

AC/DC power supplies

KAN Family KAN5000T, 5 kW



Family description

Hi-rel universal AC/DC converters. Suitable for operation down to -40°C and in high humidity conditions.

Output voltage up to 350 VDC, efficiency up to 95 % and EMC Class B (EN55022 (CISPR22)).

Built-in digital control allows integrating of KAN5000 into high power platforms fulfilling different tasks thanks to wide range of adjustments and service functions.

Intelligent active cooling decreases noise pollution, increases life of fans and improves operation temperature mode.

Features

- ◀ Made in Russia
- ◀ Efficiency up to 95 %
- ◀ Current or voltage source
- ◀ Wide range of voltage and current adjustment
- ◀ Parallel and serial operation
- ◀ Digital control and monitoring interface

Hot swap

Modular type

Multi-purpose application



Description of KAN5000T on the manufacturer's website:
eng.kwsystems.ru/catalog/models/75

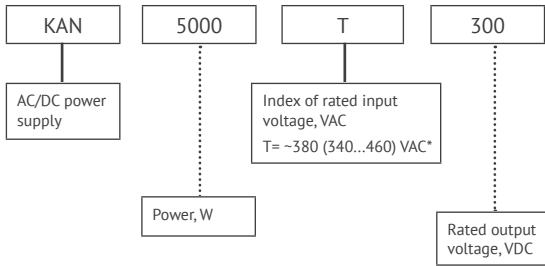
Order registration

+7 473 200 87 80, Global Operations Team

Technical support

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Ordering information



Output specifications**

Parameter	Value					
Unit name	KAN5000T30	KAN5000T60	KAN5000T110	KAN5000T250	KAN5000T300	KAN5000T350
	under development					
Rated output voltage, VDC	30	60	110	250	300	350
Output voltage range, VDC	20-30	30-60	70-110	125-250	150-300	170-350
Efficiency, %	92	92	93	94,5	95	95
Rated output current, A	166,6	83,3	45,4	20	16,7	14,3
Output current adjustment range, %***	0... 100					
Ripple and noise (p-p)	<1% Unom.					
Ripple and noise (p-p)	20...100 % × Uout. nom.	2%	2%	2%	1%	
	0...20 % × Uout. nom.	2%	2%	2%	5%	
Total voltage regulation, %	Input voltage variation 340-460 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 ms					
Parallel mode	up to 10 units***					
Malfunction signal	dry contact, closed – OK					
Start-up time	up to 2,5–4,5 s after power on 2 s after supplying signal to Remote On/Off pins					

Input specifications**

Parameter	Value	
Mains type	380 3ph VAC	550 VDC
Input voltage range, VAC	340...460	420...640
AC mains frequency, Hz	45–65	0
PFC	active	
Power factor	≥0,95 with full load	
EMC	IEC 61000-3-12:2004 MIL-STD-461E CE102	

* For KAN5000TXXX.

** 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.

Protections

Type of protection	380 3ph VAC	550 VDC
Overheat protection	built-in, with hysteresis +100°C in the mounting location	
Overvoltage protection, software	460 V	640 V
Overvoltage protection, variable resistor	460 V	615 V
Overcurrent protection	>105 % Inom	
Short-circuit protection (with Uout. less than 50 VDC)	auto recovery	

Basic specifications

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	2500 VAC
	input/output	2500 VAC
	output/case	1500 VAC
Isolation resistance	≥ 20 MOhm	
Cooling	built-in forced fan, adaptive	
MTBF	max 3 600 000 Hrs	
Case material	metal	
Dimensions	475×140×68 mm (case), 475×180×68 mm (including mounting flanges)	
Weight, kg	max 6	
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 20, separate and group control	
Control device	PC with Win XP, 7, 8, 10	

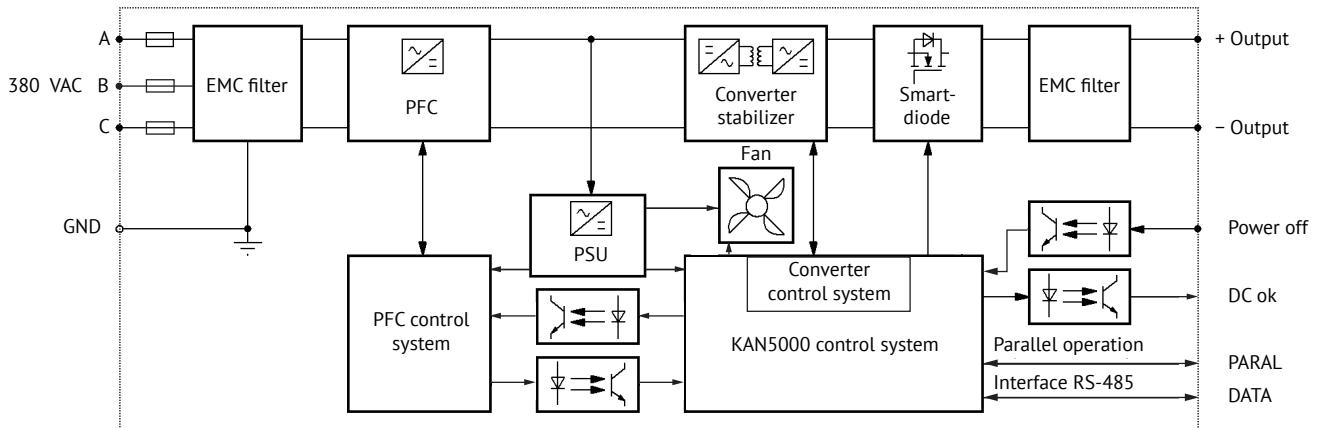
Standard functions

- Inrush current limitation.
- Overcurrent protection.
- Remote sense cut-off protection (overvoltage >105 % Uout. max).
- Remote on/off.
- Mounting flanges.

Optional functions

- Customized output voltage.
- Different algorithms of thermal protection.

Block diagram

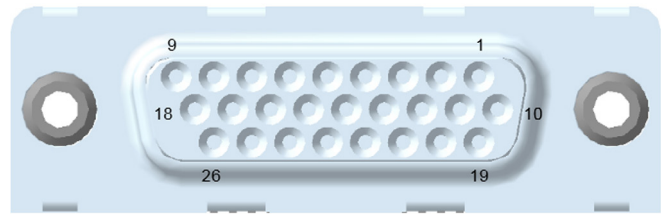


External connector

Connector type (block section): DHR-26F

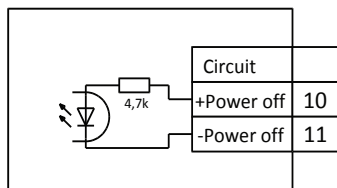
Mating connector type: DHS-26M

1	+DC ok	8	DATA-A	15	Common	21	Addr.2
2	-DC ok	9	DATA-B	16	NC	22	Addr.3
3	NC	10	+Power off	17	-NC	23	Addr.4
4	Contr.	11	-Power off	18	-RS	24	Addr.0
5	Paral.	12	NC	19	Addr.0	25	Addr.1
6	Common	13	Common	20	Addr.1	26	Addr.2
7	NC	14	Common				

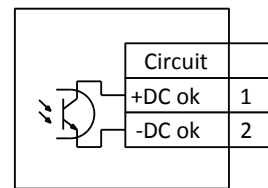


Discrete control circuit layouts

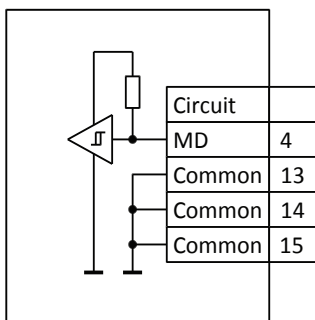
Remote power off signal



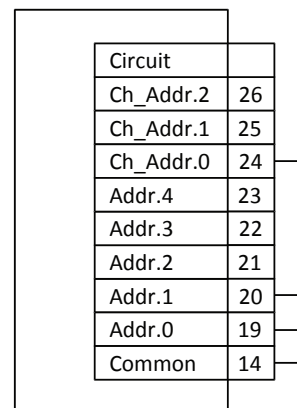
Module operation condition DC-OK signal



Disconnection detection layout



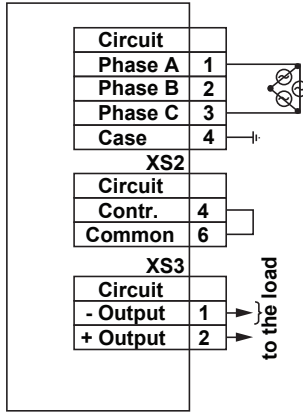
Example of converter address set-up



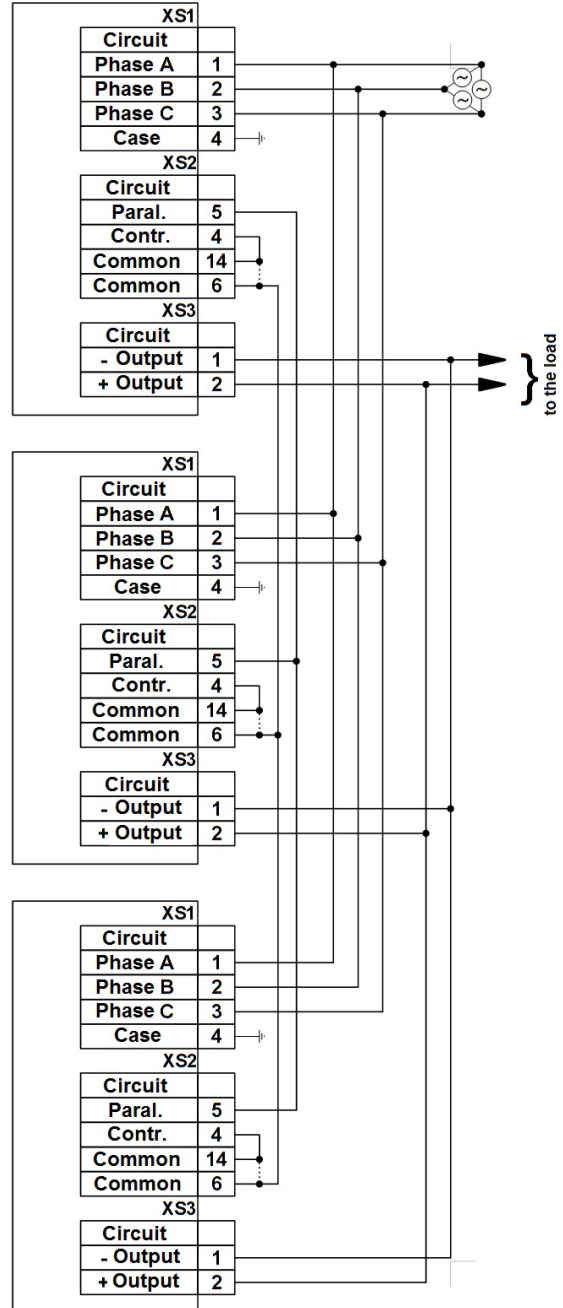
Address: 11011100b-DCh-220

Connection diagrams

Single type connection

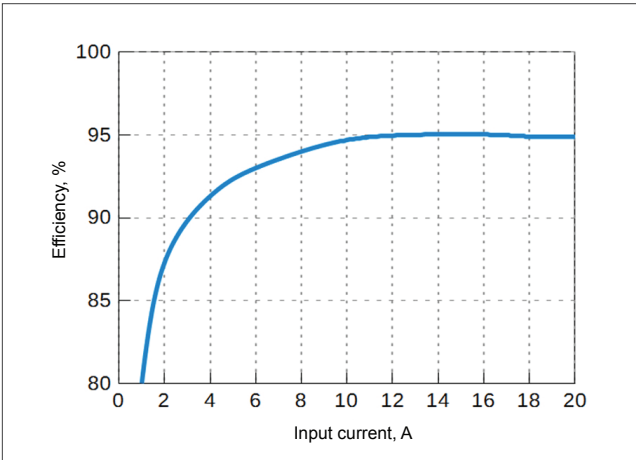


Parallel operation of several units

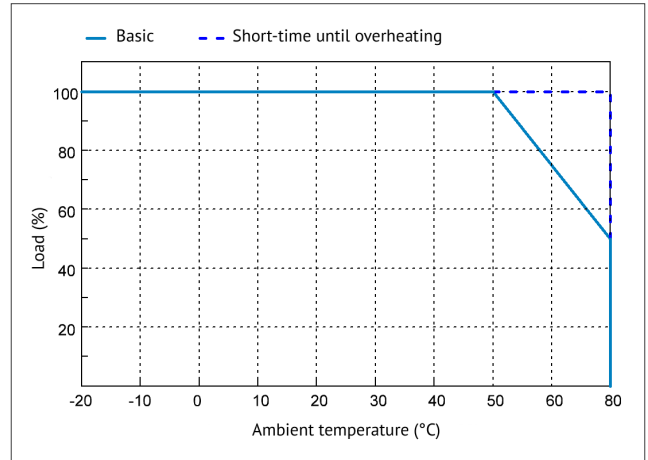


Derating

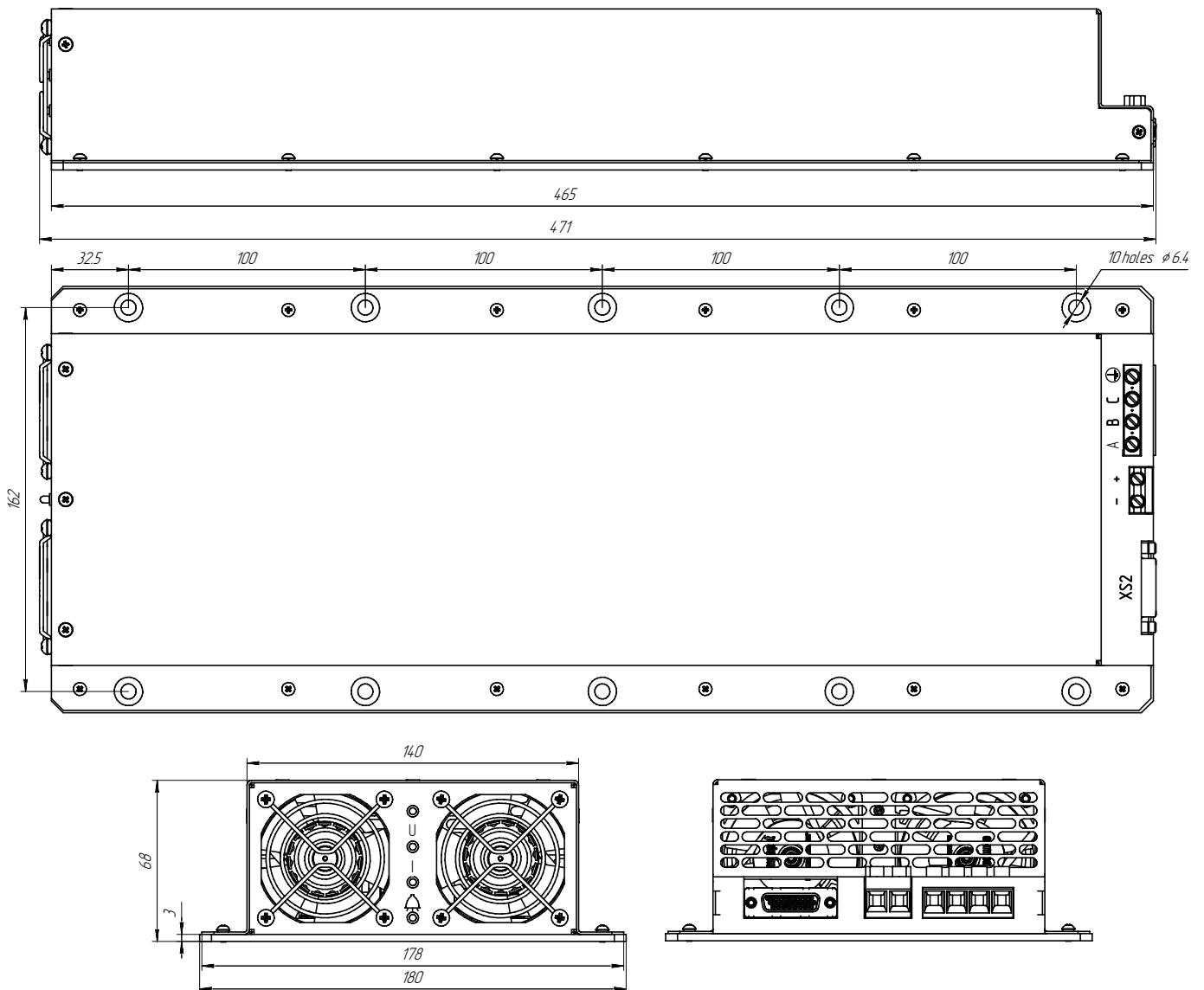
vs output current for KAN5000T250



vs Temperature



Dimensions



LED meaning

Symbol	LED	Meaning	Permanent	Blinking	PSU condition
~	green	MAINS	•		mains voltage within rated range (340–460 VAC)
U	green	Ustab.	•		output voltage stabilization
				•	power-off command received
I	green	Ustab.	•		output current stabilization / overload
				•	power-off command received
🔔	red	error	•		failure, mains is out of operating range, overheating, overvoltage
				•	fan failure



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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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