

TECHNICAL SPECIFICATIONS
MODEL BGU-D VEHICULAR BATTERY BACK-UP BARRIER GATE OPERATOR

PART I GENERAL

1.01 DESIGNATED IN THIS SECTION

- A. Vehicular battery back-up barrier gate operator, complete with all drive and electrical components, to move gate arm and control its rotation in both up and down 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 twenty 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 BARRIER GATE OPERATOR

- A. Model BGU-D battery back-up barrier gate operator as designed by Operator Specialty Company, Inc.(OSCO) shall raise and lower a wooden arm, as supplied by the manufacturer, to control vehicular traffic in high cycle applications for single traffic lanes. This model is adapted to function with most accessory devices used in the traffic and parking control industries, including radio controls, single and three button control stations, digital keypads, coded cards, sensing loops, telephone entry systems, and revenue control equipment. The BGU-D 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 500VA transformer, transferring power with dual V-belts to a heavy duty, right-angle oil bath gear reducer. Through the use of a steel linkage, power is transferred to the drive shaft to raise and lower the arm. The length of time required to cycle the arm will vary depending on which version of the model is ordered.
- B. Arm cycle time:
 1. Model BGU-D-10 travel time not to exceed 2.5 seconds from fully lowered to fully raised position. The maximum arm length of this model shall not exceed ten feet in length and shall be constructed from 1x4 soft wood.
 2. Model BGU-D-12 travel time not to exceed 2.5 seconds from fully lowered to fully raised position. The maximum arm length of this model shall not exceed twelve feet in length and shall be constructed from 1x4 soft wood.
 3. Model BGU-D-14 travel time not to exceed 2.5 seconds from fully lowered to fully raised position. The maximum arm length shall not exceed fourteen feet in length, and shall be constructed from 1x4 soft wood.

2.03

COMPONENTS

- A. Standard mechanical components shall include as a minimum:
 1. 12 gauge weather-resistant galvanized steel cabinet.
 2. Louvered, gasketed cabinet door which is removable and lockable.
 3. 1-1/4 inch solid steel output drive shaft.
 4. Heavy-duty steel connecting link.

5. Heavy-duty right angle gear reducer with hardened steel machine cut worm and mating bronze gear lubricated in oil.
 6. Oil impregnated, maintenance free, extended life bronze bushings.
 7. Dual V-belts.
 8. Cutting edge plate to shear gate arm cleanly in the event of an impact while arm is down.
 9. Automotive type powder coat finish.
- B. Standard electrical components shall include as a minimum:
1. 1/2 HP 24 Volt DC motor.
 2. Solid state logic controls featuring 15 diagnostic L.E.D. indicators and auto-close timer.
 3. Inherent, fully adjustable motor over-current sensing to detect obstructions via precision 24 turn potentiometer, with separate 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. Dip switch selectable 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 zinc plated control box with clear plastic cover. Removable with spring loaded plunger with no tools required.
7. Power On/Off switch.
8. Contacts for opening, closing, reversing and reset accessories, as well as contact and non-contact obstruction sensing devices. 24 VDC available on terminal strip to power devices, provided by non-circuit board mounted transformer with minimum 40VA rating.
9. Adjustable limit cams with snap action type limit switches to control gate arm position.
10. Master/slave or stand alone capable with dip switch 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, keyswitches, 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. Stainless steel cabinet for installation in areas where high concentrations of corrosive material is present.
2. Thermostatically controlled strip heater with auto/off/manual control switch
3. A 115 Volt AC barrier gate is also available. See model BGU technical specifications.

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, expressed 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 of this information with the end user.
- B. The installer will instruct the end user in the use of the operator 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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REVISION: A