Parking Barrier Gate
Model G-90 CD Series™

Omega LCD Controller™

Features:

- Advanced Omega LCD Controller with visual display
- Power Supply Board provides multiple input/output terminals
- Total lane management with:
  - Two built-in vehicle detectors
  - Sensitive Reversing Logic
  - Built-in diagnostics
  - Event history report
  - Back-out timer
  - 7 day memory & data storage

Options:

- Configuration Module
- Third built-in vehicle detector
- Totalizing & differential counts
- Automatic time zone controls
- Hourly statistical reports
- Directional logic
- Broken gate arm alarm
- Communications interface


Complete lane management

Design and Function

The Model G-90 CD Series Barrier Gate provides microcomputer intelligence, multiple programming options, and on-board controls for a complete and user-friendly information center providing total lane management.

Protect Your Investment

The Model G-90 CD Series Gate continues the outstanding tradition of high quality that you depend on from Federal APD. The gate is extremely durable, protected from the harshest environments with a heavy-gauge aluminum cabinet armored with an element-resistant finish which keeps your installation looking clean and new for years of rust-free service.

Omega LCD Controller™

The heart of this gate is the Omega LCD Controller. This fully integrated controller provides a systems approach for convenient, accurate and cost-effective lane management.

Lane Configuration

The Model G-90 CD Series Gate can handle any type of lane configuration possible - including reversing lanes and lanes with three vehicle detectors - with software options embedded into the unit's Configuration Module. The Configuration Module is an encapsulated pc board that utilizes surface mounted technology. This factory programmed microcontroller plugs into the power board and defines the software options used in the gate.

Counts You Can Count On

The Model G-90 CD Series allows you to design an on-board information center with counting functions packaged in one self-contained device. The controller's software logic integrates optional counting functions such as resettable and non-resettable totalizing counts, single and dual differential counts, hourly counts, and a host of statistical counts. These counts are displayed on the controller's visual display and are accessed by the user-friendly, menu driven keypad.

Vehicle Detectors

Three built-in and automatically self-tuning vehicle detectors are available. These high-speed detectors provide a sensitive tailgate recognition system that is capable of recognizing two separate vehicles traveling over a detector loop simultaneously. Diagnostics and metering tools are also built into the controller.

Sensitive Reversing Logic™

An advanced, maintenance-free safety and monitoring system is designed into every gate: the Sensitive Reversing Logic (SRL). This system provides safer gate operations by instantly sensing gate arm obstructions, broken gate arms, limit switch failures, and gate arm position–without the use of electromechanical systems. The SRL sensing system also features self-tuning capabilities.

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Model G-90 CD Series™ Barrier Gate
Specifications

1. Purpose

The Model G-90 CD Series Barrier Gate shall be a microprocessor-based parking control device that shall restrict access within a vehicle traffic lane by means of a wooden gate arm. The gate shall be activated by a vend signal from an access or revenue control device. The Model G-90 CD Series Barrier Gate shall additionally act as a programmable lane controller, generate and store counts, monitor lane operations, and provide reporting capabilities.

2. Features/Functions

The Model G-90 CD Series Barrier shall contain an Omega LCD Controller that shall provide all logic control and monitoring functions of the gate.

a. The Omega LCD controller shall provide 11 inputs which shall be activated by the Omega LCD logic. It shall provide 14 outputs that shall be dry contact closures that can be used to switch currents through terminal pairs. The output contacts shall be rated at one ampere at 24 VDC/VAC. The Omega LCD shall provide a 16-character LCD display and a 6-button keypad to perform programming, send commands, and monitor lane operations.

b. The Omega LCD shall provide two detectors of a self-tuning type with the capability of activating a third internal loop detector.

c. The Omega LCD shall contain logic for one-way lanes, two-way lanes, operations with automatic ticket dispensers, push-button ticket dispensers, card locks, token units, and shall be easily field programmable through the use of DIP switches or keypad buttons.

d. Lane count signals shall not be issued until the vehicle has moved under the gate arm for maximum accuracy.

e. The Omega LCD controller shall be capable of storing successive vend inputs of any type and of sequentially processing each vend.

f. The Omega LCD controller shall contain LED indicator lights to provide operational status of the detectors and the controller.

g. The Model G-90 CD Series shall provide a Configuration Module which shall be a factory-programmed microcontroller (an encapsulated pc board that utilizes surface mounted technology). This factory programmed microcontroller (a 20-pin, 8-bit, fully static, EPROM/ROM-based microcontroller) plugs into the power board and defines the software options used in the gate.

h. The Omega LCD Controller shall incorporate a diagnostic mode to facilitate on-site testing of loop detectors, LCD keypad buttons, the LCD display, the internal clock, the configuration module, 115 V power supply line voltage maximums and minimums, Omega LCD communication ports, and controller inputs and outputs.

i. The Model G-90 CD Series Barrier Gate shall be UL Listed (Canada/U.S.) and shall be available with the CE Mark.

3. Dimensions

a. The Model G-90 CD Series Barrier Gate shall be 15 inches W x 40 inches H x 15 inches D (381mm W x 1016mm H x 381mm D) with a flange arm height of 35 $^{1}/_{2}$ inches (902mm) so as to prevent compact or subcompact type vehicles from passing under the arm when in the closed position.

4. Electrical

a. Power input requirements shall be 115 VAC at 15 Amperes as standard. Other power requirements shall be available as specified.

b. The power supply shall consist of a Power Board and a power supply cover.

c. All 115 VAC connections shall be made on the Power Board. Main power, motor contact, heater, and high voltage interface relays shall be located and terminated on the Power Board.

d. One high voltage plug-in relay with two form C contacts shall be provided on the Power Board. A second high voltage relay is optional.

e. A 115 VAC convenience outlet shall be provided on the power board for standard 115 VAC units.

f. An "AUTO-MANUAL" switch shall be provided on the Power Board to test motor and limit switches or to raise the gate arm manually.

g. The Power Board shall provide a three position heater switch with "AUTO", "ON" and "OFF" controls.

h. A Controller Power switch shall be provided with "ON" and "OFF" control.

i. The motor shall have built-in thermal overload switch protection.

5. Construction

a. The Model G-90 CD Series Barrier Gate cabinet shall be constructed of heavy-gauge aluminum and 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. All reducers and motors shall be assembled on a single, $^{1}/_{4}$ inch (6.25 mm) unibracket weldment for maximum strength in high load applications.

c. The cabinet shall have one gasketed door with flush-mounted, T-handle lock with one gate door key.

d. The Omega LCD Controller shall plug directly into the connection panel via two keyed, 37-pin and 25-pin connectors.

e. The Power Board shall have three switch banks consisting of a total of 24 DIP Switches, which shall define the modes of lane operation, detector sensitivity, tailgate sensitivity, reset loop safety mode, motor current rebound sensitivity, and device number for communicating gates. A fourth switch bank, with a total of eight DIP Switches, shall allow the gate to operate without a Configuration Module.

f. The Power Board shall provide 14 output terminals and 11 input terminals. The terminals shall be designed to accommodate various features of the gate.

6. Mechanical

a. The Model G-90 CD Series Barrier Gate shall be driven by a $^{1}/_{3}$ HP, heavy-duty, high output torque, 115 VAC, single phase instant reversing motor. Other power requirements shall be available as specified.

b. The motor shall be connected by double V-belts to a heavy-duty, 60:1 single reduction speed reducer. The motor shall provide a breakdown torque of 33.6 ounce foot.

c. Adjustable cams shall be provided to allow adjustment of gate arm travel.

d. Mechanical action shall be such that mechanical stops or braking devices are not necessary.

7. Sensitive Reversing Logic (SRL)

a. The Sensitive Reversing Logic (SRL) shall ensure that the gate arm will automatically reverse its downward motion should any object be struck by the gate arm during its descent and shall immediately return to the upright position and remain up until automatic reset by a variable timer control.

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