

TTR-07.1 Tripod turnstile with automatic anti-panic barrier arms



+50
+1
temperature range

12V
operating voltage

anti-panic barrier arms

2
passage direction

72W
power consumption

30
persons/min

Application

TTR-07.1 tripod turnstile with automatic anti-panic barrier arms is designed for indoor applications. The main feature of the TTR-07.1 turnstile is automatic anti-panic barrier arms that fold down at a signal from an emergency unlocking device or at a power loss which provides free passage in case of emergency.

The delivery set includes an RC-panel, the orientation of the RC-panel buttons 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. Turnstiles can be equipped with railings.



Automatic anti-panic barrier arms



RC-panel

Operating modes

The turnstile provides passage control in two directions; the 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
- built-in electronic board
- safe voltage – max. 14 V

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- power consumption - max. 72 W (maximum value of 72 W – within 5 seconds after powering the turnstile or removing the Fire Alarm signal; the power consumption is max. 30 W during the rest of the operation)
- to power the turnstile, a power supply of min. 6 A is needed for 5 seconds
- when a command is given by the emergency passage opening device, as well as when the turnstile power supply is turned off, the passage opens automatically 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
- built-in indication of operating modes
- 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 remote indicators of the passage grant / denial



Pictogram indication block

Design

Housing – powder coated steel. Colour – dark grey with pearl mica effect.
Barrier arms – stainless steel.

Operating conditions

The turnstile, with regard to resistance to environmental exposure, complies with GOST 15150-69 category NF4 (operation in premises with climate control).

Operation of the turnstile is allowed at ambient temperature from +1 °C to +50 °C and relative air humidity up to 80% at + 25 °C (non-condensing).

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

Delivery set

Turnstile housing with built-in electronic board	1
Hub with barrier arms and mounting kit	1
RC-panel (cable length of min. 6.6 m)	1
Mounting kit	1
Documentation set	1
Optional equipment (upon request)	
WRC (consisting of a receiver and two transmitters in the form of key fobs) with a range of up to 40 m	1
Intrusion detector (installed upon request at the manufacturing site)	1
Siren (alert on an unauthorized passage attempt)	1
PFG IR 10-15 anchor (SORMAT company, Finland)	4
Turnstile power supply	1

Technical specifications

Operating voltage	12±1.8 V DC
Current consumption	max. 6 A
Power consumption	max. 72 W

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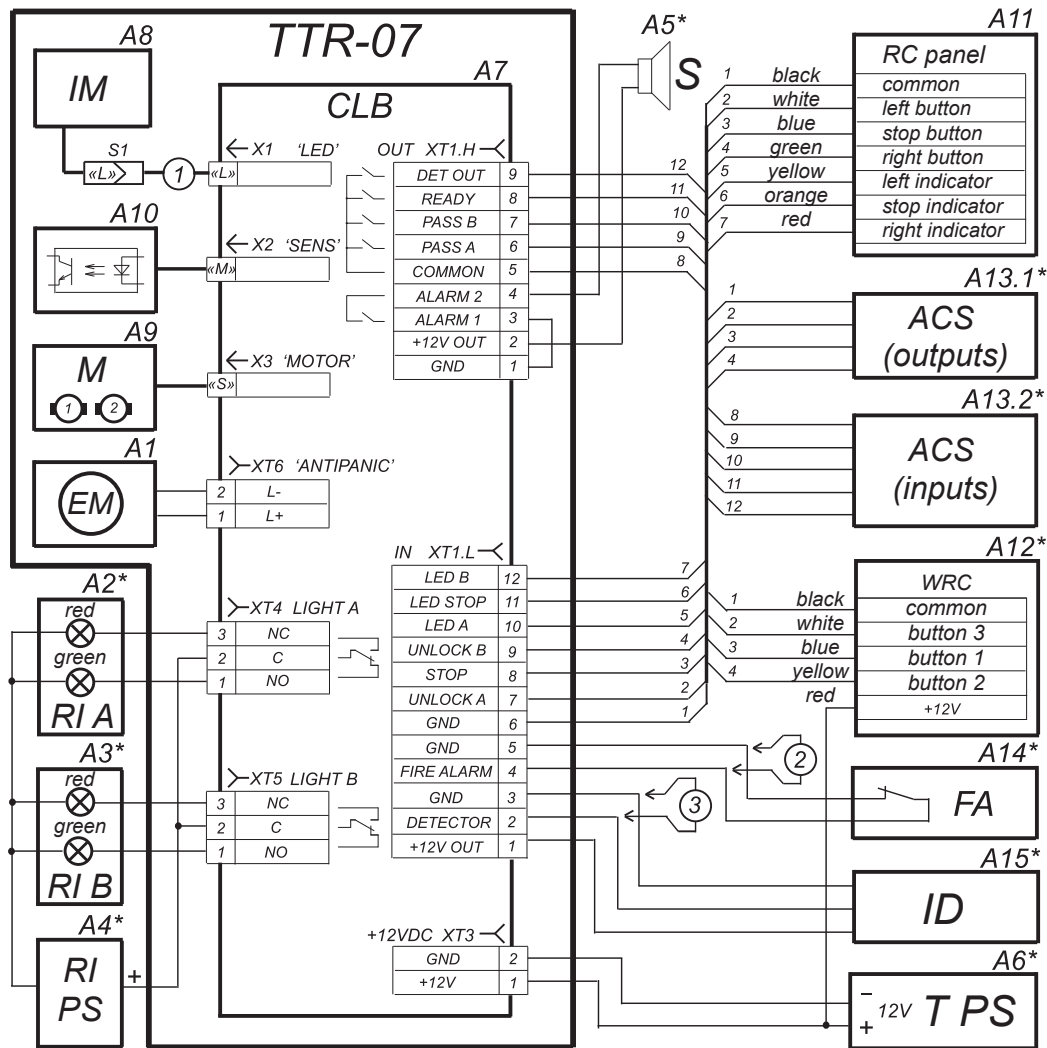
Overall dimensions with installed barrier arms (LxWxH)	798x752x1054 mm
Passageway width	530 mm
Turnstile weight	38 kg
Package dimensions	114x32x32 cm
Throughput in single passage mode	30 persons / min
Throughput in free passage mode	60 persons / min
Mean time to failure	4,000,000 passages
Mean lifetime	8 years

Connection

TTR-07.1 is equipped with integrated CLB. 140 electronic board. All connections are made to the board contacts. 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	Intrusion detector connection
	4, 5	Fire Alarm, GND	Emergency unlocking input
	6	GND	Power supply negative terminal
	7, 8, 9	Unlock A, Stop, Unlock B	Turnstile control inputs
	10, 11, 12	Led A, Led Stop, Led B	RC-panel indication outputs
XT1.H	1	GND	Power supply negative terminal
	2	+12 V	"Siren" device power supply positive terminal
	3, 4	Alarm 1, Alarm 2	Alarm relay contacts
	5	Common	Common contact for PASS A, PASS B, Ready, Det Out signals
	6	PASS A	PASS A relay contact (passage in the direction A)
	7	PASS B	PASS B relay contact (passage in the direction B)
	8	Ready	Ready relay contact
	9	Det Out	Det Out relay contact
XT3	1, 2	+12 V, GND	External power supply connection
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)
XT6	1, 2	"L+", "L-"	AntiPanic relay contacts for connecting electromagnet of the automatic anti-panic function device
X1		LED	X1 (LED) connector for connecting indication board cable
X2		SENS	X2 (SENS) connector for connecting rotation optical sensor unit cable
X3		MOTOR	X3 (MOTOR) connector for connecting control mechanism cable with an electromechanical locking device

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Wiring diagram of external connections to the CLB.2 board

Diagram description	
ITEM	Description
A1	Electromagnet
A2*, A3*	Remote indicator
A4*	Power supply for remote indicators
A5*	12V DC siren
A6*	Turnstile power supply
A7	CLB.140 board
A8	Indication board
A9	Electric motor
A10	Rotation sensor unit
A11	RC-panel
A12*	WRC
A13*	Access control system
A14*	Device that gives an emergency passage opening command
A15*	Intrusion detector
1	indication cable

* The equipment is not included in the standard delivery set

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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 when operating 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.

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 max. 50 meters.

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

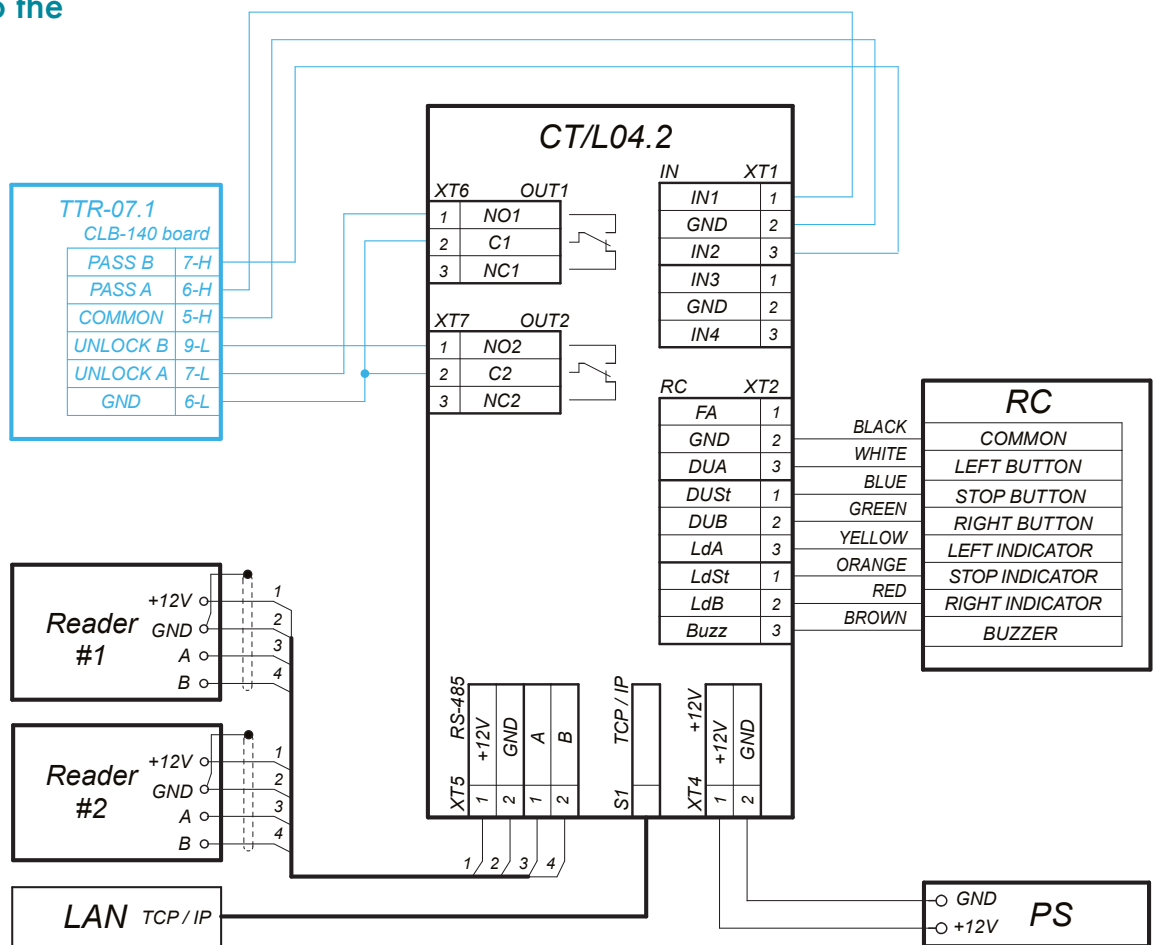
- 1.5 mm² cable cross-section – 10 m;
- 2.5 mm² cable cross-section – 15 m.

Recommended cable type is 2x1.5 power cable.

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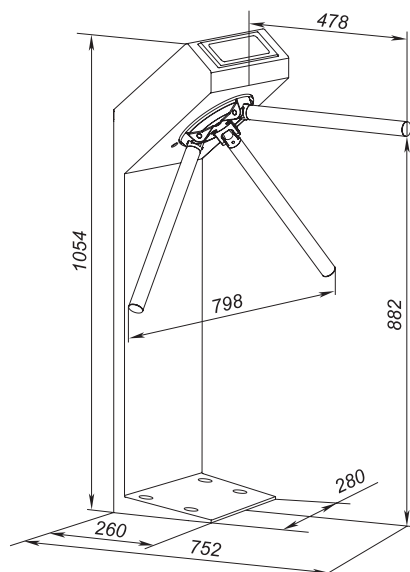
Example of connection to the ACS



1 - jump wire when there is no Fire Alarm device

Example of turnstile connection to the ACS controller

Overall dimensions

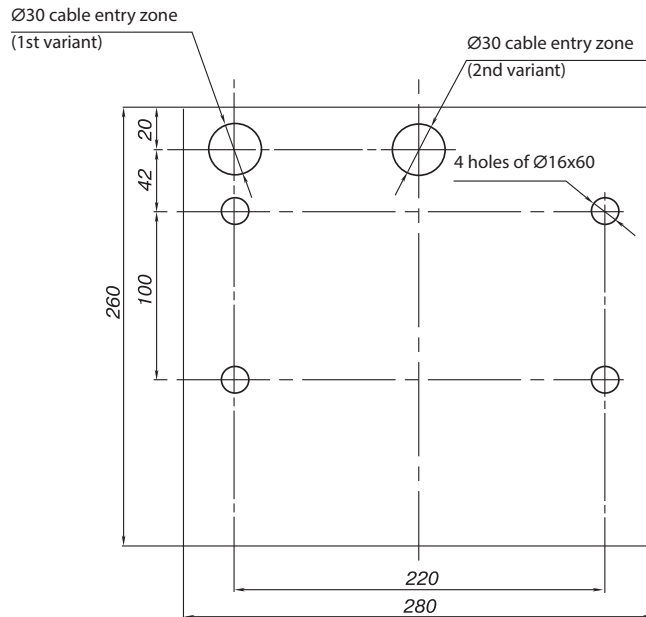


Overall dimensions

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Mounting

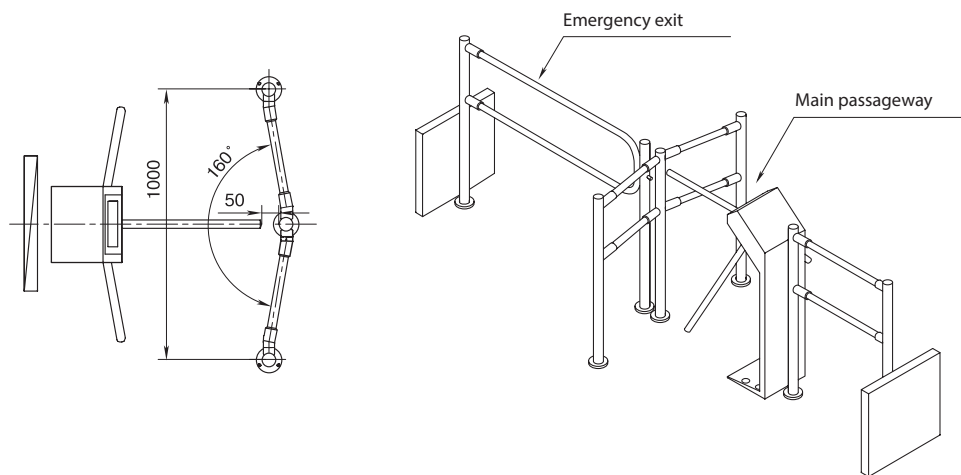


Hole marking for housing mounting and cable entry zone

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.

Passage zone modeling

When the turnstile is operated from ACS, it is recommended to place card readers in the turnstile housing or on the railings that form the passage zone. BH01 0-03 bracket is used for mounting readers on the BH02 series railings.



Turnstile top view

Example of an entrance zone project

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.