

# AC/DC power supplies

## MAA Family MAA400, 400 W



### Basic specifications

Power .....	400 W
Input current .....	up to 6 0A
Input voltage .....	~220 (187...264) VAC
Output voltage .....	=12 VDC, =24 VDC, =28 VDC, =48 VDC
Efficiency.....	80-86 %
Case operating temperature.....	-40...+85 °C; -50...+85 °C
Dimensions .....	175×93×35 mm
Warranty .....	2 years

### Advantages

- ◀ Design to meet MIL-STD-810G and MIL-STD-461E
- ◀ Parallel and series operation
- ◀ Output voltage adjustment
- ◀ Conductive cooling



Description of MAA400 on the manufacturer's website:  
[eng.kwsystems.ru/catalog/acdc/models/8](http://eng.kwsystems.ru/catalog/acdc/models/8)

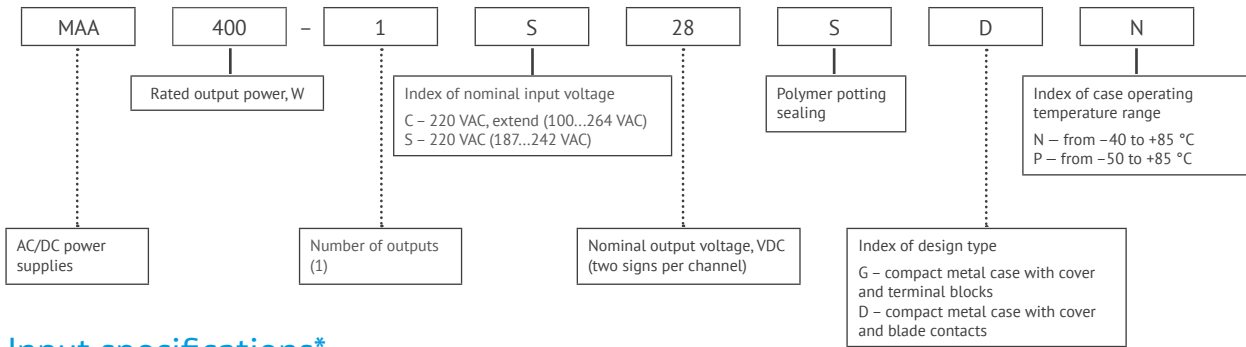
#### Order registration

+7 473 200 87 80, Global Operations Team

#### Technical support

[techsupport@kwsystems.ru](mailto:techsupport@kwsystems.ru)

### Ordering information



### Input specifications\*

Parameter	Value
Input voltage range, VAC**	C ~100...264 (=141...372)
	S ~187...242 (=263...340)
Transient deviation range, VAC	C ~100...264
	S ~176...264
Transient time	S 1 s.
	C -
Mains frequency range, Hz	C, S 47...440

### Output specifications\*

Parameter	Value
Nominal output voltage, VDC	12      24      28      48
Output voltage adjustment	10 %
Efficiency, %	80      84      85      86
Rated output current, A	33,3      16,66      14,28      8,3
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	60000 µF (Uout=15 VDC)
Hold-up time, ms. (220VAC input, full load, 20°C ambient)	35 ms      35 ms      38 ms      40 ms

\* 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...187 VDC is reducing according to power derating VS input voltage diagram.

## Protections

Type of protection	
Short-circuit protection*	auto recovery
Overload protection	$P_{max} < 1.2 P_{nom}$
Overvoltage protection level*	$< 125 \% U_{out\ nom.}$
Overheat protection	triggers at case temperature $> 85\text{ }^{\circ}\text{C}$

## Basic specifications\*\*

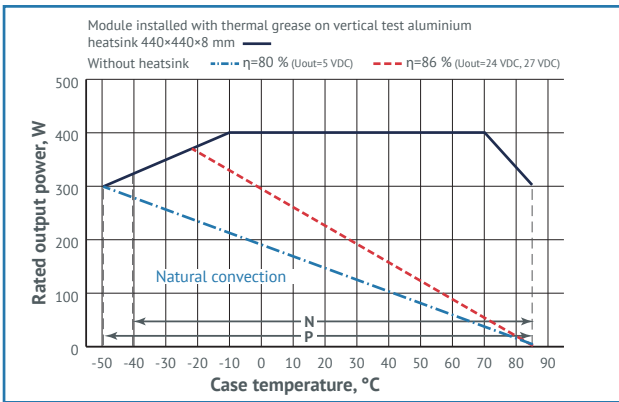
Parameter		Value
Type of connection		screw terminals and blade contacts
Protection level		IP20
Case temperature, operating	«N»	$-40\dots+85\text{ }^{\circ}\text{C}$
	«P»	$-50\dots+85\text{ }^{\circ}\text{C}$
Case temperature, storage		$-50\dots+70\text{ }^{\circ}\text{C}$
Humidity		98 % / 35 °C
Isolation voltage	in /case	$\sim 1500\text{ VAC}$
	in /out	$\sim 1500\text{ VAC}$
	out /case, out/out	$\sim 500\text{ VAC}$
Isolation resistance @ 500 VDC		$\geq 20\text{ M}\Omega\text{ min}$
Cooling		conductive, forced air
Environmental influence standards		design to meet MIL-STD-810G
EMC standards		EN55022 (CISPR22); design to meet MIL-STD-461E with ext filter
Thermal resistance case-ambient		$1.8\text{ }^{\circ}\text{C} / \text{W}$
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.

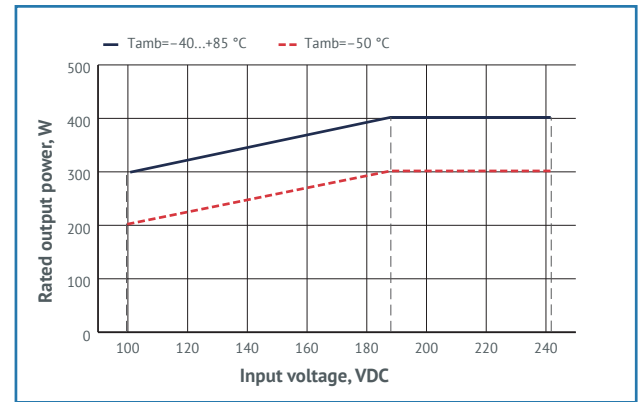
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## Derating

### vs Temperature. MAA400



### vs Input Voltage. MAA400







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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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**This datasheet is valid for the following units:** MAA400-1C12CXX, MAA400-1C24CXX, MAA400-1C28CXX, MAA400-1C48CXX, MAA400-1S12CXX, MAA400-1S24CXX, MAA400-1S28CXX, MAA400-1S48CXX.