

# Technical Specifications Model SWD Vehicular Battery Back-up Swing Gate Operator

## **PART I GENERAL**

### **1.01 DESIGNATED IN THIS SECTION**

- A. Vehicular battery back-up swing gate operator, complete with all drive and electrical components, to move gate and control its position in both the open and close directions.

### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Fences and gates: See section 02820.
- B. Cast in place concrete: See section 03300.
- C. Electrical service and connections: See division 16.

### **1.03 CODES AND STANDARDS**

- A. Manufacturer shall conform to:
  - 1. UL325: Standard for door, drapery, gate, louver, and window operators and systems.
  - 2. UL991: Standard for testing of solid state control devices.
- B. Installer will complete all electrical work in accordance with all local codes and follow the guidelines of National Electrical Code. All fieldwork shall be performed in a neat and professional manner.

### **1.04 QUALITY ASSURANCE**

- A. Manufacturer: a company specializing in the design and manufacture of door and gate operators, with a minimum of thirty five years of experience.
- B. Installer: a company certified as a dealer of the manufacturer within qualifying industries, such as fence, security, ornamental iron, or parking, with expertise in installation of gate operators.

### **1.05 PRODUCT DELIVERY AND STORAGE**

- A. Installer will comply with sections 01600, 01650, and 01660.
- B. Installer will store product upright in the original shipping containers, covered and protected from all weather conditions.

### **1.06 SUBMITTALS**

- A. Installation manuals: manufacturer shall supply a copy with each operator, detailing all necessary mounting instructions, wiring connections, parts lists, maintenance, and troubleshooting.
- B. Owner's information sheet: a separate owner's information sheet shall also be supplied with the installation manual.
- C. Wiring diagram: manufacturer shall supply a wiring connections diagram with each operator.
- D. Safety literature: manufacturer shall supply a copy of its safety literature with each operator.
- E. Warning signs: manufacturer shall supply warning signs, in compliance with requirements of UL325.
- F. Shop drawings: shop drawings shall be supplied by the manufacturer upon installer request.

## **PART II PRODUCTS**

### **2.01 VEHICULAR SWING GATE OPERATOR**

- A. Model SWD battery back-up swing gate operator as designed by Nice North America LLC shall open and close swinging gates, providing convenience and security. This model is adapted to function with most accessories including: radio controls, single and three button control stations, digital keypads, coded cards, sensing loops, telephone entry systems, and revenue control equipment. The SWD utilizes 115 Volt AC single phase power, converting to 24 Volt DC to power motor and controls.

### **2.02 DESIGN CRITERIA**

- A. Operation shall be by means of a 1/2 horsepower 24 Volt DC motor via a single-phase dry-type 250VA transformer, transferring power through a 1-1/2-inch pulley and V-belt to a 7-inch pulley. Next power transfers through a right-angle oil bath gear reducer to a #40 sprocket and chain to another #40 sprocket located on a 1-inch solid steel drive shaft. The shaft is equipped with a solid steel arm crank and harmonic action articulating swing gate arm attached to the gate.
- B. The articulating arm shall cycle the gate through a 90 degree opening in approximately 11-14 seconds using manufacturer recommended installation. By use of an articulating arm design, the gate will start moving slowly, gradually increase in speed, then slow down again as it approaches full open. Larger opening angles and non-standard installation may be achieved through the adjustment of arm components during the installation process.

### **2.03 COMPONENTS**

- A. Standard mechanical components shall include as a minimum:
  - 1. 3/16 inch thick, weather resistant UV-stabilized polyethylene one piece cover which is fully removable and lockable.
  - 2. Gasketed and powdercoated steel cabinet door which is removable and lockable.
  - 3. 60:1 right angle oil bath C-face gear reducer.
  - 4. 1-inch solid steel output drive shaft.
  - 5. Heavy-duty pillow block bearings with grease fittings for easy maintenance.
  - 6. Heavy-duty, plated frame with mounting legs for pad mounting standard.
  - 7. Articulating welded style gate arm with lockable manual disconnect pin.
- B. Standard electrical components shall include as a minimum:
  - 1. 1/2 HP 24 Volt DC motor.
  - 2. Solid state logic controller featuring 19 diagnostic L.E.D. indicators, left or right hand operation option, auto-close timer, optional run/prestart alarm, maximum run timer, stagger mode option, auxiliary relay accessory output, adjustable reverse delay time, constant pressure control station option, shadow loop open prevention option, adjustable soft start/stop duration, integral cycle counter, programmable maintenance alert indicator, mid-travel stop option, integral radio control receiver, integral entrapment sensing contact and radio obstacle inputs.
  - 3. Dynamic, real time motor current sensing to detect obstructions, with digital adjustments for opening and closing directions.
  - 4. Charging circuit monitors and maintains battery levels. When 115 Volt AC power is lost, the unit automatically switches to battery power and will also return to AC power when it is restored.
  - 5. Programmable operation in DC mode:
    - A. In open and lockout mode, when power is lost, the unit opens and lockouts until power is restored.
    - B. In battery run mode, when power is lost, the unit will continue to operate under battery supplied power until the batteries run down, then open and lockout.

6. Controller housed in clear plastic enclosure with removable cover. Swings down for easy access.
  7. Power On/Off switch.
  8. Contacts for opening, closing, reversing and reset accessories, as well as contact and non-contact obstruction sensing devices. 24VDC available on terminal strip to power devices, provided by non-circuit board mounted transformer with minimum 40VA rating.
  9. Adjustable limits with precision snap-action type limit switches to control gate position.
  10. Dual Gate or stand alone capable via programmable selection. Three-wire twisted pair shielded cable required.
- C. Optional accessories, contact, non-contact, and control devices:**
1. Control devices include pushbuttons, radio controls, keypads, card readers, key switches, telephone entry systems, and revenue control equipment.
  2. Contact and non-contact devices include photoelectric sensors, vehicle detectors, proximity sensors, and contact edges.
  3. Accessories include flashing strobe lights, cycle counters, and intercom systems.
- D. Other options include:**
1. Bolt together design articulating arm.
  2. Bolt together design special length arm for non-standard installations.
  3. Post mounting kit and base plate available.
  4. Torque Limiter and plate sprocket to replace drive shaft sprocket.
  5. Thermostatically controlled strip heater with auto/off/manual control switch.

## **2.04 FACTORY INSPECTION AND TESTING**

- A. Manufacturer shall test each operator at factory to assure smooth, quiet operation.
- B. Manufacturer shall test all control inputs to ensure proper function.

## **2.05 WARRANTY**

- A. Operator shall be warranted by the manufacturer to the installer for a period of five years from date of sale against defects in materials or workmanship. Defective part(s) shall be repaired or replaced at no charge, at the manufacturer's option. The manufacturer will not be responsible for transportation and/or field service charges.
- B. Accessories are covered by their manufacturer's warranty.
- C. Warranty is in lieu of all other warranties, express or implied, and shall be considered void if visible evidence implies recommended installation procedures and maintenance instructions were not followed, or if the operator was not sized appropriately for the particular installation.

## **PART III EXECUTION**

### **3.01 GENERAL**

- A. The installer will become familiar with the installation of this model of operator and review the necessary adjustments to configure the operator before installation begins.

### **3.02 INSPECTION**

- A. The installer will inspect the site prior to installation to confirm that manufacturer's instructions can and will be followed. Contact the manufacturer with any questions or to request special instructions should standard installation not be possible.

### 3.03 **INSTALLATION**

- A. The installer will install the operator in accordance with the manufacturer's written instruction, referencing all dimensional schematics and shop drawings provided. The installer will contact the manufacturer's technical support should additional assistance be required.
- B. The installer will install all provided warning signs securely within view of both sides of the gate, as required by the manufacturer.

### 3.04 **TESTING AND ADJUSTING**

- A. The installer will adjust the operator in accordance with the manufacturer's installation manual and will test the adjustments to verify correct settings for the installation.

### 3.05 **TRAINING**

- A. The installer will review the manufacturer supplied owner's information sheet and safety literature with the end user, and when finished, leave a copy with the end user.
- B. The installer will instruct the end user in the use of the operator, the manual disconnect, and all control devices.
- C. The installer will review proper maintenance of the operator and will recommend a separate maintenance contract be issued.

### **End of Technical Specifications**



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