

AC/DC converters

KAP Family KAP15, 15 kW



Family description

AC/DC power supplies of high power (15 kW) with 3-phase input for mounting into 19" rack is a modular solution based on digitally controlled KAN5000 converters. Depending on application KAP15 can have different output turnkey solutions: AC/DC converter, UPS or a charger.

Unit's digital control ensures wide functionality: stabilization and output voltage and current adjustment, adaptive cooling, RS-485 control interface, and ability to operate in parallel.

Features

- ◀ Input voltage: 380 VAC 50 Hz (3 phase + neutral)
- ◀ Efficiency up to 95%
- ◀ Output voltage up to 300 VDC
- ◀ Output voltage adjustment 1...100 %
- ◀ Output current adjustment 0...100 %
- ◀ Digital control interface RS-485
- ◀ Programmable operation mode: source of current or source of voltage

Hot swap

Modular design

Multifunctional performance

Order registration

+7 473 200 87 80, Global Operations Team

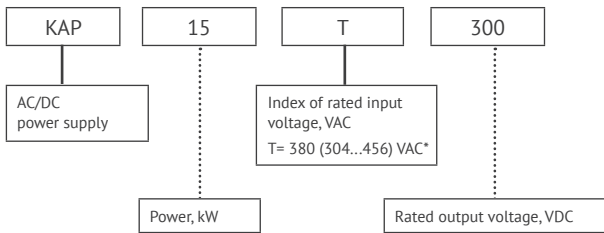
Technical support

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Description of KAP15 on the manufacturer's website:
eng.kwsystems.ru/catalog/models/48

Ordering information



Output specifications**

Parameter	Value			
Unit name	under development			
	KAP15T30	KAP15T60	KAP15T250	KAP15T300
Rated output voltage, VDC	30	60	250	300
Output voltage range, VDC	15–33	30–66	1–250	1–300
Efficiency, %	93	93	95	95
Rated output current, A	500	250	60	50
Output current adjustment range, %***	0... 100			
Output voltage adjustment range, %	20...100			
Ripple and noise (p-p)	<1% Uout. nom			
Total voltage regulation, %	Input voltage variation 304–456 VAC	max 2		
	Output current variation 0–100 %	max 2		
Output voltage transient deviation VS 10–100–10 % load	max 5 % Uout. nom			
Transient time	20 µs			
Start-up time	up to 10 s after power on			

Input specifications**

Parameter	Value
Mains type	triple-phase 380 VAC with neutral
Input voltage range, VAC	155...484 ****
Rated input voltage range, VAC	304...456 without derating
AC mains frequency, Hz	45–65
PFC	active
Power factor	>0.98 with full load
EMC	IEC 61000-3-12:2004 MIL-STD-461E CE102
EMI	IEC 61000-6-4:2006 MIL-STD-461E RE102

* For KAP15TXXX

** All specifications are valid for normal climatic conditions (ambient temp. +15...+35°C; relative humidity 45...80%; air pressure 8,6*10⁴...10,6*10⁴ Pa), Uin.nom., Iout.nom., unless otherwise stated.

*** In case the output current is stabilized.

**** In case the input voltage decreases from 304 down to 155 VAC, the output power linearly drops down to 6000 W.

Protections

Type of protection

Overheat protection	internal with hysreresis at +100°C
Overvoltage protection, software	300 V with regards to the neutral
Overvoltage protection, vriable resistor	320 V with regards to the neutral
Overcurrent protection	>105 % Inom
Short-circuit protection (with Uout. less then 50 VDC)	auto recovery

Basic specifications

Parameter

Parameter		Value
Compliance	EN60950-1 EN55022, EN55024	+ +
Ambient temperature	operating	-20...+50°C (custom -40...+50°C)
	storage	-55...+70°C
Isolation voltage	input/case	3000 VAC
	input/output	3000 VAC
	output/case	1500 VAC
Isolation resistance		≥ 20 MOhm
Cooling		built-in forced fan, adaptive
MTTF		max 90000 hours
Case material		metal
Dimensions		566×482,6×132,5 mm
Weight		max 33 kg
Warranty		2 years

Digital interface

Specifications of digital interface (option)

Control interface	RS-485, isolated
Number of units connected to RS-485 network	up to 10, separate and group control
Control device	PC with Win XP, 7, 8, 10

Standard functions

Inrush current limitation

Overcurrent protection

Remote sense cut-off protection (overvoltage >105 % Uout. max)

Remote on/off

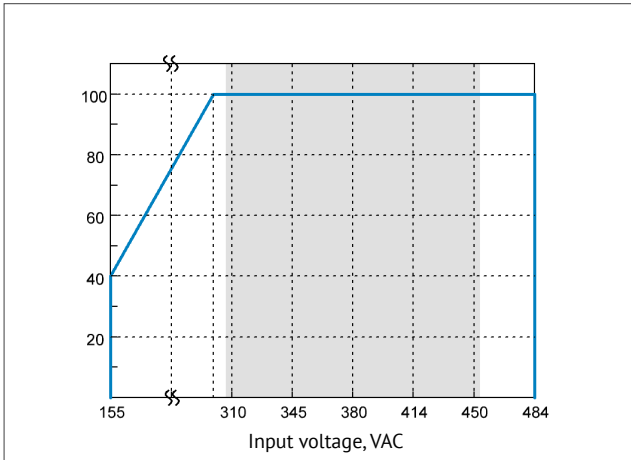
Optional functions

Customized output voltage

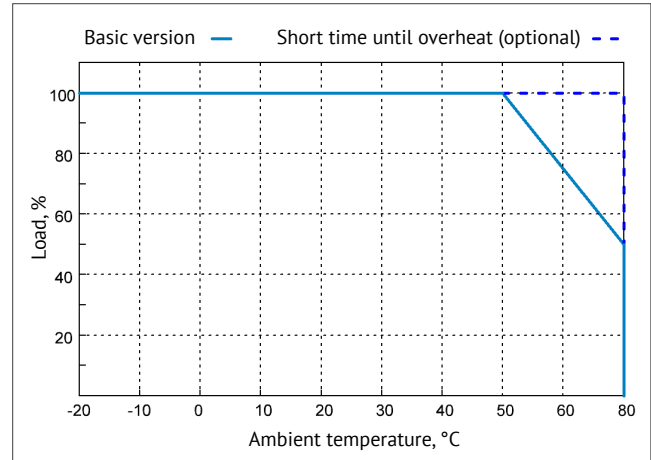
Different algorithms of thermal protection

Derating

vs Input Voltage

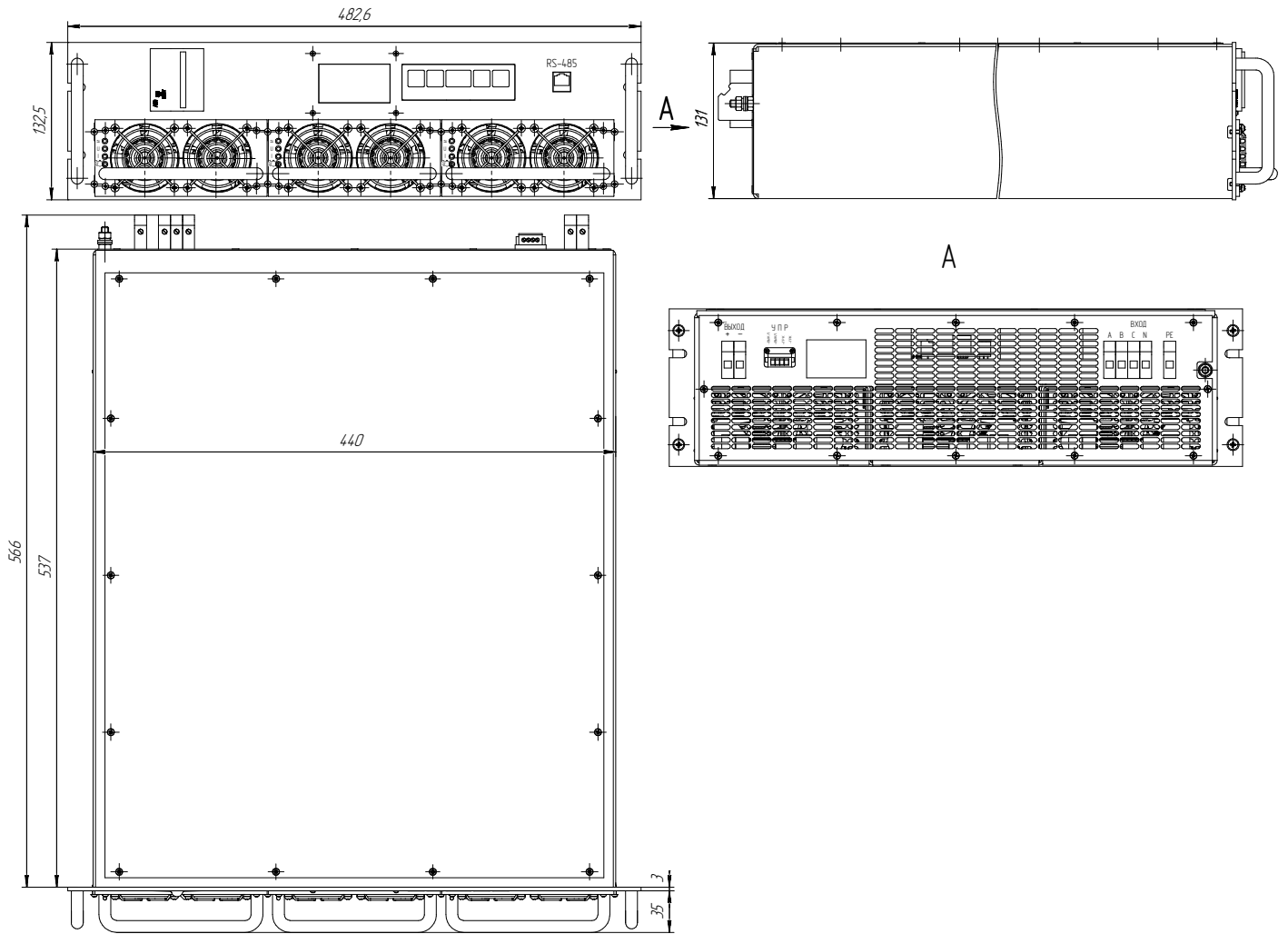


vs Temperature



Diagrams show results of testing KAP15T300, vertical axis relates to the Load (%).

Dimensions





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KW Systems, LLC is the leading Russian developer and manufacturer of AC/DC converters and power supply systems for mission critical applications.

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