

# PosiDRIVE™ Security Gate



## Secure Control

The Federal APD PosiDRIVE Security Gate is ideal for controlling roadway access to plant entrances, warehouse terminals, toll plazas, or any location where a high volume/high speed security gate is needed. The gate has a fast 1.5 to 6 second operation (depending on the gate arm length). The aluminum gate arm provides extra strength and rigidity, and uses

tension springs to counterbalance the arm for perfect balance.

## Perfect Balance

The counterbalancing system consists of a set of adjustable springs (2-4, depending on the gate arm length) that are entirely contained within the cabinet and have no components visible from the outside. Balance adjustents, used when shortening the arm or adding message signs, can be accomplished in the field without difficulty.

## Maintenance Free

The Federal APD PosiDRIVE Security Gate is designed without belts, pulleys or limit switches. The unique design of this new gate gives you the freedom to schedule your routine maintenance only once a year.

The gate's fail-safe operation can be programmed for the gate arm to automatically raise or lock down on power failure. The auto recovery on power-up feature is switch selectable.

## Features:

- Reliable direct drive system reduces wear and stress
- Universal power system operates between 85-265 VAC / 50-60 Hz
- High speed operation:
  - 1.5 seconds with 10-12 ft. (3 -3.6 m) arm
  - 6 seconds with 20 ft. (6 m) arm
- Left or right hand operation without additional hardware or special tools
- Unique fail-safe operation can be programmed for the gate to automatically raise or lock down on power failure
- Internally counterbalanced gate arm
- Obstacle detection system reverses the direction of travel if the arm encounters an obstruction
- DIN rail mounted components for easy service
- Status indicator lights
- UL/CSA approval and CE Mark pending

## Reliable Direct Drive System

The PosiDRIVE Security Gate features a sinusoidal drive system to achieve fast operating times while reducing the speed when the gate arm approaches the end points of its travel. This reduces wear and stress on all mechanical components, including the motor.

## Universal Design

The heart of the gate is the intelligent power system with its universal 24 VDC power system that can accept any power input (from 85-265 VAC/ 50-60 Hz). This low-voltage motor is the most energy-efficient in its class and only draws power when in operation.

The Security Gate provides a convertible gate arm system that can be changed from left hand to right hand drive without any additional hardware or special tools.



**FEDERAL APD**  
Federal Signal Corporation

# PosiDRIVE™ Security Gate Specifications

## 1. Purpose

The Federal APD PosiDRIVE Security Gate shall be a heavy-duty barrier device that provides rapid throughput for roadways 10 to 20 feet (3 to 6 m) wide. This gate shall be used to control access to industrial plants, truck terminals, ferry terminals, toll plazas, or any location where a durable gate arm is required.

## 2. Features

- a. The PosiDRIVE Security Gate shall have universal components to enable it to be used worldwide.
- b. The PosiDRIVE Security Gate shall have the capability of being configured for right-hand or left-hand drive operation without any additional hardware.
- c. When equipped with an arm 10 feet (3 m) or less in length, the gate shall have a cycle time of no more than 1.5 seconds.
- d. When equipped with an arm 20 feet (6 m) or less in length, the gate shall have a cycle time of no more than 6 seconds.
- e. The gate shall provide a means of sensing if the arm has encountered an obstruction during the Up or Down cycle. If an obstruction is encountered, the gate shall immediately reverse direction and return to the beginning of the cycle, then try again.
- f. The PosiDRIVE Security Gate shall provide for an optional configuration in which the gate, upon power failure, shall automatically rise to the vertical position. This shall require the detection of power failure, and the subsequent activation of the battery pack.
- g. The gate shall be capable of operating in ambient temperature of -32° F to 140° F (-36° C to 60° C).
- h. The enclosure shall have louvers on the back and cutouts on the four bottom corners of the enclosure to provide air circulation and prevent excessive moisture buildup.
- i. The gate shall be equipped with a microprocessor-based controller, which shall support the following types of operation: (1) Pay Lane: Single

direction lane with a single vend input to raise the gate arm and a reset to lower the arm; (2) Free Lane: Single direction lane, which shall utilize two vehicle loop detector inputs, one to vend the gate and one to reset it; (3) Pay/Free Lane: Dual direction lane, which shall combine the pay and free types. In the pay direction, a vend input shall be used to raise the gate arm. In the free direction, the vending loop input shall raise the gate. The assumed direction of vehicle travel shall depend on which input is activated first.

- j. An Auto-Manual switch shall allow the gate to be raised and lowered manually.

## 3. Dimensions.

- a. The PosiDRIVE Security Gate enclosure shall be 15 inches W x 42 inches H x 16 inches D (38 cm W x 107 cm H x 41 cm D).
- b. The gate arm shall be 4 1/2 inches H x 2 inches D (11.5 cm H x 5 cm D).
- c. The PosiDRIVE Security Gate shall be equipped with a flange arm height of 36 inches (91 cm) to prevent compact or subcompact type vehicles from passing under the arm when in the closed position.

## 4. Electrical.

- a. The PosiDRIVE Security Gate shall provide auto-selection of primary input power, which can accommodate from 85-265 VAC / 50-60 Hz.
- b. The controller shall operate between input voltage ranges from 18 VDC to 32 VDC.
- c. All power wiring from the utility box shall be factory installed.

## 5. Mechanical.

- a. The PosiDRIVE Security Gate shall use a 24-Volt brushless DC motor. The speed of the motor shall be variable in order to accommodate all arm sizes from 10-20 feet (3-6 m).
- b. Two to four tension springs shall be used to internally counterbalance the gate arm (depending on gate arm length). The spring tension shall be easily adjustable to fine tune the

balance of any arm.

- c. The gate shall have a limited torque capacity. If over-torqued for six seconds, a protective device shall shut the motor off and send an alarm message to the CPU.
- d. The PosiDRIVE Security Gate shall have a direct drive mechanical linkage.
- e. The gate's sinusoidal linkage shall provide fast operating times while reducing the speed when the gate arm approaches the end-points of its travel. This shall prevent impact at either end of travel, thus reducing wear and stress on all mechanical components, including the motor.

## 6. Construction

- a. The gate enclosure shall be constructed of .090 inch galvanized steel.
- b. The cabinet shall be finished in a powder coat paint in either Federal APD Safety Yellow or Federal APD White (as specified) for maximum visibility and safety. Other colors shall be available when specified.
- b. The enclosure door shall have a single, T-lock handle.
- c. The enclosure shall be in two pieces, a base and a removable cap. The removable cap shall allow for easy access to the gate mechanism.
- d. The gate arm shall be constructed of extruded aluminium. It shall be hollow and internally counterbalanced with two-to-four adjustable extension springs, depending on the length of the arm.



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