TURNSTAR

RELIABLE ★ DURABLE ★ GUARANTEED

USER MANUAL

STREAMLINE DROP-ARM

E-WAIST HEIGHT

CONTENTS

Turnstar Systems Pty (Ltd)
P.O.Box 41, Highlands North, 2037, RSA
Tel: +27 11 786 1633
E-Mail: info@turnstar.co.za

Edition 0.1 (12-03-2020)

1. GENERAL

1.1. The Streamline Drop-Arm is a waist height, tri-pod turnstile, with a function where the restricting arm can drop down to open the passage in case of an emergency.

1.2. The product requires a 220V 50Hz 6A power supply.

1.3. The access triggers are a potential free contact (dry contact).

1.4. The emergency trigger for the drop-arm is a latching trigger with < 24 volts.

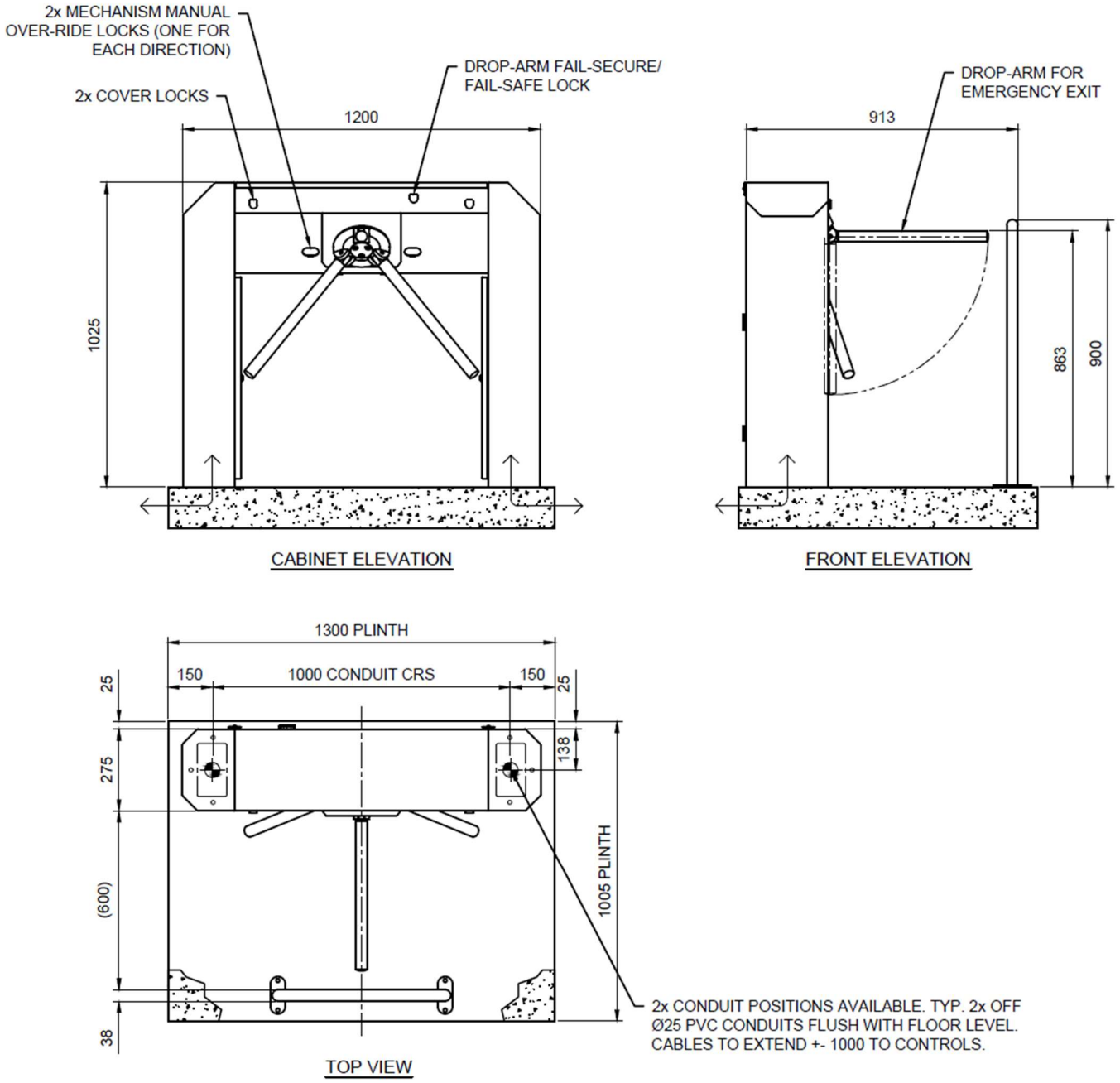

Figure 1: Layout of Streamline Drop-Arm

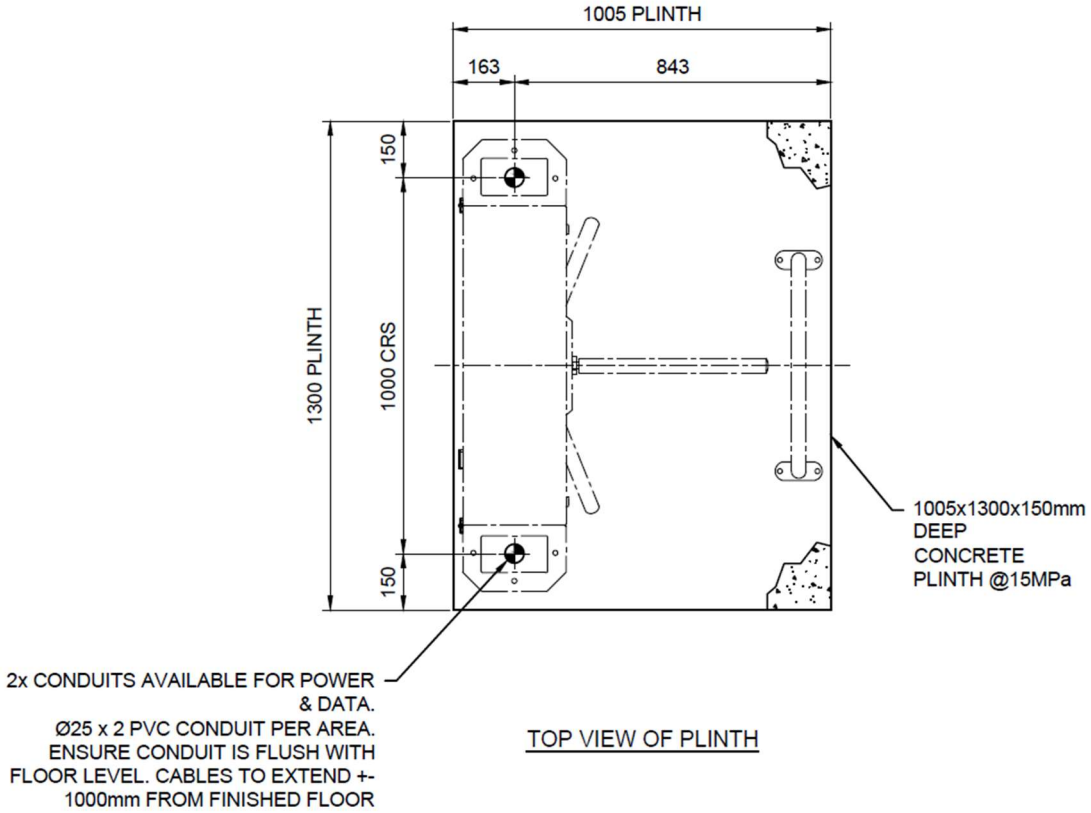

Figure 2: Top View of Plinth

1.5. The product is manufactured from stainless steel, grade 304 and can be made from 316 or mild-steel powder-coated.

1.6. The product is sealed with gaskets on the doors and lid for water-resistance.

1.7. The product can be installed on a finished floor such as tiles or screeding. A plinth is recommended.

1.8. Cabling should be allowed from the floor level for power & data.

2. PARTS

2.1. The product is supplied fully assembled.

2.2. The following table and drawings are references for parts and sub-assemblies contained in the main assembly.

Table 1: Assembly Parts List

Item	Qty	Part Number	Description
1	1	1779-WM-02	CENTER WELDMENT
2	1	1779-WM-12	RIGHT SEALED UPRIGHT WELDMENT
3	1	1779-WM-11	LEFT SEALED UPRIGHT WELDMENT
4	1	1779-SA-08	COVER LID ASSEMBLY
5	2	1779-SA-07	STREAMLINE SEALED DOOR ASSEMBLY
6	1	54635	DROP ARM ROTOR ASSEMBLY
7	2	1779-PT-06	SIDE CABINET SEAL
8	1	561-PT-01	1011-50 SPONGE RUBBER DFROM EMKA
9	3	C-LOCK-ASSY	CAM LOCK ASSEMBLY
10	10	PE_PG11	11mm CABLE GLAND (19mm HOLE)
11	2	1141760	ITEM CODE: 19428 – DIAPHRAGM GROMMET 19mm/15,9mm
12	2	1779-LC-50	LOCK CAM
13	13	M6-NHN-ZP	M6 NYLOCK HEX NUT, ZP
14	3	1007-PT-03	CAM LOCK SNAP COVER
15	1	1779-LC-22	MANUAL OVERRIDE
16	15	M6x12-PFW-A2	M6x12 PLAIN FLAT WASHER, A2
17	14	M10x20-PFW-A2	M10x20 PLAIN FLAT WASHER, A2
18	14	M10-NHN-ZP	M10 NYLOCK HEX NUT, ZP
19	1	1779-SA-09	MECHANISM PLATE
20	1	1779-SA-14	DROP ARM MECHANISM
21	1	1779-PT-05	MECHANISM RUBBER SEAL
22	3	M10x55-SHCS-A2	M10x55 SOCKETHEAD CAPSCREW, A2

23	1	1779-LC-51	OVERRIDE SUPPORT
24	2	M6x10-SHCS-A2	M6x10 SOCKETHEAD CAPSCREW, A2
25	1	1779-SA-15	CONTROLS ASSEMBLY
26	1	1779-SA-16	CHASSIS BLANK ASSEMBLY
27	1	M6x20-SCHS-A2	M6x20 SOCKETHEAD CAPSCREW, A2

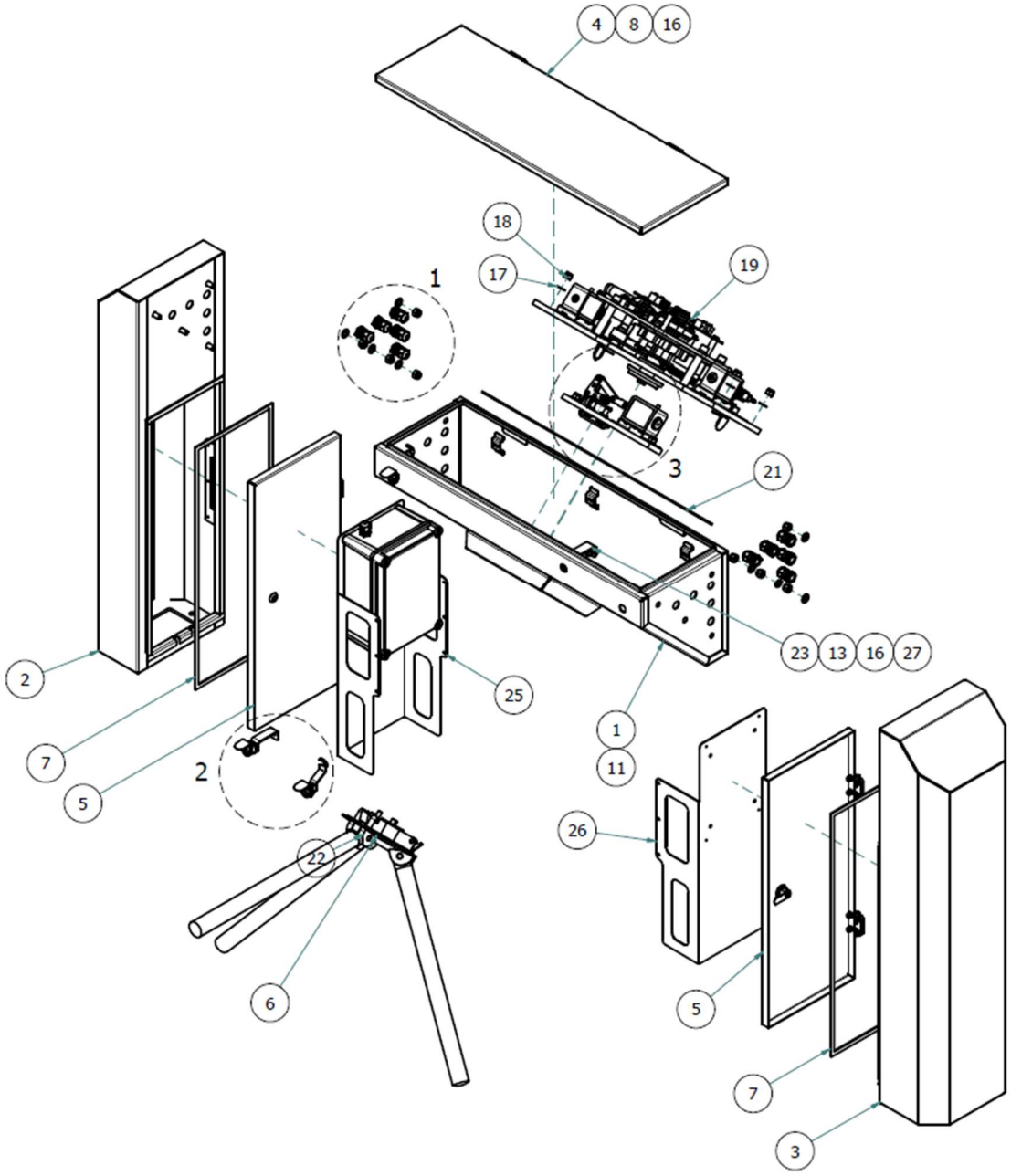

Figure 3: Exploded View of Streamline

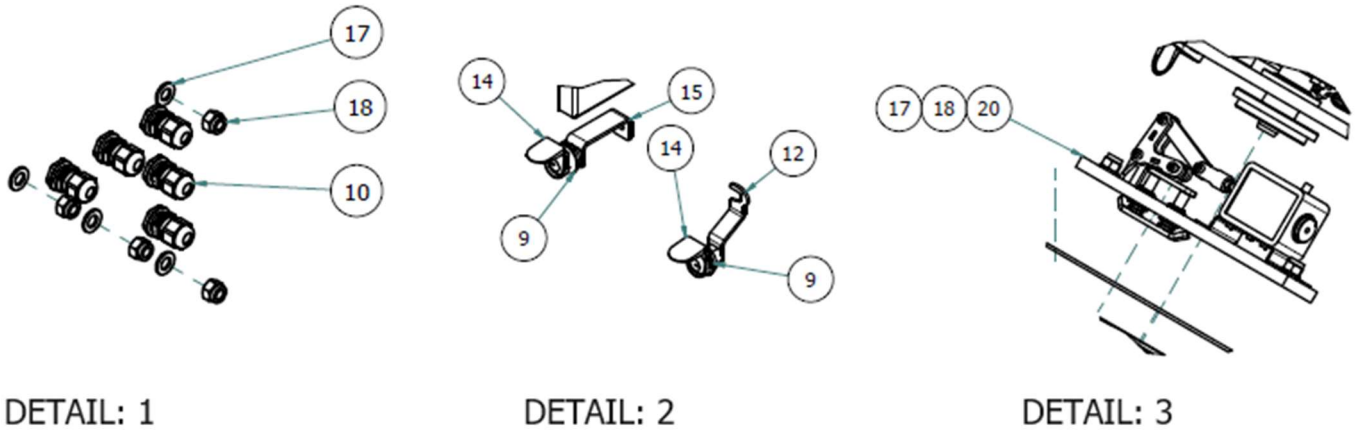

Figure 4: Details of Exploded View

3. OPERATION

3.1. The following describes the initial setup operation for testing and normal function.

3.1.1. Ensure mains power is switched off.

3.1.2. Connect the mains power cable to the turnstile controller at the power connection terminal.

3.1.3. Connect the access control to the triggers on the PCB (Trigger 1 and Trigger 2), one foreach direction. The trigger to unlock the turnstile is a dry-contact, potential free input. The closing signal should be 200 to 500 milliseconds.

3.1.4. The access control system has a relay output. Connect the two trigger 1 inputs to relay 1 and trigger 2 inputs to relay 2.

3.1.5. Switch on the mains power.

3.1.6. Check that mains power is being distributed to the control board. The PCB has a test button or a test toggle switch for each direction.

3.1.7. Test the turnstile unlocking by triggering the access control system. Confirm the direction that is being opened is correct as required by the access control. If it is not, swap the trigger inputs on the control panel.

3.1.8. When triggering, walk through the turnstile. When exiting, the turnstile rotor will lock, not allowing further entry. Repeat this for the opposite direction.

3.1.9. If the turnstile does not trigger from the access control system, test the logic using the button or toggle provided.

3.2. The following describes the operation of the drop-arm barrier.

3.2.1. While powered and in stand-by, trigger the e-stop or the latch trigger connected to the fire-alarm system.

3.2.2. The middle arm of the turnstile will drop down.

3.2.3. Remove the latch trigger from the e-stop or fire alarm system.

3.2.4. Lift the arm, the arm should engage and remain up.

3.3. The drop-arm is fail-safe by default, so when power is not present, the arm will drop automatically.

3.3.1. For changing the arm to fail-secure (arm stays up when power is not present), use the lock on the front right to change to this configuration.

4. DIAGRAMS

4.1. The control panel consists of a 220v AC power connection terminal, leading to an isolator. The isolator leads to the transformer which distributes 18VAC power to the printed circuit board and the plug-in logic. All the components are mounted to a pre-galvanized plate.

4.2. The control panel is also optionally mounted inside an enclosure inside the side upright of the turnstile.

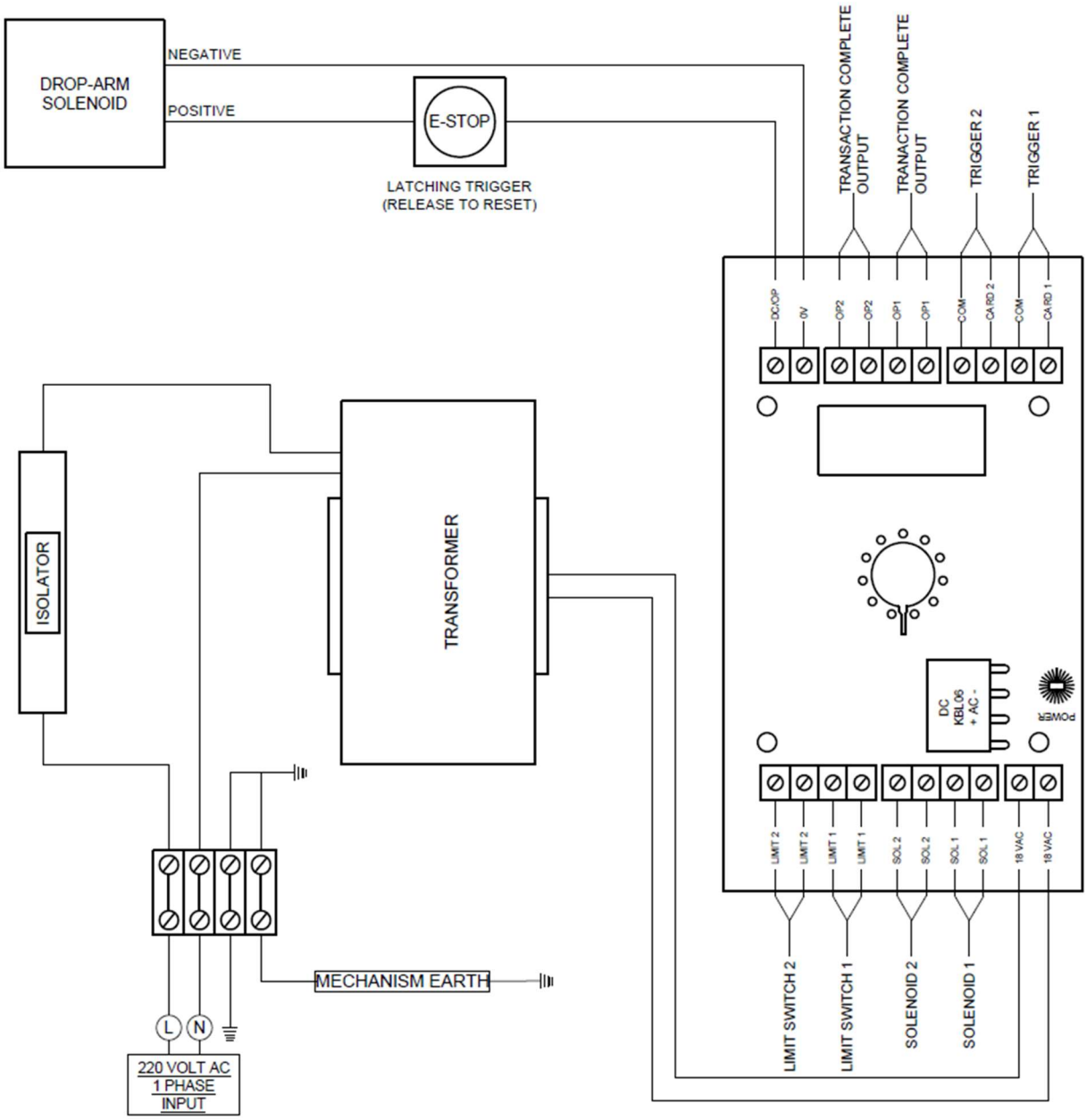

Figure 5: Wiring Diagram for Streamline Drop-Arm

5. MAINTENANCE

5.1. The recommended maintenance interval is every 6 months.

Table 2: Recommended Maintenance Procedure

No	Part Description	Check
1	Cleaning of all external powder coated surfaces	
2	Checking fixing and functionality of all turnstile keyed locks in top cover and for mechanism (key 60198)	
3	Cleaning of turnstile mechanism and top channel	
4	Checking of turnstile mechanism pawl settings and application of grease to pawls and locking disk	
5	Checking of turnstile solenoid operation & positioning and cleaning with alcohol	
6	Microswitch adjustment, if necessary (2x microswitches)	
7	Checking of turnstile battery backup system (if present)	
8	Testing the drop-arm functionality. Trigger emergency mode and check that the arm drops. Afterward, lift the arm to reset and check normal functionality.	

Turnstile Serial Number:	
Date of maintenance:	
Maintenance carried out by:	
Turnstile Serial Number:	
Date of maintenance:	
Maintenance carried out by:	

6. CLEANING

6.1. Depending on the finish of the turnstile, different cleaning instructions will apply.

6.2. Dusting – Dust turnstile with a feather duster or soft cloth.

6.3. Wash – Cleaning of turnstile to be done with a soft cloth (non-abrasive) dipped into a mixture of warm water and mild dishwashing liquid (alkaline-based cleaner with a pH of 12 or lower). Then rinse the turnstile with clean water. Do not spray with high pressure water near the top channel as water can damage the internal electronics.

Table 3: Cleaning

Type	Action
Powder-coated mild steel	Dust once a month
	Wash stubborn dirt in the affected area
304/316 grade stainless steel	Wash the entire turnstile twice a month with warm soapy water and a soft cloth
Powder-coated 304/316 grade stainless steel	Dust once a month
	Wash stubborn dirt in the affected area

7. SPARE PARTS

7.1. The below table shows the suggested spare parts to keep on hand for servicing the turnstile or to repair the turnstile in an emergency.

Table 4: Spare Parts

Part Description	Qty
Transformer	1
Battery Backup UPS power supply	1
Battery	2
PC Board	1
Plug-In Logic (Ultitech or Procon)	1
Microswitch	2
Solenoid	2
Lock with Key	2
Lock cam	2
Indexing Roller	1
6mm Key	1
Clevice	2
Fail-secure spring	2