

AC/DC power supplies

MAA Family MAA400, 400 W



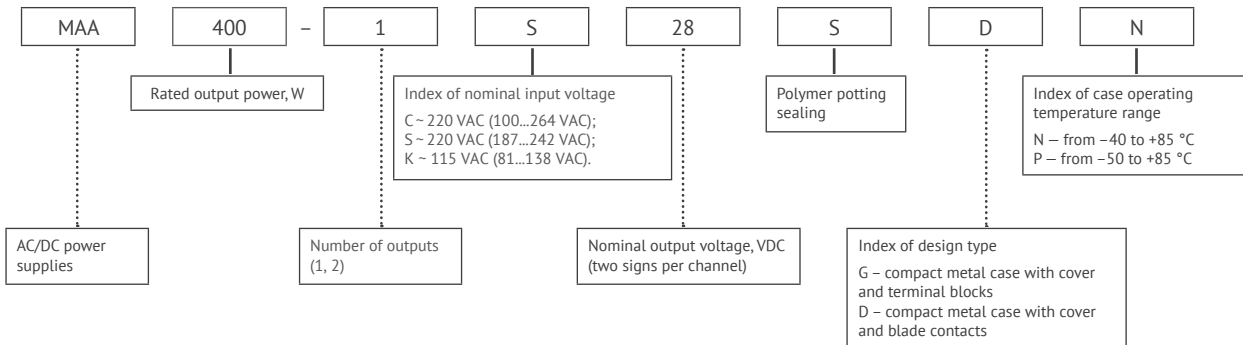
Basic specifications

Input voltage	~220 (187...264) VAC ~115 (81...138) VAC ~220 (187...264) VAC
Output voltage	=12 VDC, =15 VDC, =24 VDC, =28 VDC
Efficiency.....	≥ 80 %
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



Output specifications*

Parameter	Value			
Nominal output voltage, VDC	12	15	24	28
Output voltage adjustment	±10 %			
Efficiency, %	<80			
Rated output current, A	33.3	26.66	16.66	14.81
Power distribution across channels	100%-1; 50%-1, 50%-2			
Instability of the output voltage with a smooth change in the input voltage and output current	no more than 2% for the first channel, no more than 10% for the 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	180000 µF (U _{out} =5 VDC) 60000 µF (U _{out} =from 6 VDC to 15 VDC) 20000 µF (U _{out} =from 15 VDC to 27 VDC)			

Input specifications*

Parameter	Value	
Input voltage range, VAC**	C	~100...264
	S	~187...242
	K	~81...138
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
Inrush current, A	C	6,9
	S	3
	K	6,9

* 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 $> 85\text{ }^{\circ}\text{C}$

Basic specifications**

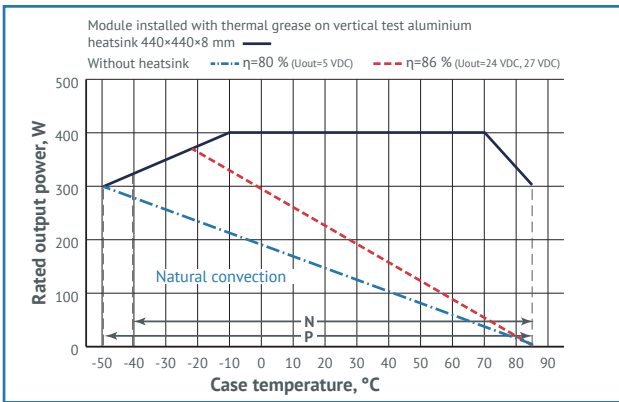
Parameter		Value
Type of connection		screw terminals and blade contacts
Protection level		IP20
Case temperature, operating	«N»	$-40\dots+85\text{ }^{\circ}\text{C}$
	«P»	$-50\dots+85\text{ }^{\circ}\text{C}$
Case temperature, storage		$-50\dots+70\text{ }^{\circ}\text{C}$
Humidity		98 % / 35 °C
Isolation 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		$\geq 20\text{ MOhm min}$
Cooling		conductive
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.

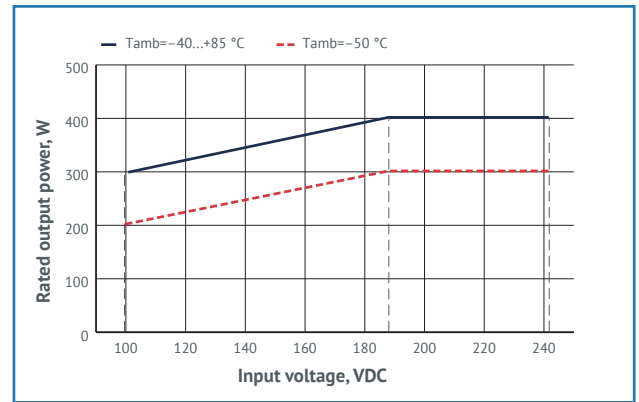
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Derating

vs Temperature. MAA400

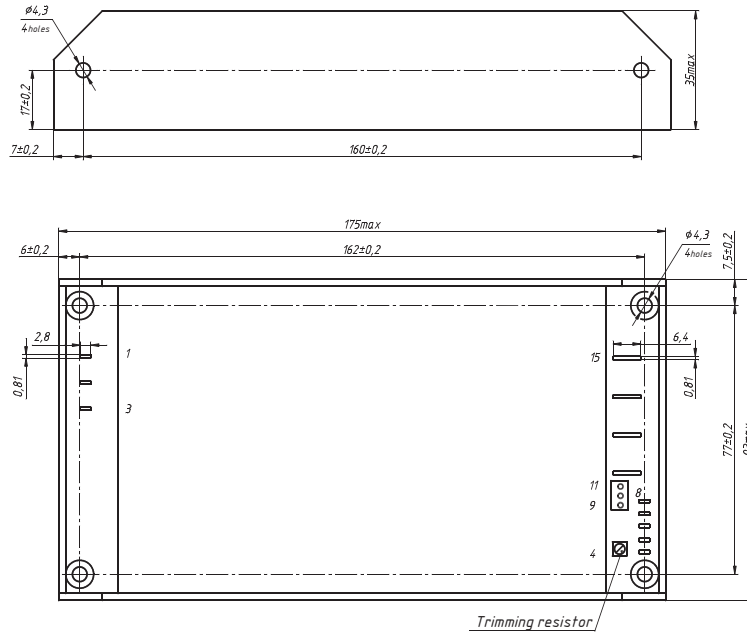



vs Input Voltage. MAA400



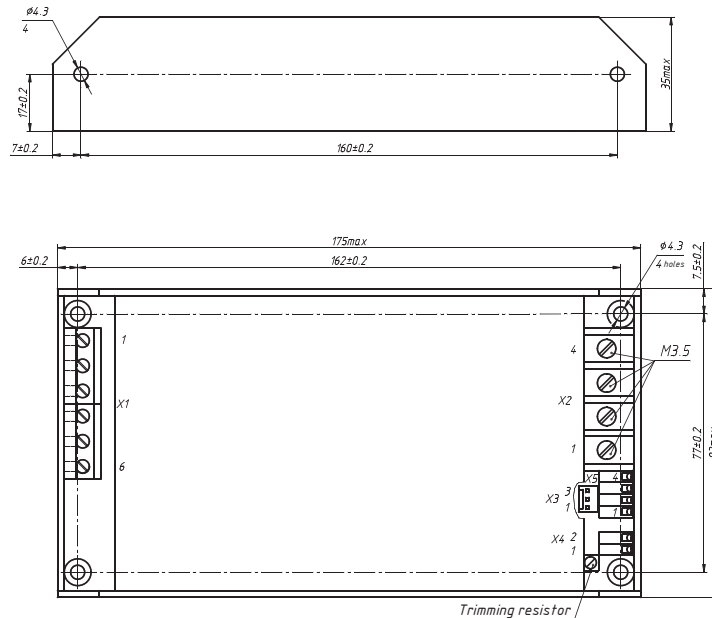
Dimensions

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

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