº Pin	X1.1	X1.2	X1.3	X1.4	X1.5	X1.6	X2.1	X 2.2	X 2.3	X 2.4	X 3.1	X 3.2
Single output	C	B	A	⊕	OUT PFC	IN PFC	+OUT	-OUT	-	-	+U FAN	-U FAN

Nº Pin	X3.3	X4.1	X4.2	X4.3	X4.4	X5.1	X5.2	X5.3	X5.4	X7.1	X7.2
Single output	NOT USE	-REM	+REM	+AUX	NOT USE	+RS	-RS	PARAL	ADJ	+OGOOD	-OGOOD

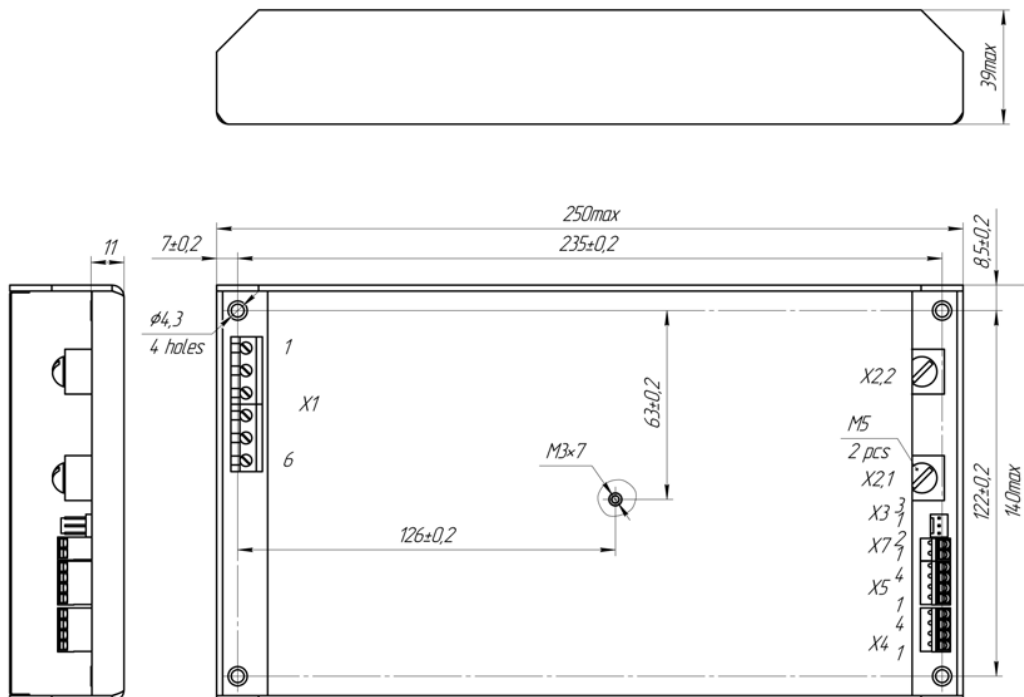
The use of a central socket for attaching the module to the heatsink is required , whereas the fastening screw must enter the module body to a depth of no more than 7 mm.

Violation of these requirements may result in damage to the module, its failure and entails waivering of the warranty.

Single output model with blade solder pins (VI A case size)



Single output model with terminal blocks (VI A case size)



Certificates

Certificate ISO 9001*
CE conformity declaration

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

Note

The input, output and service pins connections of these power supplies are made through blade solder pins either by using standard female terminals or soldering.
The module's connection to the equipment with screw terminals allows the possibility to organize fast installation and easy change of modules during tests or operation in equipments that are not influenced by vibration or aggressive environments.
The module's connection to the equipment by soldering the blade solder pins of flexible wires ensures maximum reliability and minimum voltage drop under effect of adverse mechanical, climatic and chemical factors.
Blade solder pins' modules do not require service of connections (commonly known as periodic tightening of screw terminals) during module's entire life time. This provides more convenience during operation and is a major advantage of these products.

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.aeps-group.ru>.

Contact information

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