

# Technical Specifications

## Model SWG Vehicular Swing Gate Operator

### PART I GENERAL

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

- A. Vehicular 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 SWG 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 SWG is available in 115/208/230 Volt AC single phase or 208/230/460 Volt AC three phase power. Control voltage in each case is 24 Volt DC.

### **2.02 DESIGN CRITERIA**

- A. Operation shall be by means of a 1/2, 3/4, or 1 horsepower single or three phase C-faced instant reversing motor, transferring power to a heavy-duty right-angle oil bath gear reducer. Power is transferred from the gear reducer to a heavy-duty 3-inch diameter torque limiter and #40 plate sprocket. From the torque limiter power transfers to the 1-1/8 inch output drive shaft equipped with a solid cast aluminum 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 13-15 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 use of special length arms designed by the manufacturer.

### **2.03 COMPONENTS**

- A. Standard mechanical components shall include as a minimum:

1. 14 gauge weather-resistant galvanized steel cabinet.
2. Gasketed cabinet door which is removable and lockable.
3. Heavy-duty 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 3-inch diameter torque limiter.
7. Dual C-face 6-foot /pound brake.
8. All welded interior steel framework.
9. Articulating style gate arm with manual disconnect pin which is lockable.
10. Automotive type powder coat finish.

- B. Standard electrical components shall include as a minimum:

1. 1/2 through 1 HP motor with thermal overload protection in 115 and 230 VAC single phase or 230 or 460 VAC three phase.
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, adjustable brake delay time, constant pressure control station option, shadow loop open prevention option, 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 independent digital adjustments for opening and closing directions.
4. Controller housed in zinc plated control box.
5. Power On/Off switch. In 115 VAC units, 115 VAC duplex outlets included.

6. Contacts for opening, closing and reversing accessories, as well as contact and non-contact obstruction sensing devices. 24 VDC available on terminal strip to power accessory devices.
7. Adjustable limits with precision snap-action type limit switches to control gate position.
8. 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. Special length articulating arm to accommodate non-standard installations
2. Stainless steel cabinet for installation in areas where high concentrations of corrosive material is present.
3. 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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