

# AC/DC power supplies

## MAA Family MAA400, 400 W



### Basic specifications

Power .....	400 W
Input current .....	up to 60A
Input voltage .....	~220 (187...264) VAC
Output voltage .....	=24 VDC, =28VDC, =48 VDC
Efficiency.....	84-86%
Case operating temperature.....	-40...+85 °C; -50...+85 °C
Dimensions .....	175x93x35 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)

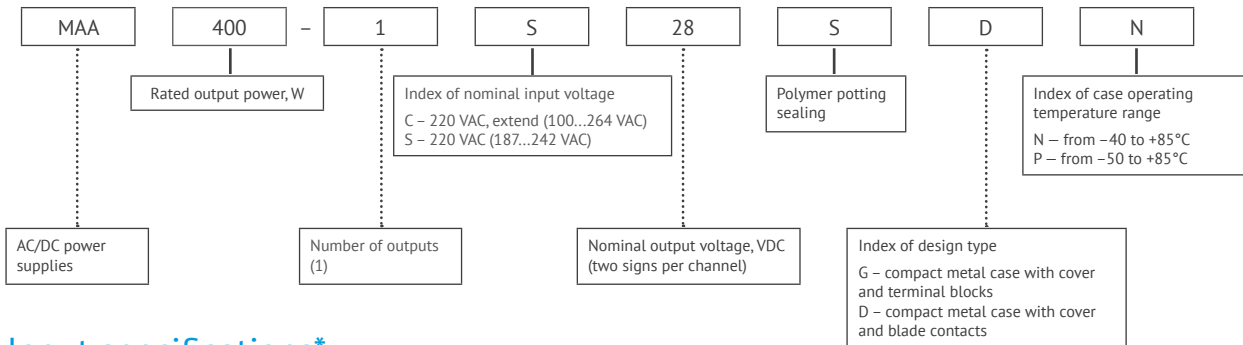
#### Order registration

+7 473 200 87 80, Global Operations Team

#### Technical support

Mikhail Timokhin, [mtimohin@kwsystems.ru](mailto:mtimohin@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	24	28	48
Output voltage adjustment	10 %		
Efficiency, %	84	85	86
Rated output current, A	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)	35ms	38ms	40ms

\* All specifications are valid for normal climatic conditions (ambient temp. +15...+35°C; relative humidity 45...80%; air pressure 8.6\*10<sup>4</sup>...10.6\*10<sup>4</sup> Pa), U<sub>in</sub>. nom., I<sub>out</sub>. nom., unless otherwise noted.

\*\* Maximum output power for input voltage range C (wide range) at U<sub>out</sub> 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 $> 85^{\circ}\text{C}$

## Basic specifications\*\*

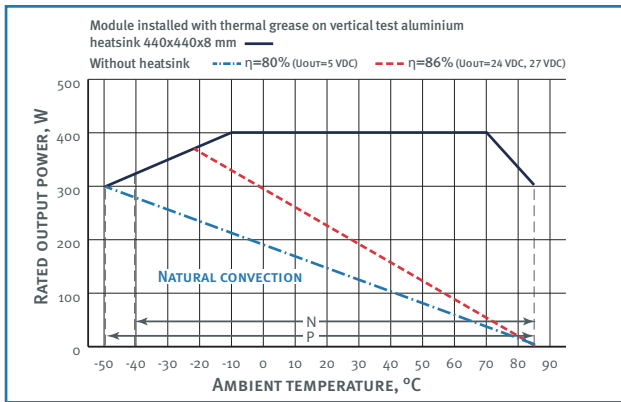
Parameter		Value
Type of connection		screw terminals and blade contacts
Protection level		IP20
Case temperature, operating	«N»	$-40 \dots +85^{\circ}\text{C}$
	«P»	$-50 \dots +85^{\circ}\text{C}$
Case temperature, storage		$-50 \dots +70^{\circ}\text{C}$
Humidity		98% / $35^{\circ}\text{C}$
Isolation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

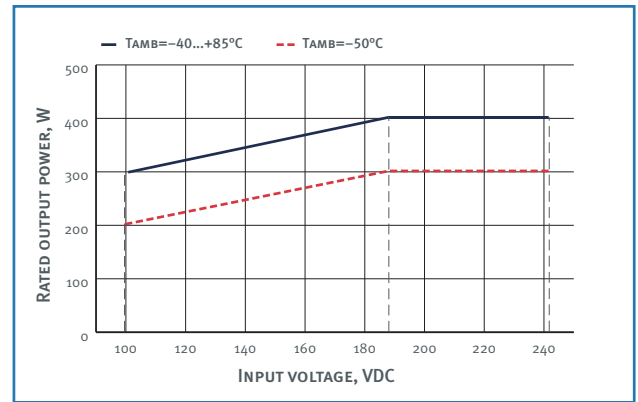
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## Derating

vs Temperature. MAA400

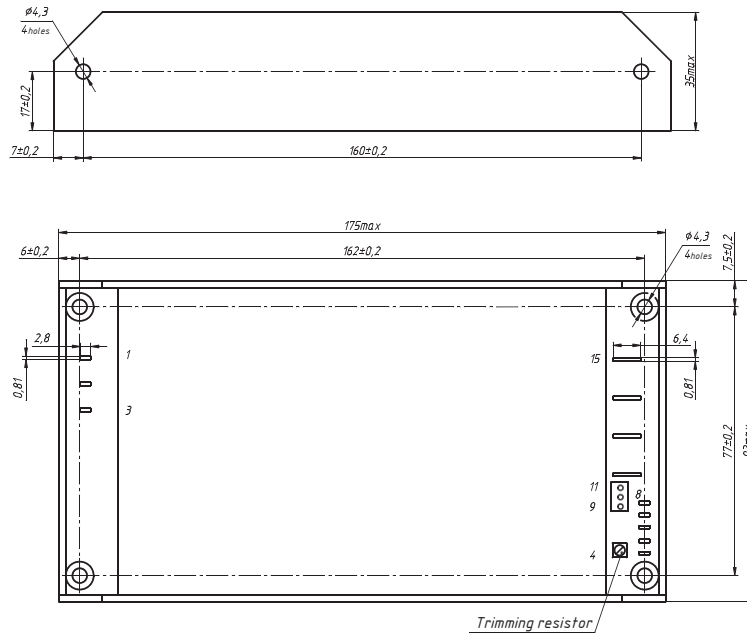



vs Input Voltage. MAA400



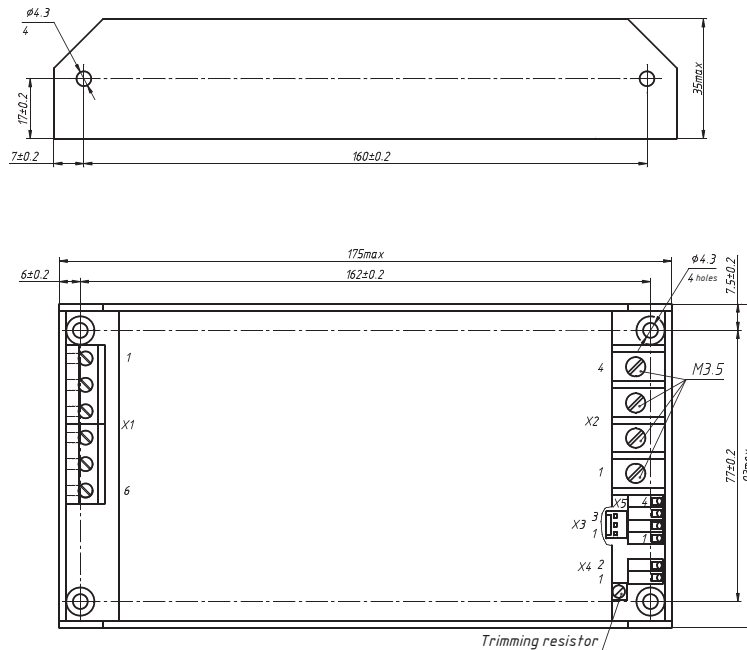
### Dimensions

#### 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	+OUT1	+OUT1	-OUT1	-OUT1

#### 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		+OUT1	+OUT1	-OUT1	-OUT1	NOT USE	-U FAN	+U FAN	-REMOTE OFF	+REMOTE OFF	+RS	-RS	PARAL	NOT USE



[www.kwsystems.ru](http://www.kwsystems.ru) info@kwsystems.ru

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

Druzinnikov str. 1, Voronezh, 394026, Russia. +7 473 200-87-80

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