



“TiSO-PRODUCTION” LTD»

## SERVO-OPERATED WAIST-HIGH TURNSTILE

**CENTURION TWIN**  
AUIA.095-X2



**BASTION TWIN**  
AUIA.097-X2



**TWIX TWIN**  
AUIA.137-X2



**OPERATION MANUAL (rev.1.1)**

**UKRAINE**  
**2019**

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## INTRODUCTION

This Operation Manual (hereinafter referred to as OM) covers the servo-operated turnstile (hereinafter referred to as the "turnstile"). The Operation Manual contains information about design, specifications, installation for proper operation and maintenance of the turnstile.

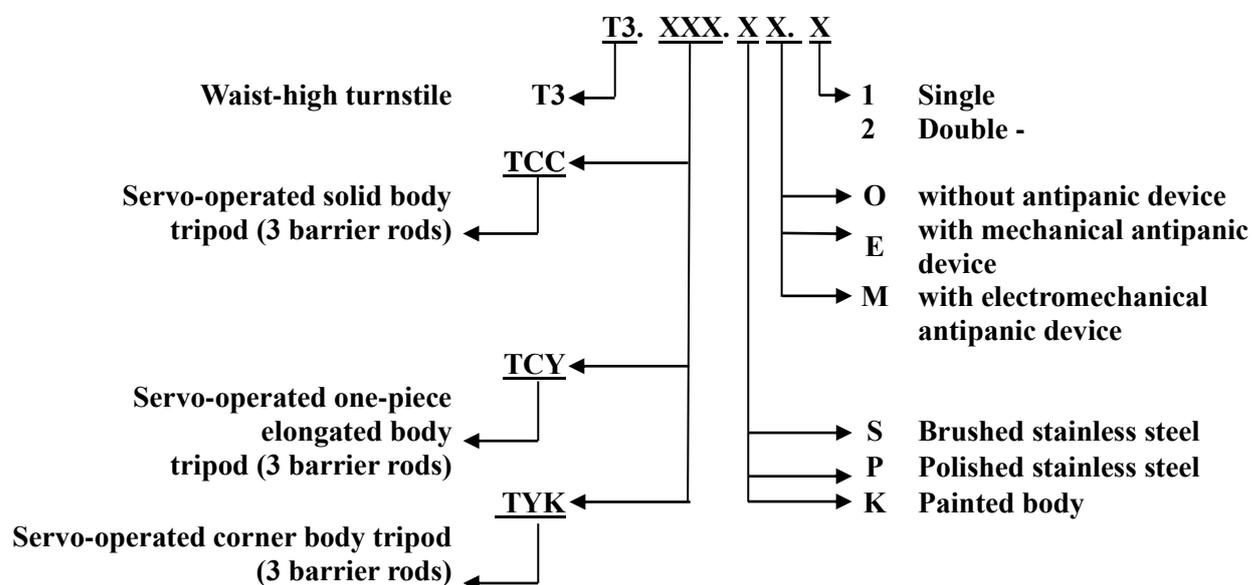
This Operation Manual is prepared in compliance with the specification requirements TY Y 28.9-32421280-005:2018.

The turnstile shall be serviced only by the qualified staff having the relevant class of permit to work with electrical facilities with voltage up to 1000 V and scrutinizing this Operation Manual, obtaining safety instructions and trained for operation and maintenance of the turnstile.

Reliability and durability of the turnstile operation is provided with observation of modes and conditions of transportation, storage, installation and operation. So, fulfillment of all requirements specified in this document is mandatory.

Due to regular improvement of the product its design can be modified without degradation of the product features and quality not covered by this Operation Manual.

Depending on the turnstile purpose and design features, the following pattern of reference designation is accepted:



The tripod type turnstile reference designation is given in Table 1.

*Table 1*

<i>Name</i>	<i>Code</i>	<i>Designation</i>
CENTURION TWIN	T3.TCC.XE.X	AUIA.095-X2 OM
BASTION TWIN	T3.TCY.XE.X	AUIA.097- X2 OM
TWIX TWIN	T3.TYK.XE.X	AUIA.137-X2 OM

Example of reference designation of the servo-operated turnstile with solid body of brushed stainless steel when the turnstile T3.TCC.SE.2 TY Y 31.6-32421280-005:2018 is ordered

## WARNINGS TO THE CUSTOMER ON SAFE OPERATION OF THE TURNSTILE

These warnings are designed for ensuring of safety during operation of the turnstile to prevent violation of safety characteristics by improper installation or operation. These warnings are aimed at drawing attention of the customer to safety problems.

### GENERAL WARNINGS

*The Operation Manual is an integral part of the product and it shall be handed over to the customer. The OM shall be kept for future use and consulted for clarifications if required. If the turnstile is resold, handed over to another owner or transported to another place, make sure that the OM is enclosed to the turnstile to be used by new owner and/or maintenance staff during installation and/or operation.*

Safety measures and requirements specified in this OM must be observed:

- the turnstile must be connected to ground loop prior to operation;
- the turnstile to be connected to AC network with parameters specified in paragraph 1.2 "Specifications";
- inspection, adjustment and repair should be performed only after the turnstile is deenergized.

After purchasing of the turnstile it should be unpacked and its integrity should be checked. In case of doubt in integrity of the turnstile it should not be used and the customer should refer to the supplier or to the manufacturer.

Packing accessories (wooden pallet, nails, clips, polyethylene bags, cardboard etc.) as potential sources of hazard must be removed to unacceptable place prior to proper use of the turnstile.

As electric shock protection device the turnstile is related to 01 protection class according to GOST (State Standard) 12.2.007.0-75 and is not intended for operation in explosive and fire-hazardous areas by the "Rules for design of electrical installations". Using of the turnstile for unintended purpose, improper installation, nonobservance of conditions of transportation, storage, installation and operation, specified by this OM, may result in damage to people, animals or property for which the manufacturer is not responsible.

## 1. DESCRIPTION AND OPERATION

### 1.1 General Information and Purpose

#### 1.1.1 Turnstile purpose:

The turnstile is designed for arrangement of individual pedestrian access at access points of industrial enterprises, banks, stadiums, administrative facilities etc. driven by control signals of access control system (from keypad, proximity card readers) or manually (from wire control panel).

The turnstile traffic flow capacity without personal identification is at least 25 persons per minute.

#### 1.1.2 The turnstile dimensions and weight correspond to the values specified in Table 2.

Таблиця 2

Designation of modification	Dimensions, mm			Pedestal size, (LxW)mm	Maximum weight, kg
	H	L	B		
АЮИА.095-X2	1000	745	1490	324x550	50*
АЮИА.097- X2	1000	745	1440	524x500	55*
АЮИА.137-X2	1000	1004	1390	1004x450	74*

#### 1.1.3 The operation condition parameters according to GOST 15150-69 are specified in Table 3.

Table 3

Operation conditions	For climatic modification	Parameter value
Ambient temperature	NF4	+1°C to +40°C
Relative humidity		80 % at 20 °C
Ambient temperature allowable pressure		84 to 106,7kPa
Transportation temperature range		- 40°C to + 50°C
Storage temperature range		+ 5°C to + 40°C
Group of mechanical application		L3
Altitude above sea level		up to 2000 m
Environment		Explosion-proof, does not contain current-conducting dust, aggressive gases and vapours in concentration destroying isolation and metals, disturbing normal operation of the equipment installed in turnstiles
Installation site		In enclosed spaces in the absence of direct impact of precipitations and solar radiation
Operating position		Vertical, deviation from vertical position no more than 1° to any side is tolerated

### 1.1.4 Reliability indices:

- mean time to repair (without delivery time of spare parts, tools and accessories) – at most 6 hours;
- mean time to failure – at least 1 500 000 accesses;
- mean service life between overhauls – at least 10 years

## 1.2 Specifications

Key parameters of the turnstile are specified in Table 4

Table 4

<i>Parameter description</i>	<i>Unit measure</i>	<i>Parameter value</i>
Minimum traffic flow capacity in single access mode is at least	<i>man/min</i>	60
Opening/closing time	<i>s</i>	25
Maximum width of access way	<i>mm</i>	550 mm
Power supply voltage:		
– AC power supply (primary)	<i>V</i> <i>Hz</i>	100 ÷ 240 ~ 50/60
– DC power supply (secondary)	<i>V</i>	12
Maximum power consumption	<i>W</i>	55
Index of protection according to EN 60529	-	IP41

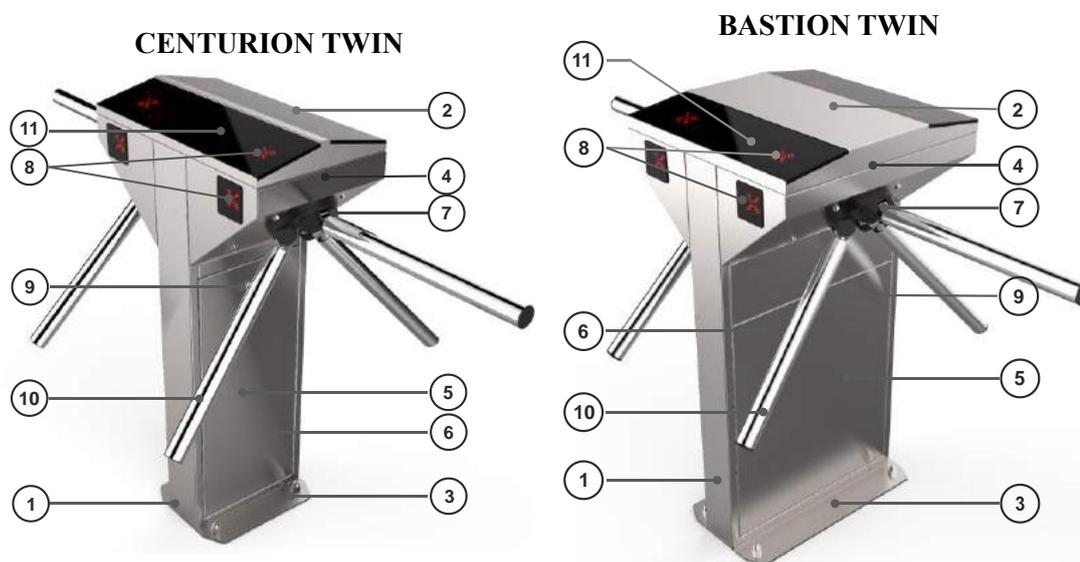
## 1.3 Configuration and Scope of Delivery

**1.3.1 The servo-operated waist-high turnstile design** includes the following key devices and components:

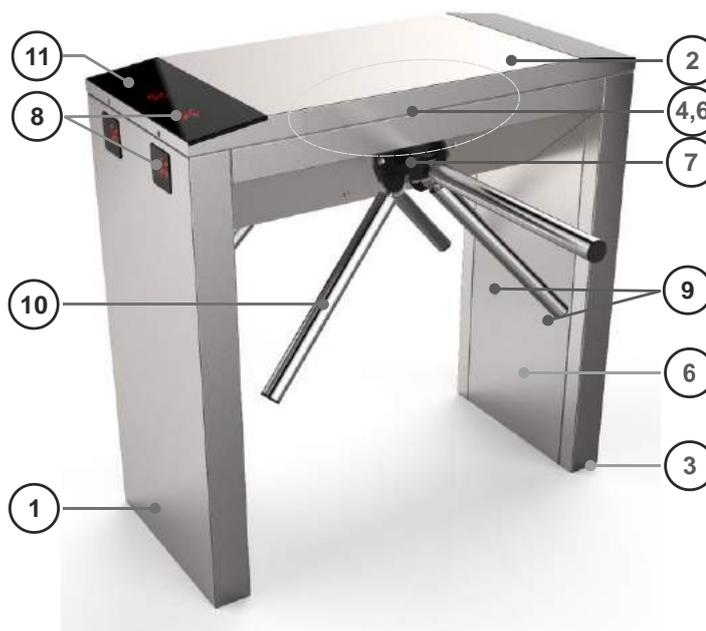
- body;
- two LED displays;
- hub with barrier rods;
- servomotor;

The turnstile can be optionally equipped with battery.

Design, overall and installation dimensions of the turnstile are shown in Annex A.



**TWIX TWIN**



- |                                     |                            |
|-------------------------------------|----------------------------|
| 1 – turnstile post;                 | 6 –door;                   |
| 2 –lid;                             | 7 - hub;                   |
| 3 - body;                           | 8 – LED display;           |
| 4 – control mechanism (servomotor); | 9 - lock;                  |
| 5 – control desk;                   | 10- barrier rod            |
|                                     | 11 – card reader location; |

*Fig. 2 – Turnstile general appearance*

**1.3.4 The turnstile modifications are manufactured from**

- polished stainless steel (reference designation T3.TCC.PE.X).
  - brushed stainless steel (reference designation T3.TCC.SE.X).
  - carbon steel subject to painting (reference designation T3.TCC.KE.X);
- The turnstile’s basic modification is made of stainless steel.

**1.3.2 Turnstile scope of delivery (standard**

- Tripod turnstile
- Control panel
- Anchors (4 pcs.)
- Data sheet
- Battery (capacity 4 Ah)<sup>1</sup>.

For convenience of delivery the turnstile is supplied ready-to-install with dismounted barrier rods.

**1.3.3 The turnstile design, overall and installation dimensions (See Fig.2).**

<sup>1</sup> Is not included in the turnstile scope of delivery - to be equipped by the customer, if appropriate

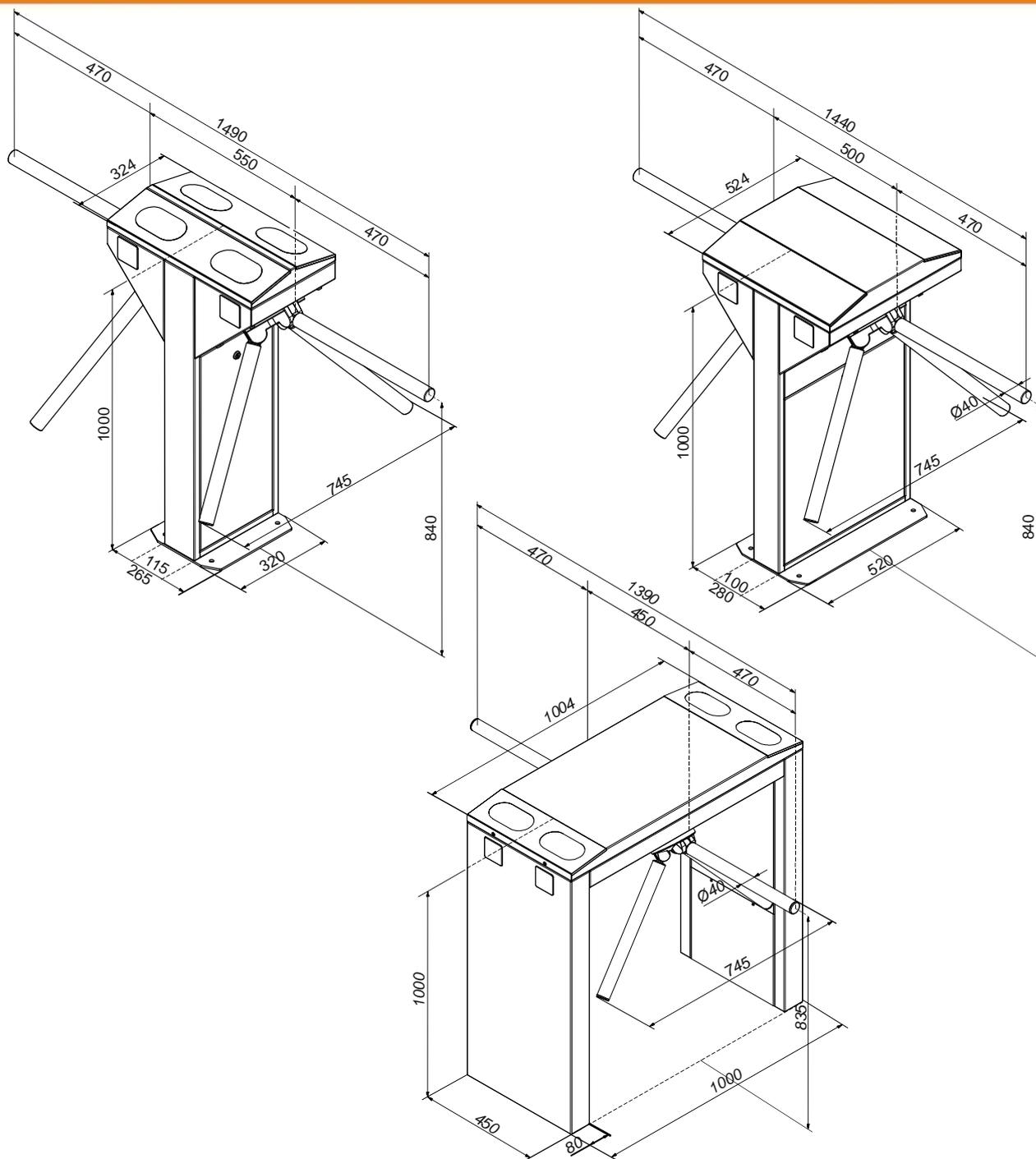


Fig..2 - Tripod turnstile dimensions

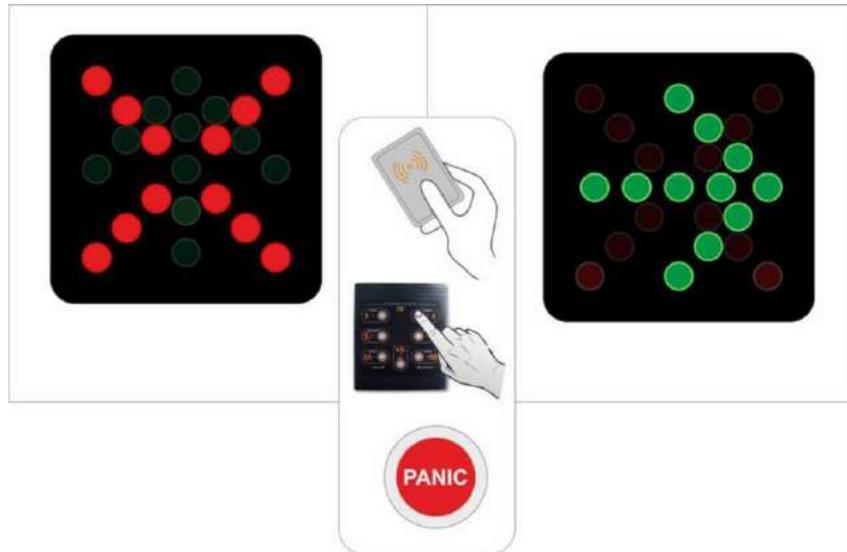
## 1.4 Design and operation

### 1.4.1 Turnstile design

1.4.1.1 The turnstile body 3 is a metalware, which foot is installed on an even surface by means of Redibolt (See Annex A). The turnstile status (Fig.3) is displayed by LED display boards 8, built in the turnstile body. Constantly lit red LED indicates the turnstile initial state: the turnstile access is locked in both directions.

1.4.1.2 The servomotor with electromagnetic brake **4** of enhanced reliability is installed at the top of the body **3**. The hub **7** with barrier rods **10** is installed on the servomotor shaft. One of three barrier rods is positioned horizontally blocking the turnstile access.

1.4.1.3 The turnstile servomotor **4** with worm gear, shown in *Figure 4*, provides locking of barrier rods.



*Fig. 3 - Turnstile status LED display*

1.4.1.4 The plates, on which power supply unit, controllers, terminal blocks for connection to 230 V network and control panel are mounted, are fixed inside the turnstile post 1 (See Annex A) under the removable lid 6 (and 2 for the turnstiles TWIX and SKULL). Controller controls the turnstile motor analyzing signals from speed and position sensors as well as provides the motor protection against overloads. Receiving control commands from peripherals (control panel, ACS etc.) the controller controls LED displays and generates feedback signals for ACS (Access Control System).

1.4.1.5 The external control panel has the following functions: single entry access, single exit access; entry blocking, exit blocking; free entry access, free exit access, panic.

## **1.4.2 Principle of operation**

1.4.2.1 Turnstile operating modes:

- 1) single access in the direction “A” or “B”;
- 2) blocking;
- 3) free access in the direction “A” or “B”.
- 4) «PANIC» mode

1.4.2.2 In the initial state, when servomotor and electromagnetic brake are energized, barrier rods are locked from rotation and access is blocked.

1.4.2.3 Green arrow of the relevant direction is lit on LED display and barrier rods are unlocked when access permission command in the direction “A” or “B” comes to controller. Servomotor is actuated and turns barrier rods in the appropriate direction when barrier rod is manually gently pushed in the direction of access. After the turnstile access barrier rods continue to smoothly turn forward (turn additionally) gradually slowing down and when the relevant angle is reached they are locked by electromagnetic brake of actuating mechanism, where the turning angle is 120 °.

Turnstile can be unlocked within using control panel by issuing the relevant command ("FREE ACCESS IN ONE DIRECTION" or "PANIC") in case of emergency evacuation (in case of fire, natural disaster etc.).

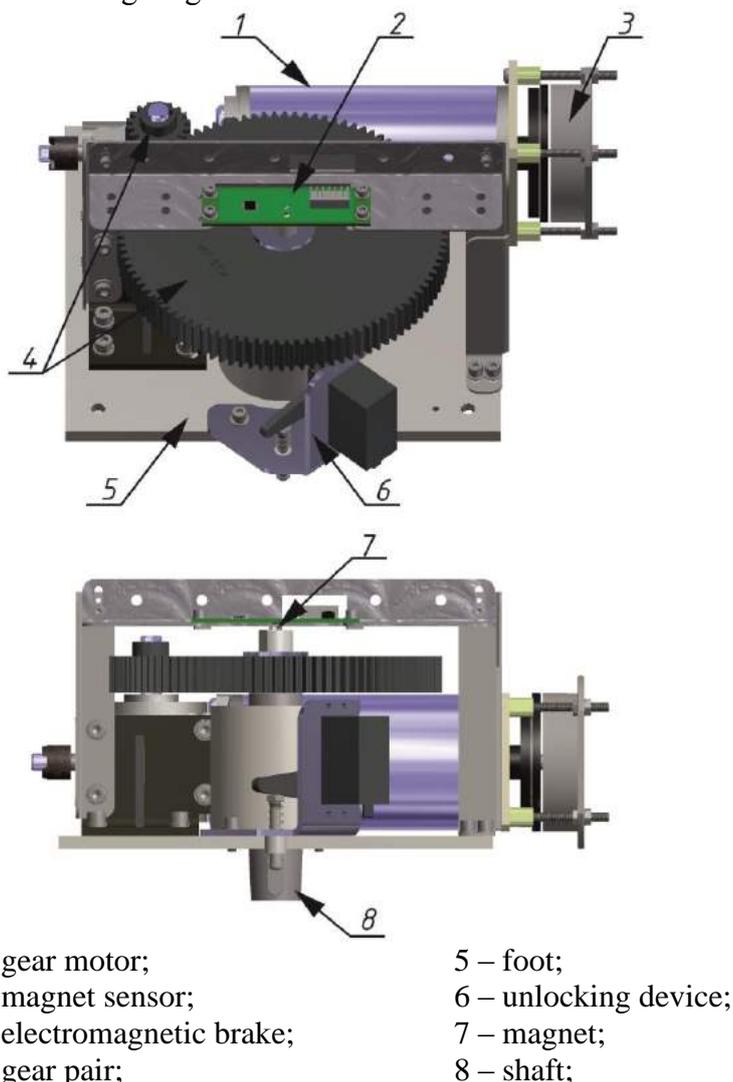
Drop arm function (can be activated only when power is on) is used to fully open of the passage and is activated when the PANIC button on the control panel is pressed and holding for more than 7 seconds or when a signal is applied to the corresponding input (in1) of the turnstile controller. After turning off the alarm or deactivating the panic mode from the control panel, the pod returns to its start position automatically.

When power goes off the pods can be rotated in both directions freely.

More detailed description of the turnstile operating modes is given in section 1.8 "Description and operation of controller as a component of the turnstile"

1.4.2.4 12V DC power voltage is provided by power supply unit.

1.4.2.5 The turnstile wiring diagram is shown in Annex C.



- |                            |                       |
|----------------------------|-----------------------|
| 1 – gear motor;            | 5 – foot;             |
| 2 – magnet sensor;         | 6 – unlocking device; |
| 3 – electromagnetic brake; | 7 – magnet;           |
| 4 – gear pair;             | 8 – shaft;            |

Fig. 4 – Turnstile operating mechanism

### 1.5 Instrumentation, tools and accessories

Dedicated tools are not required for installation of the turnstile (multi-purpose measurement instrumentation and installation tools are sufficient (See Fig. 5 ). concrete drills (according to diameter of anchors included in the turnstile scope of delivery);

- puncher;
- extension cord;
- kit of end and pin wrenches;
- kit of hexagons;
- kit of screwdrivers;
- hammer;
- multimeter (tester);
- measuring tape
- marker;
- pliers, side cutters;
- builder's level.



Fig.5- Tools and accessories for installation

## 1.6 Description and operation of controllers as components of the turnstile

### 1.6.1 Motorized mechanism controller PCB.201.01.00.00

The controller is designed for acquisition of commands from external control devices (control panel, access control system etc.) and generation of control signals for swing gate motorized mechanism

1.6.1.1 The controller is assembled on the (85 x 70mm) board, on which electronic components and connectors for external connections are mounted.

13 LEDs are installed on the controller board. Their purpose is as follows:.

- 8 LEDs indicate condition of inputs «IN1» ÷ «IN8».
- «POWER» LED indicates availability of supply voltage 5V;
- 4 LEDs indicate condition of outputs for motor connection.

24 terminals are installed on board: 2 of them are designed for external connections, the rest are designed for connection to the turnstile units or are standby.

1.6.1.2 The controller technical features are shown in Table 5

Table 5

<i>Parameter description</i>	<i>Parameter value</i>
<i>l</i>	2
Number of inputs	2
Number of outputs	4
Type of input	logical
Type of output «GRN1», «RED1», «GRN2», «RED2»	open collector
Logical «1» voltage	(3,7 ÷ 5) V
Logical «0» voltage	(0 ÷ 1,7) V
Peak voltage applied to inputs «IN1»÷« IN8»	15 V
Peak voltage switched by outputs «GRN1», «RED1», «GRN2», «RED2»	30 B
Peak current switched by outputs «GRN1», «RED1», «GRN2», «RED2»	2 A
Peak voltage switched by outputs «-MG1», «-MG2»	50 B
Peak current switched by outputs «-MG1», «-MG2»	5 A
Peak voltage switched by outputs «MOT1», «MOT2»	27 V
Peak current switched by outputs «MOT1», «MOT2»	≤ 4 A
Controller supply voltage	(10 ÷ 27) V
Consumption current when outputs «MOT1» and «MOT2» are OFF	≤0,15 A
Climatic modification and location category according to GOST 15150-69	MC4

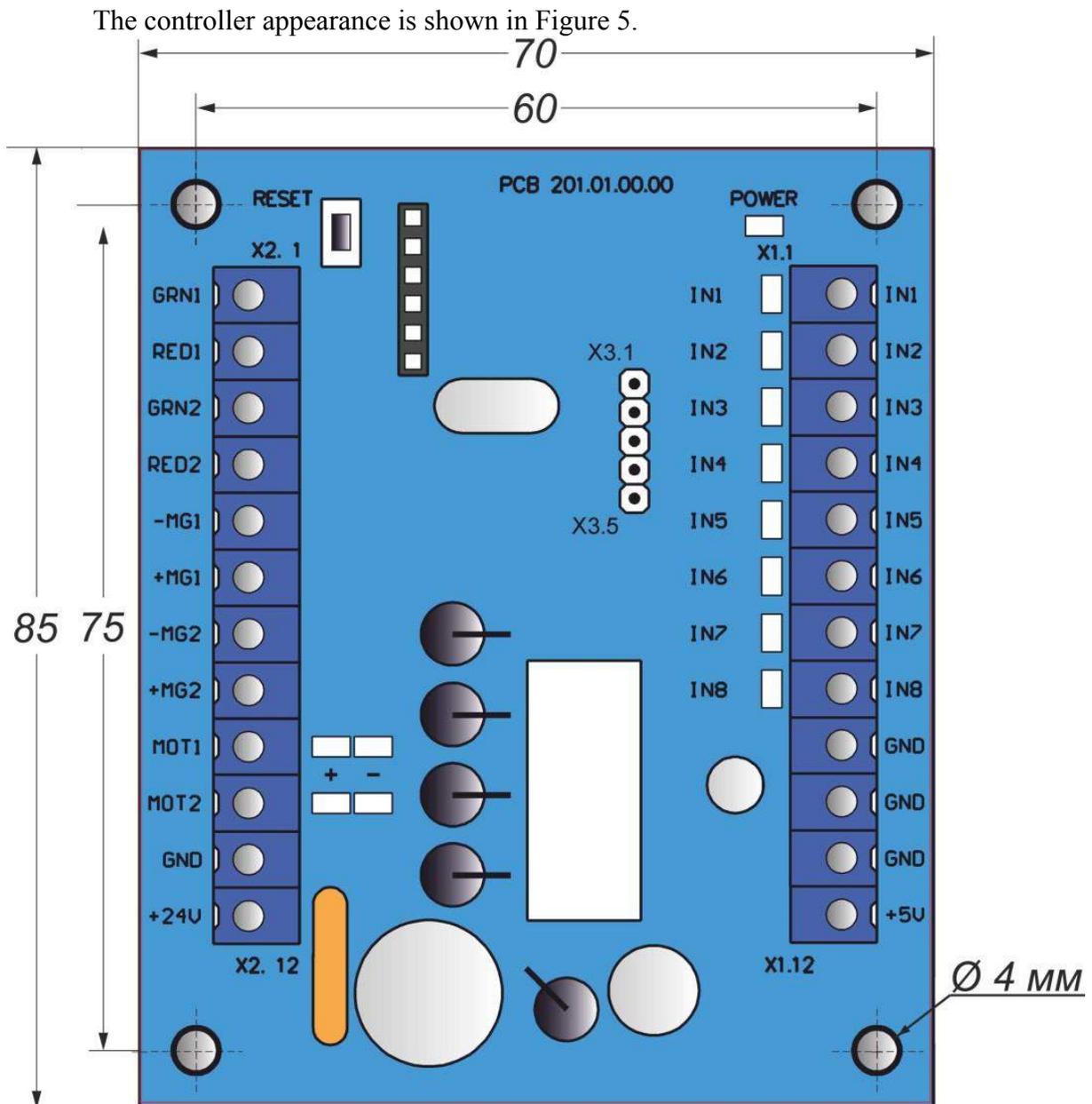


Fig. 7– Appearance of the motorized mechanism controller PCB.201.00.00

#### 1.6.1.3 Description of controller operation

The controller controls the turnstile DC motor and the turnstile mechanism locking solenoids according to the logic entered into program depending on incoming commands, rotor position, rotation speed and motor current. It provides rotor locking in initial state, maintaining rotor rotation speed in access mode as well as motor protection in emergency situations. Control commands are issued from the turnstile controller PCB.112.21.20.00 via communication port "X3". ».

The purpose of the controller contacts, designed for connection to peripherals, is specified in

Table 6.

Connector / contact No	Designation	Direction	Purpose	Signal parameters and description
X1/1	IN1	ENTRY	Not applicable	1) logical «0» (0 ÷ 1,7) V; 2) logical «1» (3,7 ÷ 5) V; 3) active level of signal – logical «0»; 4) voltage on open input ≤ 5 V
X1/2	IN2	ENTRY	Not applicable	
X1/3	IN3	ENTRY	Selection of turnstile type	
X1/4	IN4	ENTRY	Not applicable	
X1/5	IN5	ENTRY	Connection of rotor position sensor	
X1/6	IN6	ENTRY		
X1/7	IN7	ENTRY		
X1/8	IN8	ENTRY		
X1/9	GND		«-» power supply (common wire)	
X1/10	GND			
X1/11	GND			
X1/12	+5 B	EXIT	Not applicable	
X2/1	GRN1	EXIT	Not applicable	
X2/2	RED1	EXIT	Not applicable	
X2/3	GRN2	EXIT	Not applicable	
X2/4	RED2	EXIT	Not applicable	
X2/5	-MG1	EXIT	Connection of locking solenoid winding	1) type of output – open collector; 2) peak voltage on privacy key – 50 V;; 3) peak current of public key – 5 A
X2/6	+MG1	EXIT	Connection of locking solenoid winding (cathode of protective diode )	
X2/7	-MG2	EXIT	Not applicable	
X2/8	+MG2	EXIT	Not applicable	
X2/9	MOT1	EXIT	Motor connection	1) voltage (10 ÷ 27) V; 2) current ≤ 4 A
X2/10	MOT2	EXIT		
X2/11	GND		«-» power supply (common wire)	
X2/12	+24 B	ENTRY	«+» power supply (controller energization)	1) voltage (10 ÷ 27) V; 2) current ≤ 4 A
X3	X3	ENTRY / EXIT	Communication port	1) logical «0» (0 ÷ 1) V; 2) logical «1» (3,5 ÷ 5) V

### 1.6.2 Turnstile controller PCB.112.21.20.00

The controller is designed for acquisition of control commands from peripherals (control panel, access control system etc.), generation of feedback signals, turnstile LED display control and motorized mechanism controller control.

1.6.2.1 The controller is assembled on board (104x68) and designed for installation inside the turnstile body or power supply box. The controller appearance is shown in Figure 6. 19 LEDs are installed on the controller board. Their purpose is as follows:

- LED “POWER” initiates availability of power supply voltage 5V;
- LED “OPERATE” initiates operability of microprocessor;
- 7 LEDs initiate state of outputs for peripheral connections “OUT1» ÷ «OUT7”;
- 3 LEDs “SENSOR” initiate state of rotor position sensor;
- LEDs «RX» and «TX» initiate respectively reception and transmittance in serial port.

40 terminals are installed on the board: 14 of them are designed for external connections, the rest are designed for connection to the turnstile units or are standby

#### 1.6.2.2 Technical features

The controller technical features are shown in Table 7.

Table 7

<i>Parameter description</i>	<i>Parameter value</i>
Number of inputs for acquisition of control commands	5
Number of signal outputs	7
Type of inputs	logical
Type of outputs	open collector
Logical «1» voltage	(3 ÷ 5) V
Logical «0» voltage	(0 ÷ 2,2) V
Maximum peak voltage applied to inputs «IN1»÷« IN8»	15 V
Peak voltage switched by signal output transistors	50 V
Peak current switched via signal outputs	0,1 A
Controller supply voltage	(9 ÷ 15) V
Maximum consumption current	0,15 A
Number of serial ports of signal reception and transmission (RS-485)	1
Climatic modification and location category according to GOST 15150-69	MC4

#### 1.6.2.3 Description of operation

The controller operates according to the program entered into microprocessor memory. The turnstile mechanism and LED displays are controlled according to control commands and status of rotor position sensors based on the logic downloaded into program. Control commands can be transmitted via RS485 (from control panel) or logical inputs (by closing and opening of inputs “INP1” ÷ “INP5” on “GND”).

The controller (along with the turnstile) can be in the INITIAL STATE (closed for access) or in the following access modes:

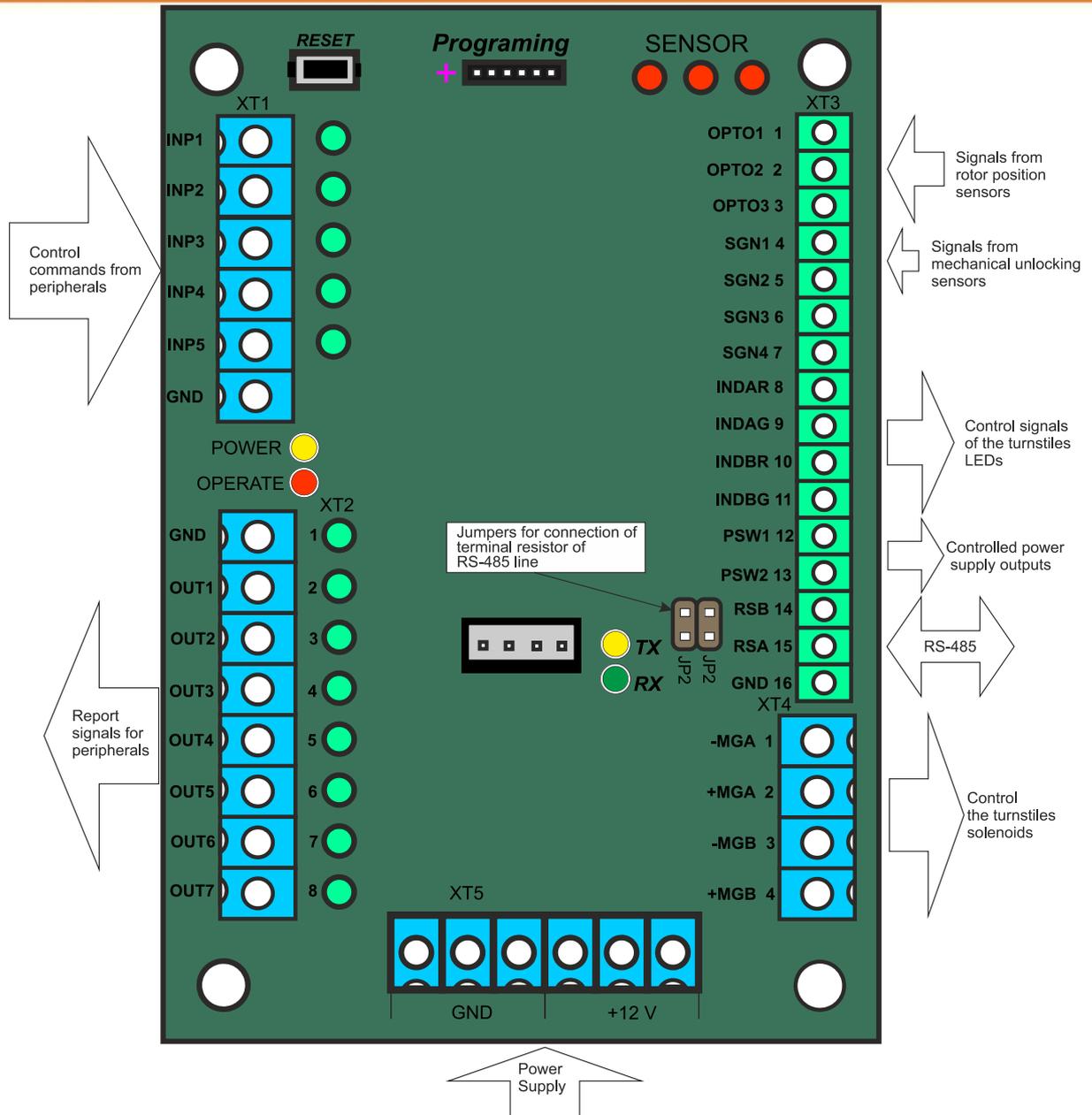


Fig. 8 – Appearance of the turnstile controller PCB.112.21.20.00

- SINGLE ACCESS IN ONE DIRECTION;
- FREE ACCESS IN ONE DIRECTION;
- LOCKING OF ACCESS

.Other operating modes are combinations of various or similar modes in different directions:

- Single access in one direction and any mode in opposite direction.
- Free access in one direction and any mode in opposite direction.
- Locking of access in one direction and any mode in opposite direction.
- “PANIC” function.

#### 1.6.2.3.1 « INITIAL STATE »

The controller is in this mode, if there are no commands “TO BE OPENED A/B” and the turnstile's rotor is set to the point 0°, 120° or 240°.

In this mode solenoids lock rotor: Denied red LED is lit in both directions.

#### 1.6.2.3.2 «SINGLE ACCESS IN ONE DIRECTION»

In this mode the controller unlocks rotor through solenoid in one direction with the possibility of revolving to 120°. It enables access of one pedestrian through the turnstile. The controller is switched to “SINGLE ACCESS IN ONE DIRECTION”, if in the INITIAL STATE it receives “TO BE OPENED A/B” command (i.e. active level of signal is sent to the input “INP4” or “INP5”). In this case the turnstile is open within action period of signal. The command can also be sent delay of WAITING FOR START OF ACCESS. Sequence of controller operations after reception of “TO BE OPENED A/B” command is as follows:

- Delay of WAITING FOR START OF ACCESS is initiated (Factory setting 5 sec.).
- Controller deenergizes solenoid and rotor is unlocked in the relevant direction.
- LEDs are switched from red to green according to the authorized access.
  - 1) Then two alternatives of events are possible. 1) First alternative: If within active status of “TO BE OPENED /B” (“INP4”/“INP5”) or during delay of WAITING FOR START OF ACCESS rotation of rotor is not started, then controller is reset to “INITIAL STATE”;
  - 2) Second alternative: If in the above mentioned cases rotation of rotor is started, then further behavior of controller depends on angle of rotor rotation.
    - When rotor is rotated to 6°, LEDs are switched from green to red, indicating that access is occupied. Output signal START OF ACCESS “A/B” (“OUT1” or “OUT2”) becomes active.
    - When rotor is rotated to 54° the output signal “START OF ACCESS “A/B” (“OUT1” or “OUT2”) is removed. Delay of WAITING FOR START OF ACCESS is reset;
    - When rotor is rotated to 64°, ACCESS DETECTION (OUT3 or OUT4) signal is generated.
    - When rotor is rotated to 120°, OCCUPIED ACCESS A/B and ACCESS DETECTION (OUT3 or OUT4) signals are reset and then availability of “TO BE OPENED A/B” (INP4 or INP5) command, conforming to the current, is checked. If by this moment the command remains active, the controller switches to FREE ACCESS mode and if not, then it is reset.

#### 1.6.2.3.3 «FREE ACCESS IN ONE DIRECTION»

In this mode rotor can easily rotate in free access direction. In the FREE ACCESS mode green LED of the relevant direction is blinking. In this mode the controller transition is occurred in two cases:

In this mode the controller transition is occurred in two cases:

- First: when “TO BE OPENED A/B” (input INP4 or INP5) command is maintained inactive status at the moment of rotor crossing the point 120° upon termination of SINGLE ACCESS.
- Second: after reception of FREE ACCESS command in the relevant direction via RS 485. After the controller is switched to FREE ACCESS mode, output signals of “OCCUPIED ACCESS”, “ACCESS DETECTION” of the relevant direction are generated as described in Table 8.

Exit of this mode into INITIAL STATE is taken place after cancellation of “TO BE OPENED A/B” command or reception of FREE ACCESS CANCELLATION command via RS485. But it will happen not instantly and only when rotor reaches one of the starting points 0°, 120° or 240°, i.e. if free access cancellation arises during started access it will be completed as free.

#### 1.6.2.3.4 «AUTHORIZATION OF SINGLE ACCESS IN TWO DIRECTIONS»

Since the turnstile having one rotor can't rotate in two directions simultaneously, the controller can only unlock rotor in two directions and after access in one of directions is started,

the reverse direction will be closed. The controller is switched to this mode if in the INITIAL STATUS it simultaneously acquires "TO BE OPENED A" and "TO BE OPENED B" commands. The second signal also can come during the time when the first signal is already active, but rotation of rotor did not start yet.

In this case:

- 1) The controller unlocks rotor in two directions via electromagnets.
- 2) Switches both LEDs from red to green.
- 3) Initiates two delays of "WAITING FOR START OF ACCESS A and B" for each access individually, which are counted from the moment of acquisition of commands.
- 4) The controller is waiting for start of access.
- 5) After rotor is revolved to 6° in any side, opposite direction will be locked LED is switched to red.

Then the controller is operating as described in section "SINGLE ACCESS IN ONE DIRECTION". If during active status of the "TO BE OPENED A" and "TO BE OPENED B" signals or during WAITING FOR START OF ACCESS rotor has not been revolved in any side to the angle more than 6°, the controller is switched to the INITIAL STATE.

#### 1.6.2.3.5 "PANIC" FUNCTION

The turnstile is switched to "PANIC" state:

- After the active state is held on input ("INP5" "PANIC") for more than 1 sec;
- After "PANIC" command is sent by control panel (the command is sent after "PANIC" button is held for more than 7 sec.).

After activation of "PANIC" function the barrier rod, which is in horizontal position, will be dropped, the output ("OUT7" "PANIC") will be switched to active state during the function action.

The "PANIC" function is canceled:

- After active state is released on input ("INP5" "PANIC");
- After command "CANCELATION of PANIC" is sent from control panel (repeated pushing of "PANIC" button);

In each case the appropriate command will be issued to the motorized mechanism controller resulting in rotor rotation and the dropped barrier rod will come to its operating position and will be fixed (barrier rod locking to be checked manually).

#### 1.6.2.3.6 «LOCKING OF ACCESS»

The locking function can be activated by means of control panel only. After activation of "LOCKING OF ACCESS A or B" the turnstile rotor is locked in the relevant direction and access authorization commands will be ignored in the locked direction;

The locked direction is indicated by blinking red color.

The purpose of controller contacts, designed for connection to peripherals, is specified in Table 8.

Table 8

Connector/ contact No.	Description	Direction	Purpose	Signal parameters and description
XT1/1	INP1 («PANIC»)	ENTRY	«SWITCHING TO PANIC STATE» command	1) logic «0» (0 ÷ 2,2) V; 2) Logic «1» (3 ÷ 5) V; 3) Active level of signal (Factory setting) – Logic «0»; 4) Voltage on open input < 5 V
XT1/2	INP2 («TO BE OPENED A»)	ENTRY	"TO BE OPENED FOR SINGLE ACCESS" in pulse mode command. When this command is issued entry is activated XT1/3 within 5 sec.	
XT1/3	INP3 («TO BE OPENED B»)	ENTRY		
XT1/4	INP4 («TO BE OPENED A»)	ENTRY	"TO BE OPENED FOR SINGLE/FREE ACCESS" command. Input is activated within the time of holding in active state. Free access is occurred when entry is kept in active state after rotor reaches the angle 120°	
XT1/5	INP5 («TO BE OPENED B»)	ENTRY		
XT1/6	GND (common)		«-» power supply	
XT2/1	GND (common)		(common wire)	
XT2/2	OUT1 («START OF ACCESS A»)	EXIT	Signal is generated by controller when rotor revolves from 6° to 54° in the relevant direction	1) Type of output - open collector. 2) Peak voltage on public key 55 V 3) Peak current of public key 100 mA 4) Resistance of public key (5 ÷ 7) Ohm 5) Active level of signal (Factory setting) - Logical «0»
XT2/3	OUT2 («START OF ACCESS B»)	EXIT		
XT2/4	OUT3 («DETECTION OF ACCESS A»)	EXIT	Signal is generated by controller when rotor revolves from 64° to 120° in the relevant direction	
XT2/5	OUT4 («DETECTION OF ACCESS B»)	EXIT		
XT2/6	OUT5 («ACCESS IS OCCUPIED»)	EXIT	Signal is generated by controller when rotor revolves from 6° to 120° in any direction	
XT2/7	OUT6 («ERROR »)	EXIT	Signal is generated by controller when violation of operation logic is detected	
XT2/8	OUT7 («PANIC »)	EXIT	Signal is generated by controller when "PANIC" function is activated	

Continued Table 8

1	2	3	4	5
XT3/1	OPTO1	ENTRY	It is used for acquisition of data about the turnstile rotor position	1) Logical «0» (0 ÷ 2,2) V 2) Logical «1» (3 ÷ 5) V 3) Active level of signal (Factory setting) - Logical «0» 4) Voltage on open input < 5 V
XT3/2	OPTO2	ENTRY		
XT3/3	OPTO3	ENTRY		
XT3/4	SGN1	ENTRY	Not applicable	
XT3/5	SGN2	ENTRY	Selection of turnstile modification	
XT3/6	SGN3	ENTRY	Not applicable	
XT3/7	SGN4	ENTRY	Not applicable	
XT3/8	INDAR	EXIT	It is used for the turnstile LED display control	1) Type of output - open collector 2) Peak voltage on privacy key 30 V 3) Peak current of public key 2A
XT3/9	INDAG	EXIT		
XT3/10	INDBR	EXIT		
XT3/11	INDBG	EXIT		
XT3/12	PSW1	EXIT	It is used for energization of barrier rod reset system servomotor in "PANIC" function	1) Type of output - open emitter. 2) Voltage on output in ON state 12 V. 3) Peak current consumed from output 1 A. 4) Resistance of public key 0.25 Ohm
XT3/13	PSW2	EXIT	Not applicable	
XT3/14	RSA		It is used for data transmission via serial port	Interface RS-485
XT3/15	RSB			Interface RS-485
XT3/16	SH			RS-485 SHIELD
XT4/1	- MGA	EXIT	It is used for energization of barrier rod reset system servomotor in "PANIC" function	1) Type of output - open collector. 2) Peak voltage on public key 50 V 3) Peak current of public key 9A 4) Resistance of XT4/3 public key 0,11 Ohm
XT4/3	- MGB	EXIT	Not applicable	
XT4/2	+ MGA		Not applicable	

Continued Table 8

1	2	3	4	5
XT4/4	+ MGB		Not applicable	
XT5/1	GND (common)		«-» power supply (common wire)	
XT5/2	GND (common)			
XT5/3	GND (common)			
XT5/4	+ 12 V		«+» power supply (controller energization)	1) Supply voltage 12 V; 2) Consumption current < 150mA
XT5/5	+ 12 V			
XT5/6	+ 12 V			
XP1	XP1	ENTRY / EXIT	Communication port	1) logical «0» (0 ÷ 1) V; 2) logical «1» (3,5 ÷ 5) V

## 2 INTENDED USE

### 2.1 Operation limitations

2.1.1 The turnstile must be used in the environment specified in p. 1.1.5 of this document subject to the specifications listed in section 1.2.



#### **IT IS FORBIDDEN:**

- 1) TO MISUSE THE TURNSTILE (See section 1 "DESCRIPTION AND OPERATION");
- 2) TO USE THE TURNSTILE UNEARTHED;
- 3) TO USE HEATING PIPES AND RADIATIONS AS WELL AS PIPES OF CENTRAL WATER SUPPLY FOR EARTHING;
- 4) TO REPAIR AND ADJUST WITHOUT DEENERGIZATION;
- 5) TO RELOCATE THE OBJECTS EXCEEDING THE PASSAGEWAY WIDTH THROUGH THE TURNSTILE ACCESS AREA;
- 6) TO JERK AND IMPACT BARRIER RODS, LED DISPLAY OR OTHER PARTS THE PRODUCT, WHICH MAY CAUSE THEIR MECHANICAL DAMAGE;
- 7) TO APPLY THE EFFORT TO THE PASSES WHEN ACCESS DENIED MORE THAN 400 N (40 KG)

#### 2.1.2 It is forbidden to use the turnstile:

- at the presence of mechanical rattle in movable parts of the turnstile;
- when metalwork of the turnstile and its components and accessories are mechanically damaged.

#### 2.1.3 List of special operation conditions

- Mean time of the turnstile access (in single access mode) equals to 2,4 sec.
- The turnstile's mechanism allows emergency access by means of antipanic device.
- Escape door, portal or pedestrian gate can be installed near the turnstile to increase
- the turnstile traffic flow capacity in case of emergency.

## 2.2 Layout and installation

2.2.1 The turnstile and components of scope of supply to be delivered to installation site in factory packing. The turnstile to be unpacked only on installation site.

2.2.2 Preparation of the turnstile for installation (dismounting) and commissioning to be performed according to this OM with mandatory observation of safety measures specified in p. 2.1 and general electrical safety code.

### 2.2.3 Safety Measures:

- Installation to be performed only by the persons briefed on safety and studied this manual;
- Only serviceable tools to be used during installation of the turnstile;
- Connection of all cables to be performed only when power supply is OFF;
- Cables to be laid in compliance with electric code;
- The turnstile to be installed by at least 2 installers.

### 2.2.4 General layout of the turnstile access ways

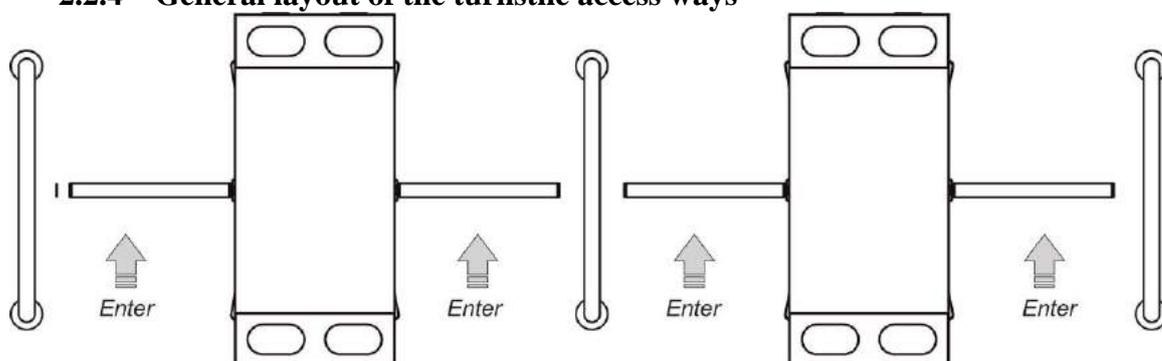


Fig. 8 – Turnstile layout options (conditionally)

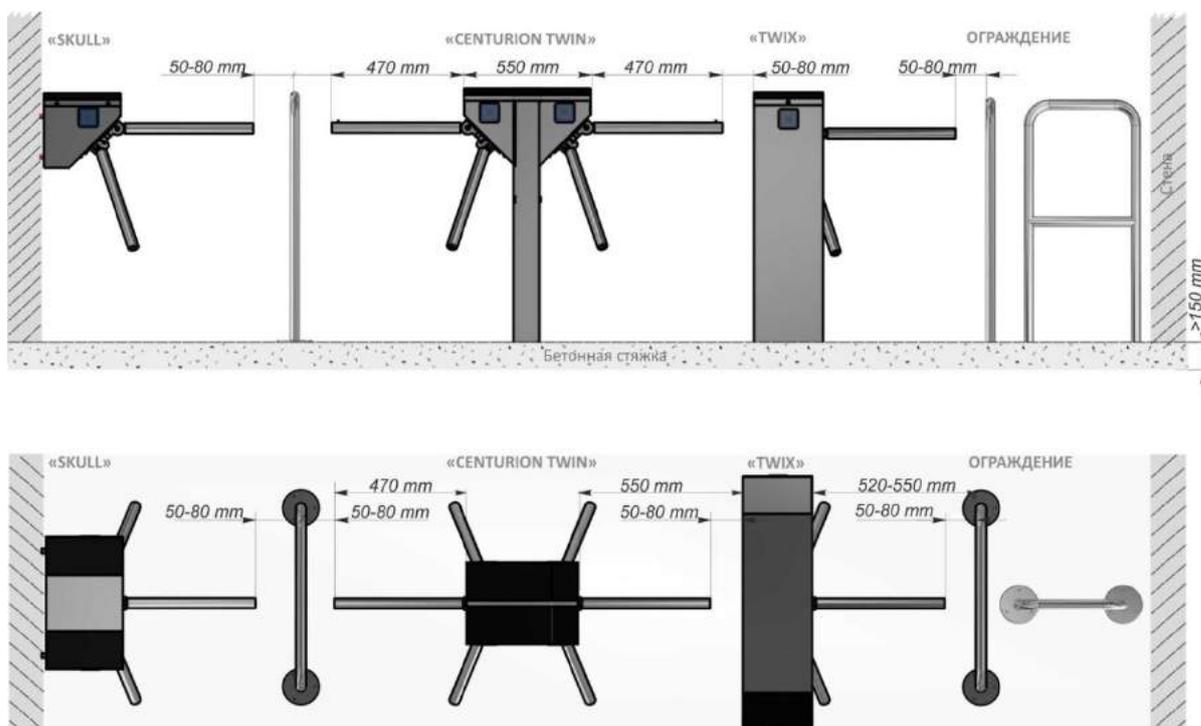


Fig.9 – Tripod turnstile (single and double) layout (conditionally)

### 2.2.5 Installation procedure

The turnstile installation procedure is as follows:

1) The package integrity to be checked prior to unpacking. If package is damaged, then damages to be fixed (picture to be taken, damage report to be made).



#### WARNING :

- The turnstile damages occurred during transportation are not covered by the manufacturer's warranty liabilities.;
- When the turnstile damages are detected or in case of shortage of delivery, installation work to be stopped and the turnstile supplier to be referred to.

2) The turnstile to be unpacked and inspected for defects and damages as well as completeness to be checked according to the turnstile data sheet;

3) Make sure that the turnstile installation area is ready as follows:

- The installation site surface to be flat and horizontal;
- Thickness of concrete blinding coat under site to be at least 150 mm

4) The turnstile fixation holes to be marked on the area surface according to *Annex A*. The turnstile itself can be used as a template, when installed upright on installation site.

5) The relevant holes to be drilled on the surface according to the marking due to diameter of anchors ( $12 \times 120M10$ ) for the turnstile fixation. Anchor jackets to be inserted into the prepared holes.

6) When cables to be laid under the floor surface, then a cable duct to be prepared in the floor leading to the turnstile rack cable entry area. The cable entry area layout is shown in *Fig.10-12*.

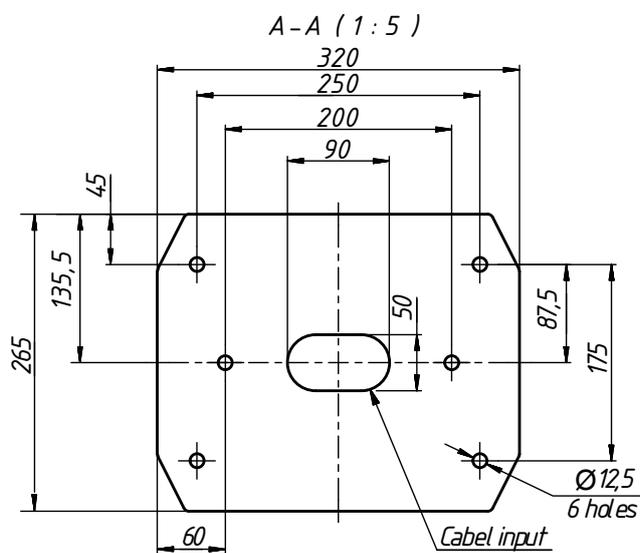


Fig.10– Tripod type turnstile installation marking «CENTURION TWIN »

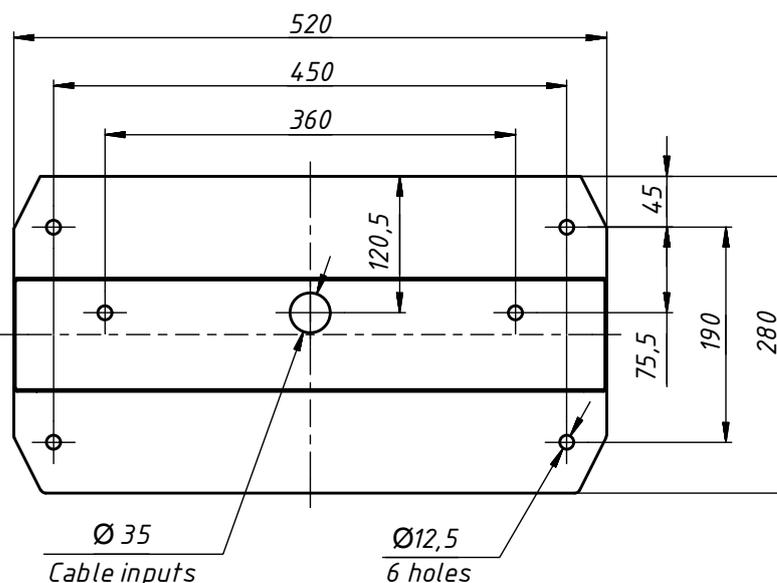


Fig.11– Tripod type turnstile installation marking «BASTION TWIN »

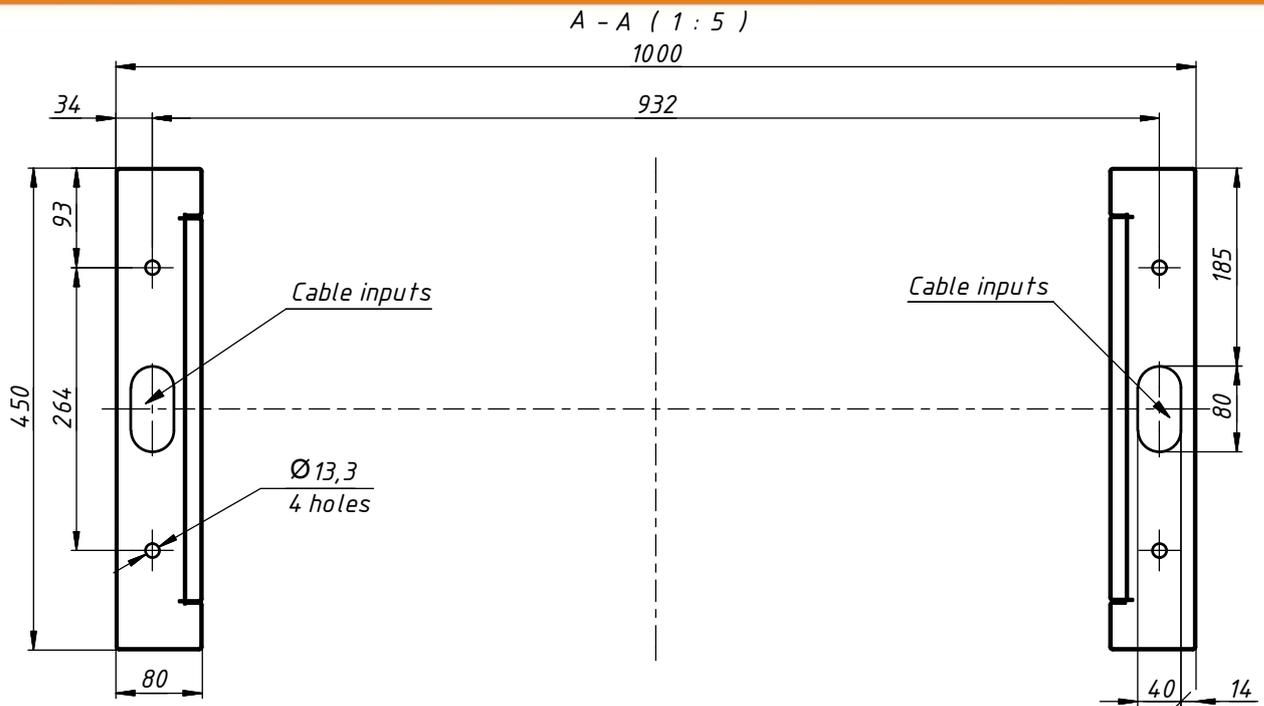


Fig.12– Tripod type turnstile installation marking «TWIX TWIN »



**WARNING:**

- The turnstile is fixed by means of Redibolt anchors (with jacket and screw) included in the scope of delivery.
- The turnstile installation and fixation to be performed only after all electric cables are pulled.

8) The rack door to be removed by turning the lock key (Fig.13) to access to the " «CENTURION TWIN » and «BASTION TWIN » tripod turnstile base fixation and service holes as well as terminal blocks.

The lock pin (1) to be removed and the latch (2) to be opened by lifting it up to remove the rack lid (Fig.13 , View A /B).

1. Door to be opened;
2. Cable to be pulled;
3. Lid to be removed;
4. Card reader to be installed;
5. To be secured with anchors;

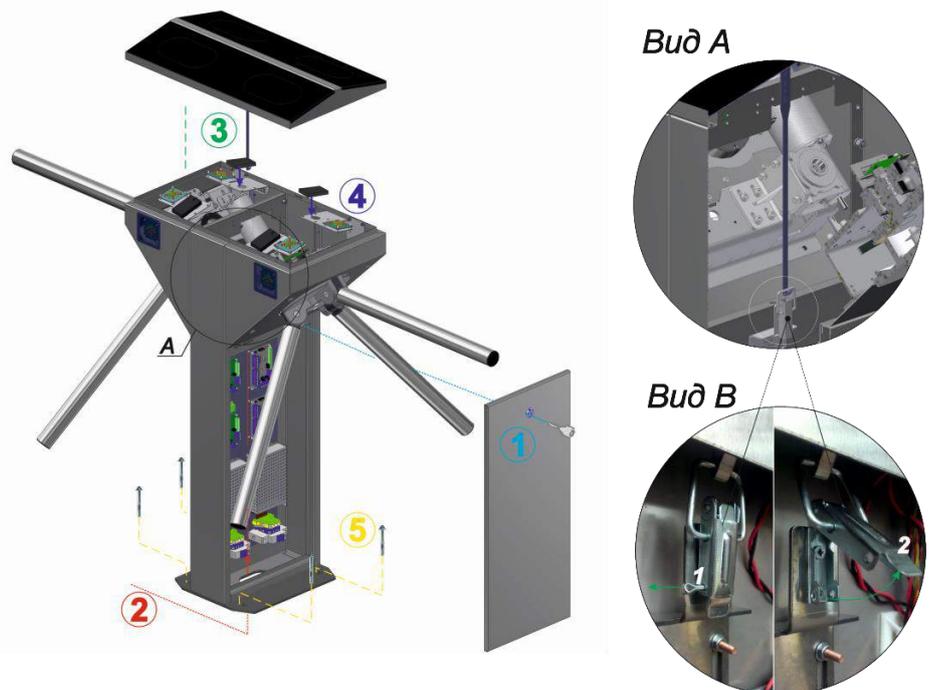


Fig. 13 – General view of the " CENTURION TWIN" and "BASTION TWIN" tripod turnstiles assembly

9) Two turnstile rack doors to be removed by unscrewing one screw fastening door to the body to access to the "TWIX TWIN" tripod turnstile base fixation holes.

The screws on the turnstile rack lid butt ends to be unscrewed and the lid to be removed to access to terminal blocks (Fig.14).

1. Door to be opened;
2. Cable to be pulled;
3. Lid to be removed;
4. Card reader to be installed;
5. To be secured with anchors

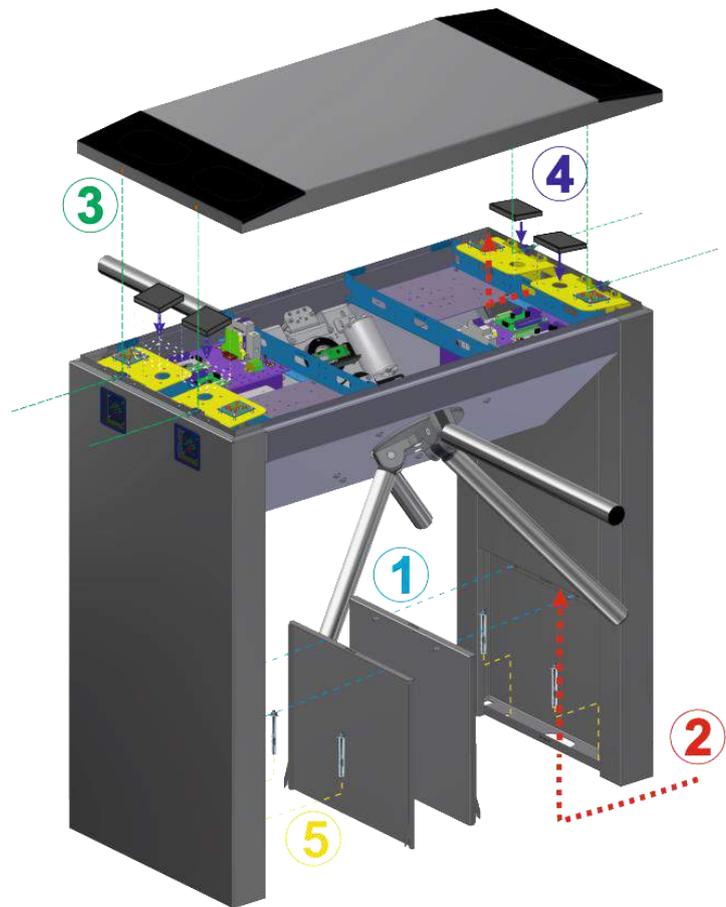


Fig. 14– General view of the "TWIX TWIN" tripod turnstile assembly



**WARNING:**

- Cables to be pulled in corrugated or metal pipes;
- The length of cable free ends to be at least 1 m to provide their entry, termination and connection to the relevant terminals in the turnstile rack.
- The cable outlet point to be aligned with the hole on the turnstile mounting plate (Fig.10-12).

11) The following cables to be pulled to the turnstile installation site:

- Power supply cable 230 V ~;
- Control panel link cable;
- Access control system (ACS), if any, connection cables;

12) The turnstile to be installed upright at the prepared location.

- Cables to be pulled through available service hole in the turnstile rack bottom butt end part by reclining the turnstile .

- Fixation holes at the turnstile bottom plate to be aligned with prepared surface holes.

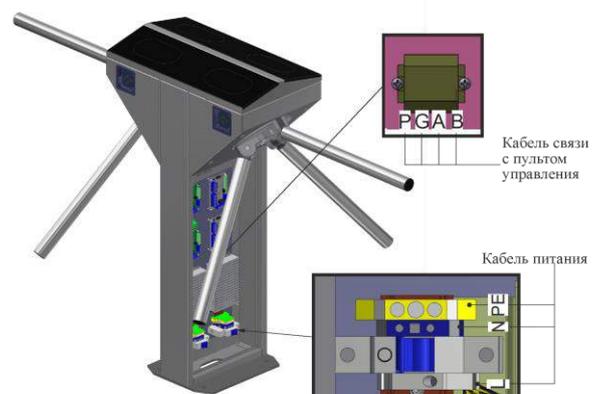


Fig. 15– Подключение кабеля питания и кабеля связи с пультом управления

13) Turnstile connection (Fig. 15):

a) Power supply cable ~230 V to be connected;

- Phase L to be connected to circuit breaker;
- Neutral (N) to be connected to terminal ~230V;
- Earth (PE) to be connected to earthing terminal (PE).

б) Control panel link cable to be connected to the terminals (Fig.15):

- **P** (Power) – control panel power supply +12V

- **G** (GND) - control panel common wire;
- **A** (RSA) - RSA wire of control panel link line;

link line;

- **B** (RSB) - RSB wire of control panel link line;

c) Proximity card readers<sup>2</sup>, to be installed if access control system (ACS) is available:

- In the turnstiles «CENTURION TWIN», «TWIX TWIN» и «BASTION TWIN» card readers are installed on special and height adjustable bracket, which is located under upper lid **4** next to LED display **3** (Fig. 16).
- Maximum sizes of the card reader to be installed are at least 100x100x25 mm\*;

14) The turnstile to be secured with anchors included in the scope of delivery.

15) The turnstile rack lid to be installed in the removal reverse sequence.

16) The turnstile door to be installed in the removal reverses sequence.

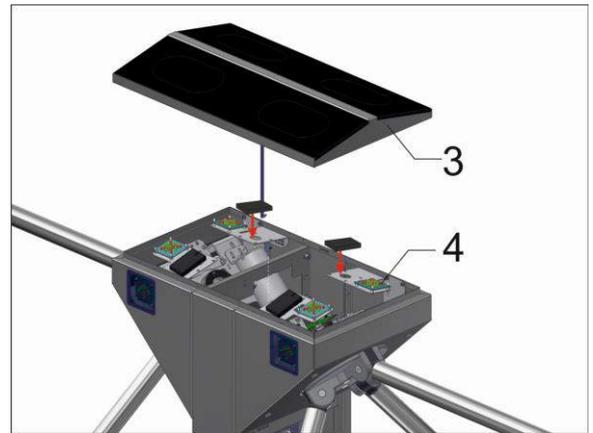


Рис. 16– Установка считывателя в турникет-трипод



**WARNING:**

**During the turnstile installation it should be taken into account that horizontally positioned barrier rod must be at a distance not more than (50 ÷ 100) mm from access way creator (any surface perpendicular to horizontally positioned barrier rod: enclosure module, wall, etc.).**

<sup>2</sup> Is not included in the scope of delivery

## 2.3 Preparation for use

### 2.3.1 Commission guidelines

Prior to the turnstile energization:

- 1) make sure of proper connection and good condition of all connecting cables;
- 2) the turnstile barrier rod turning area to be cleaned from foreign particles. When mains cable of power supply unit is connected to network the turnstile control mechanism are energized: barrier rods are locked from rotation in both directions barring access. The turnstile is set in the initial state: red cross is displayed for entry and exit (« × » is lit).

### 2.3.2 Required inspections

2.3.2.1 When the turnstile is commissioned it is necessary to perform the inspections specified in Table 9. The wiring diagram according to Annex C and the control panel according to Annex C to be used during inspection.

Table 9

<i>Turnstile operation mode</i>	Operation mode setting	LED display
<i>1</i>	<i>2</i>	<i>3</i>
1. Turnstile is closed in both directions (initial state)	–	Red LED is lit
2. Single access in one direction	SINGLE button to be pushed for access in selected direction ("A" or "B")	Green arrow of authorized single access is lit in selected direction and red LED is lit in opposite direction
3. Single access in both directions	Both SINGLE buttons to be pushed for access in both directions ("A" and "B")	Green arrows of authorized single access are lit in both directions
4. Free access in one direction	FREE button to be pushed for access in selected direction ("A" or "B")	Green arrow of authorized free access is lit in selected direction and red LED is lit in opposite direction
5. Free access in both directions	Both FREE buttons to be pushed for access in both directions ("A" and "B")	Green arrows of authorized free access are lit in both directions
6. Single access in one direction and free access in opposite direction	SINGLE button to be pushed for access in selected direction ("A" or "B") and FREE button to be pushed for access in opposite direction	Green arrow of authorized single access is lit in selected direction and green arrow of authorized free access is blinking in opposite direction
7. Single access in one direction and locking access in opposite direction	SINGLE button to be pushed for access in selected direction ("A" or "B") and LOCK button to be pushed for blocking access in opposite direction	Green arrow of authorized single access is lit in selected direction and red LED of locked access is blinking in opposite direction
8. Free access in one direction and locking access in opposite direction	FREE button to be pushed for access in selected direction ("A" or "B") and LOCK button to be pushed for blocking access in opposite direction	Green arrow of authorized free access is lit in selected direction and red LED of locked access is blinking in opposite direction
9. Locked access in one direction	LOCK button to be pushed to lock access in selected direction ("A" or "B")*	Red LED of selected single access is blinking

10. Locked access in both directions	Both LOCK buttons to be pushed to lock access in both directions ("A" and "B")**	Red LED of blocked access in both directions is blinking
11 Activation of antipanic device	PANIC button to be pushed and hold within at least 7 sec.***	Green arrows of authorized free access in both directions are blinking
12 Turn off the anti-panic mechanism	PANIC button to be pushed	Red LED in both directions
<p>* In this case other control panel buttons of single and free access in selected direction are locked.                  ** In this case all control panel buttons of single and free access in both directions are locked                  *** In this case the barrier rod is dropped and access is free/</p>		

2.3.2.2 After the turnstile is inspected it is ready for long-term operation.

## 2.4 Contingency actions

Turnstile can be unlocked within using control panel by issuing the relevant command ("FREE ACCESS IN ONE DIRECTION" or "PANIC") in case of emergency evacuation (in case of fire, natural disaster etc.).

Drop arm function (can be activated only when power is on) is used to fully open of the passage and is activated when the PANIC button on the control panel is pressed and holding for more than 7 seconds or when a signal is applied to the corresponding input (in1) of the turnstile controller. After turning off the alarm or deactivating the panic mode from the control panel, the pod returns to its start position automatically.

When power goes off the pods can be rotated in both directions freely.

## 3 MAINTENANCE

### 3.1 General guidelines

3.1.1 Commissioning and subsequent maintenance of the turnstile to be performed only by the staff to be in charge of the turnstile.

3.1.2 The turnstile to be serviced only by the staff having the relevant electrical safety qualification level according to the national requirements.

3.1.3 The turnstile to be installed and operated only by the qualified safety briefed staff having the relevant class of permit to work with electrical facilities with voltage up to 1000V, awaring of this OM, the turnstile design and principle of operation.

### 3.2 Safety Measures

3.2.1 During maintenance of the turnstile the relevant safety measures according to p. 2.1 to be observed.



**IT IS FORBIDDEN:  
TO USE DEFECTIVE APPLIANCES, TOOLS, FUSES,  
INSTRUMENTATION THE SERVICE LIFE OF WHICH EXPIRED**

3.2.2 When instrumentations are prepared for operation it is necessary to strictly comply with the safety requirements specified in instrumentation instruction manuals.

### 3.3 Maintenance procedure

3.3.1 The turnstile maintenance includes preventive measures which are taken according to the established frequency to maintain the turnstile in operational condition, decreasing of component wearing and prevention of faults and malfunctions.

3.3.2 Daily and periodic maintenance of the turnstile are recommended.

Normally the daily maintenance is carried out before the beginning of operation or during operational timeout and includes visual inspection of the turnstile's housing and, if required, troubleshooting of mechanical damages, surface corrosion and contamination.



**IT IS FORBIDDEN:  
TO USE ABRASIVE AND CHEMICALLY ACTIVE SUBSTANCES DURING  
CLEANING OF CONTAMINATED EXTERNAL SURFACES OF THE  
TURNSTILE.**

The recommended stainless steel detergents are given in Table 10.

Таблиця 10

<i>Detergent description</i>	<i>Manufacturer</i>	<i>Country of origin</i>
Stainless steel cleaning spray Polich	3M	Group of European companies
Cleaning fluid WellDone	Well Done	Hungary
Stainless steel products and other metals cleaner XANTO STEEL 3in1	XANTO	United Kingdom
Foam Dr.BECKMANN	Dr.Beckmann	Germany
Cleaning solution Reinex Edelstahlreiniger	Reinex	Germany
Stainless steel cleaner	Onish	United Kingdom

3.3.3 Visual inspection of the turnstile body, control mechanism and other components for absence of corrosion, warps and other mechanical defects and pollutions;

- visual inspection of connecting, network and earthing cables condition;
- verification of the turnstile performance during manual control in the modes specified in Table 9 or as part of ACS when pendants, identification cards are used;
- verification of reliability of the turnstile screw joints and earthing connections - to be tightened, if applicable;
- lubrication of all rubbing stop levers, wheel and pinion teeth of the turnstile control mechanism at least monthly with lubricant OKB-122-7 according to GOST 18179-72 or LITOL 24, Ciatim or engine oil.

Table 11 - Periodic maintenance by technical staff

<i>Component</i>	<i>Period</i>	<i>Action</i>
Fixation screws	6 months	Checking/Tightening
Mechanical screws	6 months	Checking/Tightening
Actuator	12 months	Control
Controller	12 months	Checking + Cleaning
Position sensors	6 months	Checking + Cleaning
Cable joints and sockets	12 months	Control
Locking device	6 months	Checking + Cleaning + Lubrication


**WARNING:**

The turnstile should not be washed with water under pressure. There are no user-serviceable parts inside the turnstile. Do not attempt to perform repair such as lubrication, component replacement and adjustment inside the device. All such works to be performed only by the qualified technical personnel!

## 4 ROUTINE MAINTENANCE

### 4.1 General guidelines

Minor malfunctions of the turnstile are listed in Table 12 and to be remedied by the customer. More complicated malfunctions to be remedied by the manufacturer's representative .


**IMPORTANT:**

**INSPECTION, CLEANING, REPAIR OF THE TURNSTILE COMPONENTS TO BE PERFORMED ONLY AFTER THE TURNSTILE IS DEENERGIZE!**

### 4.2 Possible malfunctions

Possible malfunctions of the turnstile and their remedies are listed in Table 12.

Table 12

<i>Symptom</i>	<i>Cause</i>	<i>Remedy</i>
<i>1</i>	<i>2</i>	<i>3</i>
The turnstile does not work even if the power plug is on.	No AC power supplied to unit. Loose power cable Faulty power supply unit	Restore AC power. Connect power cable. Replace power supply unit
Rotor(arms) is free rotate when power is ON	Damaged the wires No DC power +12V Faulty power supply unit The PCB.201.01.00.00 is faulty	Check wires Check power supply unit Replace power supply unit Replace PCB.201.01.00.00
Rotor(arms) does not rotate	Check lock is operating No communication between controllers(boards) The sensor of position/speed is set wrong The sensor of position/speed is faulty	Check connections and movement of lock Check the communication wires between controllers(boards) Setup the sensor of position/speed or change PCB
Rotor(arms) does not	Check locking mechanism	Investigate lock fault

lock		Setup the sensor of position Check the solenoid
Turnstile does not unlock	Have no a communication between controllers Check locking mechanism The turnstile is not receiving an activation signal from the Access Control System.	Check the jacks and wires between controllers Investigate lock fault Setup the sensor of position Check the solenoid Ensure that the access control system is properly connected to the Entry Accept terminal(s) on the controller board. Confirm that the access control system is providing a proper activation signal.
The Control panel beeps "Communication"	The Control panel have not a communication with the controller	Check the wires Check the Control panel Check the Controller Change the Controller/ Control panel
Does not work the indication	Have no a communication with the controller Damaged the wires The LED indicator is faulty	Check the wires Check the LED indicator Change the LED indicator
Rotor(arms) stays in half opened position.	The sensor of position is faulty Jamming in the mechanism The sensor of position/speed is set wrong	Check by hand if they work or not Check the mechanism parts Check the setting of the sensor
The arms rotates slowly	Jamming in the mechanism The sensor of position/speed is set wrong	Check by hand if they work or not Check the mechanism parts Setup the sensor of position/speed or change PCB Check the wires
Rotor/arms do not return to center (standby) position following a passage	Jamming in the mechanism The sensor of position/speed is set wrong The PCB.201.01.00.00 is faulty	Check by hand if they work or not Check the mechanism parts Setup the sensor of position/speed or change PCB Check the wires
Rotor gets stuck intermittently during rotation	Jamming in the mechanism The sensor of position/speed is set wrong The PCB.201.01.00.00 is faulty	Check by hand if they work or not Check the mechanism parts Setup the sensor of position/speed or change PCB Check the wires Replace PCB.201.01.00.00
Arm fails to lock in place/ drops by itself	Jammed arm locking mechanism Loose/ deformed arm lock Damaged/worn arm locks	Repair jammed mechanism Replace arm locks.
Turnstile unlocks but motor does not work	The sensor of position/speed is set wrong The PCB.201.01.00.00 is faulty	Setup the sensor of position/speed or change PCB Repair/ tighten connection Replace PCB.201.01.00.00 Replace motor
Rotor keeps moving, fails to stop in	The sensor of position is set wrong	Setup the speed/position sensor or change the PCB

middle position.	Damaged wires between sensor and controller The sensor of position/speed is faulty	Change the wires Check the contacts in the jacks
------------------	---	---

### 4.3 Post repair checkout

The turnstile performance to be checked after repair according to paragraph 2.3.2 of this OM.

## 5 TRANSPORTATION AND STORAGE

### 5.1 Turnstile storage

It is forbidden to subject the turnstile to jerks and impacts during storage. Transportation trolleys to be used for handling of the turnstile. In storage facilities there should not be aggressive gases and vapours causing metal corrosion.

Air temperature during storage should not be below +50 C and above +400 C and relative air humidity should not be more than 80% at the temperature 20° C.

### 5.2 Turnstile transportation

The ready-to-install turnstile to be transported according to the transportation regulations related to the relevant mode of transport, such as:

- in railway or special containers;
- in closed vehicles;
- waterborne (in ship's hold).

Transportation on open platforms is allowed. In this case the packed turnstile to be covered with canvas. Air temperature during transportation should not be below -40°C and above +50°C. After transportation or storage of the turnstile at negative temperatures or increased humidity the turnstile to be kept indoor with normal climatic conditions without original packing within 12 hours before commissioning:

- 1) ambient temperature: + 15°C to +35°C;
- 2) relative humidity: 45% to 80 %;
- 3) atmospheric pressure: 84,0 to 106,7kPa (630-800 mm Hg).

## 6 DISPOSAL

The turnstile design does not contain materials environmentally hostile and hazardous to human health and special measures are not required for its disposal.

## 7 MANUFACTURER'S WARRANTY AND TERMS OF WARRANTY MAINTENANCE

7.1. The manufacturer guarantees good state and declared quality of the turnstile if conditions of transportation, storage, installation and operation are observed by the consumer.

7.2. The turnstile warranty period is 12 months from the date of sale, unless otherwise specified by delivery contract.

7.3 During the warranty period the Manufacturer shall undertake to perform repair or replacement within 10 days (at the discretion of Manufacturer) of the failed turnstile or its parts having proven factory defects (not due to nonobservance of storage, transportation, installation and operation conditions specified by this OM) preventing further use of the turnstile.

7.4 The Manufacturer shall not bear responsibility and warranty liabilities for the consequences (damage) due to nonobservance of the conditions specified by this OM.

7.5 The Manufacturer's warranty liabilities are valid only if sections 3, 4, 5 of the Data Sheet and warranty coupon are completed as well as the relevant signatures and seals are available. The turnstile to be repaired only by the authorized service center of the manufacturer with use of exclusively original spare parts. The warranty liabilities shall not include free-of-charge arrival of technical staff to the Customer for repair.

7.6 The relationships between the Manufacturer and the Customer under the warranty liabilities to be regulated by the applicable law of Ukraine, concluded purchase contracts and these warranty liabilities.

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**SERVICE CENTER**

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Our equipment complies with requirements of the European Standards:

EN ISO 12100:2010; EN 614-1:2006+A1:2009; EN 1037:1995+A1:2008; EN 60204-1:2006;  
EN 953:1997+A1:2009; ISO 3864:1995; EN ISO 13857:2008; EN ISO 13849-1:2006; EN  
1088:1995; EN ISO 13732-1:2008

and is in conformity with requirements of the following EC Directives: 2014/30/EC;  
2014/35/EC; 2006/42/ EC

The company is certified acc. to - EN ISO 9001:2015 certificate No. UA 18 / 819942484



QR code to be used to download the Operation Manual via Internet

**Annex A  
(mandatory))**

**Overall and installation dimensions of the "CENTURION TWIN" type turnstile**  
*Centurion Twin (095-X2)*

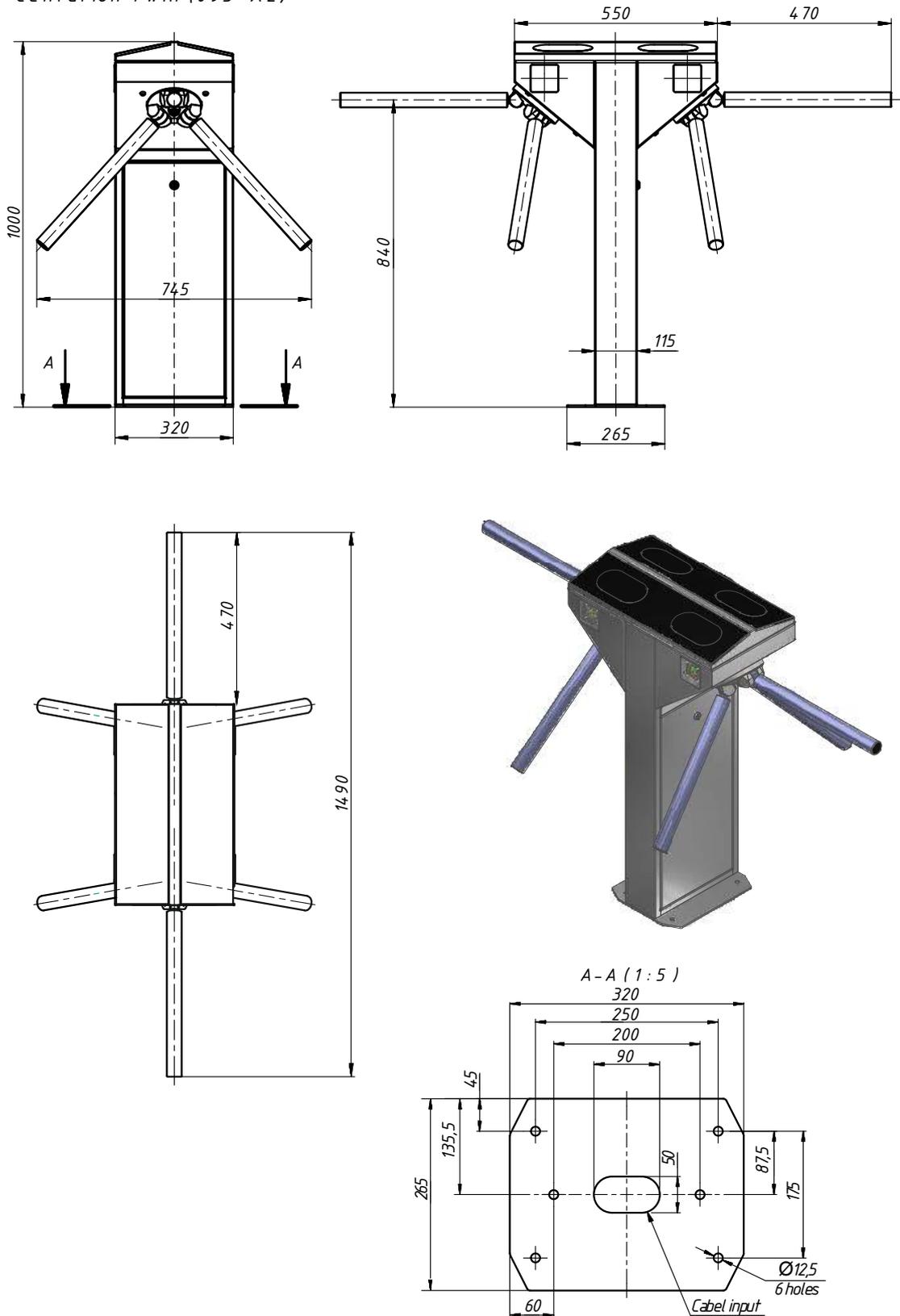


Figure A.1 – Tripod turnstile "CENTURION TWIN"

**Continued Annex A**

(mandatory)

**Overall and installation dimensions of the turnstile «BASTION TWIN»**

*BASTION TWIN (097-X2)*

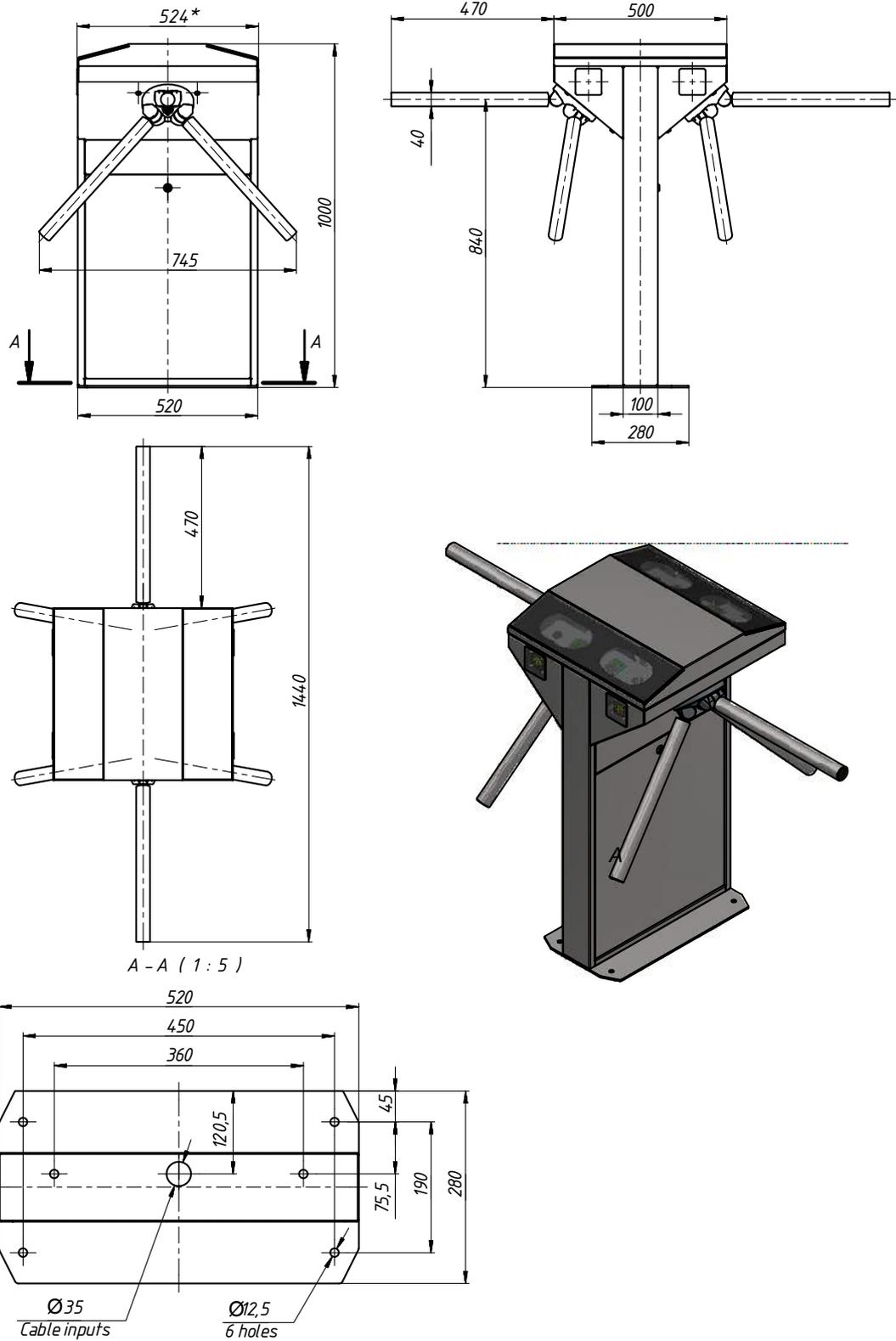


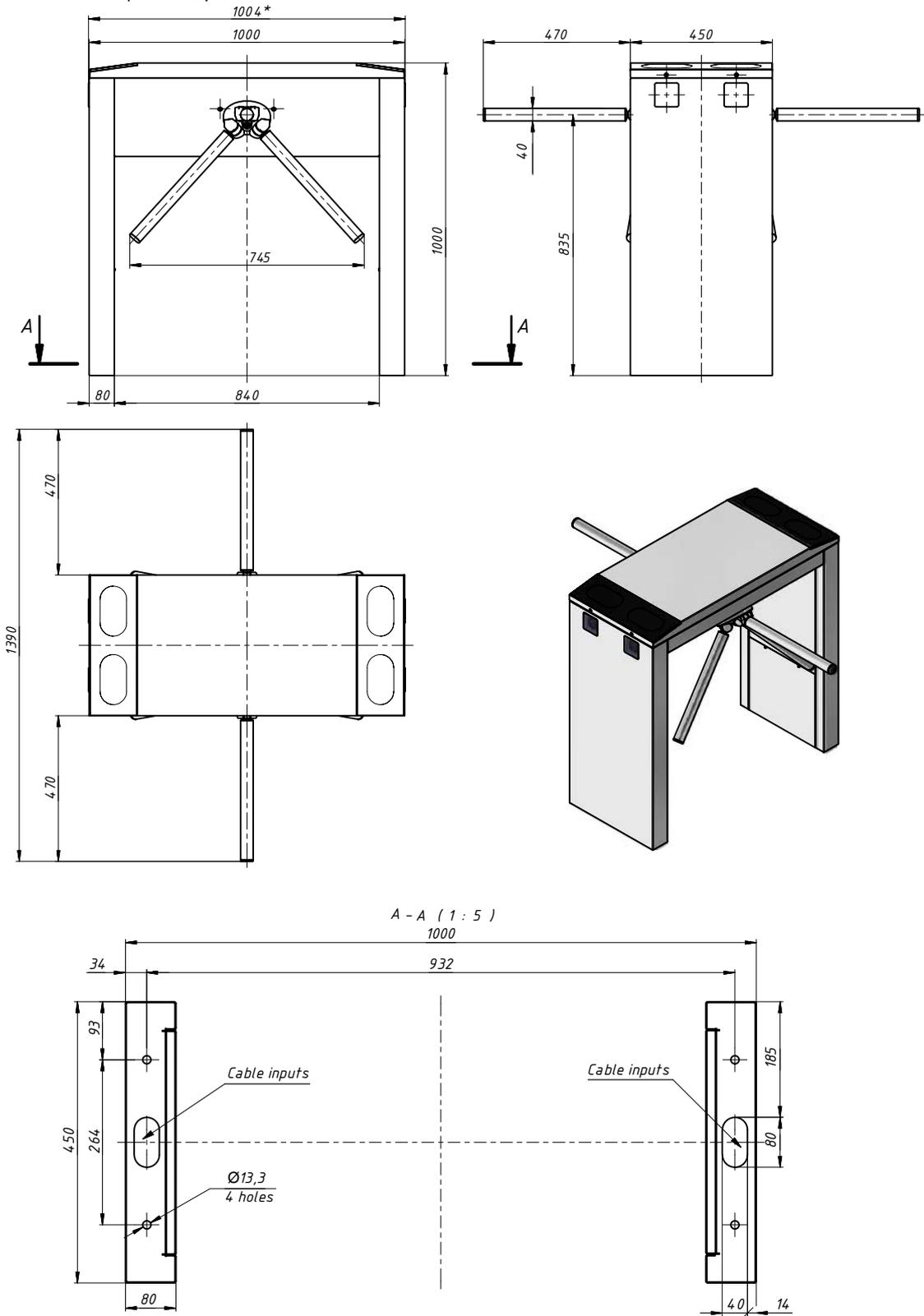
Figure A.2 – Tripod turnstile “BASTION TWIN”

**Continued Annex A**

(mandatory)

**Overall and installation dimensions of the turnstile «TWIX TWIN»**

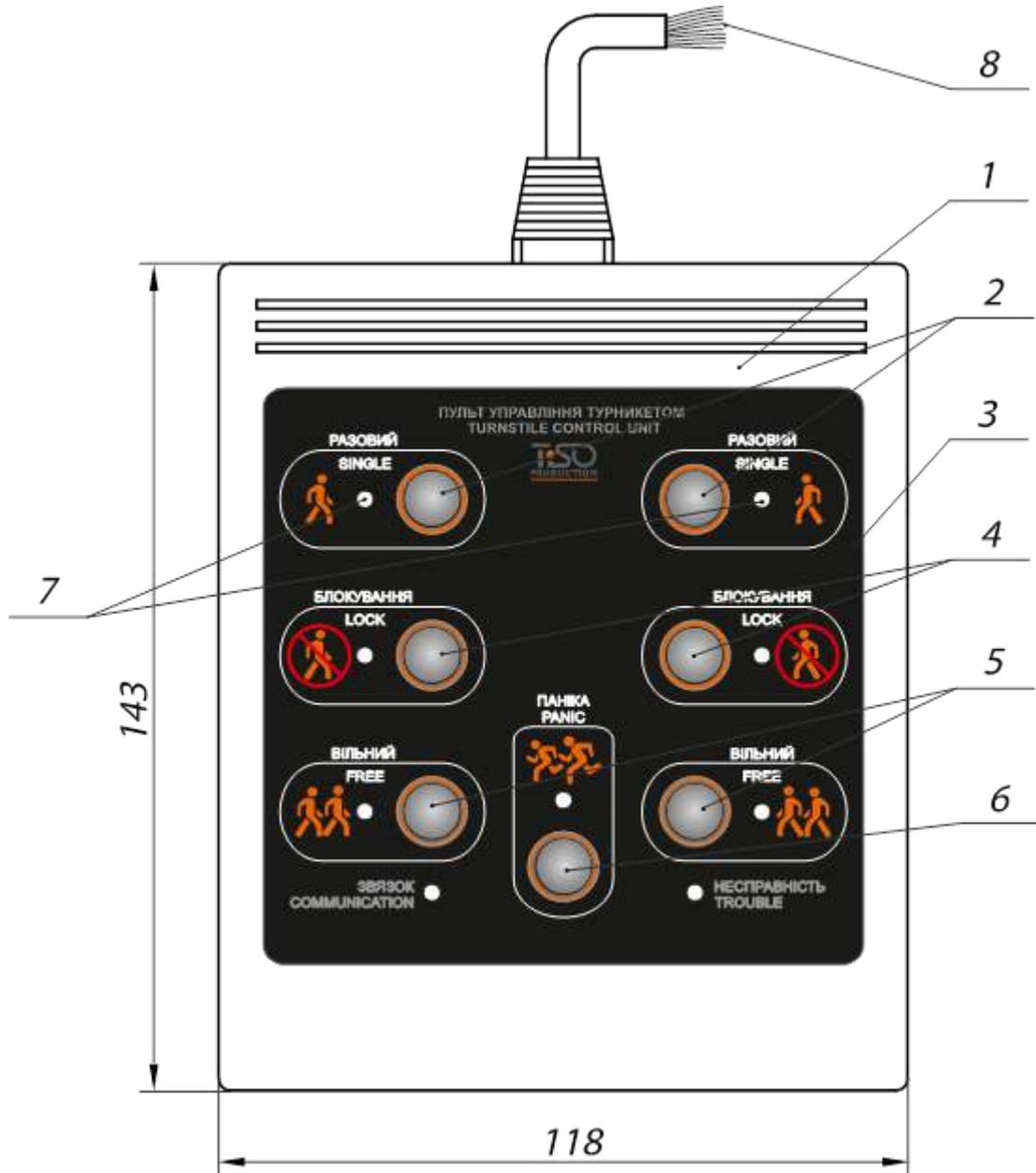
*TWIX TWIN (137-X2)*



**Figure A.3 – Tripod turnstile “TWIX TWIN”**

Annex B  
(mandatory)

Control panel and connection diagram



- |   |  |
|---|--|
| 1 – control panel housing;              | 5 – "FREE ACCESS" mode control button; |
| 2 – "SINGLE ACCESS" mode control button | 6 – "PANIC" mode control button;       |
| 3 – front plate;                        | 7 – access direction LED display;      |
| 4 – "LOCK" mode control button;         | 8 – controller connection terminals    |

Figure B.1 – Control panel AUIA.114.02.00.00

**Continued Annex B**  
**Control panel and connection diagram**

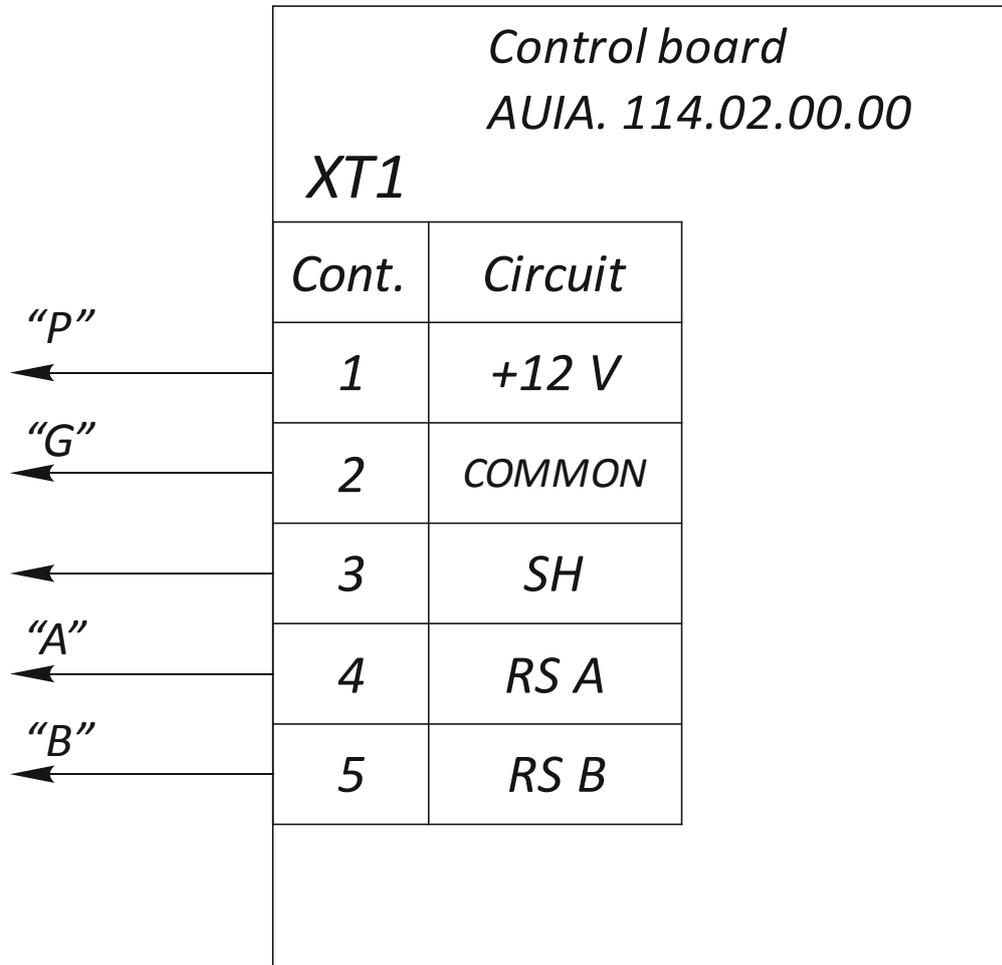


Figure B.2 – Control panel AUIA.114.02.00.00 connection diagram

## Annex C (mandatory)

### Servo-operated tripod turnstile wiring diagram

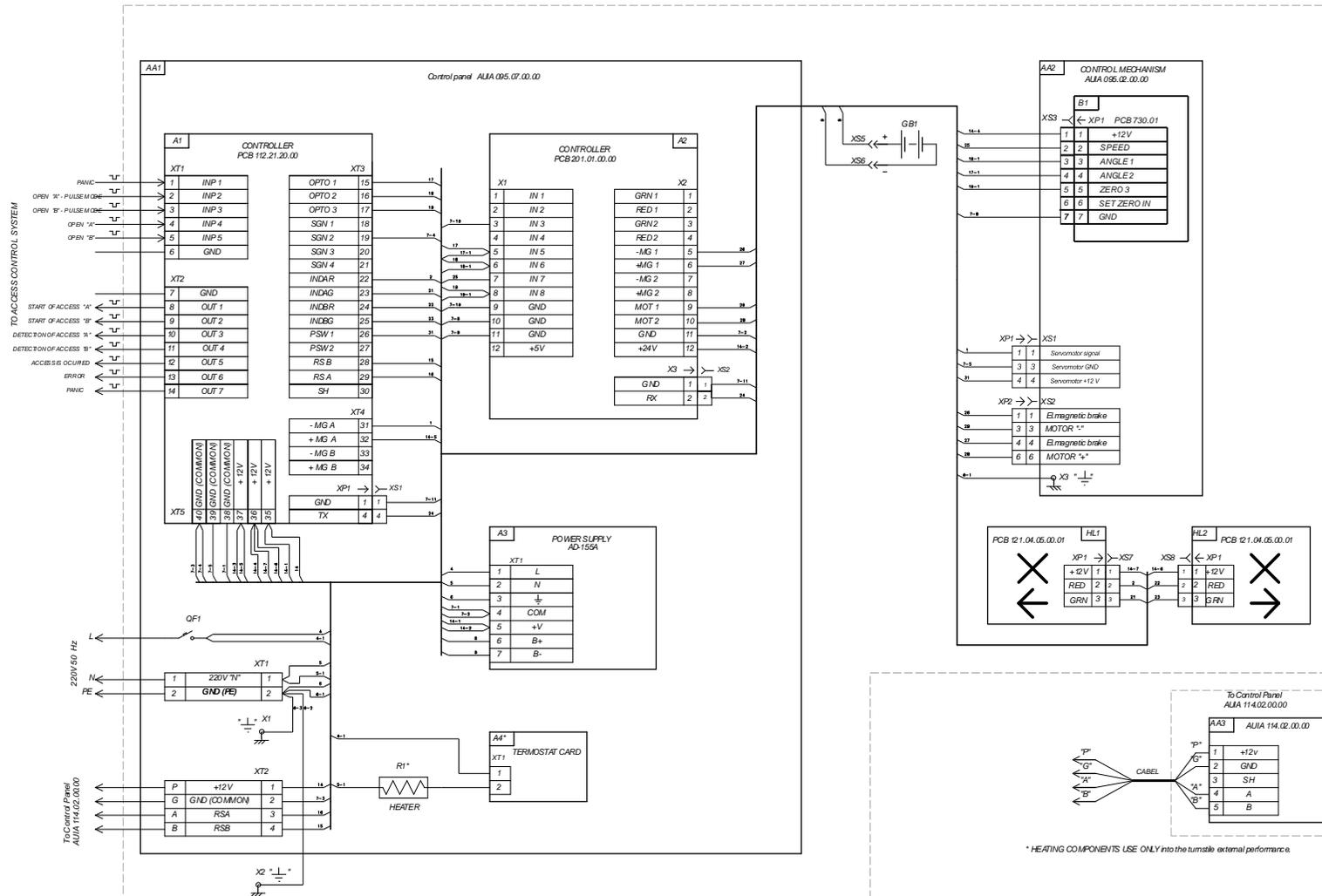
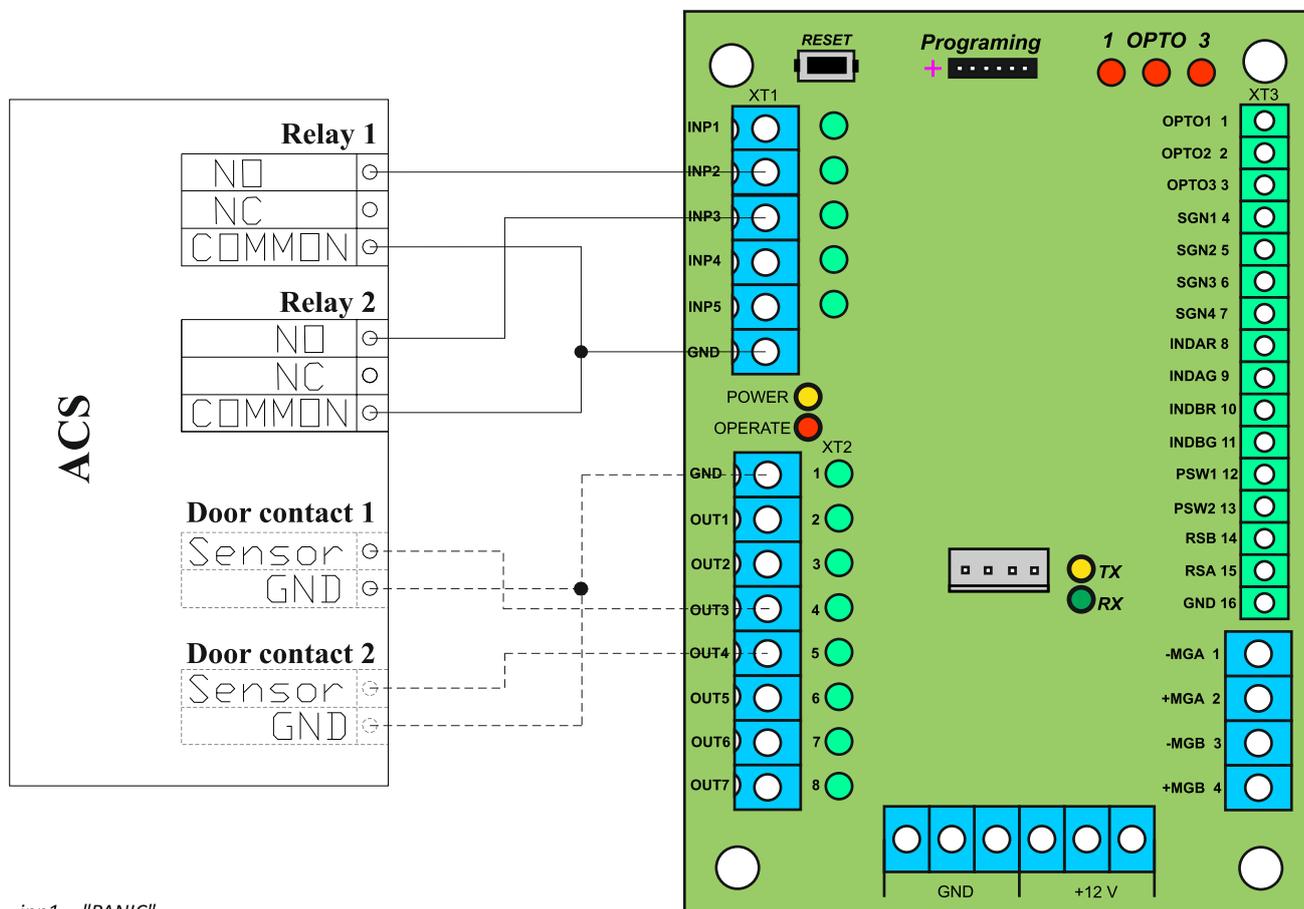


Figure C.1 – Turnstile wiring diagram

## Annex D.1 (mandatory)

### Wiring diagram of the turnstile connection to access control system (ACS) in pulse mode



*inp1* - "PANIC"

*inp2* - "TO BE OPENED A" in pulse mode.

*When command is issued entry is activated for 5 sec.*

*inp3* - "TO BE OPENED B" in pulse mode. *When command is issued entry is activated for 5 sec.*

*inp4* - "TO BE OPENED A". *Entry is activated for the time of keeping in active state*

*inp5* - "TO BE OPENED B". *Entry is activated for the time of keeping in active state*

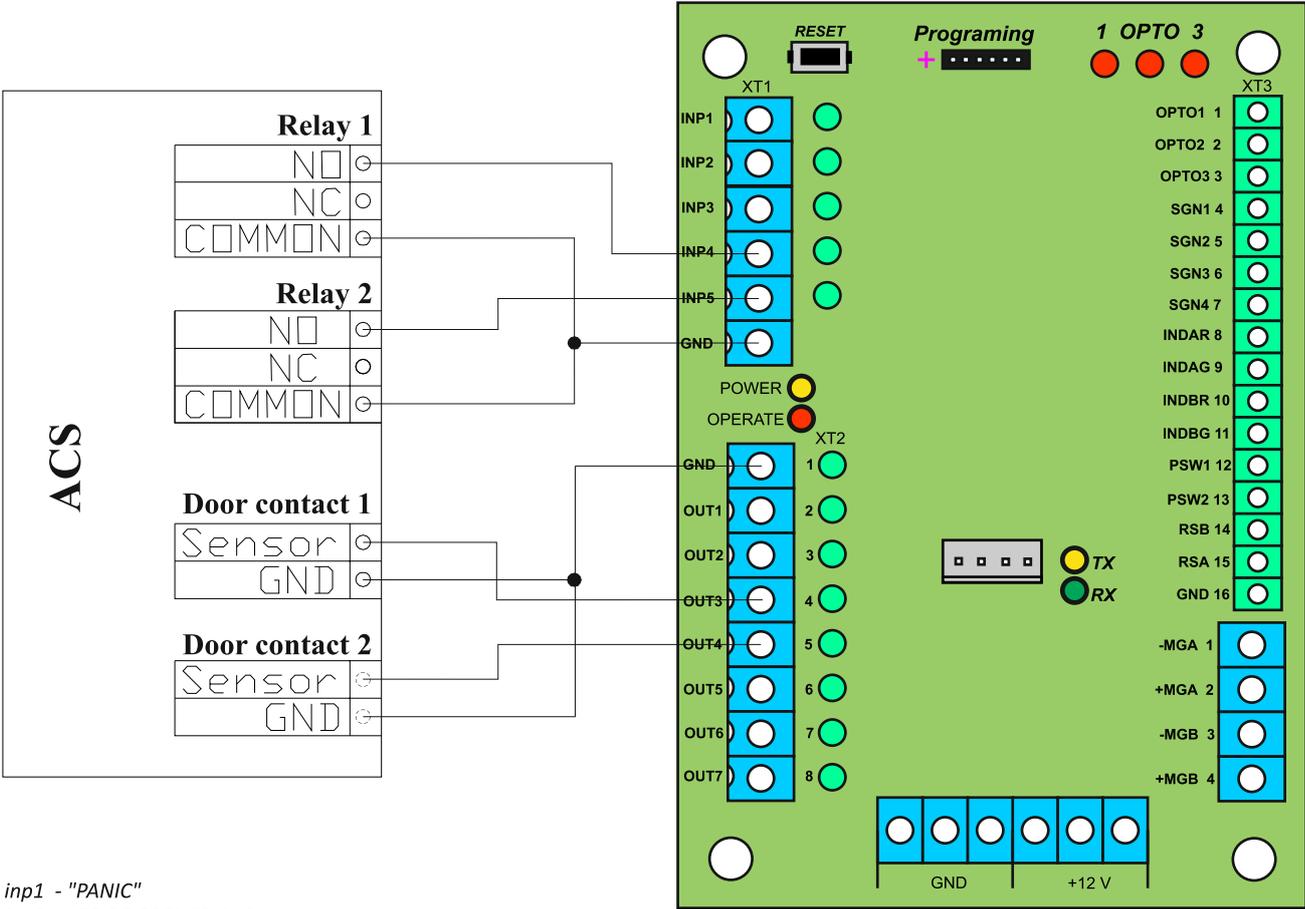
*GND*- "-" of power supply (common wire)

*out3* - "DETECTION OF ACCESS A" } **Signal is generated by controller when rotor is**  
*out4* - "DETECTION OF ACCESS B" } **rotating from 64° to 120° in the relevant direction**

Figure D.1 – Wiring diagram of the turnstile connection to ACS

**Annex D.2**  
(mandatory)

**Wiring diagram of the turnstile connection to access control system (ACS) in hold mode**



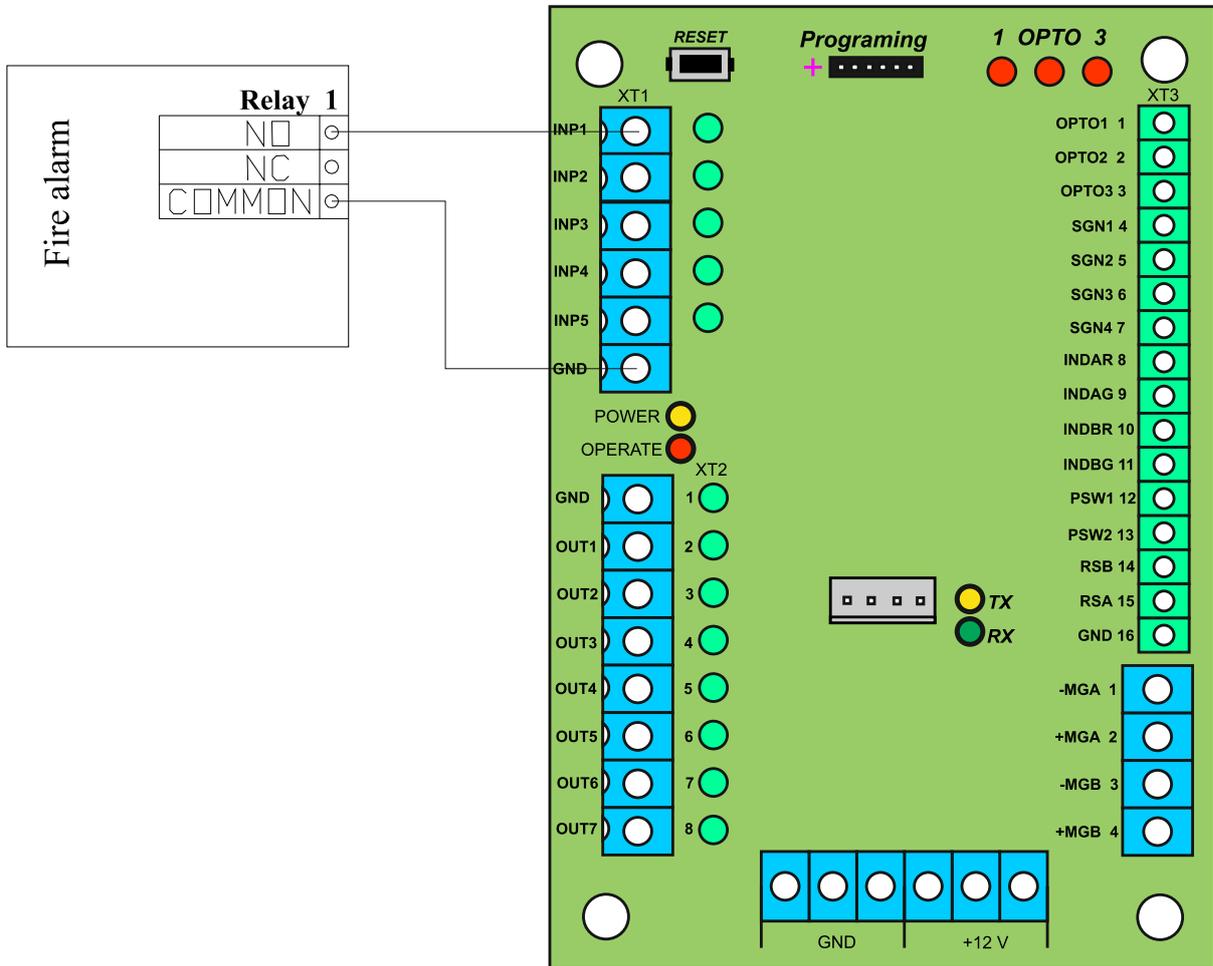
inp1 - "PANIC"  
inp2 - "TO BE OPENED A" in pulse mode.  
When command is issued entry is activated for 5 sec.  
inp3 - "TO BE OPENED B" in pulse mode. When command is issued entry is activated for 5 sec.  
inp4 - "TO BE OPENED A". Entry is activated for the time of keeping in active state  
inp5 - " TO BE OPENED B". Entry is activated for the time of keeping in active state  
GND- "-" of power supply (common wire)

out3 - "DETECTION OF ACCESS A" } **Signal is generated by controller when rotor is**  
out4 - "DETECTION OF ACCESS B" } **rotating from 64° to 120° in the relevant direction**

Figure D.2 – Wiring diagram of the turnstile connection to ACS

**Annex D.3**  
(mandatory)

**Wiring diagram of the turnstile connection to fire alarm system (FAS)**



- inp1* - "PANIC"
  - inp2* - "TO BE OPENED A" in pulse mode.  
When command is issued entry is activated for 5 sec.
  - inp3* - "TO BE OPENED B" in pulse mode. When command is issued entry is activated for 5 sec.
  - inp4* - "TO BE OPENED A". Entry is activated for the time of keeping in active state
  - inp5* - " TO BE OPENED B". Entry is activated for the time of keeping in active state
  - GND- "-" of power supply (common wire)
- out3* - "DETECTION OF ACCESS A" } **Signal is generated by controller when rotor is**  
*out4* - "DETECTION OF ACCESS B" } **rotating from 64° to 120° in the relevant direction**

Figure D.3 – Wiring diagram of the turnstile connection to fire alarm system (FAS)

**Annex D.4**  
(mandatory)

**Wiring diagram of the turnstile connection to fire alarm system (FAS)**

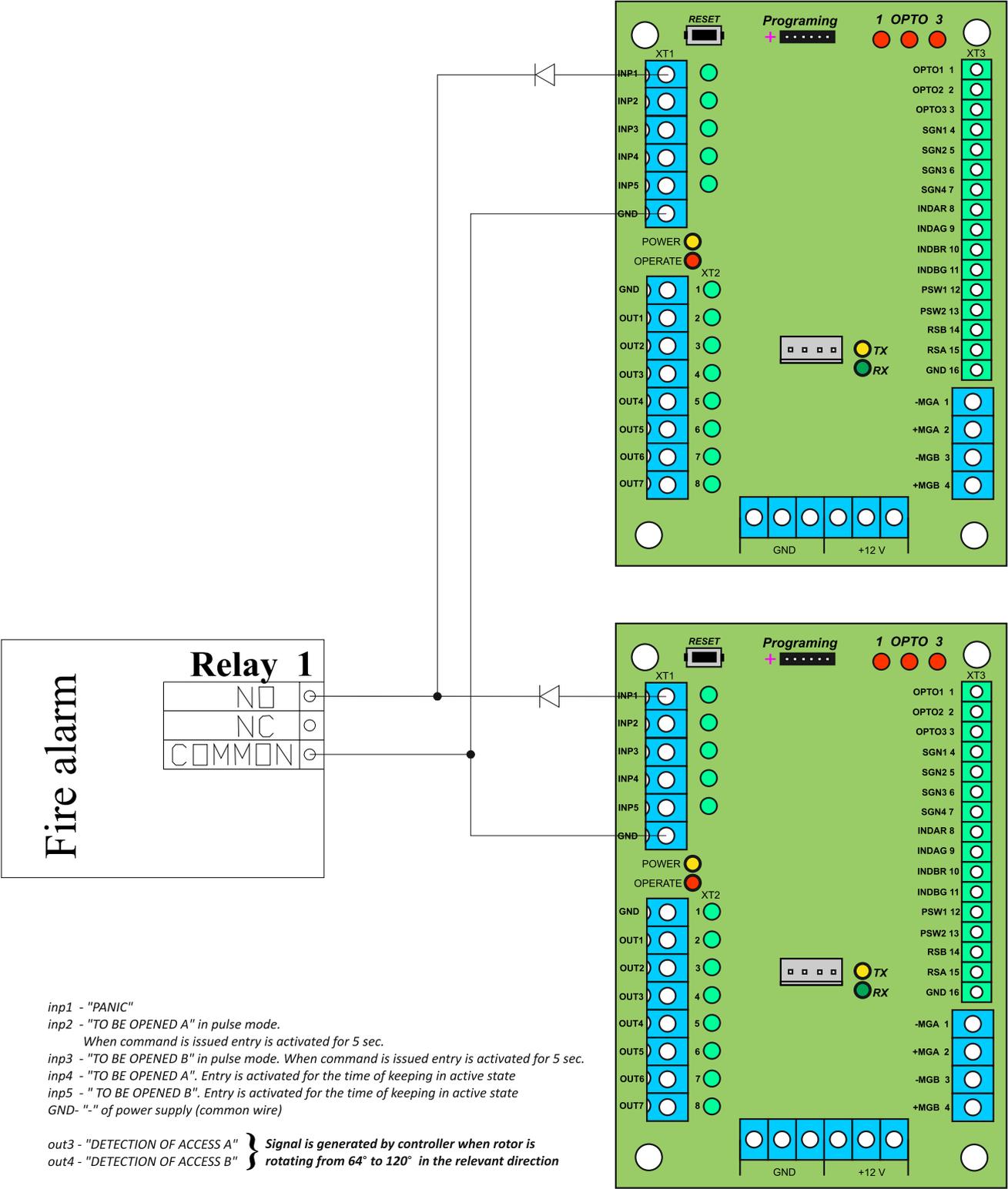


Figure D.4 – Wiring diagram of the turnstile connection to fire alarm system (FAS)

**Annex D.5**  
(mandatory)

**Wiring diagram of the turnstile connection to control panel**

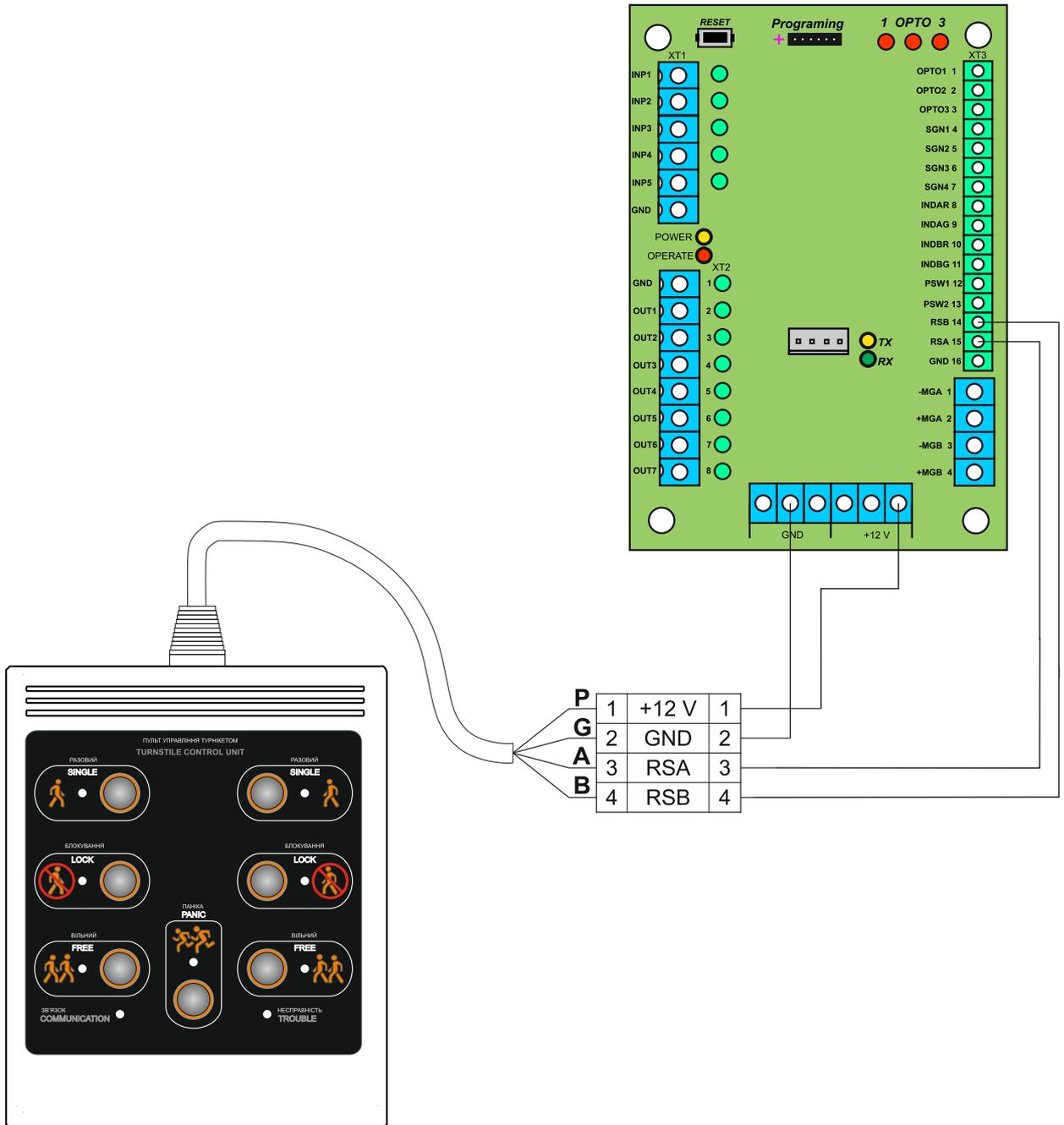


Figure D.5 – Wiring diagram of the turnstile connection to control panel