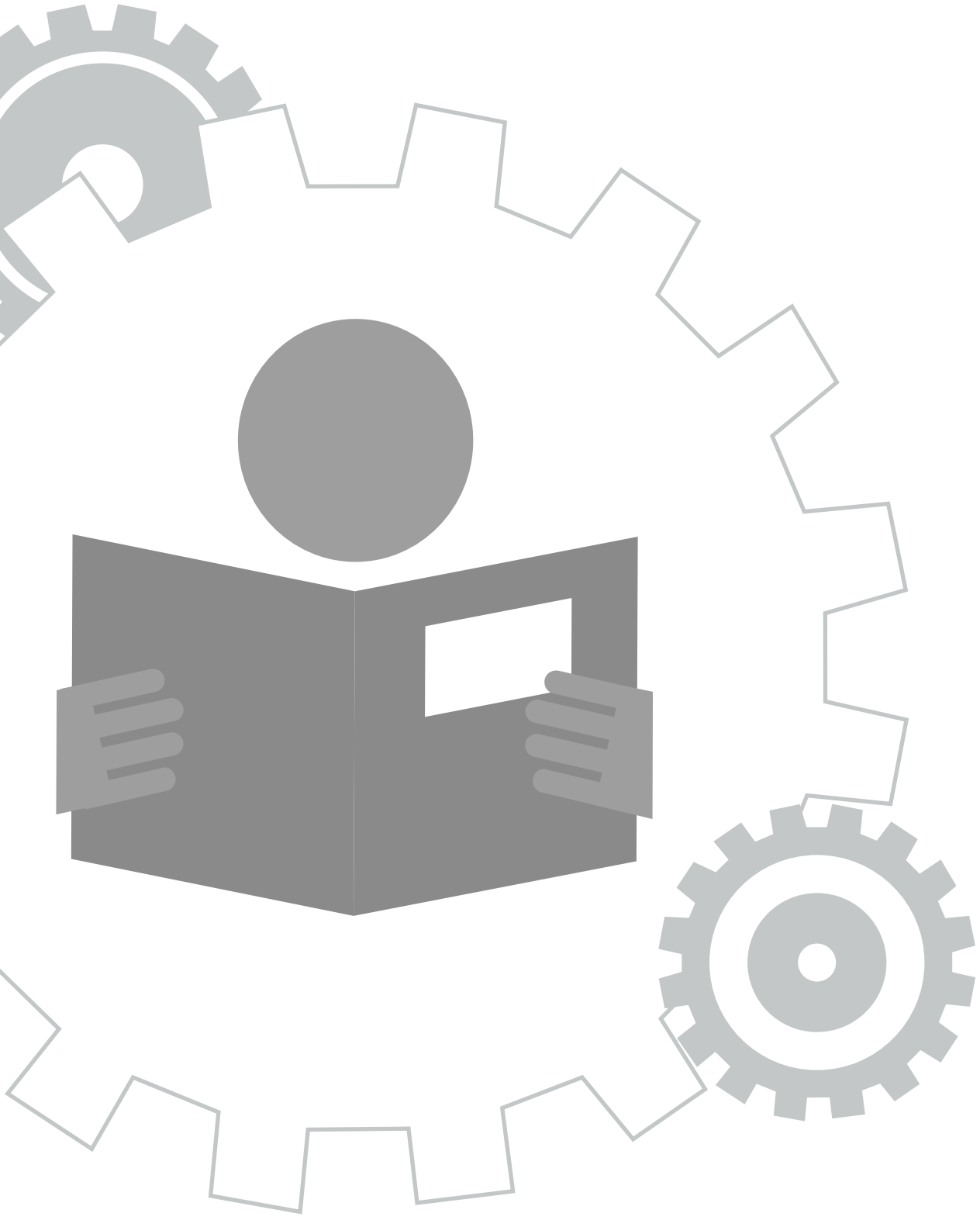
record Tripod



User manual

Translation of the original manual

Table of content

1 Safety

1.1 Presentation of warning signs

Various symbols are used in this guide for easier understanding:

NOTICE

Useful advice and information to ensure correct and efficient workflow of the system.

IMPORTANT

Specific details which are essential for trouble-free operation of the system.

IMPORTANT

Important details which must be read for proper function of the system.

CAUTION

Against a potential hazardous situation that can lead to minor personal injury and property damage.

WARNING

Against a latent hazardous situation that can lead to severe injuries or death and cause substantial property damage.

DANGER

Against an imminent hazardous situation that can lead to severe injury or death.

DANGER

Against an imminent or latent hazardous situation that could lead to electric shock and cause serious injury or death.

1.2 Intended purpose of use

The system is designed exclusively for use as a pedestrian passage. The installation may only occur in dry areas. If there are deviations then proper waterproofing and water drains will be required on-site.

Any other application or use beyond this purpose is not considered to be an intended purpose. The manufacturer bears no liability for any resulting damage; the operator alone shall bear the associated risk.

The intended purpose also includes observation of the operating conditions specified by the manufacturer, in addition to regular care, maintenance and repair.

Interventions in or alterations to the installation performed by non-authorized maintenance technicians exclude the manufacturer's liability for consequential damages.

1.3 General hazards

The following section lists hazards that can be caused by the system even when used as intended.

To reduce the risk of malfunction, damage to property or injury to persons and to avoid dangerous situations, the safety instructions listed here must be observed.

The specific safety instructions in the other sections of this manual must also be observed.

IMPORTANT

The country-specific regulations must be observed and complied with!

IMPORTANT

To avoid malfunctions, moving objects such as flags or parts of plants must not be allowed to enter the detection range of the sensors.

CAUTION

Risk of malfunctions, material damage or injury due to improper settings!

a) Improper settings can lead to malfunctions, material damage or personal injury.

⇨ Do not disconnect the system from the power supply overnight.

⇨ Settings should only be made by personnel qualified to do so.

⇨ Do not disassemble, put out of operation or manipulate safety devices.

⇨ Have faults rectified by specialist personnel or by personnel qualified to do so.

⇨ Have service and maintenance carried out according to locally applicable regulations or according to a maintenance contract.

CAUTION

Risk of malfunctions, material damage or injuries due to insufficient or missing cleaning or care!

a) Insufficient or inattentive cleaning or care of the system can lead to malfunctions, damage to property or injury to persons.

⇨ Check the sensors regularly for dirt and clean them if necessary.

⇨ Regularly remove dirt accumulations in the floor rail or under the floor mat.

⇨ Keep the system free of snow and ice.

⇨ Do not use aggressive or caustic cleaning agents.

⇨ Use road salt or loose chippings only conditionally.

⇨ Lay the floor mat without folds and flush with the floor.

⇨ Equipment required for cleaning purposes such as ladders or similar must not be leaned on or attached to the system.

CAUTION

Risk of material damage or injury due to unforeseen opening, closing or turning of the door!

a) The door can open, close or turn unexpectedly. This may result in damage to property or injury to persons.

⇨ No persons may be present in the opening area of the system.

⇨ Ensure that moving objects such as flags or parts of plants do not enter the detection range of the sensors.

⇨ Do not make any settings on the control unit when the system is in use.

⇨ Have faults rectified immediately by specialist or personnel qualified to do so.

⇨ Remove objects from the opening area.

⇨ Do not disassemble, put out of operation or manipulate safety devices.

⇨ Do not rush through a closing system.

CAUTION

Risk of bruising and severing of limbs!

a) If the system moves, careless behaviour can lead to serious injuries to limbs or severance of limbs.

⇨ Do not reach in when parts of the system are moving.

⇨ Keep a distance when parts of the system move.

⇨ Do not bump into or touch the system when it is moving.

⇨ Do not open or remove protective covers during operation.

⇨ Do not permanently remove covers from the system.

⇨ Only carry out inspection, service, maintenance and cleaning when the system is stationary and switched off.

CAUTION

Danger of material damage or injury due to non-functioning safety devices!

a) If safety devices are not functioning, manipulated or put out of operation, there is a risk of damage to property or injuries that can lead to death.

⇨ Never disable or manipulate safety devices.

⇨ Have inspection, service and maintenance of the safety devices carried out according to local regulations or according to a maintenance contract.

CAUTION

Danger of malfunctions, damage to property or risk of injury if used by unauthorised persons!

a) If unauthorised persons use the system, there is a risk of malfunction, damage to property or injury to persons.

⇨ Children under 8 years of age may only use the system under supervision.

⇨ Children must not play with or on the system or clean and maintain it.

⇨ Persons with limited physical, sensory or mental abilities as well as persons with insufficient knowledge or experience may only use the system under supervision or must have received and understood instructions to do so.

DANGER

Danger to life due to electric current!

a) In case of contact with live parts, there is an immediate danger to life due to electric shock. Damage to or removal of the insulation or individual components can be life-threatening.

⇨ Before starting work on active parts of electrical systems and equipment, ensure that all poles are voltage free and that this is maintained for the duration of the work.

⇨ Keep moisture away from live parts. This can lead to a short circuit.

⇨ Never bridge fuses or put them out of operation.

⇨ Do not connect the power supply until all work has been completed.

⇨ Have work on the electrical system performed by qualified personnel only.

DANGER

Danger to life due to non-functioning safety devices of the fire protection system!

a) If safety devices of the fire protection system do not function properly, there is a risk of serious or fatal injuries.

⇨ Never disconnect the fire protection system from the power supply overnight.

⇨ Do not disassemble, put out of operation or manipulate safety devices.

⇨ Do not remove safety instructions on the system.

⇨ Never block, hold open or otherwise prevent fire doors from closing.

⇨ Have inspection, service and maintenance of the fire protection system carried out in accordance with locally applicable regulations or according to a maintenance contract.

⇨ Have the fire protection system checked and maintained according to the state of the art.

1.4 State of technology

This system was developed using state of the art technology and officially recognized technical safety regulations. The system, depending on its options and diameter, comply with the requirements of the Machine Guidelines 2006/42/EG as well as EN 16005 and DIN 18650 (D).

Nevertheless, danger may arise if not used as intended.

IMPORTANT

Installation, commissioning, inspection, maintenance and repair work may only be conducted by qualified, trained and authorized technicians.
After commissioning or repair work, fill in the check list and give it to the customer for safe keeping.
We recommend obtaining a service agreement.

1.5 Personal protective equipment

Personal protective equipment is used to protect persons from adverse effects on safety and health. Personnel must wear personal protective equipment during the various work activities on and with the system.

Personal protective equipment is explained below:

Hearing protection is used to protect the hearing from noise. As a rule of thumb, hearing protection is compulsory from when normal conversation with other people is no longer possible.

The head protection serves to protect against falling and flying parts and materials. It also protects the head from bumping into hard objects.

Protective goggles protect the eyes from flying parts, dust, splinters or splashes.

Protective gloves are designed to protect hands from friction, abrasions, punctures or serious injury and from burning caused by contacting hot surfaces.

Safety shoes protect the feet from crushing, falling parts and slipping on surfaces. The puncture resistance of the shoes ensures, that pointy objects do not penetrate the foot.

The high-visibility vest is used to make the personnel stand out and therefore to be seen. With improved visibility and attention, the high-visibility vest protects personnel in busy work areas from collisions with vehicles.

Depending on the place of work and the working environment, the protective equipment varies and must be adapted accordingly. In addition to protective equipment for specific work, the work site may require other protective equipment (for example a harness).

In hygiene-protected areas, special or additional requirements of personal protective equipment may be required. These requirements must be considered when choosing personal protective equipment. If there is any uncertainty regarding the choice of personal protective equipment, the safety officer must be consulted at the place of work.

1.6 Spare parts and liability

Reliable and trouble free operation of the door is only guaranteed when using parts that were recommended by the manufacturer. The manufacturer declines any liability for damages resulting from unauthorized modifications to the door or the use of parts that are not permitted.

2 General information

2.1 Purpose and use of the instructions

These instructions are an integral part of the system and enable efficient and safe handling of the system. In order to ensure proper functioning, the instructions must be accessible at all times and kept in the immediate area of the system.

Although only the male form has been chosen for reasons of better legibility, the information refers to members of both sexes.

The operator must have read and understood the manual before starting any work. The basic requirement for safe working is to follow the safety instructions and the handling instructions. In addition, the local regulations and safety rules apply.

The manual can be handed over in extracts to instructed personnel who are familiar with the operation of the system.

The illustrations are for basic understanding and may differ from the actual presentation. Specific representations are contained in the drawings.

2.2 Document identification

Name:	BAL_Tripod_EN_1V0_REC_102-905401081
Version:	V1.0
Article nr.:	102-905401081
Publication date:	03/2021

2.3 Copyright

2.4 Product identification

The nameplate located on the door provides accurate identification of the product.

2.5 Manufacturer agtatec ag

agtatec ag

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2.6 Target groups

CAUTION

Risk of injury if personnel are insufficiently qualified!

If unqualified personnel work on the system or are in the danger zone of the system, dangers may arise which can cause serious injuries and considerable damage to property.

a) All work must be carried out by qualified personnel only.

b) Keep unqualified personnel away from danger areas.

This operating manual is intended for the target groups listed below:

– Operating entity of the system:
the person who is responsible for the technical maintenance of this system
– Operator of the system:
the person who operates the system every day and has been suitably instructed

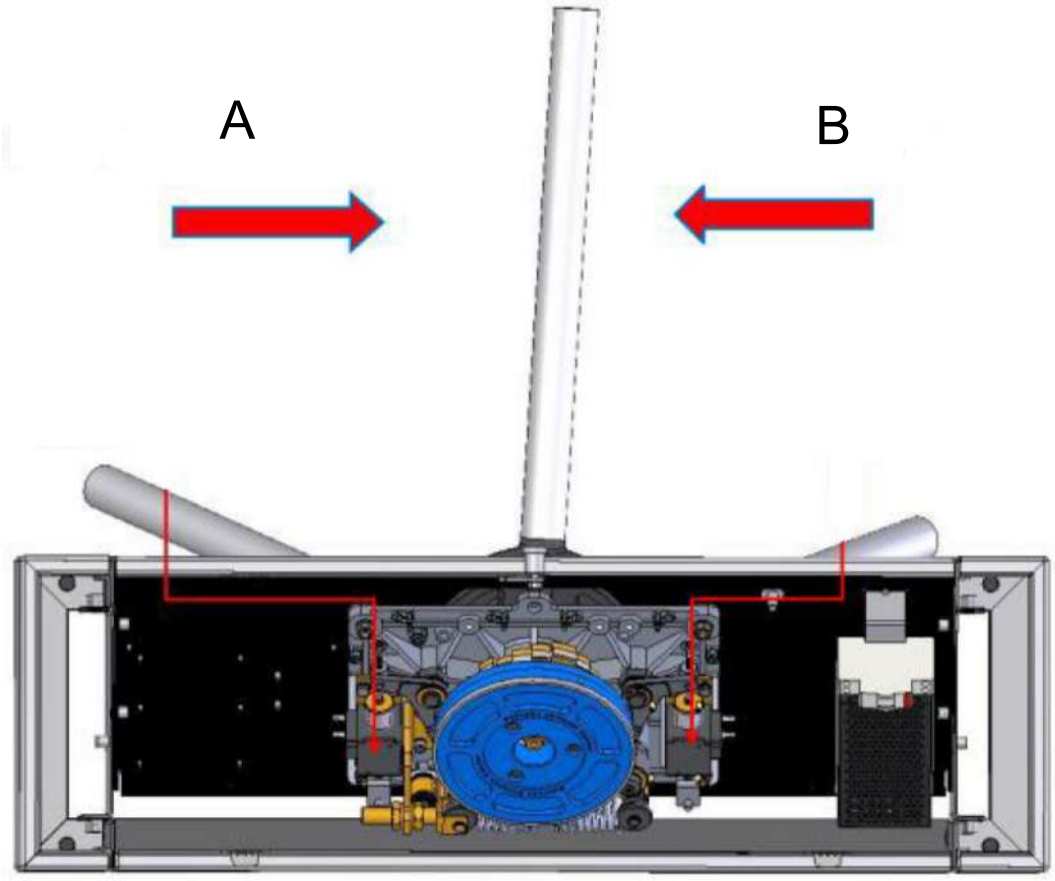
3 Description

3.1 Product Description

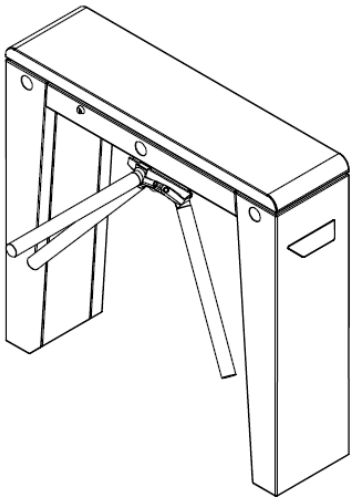
The turnstile range is designed for applications of low profile, high flow rate whilst maintaining a high degree of security.

The unit consists of a mechanism that controls the rotation of a Head Assembly that has three tubular arms. These arms are positioned at 120° intervals so that when the unit is at rest one arm will always be in the horizontal position – BARRIER POSITION.

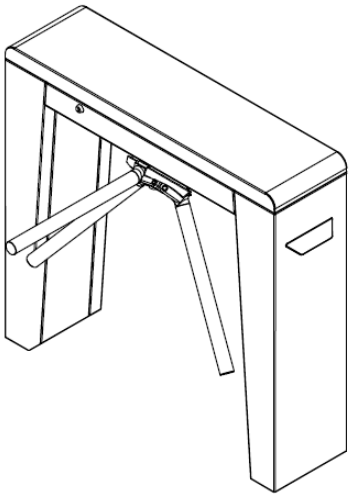
The movement of the Head Assembly is controlled by two solenoid devices, which allow rotation in both directions – (A) Clockwise and (B) Anti-clockwise. The Head Assembly is moved manually by the person using the turnstile.



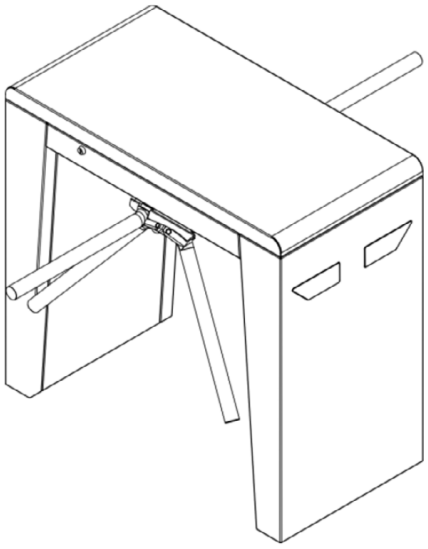
The following variations can be supplied by record. However this Technical Manual provides sufficient information to cover all models.



turnstile



turnstile



turnstile double

3.2 Instruction for Use

The turnstile is unlocked by presenting a personalised identity card or device to the access control reader. (Supplied by others) It can also be unlocked by depressing a casework or remote reception push button, if fitted. This will release the mechanism locking solenoids and render the Hercules- Lite turnstile ready for use by walking through the walkway passage in the desired direction.

Should the user decide not to proceed with the passage, the locking solenoid will remain unlocked for a predetermined time after which it will ‘time out’ and reset the unit making it available for the next person.

NOTICE

DO NOT try to push the rotor by hand as you walk through the barrier.

DO NOT walk through the barrier with large bags or briefcases in front or trailing behind you.

DO NOT drag bags over the top casework. (Always lift bags over the top of the barrier).

Should any item become caught in the rotor, STOP, and DO NOT keep forcing through in the same direction.

3.3 Operating Modes

The turnstile is bi-directional. The two directions can be separately configured as follows:

- Unlock mode: passage is authorised for all users in the desired direction.
- Lock mode: passage is inhibited in the desired direction.
- Reader control mode: the passage is possible only for those users who are recognised by a badge reader.

The mode for each direction can be set by means of:

- Setting of the control logic trimmers position (see Trimmer TR 7).
- Remote control (optional MP2000 control module).
- RS485 serial interface (through the proprietary serial protocol).

The action of the Remote Control or the Serial Control has priority over the trimmer’s position setting.

The HERCULES locking device can be supplied in two versions that can be factory or site set:

- Fail Locked – mechanism locked in the absence of the power supply.
- Fail Safe – mechanism released in the absence of the power supply.

Within these versions the control logic offers two operating modes:

3.4 Normally Closed

Controlled Transit in Standard Mode (STD)

At rest the rotary unit is locked. On receipt of an authorisation signal from the reader unit the solenoid releases rotation in the required direction.

At rest, rotation is prohibited in both directions and solenoids ‘A’ and ‘B’ will be de-energised in the Fail Locked configuration (energised in Fail Safe mode).

If the authorisation signal enabling transit in direction ‘A’ is received from the reader unit, rotation will be released in that direction (‘A’ energised in Fail Locked – de-energised in Fail Safe).

To lock the turnstile on completion of rotation, the locking arm is recalled (‘A’ de-energised in Fail Locked or energised in Fail Safe) when the turnstile has rotated approximately 67° from the starting point.

During the entire rotation solenoid ‘B’ remains de-energised in Fail Locked configuration (energised in Fail Safe) in order to perform the anti-reversal function. The system operates in the same manner for transit in direction ‘B’.

3.5 Normally open

At rest, rotation is not prevented by the solenoids that are energised in the Fail Locked configuration (de-energised in Fail Safe).

If a person attempts to rotate the turnstile in direction ‘A’ without authorisation having been received from the reader unit – solenoid A will lock the turnstile after it has rotated approximately 10°. Only when the turnstile has returned to the BARRIER position will the rocker arm release.

NOTICE

The same action applies for direction ‘B’

During transit in any direction, if an attempt is made to reverse the turnstile the antireversal device will only intervene if the turnstile has already completed a rotation of 67° in the authorised direction. The anti-reversal device operates when the control logic detects a rotation of approximately 3.3° in the opposite direction to that authorised. (Solenoid ‘B’ will operate if the authorised direction is ‘A’ or viceversa.

The solenoid releases the rocker arm only when the turnstile is rotated a further 6.6° in the authorised direction.

3.6 Emergency / Fire Alarm

The turnstile offers an input (0V normally closed) in order to receive an Emergency / Fire Alarm remote command (by others).

When this command is active, the control logic releases the rotation of the turnstile in both directions. This condition will remain for the duration of the signal being received by the control logic.

If the turnstile is equipped with the optional drop arm device & when the Emergency command is active, the arm in the home position is released in order to leave the passageway open. Connection details are given in Section 5 of this manual.

3.7 Traffic Lights and Pictograms

In order to facilitate the transit flow, traffic lights and optional pictograms are available which show when a turnstile is programmed with the lock mode or is already engaged in the other direction (red cross).

Similarly the presence of a green arrow indicates that a user can pass through the turnstile. In scenario where a pictogram is installed, an additional card reader sign indicates that the entrance is ready to accept the access control system authorisation. If the pictograms option is used, a trimmer of the LL2001 electronic board must be properly configured (See Trimmer TR 5).

3.8 Alarms

If a person attempts to rotate the turnstile without authorisation having been received from the reader unit the control logic will interpret this as an attempt at fraud (‘Fraud’ alarm). In the SA mode the solenoid locks rotation.

The rocker arm is released when the turnstile returns to the BARRIER position. In every case, the turnstile rotation must be completed within 8 seconds from the arm leaving the BARRIER position, otherwise the control logic will signal another type of alarm (‘Positioning’ alarm). The alarm is then reset when the turnstile returns to the BARRIER position.

If the turnstileis equipped with the Drop Arm option, the control logic detects if the arm in barrier position is dropped. In that case, the control logic will signal an alarm (‘Drop Arm’ alarm). The alarm is reset when the arm is restored in the barrier position.

The EV, ATT version (Alarmed turnstile), is equipped of two photocells and a sensitized top lid in order to recognise the attempts of passing through the barrier without authorization. If these sensors are activated when the control logic is not processing any authorized rotation, an alarm will be triggered. That alarm is reset 3 seconds after the sensors de-activation.

The photocell generated alarm is automatically inhibited when the Unlock operating mode is set for at least one direction. In that case, only the sensitized top lid alarm is active.

The EV equipped with ATT & ITC kits, besides the above mentioned ATT feature, incorporates the Improper Transit Control alarm system, which increases the former’s potential for utilization especially with regard to the computerized management systems relating to workplace attendance and scheduling. The ITC system is able to sense and give the alarm in case of simulated passage, when a user, once permitted to pass, rotates the turnstile by his own hand, without passing.

That system uses two photocells in addition of the other two of the ATT kit. During all the described alarm conditions, the control logic locks the rotating head and signals that status by means of buzzer activation, the flashing red cross on the traffic lights and activating a dry contact output.

if the SPD (Single Person Detection) option is being ordered, then SPD allows in normal circumstances to detect a non-authorized person attempting to pass behind an authorized person transiting, both persons in between of two consecutive arms. The SPD performance might result in a reduced piggy-backing detection in the case of two people remaining attached to each other to voluntary fraud the gate during transit. SPD provides with a basic solution for an increased level of piggy-backing detection. Possible false alarms are also expected.

By means of a trimmer (see Trimmer TR 8), it is possible to choose which type of alarm is to be signaled by the dry contact output.

4 Technical Specification

Orientation	Pass Left or Pass Right
Drive	Hand Operated
Material central cabinet	Stainless steel AISI304 (1.4301 as ref. EN10088-1)
Material casework lid	Stainless steel AISI304 (1.4301 as ref. EN10088-1)
Material options	Wood, marble, natural stone or other materials
Turnstile Hub	Cast Aluminium with grey finish
Turnstile Arms	38mm diameter 458mm Stainless Steel AISI 304 (1.4301 as for EN10088-1), with welded end caps
Function	Passage in both directions, electronically controlled
Mechanism	Control of the turnstile operation is achieved by an electro mechanical head mechanism located within the top section of the turnstile casework. The unit has the following features as standard:
	Normally The mechanism is locked until a valid autorisation signal is received.
	Normally Open The mechanism is permanently unlocked and will only lock if passage is attempted without a valid authorised signal. In this mode the MCBF is increased from 10 to 12 million cycles and increases passage through put speeds.
Power Supply	115/230 Vac 50/60Hz
Power Consumption	Fail Safe in N/C mode: 39W Stand by or Alarm 30W Passage
	Fail Safe in N/O mode: 10W Stand by or Alarm 39W In Alarm condition
	Fail Lock in N/C mode: 10W Stand by or Alarm 20W Passage
Power consumption if equipped with Drop Arm device	Fail Safe in N/C mode: 50W
	Fail Safe in N/O mode: 20W Stand by or Passage 50W In Alarm condition
	Fail Lock in N/C mode: 20W
	Depending on fitted optional, these additional consumptions shall be considered:
	Heater (winter conditions): + 150W
Logic Voltage	24Vdc
Power Failure	In the event of an emergency or isolation of the power supply, the turnstile can be configured to Fail- Safe or Fail-Lock.
	Fail- Safe = rotates freely
	Fail-Lock = . locks in the HOME position
	Either option is available in both, or one direction. (As standard the turnstile is configured Bi-directional fail-safe).
Operating Temperature	-5 to +45°C
	-10 to +45°C (EV with heating Kit option)
Transportation and Storage	-25 to +55°C
Location indoor	Indoor, out of rain and water sprays, as it is not protected from dangerous effects of water penetration
Location outdoor	The EV equipped with the IP44 protection option can be installed to direct rain exposition, Not in direct sun light, Not in front of escape routes or obstructing emergency exits, do not use in potentially explosive atmospheres.
Relative Humidity	80% Maximum without condensation. MCBF: 10.000.000 cycles (normally closed mode) 12.000.000 cycles (normally open mode)
Degree of Protection	IP32, IP44 (EV with IP44 Protection Option).

Fire Alarm	Input facility available for 0V contact (normally closed) supplied by others to effect fail state
Interface	The mechanism is controlled by means of a Microprocessor control logic with the following features:
	Three Built-In sensors directing the mechanism position.
	One input for opening/locking the mechanism in each direction.
	Two protected outputs for control of the opening/locking Solenoids.
	Four protected outputs (refer to LEDs / Way mode indicators in Section 4) for piloting light mode indicators
	Two protected outputs available for counting passage in either direction.
	Two dry contacts (0V) output relays available for indicating availability of use in either direction or availability for counting passage in either direction.
	One dry contact (0V) output relay for alarm signalling. Two open collector NPN outputs (refer to EXIT
	One serial port – RS485.
Characteristics	Available for indicating use in either direction or availability for counting passage in either direction or activate alarms and/or the ‘Drop Arm’. Four inputs for sensors (ATT&ITC model only).

5 Servicing and maintenance

5.1 Maintenance

The Hercules mechanism should be inspected and cleaned at regular intervals in order to maintain the components in good working order and to check for signs of wear.

The following information refers to a typical installation where the average number of transits per year is equal to ONE Million To avoid the risk of electric shock, always ensure that the electrical power is disconnected before inspecting the mechanism.

The Hecules-Lite Tripod should be cleaned and greased at regular intervals, using the following approved materials.

Routine cleaning, all finishes

Cleaning agent:	Soap or mild detergent water.
Action:	Sponge rinse with clean water, wipe dry as necessary

Stubborn stains and discolouration, all finishes

Cleaning agent:	Mild cleaning solutions or domestic service cleaners.
Action:	RInse well with clean water and wipe dry.

Oil, Grease marks, all finishes

Cleaning agent:	Organic solvents (acetone, alcohol, genclene, trichlorethane).
Action:	Clean after with soap and water, rinse well with clean water and wipe dry..

Rust and other Corrosion products, Stainless finishes

Cleaning agent:	Oxalic acid. The cleaning solution should be applied with a swab and allowed to stand for 15 to 20 minutes before being washed away with water. Continue using a domestic surface cleaner to give a final clean.
Action:	Rinse well with clean water (precautions for acid cleaners should be observed).

Minor scratches on painted surfaces

Cleaning agent:	Lightly rub with cutting paste. Rinse area with water and dry. Apply touch-up paint in fine layers.
Action:	Allow 2 weeks to harden. Blend into surrounding paint work, using fine cutting paste.

Deep scratches on painted finishes causing rust

Cleaning agent:	Remove rust with a small sharp knife. Apply rust inhibiting paint. Fill scratch with fine body filtert o just under finished surface. Follow procedure for minor scratches.

Greasing

Cleaning agent:	None
Action:	Carried out by the service technician as part of service maintenance.

6 Malfunctions

6.1 Fault Finding

Symptom	Check	Action
turnstile permanently unlocked	Mains input voltage is ON 24vdc is present at LL2001	Change Power Supply Unit
	Obstructed movement arm	Remove obstruction
	Fuses on LL2001.	Replace as required
	Operate Lock the solenoids using the pushbuttons	Check wiring If 24Vdc not present at LL2001 output – replace PCB.
	On giving a command 24Vdc is present at solenoid coil.	Change solenoid unit if voltage not present
	Disconnect the Controller and link across one pair of inputs at a time to ensure LEDs illuminate	If the LEDs do not illuminate change LL2001
turnstile locks at start up	Check LL2001 PCB	Replace the PCB if faulty
turnstile does not return to the Barrier Position	The ALARM LED is illuminated SENSOR 1 LED is NOT illuminated	Carry out maintenance on the Rocker Arms and upper Positioning Cam Replace any defective items Check LED SENSOR 1 on LL2001 PCB
	Rotate the turnstile - ensure that LED SENSOR 1 is illuminated	Change LL2001 PCB
Reader does not receive the Count or Acknowledge signals	Run the LL2001 PCB checks	Change PCB if required
	Operate Relays using the pushbuttons	If relay fails – replace LL2001 PCB

Australia
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