

AC/DC power supply block **JETAB3600**



Features

- The block comprises 3 units of JETA1200-230WS27-SCN
- Input voltage 220...380 V, 47-440 Hz
(when supplied by 3 phase mains – every unit is connected to single phase)
- Output power up to 3600 W
- Output current 133,2 A
- Parallel operation
- PFC
- Overcurrent protection, short circuit and overvoltage
- Thermal protection
- Remote on-off
- Output voltage adjustment by external control voltage
- Ability to work via battery on stand-by
- In-built aluminium heat sink
- In-built cooling fans
- In-built separation output diodes

Description

The unit consists of three connected in parallel AC/DC converters, mounted on a common aluminum heat sink with cooling fans. It is designed for harsh environments in the temperature range $-40^{\circ}\text{C} \dots +60^{\circ}\text{C}$ and humidity up to 95 %. The unit has dimensions of 430x320x87mm and a maximum output power of 3600 W, load current up to 133,2A. The unit includes a current limit circuit, which provides its restriction to the set level, by increasing the load from nominal to short-circuit at the output. The unit has thermal protection and has passed all kinds of thermal and capacity tests, including extreme on/off modes.

Power block is fit with a PCB for adjusting output voltage for synchronous voltage adjustment of every unit in range $\pm 5\%$.

Specification (without losses on separation diodes) *

Input parameters	
Input voltage range	100...242VAC (141...341VDC)
Input frequency	47...440Hz
Power factor	>0,97
Output parameters	
Nominal output voltage	27VDC
The range of output voltage adjustment by control voltage 2 ... 3V, while working on an electronic load to stabilize current 30A	18...32V (see table 2)
Instability of the output voltage in accordance with the change of output current, from 10...100% of Iout nom	±2%
Instability of output voltage in accordance with change of the input voltage	±0,5%
Overvoltage protection	<120% Uout nom
Ripple range, working current mode 10...100% of Iout nom	<2% Uout nom
Safe operation with no load	Iout = 0...0,1*Iout nom
Efficiency, Uin = 230VAC, Pout = 3000W	>88%
Output power limitation mode	1,1*Pout (see table 1)
Output current limitation mode (switch to current generator mode)	167A (see table 1)
Remote control (voltage feed turns off the device)	3...5V, 15mA for REM
LED – indication output (IND - REM)	12V, 5mA
Max capacitance at the output	Ability to work with battery
Output power decrease	(see the graph 1, 2)
Humidity	95% @ 35°C
Ambient temperature (operating), see the output voltage decrease graph	-40°C...+60°C**
Storage temperature	-50°C...+85°C
Conversion frequency	140kHz
Isolation resistance, @500VDC	>20MOM
Insulation voltage input - output	2000VAC
Insulation voltage input - case	2000VAC
Insulation voltage output - case	500VAC
Leakage current, Uin = 220VAC	<0,6mA
Safety standard	IEC/EN60950
EMC standard	EN55022, Class A
MTBF (t Case = 50°C)	30 000 hours

* all specifications are valid for NCC

** turn-on delay of power supply block at subzero temperatures can reach up to 5s

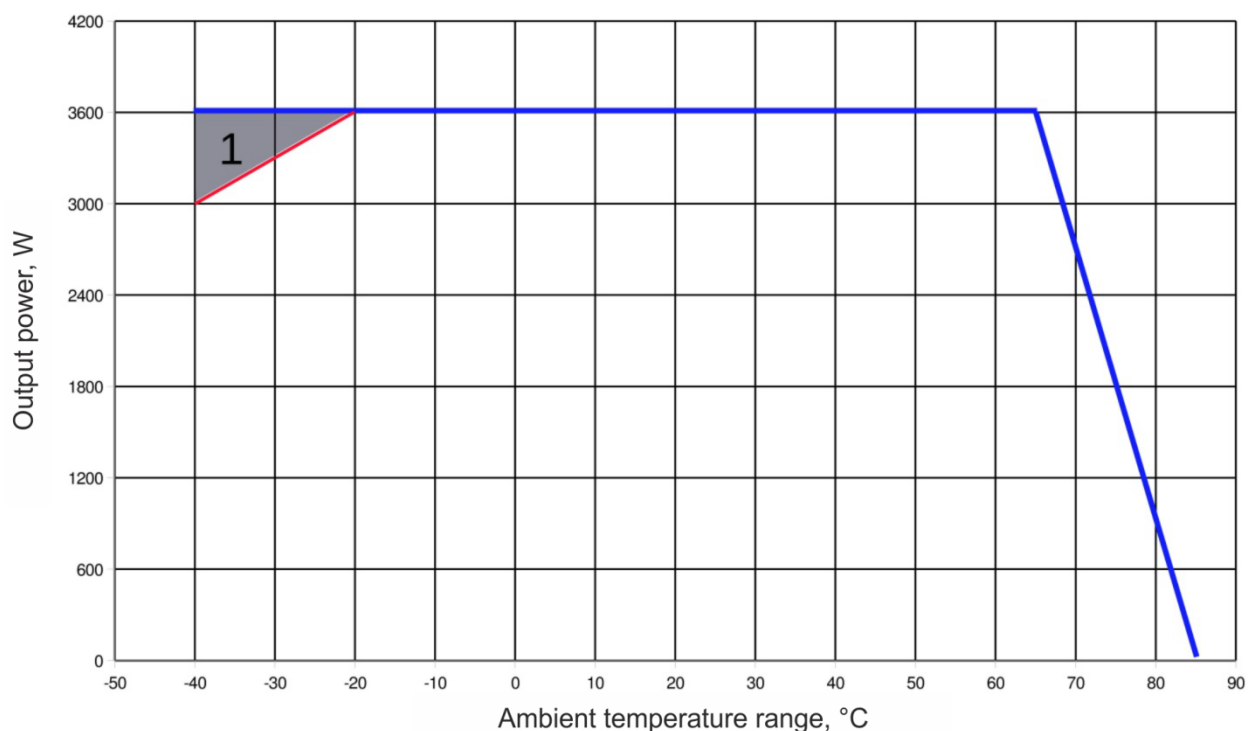
Load output characteristics of the block without drop at the separation diodes

№	Output voltage, V	Output current, A	Output power, W
1	27,1	6	163
2	27,1	12	325
3	27,1	30	813
4	27,1	133,2	3610
5	27,07	135	3654
6	27,07	141	3817
7	27	147	3969
8	26	150	3900
9	25	152,4	3810
10	24	152,4	3658
11	22	156,9	3452
12	20,2	160,5	3242
13	19	161,7	3072
14	15	167,1	2507
15	4	167,1	668
16	0	167,1	0

Output voltage adjustment by external control voltage, without drop at the separation diodes

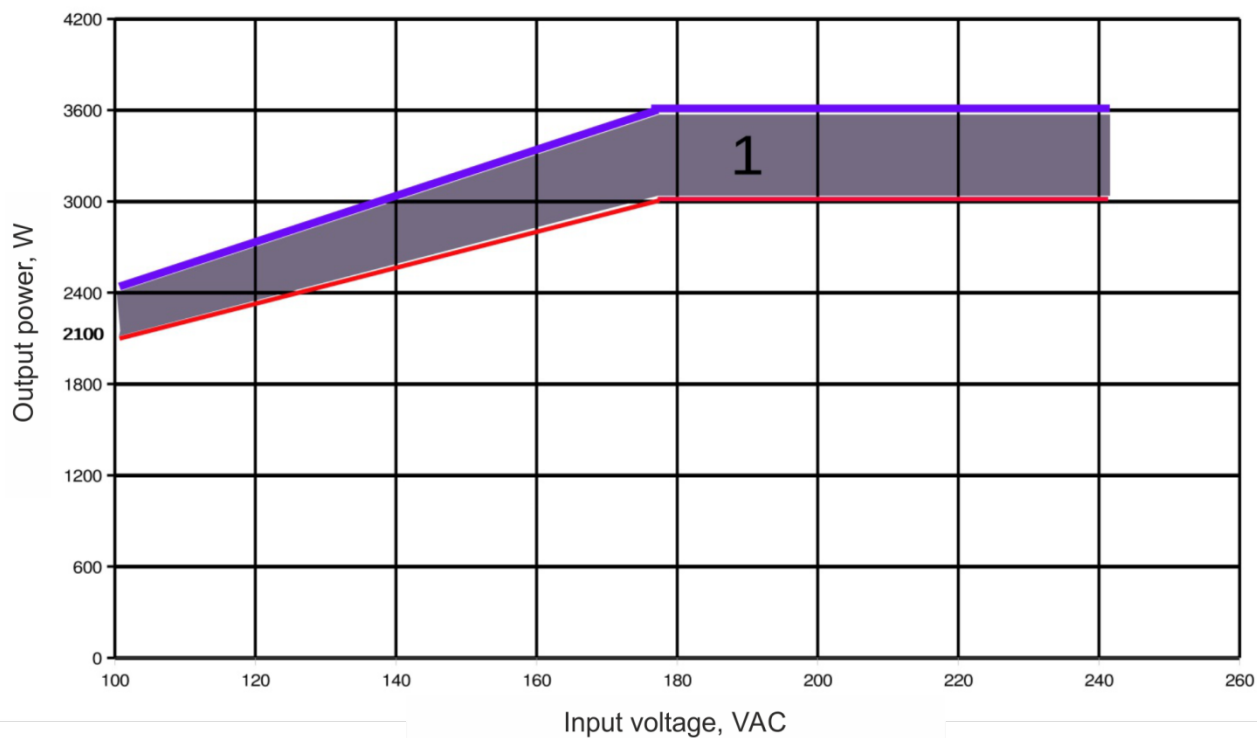
№	Control voltage, V	Output voltage, V
1	3	17,9
2	2,8	21,4
3	2,7	23
4	2,6	24,6
5	2,5	26,3
6	2,49	26,5
7	2,48	26,6
8	2,47	26,8
9	2,46	26,9
10	2,45	27,1
11	2,44	27,3
12	2,43	27,4
13	2,42	27,6
14	2,41	27,8
15	2,4	27,9
16	2,39	28
17	2,38	28,2
18	2,37	28,3
19	2,36	28,5
20	2,35	28,6
21	2,34	28,7
22	2,33	28,9
23	2,32	29,1
24	2,31	29,3
25	2,3	29,5

Graph1. Output power vs ambient temperature. Dropping parts of the graph stand for the maximum case operating temperature, which is why the output power must not exceed values, limited by corresponding curve for the given Tamb. Continuous block operation at these points should be avoided.



1 – for ambient temperature range -40°C ...-20°C in grey areas, some specification parameters for the block, may not be met.

Graph 2. Output power vs input voltage



1 - for ambient temperature range -40°C ...-20°C in grey areas, some specification parameters for the block, may not be met.

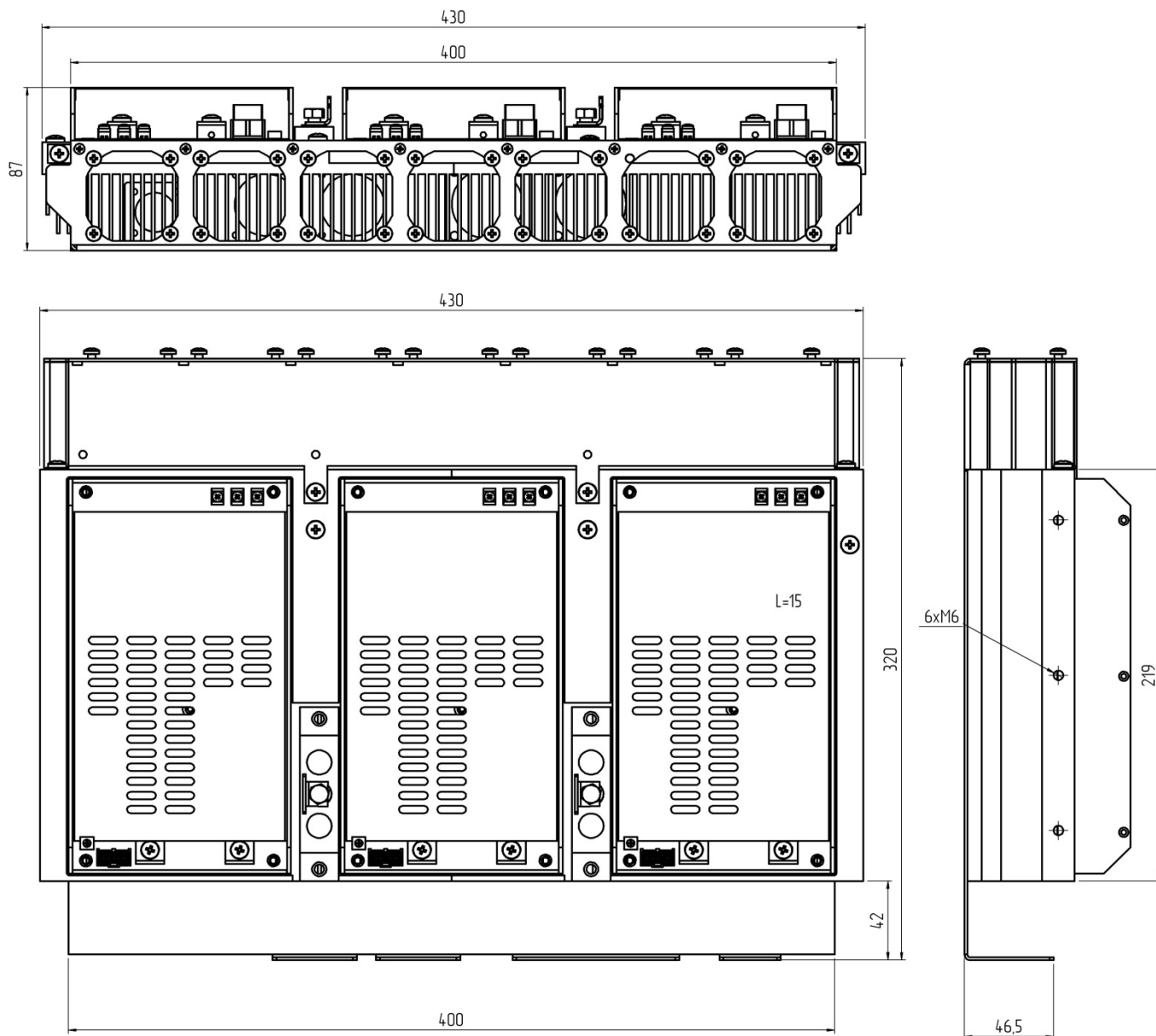
Pin out

Nº Pin	X1.1	X1.2	X1.3	X2.1	X2.2
Function	⊥	N	L	+OUT	-OUT

Nº Pin	X3.1	X3.2	X3.3	X3.4	X3.5	X3.6	X3.7	X3.8	X3.9	X3.10	X3.11	X3.12
Function	ADJ	PAR	+U Fan	-U Fan/-IND	-OS	-Out	+OS	+Out	+U Fan	+IND	-REM	+REM

X1	RATED WIRE SIZE SOLID: max. 4mm Stranded (flexible): max. 2,5mm² Stranded with Ferrule: max. 2,5mm² Screw size: M3 Recommended torque: 0,5Nm
X2	Screw size: M5 Recommended torque: 2Nm
X3	MOLEX, C-GRID III MALE – SDA-90130-1112 FEMALE – SD-90142-0012 (12 pin)USE WHIT "GRIMP TERMINAL" SD – 90119-0109

Mechanical drawing



Certificates

Certificate ISO 9001*

CE Conformity declaration

* Quality Management system at Alexander Electric, including R&D departments, is certified in accordance with ISO.

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