

AC/DC power supplies

MAA Family

MAA400, 400 W



Basic specifications

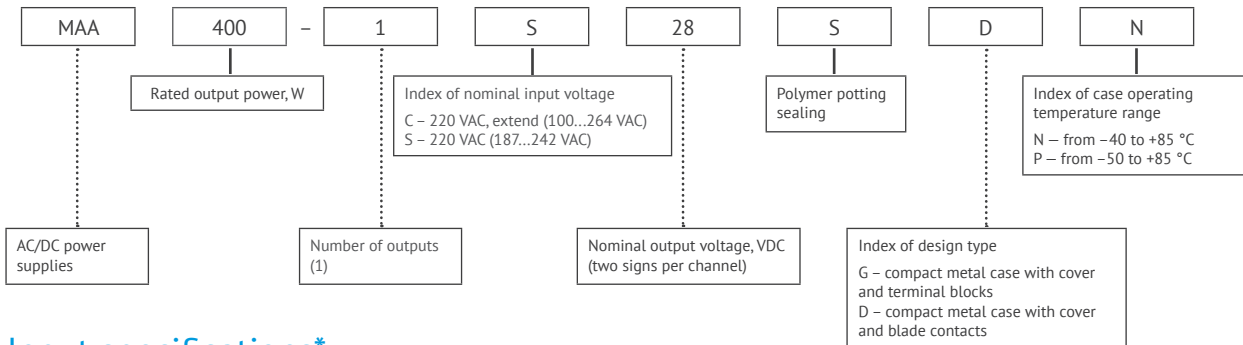
Power	400 W
Input current	up to 6 0A
Input voltage	~220 (187...264) VAC
Output voltage	=12 VDC, =24 VDC, =28 VDC, =48 VDC
Efficiency.....	80-86 %
Case operating temperature.....	-40...+85 °C; -50...+85 °C
Dimensions	175×93×35 mm
Warranty	2 years

Advantages

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



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**

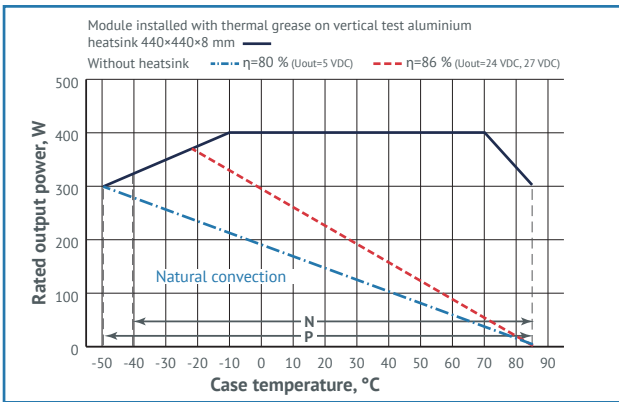
Parameter		Value
Type of connection		screw terminals and blade contacts
Protection level		IP20
Case temperature, operating	«N»	$-40 \dots +85\text{ }^{\circ}\text{C}$
	«P»	$-50 \dots +85\text{ }^{\circ}\text{C}$
Case temperature, storage		$-50 \dots +70\text{ }^{\circ}\text{C}$
Humidity		98 % / 35 °C
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.

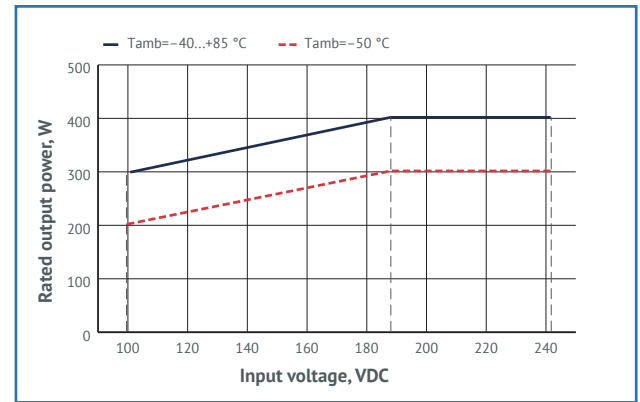
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Derating

vs Temperature. MAA400

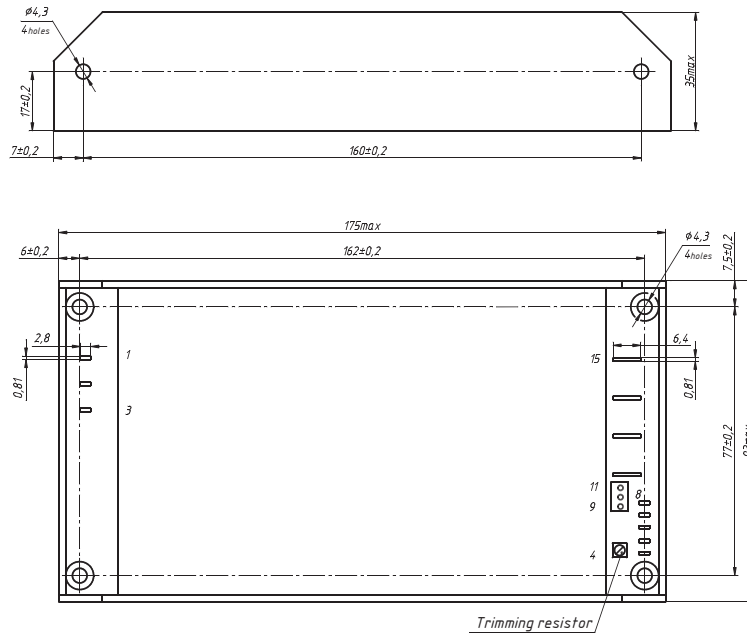



vs Input Voltage. MAA400



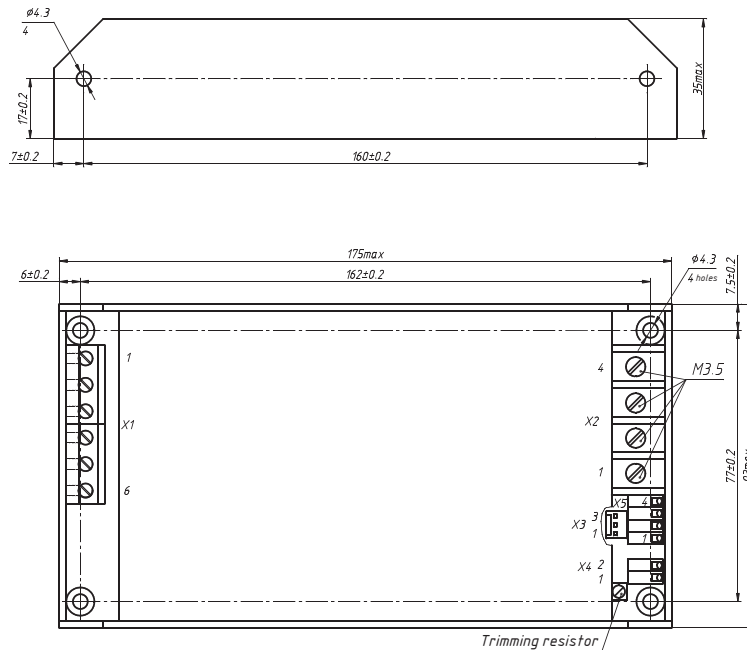
Dimensions

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



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

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