



**1. Product Name**  
SwingSmart DC™

**2. Manufacturer**  
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**3. Product Description**

HySecurity® gate operators meet the most stringent governmental, industrial, corporate and residential security and reliability requirements. They are installed at Baghdad International Airport, Fort Knox and The United Nations; at numerous federal, state and municipal sites; at correctional facilities, corporate campuses and power generation facilities; and at mini storages, gated communities and VIP residences.

HySecurity gate operators are fabricated for security, reliability, low maintenance, flexible speed and overall toughness. They are engineered to detect and report critical security breaches and initiate automated, site-specific reports in response to these breaches. Abnormal operation or security breach reporting integrates easily to centralized security monitoring systems through HySecurity's Smart Controllers.

Each gate operator design is tested for at least 200,000 cycles before release to the market. Slide, swing, traffic barrier and vertical lift operators all receive the same rigorous testing.

**BASIC USE**

HySecurity SwingSmart™ DC electromechanical gate operators are designed to enhance security in residential, commercial and industrial applications. SwingSmart will detect, report and trigger automated site-specified actions if critical security breaches occur.

Available in standard and solar powered models, SwingSmart DC adjustable speed gate operators automatically open swing gate panels up to 20' (6 m) in length and weighing up to 1300 lb (590 kg). They also perform reliably in the



Dual SwingSmart DC 20 gate operators installed on Arizona private estate. Each 16' (4.87 m) ornamental iron gate weighs 800 lb (363 kg).

most harsh, extreme environments. Whether dry or humid, salty or sandy, in rain or in snow, SwingSmart operates large, heavy gates with ease, in temperatures ranging from -13 to 158 degrees F (-25 to 70 degrees C). SwingSmart is UL 325 listed to Class I, II, III and IV.

**Operation**

Gates are opened and closed by an articulating arm mechanism. Once prompted via sensor, transmitter or according to pre-programmed commands, the articulating arm physically swings the gate from 0 - 90 degrees. When closing, the action of the articulating arm causes the gate to be mechanically locked in place without the use of externally operated electric or mechanical locks. Opening and closing cycle times vary from 10 - 15 seconds, depending on gate size and weight.

The articulating arm is easily adjustable and is driven by a DC motor, which operates in conjunction with an automatic gear reducer. The gear reducer is filled with synthetic lubricant capable of allowing operation to -13°F (-25°C) without a heater. Gear reducer output is protected from excessive torque loads by means of an adjustable breakaway torque limiter, which can also function as an emergency gate opening mechanism.

SwingSmart gate opener systems are available in single phase 115 VAC, single phase 220 VAC or solar power configurations. Uninterruptible battery backup enables gate operation in the event of AC power loss.

**TYPES**

- SwingSmart DC 20
- SwingSmart DCS 20 (Solar)

**COMPOSITION & MATERIALS**

**Mechanical Components**

The 2-piece clam shell operator cover is made of molded low density polyethylene and includes locking toggle action latches. The operator chassis and articulating arm are constructed of 1/4 inch thick heavy duty, corrosion resistant welded steel with a zinc plated finish. The chassis includes carrying handles and an extra large conduit cutout. The articulating arm includes covers for pinch protection and is connected to the gate bracket with a forgivable swivel. Electronic circuit boards are conformal coated for moisture resistance. Easily adjustable limit switches limit travel in either direction.

**Electrical Components**

SwingSmart DC is equipped standard with industrial grade electrical components and overload protection. Components include a 1/2 hp brushed DC motor with ball bearings; 250 VA dual voltage transformer; outside-accessible reset switch; and external photo eye and/or gate edge sensors.

The Smart DC Controller Board has 512K memory. Features include:

- Inherent entrapment sensor
- "Warn before operate" system
- 2-line 32 character LCD display for function

**TABLE 1 SIZES, PHYSICAL PROPERTIES**

Model	SwingSmart DC 20	SwingSmart DCS 20 (Solar)
Duty Cycle:	Continuous	Continuous
Horsepower:	1/2 hp	1/2 hp
Maximum gate weight*:	1300 lb (590 kg)	1300 lb (590 kg)
Maximum gate length*:	To 20' (6.1 m) leaf	To 20' (6.1 m) leaf
Rate of Travel:	10 - 15 seconds	10 - 15 seconds
1 Phase Power:	115 volts standard; 220 volts optional 50/60 Hz	115 volts standard; 220 volts optional 50/60 Hz
UL Listing:	I, II, III, IV	I, II, III, IV

\*Gate capacities: 1300 lb (590 kg) for a 12' (3.65 m) gate; 800 lb (363 kg) for a 16' (4.87 m) gate; 600 lb (272 kg) for a 20' (6.1 m) gate



HySecurity's Smart DC Technology continually synchronizes bi-parting gates for a flawless open and close with every cycle.

- monitoring and reporting
- Built-in timer to close signals the operator to close the gate after a prescribed interval
- 24 programmable output relay options with easy to use control board programming buttons
- Anti-tailgate mode
- Built-in heavy duty power surge protection
- Microprocessor controlled multi-stage intelligent battery control
- RS232 and USB port for laptop or other computer peripheral connection and RS485 connection for Master/Slave systems
- 110 Amp rated solid state switching devices for pulse width modulated motor control

The Smart DC Controller's RS485 2-way communication bus allows maximum security system integration. Its ability to communicate between the operator and any remote system enables users to define automated activation of security equipment (security cameras, alarms, etc.) in response to specific reported incidents. Reportable conditions include AC power loss, gate forced open, tailgating, loitering, vehicle detector or loop malfunction, and open or close limit reached, among others.

**OPTIONS, ACCESSORIES**

**Safety**

- HY-5A Vehicle Detector - Self-tuning; detects vehicles in the gate's path and will not allow the gate to close if activated; will cause the gate to reverse if the closing cycle is interrupted by vehicle; troubleshoots many loop failures; multiple detectors will not crosstalk
- Pinch protection arm design reduces the possibility of accidental injury
- Gate edge sensor - Attachment will reverse the gate if it contacts an object during closing
- Photoelectric eye - If beam is obstructed, will not allow gate to start closed; will reverse gate if beam is interrupted during closing cycle

- Extended battery backup - Ensures continued operation in the event of AC-power failure
- Rotating beacon or flashing light alert devices

**Convenience**

- Software - For EEPROM event logging to troubleshoot diagnostics
- Radio controls - Wireless transmitters, similar to those used to open and close garage doors, signal a receiver in the operator to operate the gate
- Ethernet peripheral connection

**Access**

- Card reader - Reads a card that, when verified, signals the operator to cycle
- Keypad - When properly addressed, signals the operator to cycle
- Keyswitch - A simple switch that is closed by turning a key in a lock cylinder, which in turn signals the operator to cycle

Note - The card reader, keypad and key-switch are not sold by HySecurity, but are available from most HySecurity distributors.

**SIZES**

See Table 1.

**COLOR**

Fade-resistant gray flame spray finish.

**BENEFITS**

- Easy installation, regardless of installer experience level
- Operation programming, security monitoring, diagnostics and reporting easily accomplished using Smart Touch Analyze and Retrieve Tool (S.T.A.R.T.)
- Vehicle hit protection reduces the likelihood of gate operator damage
- Auto-synchronizes gates within the first few operating cycles
- Uses a small number of industrial grade

mechanical and electrical components, so replacement costs are kept low

- Moving parts are enclosed out of sight and are protected from vandalism and tampering by a heavy duty, key-locked cover
- Compatible with virtually all available access control, safety and vehicle detection equipment

**LIMITATIONS**

Vehicle gates are not to be used for pedestrian access. Separate pedestrian gates must always be provided when foot traffic is present.

**4. Technical Data**

**APPLICABLE STANDARDS**

ASTM International (ASTM) - ASTM F2200 Standard Specification for Automated Vehicular Gate Construction

Underwriters Laboratories, Inc. (UL) - UL 325 Door, Drapery, Gate, Louver, and Window Operators and Systems

National Fire Protection Association (NFPA) - NFPA 70 National Electrical Code

**APPROVALS**

Underwriters Laboratories, Inc. (UL) - Listed to UL 325 Class I, II, III and IV





SwingSmart DC 20 reliably operating at a condominium complex along the salty and humid Florida coast.

**PHYSICAL PROPERTIES**

See Table 1.

**5. Installation**

**PREPARATORY WORK**

Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact. Store products upright in the original shipping containers, covered, ventilated and protected from all weather conditions.

Locate concrete mounting pad in accordance with approved shop drawings. Verify that site conditions are acceptable for installation. Do not proceed with installation until unacceptable conditions are corrected.

Ensure that supporting posts or pilasters are adequate to support the gate. Do not proceed with installation if supports are inadequate.

**METHODS**

Install the gate operator in accordance with manufacturer's printed instructions. Coordinate locations of operators with contract drawings, other trades and shop drawings. Ensure that electric service to the operator is at least 20 amps and that wire size conforms to specific operator requirements.

Test the basic operator functions through 10 full cycles and adjust as needed to ensure gate operates smoothly without binding, scraping or uneven motion. Test limit switches for proper "at rest" gate position.

Detailed installation instructions are available online at [www.hysecurity.com](http://www.hysecurity.com).

**PRECAUTIONS**

To reduce the risk of entrapment, the gate must be installed so that enough clearance is provided between the gate and adjacent structures, both when opening and closing. Minimize the parallel gap between the gate and the fence

**BUILDING CODES**

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

**6. Availability & Cost**

**AVAILABILITY**

HySecurity operators, accessories and parts are stocked by distributors and installers worldwide. Contact the manufacturer for local distributor information.

**COST**

Contact HySecurity for pricing details and/or budget estimates.

**7. Warranty**

The HySecurity SwingSmart DC gate operator is supported by a 5 year or 500,000 cycle commercial warranty or a 7 year or 500,000 cycle residential warranty when it is installed by a licensed contractor. A nationwide network of distributors and installers is available to service the warranty. Labor and other costs to replace defective components are excluded from this factory warranty; however, these costs may be covered through the local installing company. Complete warranty terms and conditions are available from the manufacturer. For details, consult HySecurity.

**8. Maintenance**

Detailed maintenance instructions are available online at [www.hysecurity.com](http://www.hysecurity.com). Brief maintenance guidelines are described below.

**Electrical Controls**

No routine maintenance is needed for the electrical system or controls. If the application environment is sandy, dusty and/or insect-prone, seal all holes in the electrical enclosure. Use compressed air to remove dust from the electric panel.

**Gate**

Inspect the gate monthly to ensure smooth operation.

**9. Technical Services**

For project-specific technical assistance, contact HySecurity. For more detailed information, product literature, test results, project lists, assistance in preparing project specifications and arrangements for application supervision, contact HySecurity or visit [www.hysecurity.com](http://www.hysecurity.com).

Detailed technical information, including installation instructions, schematics, troubleshooting information and technical bulletins, is available online at [www.hysecurity.com](http://www.hysecurity.com).

**10. Filing Systems**

Additional product information is available from the manufacturer upon request.