AC/DC POWER SUPPLIES MAA800, MAA1000

- Power density max. 1034 W/dm^3 (16,9 W/in^3)
- 2 year warranty
- Output current max. 66,6 A, rated output power up to 1000 W
- Input voltage ranges 100...264 VAC; 187...242 VAC; 81...138 VAC
- Low-profile design (41 mm) with blade contacts or connector block
- Case operating temperature range −40...+85°C, −50...+85°C
- Power factor corrector
- Single or dual output models
- Galvanic output isolation
- Fan power output (12 V; 0,2 A)
- Overvoltage, short-circuit and thermal protection
- Typical efficiency 89% (Uout=48 VDC)
- Remote off/on
- Voltage output adjustment
- Parallel operation, external feedback
- Polymer potting sealing
- Maximum capacity 78000 uF (Uout=15 VDC)
- Recommended for application in a new designs

DESCRIPTION

Power supply modules of MAA800, MAA1000 series are designed for industrial and special purpose equipment. Despite small size (211×117×41 mm) maximum output power of modules can reach up to 75 W. They can operate in a wide range case operating temperature (−50...+85°C). Depending on application they have one or two galvanically isolated output channels, remote on/off, and full range protection (overload,short circuit, thermal protection). Modules have utility function of remote off/on for line drop compensation, which accurately preserves the specified voltage on the remote load. There is active adjustment of output current in parallel operation of some 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 environmental load by a thin-walled steel cover.

COMPLIANCE

Designed to meet MIL-STD-810G

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

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Specifications can be changed without the prior notification. Up-to-date information can be found at kwsystems.ru

ORDERING INFORMATION

MAA	1000	2	S	15 15	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, 2, 3)

④ – Index of nominal input voltage
C – 220 VAC, extend (100...264 VAC)
S – 220 VAC (187...242 VAC)
K – 115 VAC (81...138 VAC)

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

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AC/DC POWER SUPPLIES MAA800, MAA1000

SINGLE OUTPUT MODELS

MODEL	INPUT VOLTAGE RANGE	OUTPUT POWER	OUTPUT VOLTAGE / RATED OUTPUT CURRENT	EFFICIENCY
MAA800-1S15-SXX	187...242 VAC	800 W	15 VDC / 53,3 A	84%
MAA800-1S24-SXX	187...242 VAC	800 W	24 VDC / 33,3 A	88%
MAA800-1S28-SXX	187...242 VAC	800 W	28 VDC / 29,6 A	88%
MAA800-1S48-SXX	187...242 VAC	800 W	48 VDC / 16,6 A	89%
MAA800-1K15-SXX	81...138 VAC	800 W	15 VDC / 53,3 A	84%
MAA800-1K24-SXX	81...138 VAC	800 W	24 VDC / 33,3 A	88%
MAA800-1K28-SXX	81...138 VAC	800 W	28 VDC / 29,6 A	88%
MAA800-1K48-SXX	81...138 VAC	800 W	48 VDC / 16,6 A	89%
MAA800-1C15-SXX	100...264 VAC	800 W	15 VDC / 53,3 A	84%
MAA800-1C24-SXX	100...264 VAC	800 W	24 VDC / 33,3 A	88%
MAA800-1C28-SXX	100...264 VAC	800 W	28 VDC / 29,6 A	88%
MAA800-1C48-SXX	100...264 VAC	800 W	48 VDC / 16,6 A	89%
MAA1000-1S15-SXX	187...242 VAC	1000 W	15 VDC / 66,7 A	84%
MAA1000-1S24-SXX	187...242 VAC	1000 W	24 VDC / 41,6 A	88%
MAA1000-1S28-SXX	187...242 VAC	1000 W	28 VDC / 37 A	88%
MAA1000-1S48-SXX	187...242 VAC	1000 W	48 VDC / 20,8 A	89%
MAA1000-1K15-SXX	81...138 VAC	1000 W	15 VDC / 66,7 A	84%
MAA1000-1K24-SXX	81...138 VAC	1000 W	24 VDC / 41,6 A	88%
MAA1000-1K28-SXX	81...138 VAC	1000 W	28 VDC / 37 A	88%
MAA1000-1K48-SXX	81...138 VAC	1000 W	48 VDC / 20,8 A	89%
MAA1000-1C15-SXX	100...264 VAC	1000 W	15 VDC / 66,7 A	84%
MAA1000-1C24-SXX	100...264 VAC	1000 W	24 VDC / 41,6 A	88%
MAA1000-1C28-SXX	100...264 VAC	1000 W	28 VDC / 37 A	88%
MAA1000-1C48-SXX	100...264 VAC	1000 W	48 VDC / 20,8 A	89%
MAA1000-1C54-SXX	100...264 VAC	1000 W	54 VDC / 18,5 A	89%

Models with output voltage from 5 to 68 VDC and maximum output current up to 67 A can be produced by special order.

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Specifications can be changed without the prior notification. Up-to-date information can be found at kwsystems.ru

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AC/DC POWER SUPPLIES MAA800, MAA1000

DUAL OUTPUT MODELS

MODEL	INPUT VOLTAGE RANGE	OUTPUT POWER	OUTPUT VOLTAGE / RATED OUTPUT CURRENT	EFFICIENCY
MAA800-2S1515-SXX	187...242 VAC	800 W	15 VDC / 26,7 A; 15 VDC / 26,7 A	84%
MAA800-2S2424-SXX	187...242 VAC	800 W	24 VDC / 16,7 A; 24 VDC / 16,7 A	88%
MAA800-2S2828-SXX	187...242 VAC	800 W	28 VDC / 14,8 A; 28 VDC / 14,8 A	88%
MAA800-2S4848-SXX	187...242 VAC	800 W	48 VDC / 8,3 A; 48 VDC / 8,3 A	89%
MAA800-2K1515-SXX	81...138 VAC	800 W	15 VDC / 26,7 A; 15 VDC / 26,7 A	84%
MAA800-2K2424-SXX	81...138 VAC	800 W	24 VDC / 16,7 A; 24 VDC / 16,7 A	88%
MAA800-2K2828-SXX	81...138 VAC	800 W	28 VDC / 14,8 A; 28 VDC / 14,8 A	88%
MAA800-2K4848-SXX	81...138 VAC	800 W	48 VDC / 8,3 A; 48 VDC / 8,3 A	89%
MAA800-2C1515-SXX	100...264 VAC	800 W	15 VDC / 26,7 A; 15 VDC / 26,7 A	84%
MAA800-2C2424-SXX	100...264 VAC	800 W	24 VDC / 16,7 A; 24 VDC / 16,7 A	88%
MAA800-2C2828-SXX	100...264 VAC	800 W	28 VDC / 14,8 A; 28 VDC / 14,8 A	88%
MAA800-2C4848-SXX	100...264 VAC	800 W	48 VDC / 8,3 A; 48 VDC / 8,3 A	89%

Modules with non-standard output voltage from 5 to 60 VDC with maximal output current up to 67 A

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AC/DC POWER SUPPLIES MAA800, MAA1000

SPECIFICATIONS OF AC/DC POWER SUPPLIES MAA800, MAA1000*

Input specifications	
Input voltage range**	
C	100...264 VAC (141...372 VDC)
S	187...242 VAC (263...340 VDC)
K	81...138 VAC (113...198 VDC)
Input frequency	
C, S	47...53 Hz
K	360...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
Overcurrent protection	Pout... 1,8 Pmax
Overload protection level***	<125% Uвых ном
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)	diagram (dashed, dash-dotted curve)
without power derating using heatsink	diagram (solid curve)
Humidity	93...95% / 25°C
Efficiency	80% Uout=5 VDC 86% Uout=24 VDC
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
EMC standards	IEC 60950, EN55022 (CISPR22), Class B
Thermal resistance case-ambient	1,2°C/W
Typical MTBF	2000 kHrs
Cooling	conductive (baseplate-cooled)
Weight	max 1900 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.

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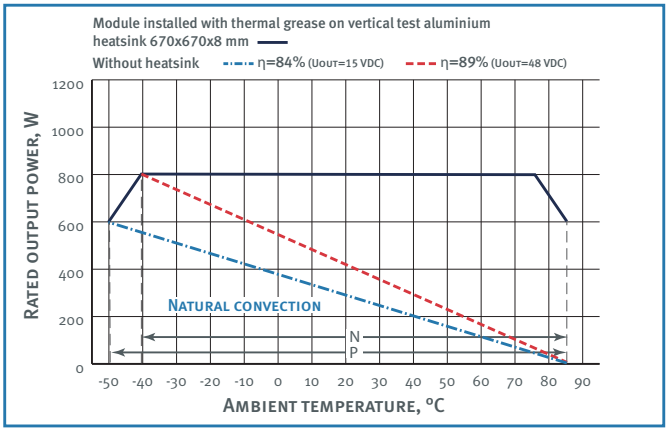
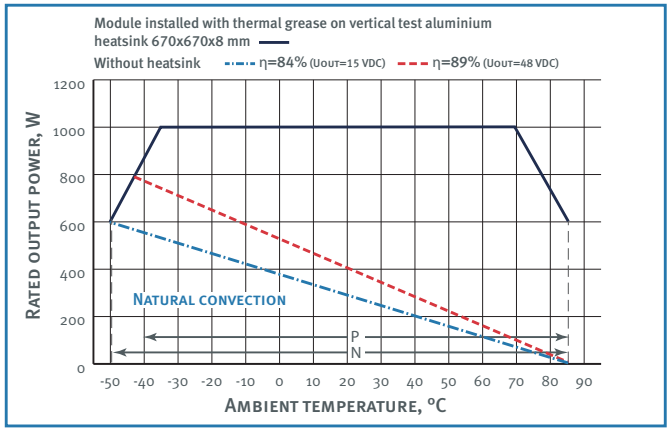
POWER DERATING VS AMBIENT TEMPERATURE DIAGRAM FOR INPUT VOLTAGE 187...242 VAC

MAA800



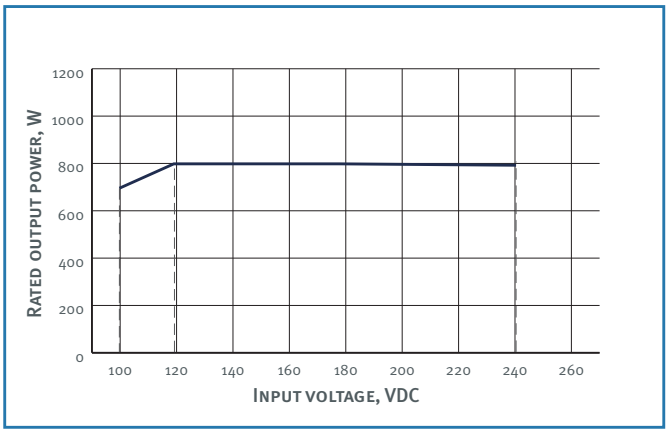
MAA1000



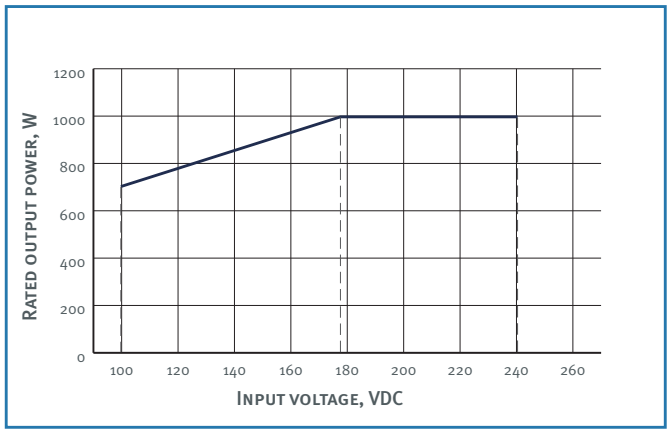
Decreasing parts of the dashed and dash-dotted curves correspond to the maximum case temperature (+85ºC for models with index «N» and «P»). Output power must not exceed the values limited by curve for a given ambient temperature.
Modules can be used without the heatsink only on condition of installation with thermal grease on heat-distribution baseplate with lenght and width not less than case's and with thikness not less than 8 mm.

POWER DERATING VS INPUT VOLTAGE DIAGRAM

MAA800



MAA1000



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AC/DC POWER SUPPLIES MAA800, MAA1000

PIN OUT (DESIGN WITH BLADE CONTACTS)

PIN #	1	2	3	4	5	6	7
SINGLE CHANNEL	L	N	⏚	-ADJ	+ADJ	+RS	-RS
DUAL CHANNEL	L	N	⏚	-ADJ	+ADJ	+U FAN	-U FAN

PIN #	8	9	10	11	12	13	14	15
SINGLE CHANNEL	PARAL	+U FAN	-U FAN	NOT USE	+OUT1	+OUT1	-OUT1	-OUT1
DUAL CHANNEL	NOT USE	+OUT1	-OUT1	-OUT2	+OUT2	-	-	-

PIN OUT (DESIGN WITH CONNECTOR BLOCKS)

PIN #	X1.1	X1.2	X1.3	X2.1	X2.2	X2.3	X2.4	X3.1
SINGLE CHANNEL	L	N	⏚	+OUT1	+OUT1	-OUT1	-OUT1	+U FAN
DUAL CHANNEL	L	N	⏚	+OUT1	-OUT1	-OUT2	+OUT2	+U FAN

PIN #	X3.2	X3.3	X4.1	X4.2	X5.1	X5.2	X5.3	X5.4
SINGLE CHANNEL	- U FAN	NOT USE	-TRIM	+TRIM	+RS	-RS	PARAL	NOT USE
DUAL CHANNEL	-U FAN	NOT USE	-TRIM	+TRIM	-	-	-	-

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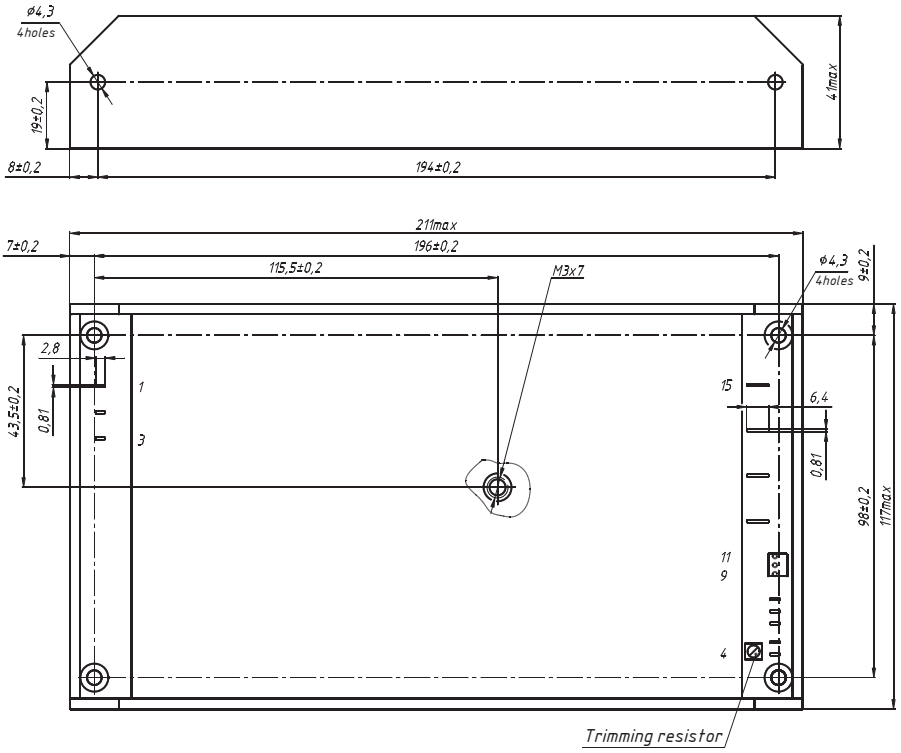
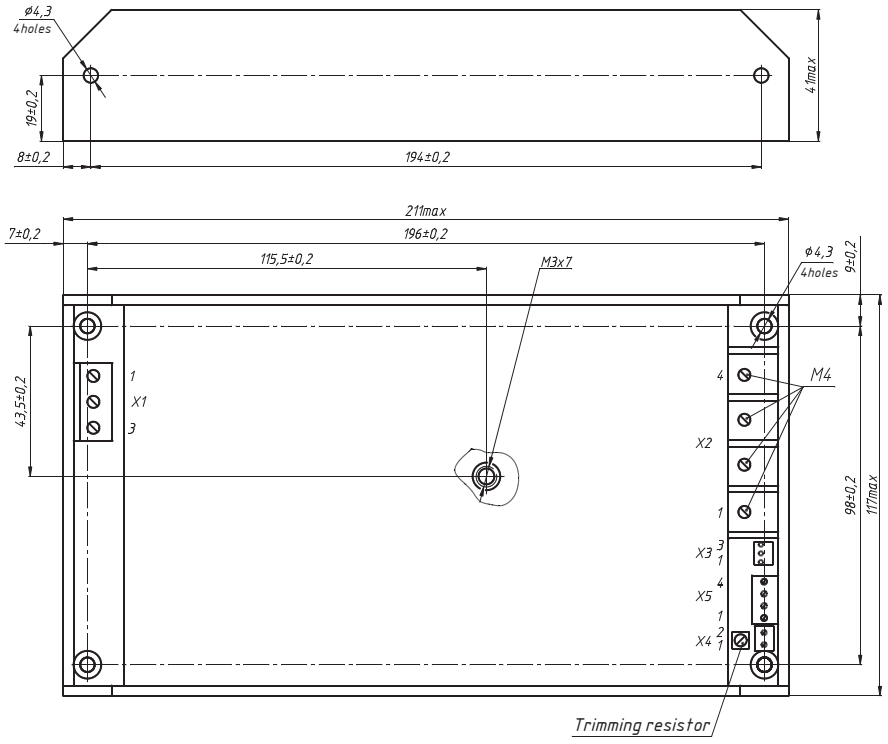
AC/DC POWER SUPPLIES MAA800, MAA1000

SINGLE CHANNEL DESIGN WITH BLADE CONTACTS



SINGLE CHANNEL DESIGN WITH CONNECTOR BLOCKS



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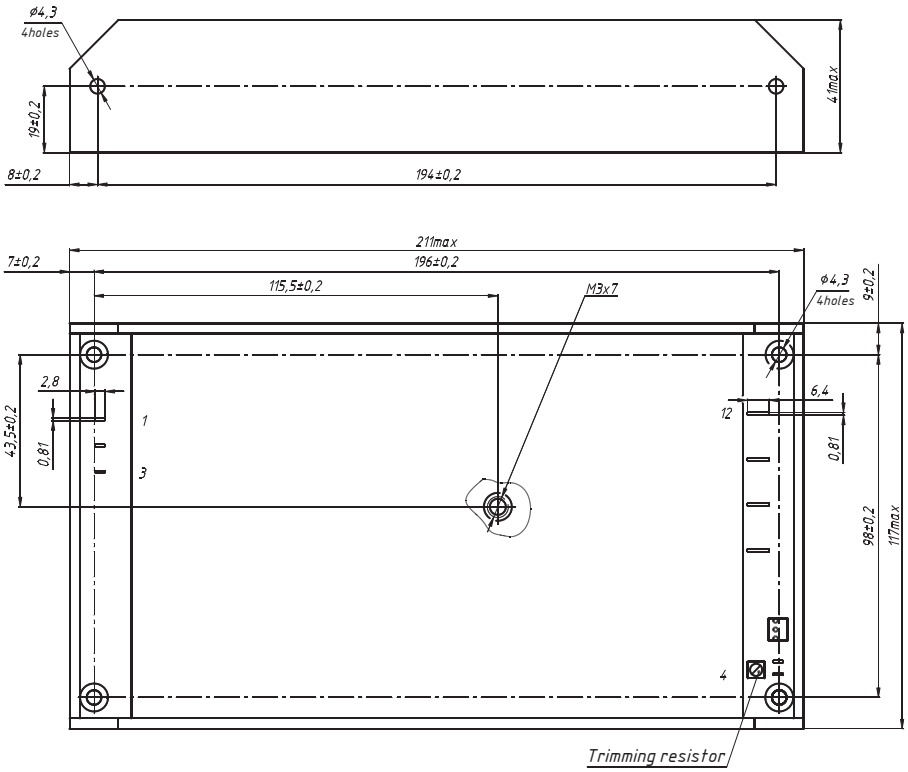
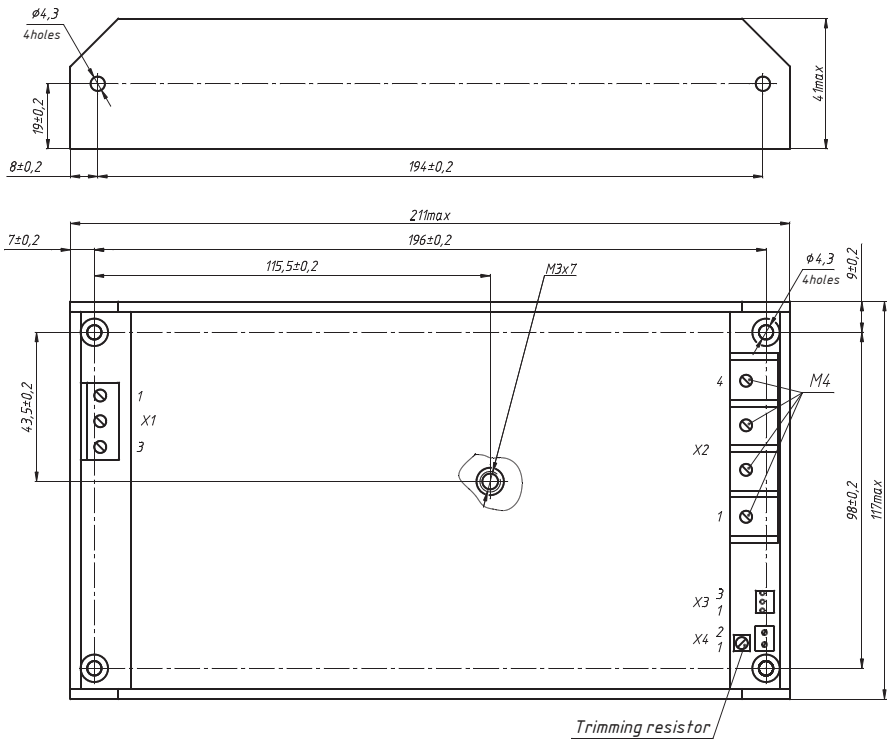
DUAL CHANNEL DESIGN WITH BLADE CONTACTS



DUAL CHANNEL DESIGN WITH CONNECTOR BLOCKS



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