# ParkPlus 10X

Engineering Specifications

NAM-ParkPlus 10X-ES-EN-E

Access controlled...
Future secured

## Rising Barrier for Parking Areas

Park Plus 100

Park Plus 101

## Engineering Specifications

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ENGINEERING SPECIFICATIONS

ParkPlus 10X Barrier

SECTION 08 34 56 – Security Gates

SECTION 11 12 33 – Parking Gates

SECTION 28 13 00 – Access Control

SECTION 34 71 13 – Vehicle Barriers

# PART I – GENERAL

## 1.01 SECTION INCLUDES

This section covers the furnishing and installation of a rising barrier for parking areas.

## 1.02 REFERENCES

A. The rising barrier for parking areas must be certified by a recognized laboratory according to UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.

B. The rising barrier for parking areas must be certified by a recognized laboratory according to CAN / CSA - C22.2 no. 247-92 (R 2008) – Standards for Operators and Systems of Doors, Gates, Draperies, and Louvers.

## 1.03 SYSTEM REQUIREMENTS

A. The rising barrier for parking areas must control and restrict vehicle traffic between secured and unsecured zones.

B. Must feature rising arm to block vehicles and prevent access to restricted areas without authorization.

C. Must allow the installation of a brake to maintain the arm in closed or open position during power outage situation).

D. Must be able to automatically operate and must be bidirectional, allowing traffic in both directions.

E. Must be configurable in one of three (3) states:
   1. Open - arm remains in the open or up position.
   2. Closed - arm remains in the closed or down position.
   3. Automatic - arm is normally in the closed position and controlled by the associated entry/exit hardware.

F. Must be able to use the access control system to grant or deny access to the facility and operate with a variety of user authentication devices such as card reader devices, ticketing systems or barcode reader systems.

G. Must permit the operator to manually raise and lower the gate.

H. The arm must be made of aluminum.

I. Barrier's arm must offer a break-away option to avoid damage to the arm mechanism if an impact occurs.

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## 1.04 SUBMITTALS

A. Submit product data: equipment description, dimensions, electrical wiring diagrams for installation, and manufacturer's technical manuals on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.
   4. Operation and maintenance manuals.

B. Provide shop drawings and indicate component connections, anchoring methods and installation details.

## 1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver equipment to job site in manufacturer’s packaging undamaged, and with complete installation instructions.

B. Store indoors in a controlled environment, protected from construction activities and debris.

## 1.06 PROJECT/SITE CONDITIONS

A. Install the rising barrier for parking areas on leveled concrete base.

## 1.07 QUALITY ASSURANCE

A. The rising barrier for parking areas must be manufactured in North America.

B. Manufacturer Qualifications:
   1. Manufacturer must be a company specialized in designing and manufacturing rising barriers with a proven minimum experience of ten (10) years.

C. Source Limitations: obtain the rising barriers from Automatic Systems.

## 1.08 WARRANTY

A. Automatic Systems warranties its products against parts defects for a period of two (2) year from the date of invoicing. This warranty excludes normal wear on finishes or damage that occurs due to abuse or misuse. Obtain full warranty terms from Automatic Systems.

# PART II – PRODUCTS

## 2.01 MANUFACTURERS

A. Manufacturers: subject to compliance with requirements, provide products by the following:

1. AUTOMATIC SYSTEMS AMERICA INC, 4005 Matte Boulevard, Unit D, Brossard, Quebec, J4Y 2P4, CANADA
   Phone : 800 263 6548
   Fax : 450 659 0966
   Homepage : www.automatic-systems.com E-mail : sales@automatic-systems.com

B. Products:

** NOTE TO SPECIFIER ** Delete the following subparagraphs in brackets, retain the product that is appropriate for the project.

1. *[Rising barrier for parking areas, Model ParkPlus 100]*
2. *[Articulated rising barrier for parking areas, Model ParkPlus 101]*

## 2.02 CONSTRUCTION

A. Operator frame

1. Frame must be manufactured in anodized aluminium).

B. Access panels

1. Access panels must be manufactured in anodized aluminum, protected by powder coat paint (standard color: white)
2. The top and front panel must be removable to allow easy access to both the electro-mechanical drive and electronic control units
3. Top cover must be key-locked

C. Arm

1. Left or right mounted arm

*** NOTE TO SPECIFIER ** Oval aluminum arm is the standard for the rising barrier for parking areas (ParkPlus 100). At an additional cost, articulated arm is available (ParkPlus 101).*

*Delete the following subparagraphs in brackets, retain the product that is appropriate for the project.*

2. *[To be oval and manufactured from aluminum (maximum 13' / 4m), painted white with red and white reflective strips],*
3. *[To be oval and articulated, manufactured from aluminum (maximum 13' / 4m), painted white with red and white reflective strips]*

D. Enclosure

1. Design of the unit's enclosure must ensure an IP 54 degree of protection.

## 2.03 DIMENSIONS

A. Arm length:

1. The arm length for equipment must be 6 ft 6 in to 13 ft (2 m to 4 m) depending on the arm type.

B. Operator dimensions:

1. Overall dimensions of ParkPlus 10X operator:
   a. Height: 42 ft 1/32 in (1067 mm)
   b. Footprint: Ø15 ft 5/32 in (385 mm)
2. Rotation axis height
   a. 36 ft 13/32 in (925 mm)

## 2.04 OPERATION

A. Automatic mode (arm Normally Closed & Controlled by a loop or access control device):
   1. Command to barriers. In stand-by position, the passageway must be blocked by the arm.
   2. Upon receipt of a signal from the access control system or the inductive loop, the arm must open, freeing the passageway,
   3. The obstacle immediately closes after passage or after a configurable delay.

B. Power Failure
   1. In case of power failure, the barrier can open/close manually.
   2. The operator can be set in automatic opening if the optional brake is not installed
   3. After the power has been restored, the unit must return to its previous operating mode.

C. Emergency Operation
   1. The unit can be set to remain open upon receiving an emergency signal. The obstacle opens and allows unobstructed exit / entrance,
   2. This operating mode continues as long as the emergency signal is active.
   3. After the emergency signal has been turned off, the unit must return to its previous operating mode.

## 2.05 SECURITY

A. Must provide operator and arm to securely block the passageway:

B. Must have a provision for a brake to be installed to securely lock the arm in the closed position.

C. The cabinet's side panels and top cover must be key-locked.

## 2.06 SAFETY

A. In case of power failure:
   1. The operator must allow opening / closing manually.
   2. The operator can be set in automatic opening if the optional brake is not installed.

B. Must provide minimum 6 ft 6 in (2 m) wide passageway.

C. Passage can be monitored in both directions by means of a loop detector, infrared beams, safety edge or other means of monitoring, to ensure user safety and prevent arm from closing when a vehicle is passing the barrier:
   1. If a presence is detected in the obstacle safety area during the opening motion, the arm will complete its opening.
   2. If a presence is detected in the safety area during a closing motion, the arm can be set to either immediately stop or re-open depending on the selected mode.
   3. The obstacle will operate again after the safety zone has been cleared.

D. The barrier controller must have a provision for an entrapment protection device that automatically reverses or stops the movement whenever the arm strikes an object during a closing action.

E. The operator must be equipped with an analog sensor for precise arm position detection.

## 2.07 VEHICLE GUIDANCE

A. Visual notification with clear graphics must be incorporated in each direction to control flow and to warn users.

## 2.08 DRIVE UNIT

A. Three-phase asynchronous geared motor.

B. Variable-speed controller ensuring progressive accelerations and gradual decelerations, for safe movement without vibrations.

C. Electronic torque limitation.

## 2.09 CONTROLLER

A. Microprocessor-based controller with the following characteristics:
   1. ARM9™ processor,
   2. LINUX operating system,
   3. USB interface,
   4. Embedded web server, accessible by a web browser, to monitor the barrier in real time, set operating modes, set advanced parameters and to provide diagnostics for quick detection of problem source,
   5. Must have a provision for an IP communication interface for extended settings and functions. [Option]

B. The logic must be equipped with:
      a. LED indicators showing the status of the inputs and outputs,
      b. 8 digital inputs,
      c. 3 output relays, 6 digital outputs.
   2. The logic must be equipped with one (1) loop detector connector when loops are used as safety or to control the barrier opening/closing.
   3. The barrier operator may be equipped with an extension module that adds a loop detector connector, 6 digitals inputs and 4 output relays.

C. The controller must have equipment diagnostic capability and the ability to be configured:
   1. The diagnostic software must be web based and embedded in the controller,
   2. The communication between the diagnostic software and a device must be 10/100 Base-T Ethernet,
   3. The embedded diagnostic software must be accessible by a web browser from any device (smart phone, tablet, laptop, etc.)
   4. The diagnostic software must provide the following features:
      a. Real time monitoring of the barrier,
      b. Operating modes and advanced parameters setting,
      c. Quick detection of problem source and trouble notification.

## 2.10 POWER SUPPLY

A. Power supply: 120 Volts AC 50 Hz or 60 Hz

B. Nominal power consumption:
   1. At rest: 50W
   2. In operation: 200W

## 2.11 PERFORMANCE

A. Opening Time & Closing Time:
   1. The obstacle opening time: 1.2 to 5 seconds depending on arm length
   2. The obstacle closing time: 1.2 to 5 seconds depending on arm length

B. MCBF: 5.000.000 average number of cycles between breakdowns, when respecting manufacturer's recommended maintenance.

C. Operating Temperatures: 14° to 160°F (-10° to 60°C) without heater.

## 2.12 OPTIONAL EQUIPMENT

*** NOTE TO SPECIFIER *** Delete the following subparagraphs in brackets if no optional equipment is required, or add as necessary.*

1. *[Push button(s) box]*
2. *[Key switch on housing]*
3. *[Command by radio transmitter/receiver]*
4. *[Inductive loops for car or truck detection]*
5. *[Loop presence detector].*
6. *[Photo electric cell (automatic opening, closing, safety) fixed on post or housing]*
7. *[Electro-magnetic tip support]*
8. *[Electric locking tip support]*
9. *[Standard tip support]*
10. *[Breakaway arm with breakaway detector]*
11. *[Rubber protective profile]*
12. *[Arm lighting]*
13. *[Traffic lights fixed on a post on housing]*
14. *[STOP traffic sign]*
15. *[250 W heater for operation in temperatures as low as -40°C (-40F)]*
16. *[Raised base]*
17. *[Non standard color]*
18. *[Optional I/O board]*
19. *[Traffic light optional board for third party traffic signs]*
20. *[Automatic opening setting in case of power failure]*
21. *[Client logo on the housing panels]*
22. *[Sensor to detect open panel or cover]*
23. *[Hood with LED function pictograms]*
24. *[Logic board with Eternet port]*
25. *[Brake (not compatible with automatic opening setting)]*

## PART III – EXECUTION

### 3.01 INSPECTION

A. Installer must examine the installation location and advise the Contractor of any site conditions inconsistent with proper installation of the product. These conditions include but are not limited to the following:
   1. Rising barrier operator must be installed on a level concrete pad,
   2. Power supply and control wiring must be installed. Follow manufacturer's recommendations.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.02 INSTALLATION

A. Install rising barrier for parking area in strict accordance with manufacturer's instructions. Set units level. Anchor securely into place.

### 3.03 ADJUSTMENT

A. Installer must adjust rising barrier for proper performance after installation.

### 3.04 INSTRUCTION

A. A factory trained installer must demonstrate to the owner's maintenance crew the proper operation and the necessary service requirements of the equipment, including exterior maintenance.

### 3.05 CLEANING

A. Clean barrier operator and area carefully after installation to remove excess caulk, dirt and labels.

### 3.06 MAINTENANCE

A. Maintain the equipment according to the manufacturer's instructions.

**Automatic Systems reserves the right to change this specification at any time without notice.**

END OF SECTION