



## Features

- Class: Expert, power density up to **1504 W/dm<sup>3</sup>**
- **Budget version – on request !**
- Without Fan
- Low profile 28,6 mm design with terminal blocks
- Case operating temperature ranges: -40°C...+85°C, -50°C...+85°C
- Output current up to 50 A, output power up to 700 W
- Input voltage ranges: 100...242 VAC, 176...242 VAC (**on request possible 90...265 VAC**)
- Power factor correction
- Galvanically isolated output channels
- Additional output for fan
- Over current, short circuit, overvoltage and thermal protection
- Output voltage adjustment
- Remote feedback
- Max capacitance - not limited
- Metal case
- Completely replace the previous generation modules TESA600

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

## Description

**AC/DC power supplies (modules) JETA700** are specially designed for industrial applications and harsh environment operation. This compact unit (175 x 93 x 28,6 mm) proven maximum output power of up to 700 W. The units can be switched on/off by a signal, have a full protection complex against over current, short circuit and overheating; they also can be connected in parallel or in series and provide compliance to EMC standard EN55022, class A (class B with filtration and protection module JETA5 or JETA10).

Modules are made of customized element base. They are sealed with heat-conducting potting material and could have wide operating temperature range up to -50°C...+85°C, featuring a thermal protection chip. These power supplies undergo special temperature and burn-in tests with extreme on/off modes.

## Ordering information

**JETBA 700 - 230W S 15 - S C N D**

1 2 3 4 5 6 7 8 9 10

- 1 - «JETA» Series
- 2 - For request is possible budget version **B**
- 3 - Max output power, W
- 4 - Input voltages
  - 230W** – 230 VAC (100...242 VAC)
  - 230** – 230 VAC (176...242 VAC)
  - Note: from 90 to 265 VAC upon request
- 5 - Index of output channels quantity
  - S** – one
  - D** – two
- 6 - Nominal output voltage, VDC (two signs for a channel)
- 7 - Index of design option
  - S** - modification with polymer potting protection
- 8 - Index of outputs
  - C**- case with terminal blocks
- 9 - Index of operating temperature range of the case
  - N** -40°C ...+85°C (basic version)
  - P** -50°C ...+85°C
- 10 - Index of mounting on DIN-rail
  - D** – with clip for mounting on DIN-rail

## Technical information

### Standard models with one output

| Module              | Input voltage range | Output power | Output voltage / nominal output current | Typical efficiency |
|---------------------|---------------------|--------------|---|--------------------|
| JETA700-230WS12-XXX | 100...242 VAC*      | 600 W        | 12 VDC / 50 A                           | 84%                |
| JETA700-230WS15-XXX |                     |              | 15 VDC / 40 A                           | 84%                |
| JETA700-230WS24-XXX |                     | 700 W        | 24 VDC / 29,2 A                         | 88%                |
| JETA700-230WS27-XXX |                     |              | 27 VDC / 25,9 A                         | 88%                |
| JETA700-230WS48-XXX |                     |              | 48 VDC / 14,6 A                         | 89%                |
| JETA700-230S12-XXX  | 176...242 VAC       | 600 W        | 12 VDC / 50 A                           | 84%                |
| JETA700-230S15-XXX  |                     |              | 15 VDC / 40 A                           | 84%                |
| JETA700-230S24-XXX  |                     | 700 W        | 24 VDC / 29,2 A                         | 88%                |
| JETA700-230S27-XXX  |                     |              | 27 VDC / 25,9 A                         | 88%                |
| JETA700-230S48-XXX  |                     |              | 48 VDC / 14,6 A                         | 89%                |

Modules with non-standard output voltage from 12 to 60 VDC with maximal output current up to 50 A, could be delivered on request.

\* For input voltage 230W (wide input) maximal output power decrease at input voltage 100...176 VAC according to the derating curves.

| Module              | Input voltage range | Output power | Output voltage / nominal output current | Typical efficiency |
|---------------------|---------------------|--------------|---|--------------------|
| JETBA500-230S12-XXX | 176...242 VAC       | 480 W        | 12 VDC / 40 A                           | 84%                |
| JETBA500-230S15-XXX |                     | 500 W        | 15 VDC / 33.3 A                         | 84%                |
| JETBA500-230S24-XXX |                     |              | 24 VDC / 21 A                           | 88%                |
| JETBA500-230S27-XXX |                     |              | 27 VDC / 18.5 A                         | 88%                |
| JETBA500-230S48-XXX |                     |              | 48 VDC / 10.4 A                         | 89%                |

Modules with non-standard output voltage from 12 to 60 VDC with maximal output current up to 40 A, could be delivered on request.

## Specifications \*

| <b>Input specifications</b>  |   |
|--|---|
| Input voltage range / Input voltage transient deviation (1 s) 230 W**  | 100...242 VAC (accepted =140...342 VDC)/<br>100...264 VAC (accepted =140...373 VDC) |
| Input voltage range / Input voltage transient deviation (1 s) 230  | 176...242 VAC (accepted =248...342 VDC)/<br>176...264 VAC (accepted =248...373 VDC) |
| Input frequency  | 47...440 Hz   |
| Input current surging at start-up@~230B  | 110 A   |
| Power factor   | >0,96   |
| Harmonics content of input current   | EN61000-3-2, class D  |
| <b>Output specifications</b>   |   |
| Output voltage adjustment  | ±5%   |
| Instability of output voltage in accordance to changing of output current from 10 to 100% for single output model                                  | ±2%   |
| Instability of output voltage in accordance to changing of output current from 10 to 100% for dual output model                                    | ±2% for chan.1, ±7% for chan.2  |
| Instability of output voltage in accordance to changing of output current for dual output model with a voltage value ≥20%                          | ±2% for chan.1, ±12% for chan.2   |
| Instability of output voltage in accordance to instability of input voltage  | ±0,5% for chan. 1, ±1% for chan. 2  |
| Ripple and noise (peak-to-peak) (20 MHz)   | <2% Uout  |
| Overvoltage protection***  | >125% Uout  |
| Over current protection level & short circuit protection for single output model ***   | Output current limiting at 110-120% of Iout nom                                     |
| Over current protection level for dual output model ***  | >120...140% Iout nom  |
| Short circuit protection level for dual output model ***   | >140% Iout nom, auto restore  |
| Remote On/Off (inverse control – optional)   | Shuts down by applying 3...5VDC (≤5 mA) on REM outputs                              |
| Max capacitance for single output model  | not limited   |
| Max capacitance for dual output model Uout 1, 2 =12 VDC, 50% Pout  | 38 0000 µF****  |
| Output for fan   | 9.5...13 VDC, I <sub>max</sub> =200 mA  |
| <b>General specifications</b>  |   |
| Case temperature (operating N)   | -40°C ...+85°C*****   |
| Case temperature (operating P)   | -50°C ...+85°C*****   |
| Case temperature (storage)   | -50°C ...+85°C  |
| Level of operation of thermal protection (temperature of case)   | 82°C ...+95°C, auto restore   |
| Output power derating (natural convection)   | See diagram (dashed, dash-dotted curves)  |
| Output power with heatsink with thermal resistnace R <sub>ha</sub> =0,12°C/W, difference between ambient and module case temperature would be 15°C | See diagram (solid curve)   |
| High humidity  | 95% @ 35 °C   |
| Conversion frequency, fixed  | 125 - 150 kHz   |
| Insulation voltage input/case  | 1500 VAC  |
| Insulation voltage input/output, input/REM   | 3000 VAC  |
| Insulation voltage output/case, output/REM, REM/case   | 500 VAC   |
| Insulation voltage output/output   | 500 VDC   |
| Isolation resistance @ 500 VDC   | 20 MOhm   |
| EMC standards  | EN55022, class A (class B with filter JETAF5 or JETAF10)                            |
| Safety standard  | IEC/EN60950   |
| Thermal resistance case — environment without heat sink  | 1,8°C/W   |
| Typical MTBF (T <sub>case</sub> = 50°C; P <sub>out</sub> = 0,7 P <sub>out</sub> max)   | 40 000 hrs  |
| Cooling method   | Free air convection or forced air cooling   |
| Weight (max)   | 1100 g  |

\* All specifications are valid for normal climatic conditions, U<sub>in.nom.</sub>, I<sub>out.nom.</sub>, unless otherwise stated.

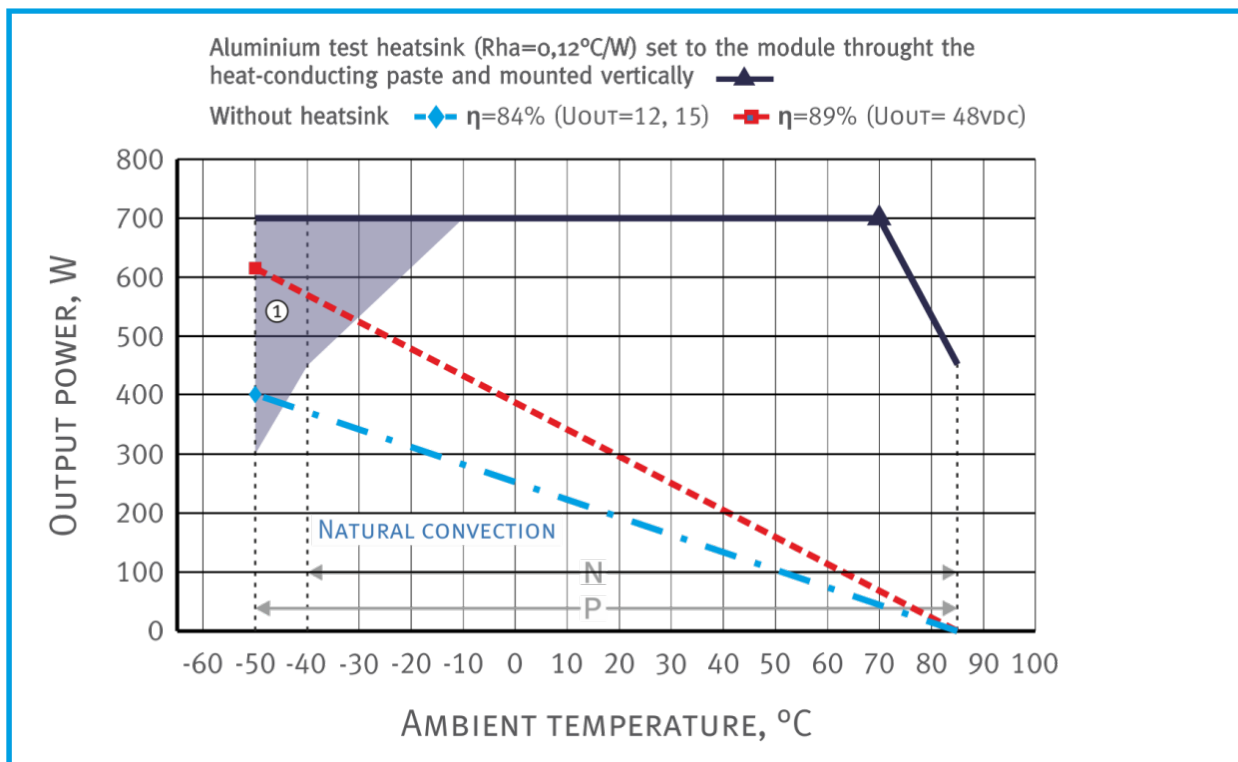
\*\* For input voltage 230W (wide input) maximal output power decrease at input voltage 100...176 VAC according to the derating curves.

\*\*\* Parameters are stated for information purposes and could not be applied to long term work, exceeding maximum output current, at work outside of operating temperature range.

\*\*\*\* 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.

\*\*\*\*\* Turn-on delay of power supply at subzero temperatures can reach up to 5s at -40°C, 15...20s at -50°C.

## Output power vs ambient temperature for input volatges 176...242 VAC

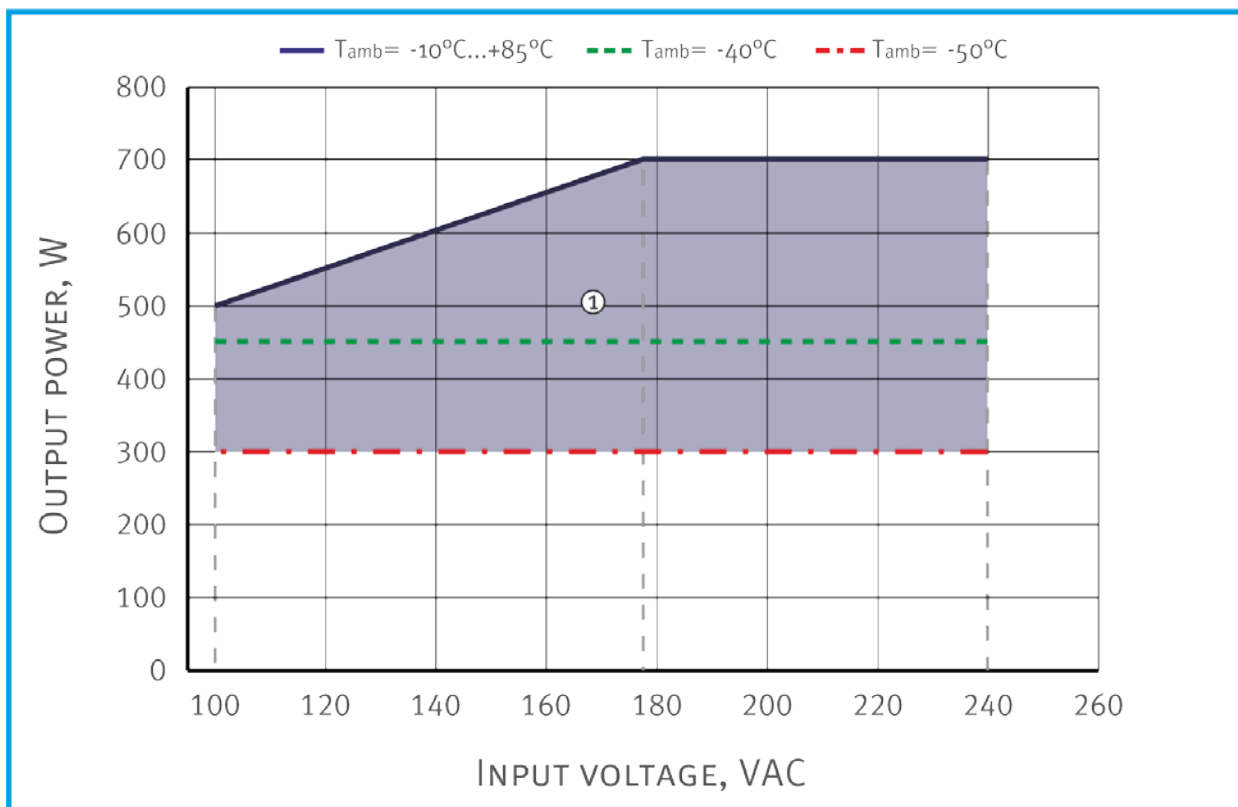


Dropping parts of the dashed and dash-dotted curves are in accordance with the **maximum temperature of the case** (for modules with index «N», «P» equal to +85 °C). Output power must not exceed the values which are limited by corresponding curve for a given ambient temperature.

Modules can be used without a heat sink only when attached to a heat conductive plate with thermal paste. The length and width of the plate should not be less than those of the case, and its thickness must not be less than 3 mm.

Points  $\blacktriangle$ ,  $\blacklozenge$  and  $\blacksquare$  represent simultaneously 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.

## Output power vs input volatges



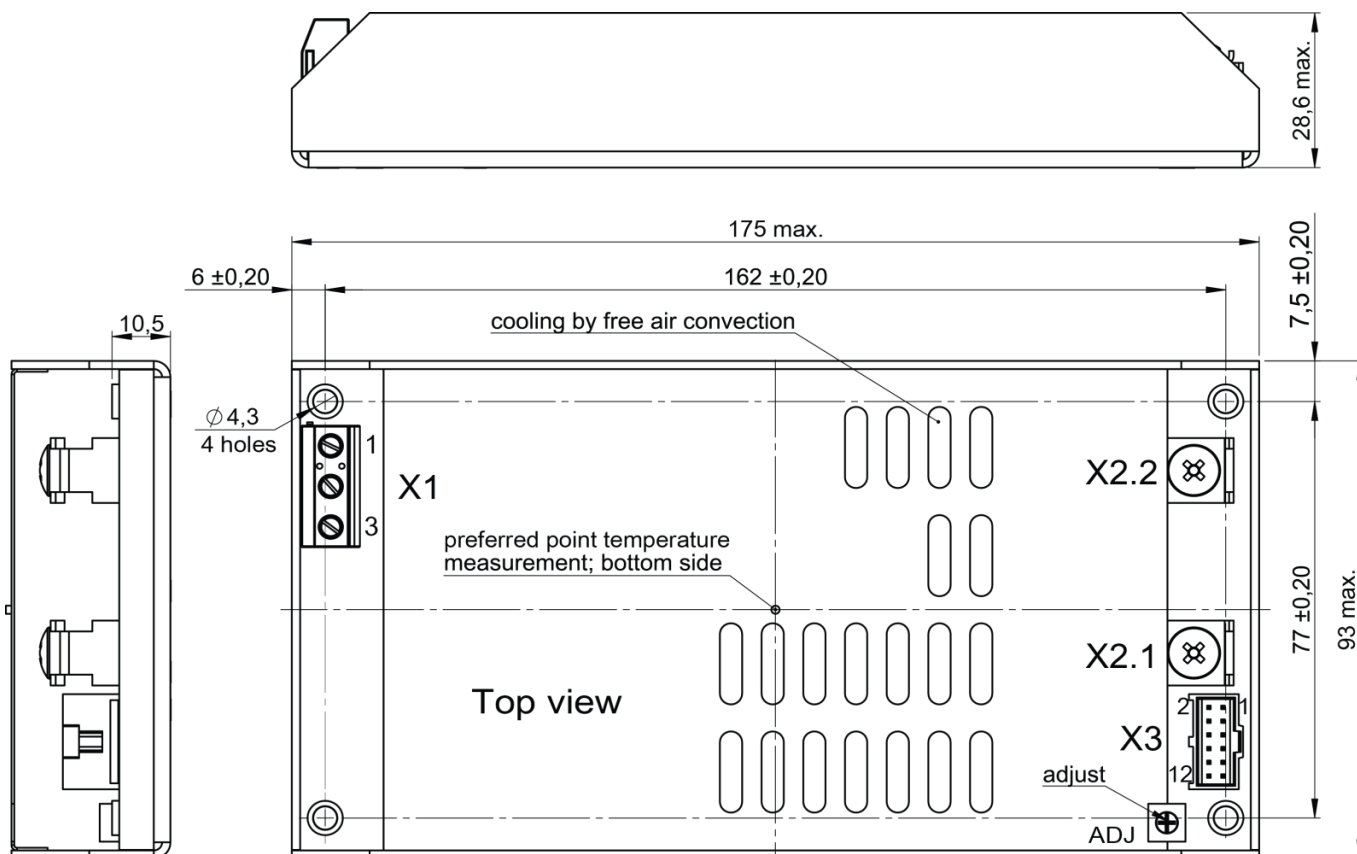
① - For ambient temperature  $-50^{\circ}\text{C} \dots -10^{\circ}\text{C}$  in gray areas of diagrams some specification parameters may not be met.

## Pin out (models with the terminal blocks)

| X1.1 | X1.2 | X1.3 | X2.1 | X2.2 | X3.1 | X3.2  | X3.3 | X3.4 | X3.5 | X3.6 | X3.7 | X3.8 | X3.9    | X3.10   | X3.11 | X3.12 |
|------|------|------|------|------|------|-------|------|------|------|------|------|------|---------|---------|-------|-------|
| GND  | N    | L    | -OUT | +OUT | ADJ  | PARAL | +FAN | -FAN | -RS  | -OUT | +RS  | +OUT | -OGOOD* | +OGOOD* | -REM  | +REM  |

|               |   |
|---------------|---|
| X1            | <b>RATED WIRE SIZE</b><br>SOLID: max.: <b>4mm<sup>2</sup></b><br>Stranded (flexible): <b>max.: 2,5mm<sup>2</sup></b><br>Stranded with Ferrule: <b>max 2,5mm<sup>2</sup></b><br>Screw size: <b>M3</b><br>Torque: <b>0,5 Nm</b>                                       |
| X2.1,<br>X2.2 | Screw size: <b>M5</b><br>Recommended torque: <b>2Nm</b><br>Recommended: use Ring terminal, for example MOLEX 19323-0013, MOLEX 19324-0013.  |
| X3            | MOLEX, C-GRID III<br>MALE – SDA-90130-1112.<br>FEMALE – SD-90142-0012 (12 pin) USE WITH "GRIMP TERMINAL" SD – 90119-0109 or other.<br>USE "HAND CRIMP TOOL" for C-GRID III female Crimp Terminals for example 63825-8100 or other depending on the CRIMP TERMINALS. |

## Single output model with terminal blocks (IV A case size)



## Certificates

Certificate ISO 9001\*  
CE conformity declaration

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

## Note

Please note that information given in this document is not complete. More detailed information (additional requirements, typical connection schemes, operation manuals, etc.) may be provided to you upon request.

## Contact information

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## Special requirements