



## Ordering information

**MAA 300 – 3 S 05 15 15 S U N**  
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

- ① - MAA Series
- ② - Nominal output power, Watt
- ③ - Channel quantity (1, 2, 3)
- ④ - Input voltage  
S - 220VAC  
K - 115VAC
- ⑤ - Output voltage channel 1, VDC
- ⑥ - Output voltage channel 2, VDC
- ⑦ - Output voltage channel 3, VDC
- ⑧ - Execution with sealing
- ⑨ - Embodiment  
B - uniform case with priming
- ⑩ - Operating temperature range of case  
N - - 40°C...+85°C  
P - - 50°C...+85°C

- Rugged environment in operation in technical equipment of industrial and special purpose.
- Low-profile construction
- Metal case
- Cooling by heat sink or free air convection
- Electromagnetic compatibility index to GOST V 25803-91 for group 1.2.1 (curve 2)
- Stability to external factors of group 1U GOST RV 20.39.414.1-97 (additional)
- Short circuit protection, overload, overvoltage and thermal protection
- Galvanic isolated outputs
- Output voltage regulation
- Parallel operation function
- External feedback
- Acceptance «5»

## Single-output models

Module	MAA300-1S12SXX	MAA300-1S15SXX	MAA300-1S24SXX	MAA300-1S27SXX	MAA300-1S48SXX	MAA300-1S68SXX
Output power	300 W					
Output voltage	12 VDC	15 VDC	24 VDC	27 VDC	48 VDC	68 VDC
Выходной ток	25 A	20 A	12,5 A	11,1 A	6,25 A	4,41 A

## Dual-output models

Module	MAA300-2S1212SXX		MAA300-2S1515SXX		MAA300- 2S2424XX		MAA300-2S2727SXX	
Output power	300 W							
Channel number	1	2	1	2	1	2	1	2
Output voltage	12 VDC	12 VDC	15 VDC	15 VDC	24 VDC	24 VDC	27 VDC	27 VDC
Output current	12,5 A	12,5 A	10 A	10 A	6,25 A	6,25 A	5,5 A	5,5 A

## Triple-output models

Module	MAA300-3S051212SXX			MAA300-3S051515SXX		
Output power	300 W					
Channel number	1	2	3	1	2	3
Output voltage	5 VDC	12 VDC	12 VDC	5 VDC	15 VDC	15 VDC
Output current	20 A	8,3 A	8,3 A	20 A	6,67 A	6,67 A

\* by request can be delivered modules with non-standard output voltage from 3 to 70 VDC and maximal output current to 40A.

## Input specifications

Parameter	Conditions of dimensions	MIN	NOM	MAX	Unit	
Input voltage	Steady-state deviation	S	187	220	242	VAC
		K	80	115	140	VAC
	Transient deflection, 1 sec	S	176		264	VAC
		K	80		150	VAC
Input frequency		S K	47	400	440	Hz

## Output specifications

Parameter	Conditions of dimensions	MIN	NOM	MAX	Unit	
Total output voltage instability	Single-output execution (Inom 10 – 100%)				±3	%
	Uout2&3 differs from Uout1 less than 20%	Output 1 multi-output execution (Inom 10 – 100%)			±3	%
		Output 2 and 3 multi-output execution (Inom 10 – 100%)			±13	%
	Uout2&3 differs from Uout1 more than 20%	Output 1 multi-output execution (Inom 30 – 100%)			±3	%
Output 2 and 3 multi-output execution (Inom 50-100%)				±15	%	
Output voltage pulsations ripple (peak-to-peak)	Dimension by device for pulsation control				2	% Uout.nom.
Current overload protection actuation level		110				% Iout.nom.
Short circuit protection	Autorepair	150				% Iout.nom.
Overvoltage protection		120				% Uout.nom.
Thermal protection		90-95				°C

## General specifications

Parameter	Conditions of dimensions	MIN	NOM	MAX	Unit	
Temperature	- operating of case	N	- 40		+85	°C
		P	- 50		+85	
	- power loss - storage		- 50	См. график	+85	
Efficiency			78		%	
Conversion frequency			50		kHz	
Isolation	~ in/out	1500			VAC	
	~ in/case	1500			VAC	
	~ out/case	500			VDC	
	~ out/out	500			VDC	
Insulation resistance	Voltage 500VDC	20			Ohm	
High humidity	Temperature 35°C			98	%	
Cyclic overpatching of temperature		- 60		+85	°C	
Multiple mechanical shocks	Speeding-up 15g	2		15	ms	
Sinusoidal vibration	Speeding-up 5g	50		500	Hz	
Atmosphere pressure		6x10 <sup>4</sup>		1,2x10 <sup>5</sup>	Pa	
Time to failure	Temperature 35°C	10 <sup>5</sup>			hour	
Mass				0,7	kg	

★ all specifications reduced for normal climatic conditions, Uin.nom., Iout.nom., if it is not specified differently.

## Power loss diagram



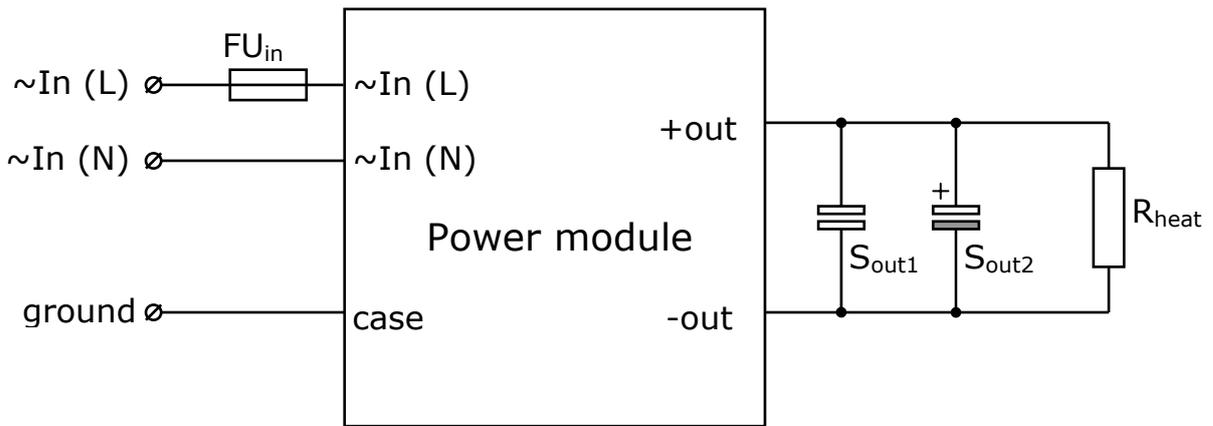
### Output settings

Nº pin	1	2	3	4	5
<b>Single-channel</b>	case	~IN (N)	~IN (L)	+ feedback	- feedback
<b>Dual-channel</b>	case	~IN (N)	~IN (L)	+ feedback	- feedback
<b>Triple-channel</b>	case	~IN (N)	~IN (L)	- on/off	+ on/off

Nº pin	6	7	8	9	10	11	12	13
<b>Single-channel</b>	Parallel	- on/off	+ on/off	trimmer	+ out 1	- out 1	- out 1	+ out 1
<b>Dual-channel</b>	Parallel	- on/off	+ on/off	trimmer	+ out 1	- out 1	-out2	+ out 2
<b>Triple-channel</b>	- out 1	+ out 1	+ out 2	-out2	+ out 3	- out 3	Not use	Not use

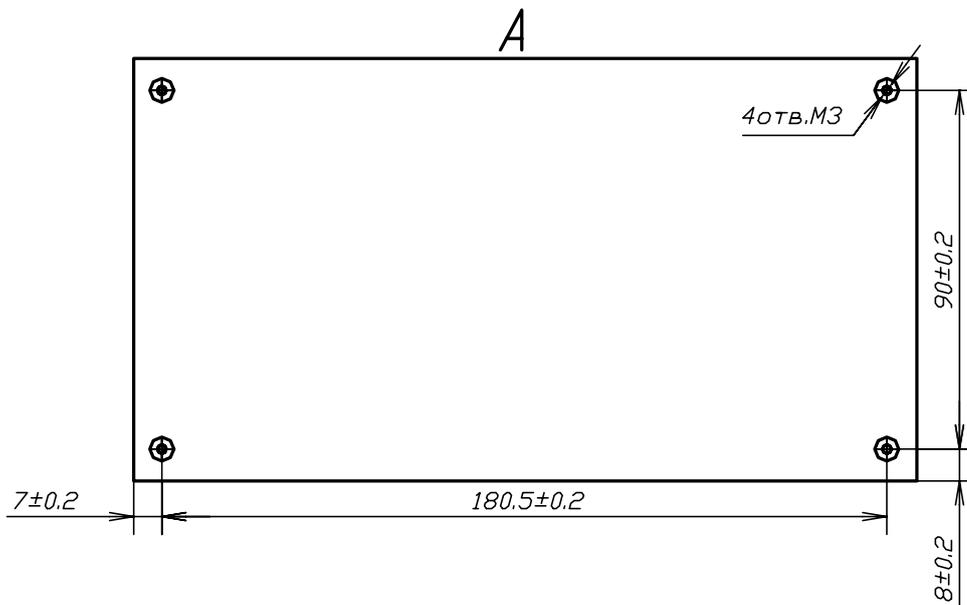
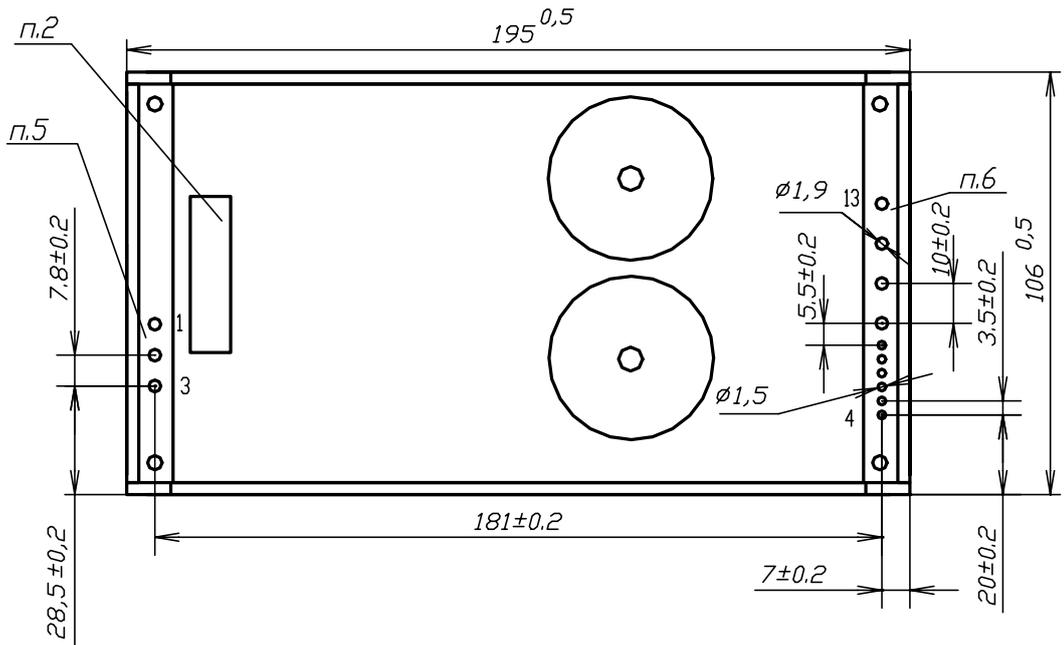
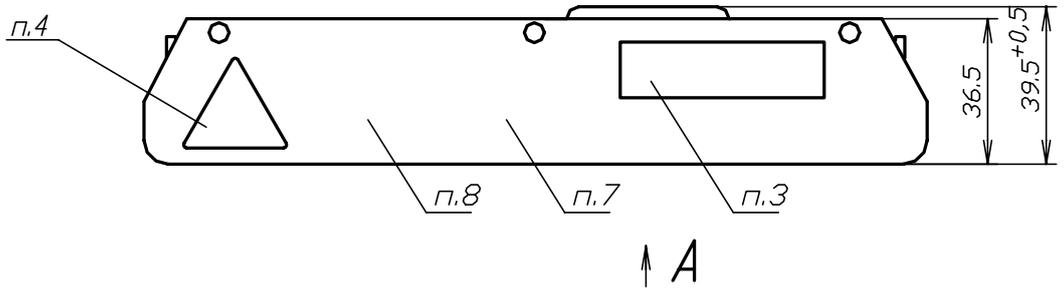
### Switching on standart diagram

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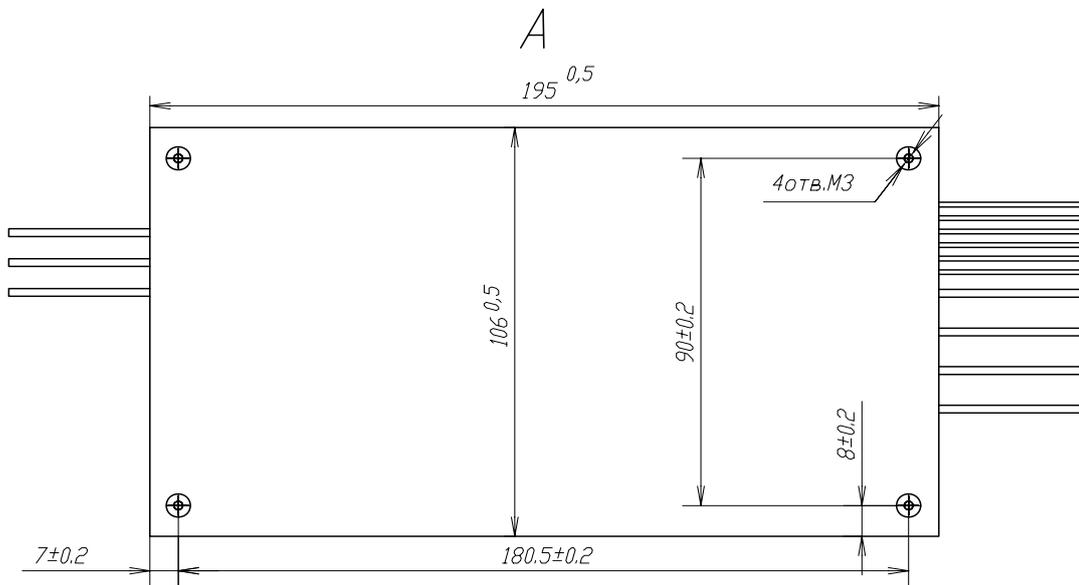
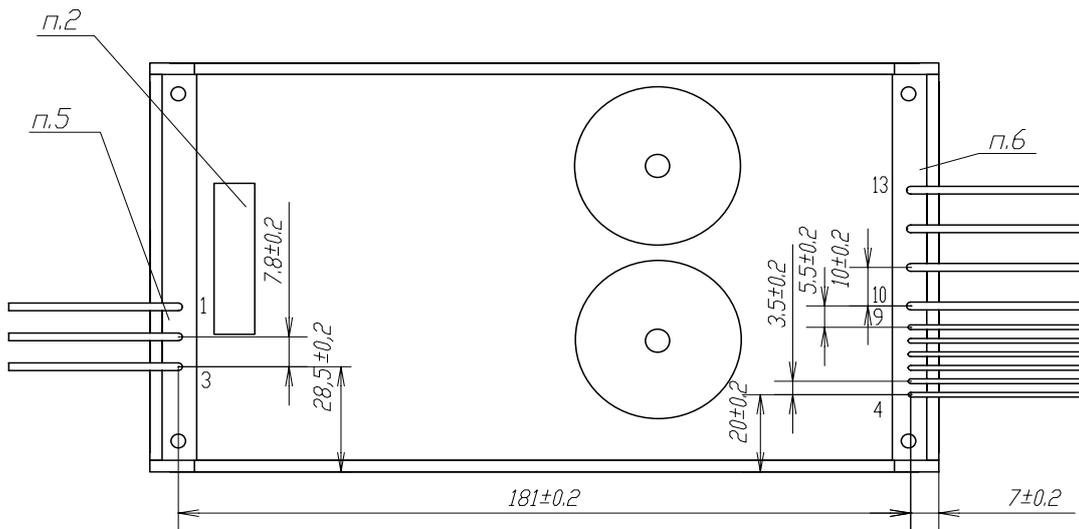
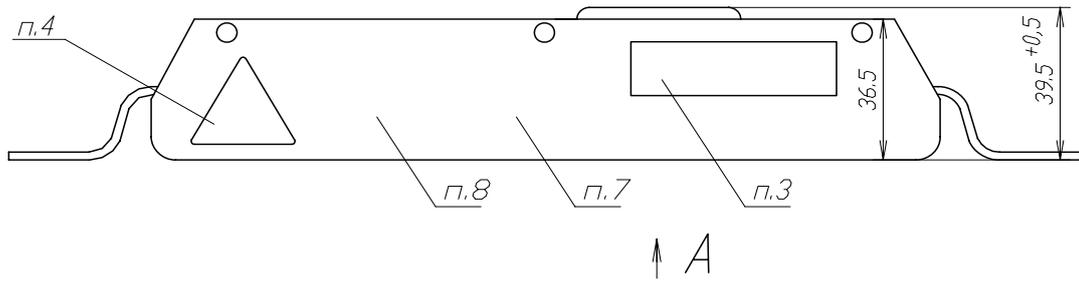


- ★  $FU_{in}$  – current safety device 5A for input voltage 220VAC, 10A for input voltage 115VAC.
- ★  $S_{out}$  – ceramic condenser capacity 0,47-15 mcF with corresponding operating voltage to decrease high-frequency noise level.
- ★  $S_{out2}$  – electronic condenser capacity 22-100 mcF in consideration with operating voltage and polarity. It makes for purpose to decrease dynamic instability when module work at dynamic load.

Single, Dual-output execution SBN

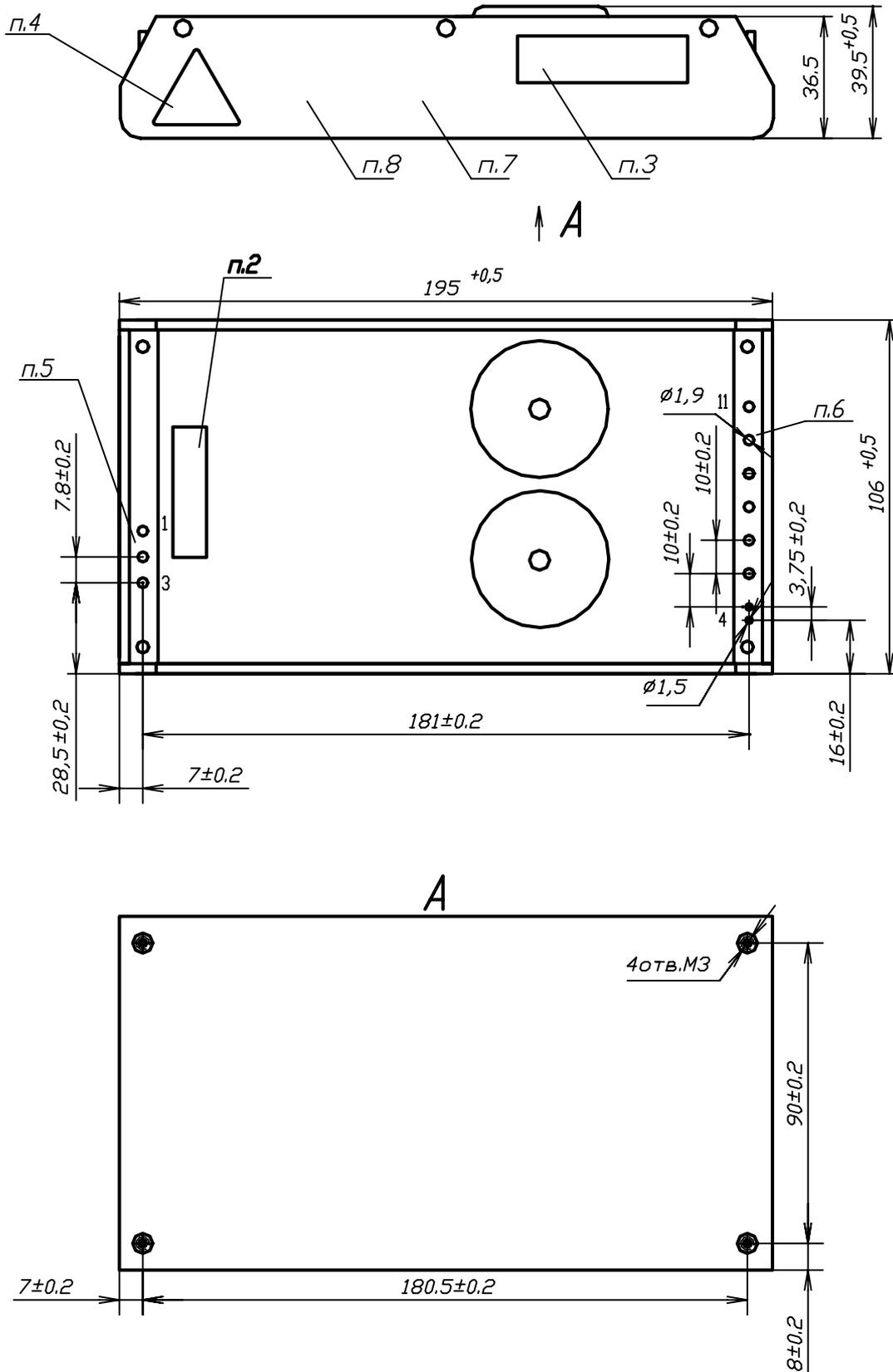


Single, Dual-output execution SVN (with flexible erection joints)

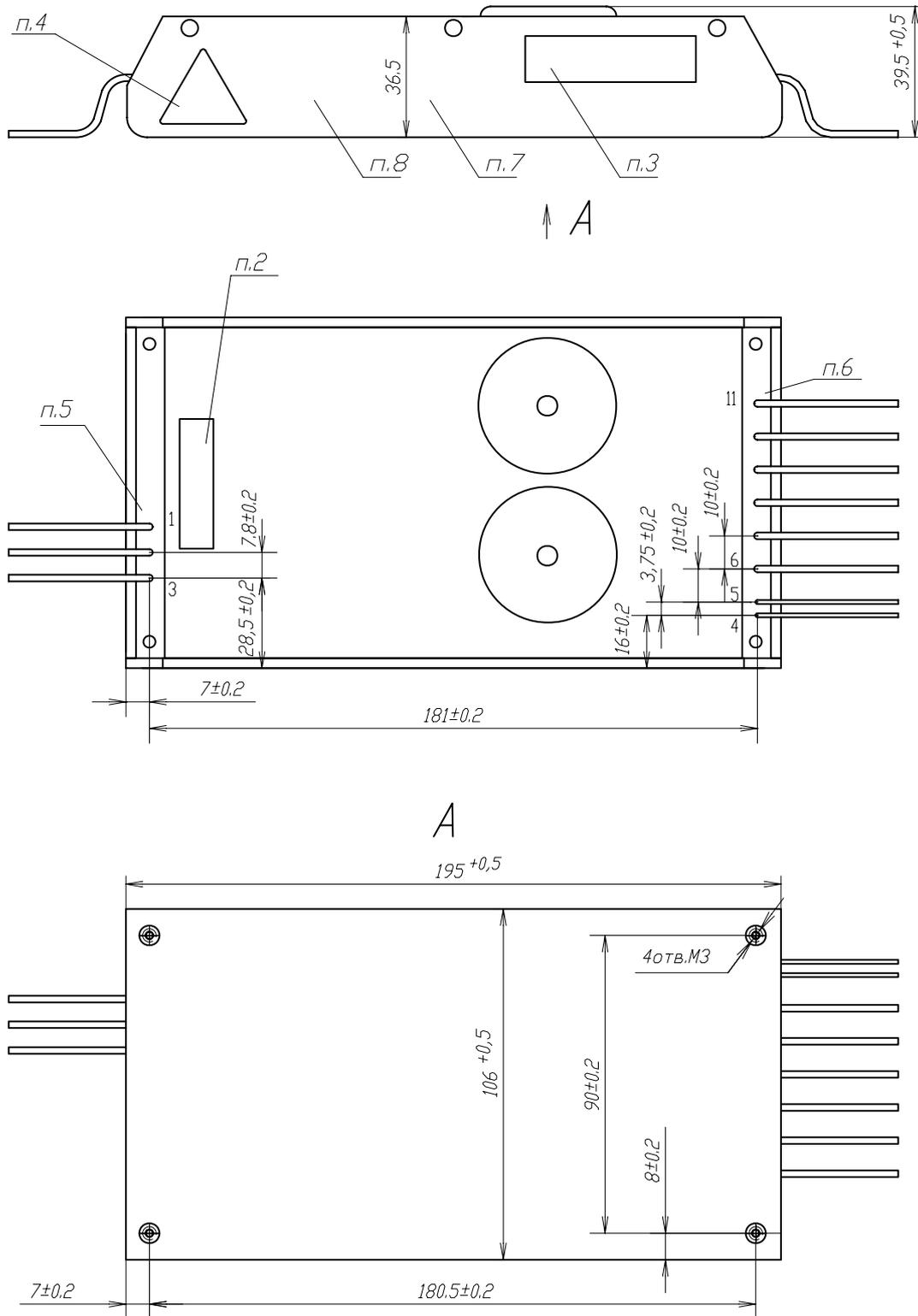


The Flexible erection joints by length (150±5)mm is executed by wire section (0,5...1,5)mm<sup>2</sup>.

## Triple-output execution SBN



**Triple-output execution SVN( with flexible erection conclusion)**



The Flexible erection findings by length ( $150 \pm 5$ )mm is executed by wire by section (0,5...1,5)mm<sup>2</sup>.