

# *CD200EVS Enhanced VariSpark® Digital Ignition System for Industrial Engines*

**altronic**



## Features

- Microprocessor-based industrial ignition systems for 1- to 12-cylinder engines
- Programmable configuration to select the feature set appropriate to the application
  - Timing curves vs. RPM or analog signal
  - VariSpark® selectable spark energy
  - Individual cylinder timing adjustment
  - Adjustable overspeed trip
- Comprehensive diagnostics for troubleshooting
- Windows®-based terminal program for configuration and monitoring
- Modbus RTU communications and monitoring
- Patented technology: U.S. Patent No. 5,623,209

The Altronic CD200EVS Series ignition systems are high-energy, VariSpark-based, digital ignition systems designed for use on 1- to 12-cylinder industrial gas engines. These DC-powered systems eliminate maintenance-intensive mechanical distributor ignition systems while incorporating the revolutionary Altronic VariSpark technology.

With no moving parts, they employ microprocessor technology to provide high-end control features and operational flexibility across the range of suitable applications.

All CD200EVS units process angular position input signals from a magnetic pickup which senses drilled reference

holes or protrusions on a steel disc. These provide accurate and consistent ignition timing referenced directly to the engine's crankshaft or camshaft. Using Altronic's VariSpark ignition technology, these systems enable new levels of engine performance and optimization—taking ignition performance to levels not possible with traditional and high-energy CD or inductive technologies.

A Windows®-based terminal program gives users access to the entire range of CD200EVS features, including selection of VariSpark profile, automatic timing adjustment curves, and the overspeed setpoint. Using this approach, the user

can implement those specific features required for a particular application. This software package also displays the system primary and secondary discharge diagnostics. For simple use in the field, these same diagnostics are available to the local operator via a flashing LED on the unit. Remote communications and monitoring via Modbus-RTU are also standard.

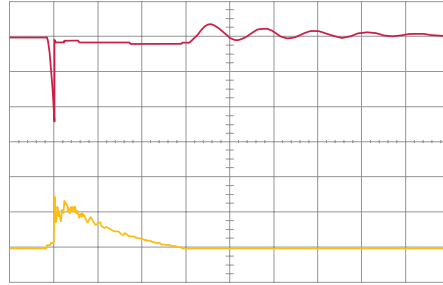


# Energy Settings

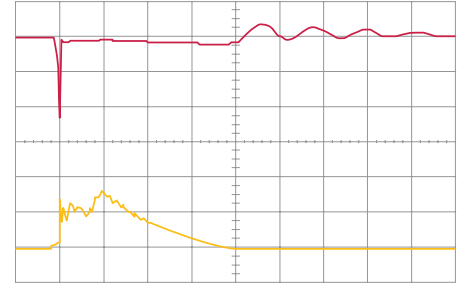
The CD200EVS features Altronic's patented VariSpark ignition technology which allows users to control the total energy delivered to the spark gap in a way not possible with any other technology available today.

The CD200EVS contains four pre-programmed waveforms which can be selected via the included terminal program or over Modbus RTU communications. The pre-programmed waveforms come in two different options, a standard configuration for typical applications and a high-output configuration for more challenging applications. Both standard and high-output configurations are capable of delivering energy in excess of all competing technologies.

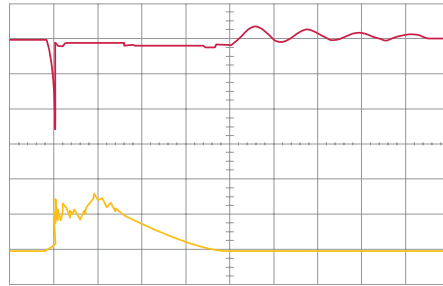
The CD200EVS waveforms have been optimized through extensive lab and field testing for a variety of applications on small to medium-bore engines operating at a variety of BMEP levels. Generally, the selection of waveform(s) used on a given application is completed through the initial setup to achieve optimal engine stability and then re-evaluated based on the engine performance and sparkplug life during the initial service intervals. Proper waveform selection will generally result in extended lean-flammability limit, improved combustion stability, and similar or better sparkplug service life.



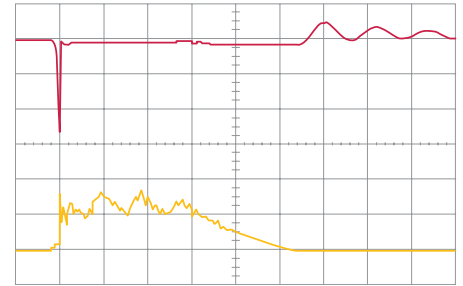
**SPARK #1 – STANDARD OUTPUT**  
Primary Energy: 130 mJ  
Secondary Current (Peak): 120 mA  
Spark Duration: 300  $\mu$ S



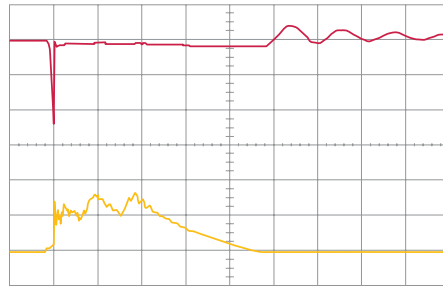
**SPARK #1 – HIGH OUTPUT**  
Primary Energy: 240 mJ  
Secondary Current (Peak): 150 mA  
Spark Duration: 400  $\mu$ S



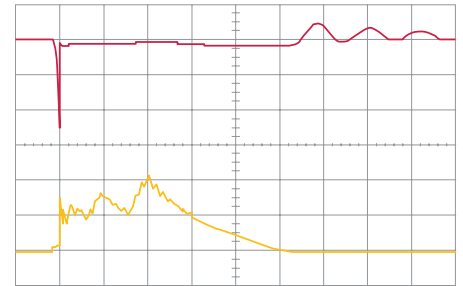
**SPARK #2 – STANDARD OUTPUT**  
Primary Energy: 240 mJ  
Secondary Current (Peak): 150 mA  
Spark Duration: 400  $\mu$ S



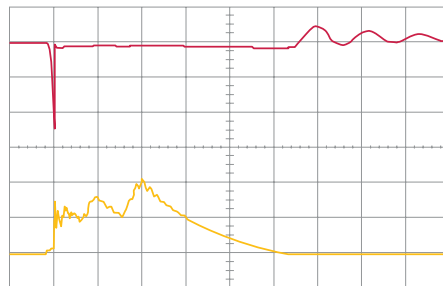
**SPARK #2 – HIGH OUTPUT**  
Primary Energy: 350 mJ  
Secondary Current (Peak): 150 mA  
Spark Duration: 550  $\mu$ S



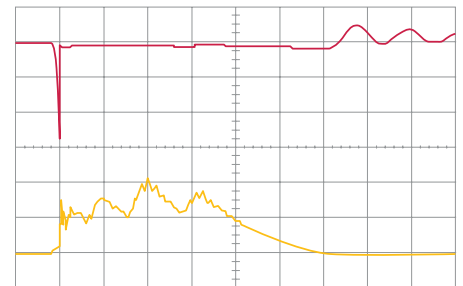
**SPARK #3 – STANDARD OUTPUT**  
Primary Energy: 350 mJ  
Secondary Current (Peak): 150 mA  
Spark Duration: 500  $\mu$ S



**SPARK #3 – HIGH OUTPUT**  
Primary Energy: 450 mJ  
Secondary Current (Peak): 200 mA  
Spark Duration: 550  $\mu$ S



**SPARK #4 – STANDARD OUTPUT**  
Primary Energy: 470 mJ  
Secondary Current (Peak): 200 mA  
Spark Duration: 550  $\mu$ S



**SPARK #4 – HIGH OUTPUT**  
Primary Energy: 600 mJ  
Secondary Current (Peak): 200 mA  
Spark Duration: 650  $\mu$ S

# CD200EVS Components

COMPONENT	CD200EVS
CD200EVS Unit, 6-cyl, Standard	791170-6
CD200EVS Unit, 6-cyl, Standard w/SW*	791170-6S
CD200EVS Unit, 6-cyl, High Output	791170-6H
CD200EVS Unit, 6-cyl, High Output w/SW*	791170-6SH
CD200EVS Unit, 8-cyl, Standard	791170-8
CD200EVS Unit, 8-cyl, Standard w/SW*	791170-8S
CD200EVS Unit, 8-cyl, High Output	791170-8H
CD200EVS Unit, 8-cyl, High Output w/SW*	791170-8SH
CD200EVS Unit, 12-cyl, Standard	791170-12
CD200EVS Unit, 12-cyl, Standard w/SW*	791170-12S
CD200EVS Unit, 12-cyl, High Output	791170-12H
CD200EVS Unit, 12-cyl, High Output w/SW*	791170-12SH
Input Harness, 72" unshielded	793050-1
Input Harness, 120" unshielded	
Input Harness, 180" unshielded	793050-2
Output Harness, 72" unshielded	793048-6, -8
Output Harness, 180" unshielded	793090-6, -8
Magnetic Pickup	791015-1 (3/4"-16 x 1.9") 791016-2 (3/4"-16 x 3.4")
Magnetic Pickup Cables, unshielded	Included in Input Harness above
Ignition Coils, unshielded	501061, 591010, 591040

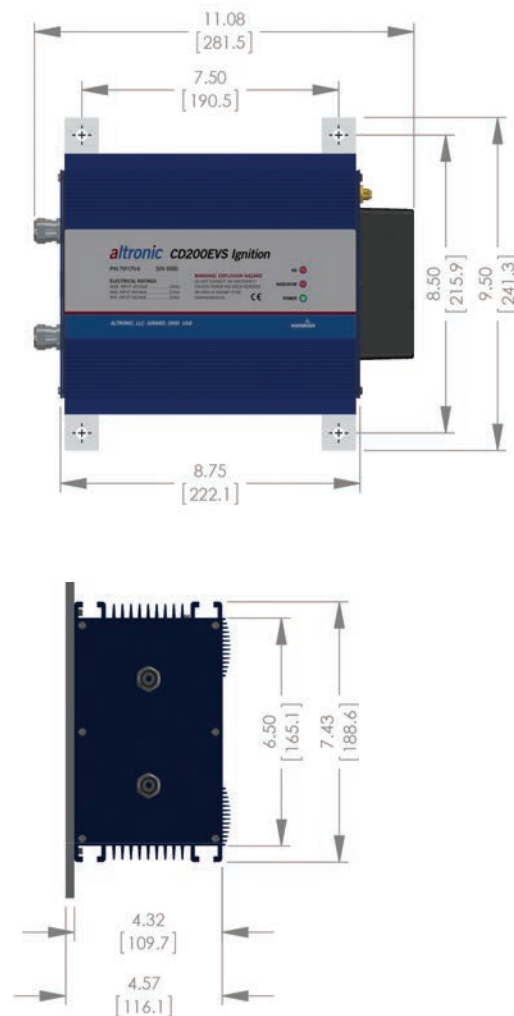
\* SW indicates a manual timing control switch

- 1) Timing switch option adds a 8-position rotary switch to manually adjust ignition timing.
- 2) High output option increases the maximum available spark energy for severe applications.
- 3) High output units as well as all 12-cylinder models feature forced air cooling to ensure performance under severe conditions, details can be found in installation instructions.

## Specifications

No. of cylinders ..... 1-12  
 Power required ..... 24Vdc, up to 1.5A per cyl.  
 Max. voltage output ..... 45kV  
 Spark duration ..... 200-800 µsec  
 Spark intensity ..... 100-300mA  
 Timing adjustment:  
     Manual (8-pos. switch)..... user-selectable increments  
     RPM range..... 25 to 2,500RPM  
     Analog input range..... 4-20mA or 0-5Vdc  
     Overall max. timing range..... 25° of retard  
 Overspeed setpoint range ..... 25 to 2,500RPM  
 Output switch rating ..... 0.5Amp, 32Vdc max.  
 Communications..... Modbus RTU (RS-485)

## Dimensions



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