

Architectural and Engineering Specifications for Aigis Mechtronics  
AT-FALCD2121 Pedestrian Control  
Devices

(Turnstiles)

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TECHNICAL SPECIFICATIONS  
CSI Division 13740

Security Systems  
Pedestrian Control Devices

**PART 1 - GENERAL**

**1.01 SECTION INCLUDES**

- A. Full Height, Single/Double, Aluminum Turnstile with Fail-secure/Fail-safe/Locked/Manual Entrance and Exit Options.

**1.02 SUBMITTALS**

- A. Submit under provisions of Section 01300.
- B. Manufacturer's descriptive literature for equipment specified, including components, options, specifications, ordering information, and accessories.
- C. Manufacturer's installation instructions for each product.
- D. Shop Drawings if required.

**1.03 QUALITY ASSURANCE**

- A. Regulatory Requirements (if applicable).

**1.04 DELIVERY, STORAGE, AND HANDLING**

- A. Store products of this section in manufacturer's unopened packaging until installation.
- B. Maintain dry storage area with temperature between -20C to +50C (-4F to +122F) for products of this section until installation.

**1.05 WARRANTY**

- A. This Aigis Mechtronics LLC product is warranted against defects in materials or workmanship for a period of 39 months from date of shipping.

**1.06 REFERENCES**

- A. List compliance regulations (e.g UL, FCC CLASS A) for each product if applicable.

## **PART 2 - PRODUCTS**

### **2.0 GENERAL**

#### **2.01 MANUFACTURER**

- A. Aigis Mechtronics  
1124 Louise Road  
Winston-Salem, NC 27107-5450  
Tel. (877) 523-6500 or (336) 785-7740  
Fax. (336) 785-7744  
www.aigismech.com

#### **2.02 General Requirements**

**Full Height, Single/Double, Aluminum Turnstile with Fail-secure/Fail-safe/Locked/Manual Entrance and Exit Options.**

- A. The product specified shall be a Full Height Double Turnstile with a Clear Anodized finish and with a Fail-Secure Entrance 1 and a Fail-Safe Exit 1, and a Fail-Secure Entrance 2 and a Fail-Safe Exit 2.
- B. The turnstile shall include a three-section passage wall, barrier section, center spindle column, three spindle arm sections, header and cover assembly, and controller mechanism, sliding access doors and ceiling plates.
- C. Bearings shall be concealed from the elements and not require lubrication or general servicing of any kind.
- D. The controller mechanism shall be field configurable for one-way or two-way control, fail-safe or fail-secure and removable for service.
- E. Easy access for mechanical and electrical service shall be accomplished with sliding panel doors that are key lockable.
- F. Electrically controlled units shall include as standard equipment; red and green LED status lights, heel pads on lower spindle arms, self-centering spindle, hydraulic speed dampening and timed re-lock.
- G. Structure shall consist of aluminum extrusions specifically designed to mate with each other and provide exceptional strength and durability to the turnstile.
- H. The Clear anodize finish of all aluminum components located below the Header/Mechanism shall be more than 0.7 mil in thickness for superior wear characteristics. The anodize finish shall meet Aluminum Association specifications AAM12C22A41 for clear and AAM12C22A44 for color.
- I. All points of impact of the operating mechanism and spindle arm connections shall be insulated for prevention of transfer of shock and vibration to other areas in the turnstile unit.
- J. Openings between arms, header or floor shall not exceed six inches.

### **2.03 ELECTRICAL SPECIFICATIONS:**

- A. Primary Voltage: 115V
- B. Power: 40W (times two for double unit)
- C. Control Voltage: 24VAC
- D. Solenoids: 24VDC, 14W
- E. Switches: non-mechanical magnetic read switches
- F. Turnstile Status Lights: 24VDC LED Red X and Green Arrow
- G. Independent Microprocessor based electronic controller for each direction of turnstile rotation

### **2.04 MECHANICAL SPECIFICATIONS:**

- A. Weight: 1200 lbs.
- B. Overall Dimensions: 96in. wide x 63in. deep x 90in height.
- C. Clear anodized finish
- D. Controller Mechanism
  - 1. Controller mechanism shall be self-contained and removable for service and maintenance.
  - 2. Self-contained controller mechanism shall include linear action self centering, hydraulic speed dampening, self aligning solenoids, 8" OD x 1-1/8" T hard-coated ratchets, 1-1/2"w x 1" T hard-coated pawls and 1 3/8" OD stainless steel shaft.
  - 3. Solenoids shall be field adjustable for fail-safe or fail-secure configuration without the use of tools.
  - 4. All fastening and mounting hardware shall be stainless steel.
- E. Header
  - 5. Header shall be constructed of Aluminum and powder coat painted for superior corrosion protection.
  - 6. Installation, service or maintenance access shall be through sliding door panels that are key lockable.
  - 7. All fastening and mounting hardware shall be stainless steel.
- F. Barrier
  - 1. Barrier shall be constructed of custom aluminum extrusion specifically designed for the turnstile. There shall be 9 horizontal aluminum arms bolted into a heavy-duty extruded aluminum vertical support.
  - 2. The barrier shall be framed with matching aluminum extrusion for full support of the header.
  - 3. All fastening and mounting hardware shall be stainless steel.
- G. Center Spindle Column
  - 1. The center spindle column shall be a full height aluminum extrusion with alignment tracks for positive positioning of the spindle arm sections

#### H. Spindle Arm Assemblies

1. There shall be three aluminum extrusion spindle arm sections each consisting of 9 arms and a vertical support.
2. Arms shall be individually replaceable in the field.
3. It shall not be possible to remove, disassemble or otherwise tamper with the spindle arm sections without having access to the header/mechanism.
4. The spindle arm assemblies shall be bolted to the center column for support and pinned to the upper and lower hubs for security and strength.
5. All fastening and mounting hardware shall be stainless steel.

#### I. Passageway

1. The passageway shall consist of three aluminum extrusion panels with angle alignment extrusions for positive positioning.
2. Each panel shall consist of an aluminum extrusion frame and two mar-resistant polycarbonate panels.
3. The fully assembled passageway shall provide an enclosed wire raceway for wiring of lights and/or card readers.
4. All fastening and mounting hardware shall be stainless steel.

#### J. Ceiling Plates

1. The secure and public side of the turnstile shall have ceiling plates over the passageway for security against crawl or climb through.
2. The ceiling plates shall be 1/8" aluminum with powder coat paint protection.

### **2.05 ENVIRONMENTAL SPECIFICATIONS:**

- A. Operating Temperature: -30C to +50C (-22F to +122F)

## **PART 3 - EXECUTION**

### **3.01 Installation**

- A. Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.
  
- B. Installation should be performed in accordance with manufacturer's installation manual.

**The product specified shall be the Model AT-FALCD2121 Pedestrian Control Device; a Full Height Double Turnstile with a Clear Anodized finish and with a Fail-Secure Entrance 1 and a Fail-Safe Exit 1, and a Fail-Secure Entrance 2 and a Fail-Safe Exit 2.**