AC/DC power supplies

KWant Family
KWant500, 500 W

Basic specifications

Output current ..... up to 60 A
Input voltage ..... 220 (100...264) VAC
Output voltage ..... 12, 15, 24, 28, 48 VDC
Efficiency..... up to 95 %
Case operating temperature..... –40...+85 °C; –50...+85 °C
Dimensions ..... 175×93×35 mm
Warranty ..... 2 years

Advantages

- MIL-STD-461E without external components
- MIL-STD-810G
- Parallel and series operation
- Output voltage adjustment
- Conductive cooling
- Active PFC

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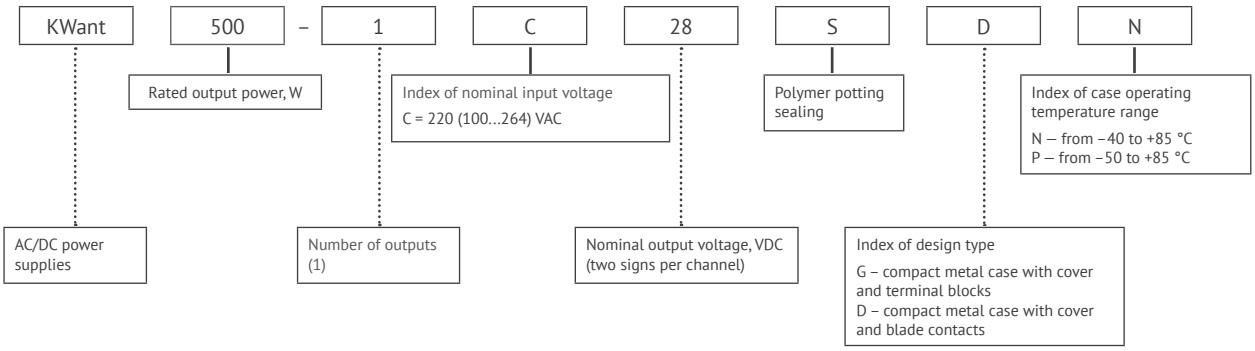
Ordering information



Output specifications*

Parameter	Value				
Nominal output voltage, VDC	12	15	24	28	48
Output voltage adjustment	up to ±10 %				
Efficiency, %	95				
Rated output current, A	41.66	33.33	20.83	18.51	10.41
Ripple and noise (peak-to-peak)	<2 %				
Line and load regulation	max 2 %				
Start-up time, ms	<500				
Remote on/off	Off at 3,5...5,5 VDC (15...30 mA) output «REMOTE OFF»				
Maximum load capacity	60000 (Uout from 6 V to 15 V inclusive) 20000 (Uout from 15 V to 27 V inclusive) 6667 (Uout=48 V)				

Input specifications*

Parameter		Value
Input voltage range, VAC**	C	220 (100...264)
Input voltage range, VDC	C	220 (140...375)
Transient deviation range, VAC	C	100
Transient time		-
Mains frequency range, Hz		47...440
Current consumption, A		<8.7
Inrush current, A		<40
Input fuse, A		15 A
Inrush current, A		<40
Power factor		>0.95

* 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 noted.

** Maximum output power for input voltage range C (wide range) at Uout 100...176 VDC is reducing according to power derating VS input voltage diagram.

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Protections

Type of protection	
Short-circuit protection*	auto recovery
Overload protection	Pmax<1.8 Pnom
Overvoltage protection level*	<125 % Uout nom.
Overheat protection	triggers at case temperature > 85 °C

Basic specifications**

Parameter		Value
Type of connection		screw terminals and blade contacts
Protection level		IP20
Case temperature, operating	«N»	–40...+85 °C
	«P»	–50...+85 °C
Case temperature, storage		–50...+70 °C
Humidity		98 % / 35 °C
Isolation voltage	in /case	~1500 VAC
	in /out	~1500 VAC
	out /case, out/out	~500 VAC
Isolation resistance @ 500 VDC		⩾ 20 MOhm min
Cooling		conductive
Environmental influence standards		design to meet MIL-STD-810G
EMC standards		MIL-STD-461E
Thermal resistance case-ambient		1.8°C / W
Typical MTBF		3 000 000 Hrs
Case material		metal
Dimensions, mm		175×93×35
Weight, kg		< 1.1
Warranty		2 year

* Parameters are stated for the information purposes and could not be used at long term work, exceeding maximum output current, operating outside of a working temperatures range or when output voltage is over the range of adjustment.

** All specifications are valid for normal climatic conditions, Uin. nom., Iout. nom., unless otherwise noted.

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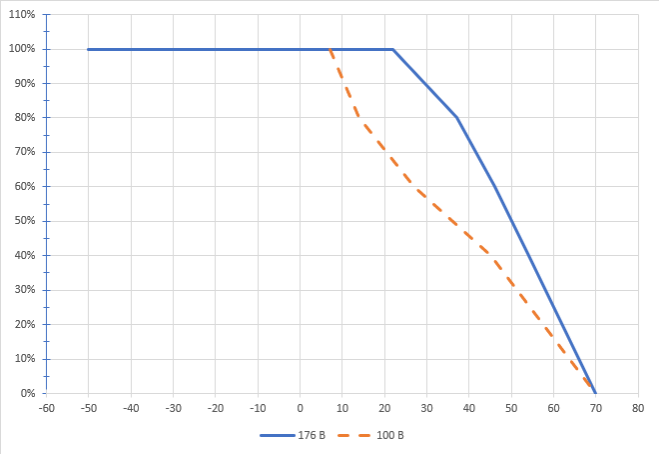
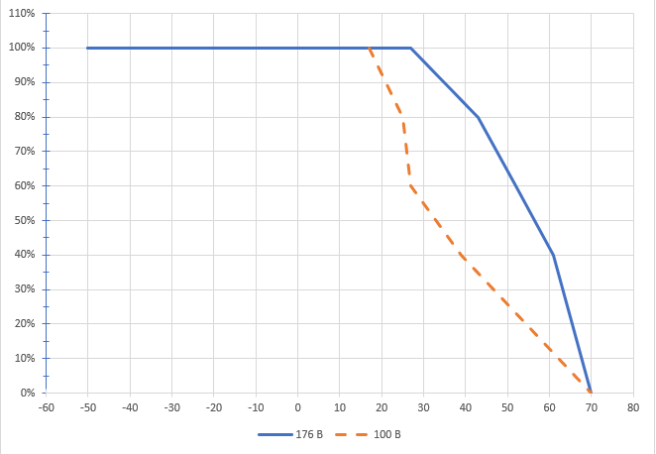
Power reduction

The falling sections of the dotted and dashed curves correspond to the maximum temperature of the housing (for modules with the index "H", "P" equal to +85 ° C).
The output power of the module must not exceed the values limited by the corresponding curve at a given ambient temperature.

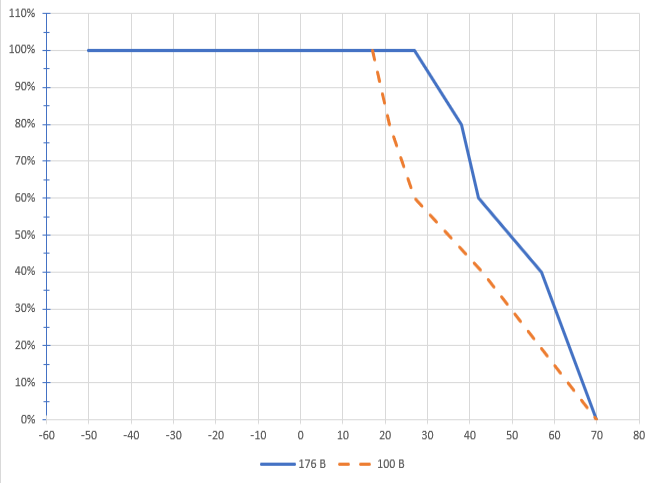
Temperature dependence at output voltages of 12 and 15 V



Temperature dependence at output voltage 24 and 27 V



Temperature dependence at an output voltage of 48 V



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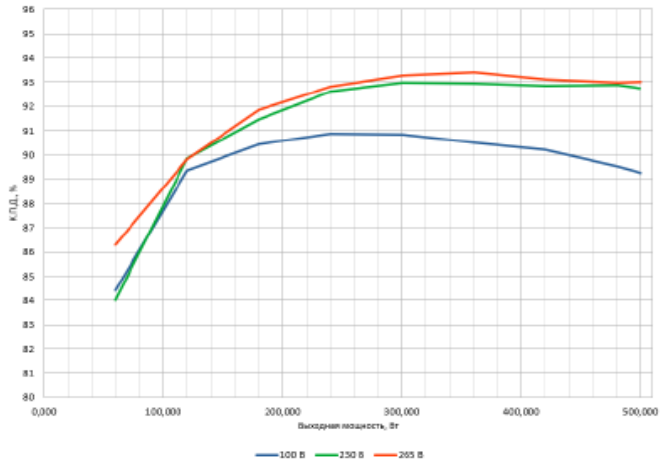
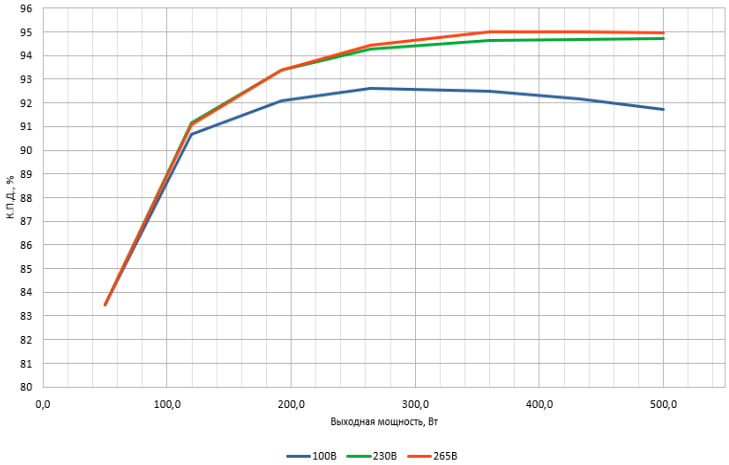
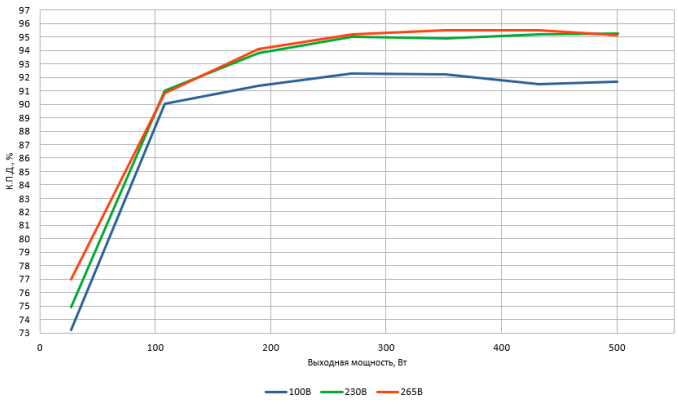
Efficiency



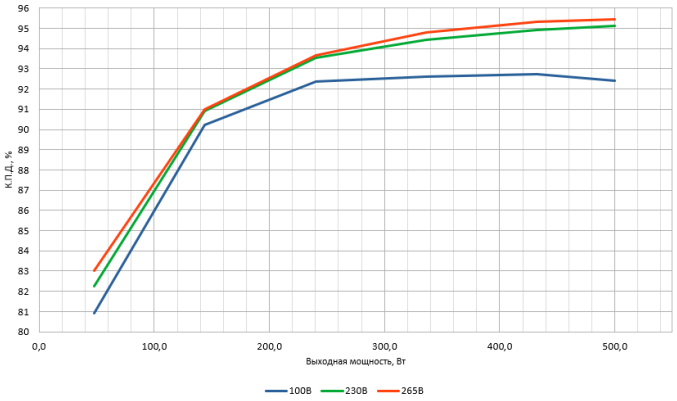
Graph of efficiency dependence on output power
at different input voltages for KWant500-1C12XX and KWant-1C15XX modules



Graph of the dependence of efficiency on output power
at different input voltages for KWant500-1C24XX modules



Graph of the dependence of efficiency on output power
at different input voltages for KWant500-1C28XX modules



Graph of the dependence of efficiency on output power
at different input voltages for KWant500-1C48XX modules

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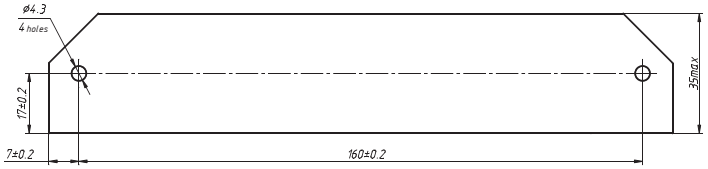
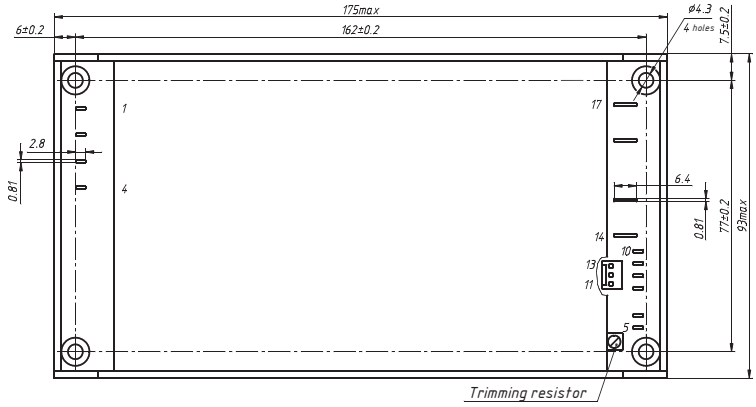
Dimensions

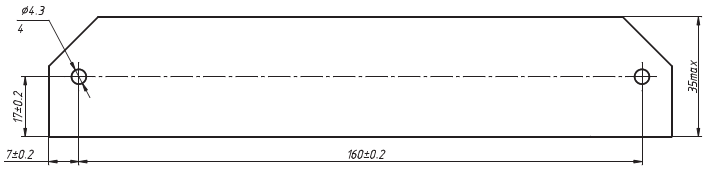
Single-channel design with blade contacts

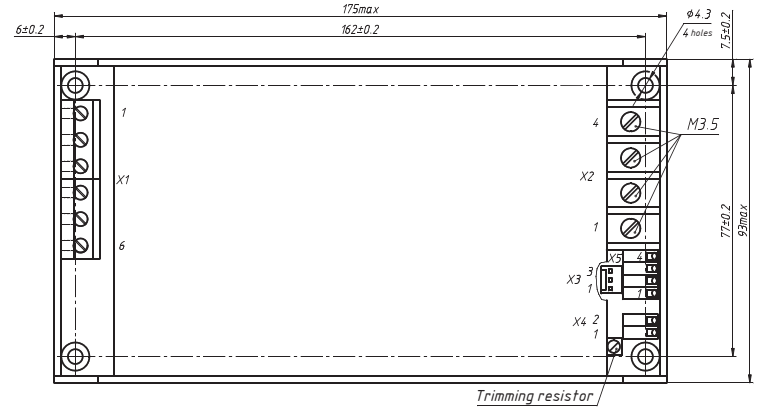




PIN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SINGLE-CHANNEL	L	N	⏚	-REMOTE OFF	+REMOTE OFF	+RS	-RS	PARAL	+U FAN	-U FAN	NOT USE	+OUT	+OUT	-OUT	-OUT

Single-channel design with terminal blocks





PIN #	X1.1	X1.2	X1.3	X2.1	X2.2	X2.3	X2.4	X3.1	X3.2	X3.3	X4.1	X4.2	X5.1	X5.2	X5.3	X5.4
SINGLE-CHANNEL	L	N	⏚	+OUT 1	+OUT 1	-OUT 1	-OUT 1	+U FAN	-U FAN	NOT USE	-REMOTE OFF	+REMOTE OFF	+RS	-RS	PARAL	NOT USE

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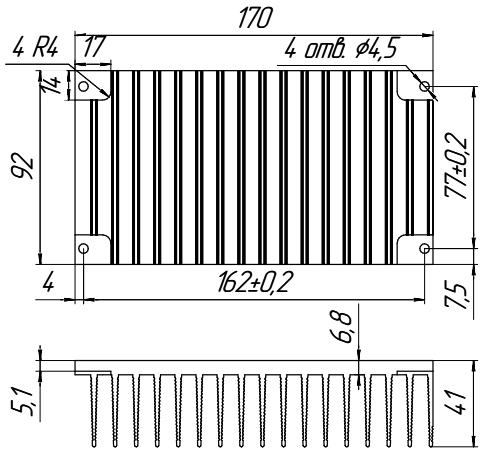
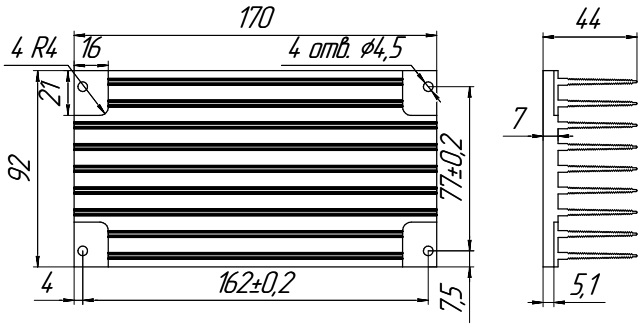
Dimensional drawing of the radiator

Radiator transverse



Radiator longitudinal



This datasheet is valid for the following units: KWant500-1C12CXX, KWant500-1C15CXX, KWant500-1C24CXX, KWant500-1C28CXX.

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