

AC/DC power supplies

KWant Family **KWant500,** **500 W**



Basic specifications

Power	500 W
Output current	up to 60 A
Input voltage	220 (100...264) VAC
.....	220 (141...372) VDC
Output voltage	12, 15, 24, 28 VDC
Efficiency.....	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



Description of KWant500 on the manufacturer's website:
eng.kwsystems.ru/catalog/acdc/models/9

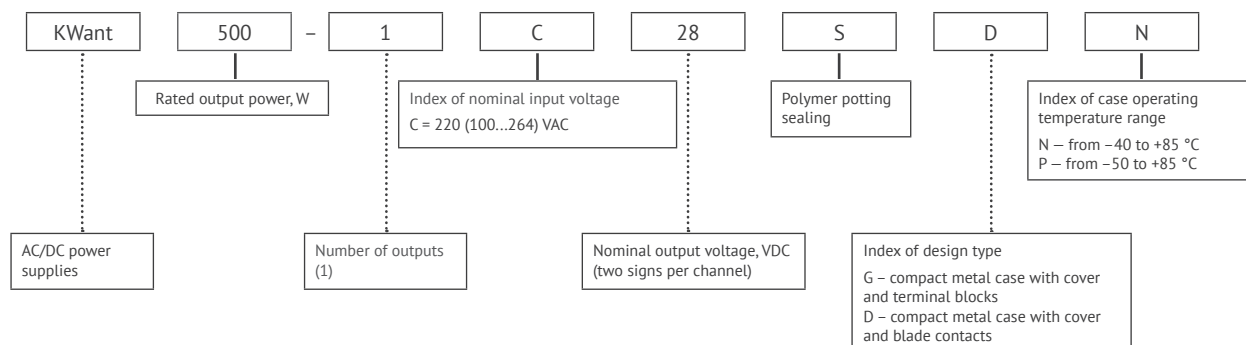
Order registration

+7 473 200 87 80, Global Operations Team

Technical support

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Ordering information



Input specifications*

Parameter	Value
Input voltage range, VAC**	C 220 (100...264)
Input voltage range, VDC	C 220 (141...372)
Transient deviation range, VAC	C 100...264
Transient time	-
Mains frequency range, Hz	47...440

Output specifications*

Parameter	Value
Nominal output voltage, VDC	12 15 24 28
Output voltage adjustment	10 %
Efficiency, %	95
Rated output current, A	41.66 33.33 20.83 17.86
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...4,5 VDC (15...30 mA) output «REMOTE OFF»
Maximum load capacity	20000 µF (Uout=15 VDC)

* 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), U_{in} nom., I_{out} nom., unless otherwise noted.

** Maximum output power for input voltage range C (wide range) at U_{out} 100...187 VDC is reducing according to power derating VS input voltage diagram.

Protections

Type of protection	
Short-circuit protection*	auto recovery
Overload protection	$P_{max} < 1.8 P_{nom}$
Overvoltage protection level*	$< 125 \% U_{out nom.}$
Overheat protection	triggers at case temperature $> 85^{\circ}C$

Basic specifications**

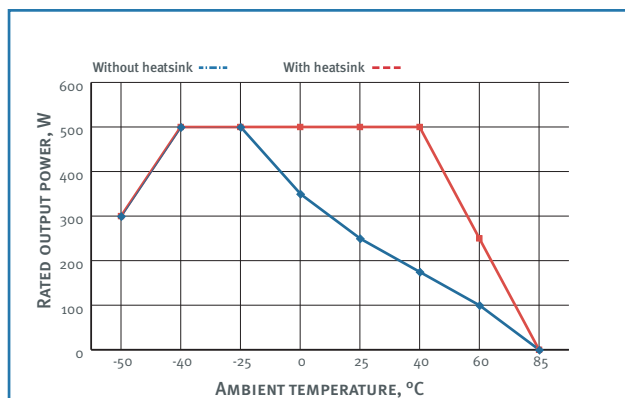
Parameter		Value
Type of connection		screw terminals and blade contacts
Protection level		IP20
Case temperature, operating	«N»	$-40...+85^{\circ}C$
	«P»	$-50...+85^{\circ}C$
Case temperature, storage		$-50...+70^{\circ}C$
Humidity		98 % / $35^{\circ}C$
Isolation voltage	in /case	$\sim 1500 VAC$
	in /out	$\sim 1500 VAC$
	out /case, out/out	$\sim 500 VAC$
Isolation resistance @ 500 VDC		$\geq 20 M\Omega min$
Cooling		conductive, forced air
Environmental influence standards		design to meet MIL-STD-810G
EMC standards		MIL-STD-461E
Thermal resistance case-ambient		$1.8^{\circ}C / W$
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.

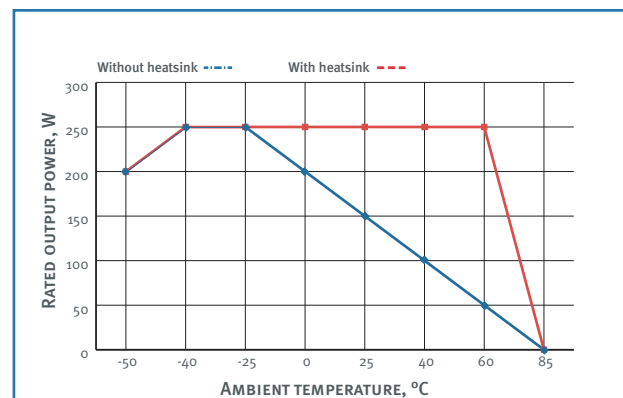
** All specifications are valid for normal climatic conditions, $U_{in nom.}$, $I_{out nom.}$, unless otherwise noted.

Derating

vs Temperature. KWant500 (at input voltage 230 VAC)

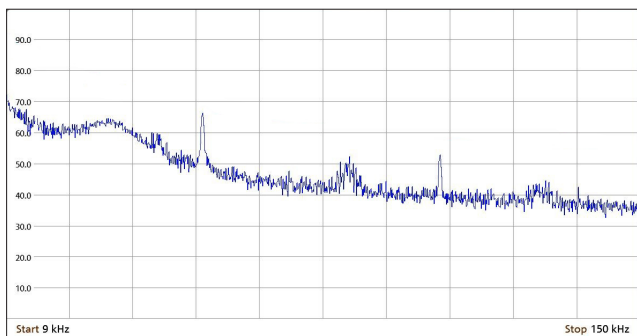


vs Input Voltage. KWant500 (at input voltage 100 VAC)

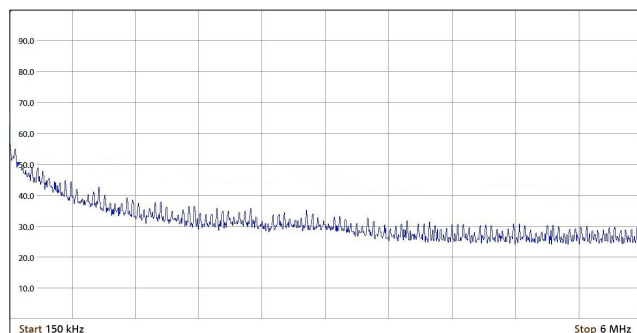


KWant500-1C28SXX EMC spectrograms

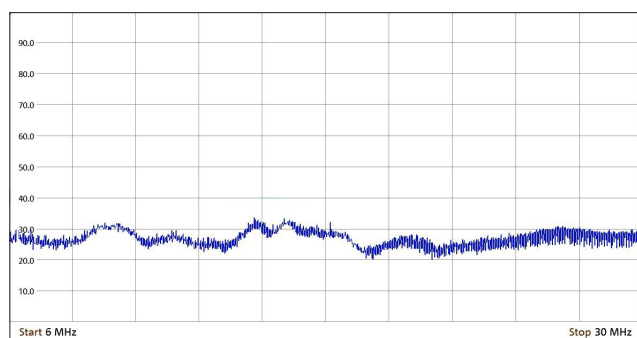
100 VAC input



EMI for KWant500-1C28SXX at 9 kHz-150 kHz within 300 Hz step at Max Peak mode.

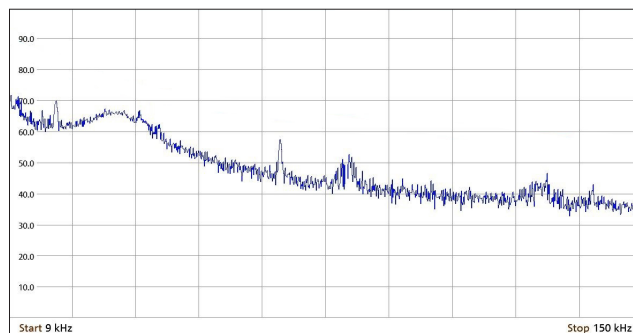


EMI for KWant500-1C28SXX at 150 kHz-6 MHz within 10 kHz step at Max Peak mode.

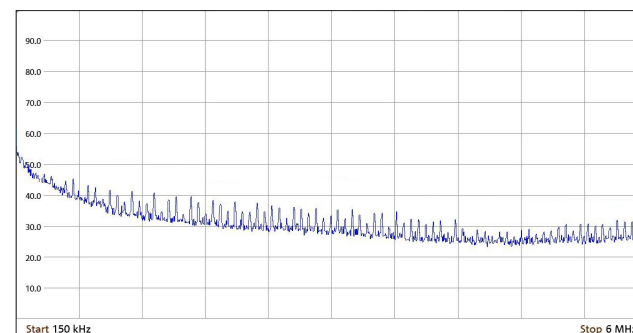


EMI for KWant500-1C28SXX at 6 MHz-30 MHz within 10 kHz step at Max Peak mode.

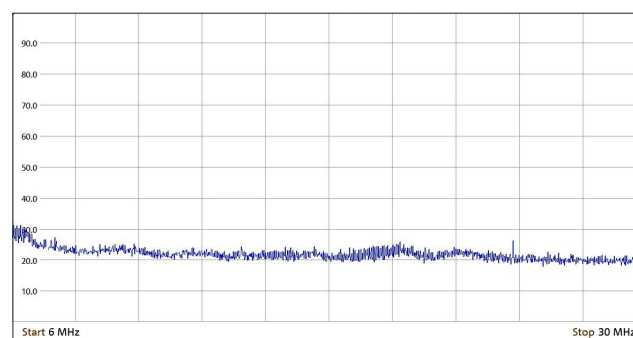
230 VAC input



EMI for KWant500-1C28SXX at 9 kHz-150 kHz within 300 Hz step at Max Peak mode.



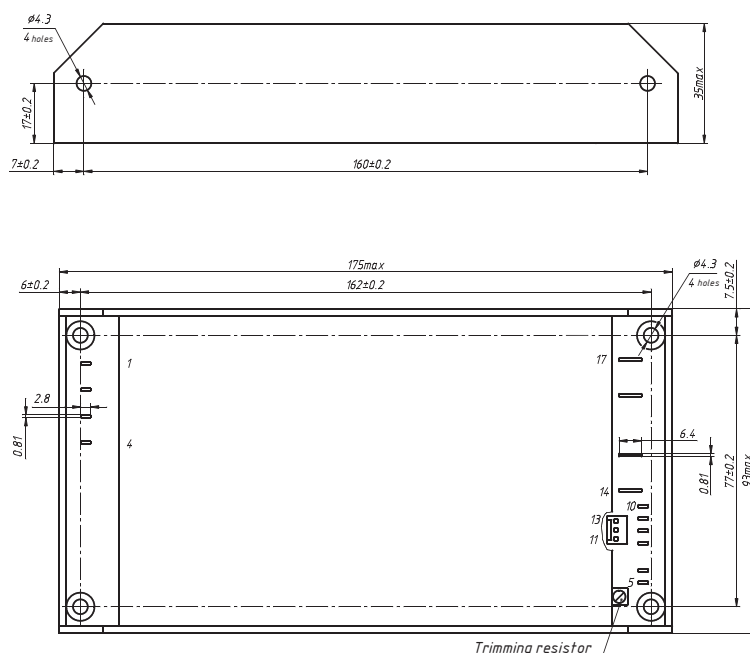
EMI for KWant500-1C28SXX at 150 kHz-6 MHz within 10 kHz step at Max Peak mode.



EMI for KWant500-1C28SXX at 6 MHz-30 MHz within 10 kHz step at Max Peak mode.

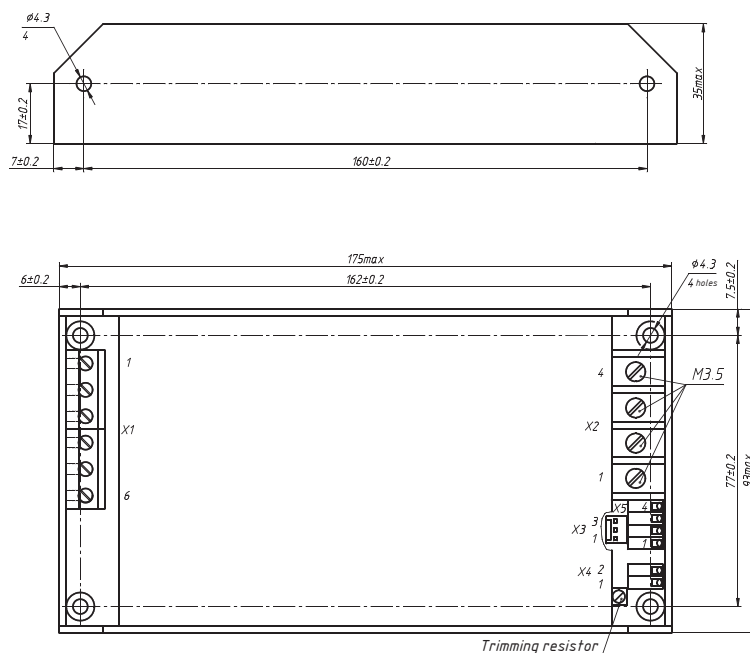
Dimensions

Single-channel design with blade contacts



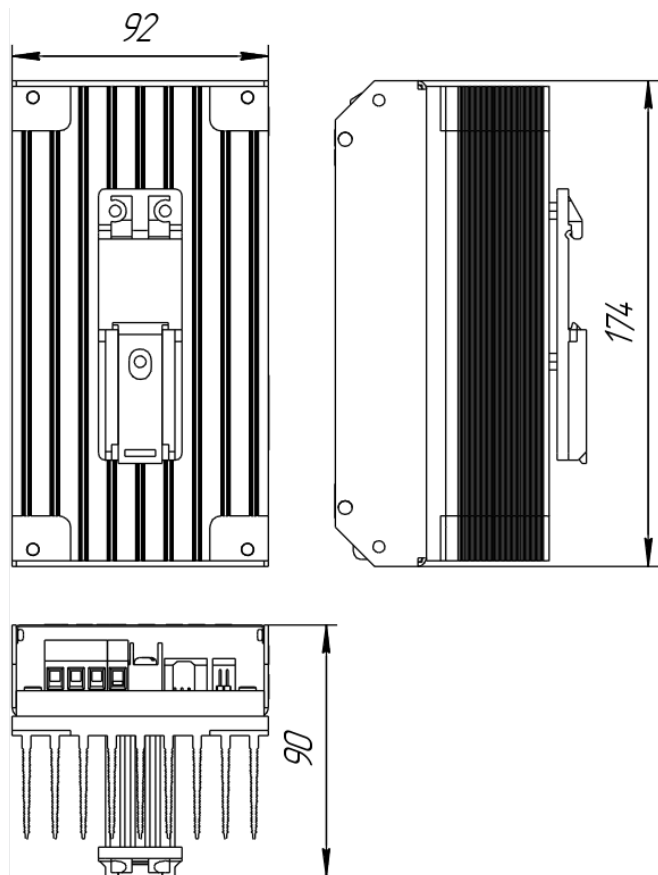
PIN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SINGLE-CHANNEL	L	N	⊕	-REMOTE OFF	+REMOTE OFF	+RS	-RS	PARAL	NOT USE	-U FAN	+U FAN	+OUT	+OUT	-OUT	-OUT

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	NOT USE	-U FAN	+U FAN	-REMOTE OFF	+REMOTE OFF	+RS	-RS	PARAL	NOT USE

DIN-rail mount





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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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