



- ◀ Power density max. 1084 W/dm³ (17,8 W/in³)
- ◀ 2 year warranty
- ◀ Output current max. 80 A, rated output power up to 1500 W
- ◀ Input voltage ranges 323...437 VAC (50 Hz), 187...253 VAC (400 Hz)
- ◀ Low-profile design (41 mm) with blade contacts or connector block
- ◀ Case operating temperature range -40...+85°C, -50...+85°C
- ◀ Fan power output (12 V; 0,2 A)
- ◀ Overvoltage, short-circuit and thermal protection
- ◀ Typical efficiency 86% (U_{out}=24 VDC, P_{out}=0,7 P_{nom})
- ◀ Remote off/on
- ◀ Voltage output adjustment
- ◀ Parallel operation, external feedback
- ◀ Polymer potting sealing
- ◀ Maximum load capacity 33000 uF (U_{out}=27 VDC, P_{out}=50%)
- ◀ Recommended for application in a new designs
- ◀ Output voltage adjustment
- ◀ Power factor corrector

DESCRIPTION

Power supply modules of MAA 1500 series are designed for industrial and special-purpose equipment. With small dimensions (250×140×41 mm) the maximum output power of modules can reach up to 1500 W and. These modules are able to operate in a wide range of case operating temperatures (-50...+85°C). They have remote off/on and full range protections (overload, short circuit, thermal). The modules of this series have a utility function of remote feedback for voltage drop compensation, which accurately maintains the specified voltage on a remote load. These converters have active adjustment of output current applied in case of parallel operation of several modules with common load. Polymer potting sealing ensures reliable environmental protection and excludes damage to the converter caused by vibration, dirt, moisture or salt fog.

Case of the modules has u-shaped aluminum base. The PCB of the module is protected from mechanical and climatic load by a thin-walled steel cover.

COMPLIANCE

Designed to meet MIL-STD-810G

Designed to meet MIL-STD-461E with additional circuit

ORDERING INFORMATION

MAA 1500 - 1 I 27 S D N
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- ① - MAA series
- ② - Rated output power, W
- ③ - Quantity of output channels (1)
- ④ - Index of nominal input voltage
 T — 380 VAC (323...437 VAC), 50 Hz
 P — 220 VAC (187...253 VAC), 400 Hz
- ⑤ - Nominal output voltage, VDC (two signs per channel)
- ⑥ - Polymer potting sealing
- ⑦ - Index of design type
 G — compact metal case with cover and terminal blocks
 D — compact metal case with cover and blade contacts
- ⑧ - Index of case operating temperature range
 N — from -40 to +85°C
 P — from -50 to +85°C

SINGLE OUTPUT MODELS

MODEL	INPUT VOLTAGE RANGE	OUTPUT POWER	OUTPUT VOLTAGE / RATED OUTPUT CURRENT	EFFICIENCY
MAA1500-1T24-SXX	323...437 VAC	1500 W	24 VDC / 62,5 A	86%
MAA1500-1T28-SXX	323...437 VAC	1500 W	28 VDC / 55,5 A	87%
MAA1500-1T48-SXX	323...437 VAC	1500 W	48 VDC / 31,25 A	88%
MAA1500-1P24-SXX	187...253 VAC	1500 W	24 VDC / 62,5 A	84%
MAA1500-1P24-SXX	187...253 VAC	1500 W	28 VDC / 55,5 A	85%
MAA1500-1P48-SXX	187...253 VAC	1500 W	48 VDC / 31,25 A	86%

Modules with non-standard output voltage from 5 to 68 VDC with maximal output current up to 80 A.

SPECIFICATIONS OF AC/DC POWER SUPPLIES MAA 1500*

Input specifications

Input voltage range**	T	(323...437 VAC) 380 V threephase
	P	(187...253 VAC) 220 V threephase
Input frequency	P	360...440 Hz
	T	47...440 Hz

Output specifications

Output voltage adjustment	10%
Line and load regulation	max 2% for first channel max 10% for second (third) channel
Ripple and noise (peak-to-peak)	<2% Uout. nom.
Short circuit protection***	automatic repair
Overload protection level***	<125% Uout. nom.
Remote on/off	Off at 3.5 VAC (5 mA) output «Contr»

General specifications

Case temperature	operating "N"	−40...+85°C
	operating "P"	−50...+85°C
	storage	−50...+85°C
	power derating (free convection) without power derating using heatsink	diagram (dashed, dash-dotted curve) diagram (solid curve)
Humidity		93...95% / 25°C
Efficiency		>80%
Switching frequency, constant		100 kHz
Isolation voltage	in./case	1500 VAC
	in./out.	1500 VAC
	out./case, out./out.	500 VAC
	isolation resistance @ 500 VDC	20 Mohm min
Thermal resistance case-ambient		0.8°C/W
Typical MTBF		2000 kHrs
Cooling		conductive (baseplate-cooled)
Weight		max 2400 g

It is important to note that the information herein is not full.

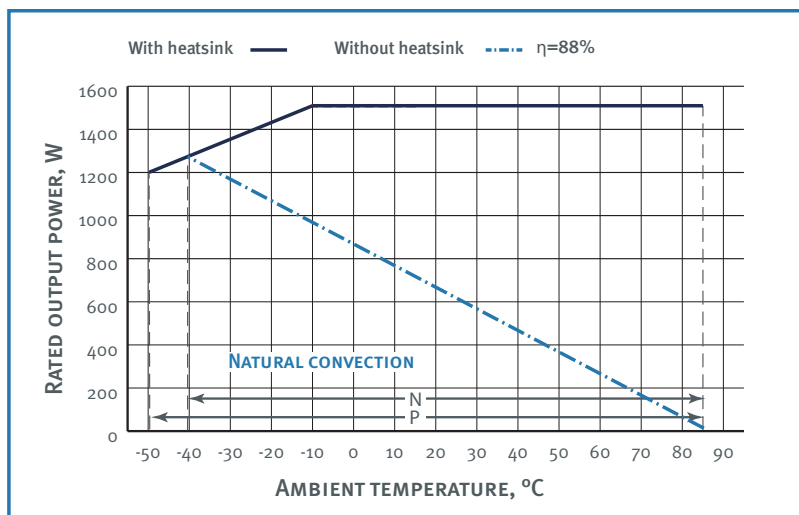
More detailed information (specific requirements, basic connection circuits, rules of operations etc.) can be found on our web-site: www.kwsystems.ru.

* All specifications are valid for normal climatic conditions, Uin. nom., Iout. nom., unless otherwise noted.

** Maximum output power for input voltage C (wide circuit) at Uout 100...187 VDC is reducing according to Power reduction diagram of module according to input voltage.

*** 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.


POWER DERATING VS AMBIENT TEMPERATURE DIAGRAM




Decreasing parts of the dashed and dash-dotted curves correspond to the maximum case temperature (+85°C for models with index "N" and "P"). Output power must not exceed the values limited by curve for a given ambient temperature.

Modules can be used without the heatsink only on condition of installation with thermal grease on heat-distribution baseplate with length and width not less than case's and with thickness not less than 8 mm.

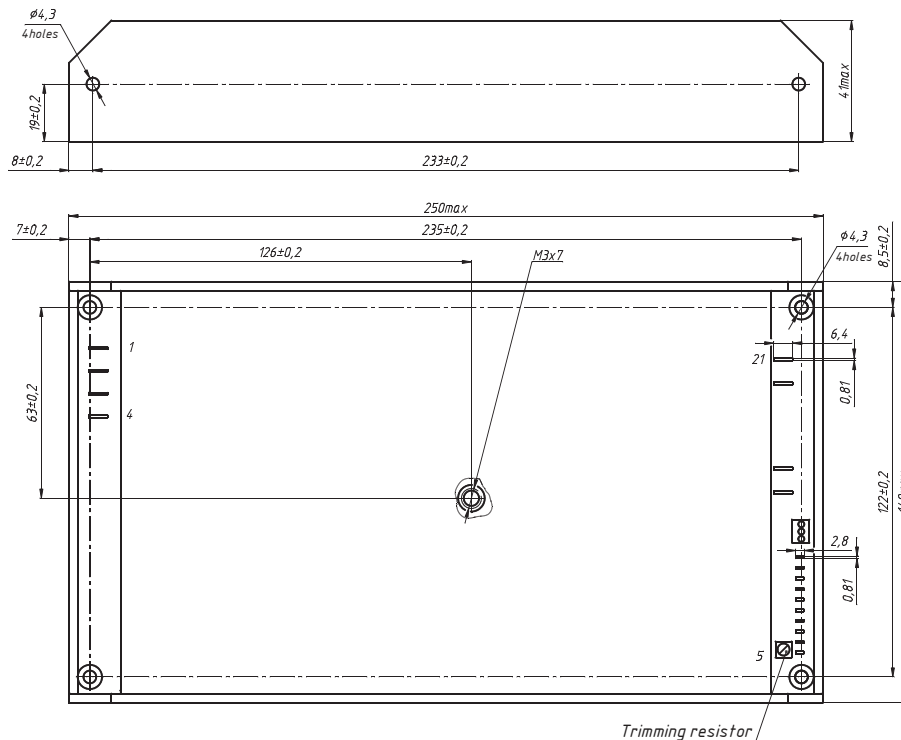
PIN OUT (DESIGN WITH BLADE CONTACTS)

PIN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
SINGLE CHANNEL	C	B	A		-TRIM	+TRIM	+RS	-RS	PA-RAL	ADJ	+U FAN	-U FAN	NOT USE	+OUT	+OUT	-OUT	-OUT

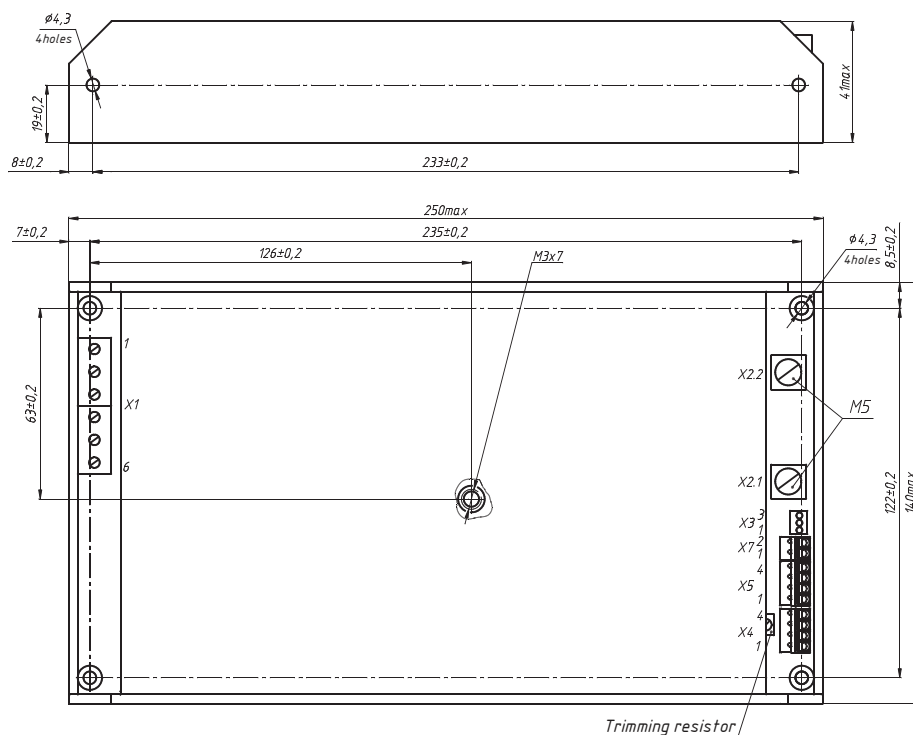
PIN OUT (DESIGN WITH CONNECTOR BLOCKS)

PIN #	X1.1	X1.2	X1.3	X1.4	X1.5	X1.6	X2.1	X2.2	X3.1	X3.2	X3.3	X4.1	X4.2	X5.1	X5.2	X5.3	X5.4
SINGLE CHANNEL	C	B	A		NOT USE	NOT USE	+OUT	-OUT	+U FAN	-U FAN	NOT USE	-УП	+УП	+OC	-OC	PA-RAL	ADJ

SINGLE CHANNEL DESIGN WITH BLADE CONTACTS



SINGLE CHANNEL DESIGN WITH CONNECTOR BLOCKS



SINGLE CHANNEL DESIGN WITH CONNECTOR BLOCKS

