

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
Typical efficiency.....	89%
Case operating temperature.....	-40...+85 °C; -50...+85 °C
Dimensions	175x93x35 mm
Warranty	2 years

Advantages

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



Description of MAA400 on the manufacturer's website:
eng.kwsystems.ru/catalog/acdc/models/8

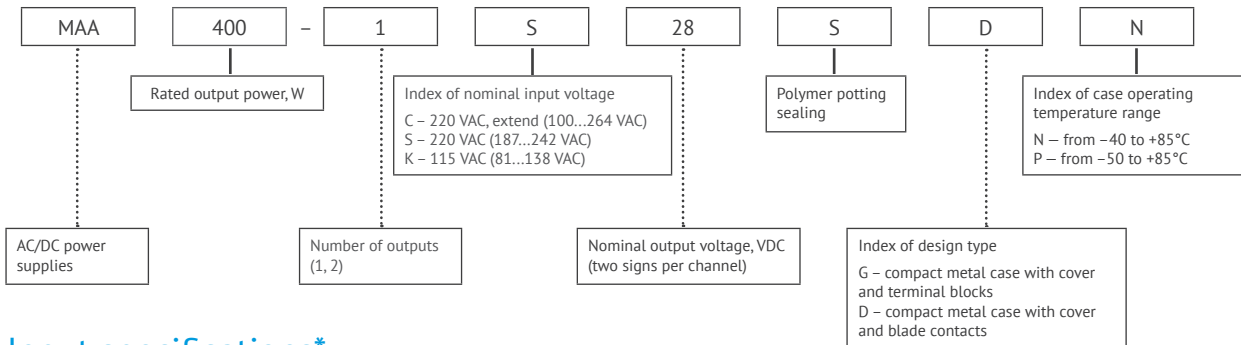
Order registration

+7 473 200 87 80, Global Operations Team

Technical support

Mikhail Timokhin, mtimohin@kwsystems.ru

Ordering information



Input specifications*

Parameter	Value
Input voltage range, VAC**	C ~100...264 (=141...372)
	S ~187...242 (=263...340)
	K ~81...138 (=113...198)
Transient deviation range, VAC	C ~100...264
	S ~176...264
	K ~81...150
Transient time	S, K 1 s.
	C -
Mains frequency range, Hz	C, S 47...440
	K 360...440

Output specifications*

Parameter	Value
Nominal output voltage, VDC	5 9 12 15 24 28
Output voltage adjustment	10 %
Efficiency, %	78 80 82 82 84 85
Rated output current, A	60 44.44 33.33 26.66 16.66 14.28
Output channel power distribution	single-channel 100%-1
	dual-channel 50%-1, 50%-2
Ripple and noise (peak-to-peak)	<2%
Line and load regulation	max 2% for first channel max 10% for second channel
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)

* 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
Overcurrent protection	$P_{max} < 1.8 P_{nom}$
Overload protection level*	$< 125\% U_{out nom.}$
Overheat protection	triggers at case temperature $> 85^{\circ}\text{C}$

Basic specifications**

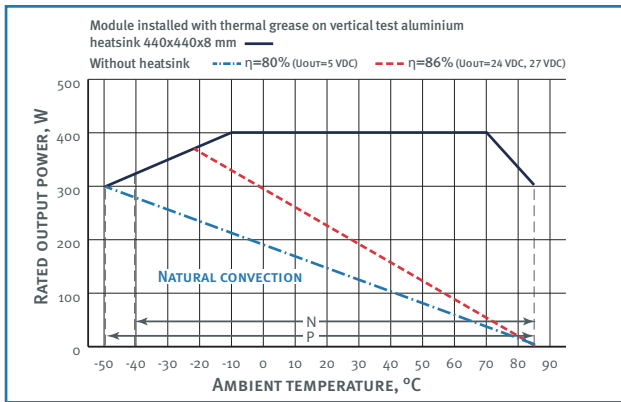
Parameter		Value
Type of connection		screw terminals and blade contacts
Protection level		IP20
Case temperature, operating	«N»	$-40 \dots +85^{\circ}\text{C}$
	«P»	$-50 \dots +85^{\circ}\text{C}$
Case temperature, storage		$-50 \dots +70^{\circ}\text{C}$
Humidity		98% / 35°C
Isolation voltage	in /case	$\sim 1500 \text{ VAC}$
	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.

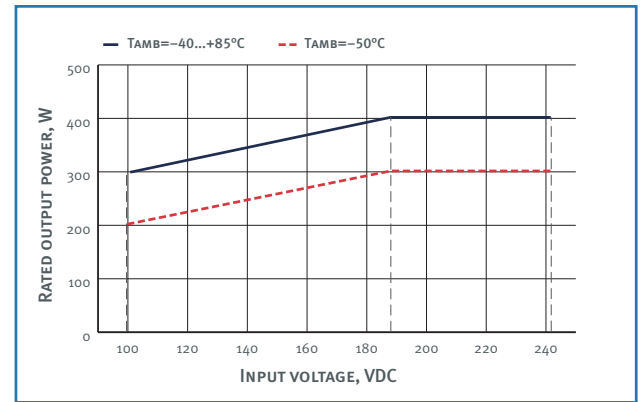
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Derating

vs Temperature. MAA400

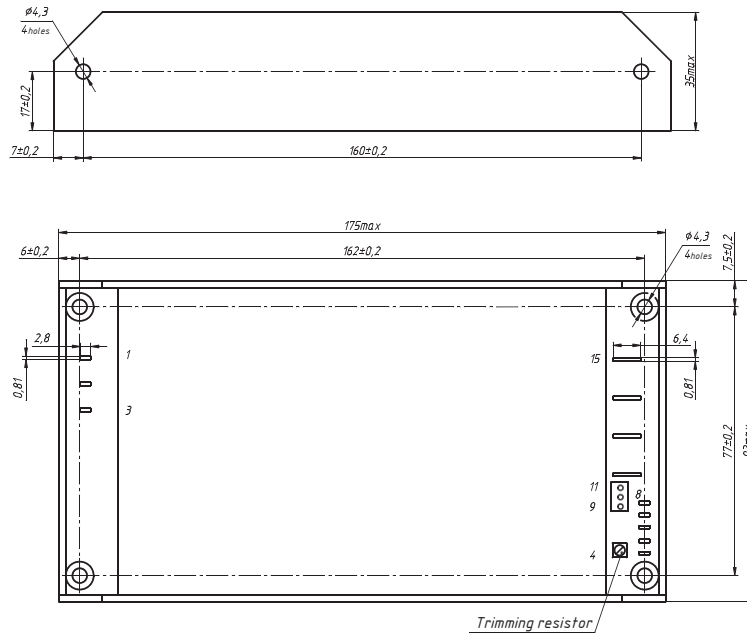



vs Input Voltage. MAA400



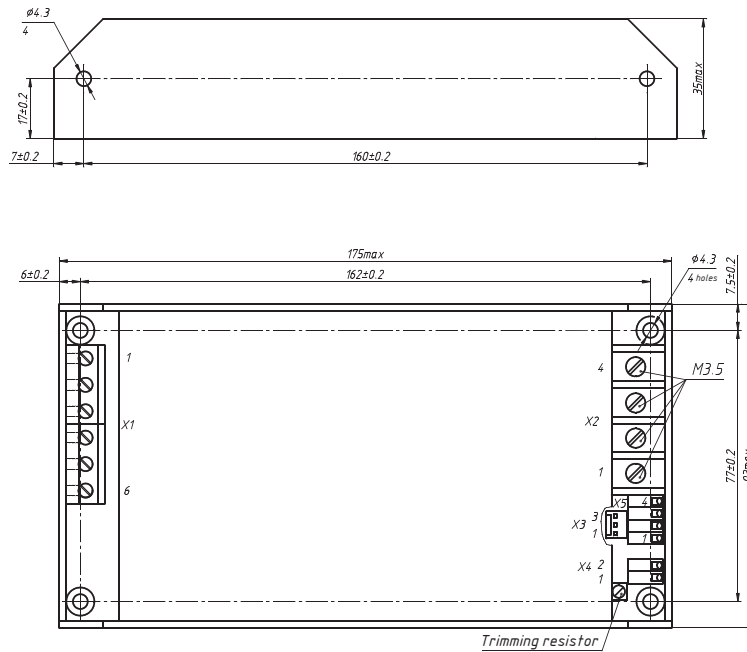
Dimensions

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

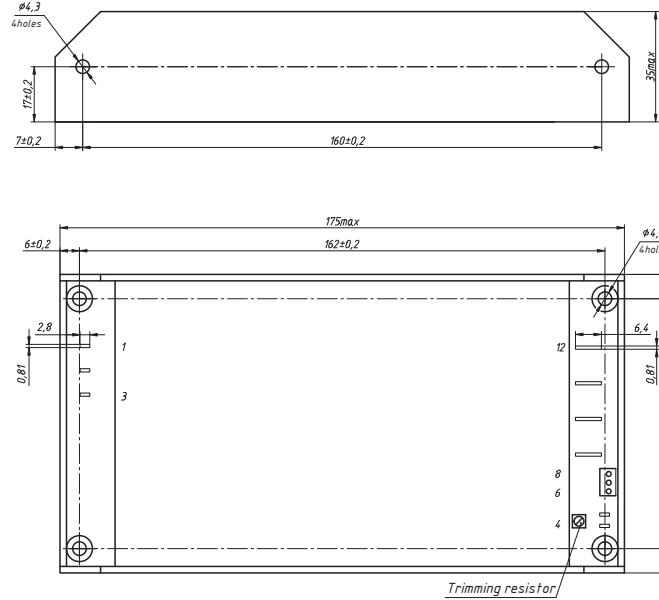
Single-channel design with terminal blocks



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

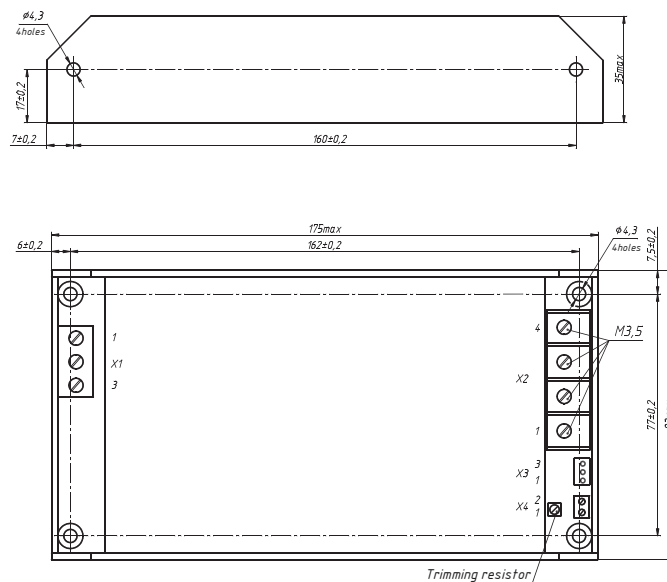
Dimensions

Dual-channel design with blade contacts



PIN #	1	2	3	4	5	6	7	8	9	10	11	12
DUAL-CHANNEL	L	N	⊕	-REMOTE OFF	+REMOTE OFF	+U FAN	-U FAN	NOT USE	+OUT 1	-OUT 1	-OUT 2	+OUT 2

Dual-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
DUAL-CHANNEL	L	N	⊕	+OUT 1	-OUT 1	-OUT 2	+OUT 2	+U FAN	-U FAN	NOT USE	-REMOTE OFF	+REMOTE OFF



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: MAA400-1C05CXX, MAA400-1C09CXX, MAA400-1C12CXX, MAA400-1C15CXX, MAA400-1C24CXX, MAA400-1C28CXX, MAA400-1S05CXX, MAA400-1S09CXX, MAA400-1S12CXX, MAA400-1S15CXX, MAA400-1S24CXX, MAA400-1S28CXX, MAA400-1K05CXX, MAA400-1K09CXX, MAA400-1K12CXX, MAA400-1K15CXX, MAA400-1K24CXX, MAA400-1K28CXX, MAA400-2C1212CXX, MAA400-2C1515CXX, MAA400-2C2424CXX, MAA400-2C2828CXX, MAA400-2S1212CXX, MAA400-2S1515CXX, MAA400-2S2424CXX, MAA400-2S2828CXX, MAA400-2K1212CXX, MAA400-2K1515CXX, MAA400-2K2424CXX, MAA400-2K2828CXX.