



## Features

- Class: Expert, power density up to **2335 W/dm<sup>3</sup>**
- **Budget version – for request !**
- Without Fan
- Low profile: 39,1 mm design with terminal blocks
- Case operating temperature ranges: -40°C...+85°C, -50°C...+85°C, for request -60°C...+85°C
- Output current up to 200 A, output power up to 5000 W
- Three phase input voltage range 323...440 VAC
- Power Factor Correction (PFC)
- Parallel operation
- Additional output for fan
- Over current, short circuit, overvoltage and thermal protection, remote on/off by applying voltage or with breaker
- Output voltage adjustment
- Remote feedback
- Output diagnostics («Output good»)
- Max capacitance – not limited
- Metal case

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

## Description

**AC/DC power supplies (modules) JETNA5000-380** with three phase input voltage are especially designed for industrial applications and harsh environment operation. This compact unit (300 x 170 x 39,1 mm) proven maximum output power of up to 5000 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 external filter).

Modules are made of customized element base. They are sealed with heat-conducting potting material and could have wide operating temperature range up to -60°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

**JETBNA 5000 - 380 S 2 7 - S C N**

1 2 3 4 5 6 7 8 9

- 1 - «JETA» Series
- 2 - For request is possible budget version **B**
- 3 - Max output power, W
- 4 - Input voltages  
**380** – 3 ph. 380 VAC (323...440 VAC)
- 5 - Index of output channels quantity  
**S** – one
- 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), for request -60°C...+85°C

## Technical information

### Standard models with one output

Module	Input voltage range	Output power	Output voltage / nominal output current	Typical efficiency
JETA5000-380S24-XXX	323...440 VAC	4800 W	24 VDC / 125 A	93%
JETA5000-380S27-XXX		5000 W	27 VDC / 185 A	93%
JETA5000-380S48-XXX			48 VDC / 104 A	94%

Modules with non-standard output voltage from 24 to 500 VDC with maximal output current up to 200 A, could be delivered by request.

Module	Input voltage range	Output power	Output voltage / nominal output current	Typical efficiency
JETBNA3000-380S24-XXX	323...440 VAC	3000 W	24 VDC / 125 A	93%
JETBNA3000-380S27-XXX			27 VDC / 111 A	93%
JETBNA3000-380S48-XXX			48 VDC / 62.5 A	94%

Modules with non-standard output voltage from 24 to 500 VDC with maximal output current up to 125 A, could be delivered by request.

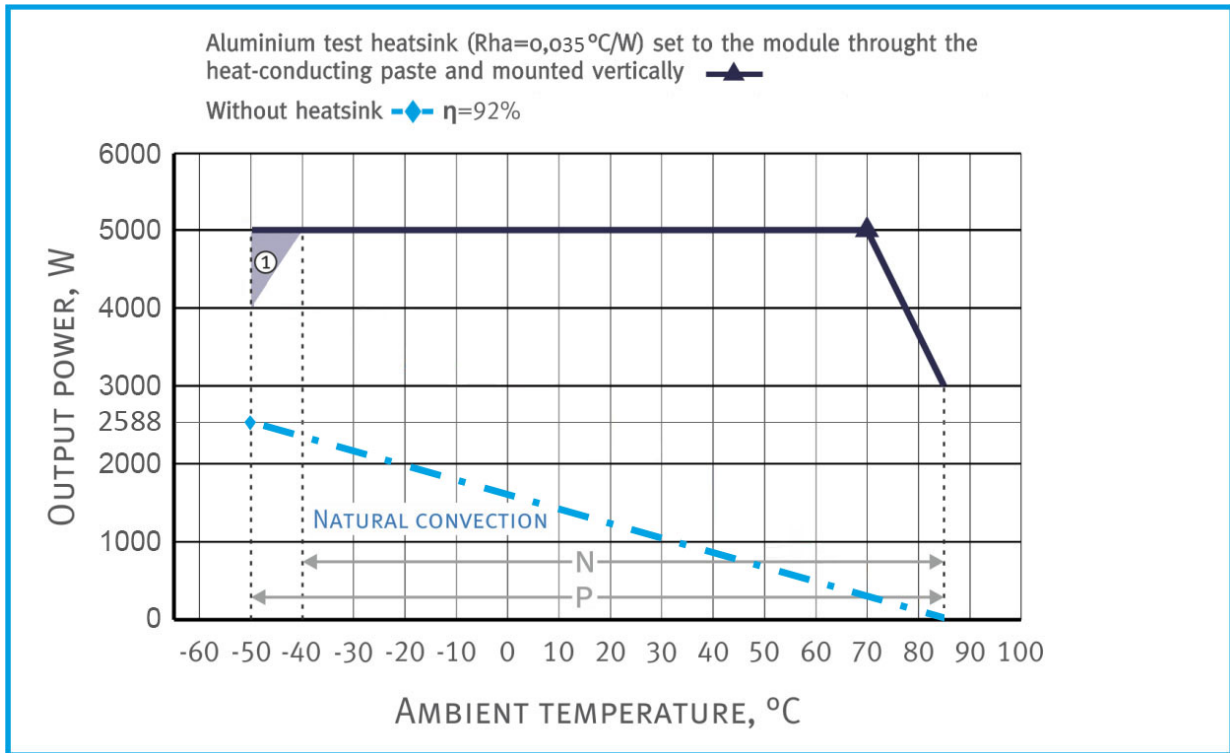
## Specifications \*

<b>Input specifications</b>	
Linear input voltage range, the connection to the "triangle"	323...440 VAC (accepted 390...620 VDC)
Input frequency	47...65 Hz
Power factor	>0,9
<b>Output specifications</b>	
Output voltage adjustment using trimmer resistor ADJ	±5%
Output voltage adjustment using pin ADJ	-30%...+10%
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
Overvoltage protection**	>125% Uout
Over current protection level & short circuit protection**	Iout limiting at 110-120% of Iout nom
Remote On/Off	Shuts down by applying 3...5VDC (≤5 mA) on REM outputs or connecting «ADJ» & «+REM»
Max capacitance	not limited
Output for fan	9.5...13 VDC, I <sub>max</sub> =200 mA
Service functions OGOOD	Controlling "opened-collector transistor": on if output voltage Uout > 0,7*Uout.nom; off if output voltage Uout < 0,7*Uout.nom or module is turned off. U <sub>max</sub> = 20 V, I <sub>max</sub> = 15 mA
<b>General specifications</b>	
Case temperature (operating N)	-40°C ...+85°C, for request -60°C ...+85°C
Case temperature (operating P)	-60°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> =0,035°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	100-120 kHz
Insulation voltage input/case	1500 VAC
Insulation voltage input/output; input/REM, AUX, OGOOD	3000 VAC
Insulation voltage output, REM, AUX, OGOOD/case; output/REM, AUX, OGOOD; REM, AUX/OGOOD	500 VAC
Isolation resistance @ 500 VDC	20 MOhm
EMC standards	EN55022, class A (class B with filter)
Safety standard	IEC/EN60950
Thermal resistance case — environment without heat sink	0,6 °C/W
Typical MTBF (T <sub>case</sub> = 50°C; P <sub>out</sub> = 0,7 P <sub>out</sub> max)	30 000 hrs
Cooling method	Free air convection with heat sink or forced air cooling
Weight (max)	3500 g

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

## Output power vs ambient temperature

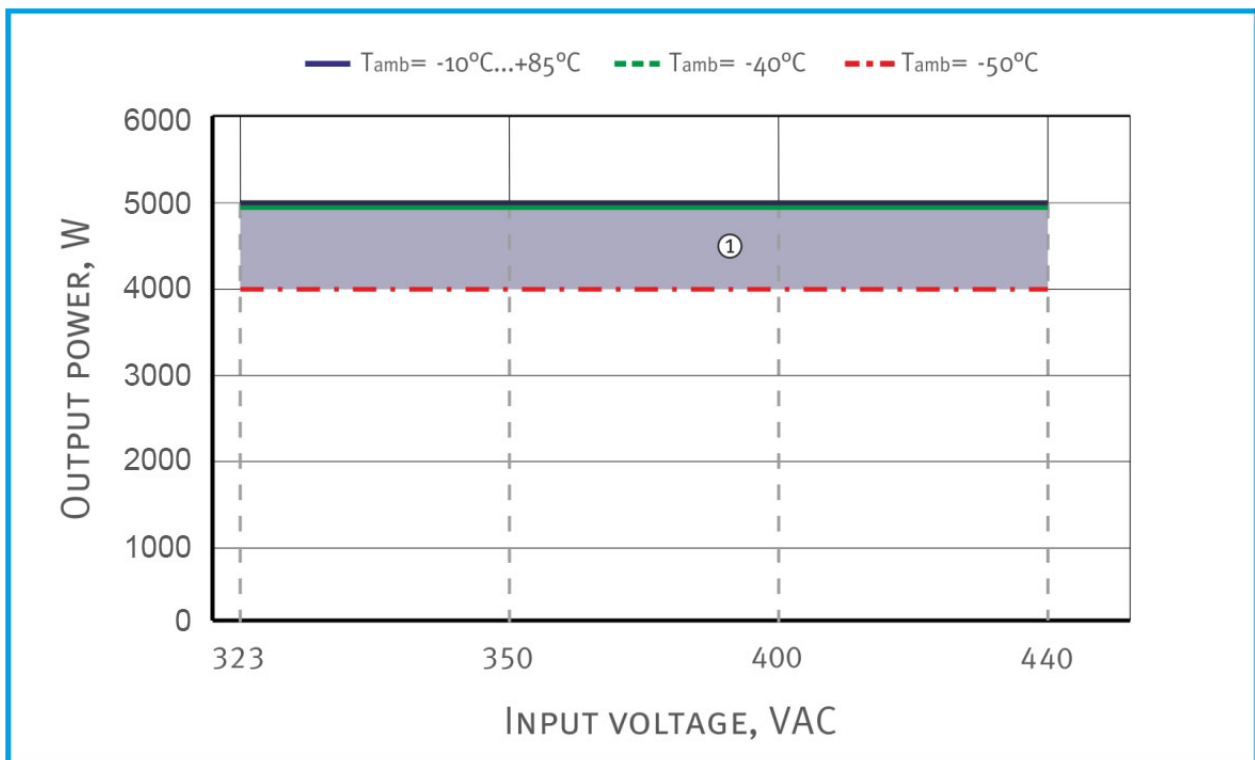


Dropping parts of the dashed and dash-dotted curves are in accordance with the **maximum temperature of the case** (for modules with index «N», «P» equal to  $+85^{\circ}\text{C}$ ). Output power must not exceed the values which are limited by corresponding curve for a given ambient temperature.

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 6 mm.

Points  $\blacktriangle$  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 voltages



① - For ambient temperature  $-50^{\circ}\text{C} \dots -40^{\circ}\text{C}$  in gray areas of diagrams some specification parameters may not be met.

## Pin out (models with the terminal blocks)

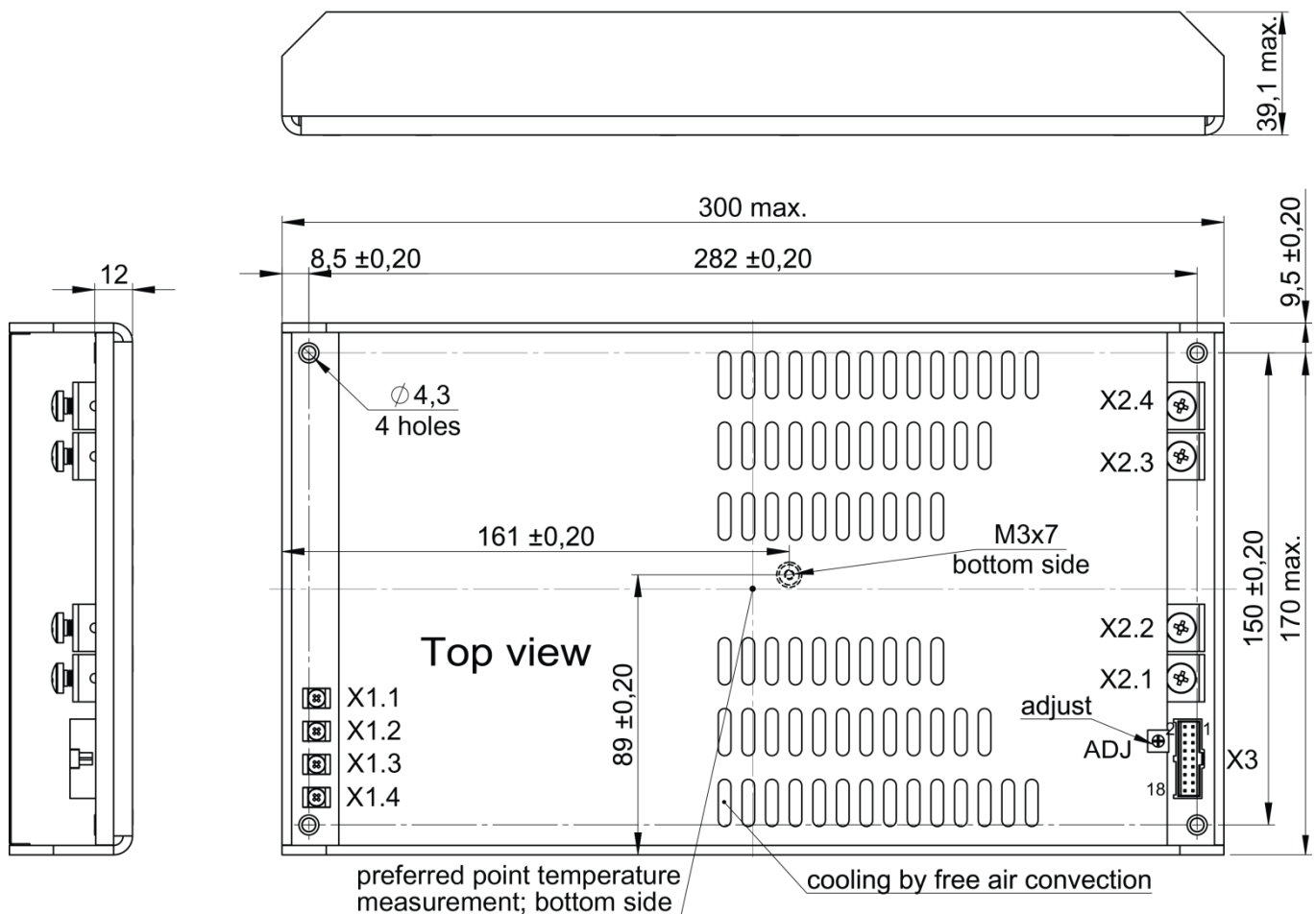
X1.1	X1.2	X1.3	X1.4	X2.1	X2.2	X2.3	X2.4	X3.1	X3.2	X3.3	X3.4	X3.5	X3.6	X3.7
C	B	A	GND	-OUT	-OUT	+OUT	+OUT	+OGOOD	-OGOOD	not use	not use	ADJ	PARAL	+FAN
X3.8	X3.9	X3.10	X3.11	X3.12	X3.13	X3.14	X3.15	X3.16	X3.17	X3.18				
-FAN	-RS	-OUT	+RS	+OUT	not use	not use	not use	AUX	-REM	+REM				

X1.1, X1.2, X1.3, X1.4	Screw size: <b>6-32x1/4 L</b> Recommended Torque: <b>0,5 Nm</b> Recommended: Use ring terminal, for example MOLEX 19323-0007, MOLEX 19324-0007.
X2.1, X2.2, X2.3, X2.4	Screw size: <b>M5</b> Recommended torque: <b>2Nm</b> Recommended: Use ring terminal, for example Würth Electronics Inc. 5580510 or 5580516.
X3	MOLEX, C-GRID III MALE – SDA-90130-1118. FEMALE – SD-90142-0018 (18 pin) USE WITH "GRIMP TERMINAL" SD – 90119-0109 or other. USE "HAND CRIMP TOOL" for C-GRID III female Crimp Terminals for example 63825-8100 or other depending on the CRIMP TERMINALS.

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 waiving of the warranty.

### 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

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