

Advantages

- Successor to the popular KS500A and TESA600 models
- Made in Russia (under the import substitution program)*
- Export deliveries are possible
- Increased power up to 700 W, 25 W/in³
- Maximum operating temperature of the housing up to - 50°C to +85°C
- Efficiency up to 93 %
- High overload capacity
- Milled housing with improved contact with the radiator
- Dimensions 175x93x29(mm)
- Input voltage options:
"230" - (176-242 V)
"115" - (80-138 V)
- Power factor corrector
- Adjustment of the output voltage
- Remote ON
- Fan power output 12 B
- Maximum connected output capacity - no limits. Constant current mode (CC) when charging the output capacity.
- Possibility of delivery with knife contacts
- New filling heat-conducting compound of long-term operability



Description

JETAs700 isolated converters are standard AC/DC modules for operation in harsh operating conditions. Output power up to **700 W** is available at a power density of **25 W/in³**. The modules are operable in a wide range of input voltages and operating temperatures, up to **-50°C...+85°C**. They have a full range of protections and basic service functions. The optimal combination of technical parameters and competitive price makes it possible to use these modules in a variety of fields – in AFAR and other types of radars, in transport, in distributed power supply systems of supercomputers - wherever low profile, small size and weight, high efficiency are important.

*Under a License agreement with AEPS-group

When ordering, the power can be selected from a range of 500, 600 and 700 W

Single channel 700 W Model	Output voltage**	Pout max.	Nominal output voltage***	Output current max.	Typical efficiency
JETAs700-230WS12-SxN-A4	~176-242 V (1s ~264 V transient) or DC equal	600 W	12 V	50.0 A	90 %
JETAs700-230WS15-SxN-A4		700 W	15 V	46.7 A	91 %
JETAs700-230WS24-SxN-A4		700 W	24 V	29.2 A	92 %
JETAs700-230WS27-SxN-A4		700 W	27 V	25.9 A	92 %
JETAs700-230WS36-SxN-A4		700 W	36 V	19.4 A	93 %
JETAs700-230WS48-SxN-A4		700 W	48 V	14.6 A	93 %
JETAs700-230WS60-SxN-A4		700 W	60 V	11.7 A	93 %

*Execution of output contacts (index instead of X): "C" - with terminal blocks, "H" - with knife contacts (on request)

** It is possible to supply modules on request with a different input voltage range.

*** Modules with non-standard output voltage are available on request.

Ordering information

JETAs 700 - 230WS24 - SCN - A4

1 2 3 4 5 6 7 8 9

- 1 «JETAs» Series
- 2 Nominal output power, W
- 3 Index of the nominal input voltage:
 - 115** 115 (80...138 V) transient 150 V, 1s
 - 230** 220 (176...242 B) without transient
- 4 Index of the number of output channels:
 - S** one
- 5 Nominal output voltage, V (two characters on channel)
- 6 Index of constructive execution:
 - S** version with polymer sealing filling
- 7 Index of execution of terminals and housing
 - C** base with cover and terminal blocks
 - H** base with lid and knife contacts (on request)
- 8 Index of the operating temperature range of the housing:
 - N** -40°C...+85°C
 - P** -50°C...+85°C
- 9 Case size

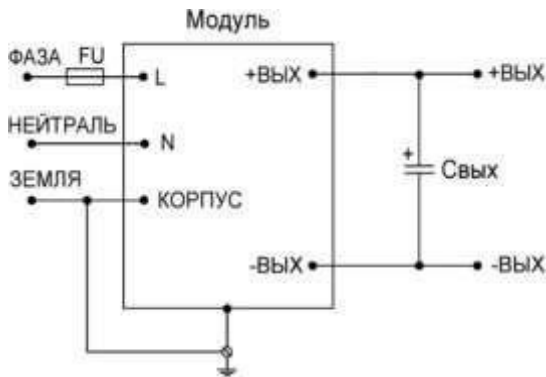
General specifications		
Switching frequency		150 kHz typ. PWM
Temperature range	Operating case temp	-40° C до +85° C (Standard "N")
	Storage temp	-60° C до +85° C
Overheat protection		+90° C typ.
Cooling method		conductive through the radiator
Humidity		5-95 % rel. H
Insulation	in/case	~1500 V
	in/out, in/REM	~3000 V
	out/case, out/REM, REM/case	~500 V
	out/out	=500 V
Isolation resistance @ =500 V		>20 MOhm
Thermal, shock, mechanical shock & vibration		MIL-STD-810F
Safety standards		IEC/EN 60950-1
Typical MTBF	Pout = 0,7 Pout max	80 000 hrs (Tcase = 50 °C)
Weight (max)		1100 g
Input specifications		
The range of input power supply (with reduced power)	50 Hz	~176-242 V (1s transient. ~176-264 V)
	DC equal.	=140-342 V (1s transient =140-372 V)
Starting voltage		typ. ~90 V
EMC Standards	CE MIL-STD-461F, CE EN 55022 – Class A, Class B. Additional application of the filter JETAf5 is possible	
Power factor		>0.67
Output specifications		
Decrease output power from input voltage	linear reduction from 700 W to 500 W from 175 V to 100 V	
Output voltage adjustment	-20%...+5% by internal trimmer ADJ	
Instability of the output voltage**	when changing from Uin,min to Uin,max	±0.5 % (with a load of 10% to 100%)
	Load var from 10 % to 100%	±2 %
Ripple and noise (peak-to-peak)	20 MHz range	<2 % for load. 10-100 %
Protection	Over-load	Auto-reset at 110-140 % or Iout,nom
	Over-voltage	<130 % Uout,nom
Capacitive load (max)	24 V out, 50% Pout,nom	typ. 19 000 uF
Remote OFF	switching off when applying 3-5 V (≤5 mA) to the terminals <Rem>	

* See description of filters on the website www.te-power.ru .

If necessary, contact us by e-mail russia@te-power.ru .

All characteristics are given for NCU, Uout.nom., Iout.nom., unless otherwise specified.

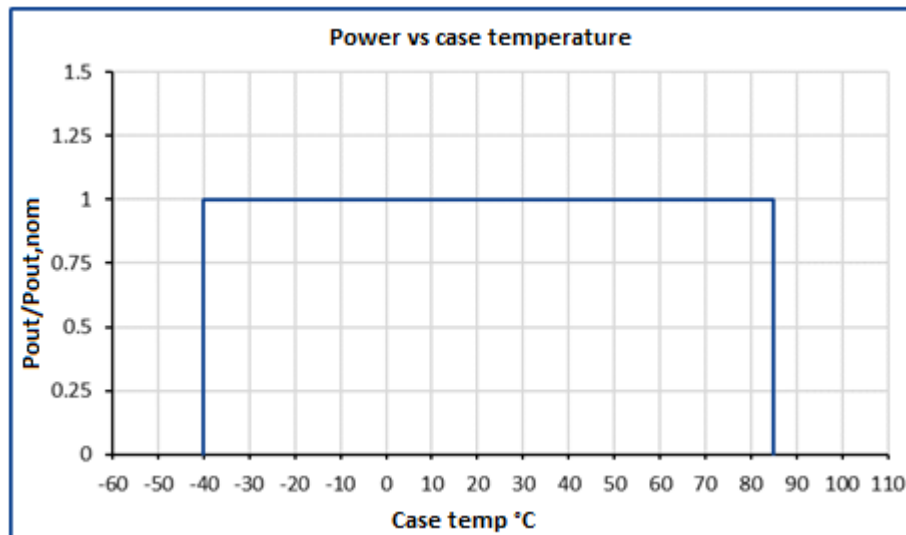
Typical connection scheme (minimum required)



For any applications of these modules as part of the connection diagram, it is mandatory to use elements of the typical scheme shown in the figure.

C_{out} - are selected in accordance with Table 9.2 of the [Technical Specifications for the JETAs series modules](#) on our website.

Temperature dependence of power and cooling principles



The zone of permissible loads for the standard version of the modules.

Cooling method

These units do not have their own cooling system and can only be used with conductive cooling (liquid) or with a convection radiator. Most of the heat generated by the module (93-95%) is concentrated on the lower surface of the housing, on the sole, which should articulate with the surface of the radiator (aluminum or copper). Requirements for the articulated surface of the radiator (preferably pre-milled) - non-flatness of less than 0.1 mm per 100 mm of length, the thickness of the solid metal on the base of the radiator is at least 4 mm.

Mounting the module to the radiator

When attaching the unit to the radiator, first one pair of diagonally placed screws is twisted, then the other. At the first pass, all screws are tightened easily, without effort. During the second pass, all screws are tightened with the recommended tightening torques of the screws.

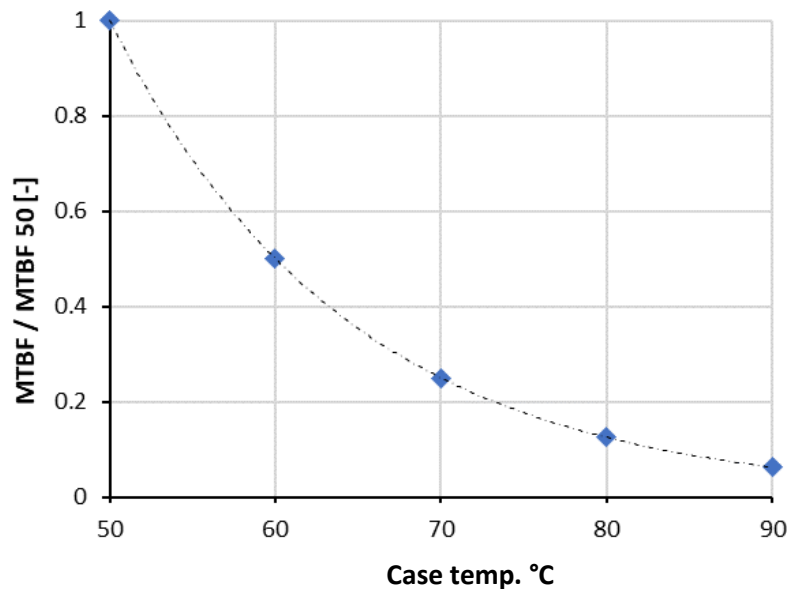
For a high-quality fit to the radiator, it is necessary to use a heat-conducting paste with a layer thickness of no more than 0.1 mm and a thermal conductivity coefficient of at least $2.0 \text{ W} / (\text{m} * \text{K})$, applied using a mesh stencil with the formation of square sections of paste after its application (for example, 2x2 mm - 4x4 mm and a distance between squares of 0.5-1 mm). This allows you to ensure the output of excess air and the minimum thickness of the paste layer when the module is attracted to the radiator.

Short-term activation of the module

If it is necessary to briefly turn on the module for 3-5 minutes (for example, to conduct an input control), an aluminum (or copper) plate should be used as a radiator. The width and length of the plate should not be less than that of the module itself, and the thickness should not be less than 4 mm. It is forbidden to use modules without the specified plate.

MTBF based on case temperature

When using the unit, a customer must in one way or another monitor maximal heatsink temperature. Maximal heatsink temperature near the center point of the longer unit's side (considered as unit case temperature) must correspond to the expected unit's MTBF. Approximate MTBF function shown on the graph lower, where MTBF / MTBF 50 is unit's MTBF value at chosen unit's case operating temperature relative to value at 50°C unit's case temperature.



Activation of thermal protection

When the internal thermal protection of the module is triggered (type +85 °C... +95°C) the module is turned off (before automatic restart). Such a condition in the equipment should lead to measures of forced cooling of the radiator of the module, for example, the inclusion of fans. In case of prolonged use of such a mode (especially in switching circuits with parallel operation or in cases of operation close to idling), the module may fail due to frequent shutdowns - inclusions at the maximum temperature of the module radiator. The time before the automatic restart when the thermal protection is triggered can last from several seconds to several minutes, depending on the thermal inertia of the radiator.

Short-circuit operation of the outputs

The modules have protection against short-term short circuit at the output, this mode is emergency, not for permanent working use. It is forbidden to turn on the modules when the output contacts are short-circuited (the modules have internal indicators).

If necessary contact us by e-mail russia@te-power.ru.

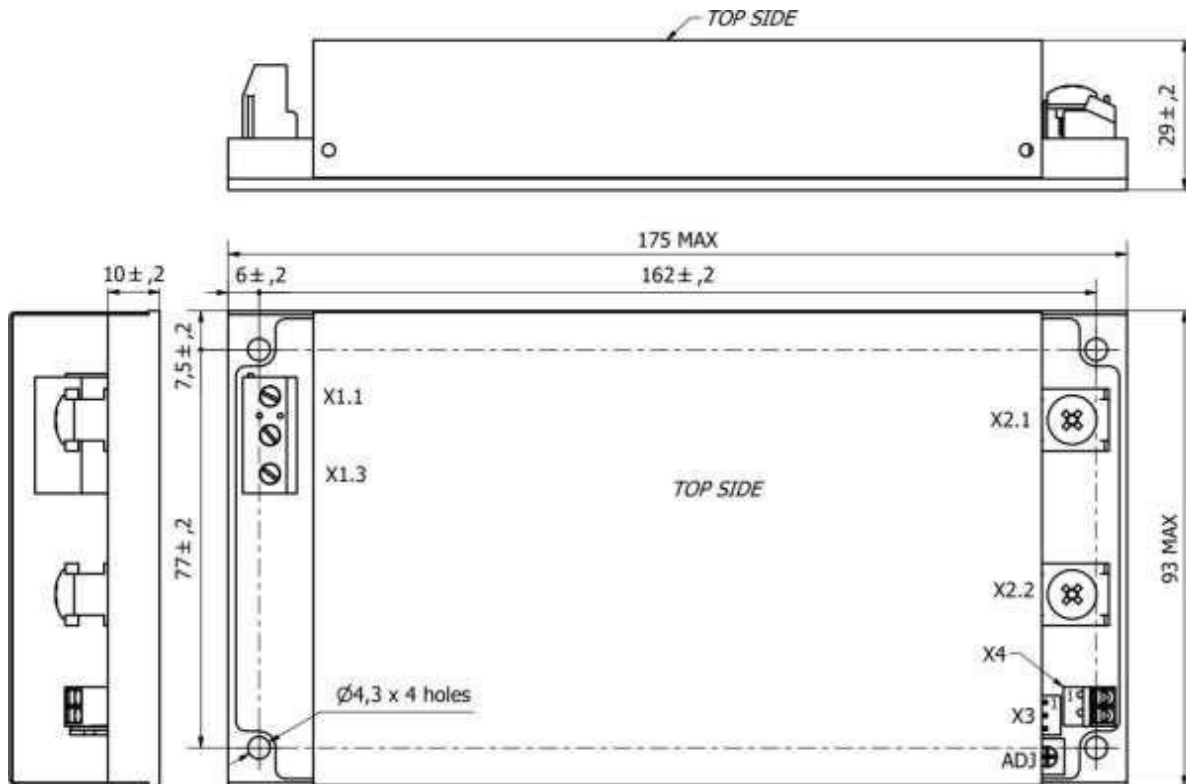
Dimensions

X1.1	X1.2	X1.3	X2.1	X2.2	X3.1	X3.2	X4.1	X4.2
GND	N	L	+OUT	-OUT	+FAN	-FAN	+REM	-REM

X1	RATED WIRE SIZE SOLID: max.: 4 mm² Stranded (flexible): max.: 2.5 mm² Stranded with Ferrule: max 2.5 mm² Screw size: M3 Torque: 0,5 Nm
X2	Screw size: M5 Recommended torque: 2 Nm Recommended: Use ring terminal, for example MOLEX 19323-0013, MOLEX 19324-0013
X3	2.54 mm PITCH, HEADER connector, 0,64 mm square head profile
X4	RATED WIRE SIZE SOLID: max.: 1.5 mm² Flexible: max.: 1.5 mm² with Ferrule: max 0.75 mm²

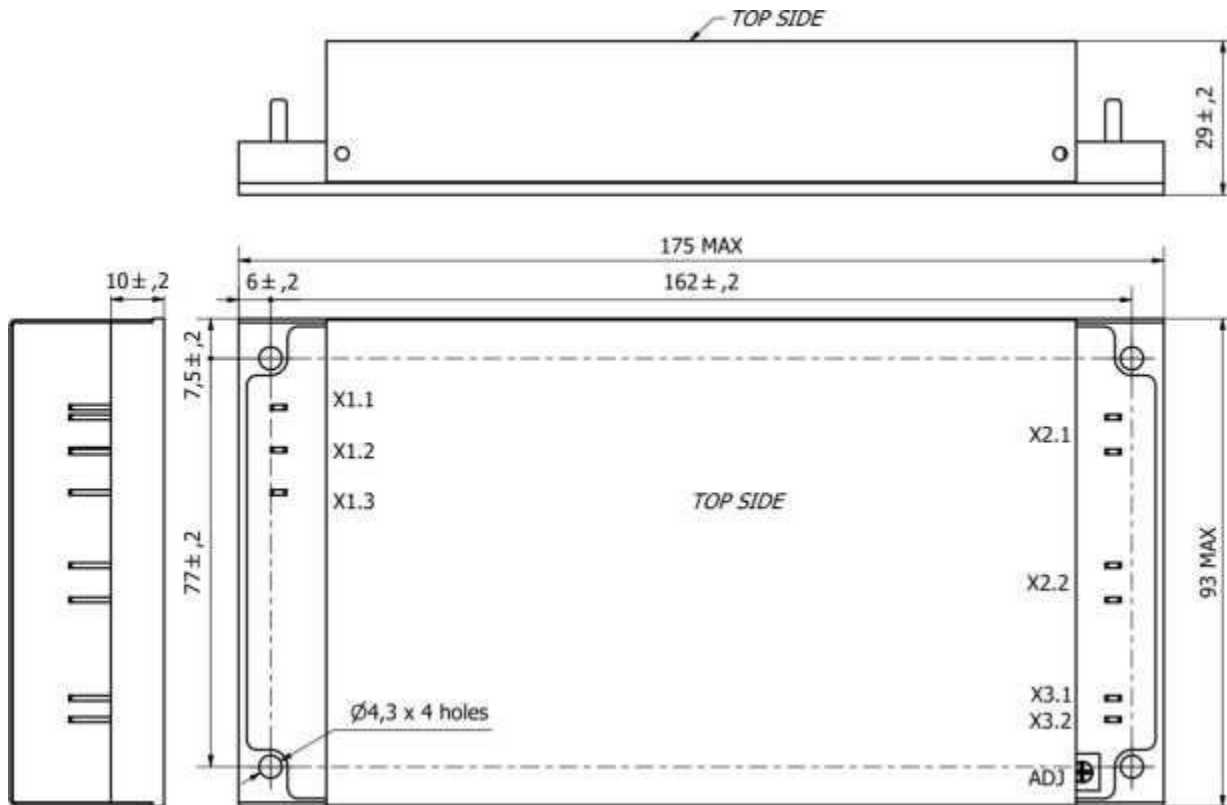
Dimensions in millimeters

One channel - version with terminal blocks "C"



X1.1	X1.2	X1.3	X2.1	X2.2	X3.1	X3.2
GND	N	L	+OUT	-OUT	+REM	-REM

Version with knife contacts "H"



Additional information

When ordering these products, the consumer is fully responsible for using the products in strict accordance with the rules and principles of operation given in this product data sheet and technical specifications (TU) given on the manufacturer's website.

Please note that the information in this document is not complete. More detailed information (additional requirements, typical switching schemes, operating rules, etc.) is provided on the website www.te-power.ru. All images are for illustration purposes only, the actual appearance of the product may vary, including the type and placement of internal components and the placement of connectors.

In accordance with the company's policy in connection with the continuous improvement of the design of products, the manufacturer reserves the right to change the content of specifications and promotional materials without prior notice! Make sure you are using the latest documentation, which can be downloaded at www.te-power.ru.

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