Installation and Operating Manual

Monitored Automatic Hand Disinfection with Turnstile
1227110010 - DSO 01.ADR.P
1227110020 - DSO 01.ADR.L

Basic Technical Data

Maximum device capacity:	approx. 10 persons per minute
Electrical connection:	230V, 50Hz
Power consumption:	idle 3 VA dosing + passage 45 VA
Protection rating:	IP 55
Recommended disinfectant:	Consult the supplier of disinfectants to select a suitable product. The use of aggressive agents based on chlorine and its compounds is prohibited, as well as products that could adversely affect the stainless-steel housing and internal plastic piping.
Recommended solution concentration:	as per the manufacturer's instructions

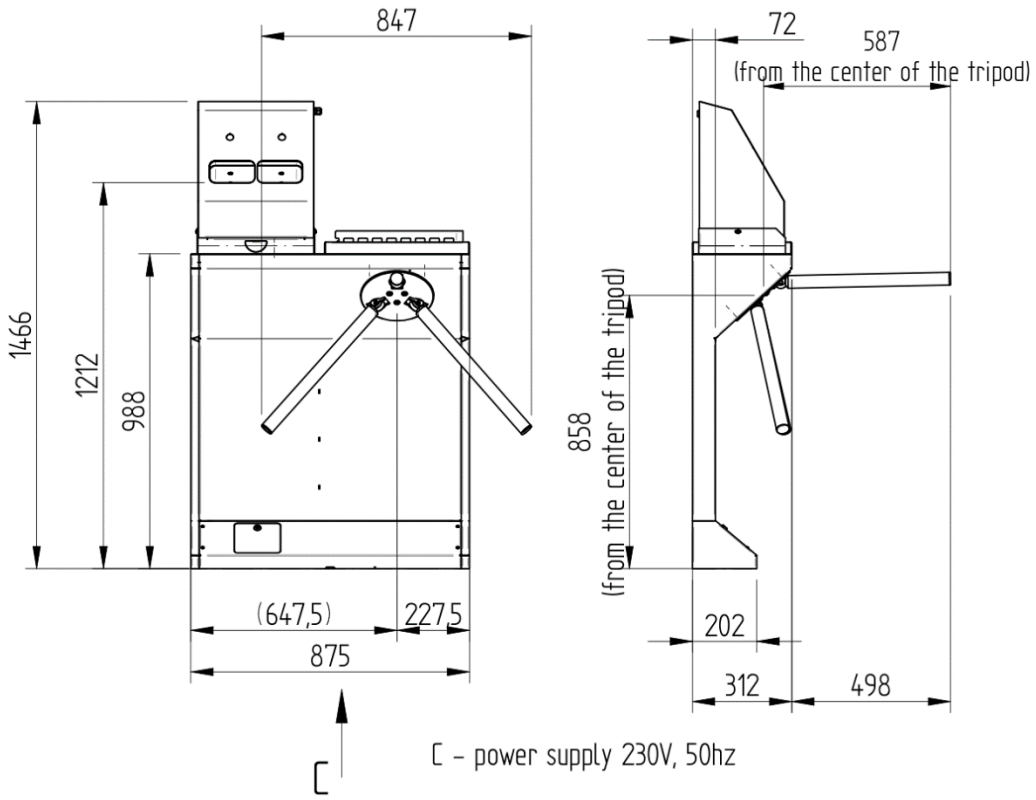
General Description

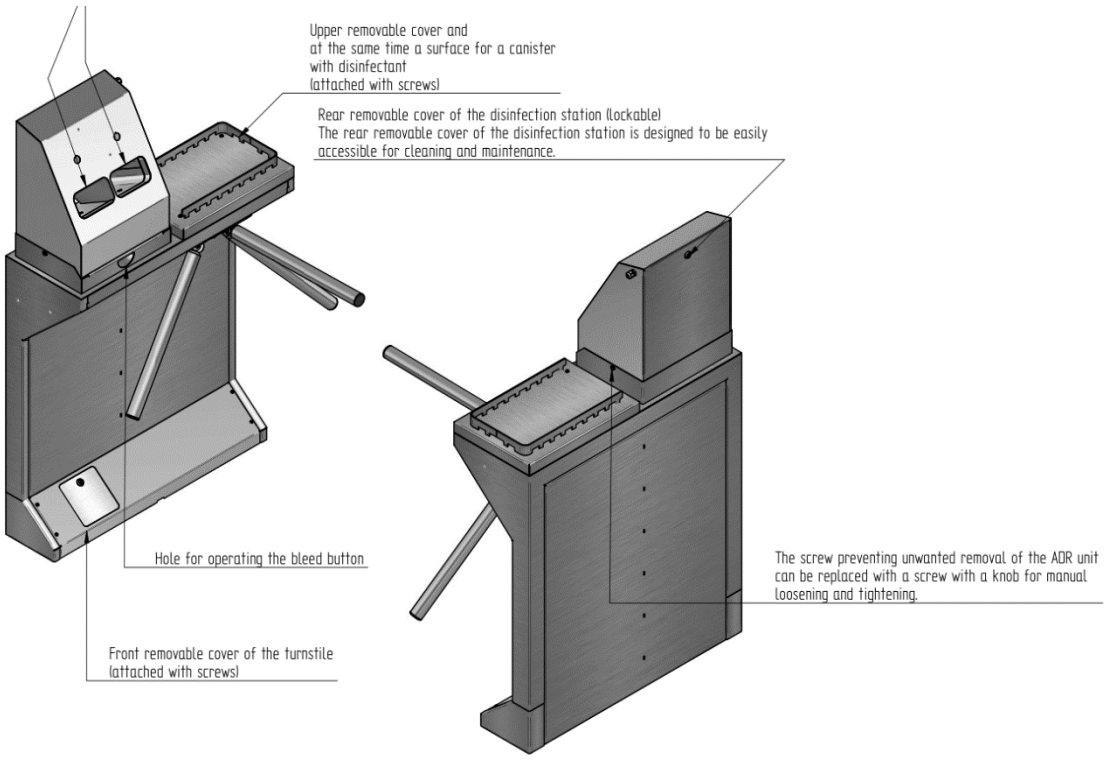
The system consists of an automatic hand disinfection unit including a canister shelf with a turnstile. Passage towards the controlled area is conditioned by successful hand disinfection in the ADR system (automatic hand disinfection). Passage in the opposite direction through the turnstile is typically blocked..

The assembly is mounted on a stand and placed as a free-standing unit.

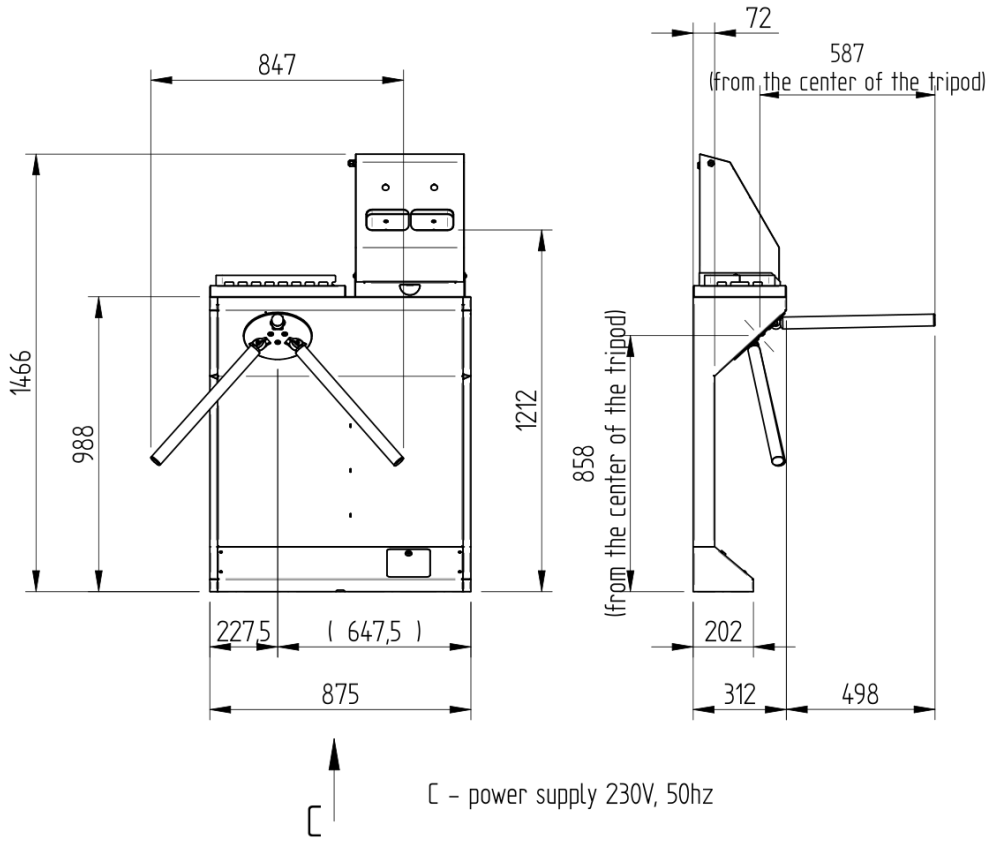
Diagram

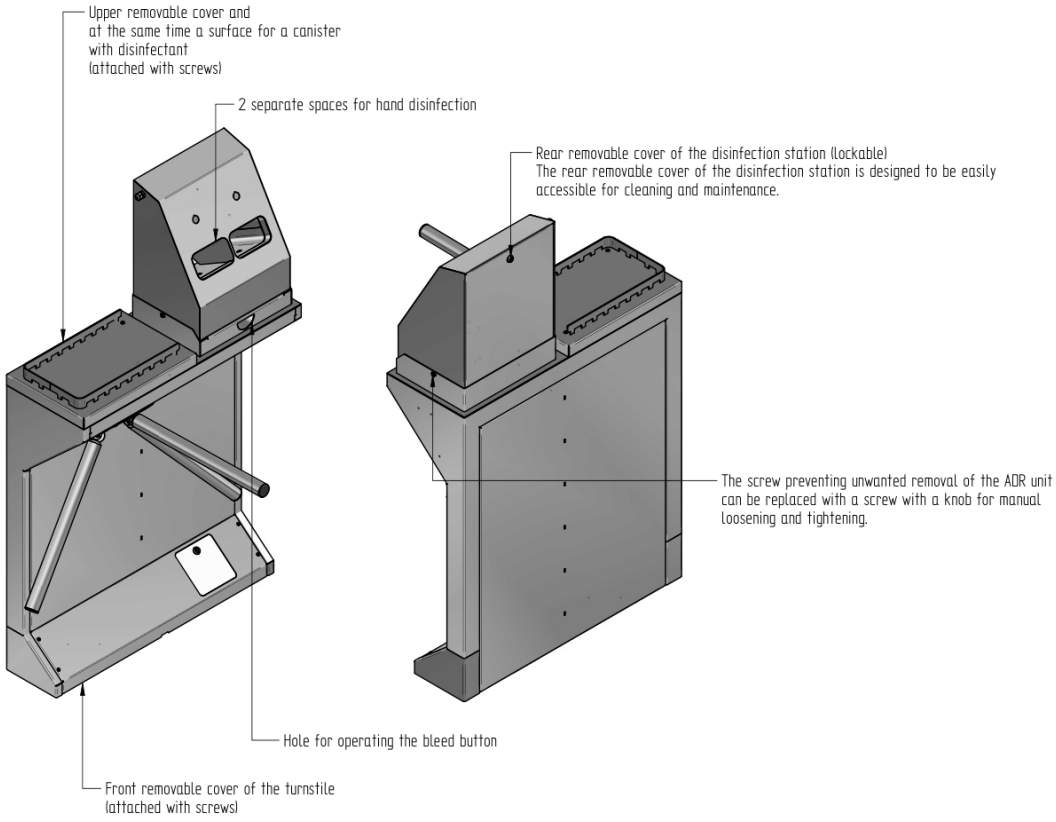
1227110020 DSO 01.ADR.L





1227110010 DSO 01.ADR.P





Building preparation

Bring a 230 V/50 Hz power supply using a 3 × 0.75 mm² cable (minimum), protected separately by an external single-phase circuit breaker rated 2 A(min).

Function of the DSO 01.ADR automatic hand disinfection

The monitored automatic hand disinfection unit (hereinafter DSO 01.ADR) is intended for cleaning hands with disinfectant mainly in the food industry and in direct connection with a system enabling regulation of people's movement in a designated area—such as a turnstile.
The operator approaches the device with the red indicator illuminated. Inserting both hands into the openings shades the opto-electronic sensors, activating the unit. The pump delivers a preset dose of disinfectant, which is dispersed onto the hands by misting nozzles, and the green indicator lights up. At this moment a potential-free contact closes, opening a barrier or unlocking the turnstile.
The sensing sensors located in both hand openings verify correct disinfection procedure. If disinfection is not performed properly (e.g., hands are removed before the spray is completed), passage through the turnstile is not permitted. The operator must repeat the procedure. Only when the green indicator is lit may the operator pass through the turnstile.

Maintenance

System bleeding procedure:

Press the button located on the underside of the hand-disinfection cabinet to activate the electronic system. Hold the button until the disinfectant discharges. Then insert hands into the openings repeatedly to complete bleeding of the entire system. In normal operation, timely replacement of the canister is recommended to prevent complete depletion of the disinfectant and subsequent air intake into the system.

Disinfectant spray settings

The length of the spray is set by pressing the microswitch contact located on the printed circuit board inside the switch cabinet. Spray length = time between presses. The actual range is from 100 ms to 25 s in 100 ms increments. The setting can only be made within 20 minutes after switching on the power supply. The contacts on the printed circuit board terminal block are for various versions of DSO 01.ADR/ADR.

Warning:

Using the wrong disinfectant in the wrong concentration or viscosity can damage the pump or clog the nozzles.

Turnstile function and technical description

A turnstile is a mechanical device whose essential component is a control unit that blocks or releases the rotation of the head with arms. The control unit can be designed as RIGHT/LEFT depending on the required blocking method. Determining the direction of rotation: when viewed from the front of the rotating head – clockwise rotation is the right-hand version, counter-clockwise rotation is the left-hand version. It is advisable to specify this when ordering. Alternatively, it is possible to set the direction of passage on site. (see setting the direction of passage).
The turnstile consists of a stainless-steel cabinet with a control unit and a rotating head.
The turnstile is also equipped with an automatic arm drop function. In the event of a power failure, the arm drops to a vertical position. It returns to its original position manually (the turnstile must be powered).

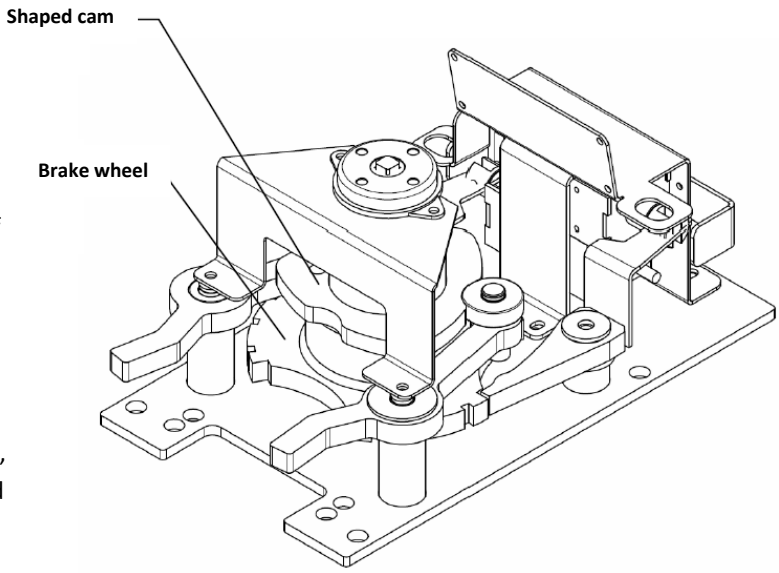
Maintenance

The turnstile mechanics is designed as a complex mechanical device with rotating parts. Maintenance is therefore very important to ensure the proper operation of the turnstile. The maintenance and adjustment must be carried out by an experienced person trained by the manufacturer, or preferably directly by the manufacturer. A service check must be carried out every 6 months or after approximately 20,000 passes.

In addition, rough mechanical damage and exposure to aggressive agents (alkalis, corrosives) must be avoided.

Lubrication of turnstile mechanics

To ensure the smooth operation of the turnstile and to reduce the wear and tear of the material, it is essential to lubricate all mechanical components of the turnstile (see the following picture) with a special grease; ordinary lubricants must not be used.



Spring adjustment

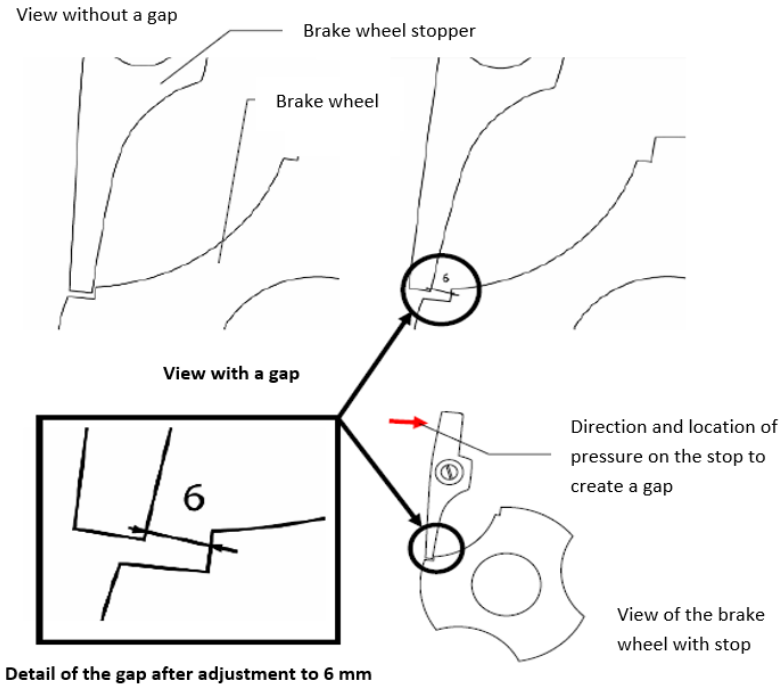
If it is necessary to increase its stiffness, insert a washer between the spring and the position lever.

Setting the direction of passage

Set the desired direction by loosening or tightening the locking screw, being located under the brake wheel stop. Care must be taken to set the sensor correctly (see following chapter).

Sensor adjustment

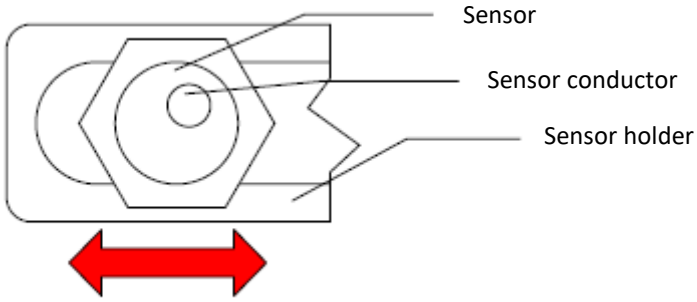
The sensor is needed for the correct function of unlocking and locking the rotary barrier. The sensor must be checked at least once every 3 months. Adjustment in case of malfunction of the turnstile. Take extra care when tightening, do not force the sensor as this may cause damage.



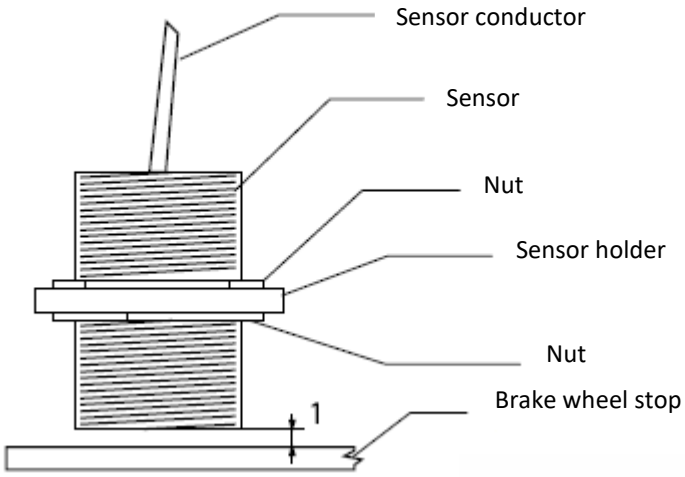
Detail of the gap after adjustment to 6 mm

When adjusting, set the rotary turnstile barrier to the "Closed both directions" position. The gap between the brake wheel and the brake wheel stop is important for the adjustment and should be **6 mm**. Create the gap by applying slight hand pressure to the stop at the solenoid.

When the rotary barrier is in the "Closed both directions" position, the LED lamp on the sensor is illuminated. When the 6mm gap is reached the indicator lamp must go out. If it does not go out, the sensor must be adjusted. The sensor is adjusted by moving it on the holder in the required direction.

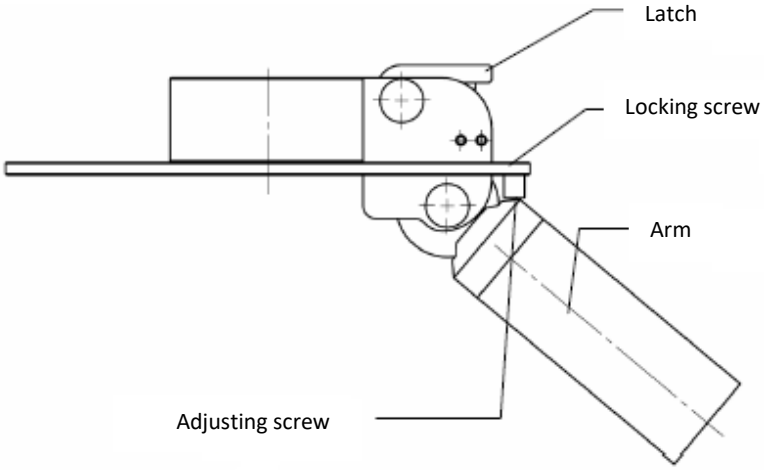


It is essential to maintain a **1 mm gap** between the sensor and the brake wheel stop for all sensor adjustments.



Drop-arm adjustment

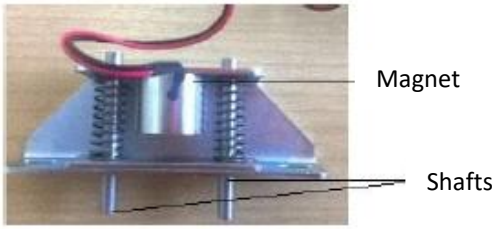
The drop arms allow free passage through the turnstile in case of danger and evacuation (anti-panic function). It is essential to check the correct functioning of the arms at least once every 3 months. If the arm does not fall of itself when the anti-panic function is activated (when the electrical circuit is interrupted), it must be adjusted so that it has sufficient clearance for tilting.



Adjust the arm using the locking and adjusting screws. Press the latch to lower the arm to the vertical position and loosen the locking screw. If the arm clearance is too large, the adjusting screw must be loosened. If more clearance is needed, tighten the adjusting screw. Tighten then the locking screw. Move the arm back to the horizontal position and rotate. Test the arm function again and readjust if needed.

Cleaning the drop arms

When cleaning the drop arms of the turnstile, it is essential to lubricate the shafts with special grease and to clean the area around the drop arm magnet of any dirt. The drop arms of the turnstile require to be cleaned once every 3 months, or more often if needed.



Prohibited operations

1. During the warranty period it is prohibited to interfere in any way with the turnstile unit or to dismantle the drive unit by oneself. Violation of this condition during the warranty period voids the operator's right to warranty repair.

2. Do not use force when manipulating the turnstile barriers in the blocked position in an attempt to enter an area with defined access rights.
3. It is forbidden to hang on to the turnstile arm.

Maintenance and cleaning

The unit is made of stainless steel grade ČSN 17 240 (AISI 304) and therefore must not be operated in a chemically aggressive environment, and cleaning agents containing chlorine must not be used. Recommended products are WÜRTH items: metal restoring agent – Order No. 893 121 1; stainless-steel care spray – Order No. 0893 121-K.

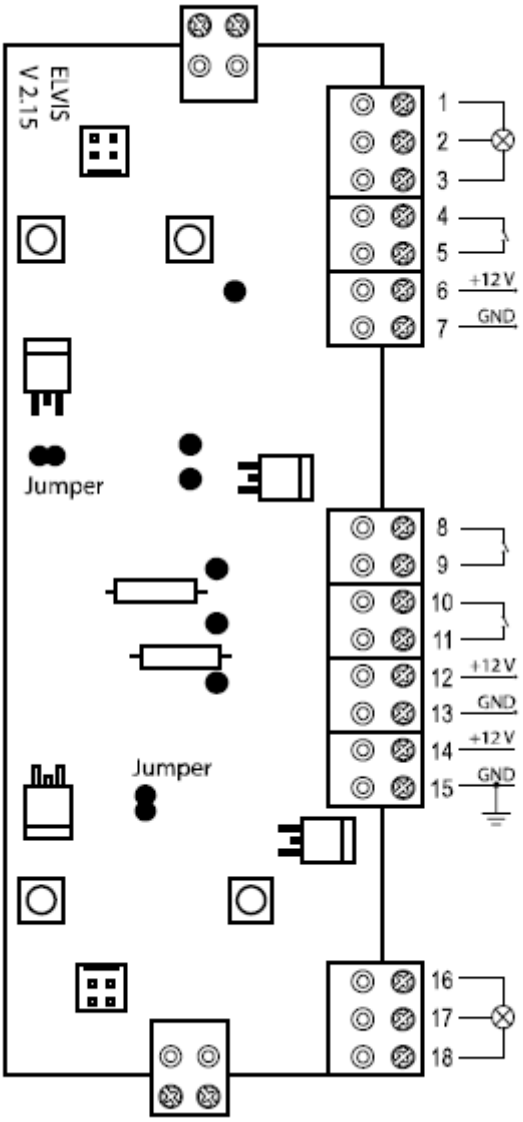
List of spare parts

- Control electronics Order No. #1401400180
- Hand detection sensor Order No. #1782080120
- Pump Order No. #1420300200
- Power supply Order No. #1210001310
- Nozzle Order No. #1309000300
- Non-return valve Order No. #1306600100

Operation safety

Persons designated to operate the equipment must be properly and demonstrably instructed and familiarised with the equipment being operated and the hazards that may arise during operation. In particular, they must be instructed in first aid for accidents, mandatory measures in case of fire, etc.

Connection of turnstile electronics



1 - Signalling DIRECTION A GREEN (open) +12V

2 - Signalling DIRECTION A GND

3 - Signalling DIRECTION A RED (closed) +12V

4 - Panic (release the turnstile in both directions)

5 - Panic (release the turnstile in both directions)

6 - Output for sensor power supply +12V DIRECTION A

7 - Output for GND sensor power supply DIRECTION A

8 - Turnstile control input DIRECTION A

9 - Turnstile control input DIRECTION A

10 - Turnstile control input DIRECTION B

11 - Turnstile control input DIRECTION B

12 - Output for sensor power supply +12V DIRECTION B

13 - Output for GND sensor power supply DIRECTION B

14 - Power supply +12V

15 - GND Power supply

16 - Signalling DIRECTION B GREEN (open) +12V

17 - Signalling DIRECTION B GND

18 - Signalling DIRECTION B RED (closed) +12V

Connection of control electronics DSO_01.ADR