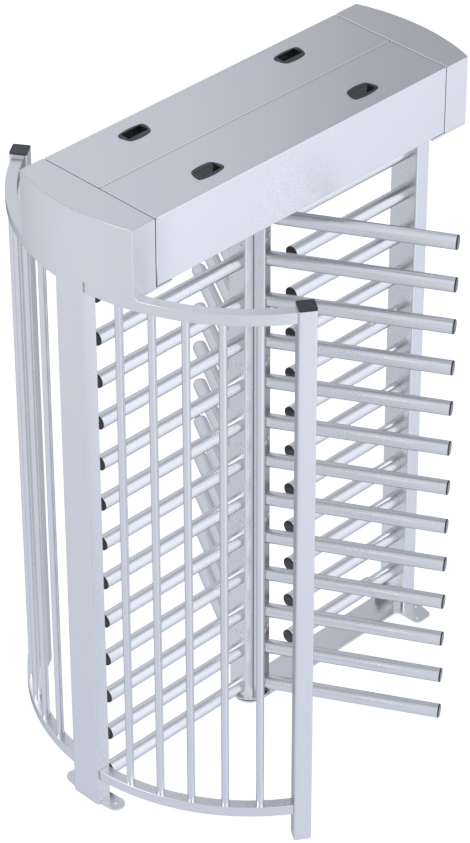
TURNSTILES.us
SECURING THE U.S. and the GLOBE since 1989

OST FULL HEIGHT SINGLE TURNSTILE
INSTALLATION & USER'S MANUAL



CE ISO 9001:2015 ISO 14001:2015 ISO 45001:2018

WARNING!
Safety instructions
READ CAREFULLY!

BEFORE INSTALLING AND STARTING UP THE DEVICE, PLEASE OBSERVE THE SAFETY INSTRUCTIONS LISTED IN THE FOLLOWING SECTIONS. THIS WILL HELP YOU TO AVOID MAKING SERIOUS ERRORS THAT COULD IMPAIR YOUR HEALTH, DAMAGE THE DEVICE AND ENDANGER OTHERS. WE THEREFO-RE RECOMMEND THAT YOU KEEP THIS MANUAL IN CLOSE PROXIMITY TO THE INSTALLATION.

THE SAFETY OF THIS DEVICE AND ITS PROPER FITTING DEPENDS, THEREFORE, ON RESPECTING ITS TECHNICAL CHARACTERISTICS AND PROPER FITTING, TO BE DONE PROPERLY, AND UNDER SAFE CONDITIONS AS EXPLAINED IN THE TECHNICAL DOCUMENT THAT COMES WITH THE DEVICE.

THIS DEVICE SHOULD ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS EXPLICITLY DESIGNED. ANY OTHER USE IS DANGEROUS. TANSA IS NOT LIABLE FOR ANY DAMAGE CAUSED BY IMPROPER, WRONGFUL AND UNREASONABLE USE

STORAGE RECOMMENDATIONS

- THE RECOMMENDED MAXIMUM STORAGE TIME IS 6 MONTHS. IT SHOULD BE NOTED THAT EQUIPMENT STORED FOR A LONGER PERIOD THAN THE MAXIMUM STORAGE TIME INDICATED MUST BE INSPECTED BEFORE USED.

- THE UNITS MUST NOT BE STACKED AND SHOULD BE STORED OFF THE GROUND, UNDER COVER PROTECTED FROM WEATHER, CONSTRUCTION ACTIVITIES AND EXTREME TEMPERATURES

- BE CAREFUL WHEN HANDLING DEVICES THAT WEIGH OVER 25 KG. IF NEEDED, USE PROPER SAFETY HOISTING EQUIPMENT.

- MINIMUM TWO PEOPLE MUST ALWAYS BE USED TO MOVE EACH PEDESTAL, DUE TO ITS WEIGHT AND SIZE. ALWAYS PLAN THE PATH AND ALLOCATE WHERE THE PEDESTAL WILL BE MOVED TO. THIS IS THE ONLY WAY TO AVOID ACCIDENTS AND DAMAGE TO THE EQUIPMENT.

BEFORE INSATALLING

- (CHECK, IF SOMETHING IS MISSING, DO NOT CONTINUE UNTIL YOU HAVE COMPLIED WITH ALL SAFETY PROVISIONS)

- IT IS ESSENTIAL THAT THE INFORMATION ON INSTALLATION AND THE TECHNICAL DATA FOR THE DEVICE BE OBSERVED DURING UNPACKING AND INSTALLATION AND BEFORE OPERATING THE DEVICE. THIS INCLUDES DIMENSIONS, ELECTRICAL VALUES, NECESSARY AMBIENT AND CLIMATIC CONDITIONS, ETC.

- FITTING AND TESTING MUST BE BE ONLY PERFORMED BY QUALIFIED TECHNICIANS.

- LAYING THE CABLES, INSTALLATION AND TESTING MUST FOLLOW PROPER PROCEDURES AS DICTATED BY LOCAL REGULATIONS.

- MAKE SURE THE DEVICE IS IN GOOD MECHANICAL STATE, BALANCED AND ALIGNED, AND THAT IT OPENS AND CLOSES PROPERLY. ALSO, IF NEEDED, FIT SUITABLE PROTECTIONS OR USE PROPER SAFETY SENSORS.

- MAKE SURE THAT THE OPENING TURNSTILE CAN NOT RESULT IN ANY HAZARDS.

- DO NOT INSTALL THE DEVICE ON TO SURFACES THAT COULD YIELD AND BEND. IF NECESSARY, ADD SUITABLE REINFORCEMENTS TO THE ANCHORING POINTS.

- ONLY INSTALL ON A LEVEL SURFACE.

- MAKE SURE ANY SPRINKLER SYSTEMS CAN NOT WET THE DEVICE FROM THE GROUND UP.

INSTALLATION SAFETY

- SUITABLY SECTION OFF AND DEMARCATE THE ENTIRE INSTALLATION SITE TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING THE AREA, ESPECIALLY MINORS AND CHILDREN.

- THE DEVICE MUST BE CONNECTED TO AN EFFICIENT, PROPER GROUNDING SYSTEM.

- TANSA DECLINES ANY LIABILITY FOR USING NON-ORIGINAL PRODUCTS; WHICH WOULD RESULT IN WARRANTY LOSS.

- APPLY WARNING SIGNS WHERE NECESSARY AND IN A VISIBLE PLACE.

- ESD (ELECTROSTATIC DISCHARGE) REFERS TO THE MEASURES TAKEN TO PROTECT COMPONENTS VULNERABLE TO ELECTROSTATIC DISCHARGES AGAINST SUCH DISCHARGES AND HENCE FROM POTENTIAL DAMAGE OR DESTRUCTION.

CABLE CONNECTIONS

- NO CABLES MAY BE CONNECTED OR DISCONNECTED DURING A STORM (DANGER OF BEING STRUCK BY LIGHTNING).

- WHEN CONNECTING OR DISCONNECTING ANY OF THE LEADS, ALWAYS HOLD THEM BY THE PLUG.

- NEVER PULL ON THE CABLES THEMSELVES. DOING SO COULD CAUSE A CABLE TO BECOME DETACHED FROM THE PLUG.

- LAY THE CABLES SO THAT THEY DO NOT PRESENT A DANGER (TRIPPING) AND CANNOT BE DAMAGED, BY BEING BENT, FOR INSTANCE.

- PLEASE CHECK DEVICES WITH ADJUSTABLE RATED VOLTAGE TO DETERMINE WHETHER THE PRESET RATED VOLTAGE OF THE DEVICE CONFORMS TO THE LOCAL MAINS VOLTAGE. AN INCORRECT SETTING MAY LEAD TO DAMAGE TO OR DESTRUCTION OF THE DEVICE.

- BEFORE OPERATING, CHECK WHETHER ALL THE CABLES AND WIRES ARE IN A PERFECT, UNDAMAGED CONDITION.

- ENSURE IN PARTICULAR THAT THE CABLES HAVE NOT BEEN BENT, HAVE NOT BEEN LAID TOO TIGHTLY ROUND CORNERS, AND THAT THERE ARE NO OBJECTS LOCATED ON TOP OF THEM. ALSO MAKE SURE THAT ALL CONNECTORS HAVE A TIGHT FIT. DEFECTIVE SCREENING OR WIRING MAY DAMAGE YOUR HEALTH (ELECTRIC SHOCK) AND CAN DAMAGE OTHER DEVICES.

- THE SYSTEM EARTHING (EARTH WIRE) IS CONNECTED TO THE PEDESTAL ENCLOSURE. THE EARTHING OF THE ENCLOSURE IS NOT REQUIRED FOR ELECTRICAL SAFETY, ALTHOUGH THIS MAY BE REQUIRED TO CONFORM TO CERTAIN STANDARDS.

- MAKE SURE THAT NO OBJECTS (E.G. JEWELLERY, PAPER CLIPS, ETC.) OR LIQUIDS GET INSIDE THE DEVICE. THIS CAN LEAD TO ELECTRIC SHOCKS OR SHORT-CIRCUITS.

- PROPER OPERATION AND COMPLIANCE WITH THE EMC (ELECTROMAGNETIC COMPATIBI-LITY) LIMIT VALUES IS ONLY GUARANTEED WHEN THE ENCLOSURE IS MOUNTED CORRECTLY AND THE SIDE PANELS ARE IN PLACE.

• IN THE EVENT OF A MALFUNCTION OR SERVICING, THE DEVICES NEED TO BE DISCONNEC-TED FROM THE MAINS IMMEDIATELY. IF DEVICES ARE CONNECTED TO ONE OR MORE UNIN-TERRUPTIBLE POWER SUPPLIES (UPS), THEY WILL CONTINUE TO OPERATE EVEN IF THE PLUG TO THE UPS IS PULLED. YOU THEREFORE NEED TO SHUT DOWN THE UPS IN ACCORDANCE WITH THE APPROPRIATE USER DOCUMENTATION.

• PERMANENT WIRING IS TO BE EMPLOYED AS REQUIRED BY LOCAL CODES.

DURING OPERATION & USE

• KEEP TURNSTILE OPERATION AREAS CLEAN AND FREE OF ANY OBSTRUCTIONS.

• DO NOT ALLOW CHILDREN TO PLAY WITH FIXED COMMANDS, OR TO LOITER IN THE TURNSTILE'S MANEUVERING AREA. KEEP ANY REMOTE CONTROL TRANSMITTERS OR
ANY OTHER COMMAND DEVICE AWAY FROM CHILDREN, TO PREVENT THE OPERATOR FROM BEING ACCIDENTALLY ACTIVATED.

• THE APPARATUS MAY BE USED BY CHILDREN OF EIGHT YEARS AND ABOVE AND BY PHYSICALLY, MENTALLY AND SENSORY-CHALLENGED PEOPLE, OR EVEN ONES WITHOUT ANY EXPERIENCE, PROVIDED THIS HAPPENS UNDER CLOSE SUPERVISION OR ONCE THEY HAVE BEEN PROPERLY INSTRUCTED TO USE THE APPARATUS SAFELY AND TO THE POTENTIAL HAZARDS INVOLVED.

• CLEANING AND MAINTENANCE BY USERS MUST NOT BE DONE BY CHILDREN, UNLESS PROPERLY SUPERVISED.

• FREQUENTLY CHECK THE SYSTEM FOR ANY MALFUNCTIONS OR SIGNS OF WEAR AND TEAR OR DAMAGE TO THE MOVING STRUCTURES, TO THE COMPONENT PARTS, ALL ANCHORING POINTS, INCLUDING CABLES AND ANY ACCESSIBLE CONNECTIONS.

• KEEP ANY HINGES, MOVING JOINTS AND FRICTION POINTS PROPERLY LUBRICATED.

• KEEP AWAY FROM AND DO NOT LOITER NEAR THE BARRIER AND MECHANICAL MOVING PARTS.

• DO NOT ENTER THE BARRIER'S AREA OF OPERATION WHEN IT IS MOVING.

• DO NOT COUNTER THE OPERATOR'S MOVEMENT AS THIS COULD RESULT IN DANGEROUS SITUATIONS.

• ALWAYS PAY SPECIAL ATTENTION TO ANY DANGEROUS POINTS, WHICH HAVE TO BE LABELED WITH SPECIFIC PICTOGRAMS AND/OR BLACK AND YELLOW STRIPES.

• WHEN USING A SELECTOR SWITCH OR A COMMAND IN MAINTAINED ACTION MODE, KEEP CHECKING THAT THERE ARE NO PERSONS WITHIN THE OPERATING RANGE OF ANY MOVING PARTS, UNTIL THE COMMAND IS RELEASED.

• THE TURNSTILE MAY MOVE AT ANY TIME AND WITHOUT WARNING.

MAINTANENCE SAFETY

• ALWAYS CUT OFF THE MAINS POWER SUPPLY BEFORE PERFORMING ANY MAINTENANCE OR CLEANING.

• WHEN REPAIRING OR MODIFYING THE DEVICE, USE ONLY APPROVED PARTS. FAILURE TO OBSERVE THIS RULE CAN LEAD TO VIOLATION OF THE ELECTROMAGNETIC COMPATIBILITY (EMC) OR SAFETY STANDARDS AND CAUSE DEVICE MALFUNCTIONS.

• IF THE POWER SUPPLY CABLE IS DAMAGED, IT MUST BE REPLACED BY THE MANUFAC-TURER OR AUTHORIZED TECHNICAL ASSISTANCE SERVICE, OR IN ANY CASE, BY SIMILARLY QUALIFIED PERSONS, TO PREVENT ANY RISK.

• THE DEVICE MAY ONLY BE REPAIRED BY AUTHORISED, QUALIFIED PERSONNEL. IMPROPER REPAIRS MAY EXPOSE THE USER TO CONSIDERABLE DANGER (ELECTRIC SHOCK, FIRE).

• IT IS FORBIDDEN FOR USERS TO PERFORM ANY OPERATIONS THAT ARE NOT EXPRESSLY REQUIRED OF THEM. FOR ANY REPAIRS, MODIFICATIONS AND ADJUSTMENTS AND FOR EXTRA-ORDINARY MAINTENANCE, CALL TECHNICAL ASSISTANCE.

• UNAUTHORISED OPENING OF THE DEVICE OR INDIVIDUAL PARTS OF THE DEVICE CAN ALSO EXPOSE THE USER TO DANGER. UNAUTHORISED OPENING OF THE DEVICES OR PARTS THEREOF RESULTS IN VOIDING OF THE WARRANTY AND EXCLUSION OF LIABILITY.

• DISCHARGE STATIC (E.G. BY TOUCHING AN EARTHED OBJECT) BEFORE TOUCHING THE PCB. ONLY USE TOOLS AND DEVICES THAT ARE FREE FROM STATIC CHARGES.

• BEFORE INSTALLING OR REMOVING PARTS, REMOVE THE POWER SUPPLY.

• AVOID TOUCHING THE PINS OR CONDUCTOR TRACKS OF PCBS; TRY TO HOLD THEM BY THE EDGES.

• THE MAINTENANCE SCHEDULE FOR THESE PRODUCTS IS TO INCLUDE A 6-MONTH INSPECTION AND 12-MONTH MAINTENANCE PROCEDURE, AS ADVISED BY THE MANUFACTURER.

CLEANING

• THE UNIT MUST NOT BE WET CLEANED. WATER ENTERING THE UNIT COULD REPRESENT CONSIDERABLE DANGER FOR THE OPERATOR (E.G. ELECTRIC SHOCK).

• IF ANY, PLEASE CLEAN THE INFRARED (IR) WINDOWS REGULARLY (RECOMMEND ANNUAL-LY). DIRTY WINDOWS CAN CAUSE FALSE ALARMS OR RESULT IN UNAUTHORISED PERSONNEL TO GAIN ACCESS INTO THE SECURE AREA. IR WINDOWS MUST BE CLEANED INSIDE AND OUT.

• NEVER USE SCOURING CLEANSERS, ALKALINE DETERGENTS, SHARP OR SCOURING CLEANING AIDS. THIS MAY RESULT IN DAMAGE TO THE SURFACE OF THE DEVICE. THE SAME APPLIES FOR PARTS INSIDE.

• DO NOT USE ANY CHEMICAL OR CLEANING SOLUTIONS NEXT TO THE DEVICE, AND MAKE SURE SUCH MATERIALS ARE NOT KEPT THERE. THEY MAY DAMAGE THE DEVICE.

THIS UNIT CONTAINS PARTS THAT ARE SUITABLE FOR RECYCLING, AND COMPONENTS THAT REQUIRE SPECIAL DISPOSAL. YOU ARE REQUESTED TO TAKE SUITABLE MEASURES TO ENSURE THE PRODUCT WILL BE RECYCLED AT THE END OF ITS SERVICE LIFE.

OST Full Height Mechanical Single Turnstile

FEATURES
• Portal and housing made of steel
• Portal turnstile, four-part rotor blade with spars, 90°division OR three-part rotor, 120° division
• As standard with 13 rod-shaped crossbars with plastic caps on each section of the rotor. Arm diameter 51mm
• Rotor with 13 rod-shaped bars made of steel
• Limitation of passage: with steel filler rods
• Unidirectional or bidirectional operation
• Completely assembled or disassembled delivery as a kit for easier transport or for places that are difficult to access.
• Lockable maintenance lid with top and side opening for easy maintenance and installation in areas with low ceilings.
• In addition to the turnstile: Motorized or manually operated pedestrian door in full height (bi-directional)

DRIVE MECHANISM OPTIONS
• Elektromechanic / Hand operated
• BLDC Motor-driven
• A self centring mechanism to ensure complete rotation of the mechanism to the home position.
• A hydraulic damper to ensure smooth operation
• Anti backup device to prevent reverse rotation once the mechanism has moved 30 degrees from the home position
• Fail-safe operation as standard. (Optional fail-locked)

FUNCTIONS & INTERFACE
• Logic controlled interface, bi-directional operation
• Entrance and exit directions can be individually set as controlled, locked or free before or after the installation.
• In controlled access mode, after release confirmation which was sent by access control system, the turnstile unlocks the released direction and enables one person access in the direction of travel. After each person, the turnstile rotor blocks passage again and does not permit access from both entrance and exit directions until receiving a new release signal from the access control system.
• After the release, the turnstile blocks itself after an adjusted time if no transition or passage occures.
• If people from both directions would like to pass through simultaneously, the first person who activates the turnstile takes precedense.
• Multiple opening: An additional person is able to to release the next passage cycle during an ongoing passage cycle in both directions. The turnstile controller stores up to 255 releases and lets corresponding number of individuals pass through.
• Relay outputs for counting passage in either direction
• RS 232 serial port
• Control for inputs and outputs via potential-free contact

EMERGENCY & POWER CUT
In the event of emergency or power-cut the mechanism unlocks the rotor and the rotor rotates freely in both directions. The turnstile reset itself automatically when the emergency alarm stops or the power is switched back on.

LED INDICATORS
LED lights indicates the operating status of the turnstile in both directions.

	Option-1	Option-2
Green:	Standby or locked	Released or free passage
Red:	Released or free passage	Standby or locked

SETTINGS
Operation mode for each directions : Controlled / Free / Locked
Acoustic Notifications : On/Off
Release time out : 5-10-15-20 secs
Consecutive passage : On/Off
Emergency connection : On/Off
LED Indicator options : Option-1 / Option-2

SPECIFICATIONS:
Construction: Steel
Passage width: 670 standard (26.4 in)
Weight: 490 Kg (1080 lb)
Power Supply: 100 - 240 VAC, 50/60 Hz
Logic Voltage: 24V DC
Standby power consumption: 12 W
Operation Temperature: -10 ° / +70 °
IP Protection: Cabinet IP54 / Logic Controller IP65

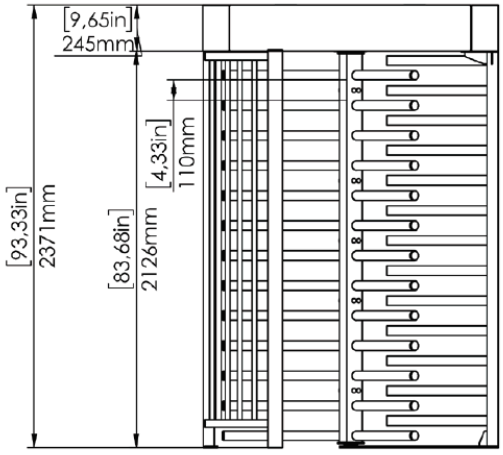
MATERIAL OPTIONS
• Galvanized
• Galvanized + Powder coated
• AISI 304 Stainless steel
• AISI 316 Stainless steel
• Stainless steel rotor & Powder coated frame

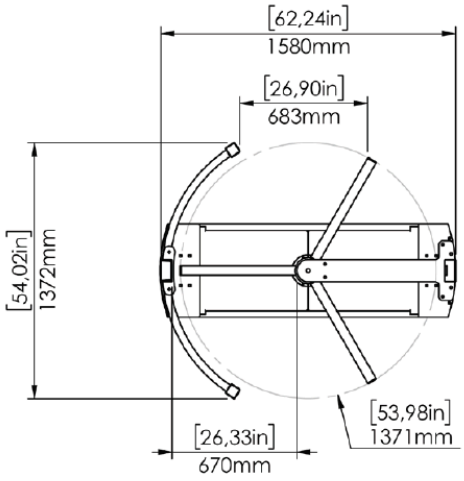
ACCESSORIES:
• Access Controller mounting plate
• Access Controller Box
• Ceilig lights
• LED indicators
• Heating kit for -40 degrees
• Roof & Canopy
• Tempered glass side panels
• Mounting plate (suitable for forklift transport)
• Mounting frame for pre-installation into concrete
• Back-up battery 7A
• Access controller integration options
(Please contact with sales represantative for full list of options and accessories)

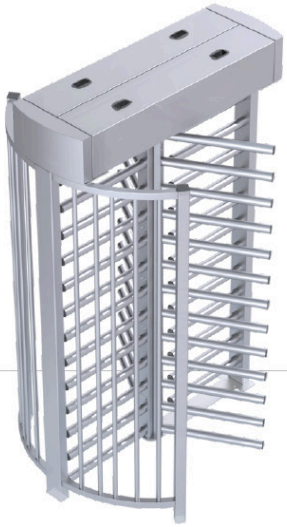
OST Full Height Mechanical Single Turnstile

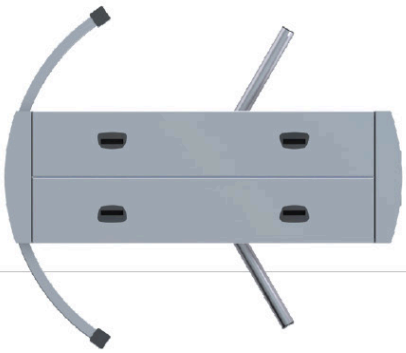
3 sectional (120°) and 13 horizontal arms in 51 mm diameter in each section

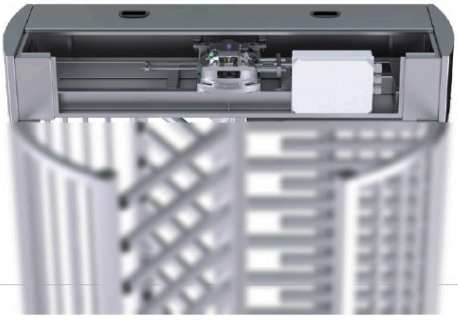
Rotor:	2370 mm / 93,31” (Standard)
Complete Height:	2460 mm / 96,85” (Motor driven)
Complete Width:	2430 mm / 95,67”
Passage Height:	2125 mm / 83,66”
Passage Widht:	670 mm / 25,54”
Entrance Widht:	683 mm / 26,90”

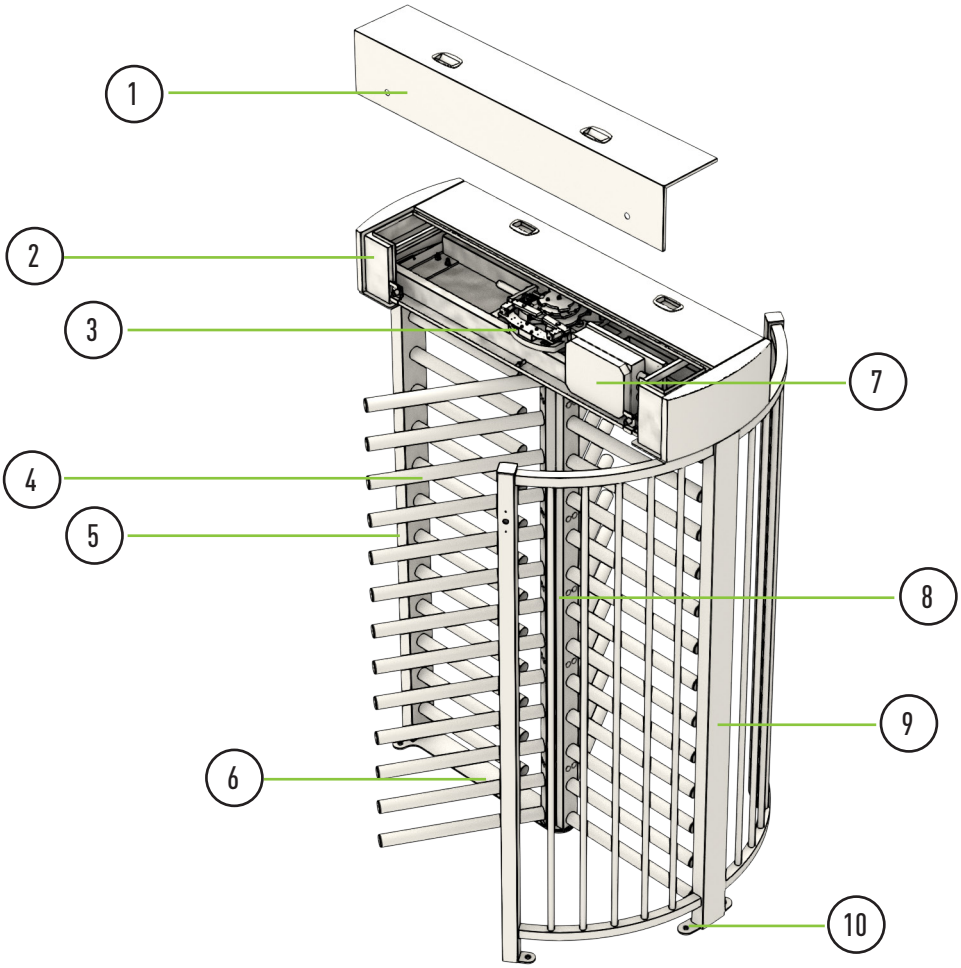


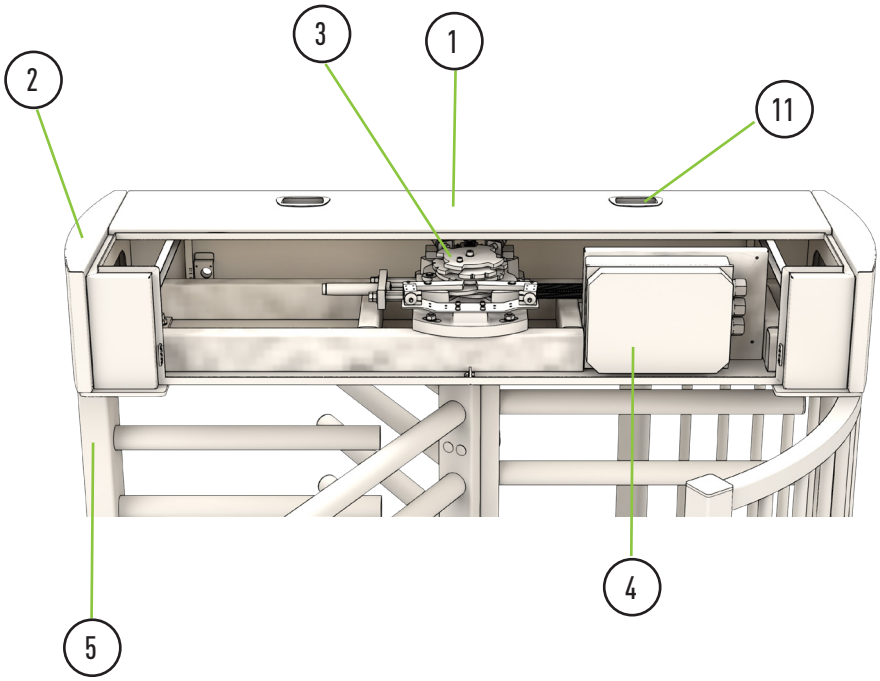






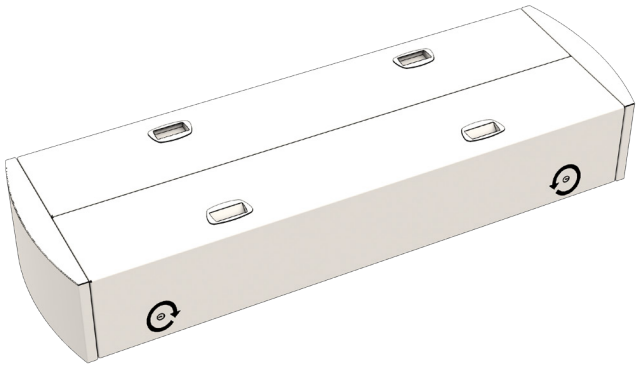


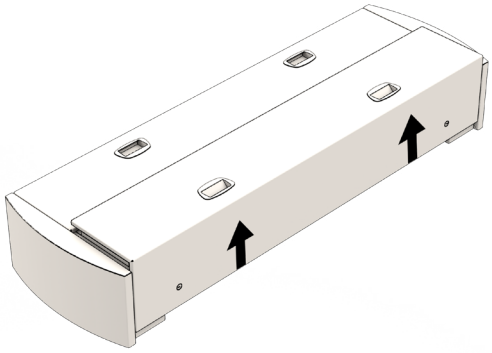


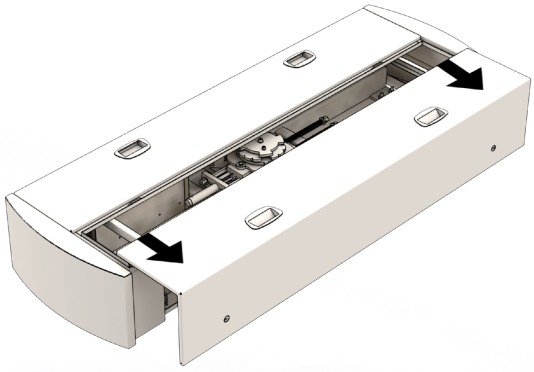


1. Removable lid
2. Keylocked Cabinet / Housing
3. Mechanism
4. Rotor arms
5. Barrier comb
6. Bottom bearing plate
7. IP67 Electronics box
8. Rotor
9. Yoke with filler rails
10. Installation locations
11. Lid handles

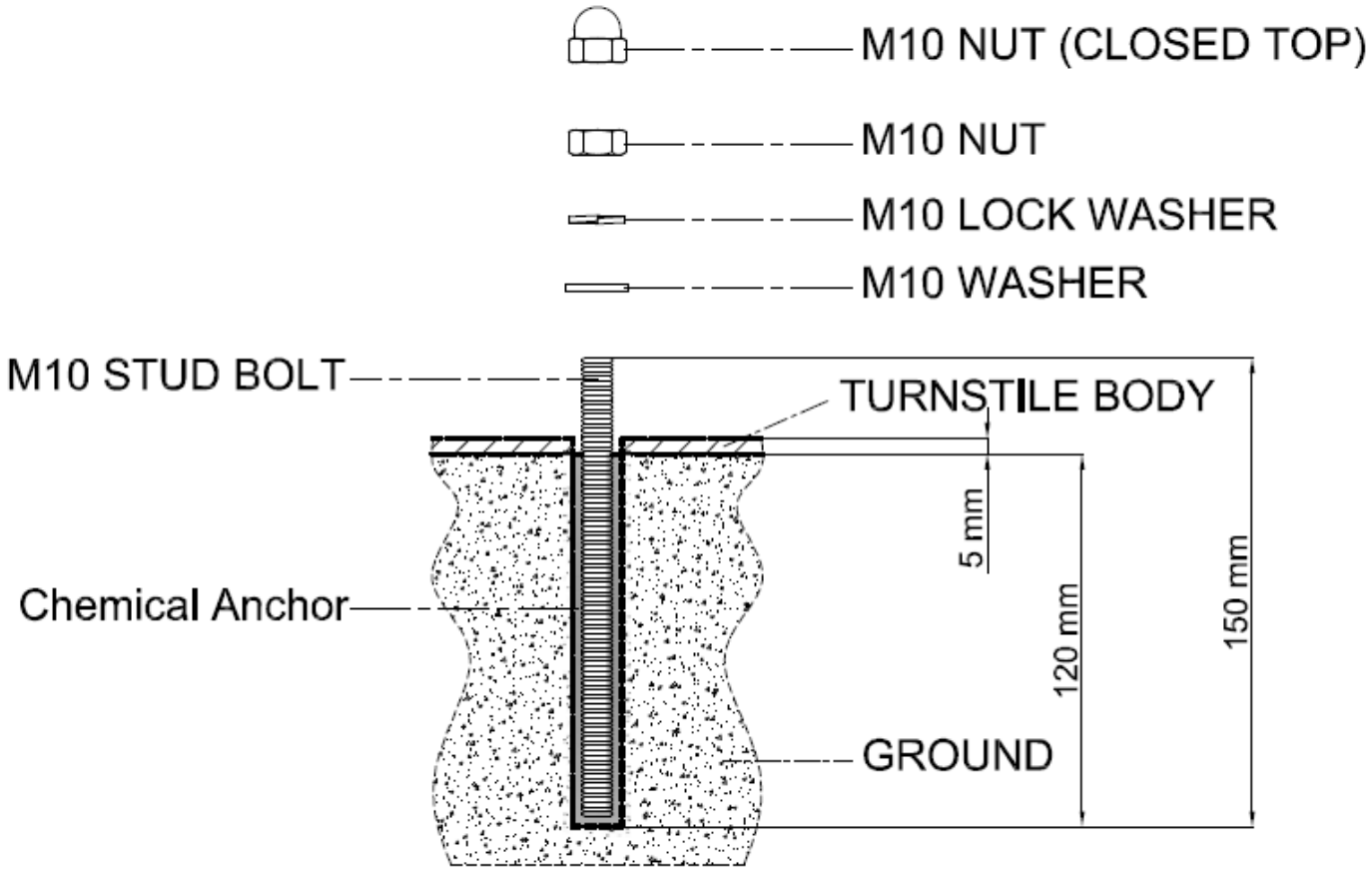
2. Opening the lid



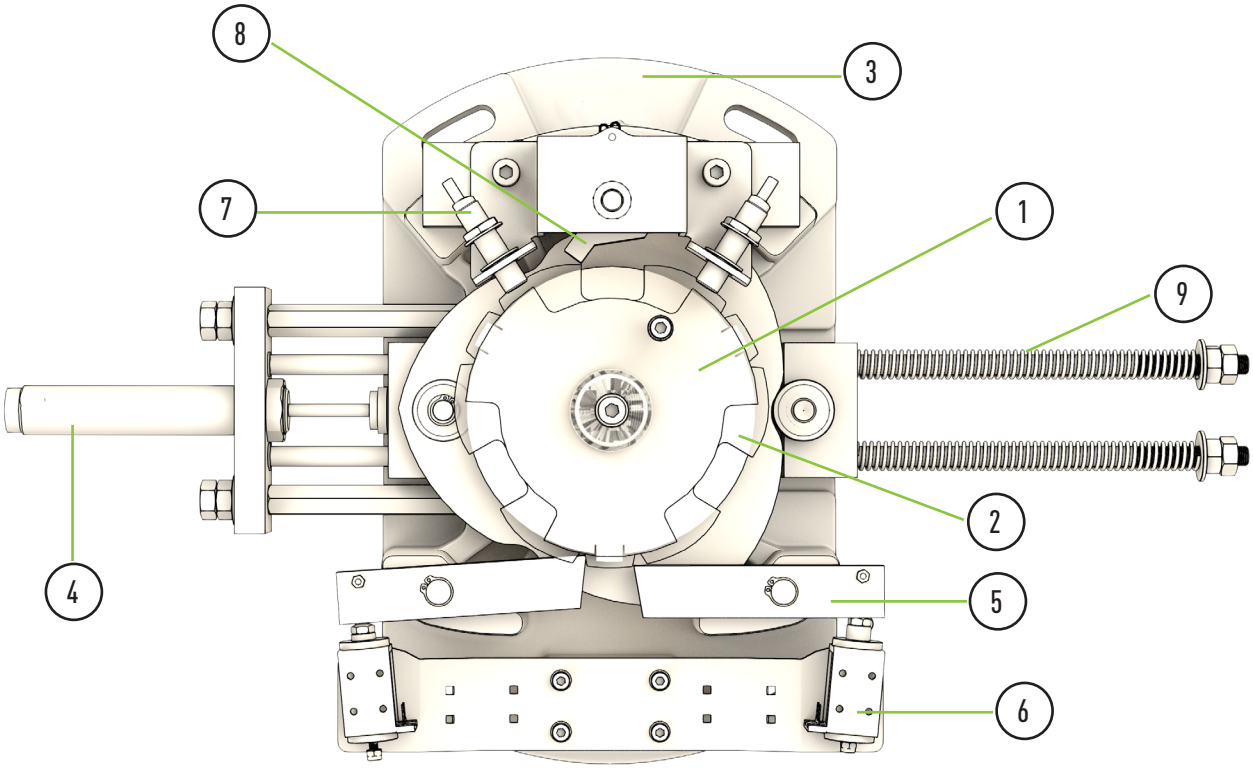




3. Ground Installation

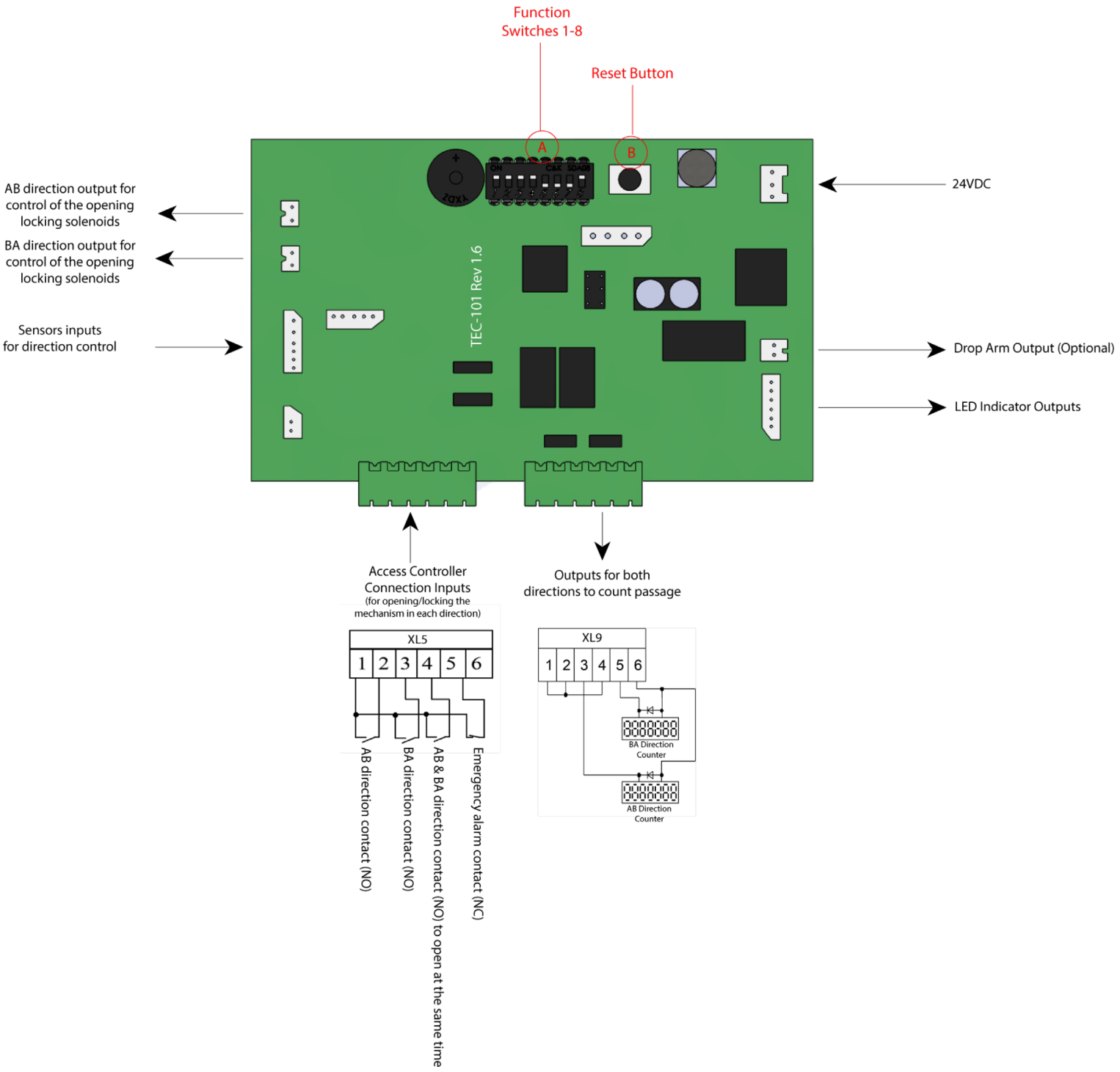


4. Full Height Mechanism



1. Sensor plate
2. Lock plate
3. Cast and machined aluminium mechanism plate
4. Hydrolic shock-absorber to ensure smooth operation
5. Lock arms
6. 24V solenoid/electromagnetic lock
7. Proximity sensor for direction control
8. Anti backup device to prevent reverse rotation once the the mechanism has moved 30 degrees from home position.
9. Shock-absorber balancing spring.

5. TEC 101 Logic Controller Board Connections



Function Switches

Switch 1	Switch 2	Release Time out
On	On	20 secs
On	Off	10 secs
Off	On	15 secs
Off	Off	5 secs

Switch 3	AB Direction Control
On	Controlled / Locked
Off	Free

Switch 4	BA Direction Control
On	Controlled / Locked
Off	Free

Switch 5	Consecutive Passage
On	Active
Off	Passive

Switch 6	Release Confirmation Control
On	Continuous Signal
Off	Single Signal

Switch 7	LED Indicator Settings
On	Green - Released or free passage Red - Standby or locked
Off	Green - Standby or locked Red - Released or free passage

Switch 8	Acoustic Notifications
On	Active
Off	Passive

ELECTRICAL CONNECTIONS

Control card 1and specifications

Open the electronic card box on the corner of the turnstile slowly by pressing lightly on the right and left sides to see the TEC-101 control card. When closing the cover of the card box, please pay attention to the electric cables.

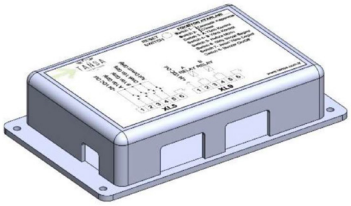


Figure 5.1 Electronic Card Box

The circuit diagram of the control card in the turnstile is as in Figure 5.2. The software and functional equipment of the control card vary according to the turnstile model. All components on the control board consist of components to operate in industrial environment.

The LEDs on the electronic card show the operation status of the card in group 1 in Figure 5.1.1. The green LED flashes continuously. This indicates that the card processor is working properly. The other red LEDs are power LEDs. These LEDs show the presence of energy by flashing.

The label on the control card shows the mode of operation and version of the turnstile. Therefore, it should not be disassembled.

Figure 5.1 shows the protective plastic box of the control board. On the membrane label located on the box, the connection diagrams of the input and output terminals and the functions of the switches are explained. There is a reset button on the card to restart the control card. There is a hole for access to the reset button, and you can reach the reset button by using a screwdriver to reset the device.

The TEC-101 turnstile control card has LEDs on all inputs and outputs. It can be monitored that the input or output related to these LEDs is working electronically.

The following figure shows the status and functions of the LEDs located on the control card.

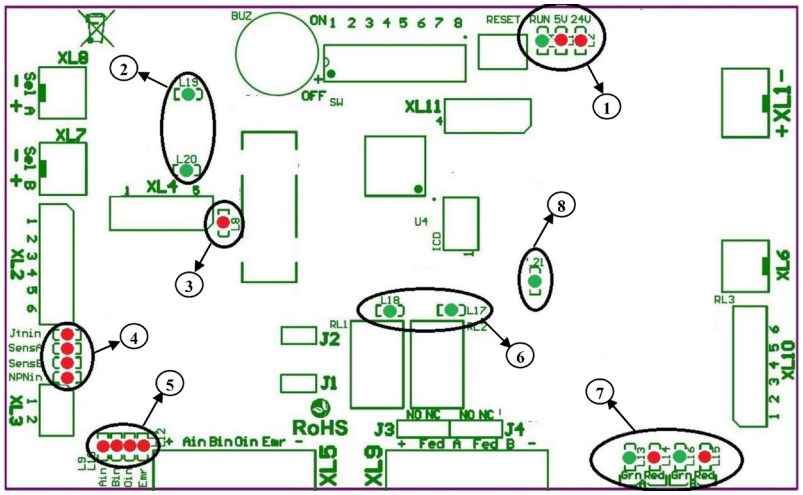


Figure 5.1.1 Control Card LED Layout

1- These LEDs indicate the internal operating voltages of the turntable, that are + 5V and + 24V, and that the turnstile works. The function of the corresponding LED is written on it. During the breakdown, first it should be checked whether the + 24V LED is on, then the + 5V LED should be checked. If the + 5V LED is off the control card is defective and must be changed without any interference. The Run LED indicates that the processor of the control card is working. The Run LED flashes during normal operation, if it is continuously on or off, the control board is faulty.

2- The LEDs in this block indicate whether the equipment is working by checking the solenoid outputs. The L19 and L20 LEDs turn green continuously when the solenoid is locked, and they must turn off in free mode or during passing.

3- The L8 LED in coin-operated turnstile models show whether the coin unit has an external +12V power supply connection.

4- The most important LEDs in this group are sensor LEDs. The operation of 2 direction sensors located on the mechanism is controlled by these LEDs. The SensA and SensB LEDs are on when the turnstile arm is in the middle position at idle, and they are all turned off when sensor disc passes through the sensors while the turntable arm rotates. If the sensor LEDs are all off or on during arm rotation, there may be a malfunction in the sensors or connection points.

In very dusty environments, the inside of the sensors can be cleaned first with a fine brush and then with a damp cloth.

5- 4 LEDs (Ain, Bin, Oin, Emr) indicate whether the external inputs are working or not. The emergency input LED (Emr) must be permanently on unless there is an emergency. Ain, Bin, Oin will be on as long as there is a signal in the input. If these LEDs on 3 inputs are always on, it means that NC "normally closed" contact signal is connected to external inputs or that there is a connection error.

6- There is a dry corac relay output in the direction of pass after the arm rotation. The LEDs placed in front of these roles are turned on and off together with the 500mS relay after passing, so that it is understood that the relay is working and there is contact.

7- The LEDs in this group show the operation stop of the control LEDs at the entrance and exit of the turnstile. When the corresponding LED is on, it is understood that the guiding LED is working. Red / Green LEDs are used for direction A and direction B.

8- L21 LED is used in turnstiles with drop arm option. It turns on when the arm dropping motor is powered, and remains off at the other time.

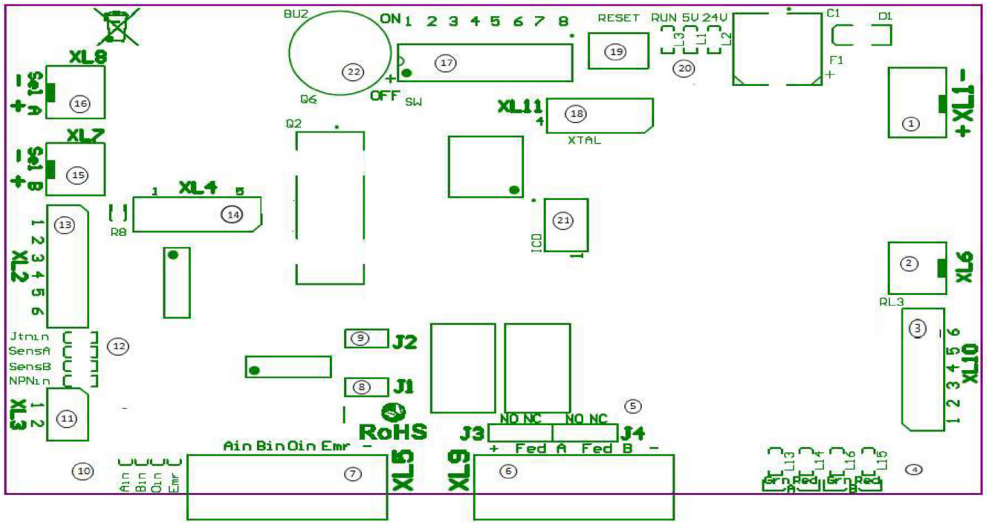


Figure 5.2 TEC101 Control Card

1. Motherboard supply input (+24VDC)
2. (Option) drop arm motor connection
3. A direction / B direction LED indicator connector
4. Guiding indicators (Indicator LED)
5. A direction / B direction pass information NO / NC selection jumper
6. A direction / B direction pass information relay output connector
7. Control inputs connector
8. Emergency parallel connection jumper
9. Emergency active / passive jumper
10. Control inputs indicator LED
11. Option input
12. Sensor inputs indicator LED
13. Sensor Inputs
14. Coin connection connector
15. B solenoid connection connector
16. A solenoid connection connector
17. On / off function switch
18. Serial connection connector
19. Reset switch
20. Power LED indicator
21. Programming socket
22. Buzzer

Control card switch descriptions

Figure 5.3 Function switch

The functions of the on / off function switches (number 17 on the control card) seen in figure 5.3 above are as follows:

The switches are ON in Figure 5.3.

Automatic shutdown time: It is determined by the switch 1 and switch 2. It is the waiting time setting for the person to pass, corresponding to the "open" signal coming from the controller to the turnstile. If the person passes just after the open signal, the waiting time is cancelled and the turnstile is locked.

SWITCH 1	SWITCH 2	CLOSING TIME
ON	ON	20 seconds **(factory settings)**
ON	OFF	10 seconds
OFF	ON	15 Seconds
OFF	OFF	5 Seconds

Passing direction control: It is determined by the switch 3 and switch 4. One or both of the desired directions of the turnstile designed for two-way controlled transition can be set to continuous free pass mode. The guiding led in the direction of free pass will be green.

SWITCH 3	PASSING DIRECTION
ON	A direction controlled **(factory settings)**
OFF	A direction free

SWITCH 4	PASSING DIRECTION
ON	B direction controlled **(factory settings)**
OFF	B direction free

Memory mode selection: It is determined by the switch 5. In standard turnstiles, after the entry signal is received, the input (Ain, Bin, Oin) is inactive and the incoming signals are not processed until passing is completed or the automatic closing is activated. With the memory mode, all entry signals (up to 200) are saved in the memory even during passing. With this mode, the turnstile can be operated in full capacity.

SWITCH-5	MEMORY MODE
ON	Memory mode on
OFF	Memory mode off **(factory settings)**

Continuous pass with entry signal: It is determined by the switch 6. With this mode, if A direction, B direction and common input signals are received continuously without interruption, continuous passing is allowed. In some reader models, it is used when the relay trigger times are long and the reader signal is continuous in successive passes.

SWITCH-6	ENTRY SIGNAL
ON	Continuous passing
OFF	Single pass **(factory settings)**

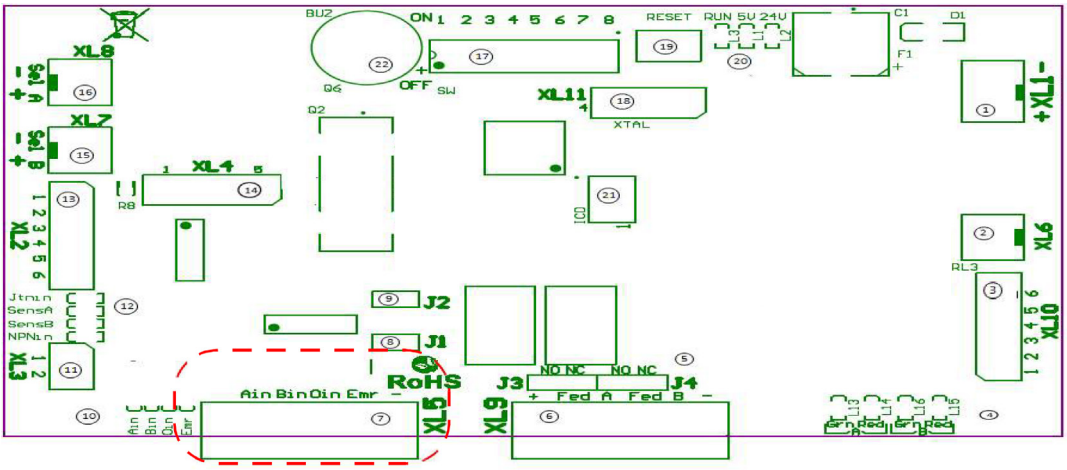
Passing Direction and Guiding LED Operation Mode Selection in Coin Operated Mode: With switch 7, both the coin-ejection direction is selected in coin operated mode, and the functioning of guiding LEDs can be changed as Green at idle or Red at idle. In coin operated turnstiles, it adjusts passing in direction A or B direction with coin.

SWITCH-7	PASSING DIRECTION / LED OPERATION TYPE
ON	Passing to direction A / Red at idle
OFF	Passing to direction B / Green at idle **(factory settings)**

Audio Warning On/Off: It is determined by the switch 8. After the "open" command coming from the control system to the turnstile, it gives intermittent audio signal until passing or automatic closing. It is recommended to be used to make the users understand that they are allowed to pass.

SWITCH-8	AUDIO WARNING
ON	Warning on **(factory settings)**
OFF	Warning off

Control card terminal descriptions (XL5)



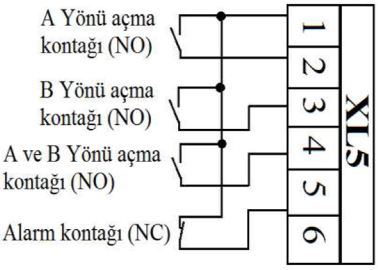


Figure 5.4 shows the connection diagram of the XL5 terminal on the TEC-101 Control Card.

Figure 5.4

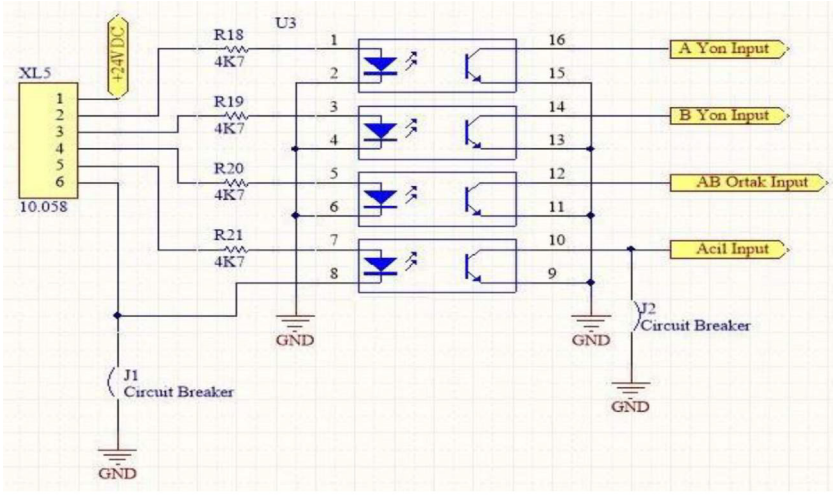


Figure 5.5 Circuit diagram of XL5 terminal.

External connection types

Triggering with dry contact

As shown in Figure 5.4, the pin 1 of the XL5 terminal is used as the common pole with + 24VDC voltage. The pin 2 is used as opening to direction B, and the pin 3 is used as the opening to direction B inputs. In the normally open (NO) dry contact connection, +24VDC from the pin 1 is transferred to the pin 2 or the pin 3 via the relay contact or the pushbutton to allow passing.

Normally open (NO)) role / pushbutton contacts must be connected to control inputs, the normally closed (NC) contact should never be connected. If the normally closed (NC) contact is used instead of the normally open (NO) contact, there will be problems such as the turnstile delaying the passing permission. If it is used with this problem, the turnstile may be damaged as it will result in hitting the arms.

Normally closed (NC) contact connection is required for emergency. The J2 jumper (Fig. 5.5) is inserted when the turnstile is shipped from the factory. If the alarm contact is to be used, this short circuit jumper (J2) must be removed.

Triggering with power input (PNP)

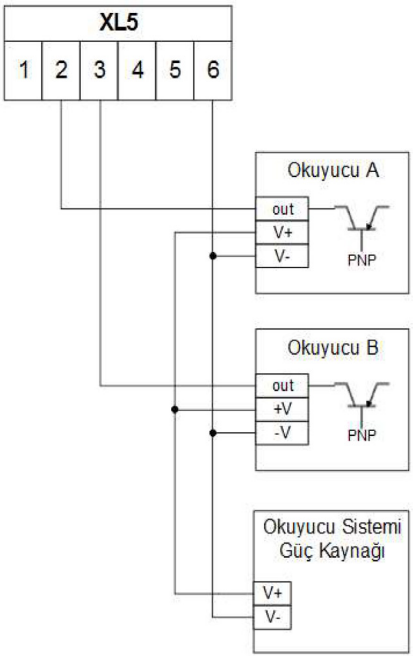


Figure 5.6

The opening to direction A input in the XL5 connector can also be controlled by the opening to direction B input and the emergency connection input + V (PNP). A voltage between +12 VDC and +24VDC can be used. In the case of the use of a PNP output card reader, fingerprint reader, palm reader and similar hardware, this connection type can be used. The pin 2 of terminal XL5 can be used to control passing to direction A, and the pin 3 can be used to control passing to direction B. The reader system's V- (GND) must be connected to pin 6 of the XL5 terminal. (Figure 5.6)

As the emergency input is the NC contact input, J2 pins are equipped with a short circuit jumper. If the emergency input is to be used, the J2 jumper must be removed and replaced with the emergency contact from the alarm panel. As long as the emergency input is active, the turnstile rotates freely in both directions. When an emergency signal is received in drop arm turnstiles, the arm in the middle position drops and allows passing. When the emergency state is passive again, the dropped arm must be lifted manually.

Alarm cable group turnstile connection

The emergency contact from the alarm panel (Normally closed - NC) must be connected to the first turnstile in a group of turnstiles. The other turnstiles must have a 2x0.50mm alarm cable connecting one with another in sequence. An emergency connection can be made with a single contact by grouping as many turnstiles as desired. The J2 jumpers on the control card of the turnstiles to have emergency connection must be removed. Normally closed (NC) contact is required from the alarm panel in the following connection. As shown in the diagram, the J1 jumper is installed on the control board in the first turnstile with alarm cable, while it is not installed on other turnstiles. If installed, it must be definitely removed. (Figure 5.7) Pin 6 (GND) of terminal XLS of turntables are connected to each other, and the pin 5 emergency inputs are connected to each other. Finally, the emergency contact from the alarm panel is connected to pin 1 (+ 24VDC) and pin 5 of terminal XL5.

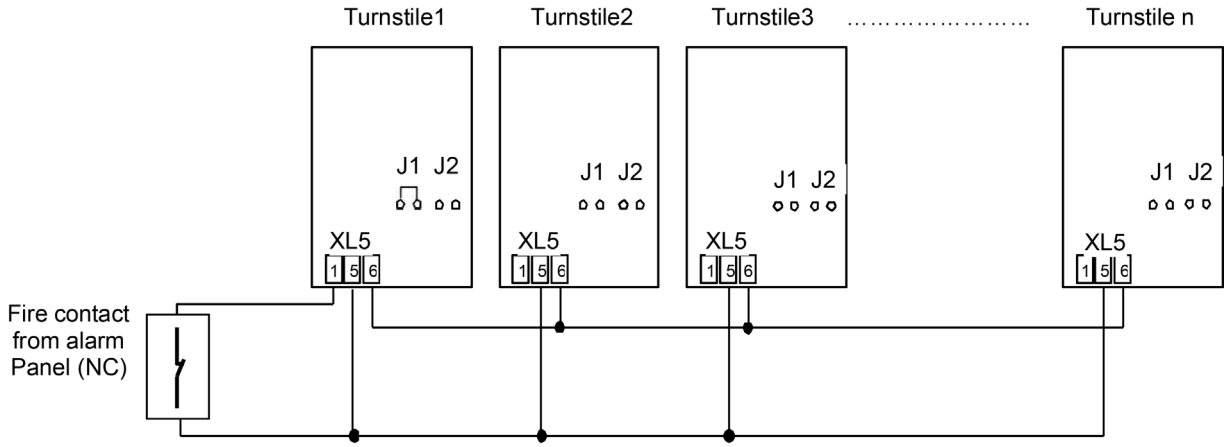
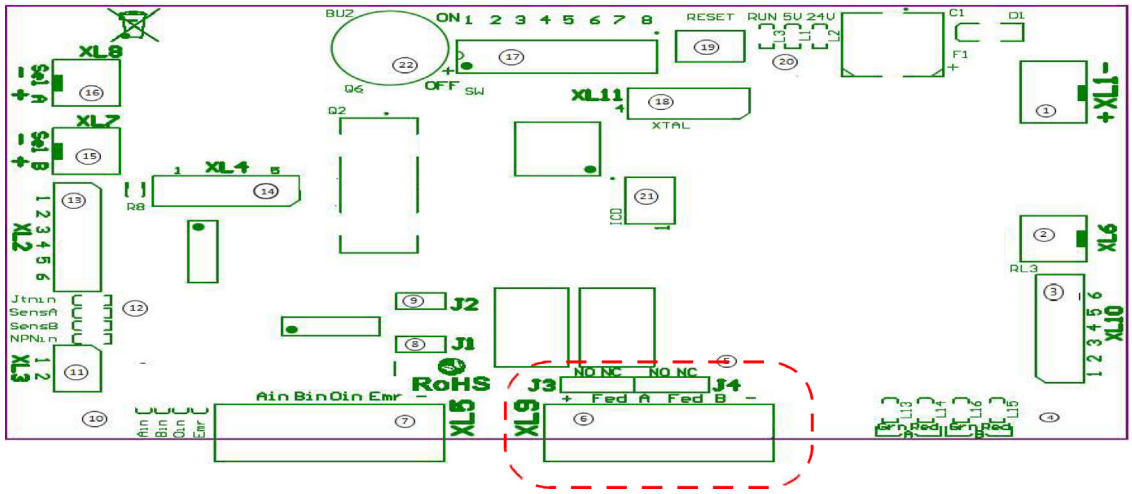


Figure 5.7 Alarm cable connection diagram

Control card terminal descriptions (XL9)



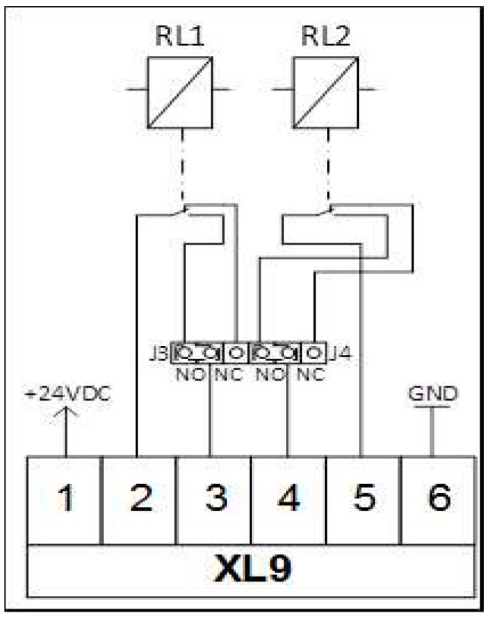


Figure 5.8

XL9 terminal has direction A and B pass relay contacts. (Figure 5.8) Relay contacts are normally open (NO) when the turnstile is at idle. The pins 2 and 3 of terminal XL9 are connected to the relay RL1. The relay RL1 is active in passing to direction A. The pins 4 and 5 of terminal XL1 are connected to relay RL2. The relay RLw is active in passing to direction
B.
The signal duration of the relays giving the pass information is 500mS. The corresponding relay pulls and releases at 500mS in each pass. The normally open (NO) and common (COM) poles of the RL1 and RL2 pass relays are removed in the factory as standard. If normally closed (NC) contact outputs are to be taken, J3 and J4 jumper should be removed from the

How to use the pass relays

There are 2 directional pass relays on the turnstile control card. Normally open (NO) poles of these relays are extended to terminal XL9. The pass information relay contact is available separately for A and B directions. At each rotation of the turnstile arm to direction A, the A direction pass contact 500mS is activated, and it becomes passive again. In the same way, every time the turnstile arm rotates to direction B, the B direction pass relay is activated, and it becomes passive again. A maximum of 500mA (30VDC) current can pass through the pass relay contacts, external relays should be used if more current is desired. Directional pass relays work independently of A/B direction opening and emergency inputs. They detect the rotation of the arm, even if the turnstile is in A/B direction, free or emergency mode, and send the pass information. Pass relays give a normally open (NO) contact output as standard, and if desired, jumpers J3 and J4 can be switched from normally open (NO) to normally closed (NC) to obtain contact information. Directional pass relay can be used with the reader control system as well as for counter connection if desired.

5.5.2 Pass relays and counter connection

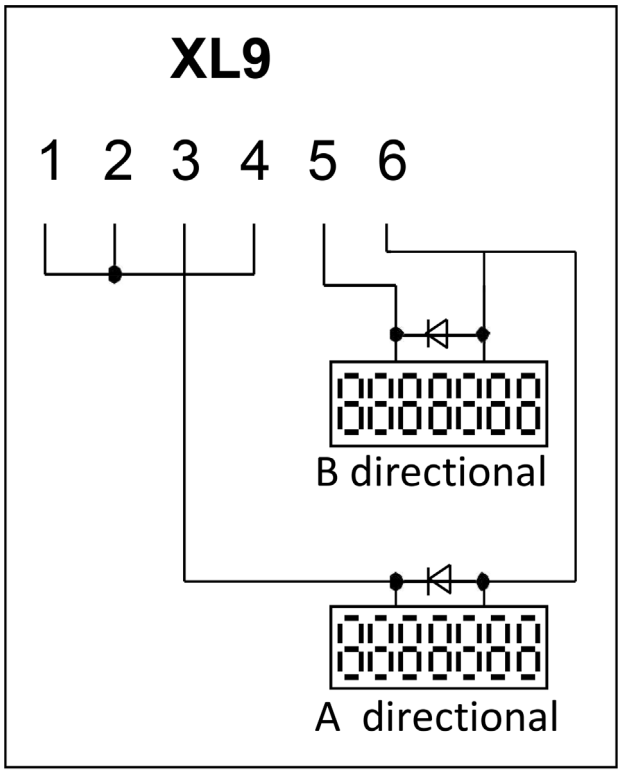


Figure 5.9

Figure 5.9 shows the mechanical counter connection using directional pass relays. It is located on pin 1 of the XL9 terminal (+ 24VDC), this output can be used as the switching voltage to counters. For this purpose, pins 1, 2 and 4 of terminal XL9 must be short-circuited. Pin 6 of the XL9 terminal (GND) is connected to the negative (-) poles of the counters. The diode (1N4007), which is connected in parallel to the poles of the counter, must be fitted in order to prevent interference. Note the direction of the diode in the connection, as the reverse connection may cause malfunction of the turnstile adapter. Finally, pins 3 and 5 of terminal XL9 are connected to the plus (+) poles of the counters. Once the connection is completed, the corresponding counter will increase by one (1) value at each turn of the turnstile.