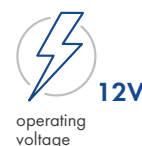
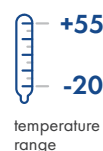


# TTD-10A Box tripod turnstile



## Application

TTD-10A box tripod turnstile is a normally closed electromechanical turnstile designed for both outdoor (standard version) and indoor operation.

Modularity is a specific feature of the TTD-08A turnstile which allows integrating into the turnstile a wide range of optional equipment: card capture reader, coin acceptor, proximity readers, biometric readers, barcode readers, etc. The turnstile is equipped with automatic anti-panic barrier arms that fold down at a signal from an emergency unlocking device or power loss and is made of high-quality stainless steel.

Three design versions are available and feature different side modules:

**TTD-10AB** (standard version) features two standard side modules,

**TTD-10AC** (with built-in card capture reader) features one standard side module and one side module with a built-in card capture reader,

**TTD-10AP** (with built-in coin acceptor) features one standard side module and one side module with a built-in coin acceptor.

**TTD-12AB** (standard motorized version) features two standard side modules.

**TTD-12AC** (motorized version with built-in card capture reader) features one standard side module and one side module with a built-in card capture reader.

The delivery set also includes two boxes with side covers for different application and are to be chosen when ordering the turnstile.

Type	Design	Application
C-10B	from stainless steel	without additional functions
C-10R	with window from radio-transparent material	to built-in RFID-reader installation
C-10A	with a bracket and a window from radio-transparent material	for face recognition terminal and RFID-reader installation
C-10Q	from stainless steel and tinted glass with transparent window	for built-in barcode reader installation
C-10F	with a bracket	for biometric reader installation
C-10C	with a slot for card capturing	to use as a part of turnstile with a card capture reader

# TTD-10A Box tripod turnstile

The delivery set also includes an RC-panel; RC-panel buttons orientation relative to the passage directions is set when connecting to the turnstile.

It is recommended to install one turnstile per 500 people working the same shift based on a maximum working load of 30 persons/min.

## Operating modes

The turnstile provides passage control in two directions, turnstile operating mode may be set independently for each passage direction. Supported operating modes:

- passage denial in both directions
- single passage in one direction and passage denial in the other direction
- single passage in both directions
- free passage in one direction and passage denial in the other direction
- free passage in one direction and single passage in the other direction
- free passage in both directions

When the power is turned off, the turnstile barrier arm falls down, and both directions become open for free passage.

## Main features

- operation of the turnstile from RC-panel, WRC, ACS
- possibility of outdoor application
- built-in electronic board
- safe voltage – max. 14 V
- power consumption - max. 84 W (maximum value of 84 W – within 5 seconds after powering the turnstile or removing the Fire Alarm signal; the power consumption is max. 40 W during the rest of the operation)
- to power the turnstile, a power supply of min. 8 A is needed for 5 seconds
- when a command is given by the emergency unlocking device, as well as when the turnstile power supply is turned off, the passage is automatically opened by moving the barrier arm to the vertical position; after restoring the turnstile supply voltage or removing the Fire Alarm signal, the barrier arm is moved to the working position manually
- automatic reset of the barrier arms to the home position after each passage
- damping device provides smooth silent operation
- barrier arm rotation optical sensors record correctly the fact of passage
- possibility to install a wide range of optional equipment by using special side modules (with built-in card capture reader and coin acceptor for corresponding turnstile design versions) and special side covers to be installed into the turnstile: proximity readers, biometric readers, barcode readers etc.
- possibility to connect an intrusion detector and a siren to the turnstile
- two control modes – pulse and potential
- galvanically isolated outputs
- Fire Alarm control input that allows connecting the emergency unlocking device
- relay outputs for connecting additional external indicators of the passage grant / denial

## Design

Turnstile housing, side modules, side covers and barrier arms – stainless steel.

## Operating conditions

TTD-10A turnstile, with regard to resistance to environmental exposure, complies with GOST15150-69 category N1 (for outdoor application). The operation of the turnstile is allowed at ambient temperature from -20° C to +50° C (when used under a canopy - up to +55° C) and relative air humidity of up to 90% at +30° C.

RC-panel should be operated at ambient air temperature from +1° C to + 40° C and relative air humidity of up to 80% at +25° C. When installing optional equipment, installers should take into consideration the operating conditions of installed equipment.

It is a serially produced product certified for compliance with applicable Russian and European CE standards.

# TTD-10A Box tripod turnstile

## Delivery set

Turnstile housing (box #1)			1
Side modules (box #2):	TTD-10AB		2
	TTD-10AC	Standard	1
		with a card capture reader	1
	TTD-10AP	Standard	1
with a coin acceptor		1	
Side cover (packages #3 and #4)			2
RC-panel			1
Mounting kit			1
Documentation set			1

## Technical specifications

Operating voltage	12±1.2 VDC	
Current consumption	max. 7 A	
Power consumption	84 W	
Overall dimensions with installed barrier arms (LxWxH)	1361x750x1024 mm	
Passageway width	560 mm	
Turnstile weight	max. 100 kg	
Throughput in single passage mode	30 persons / min	
Throughput in free passage mode	60 persons / min	
IP Code	TTD-10AB	IP55 (EN 60529)
	TTD-10AC	IP41 (EN 60529)
	TTD-10AP	IP54 (EN 60529)
Mean time to failure	4,000,000 passages	
Mean lifetime	8 years	

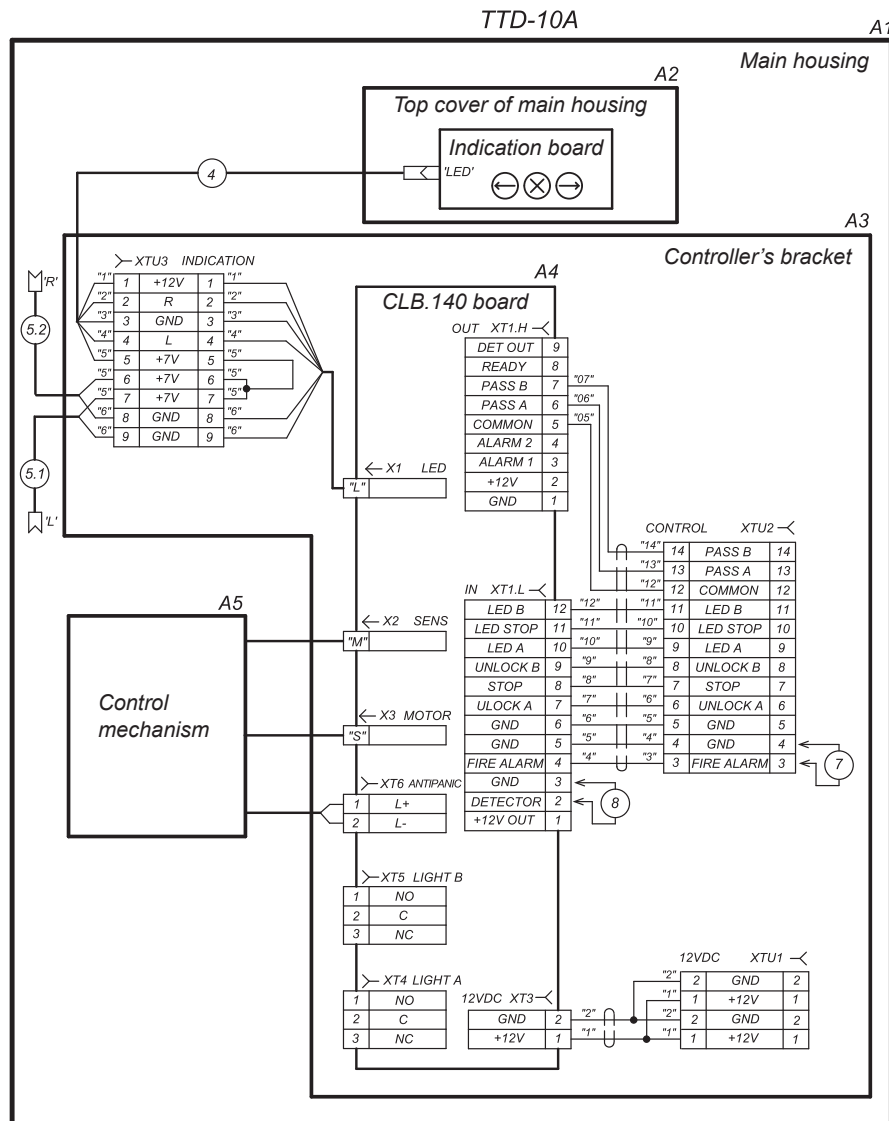
## Connection

TTD-10A turnstile is equipped with integrated CLB.140 electronic board. All connections are made to the board contacts through the XTU1 – XTU3 remote terminal blocks. The microcontroller installed on the board controls the turnstile's actuating mechanism, processes signals from optical sensors for moving the barrier arms, processes commands received from external devices, and generates signals about passages through the turnstile.

Built-in electronic board contacts description by connectors			
Connector	Contact	Electrical circuit	Designation
XT1.L	1, 2, 3	+12 V, Detector, GND	ID connection input
	4-12	Internal	XTU2 remote terminal block connection (contacts 3-11)
XT1.H	1, 2	GND, +12 V	+12V output for powering siren or additional devices
	3, 4	Alarm 1, Alarm 2	Siren control
	5-7	Internal	XTU2 remote terminal block connection (contacts 12-14)
	8	Ready	Abnormal turnstile operation signal output
	9	Det Out	Intrusion detector output (transit)
XT3	1, 2	Internal	XTU1 remote terminal block connection (contacts 1-2)
XT4	1, 2, 3	NO, C, NC	Light A relay contacts – connection of the remote indicator for direction A (not included in the standard delivery set)
XT5	1, 2, 3	NO, C, NC	Light B relay contacts – connection of the remote indicator for direction B (not included in the standard delivery set)

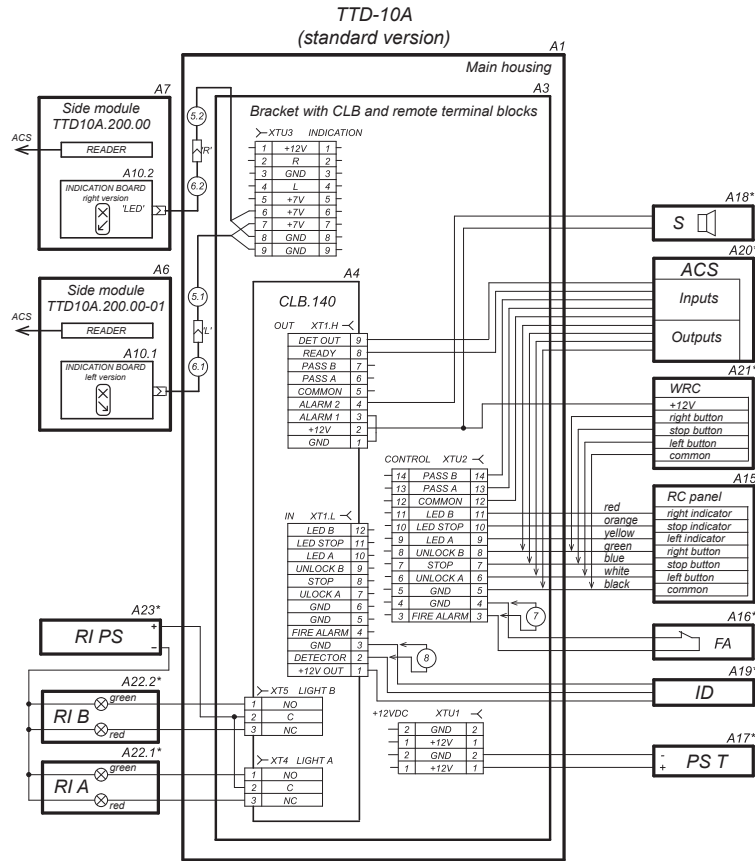
# TTD-10A Box tripod turnstile

XTU1	1, 2	+12V, GND	12 VDC external power supply connection
	1, 2	+12V, GND	+12VDC for optional equipment
XTU2	3, 4	Fire Alarm, GND	Emergency passage opening control input
	5-8	GND, Unlock A, Stop, Unlock B	Turnstile control inputs
	9-11	Led A, Led Stop, Led B	RC-panel indication outputs
	12-14	Common PASS A, PASS B	Signals of the passage sensors for directions A and B
XTU3	1-5	+12V, R, GND, L, +7V	Connection of indication cable from the main cover indication block
	6, 8	+7V, GND	Connection of indication cable from the right side indication block
	7, 9	+7V, GND	Connection of indication cable from the left side indication block

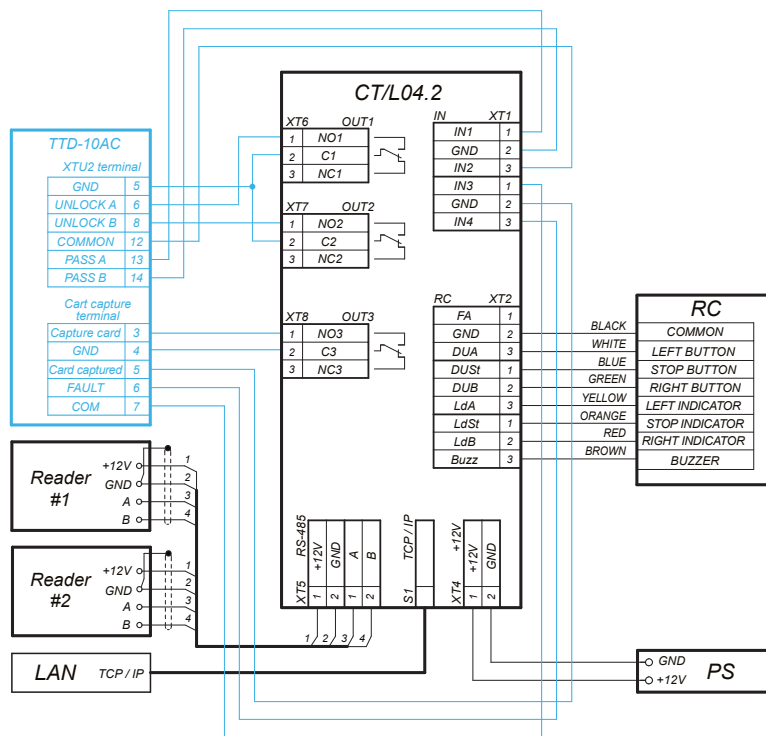


TTD-10 wiring diagram

# TTD-10A Box tripod turnstile

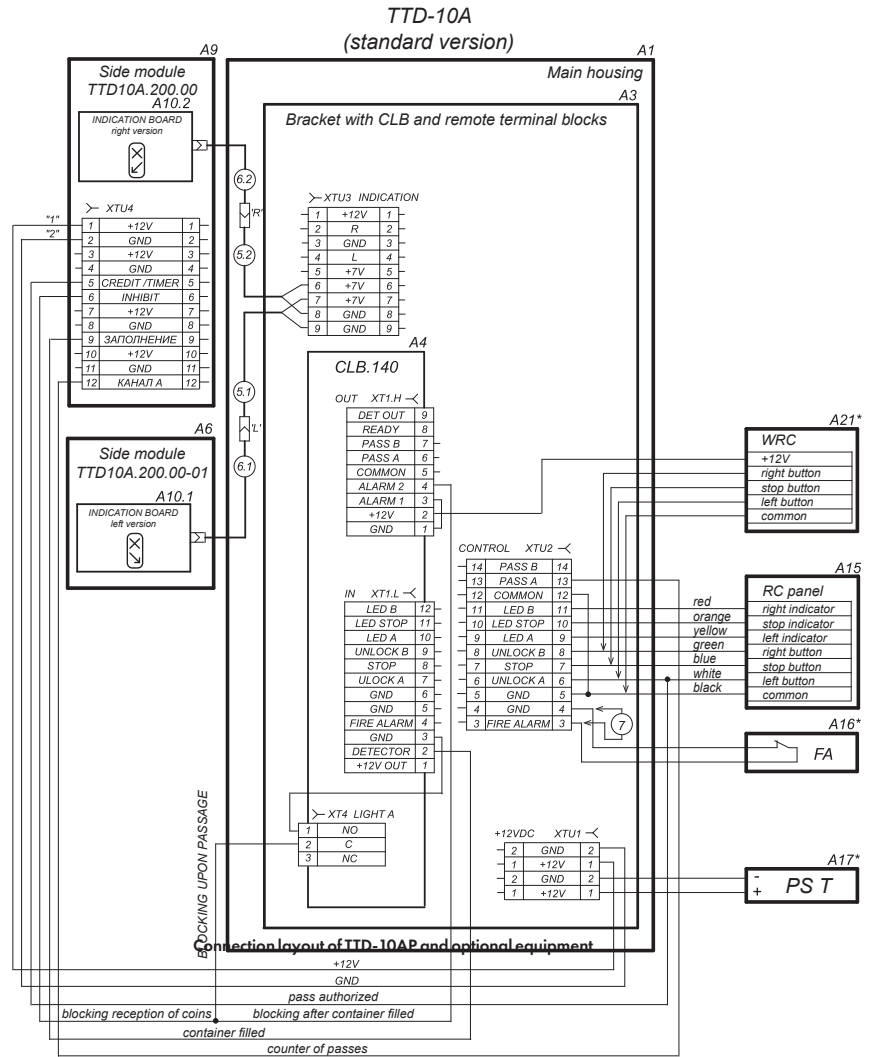


Connection layout of TTD-10AB and optional equipment

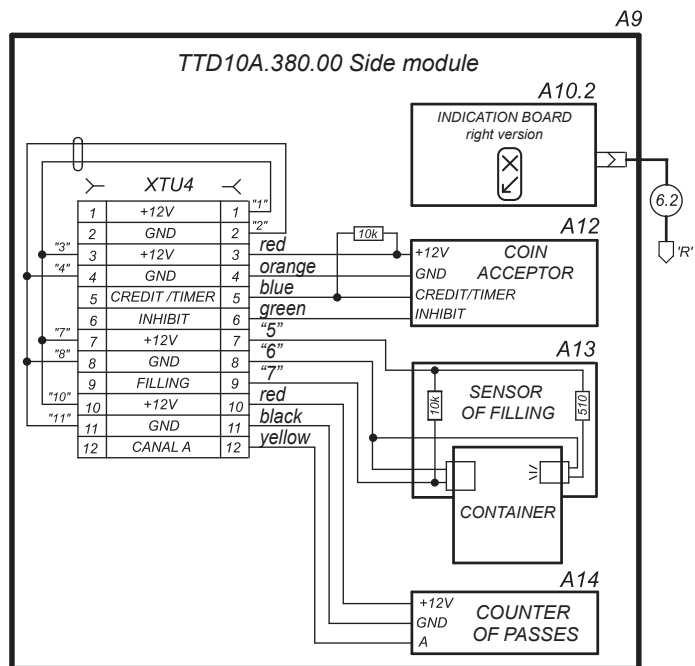


Wiring diagram of TTD-10AC and optional equipment

# TTD-10A Box tripod turnstile



Wiring diagram of TTD-10AP and optional equipment



Wiring diagram of the TTD-10AP side module

# TTD-10A Box tripod turnstile

Layout description	
Item	Description
A1	Main housing
A2	Cover assembly
A3	Bracket for controller
A4	Control board
A5	Control mechanism
A6	Left standard side module
A7	Right standard side module
A8	Side module with a card capture reader
A9	Side module with a coin acceptor
A10	Side module indication board
A11	Card capture reader mechanism
A12	ICT UCA2 coin acceptor
A13	Container filling sensor
A14	Yenox H2-7EA2 passage counter
A15	RC-panel
A16*	Emergency passage opening device (Fire Alarm)
A17*	12V DC /8A turnstile power supply
A18*	12V DC siren
A19*	Intrusion detector
A20*	ACS controller
A21*	WRC
A22*	Remote indicators
A23*	Remote indicators PS
XTU1 – XTU4	Remote terminal blocks
4	Cover indication cable
5	Indication cable from the main housing to side modules
6	Side modules indication cables
7	Jumper wire if there is no emergency passage opening device FA (A16)
8	Jumper wire if there is no intrusion detector (A19)

\* The equipment is not included in the standard delivery set

## Operation algorithm

The turnstile can operate from the RC-panel (included in the delivery set), WRC or ACS controller. Operation is performed by applying a low-level signal to Unlock A, Stop and Unlock B contacts relative to the GND contact. The response to these signals depends on the control mode selected by the J1 jumper wire.

Pulse control mode is when a pulse is applied to the Unlock A (B) input, the turnstile will automatically open for a single passage in the selected direction; the waiting time for the passage being completed does not depend on the duration of the control pulse and lasts 5 seconds. sending a pulse to the Stop input locks both passage directions; simultaneous sending of pulses to Unlock A (B) and Stop inputs places the turnstile in the "Free passage" mode in the selected direction.

It is recommended to use pulse mode during operation from RC-panel or WRC. The orientation of RC-panel buttons (if the turnstile is facing the operator not with the front side, but with the rear side) can be changed by swapping the wires from the RC-panel that are connected to the Unlock A and Unlock B, as well as Led A and Led B, respectively.

Potential control mode is when the control signal is applied to the Unlock A (B) input, the turnstile remains unlocked in the selected direction during the entire holding signal time; Sending control signal to the Stop input locks both passage directions regardless of the signals at the Unlock A (B) inputs.

# TTD-10A Box tripod turnstile

Potential mode is recommended during operation from the ACS controller.

Regardless of the selected control mode, PASS A or PASS B signals are generated when moving the barrier arms in one direction or the other. These signals can inform the ACS controller of the fact of passage.

Emergency passage opening is performed by removing a low-level signal from the Fire Alarm contact relative to the GND contact

**Note:**

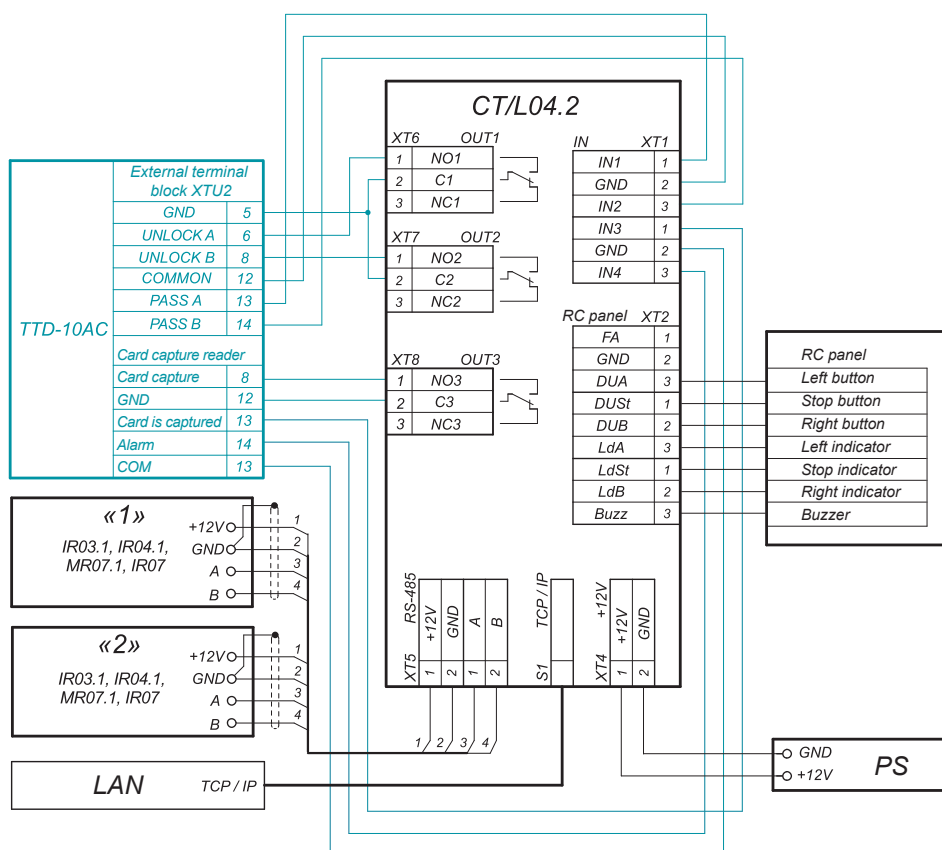
When operating the turnstile from the ACS controller, it is recommended to connect the RC-panel to the ACS controller.

The maximum allowed cable length of the RC-panel (ACS controller) is 40 meters.

The maximum allowed cable length of the power supply depends on its cross section and must be:

- 1.5 mm<sup>2</sup> cable cross-section – 10 m
- 2.5 mm<sup>2</sup> cable cross-section – 15 m

## Example of connection to the ACS

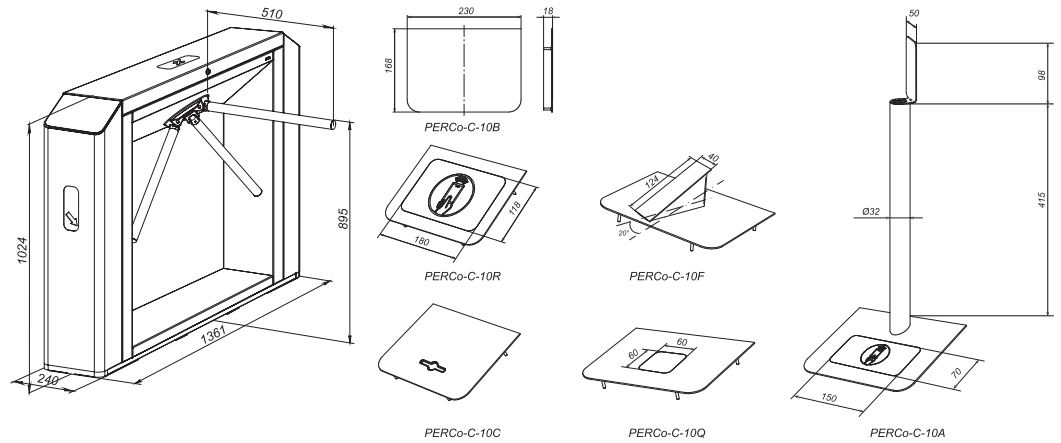


Example of connection of the TTD-10A turnstile to the ACS



# TTD-10A Box tripod turnstile

## Overall dimensions



Built-in barcode scanner



Built-in proximity card reader



Built-in card capture reader



Built-in reader and coin acceptor



Built-in reader and a mounting arm for external equipment installation

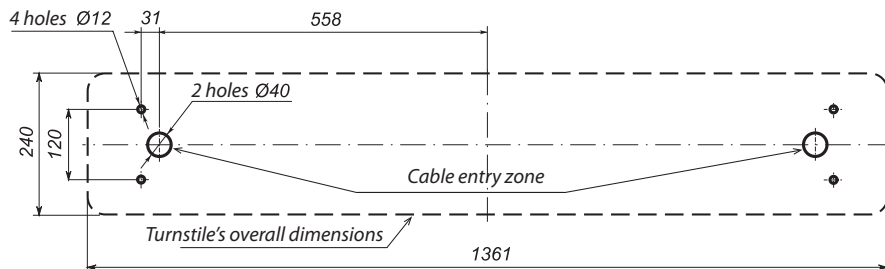


Cover for external biometric reader installation

Overview and overall dimensions of different side covers.

## Mounting

Foundation requirements: concrete (not lower than 400 grade), stone, etc. foundation of at least 150 mm thick, use reinforcing elements (400x400x300 mm) when installing turnstile housing on a less steady foundation.



Hole marking for turnstile mounting and cable entry zone

## Warranty

The warranty period is 5 (five) years commencing from the date of sale, unless otherwise determined in the delivery contract of the Product. In case of sale and installation of the equipment by authorized PERCo dealers and service centers, the warranty starts from the date of commissioning.

Should there be no date of sale on the warranty card, the warranty period shall commence from the date of manufacture specified in the Certificate and on the Product label.