VOZROZHDENIE LLC

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APPROVED BY

VZR.249600.000LU

FULL HEIGHT ROTOR TURNSTILE
CUBE C-10 MODEL

VZR.249600.000IM

INSTALLATION MANUAL

48 sheets

2021

TABLE OF CONTENTS

This Installation Manual (IM) applies to Oxgard Cube C-10 full height rotor turnstile and its variants (hereinafter referred to as the product). Product firmware version:

FC C-10

IM defines rules and a procedure for installation and commissioning of the product.

Before installing the product, please read the Operation Manual VZR.249600.000 OM as well.

Due to constant work on improving the product, changes to its design may be made, which are not represented in this IM revision.

The following abbreviations are used in this document:

OM — Operation Manual;

IM — Installation Manual;

PSU — power supply unit;

CP–control panel symbol;

BCP 01 — basic control panel;

UCP 02 — universal control panel;

ACS — access control system;

SFAS — security and fire alarm system;

NC — normally closed connection;

NO — normally open connection.

1 GENERAL INSTRUCTIONS

For general safety when assembling and installing the product, take into account all the recommendations and instructions contained herein.

Before starting installation work, completely de-energize the product.

 **DO NOT:**

PERFORM WORK WHEN THE TURNSTILE POWER IS ON. FAILURE TO COMPLY WITH THESE SAFETY REQUIREMENTS CAN RESULT IN DEATH AND DAMAGE TO HEALTH, COMPLETE OR PARTIAL LOSS OF PERFORMANCE OF THE PRODUCT AND/OR AUXILIARY EQUIPMENT.

REMOVE THE BRACKET FROM ITS MOUNTS WITH ROTOR POSITION SENSOR. OTHERWISE, THE MANUFACTURER WILL TERMINATE PRODUCT WARRANTY.

APPLY PASTES AND LIQUIDS CHEMICALLY AGGRESSIVE TO MATERIALS OF THE HOUSING WHEN CLEANING THE PRODUCT.

2 SAFETY PRECAUTIONS

Installation should be carried out with observance of “Regulations for Operation of Consumer Electrical Installations” and “Safety Regulations for Operation of Consumer Electrical Installations”.

The product shall only be installed by qualified personnel trained in handling of electrical devices and instructed on safety precautions when handling the electrical installations with voltages of up to 1000V.

 **ATTENTION:** FAILURE TO COMPLY WITH THE SAFETY REQUIREMENTS SPECIFIED IN THIS SECTION CAN RESULT IN DEATH AND DAMAGE TO HEALTH, COMPLETE OR PARTIAL LOSS OF PERFORMANCE OF THE PRODUCT AND/OR AUXILIARY EQUIPMENT.

 **ATTENTION:** MANUFACTURER WAIVES ANY RESPONSIBILITY FOR DEATH AND DAMAGE TO HEALTH, COMPLETE OR PARTIAL LOSS OF PERFORMANCE OF THE PRODUCT AND/OR AUXILIARY EQUIPMENT IF USER FAILS TO COMPLY WITH THE SAFETY REQUIREMENTS SPECIFIED IN THIS SECTION, AND ALSO VOIDS THE PRODUCT WARRANTY.

3 PREPARING THE PRODUCT FOR INSTALLATION

3.1 Procedure for transporting the product to the installation place

The product in the original package can be transported without range limitation by air, enclosed road and rail transport provided it is protected against direct exposure to precipitation and dust.

Loading and unloading operations should be carried out in compliance with safety regulations.

3.2 Rules for unpacking the product

3.2.1 Perform visual inspection of the packaging. There should be no visible damage on the package.

3.2.2 Open the transportation boxes (Box 1, Box 2), unpack and check completeness of the product:

1) fixed fencing panel parts;
2) moving fencing elements parts (rotor gate);
3) fixed fencing elements parts:
4) upper module parts;
5) actuating mechanism;
6) CP with cable;
7) keys for door lock (4 pcs.);
8) shipping documentation.

3.3 Rules for visual inspection of the product

3.3.1 Check completeness of the product.

Completeness shall be checked according to the Logbook VZR.249600.000 (LB) and packing list placed in boxes.

3.3.2 Visually inspect the product. There should be no visible damage on the product.

3.3.3 If any damage is found, prepare a Claim Report.

3.3.4 Figure 1 – overall dimensions of the turnstile.

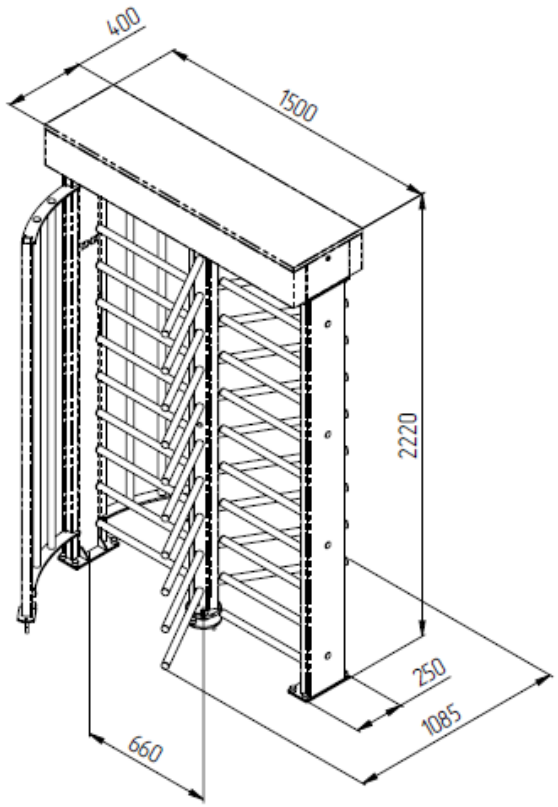


Figure 1 – Overall dimensions of the turnstile

3.4 Product installation place requirements

ATTENTION: TO AVOID WAVING AND/OR OVERTURNING DURING OPERATION, INSTALL THE TURNSTILE SECURELY. IN CASE OF PRODUCT INSTALLATION ON LOW STRENGTH FLOOR - TAKE MEASURES FOR FLOORS STRENGTHENING IN THE PLACE OF INSTALLATION.

Initial state of the turnstile is closed (the turnstile is closed for passage in both directions).

Figure 2 – initial position of the product flaps.

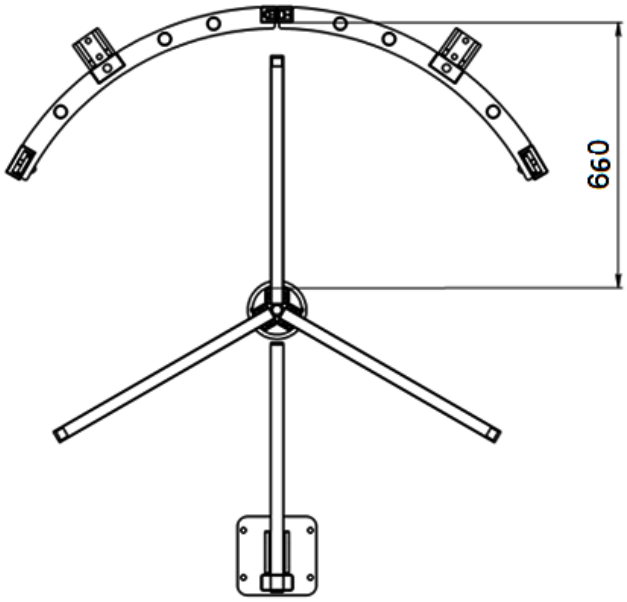


Figure 2 – Initial position of the flaps

The specified option is determined by the rotor shaft orientation upon its installation during the turnstile installation.

3.5 Procedure for checking compliance of the installation place

The turnstile by resistance to climatic impact belongs to modification U2 as per GOST 15150-69 (for outdoor operation).

The turnstile protection class is IP-54.

When selecting the turnstile installation place take into account permissible operating ambient temperatures from –40 °C to +50 °C and relative air humidity up to 95 %.

When selecting the control panel installation place take into account permissible operating ambient temperatures from +1 °C to +55 °C and relative air humidity up to 80 % at the temperature of +25 °C.

4 PRODUCT INSTALLATION AND DISMANTLING

4.1 Equipment required

Equipment to be used for the turnstile installation:

1) electric perforating machine

2) 18 mm carbide drill bit for drilling anchor holes in the floor (we recommend to use the sleeve anchor with the bolt of FH 12-S 18/10);

3) wrench 19 mm;

4) end wrench 19 mm with bar;

5) slot head screwdriver;

6) plumb or level;

7) steel shims for turnstile leveling;

8) round file;

9) side-cutting pliers;

10) hammer 500 g;

11) plumb or level.

4.2 Product installation

ATTENTION: CAREFULLY READ THIS SECTION OF THE MANUAL BEFORE INSTALLING THE PRODUCT

4.2.1 Figure 3 – plan the installation places of fencing panels, turnstile moving and fixed elements, cable routes in advance according to the detail drawing.

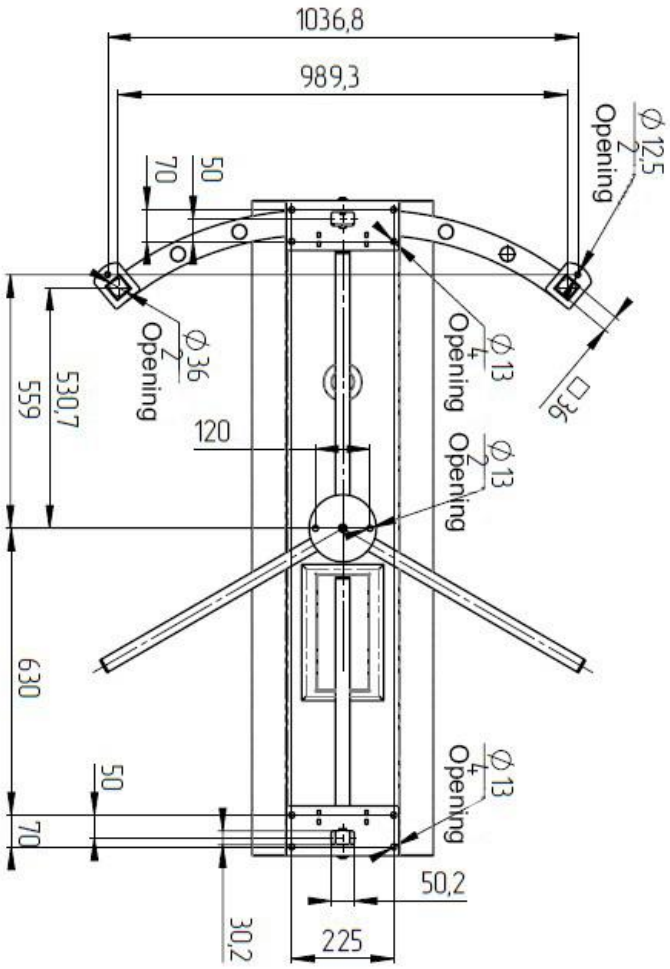


Figure 3 – Turnstile mounting dimensions

ATTENTION: NOTE THAT CABLE ENDS MUST PROTRUDE 4 METERS ABOVE THE SOIL LEVEL, SINCE ELECTRICAL CONNECTIONS ARE MADE IN THE UPPER TURNSTILE MODULE.

4.2.2 The surface intended for the high turnstile installation must be without irregularities, it must be prepared in advance. We recommend to use concrete or other non-flammable material for this purpose.

4.2.3 Mark holes drilling places using the template following the instructions of the installation drawing.

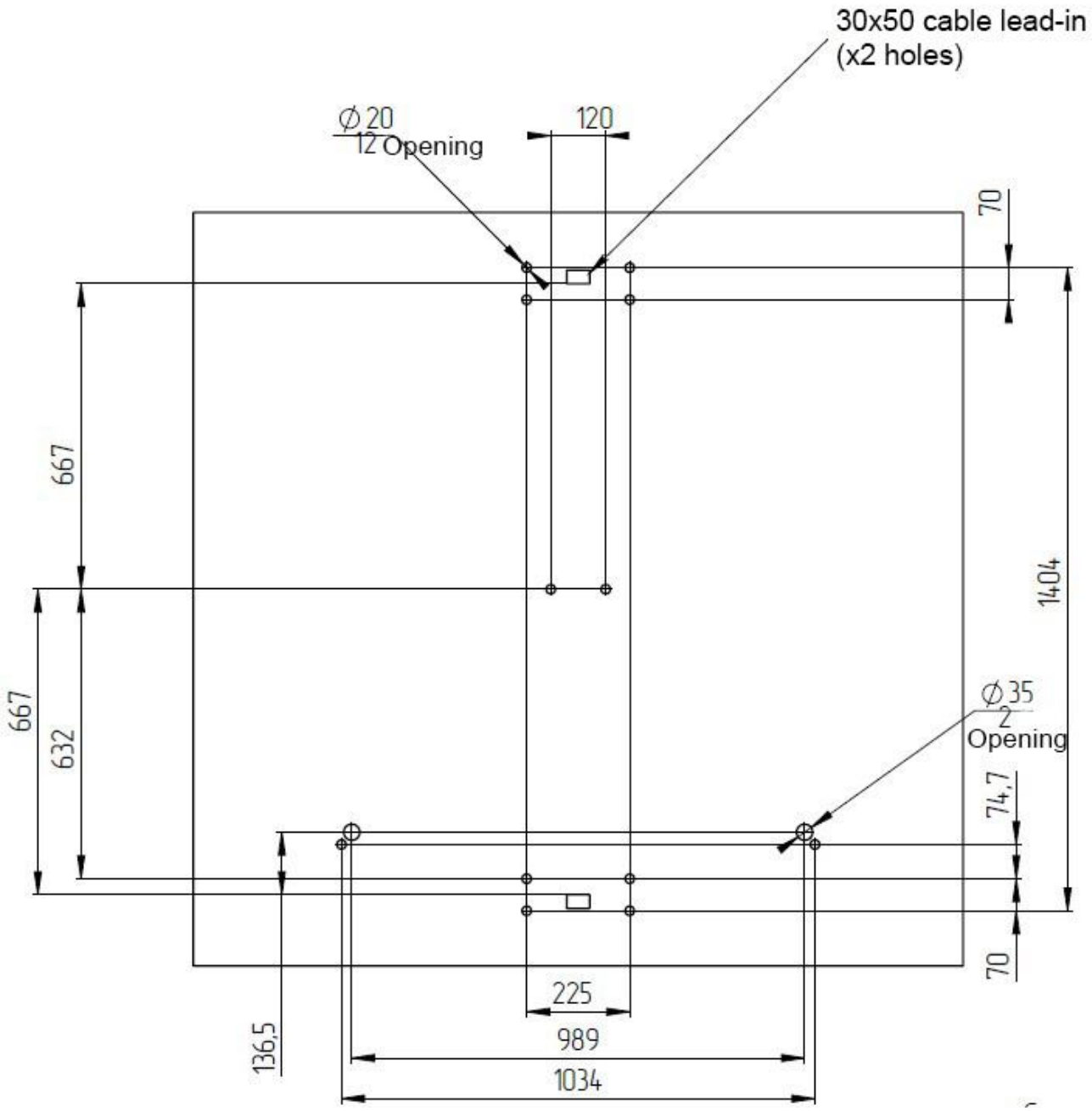


Figure 4 – Turnstile installation template

4.2.4 Figure 4 – according to the installation dimensions, prepare 12 holes, 18 mm in diameter, in the floor for anchors of the turnstile stand with a depth of 80 mm.

Position of mounting holes relative to the overall dimensions of the turnstile is shown in Appendix B. The depth of holes for embedded parts shall exceed the anchor length by 5 mm. Insert anchors into the holes.

 **ATTENTION:** DESPITE THE FACT THAT ANCHOR BOLTS OF THE MANUFACTURING PLANT ARE SUITABLE FOR THE MOST TASKS, IN EACH SPECIFIC CASE DURING INSTALLATION TAKE INTO ACCOUNT THE AMBIENT CONDITIONS AND TYPE OF SOIL ON WHICH THE TURNSTILE IS INSTALLED.

 **ATTENTION:** ALL CONSTRUCTION WORKS MUST BE AGREED AND APPROVED BY THE QUALIFIED ENGINEER AWARE OF ALL THE REQUIRED INFORMATION.

 **ATTENTION:** THE EQUIPMENT MUST BE ATTACHED TO THE FOUNDATION BEFORE OPERATION! THE MANUFACTURING PLANT SHALL NOT BEAR RESPONSIBILITY FOR ACCIDENTS OR FAILURES CAUSED BY INCORRECT EQUIPMENT FIXING.

4.2.5 Install the fastening clamps (Appendix C) using the bolts from the anchor set at the turnstile fastening places (bolts with anchors are not provided). Tighten the bolts to fix the expanding anchors in soil.

4.2.6 Select the rack of fixed fencing panel on which the turnstile control and supply cables will be laid to the upper module.

Prepare a cable conduit going from the site to the place of installation, CP and, where necessary, to the ACS and SFAS connection point.

Cable grooming to the upper module is made via the holes in racks of fixed fencing panel (Figure 5 – 6,7).

1 - fixed fence panel; 2 - rotor gate
3 - fixed fence elements; 4 - top module; 5- actuating mechanism;
6 - stand for cable entry

Figure 5 – General view of the turnstile

Prepare cable trench to that rack of fixed module which will be used for laying of cables to the upper module.

4.2.7 Figure 6 – assemble the turnstile fixed fencing panel. Install it on the prepared site, previously passing CR cables, power cable, ACS and SFAS cables via its rack to the upper module.

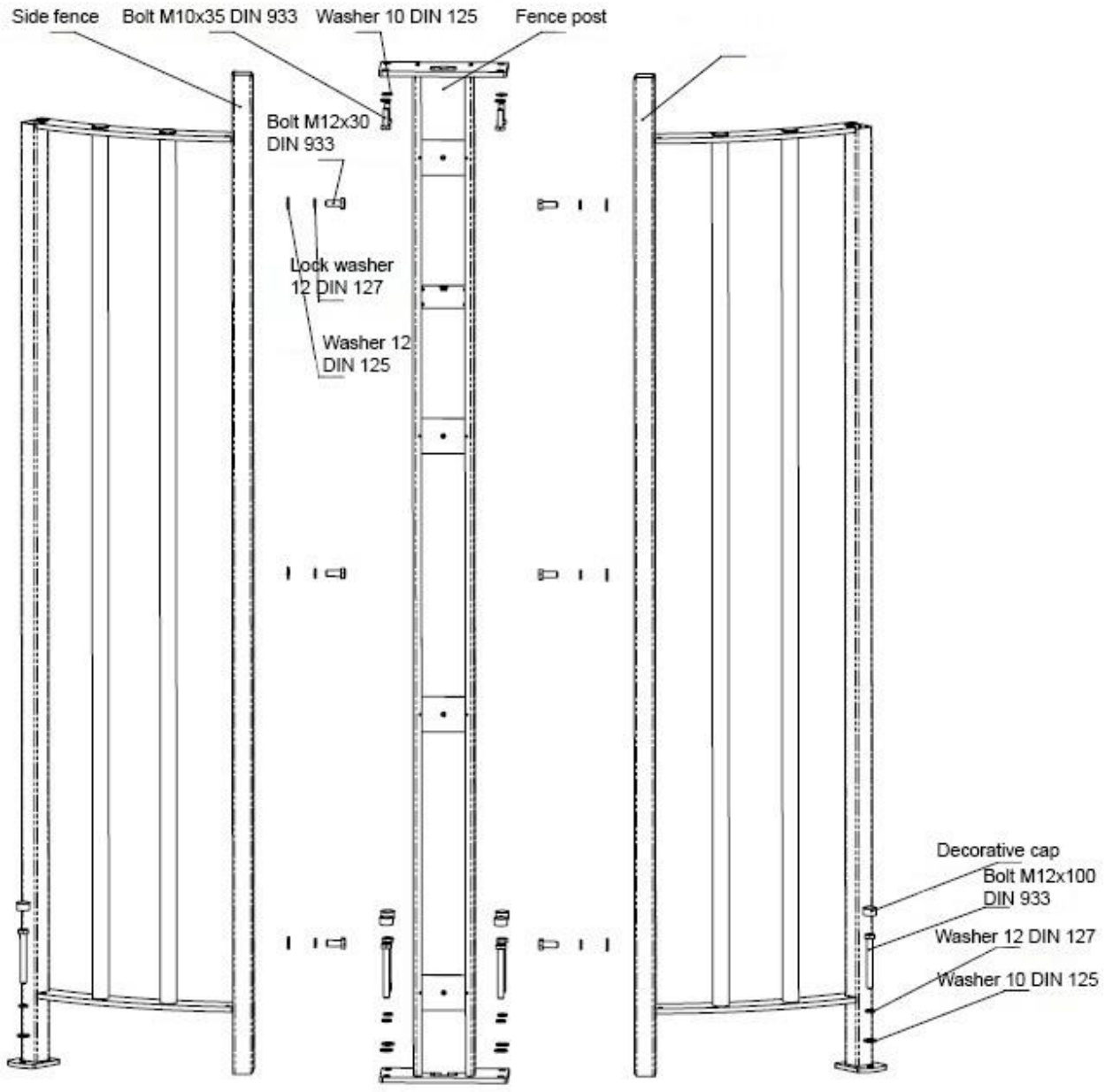
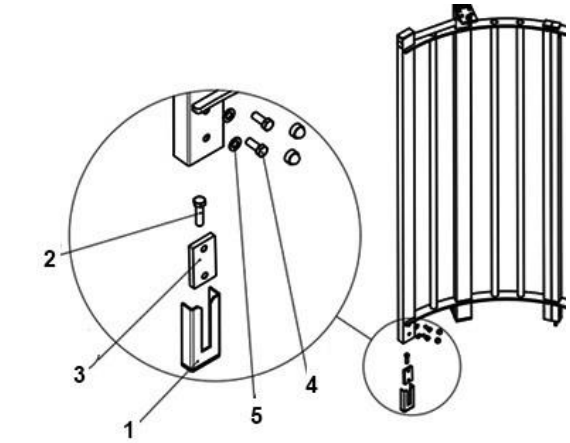


Figure 6 – Assembly of fixed fencing panel

4.2.8 Figure 7 – fasten the turnstile fixed fencing panel using the fastening clamps (1) 2 pcs, M12 anchor bolts (2), screwing them into appropriate anchors using the 19 mm wrench (two fastening options).



1 - fastening clamp; 2 - anchor bolt; 3 - clamp,
4 – bolt M12x30 DIN 933; 5 – washer M12 DIN 125;
6 – washer M12 DIN 127; 7 – plug 30-33Т38ЧК;
8 – bolt M12x40 DIN 933; 9 – central fasteners;
10 – anchor bolt

Figure 7 – Fastening of fixed fencing panel

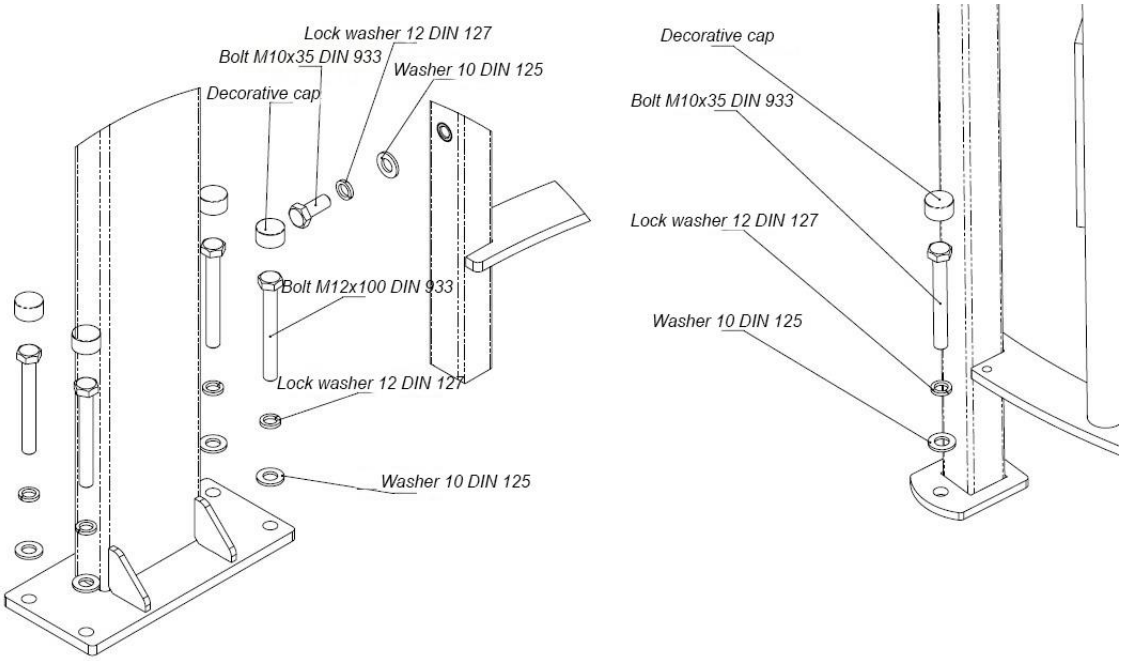


Figure 8 – Fastening of fixed panel (option 2)

4.2.9 Figure 9 – install and fasten the turnstile fencing fixed elements using the anchors, screwing them into appropriate holes using the 19 mm wrench. Install plastic caps on the heads of fastening bolts.

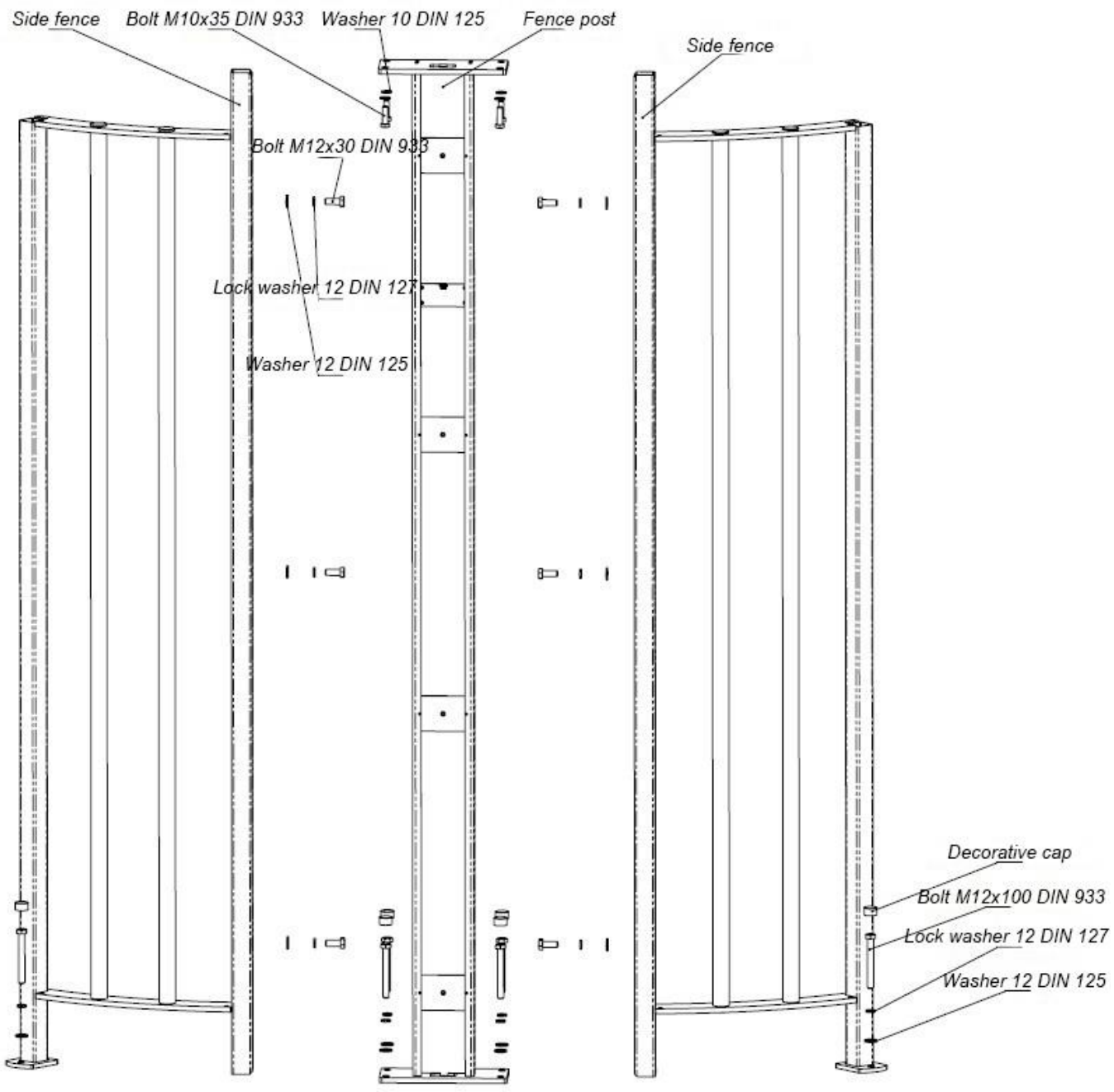


Figure 9 – Installation of fixed fencing elements

4.2.10 Assemble the moving turnstile elements (rotor gate) as per figures 9-11.

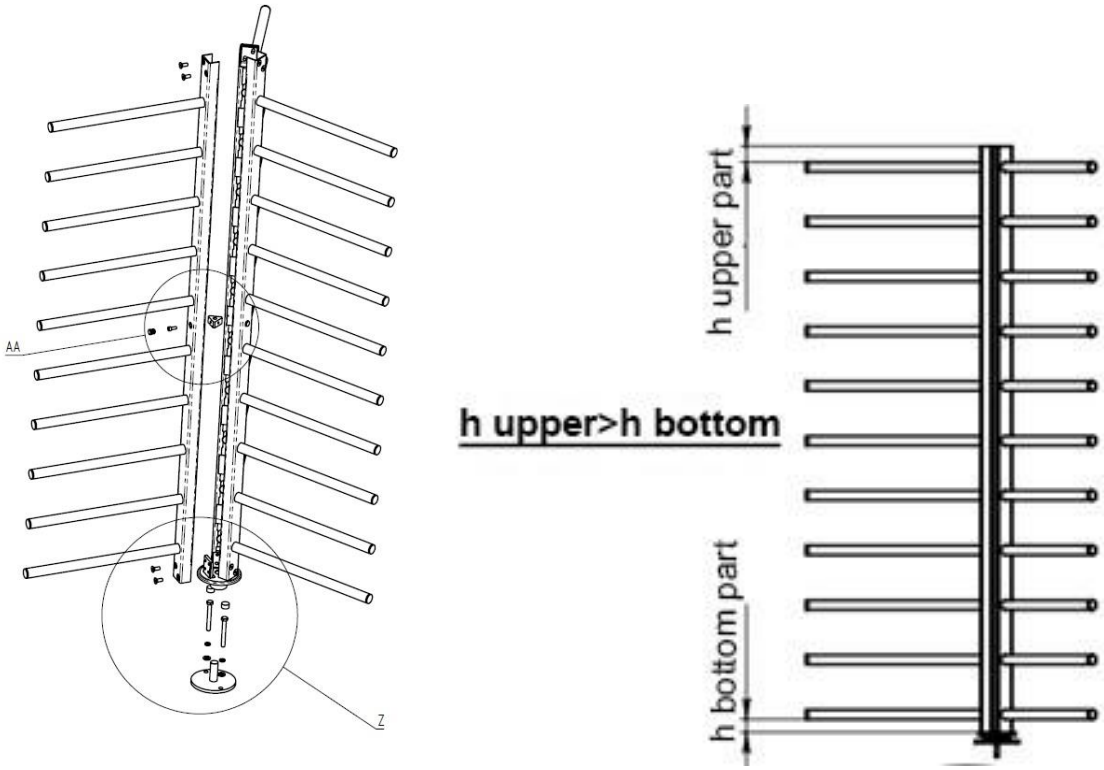


Figure 10 – Assembly of turnstile rotor gate.

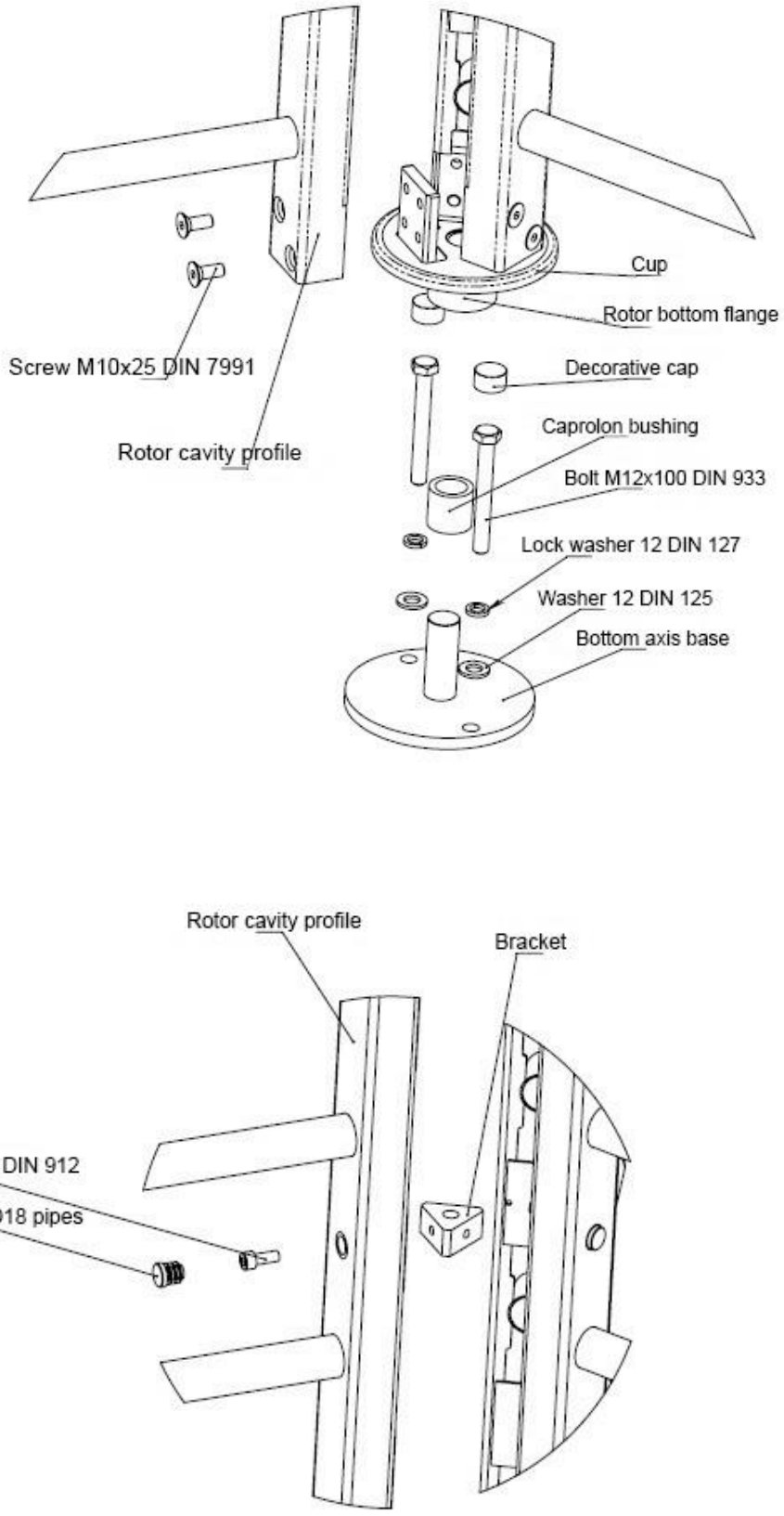


Figure 11 – Assembly of rotor gate (bottom)

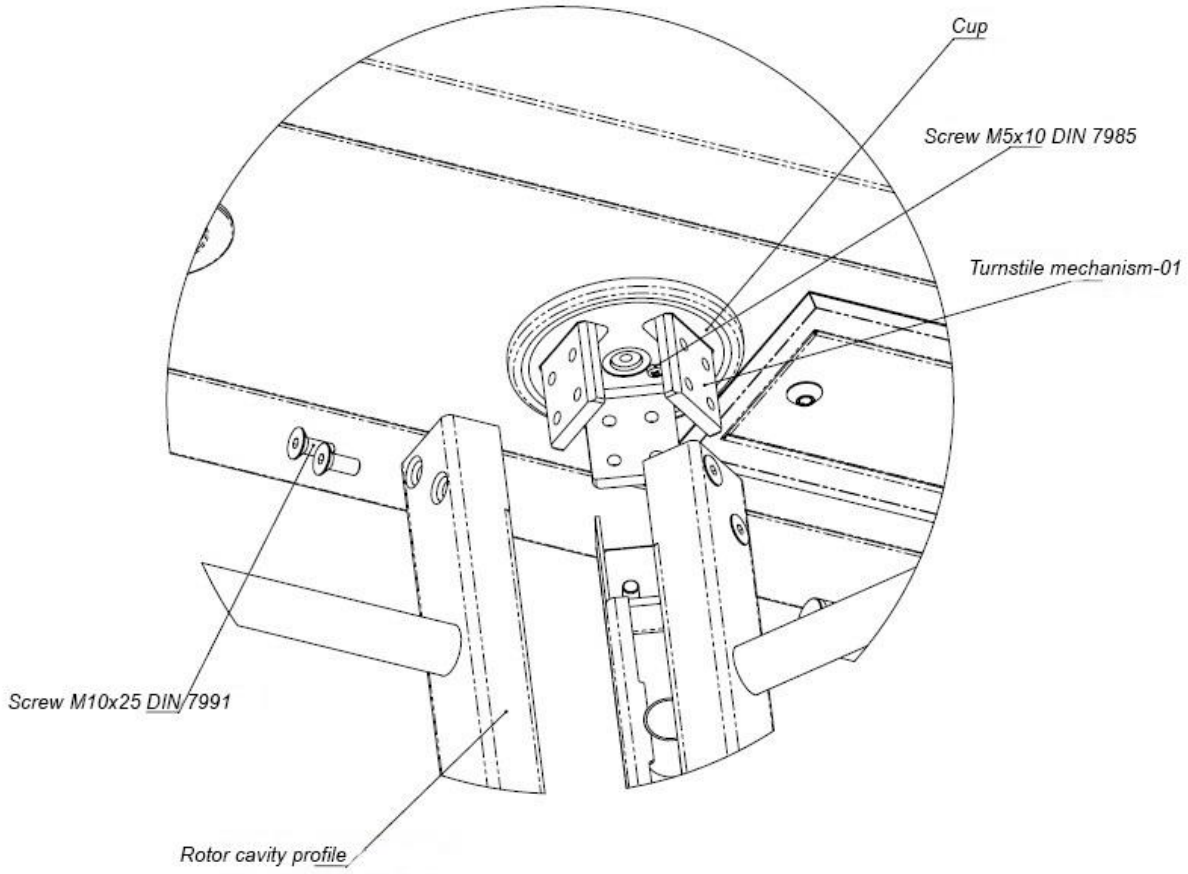


Figure 12 – Assembly of rotor gate (top)

Unfold the rotor gate sections so that:

h top > h bottom

Place the rotor sections on the upper flange so that the passage is closed (figure 2).

4.2.11 Install the turnstile upper module on the fixed fencing elements previously passing the cables in corresponding holes. Fasten the upper module using the fastening bolts as per figures 11-12.

ATTENTION: UPPER MODULE HAS A HEAVY WEIGHT, SO AT LEAST TWO WORKERS SHOULD LIFT IT.

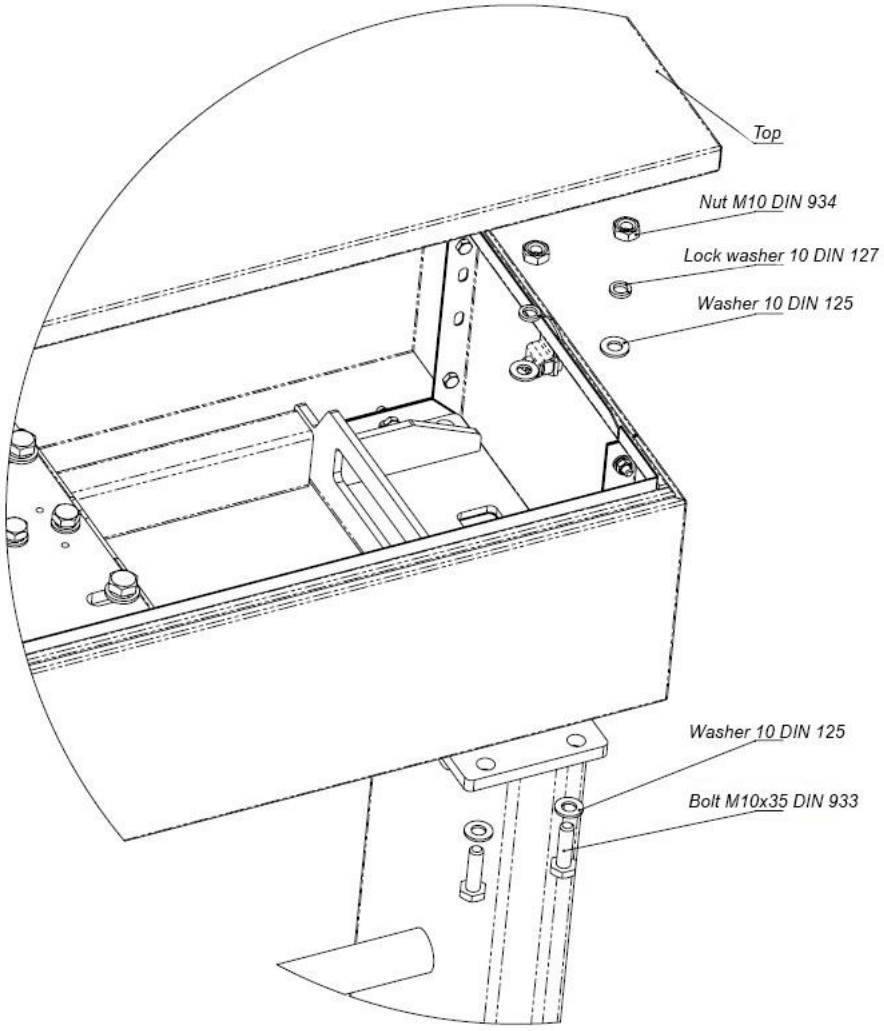


Figure 13 – Fastening of the turnstile upper module

4.2.12 Install the fluoroplastic sleeve on the lower axis, install the rotor gate on the lower fastening axis of rotor fastened in the concrete base.

4.3 Dismantling the product

4.3.1 Dismantle the product as follows for sending it for calibration or repair:

1) turn the product power off;
2) disconnect the product from power supply;
3) disconnect the product cable part from auxiliary cables;
4) dismantle the upper cover;
5) dismantle the second fixed fencing element;
6) dismantle the upper module;
7) dismantle the rotor gate;
8) dismantle the fixed fencing element;
9) dismantle the fixed fencing panel;
10) dismantle the product from the installation pad.

4.3.2 Before packing, clean the product from dust and dirt.

4.3.3 Put the product in the packing box.

5 CONNECTING AND SETTING THE PRODUCT

Figure 14 – cable grooming is made via the hole in rack of turnstile fixed fencing panel. Secure the cables with cable ties.

Power supply 12 V is connected via the terminals located on the control board. Figure 14 – power connection diagram.

ATTENTION: AFTER SWITCHING ON THE TURNSTILE WE RECOMMEND TO RESET THE TURNSTILE TO FACTORY SETTINGS.
TO DO THIS: PRESS THE BUT BUTTON, AND HOLD IT UNTIL THE FIRST SOUND SIGNAL FROM THE PIEZOELECTRIC EMITTER, THEN RELEASE THE BUTTON AFTER WHICH TWO SOUND SIGNALS WILL SOUND INDICATING THAT THE FACTORY SETTINGS HAVE BEEN APPLIED.

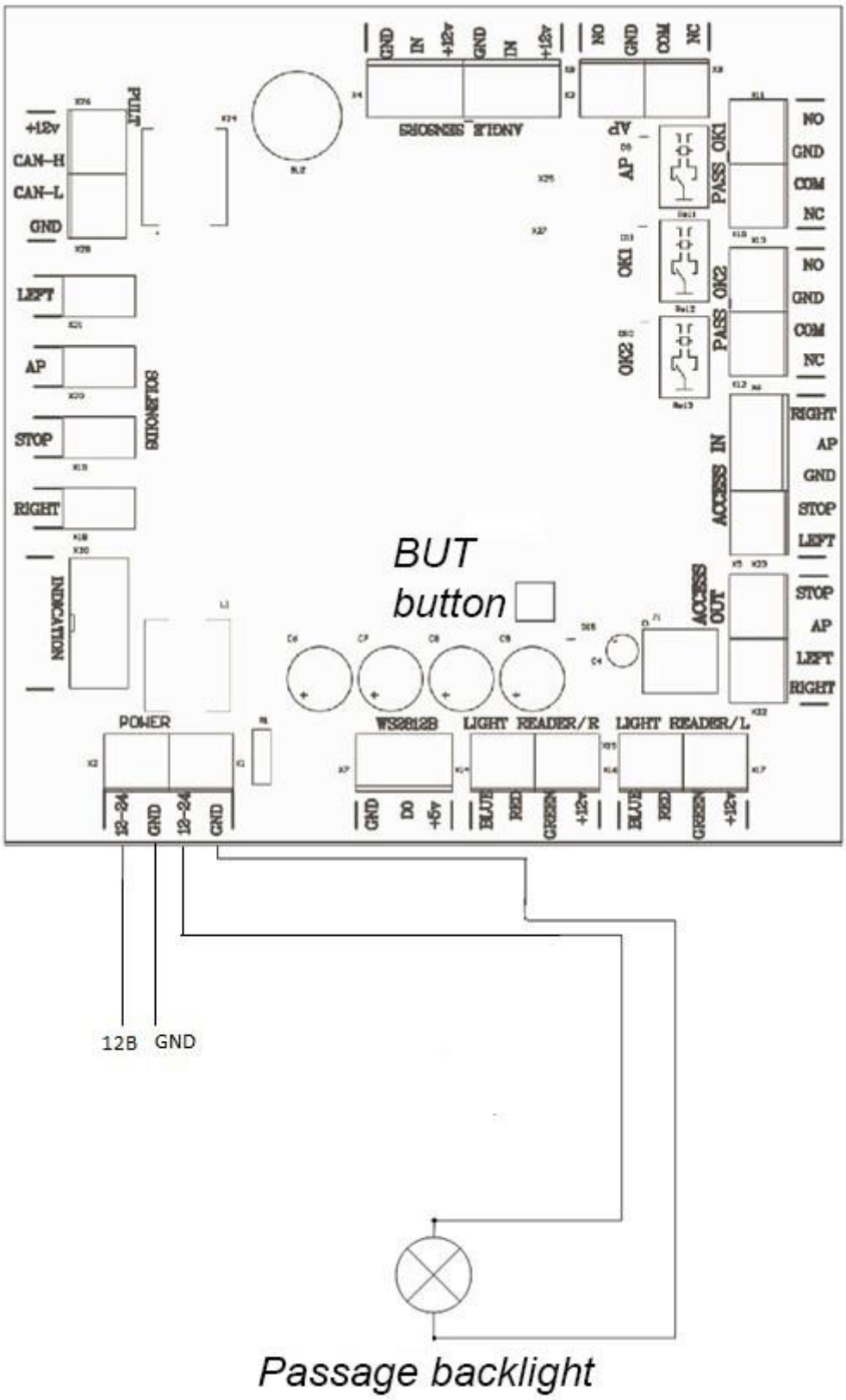


Figure 14 – Turnstile power connection diagram

CP and ACS are connected using the control board. Figure 15 – location of the control board on the turnstile upper module.

Figure 15 – the appearance of the control board and layout of the connectors for connecting the PSU, CP, ACS and SFAS is shown.

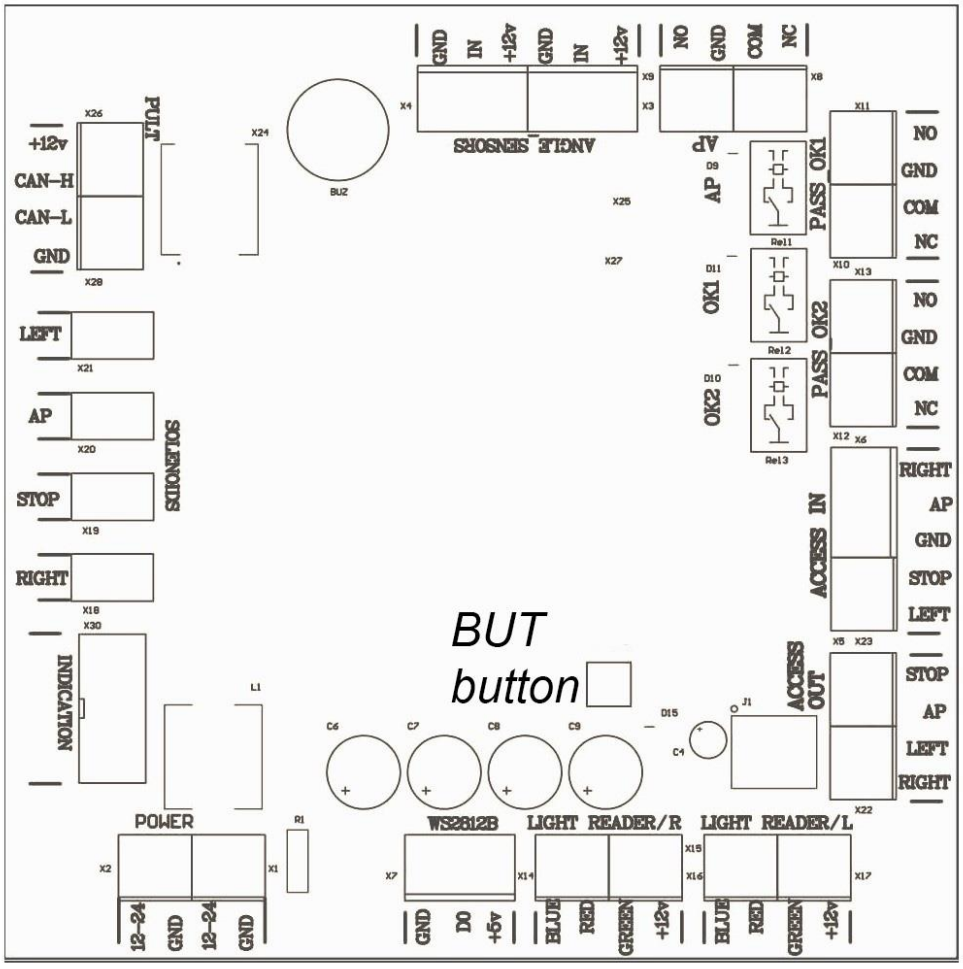


Figure 15 – Appearance of the turnstile control board.

Figure 15 – The turnstile operating modes are set using the BUT button. To select the required turnstile mode:

- turn on the turnstile, one beep will sound after turning on

The turnstile operation mode is selected using the BUT button on the control board.

– press and hold the BUT button until a short beep appears. The turnstile operation mode is selected based on the number of short beeps according to table 1. Release the BUT button after the required number of beeps. The beeps indicate that the desired mode has been written into the controller memory. When the power is off, the selected mode is not reset.

Table 1 shows the turnstile operating modes with different number of signals after pressing the BUT button.

Table 1 – Turnstile operating mode

Number of short beeps after pressing the BUT button	Operating mode
0 (simple pressing)	Reset*
1	Factory reset**: - pulse operating mode; - Stop default turnstile mode; - anti-panic exit operating mode after ground closing; - the control panel is on; - anti-panic relay constantly operates in corresponding mode
2	- switching of pulse or potential mode
3	- “Free passage to the left” turnstile default mode
4	- “Free passage to the right” turnstile default mode
5	- switching of anti-panic operating mode (after ground closing or opening)
6	- switching the control panel on or off (ACCESS OUT exits operate in any case)
7	- switching the anti-panic relay functionality (permanent operation or calculation of passages)
8	- testing turnstile peripherals

*upon restart, the settings are not changed.

** upon reset, the firmware is not changed.

5.1 Power connection

DO NOT:

CONNECT THE TURNSTILE TO THE NETWORK WITH POWER VOLTAGE OTHER THAN SPECIFIED IN THE OPERATION MANUAL.

5.2 Control panel connection

The turnstile can be supplied with two different control panels:

1. Basic control panel BCP 01

2. Universal control panel UCP 02 with extended capabilities.

1. Basic control panel BCP 01 The case of control panel contains only switching buttons, there are no electronic components in it. The control panel allows to control the turnstile, provides execution of commands to allow one-time passage to the right, left, stop and anti-panic commands. The execution of these commands is ensured by connecting the five-wire cable of this console to the *Access Control System* inputs on the cross-board. This control panel provides a short circuit between the cross-board inputs LEFT, RIGHT, STOP, AP and GND. Connected ACS system is connected to the same contacts. The *Control Board* contacts are not used when connecting this control panel. When using this control panel, it is necessary to agree with the manufacturer of the external controller for its use.

BCP 01 cannot:

1. Provide illumination of the set mode switch buttons.

2. Provide reusable easy access to one side.

3. Provide reusable free passage on both sides

4. Provide button reassignment from right to left (button reverse)

5. Enable the Autotest mode.

2. Universal control panel UCP 02. The control panel is a complex programmable device. Allows, in addition to the main functions of the turnstile control, to change the settings of the turnstile operating modes.

The panel is connected via the CAN bus with a four-wire signal cable.

It ensures:

1. Illumination for the control panel buttons of the preset control mode.

2. Multiple free passage to one side.

3. Multiple free passage to both sides

4. Provides button reassignment from right to left (button reverse)

5. Turning on the autotest mode, the turnstile is checked according to its main operating modes in this mode.

6. Sound accompaniment when pressing the control panel buttons. The buttons will beep when pressed (the sound can be turned off).

 ATTENTION control unit 01 can be used for turnstiles T-10. This control panel does not provide light indication and it has minimal functionality. Its connection is also different from UCP 02.

Wiring diagram of BCP 01, according to the colors of the wire coming out of its body. For turnstiles T-10.

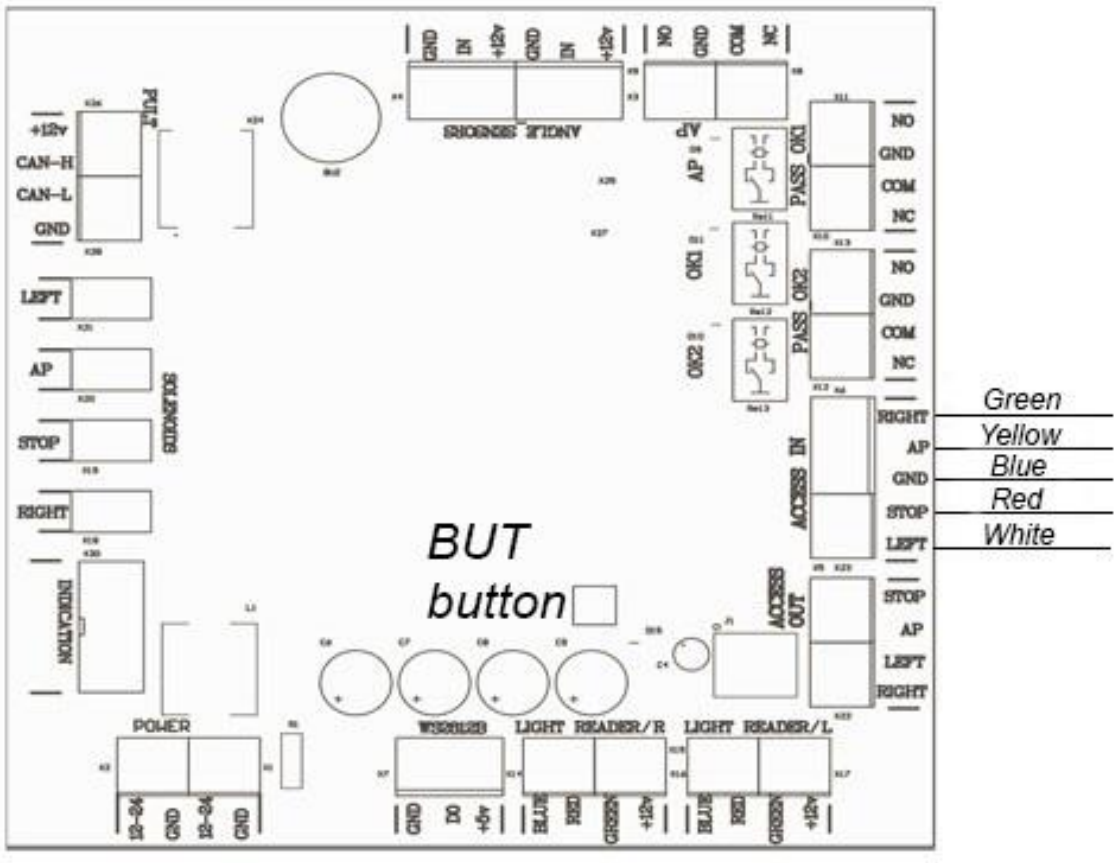


Figure 16 – Connection diagram for the simplified control panel

UCP 02 is connected through the TJ6P6C telephone socket to the X24 socket with the PULT inscription using the RJ 02 (TP-6P6C) telephone socket.

TJ6P6C

RJ 12(TP-6P6C)

The turnstile CP should be connected based on the terminal identifications in accordance with the figure.

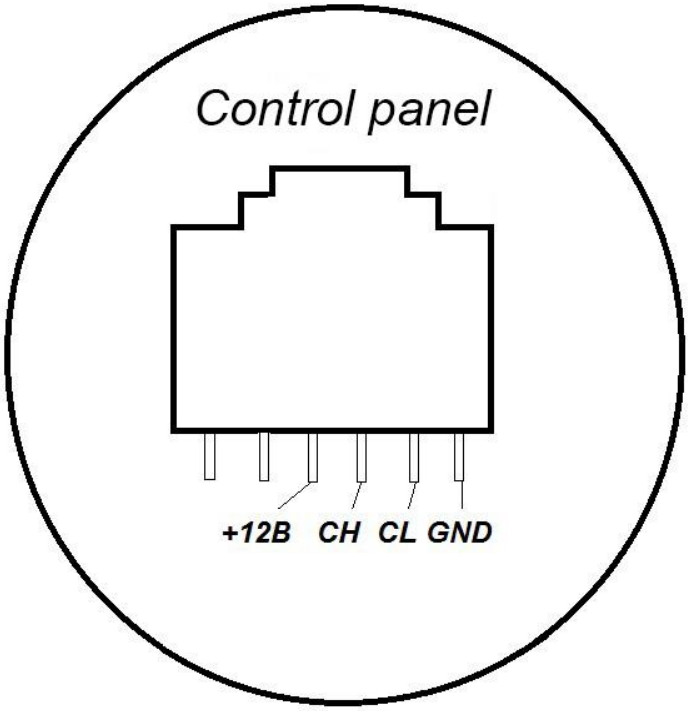


Figure 17 – Arrangement of the control panel cable wires.

5.3 Access control and management system connection (optional)

 **ATTENTION:** BCP 01 SHALL BE CONNECTED TO THE *ACCESS CONTROL SYSTEM* CONTACT GROUP ON THE CROSS-BOARD. IT IS NECESSARY TO CHECK THE THE COMPATIBILITY OF SUCH USE WITH THE CONTROLLER MANUFACTURER, IN THE CASE OF INCOMPATIBILITY, CONNECT UPU 02.

The ACS controller should be connected to the terminal group ACCES_IN and ACCES_OUT.

Identification of terminals: RIGHT, STOP, GND, AP, LEFT. The contact assignment is shown in Table 2.

Table 2 – ACS terminal assignment

Identification of terminals	Terminal assignment
LEFT, RIGHT	one-time passage left/ right (lowest priority)
STOP	passage forbidden (STOP mode) (medium priority)
AP	free exit (“Anti-panic”) (highest priority)
GND	common terminal

Inputs for ACS connection differ in priority:

1) AP input has the highest priority. When this input is closed to GND terminal, the turnstile is in the free exit state and **RESPONDS(!)** only to STOP command;

2) LEFT and RIGHT have the same low priority and enable one-time passage in either direction. If both inputs are closed, passing is allowed in the side whose input closed first. If pass is not completed, the turnstile will automatically switch to STOP mode after 5 seconds.

ATTENTION: IF THE AP INPUT IS CLOSED, THE COMMANDS FROM THE PANEL ARE NOT ACCEPTED, SINCE THE ACS HAS A HIGHER PRIORITY (EXCEPT FOR THE STOP COMMAND).

To switch on the Anti-panic mode close its AP input to GND terminal. It may be closed for a short time or permanently.

To switch from the Anti-panic mode to STOP mode close or open AP – GND depending on the selected mode 5 and press the stop button on the control panel. The second way to leave the Anti-panic mode is to power off and on the turnstile.

LEFT and RIGHT inputs can operate in both potential and pulse mode (they trigger when closed to GND contact). Pulse mode is set by default.

To switch to the potential mode of operation, it is necessary to use the instructions provided in Table 2. In this case, left/right passing mode is enabled only for the time when control signal is sent to LEFT/RIGHT inputs.

Free passing mode can be set by sending control signals to both inputs simultaneously, in potential control mode. Priority of LEFT and RIGHT inputs remains unchanged when switching to pulse mode.

Two dry contact relay outputs for ACS are installed on the cross-board - Pass_Ok1 and Pass_Ok2. NO and COM – normally open connection, NC and COM – normally closed connection.

Triggering of one of the terminal groups indicates that a pass has been made in appropriate direction (PassOk1 - to the right, PassOk2 - to the left). The “dry contact” is closed/open upon turn of the rotor gate to an angle of 60 degrees.

D11 and D10 LEDs signal on the relay condition PassOk1 – to the right and PassOk2 – to the left.

The "dry contact" relay output for the ACS is also installed on the motherboard. Its contacts (NC, NO and COM) close or open when somebody is passing either side through the turnstile. When the turnstile enters the "AP" mode (pass counting mode), the D9 diode lights up at each pass.

The NC, NO and COM terminals are permanently closed or open in the hold mode and the D9 diode is constantly on.

5.4 Control panel connection to the ACS controller

In some cases, turnstile CP should be connected directly to ACS controller, since the system responds to passing allowed from the control panel (without the use of controller) as to “hacking”.

To use this turnstile connection scheme, it is necessary to set 6 turnstile operating modes. In this mode the turnstile does not respond to PC commands, but only transmits their status to terminal block contacts, ACCESS OUT (Figure 15 – RIGHT, LEFT, AP ,STOP) groups of contacts, which are open collector outputs.

The contact assignment is shown in Table 4. 5Figure 18 – numbering of the control panel buttons. For this group of terminals, maximum output current is no more than 150 mA, and permissible voltage is no more than 24 V.

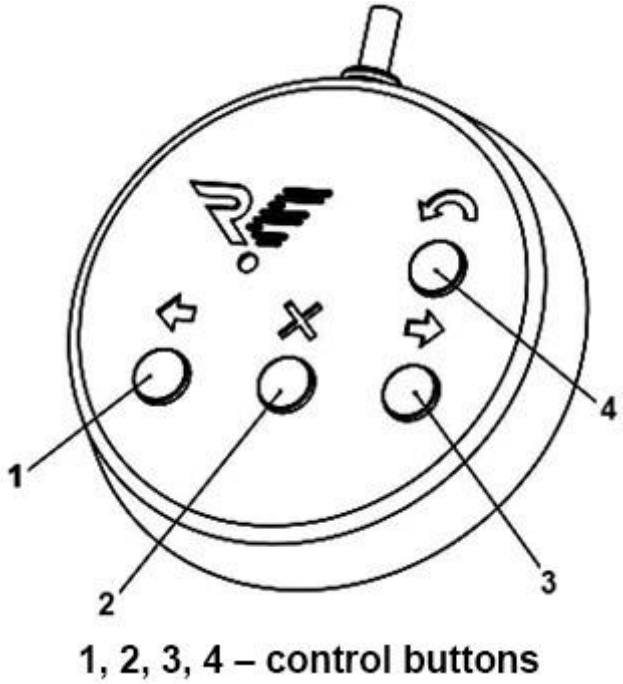


Figure 18 – Numbering of the CP buttons

Table 3 – Assigning SCUD OUT contact group

Identification of terminals	Terminal assignment
LEFT	Status of LEFT button (1)
RIGHT	Status of RIGHT button (3)
STOP	Status of STOP button (2)
AP	Status of Anti-panic button (4)

SCUD OUT (RIGHT, LEFT, AP ,STOP) outputs represent current status of the CP buttons – the transistor opens when corresponding button is pressed. AP output changes its state to the opposite every time when Anti-panic button is pressed.

RIGHT, LEFT, AP ,STOP outputs can be connected either directly to the ACS controller or via a relay. Figure 19 – When using the relay, it is **MANDATORY(!)** to connect a diode in parallel to the winding.

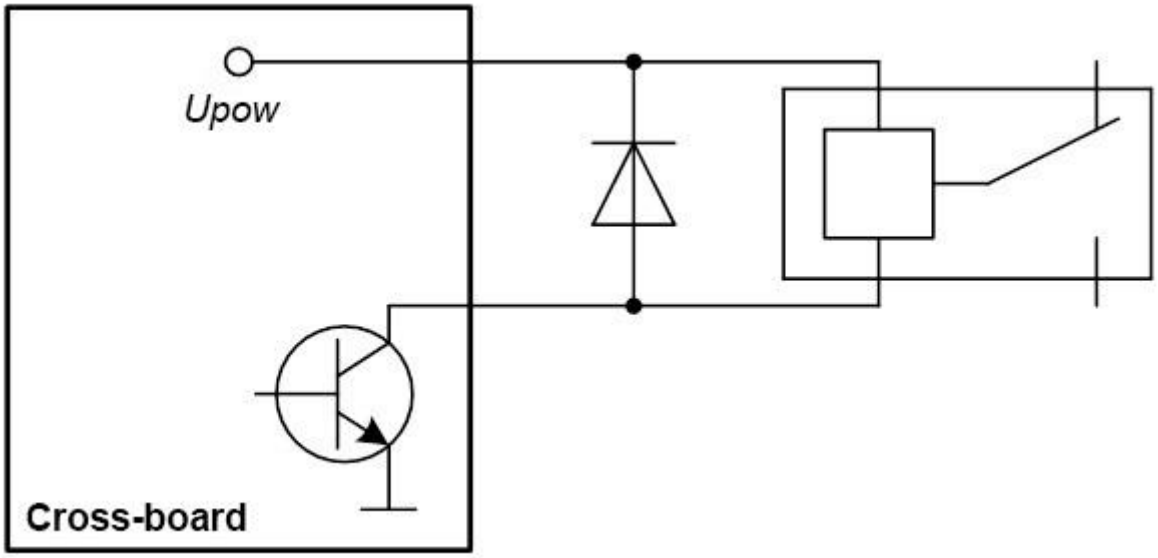


Figure 19 – Wiring diagram for diode connecting in parallel to the relay winding

In this variant, controller controls the turnstile using SCUD IN (“LEFT”, “RIGHT” and “STOP”) group of terminals, while AP terminal is switched on and switched off by the control panel.

An important feature of connecting CP through ACS controller is inability to use turnstile modes which are set by means of combinations of control panel buttons (except for free passing of potential control mode, Section 5.3 of this Manual). In this case, ACS is responsible for these modes.

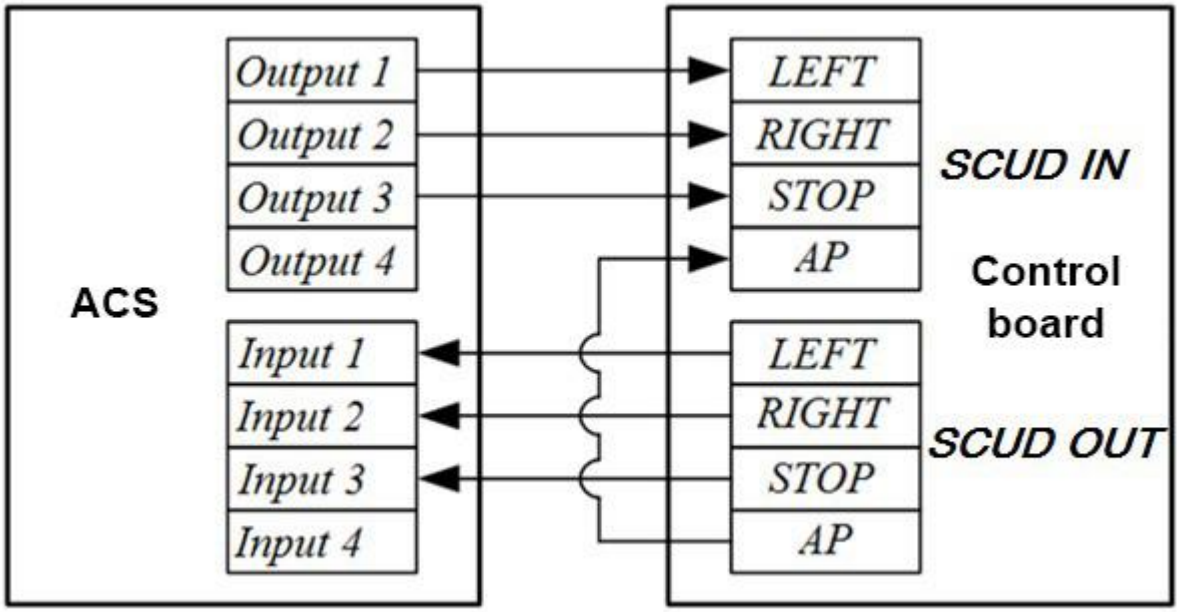


Figure 20 – The turnstile control board connection diagram to the ACS controller

6 COMPREHENSIVE INSPECTION

6.1 Visual inspection and verification of the product readiness for use

6.1.1 Check the mounts of the turnstile parts and assemblies

6.1.2 Check that all cables are securely attached.

6.1.3 Turn on turnstile and perform a health check by performing several test passes and switching to the Anti-panic mode.

6.1.4 If extraneous noise and any violations of operating modes are absent, the turnstile is ready for operation.

6.1.5 Check the installation of rotor rotation induction sensors relatively to the slotted disk installed on the turnstile rotation axis. The disk should not touch the sensors, and each LED installed on the sensors should sequentially light on upon the rotor rotation to one side.

7 ACCEPTANCE OF THE INSTALLED PRODUCT

Acceptance of the installed product is carried out as follows:

1) representative of installation contractor demonstrates security of product installation;

2) notes on the product installation are made in the Product Service Record Section of the Logbook VZR.228800.000 LB;

3) the Installation Information Section of the product Logbook VZR.228800.000 LB is filled in;

4) the Certificate of Acceptance for Operation is issued.

APPENDIX A — Brief description of CAN2.0 data bus

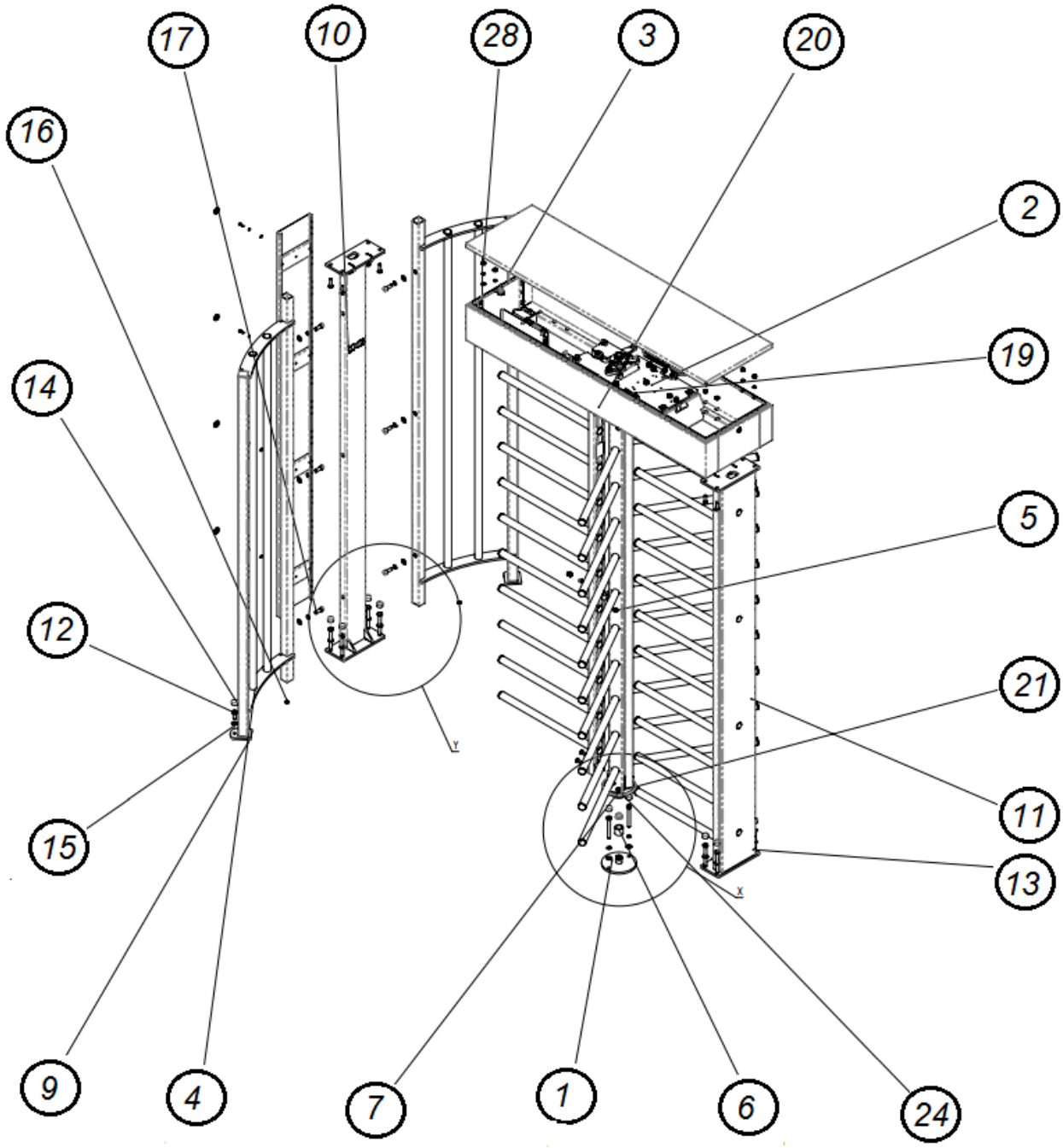
A modern noise-resistant CAN2.02 standard bus is used for UCP 02 operation. Using the CAN2.0 standard, length of the signal transmission cable can reach values of more than a kilometer, but correct operation at such distances depends on many factors.

For distances more than 25 meters, it is mandatory to use a Cat5e or Cat6 twisted pair. Total electrical resistance of CP DC power supply wire should not exceed 50 Ohms.

If this requirement cannot be met, additional 12V/100mA PSU can be set at CP place (minimum operating voltage of PSU is 7.5 V). At the same time, 3 wires from the turnstile (CL, CH, GND) are enough for correct operation.

Two control panels can be connected to one turnstile.

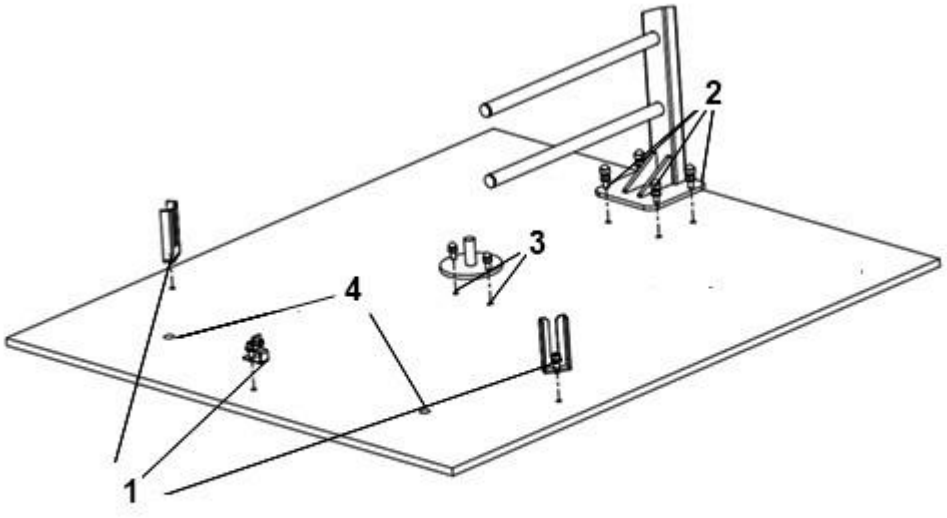
APPENDIX B — Assembly diagram



POS.	DESIGNATION	QTY

1	Fixing parts	1
2	Upper housing	1
3	Top	1
4	PVC cap for D32 pipes	49
5	PVC cap for D18 pipes	3
6	Caprolon bushing	1
7	Cup	2
8	Side fence	1
9	Side fence	1
10	Display stand with cover	1
11	Display stand with cover	1
12	Bolt M12x30 DIN933	2
13	Bolt M12x100 DIN933	8
14	Decorative cap	10
15	Washer 12 DIN 125	16
16	Lock washer 12 DIN 127	16
17	Screw M12x30 DIN912	6
18	Screw M8x20 DIN 912	3
19	Screw M5x10 DIN 7985	2
20	Rotor blade	3
21	Screw M10x25 DIN7991	12
22	Bracket	1
23	Ball bearing	1
24	Rotor bottom flange	1
25	Bolt M10x35 DIN933	8
26	Washer 10 DIN 125	8
21	Lock washer 10 DIN 127	8
28	Nut M10 DIN934	8
29	Plug 40x40	2

APPENDIX C — Position of mounting holes relative to the external dimensions of the turnstile



1 – fastening of fixed fencing panel,
2 – fastening of fixed fencing element,
3 – fastening of fixed axle of rotor gate
4 – floor ports for cable outputs

Figure 21 – Position of mounting holes relative to the external dimensions of the turnstile

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