



### 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

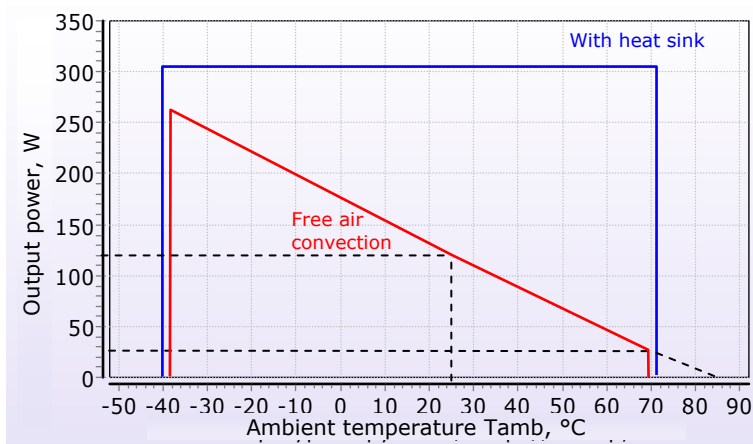
| Parameter                                       | Conditions of dimensions                  | MIN                                                    | NOM   | MAX | Unit        |
|-------------------------------------------------|-------------------------------------------|--------------------------------------------------------|-------|-----|-------------|
| 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<br>- 40<br>P<br>- 50 |     | +85<br>+85          | °C   |
|                                    | - power loss             | См. график             |     |                     |      |
|                                    | - storage                | - 50                   |     | +85                 | °C   |
| 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

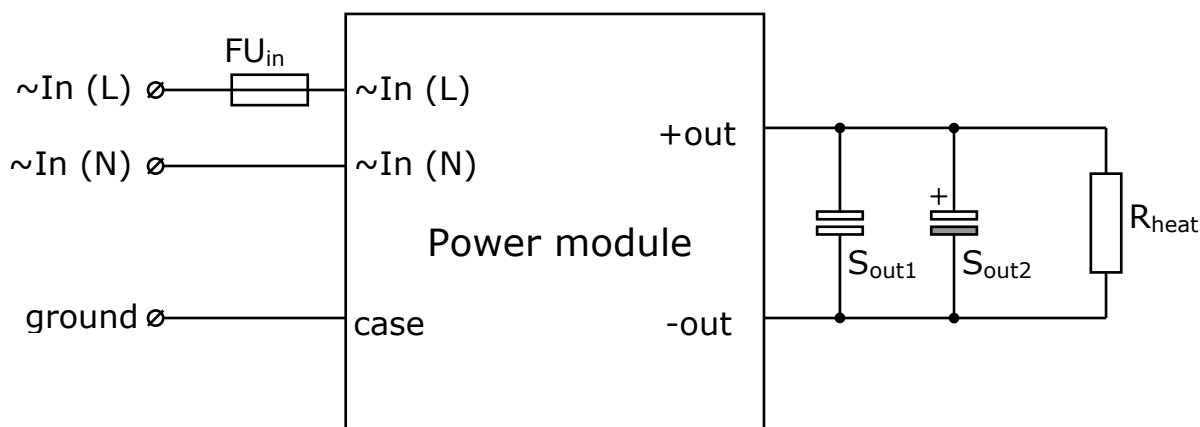


### Output settings

| 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   |

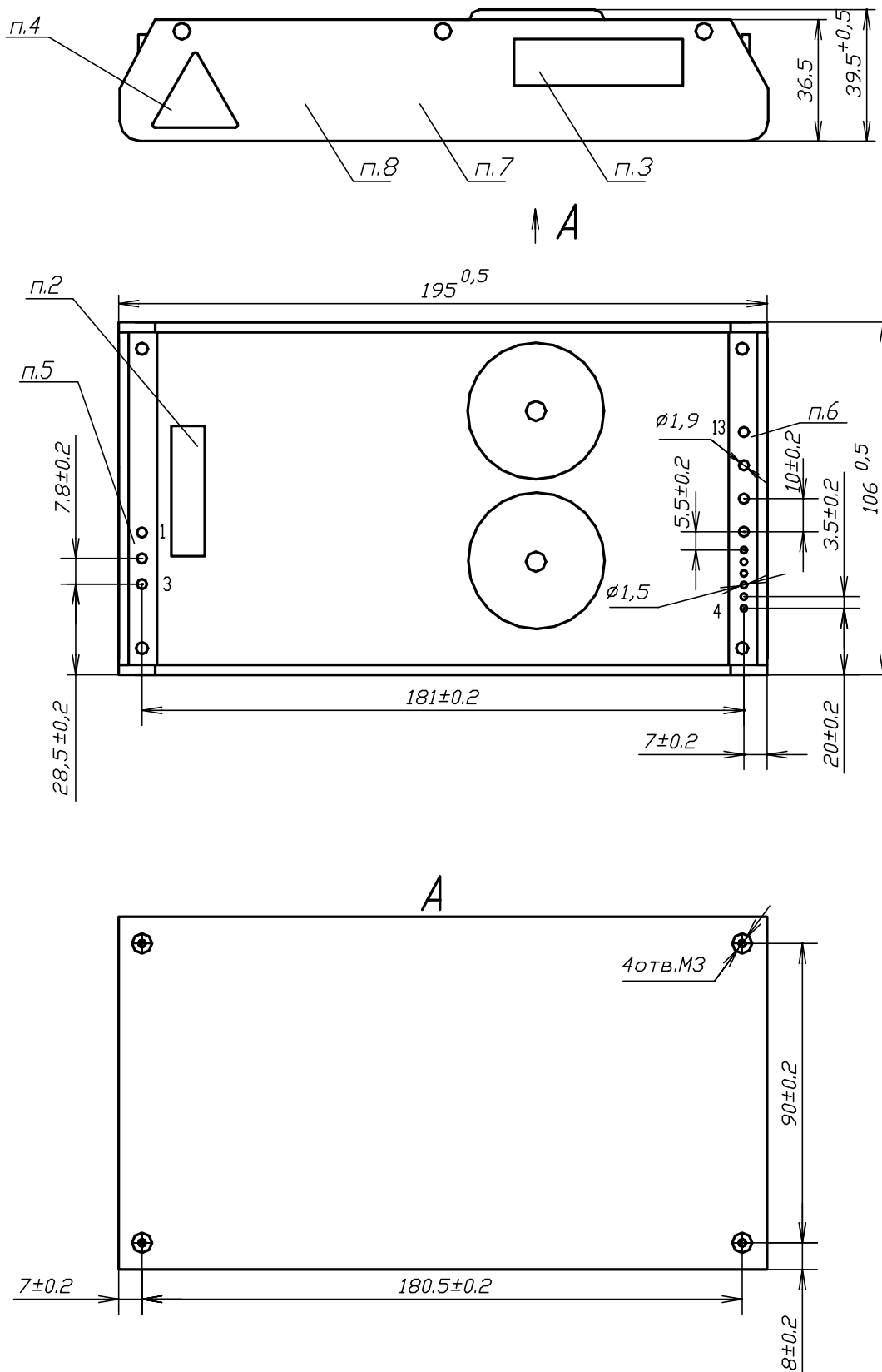
| Nº pin                | 6        | 7        | 8        | 9       | 10      | 11      | 12      | 13      |
|-----------------------|----------|----------|----------|---------|---------|---------|---------|---------|
| <b>Single-channel</b> | Parallel | - on/off | + on/off | trimmer | + out 1 | - out 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

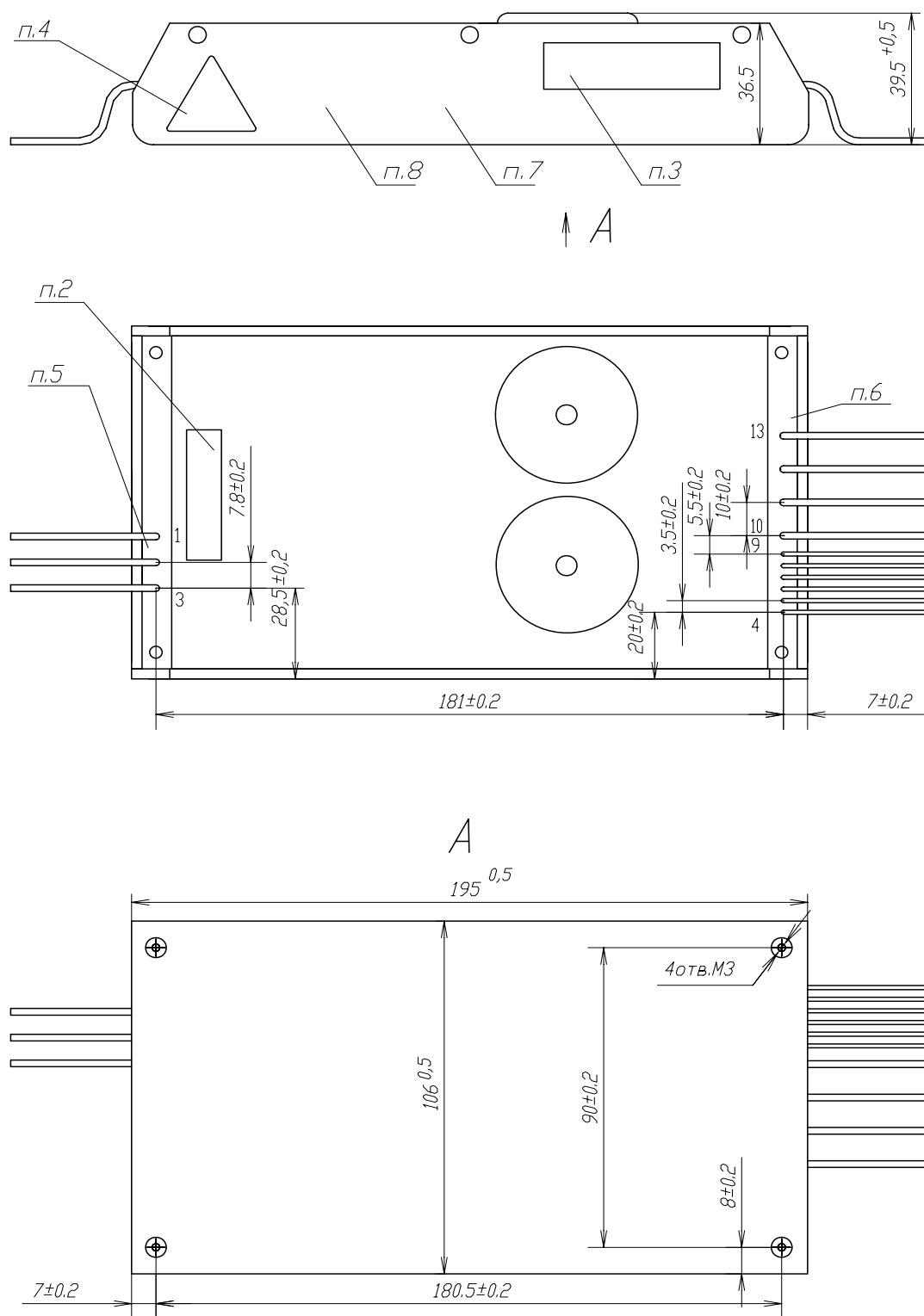


- ★  $FU_{in}$  – current safety device 5A for input voltage 220VAC, 10A for input voltage 115VAC.
- ★  $S_{out}$  – ceramic condenser capacity 0,47-15 mcF with corresponding operating voltage to decrease high-frequency noise level.
- ★  $S_{out2}$  – electronic condenser capacity 22-100 mcF in consideration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

### Single, Dual-output execution SBN

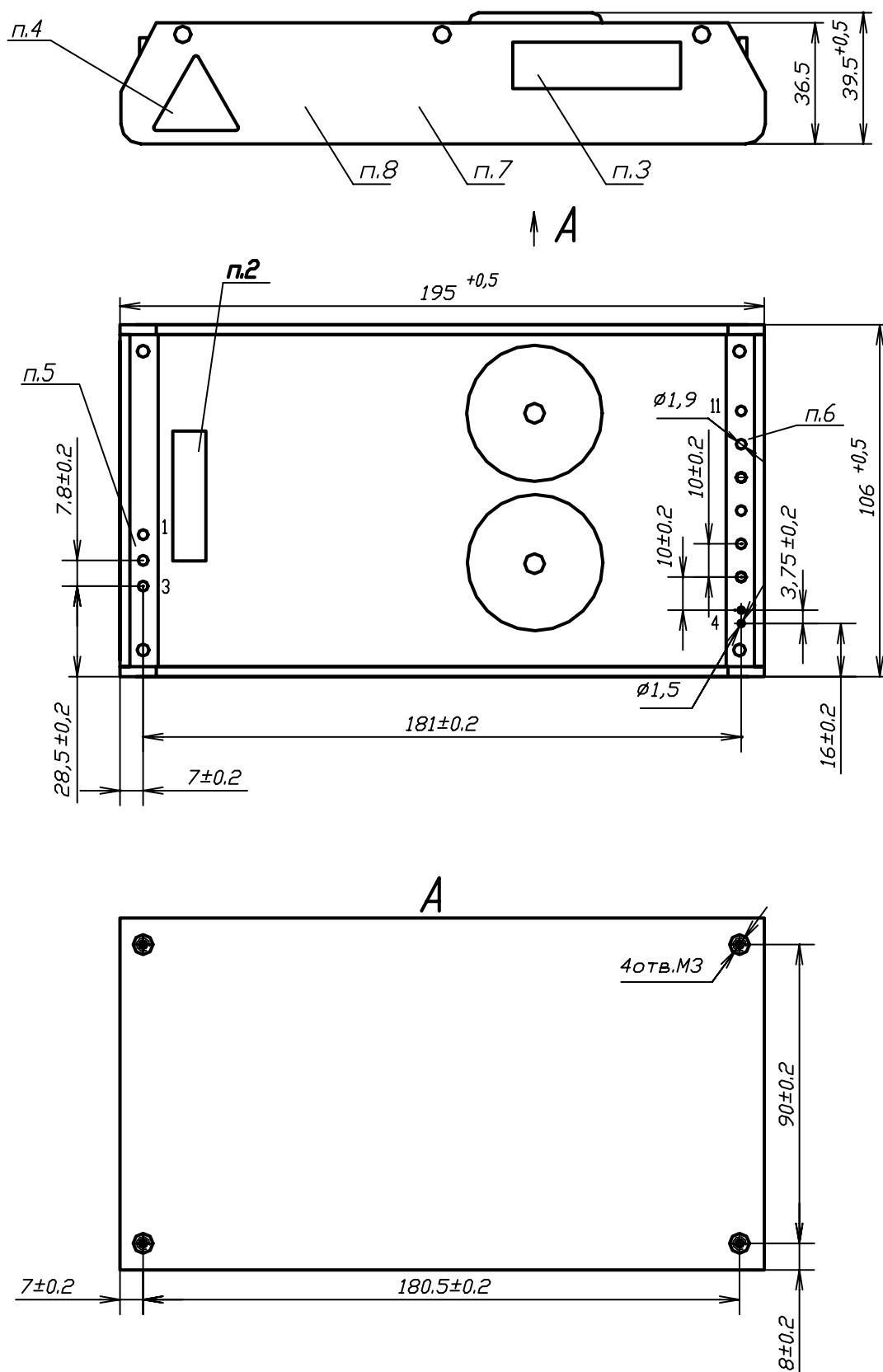


### Single, Dual-output execution SVN (with flexible erection joints)

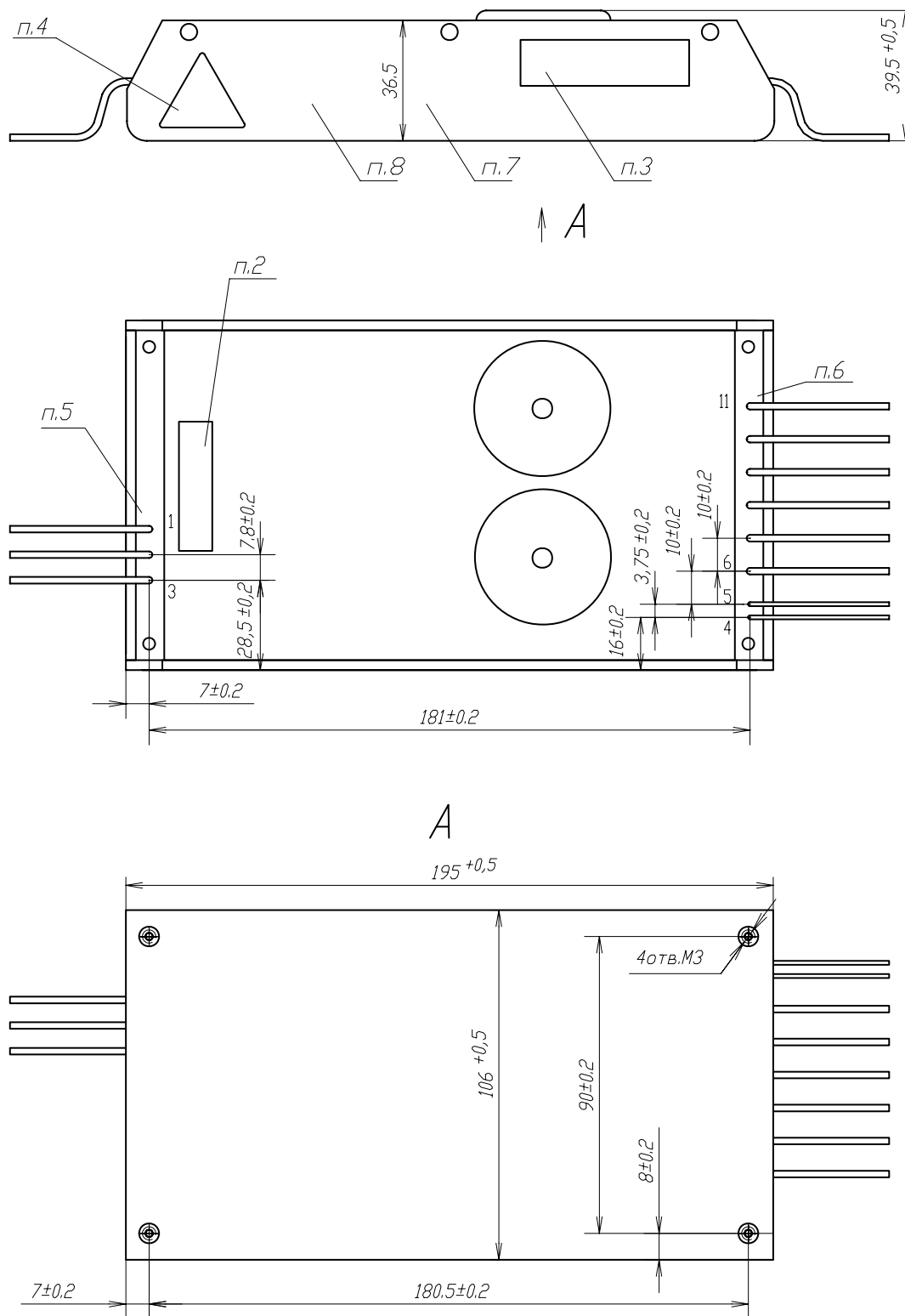


The Flexible erection joints by length  $(150 \pm 5)$ mm is executed by wire section  $(0.5 \dots 1.5)$ mm<sup>2</sup>.

### 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  $(0.5 \dots 1.5)$ mm<sup>2</sup>.