

# Reliance Electric SP200 AC Drive Compact, Easy to Use, and Featured Just Right



*For Variable Speed Control  
of Small AC Motors*



# Optimized Design for Basic Variable Speed Applications

The Reliance Electric SP200 drive provides OEMs and users with attractive opportunities in which to apply variable speed control to AC motors. It is an excellent choice where cost, size, and ease-of-use are the most important considerations.

## COMPACT

- Small dimensions (5.5" high x 2.8" wide x 5.5" deep) make the Reliance® SP200 ideal for inside machine/cabinet mounting
- Flexibility to mount on a DIN rail or directly to a panel for maximum use of available space

The SP200 controls three phase motors and is available in ratings that can be powered by either a single-phase or three-phase source.

A unique feature of the single-phase ratings up to 1.5 HP (1.1kW) is that they can be connected to either 115 V or 230 V input while producing 230 V, three-phase output in both cases.

Input Voltage	Output Voltage	Power Rating		Output Current
		HP	kW	
Voltage Selectable 100V to 120V, 1Ø 200V to 240V, 1Ø	0 to 230V 3Ø	1/2	0.37	2.3A
		1	0.75	4.2A
		1-1/2	1.1	6.0A
200V to 240V, 1Ø	0 to 230V 3Ø	2	1.5	7.0A
200V to 240V, 3Ø	0 to 230V 3Ø	1/2	0.37	2.3A
		1	0.75	4.2A
		2	1.5	7.0A
380V to 460V, 3Ø	0 to 460V 3Ø	1/2	0.37	1.3A
		1	0.75	2.0A
		2	1.5	3.5A



## Why Variable Speed AC Drives?

### Here Are Some Excellent Reasons to Use Variable Speed AC Drives.

#### Reduce Machine Costs

Electronic variable speed drives lower costs, increase machine reliability, and decrease maintenance schedules by reducing the number of expensive mechanical parts, such as:

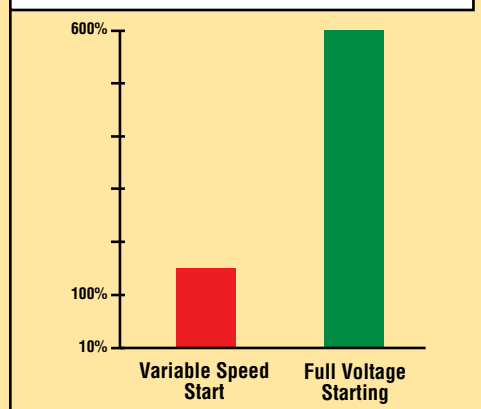
- mechanical speed drives
- dampers and guide vanes
- flow control valves

#### Improve Machine Design and Performance

Variable speed drives can improve machine design and performance by helping:

- Improve your process by controlling speed, pressure, flow rate, or temperature.
- Reduce unnecessary stresses and power surges by starting and stopping softly.
- Optimize machine speed for increased throughput and decreased cycle time.

Comparison of current draw between variable speed drives and across-the-line starting





## EASY TO USE

- Input power terminals on top and output power terminals on bottom make it easy to retrofit from constant speed to variable speed
- Spring-type control terminals provide quick and reliable control connections
- Small parameter set and easy programming tools provide quick setup

## FEATURED JUST RIGHT

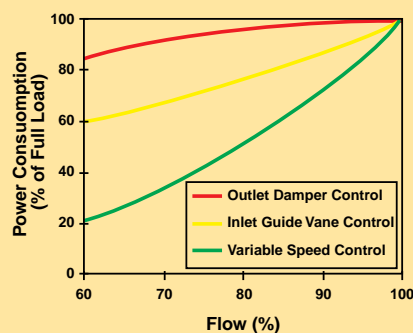
- Three application-focused control models
- Adjustable features to meet your specific needs
- Robust torque performance
- Directly compatible with 24 VDC control signals
- UL listed, cUL listed, and CE marked for global use
- Withstands a 50°C environment

### Reduce Operating Costs

Even small motors waste energy and money when not being used at maximum efficiency. Variable speed drives help save money by:

- Eliminating high starting currents, a major contributor to peak demand charges (left)
- Taking advantage of dramatic power savings at reduced fan and pump speeds (right)

**Power consumption for alternative flow control methods**



### AC Technology Advantages vs. DC

- AC motors require no brush maintenance
- AC motors have higher speed capacity
- Standard AC motors are available in many enclosures and environmental ratings
- AC drives produce clean line side voltage
- AC drives provide more features in a standard package

# Focused Control Models for Specific Application Needs

The economy, simplicity, and size of the SP200 results from a cost-effective design. Three distinct versions, each with different control features, provide appropriate functionality for specific applications and user needs.



## Adjustable Features

The SP200 meets your specific application requirements with these adjustable features.

**Two Acceleration/Deceleration Rates.** For smooth, soft, energy-saving starts. Alternate between two different rates on-the-fly.

**Speed Range Control.** Prevents high-speed or low-speed extremes that can damage equipment.

**Extended Speed Range.** Lets you operate above base motor speed up to 240 Hz.

**Three Stopping Modes.** Select from ramp, coast, or DC injection braking.

**Avoidance Frequency.** Prevents motor or machine from dwelling at unstable speeds.

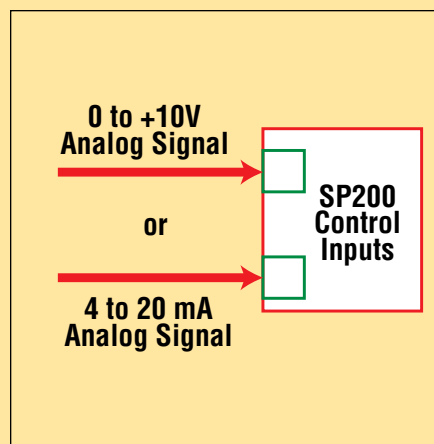
**Automatic Torque Boost.** Provides consistent torque performance by adapting motor voltage to load conditions. Reduces need for manual Volts/Hz settings.



## CONVEYORS • TREADMILLS • WOODWORKING • FARMING • PACKAGING • CAI

### Model A: Single Channel Analog

For applications where speed is proportional to either a 0 to +10 V or 4 to 20 mA analog input signal.

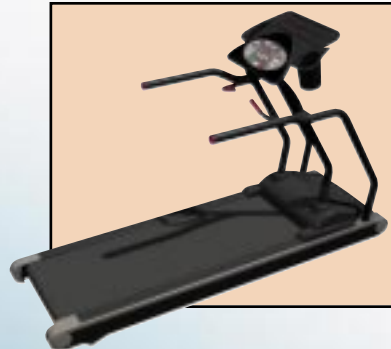


### Model B: Preset Speed

For applications needing up to 8 speeds, selected by combinations of 3 digital inputs. Provides a low cost speed control method where an analog signal is unavailable or too costly to provide.

**Volts/Hz Adjustment.** Customizable speed/voltage profile for enhanced performance, energy savings, and optimal matching to motors.

**Built-In Motor Overload Protection.** No external motor protective devices required.



**Adjustable Carrier Frequency.** Lower settings minimize radiated and conducted electromagnetic noise. Higher settings result in quiet and cool motor operation.

**Scaleable Speed Display Units.** Lets you scale the speed display to units that make sense for your application.

**Configurable Digital Input.** Use to activate alternate accel/decel times, speed reference source, jog, or coast stop.

**Configurable Digital Output.** Use this relay output to alert a user or controller about a pre-defined condition.

**Auto-Restart.** Use to restart from a fault condition without operator intervention.

**Current Limit.** Automatic speed compensation to prevent drive overloading in response to excessive load.

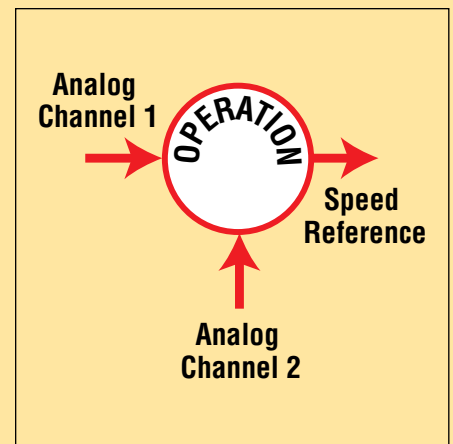


**WASH • LAUNDRY • MIXERS • FANS • PUMPS • FEEDERS • COMPRESSORS**

Control Input State			Speed Setting
0 = Open Switch X = Closed Switch			
0	0	0	1
0	0	X	2
0	X	0	3
0	X	X	4
X	0	0	5
X	0	X	6
X	X	0	7
X	X	X	8

**Model C: Dual Channel Analog**

For applications where speed is controlled by the result of an operation between two analog signals. The operation can be defined as PI Control, Add, or Multiply.



# Easy to Set Up, Easy to Use

- Because the SP200 is focused on basic applications, it has a reduced, but carefully chosen set of adjustments. This results in an easy learning experience and a quick set-up procedure.
- In addition, the SP200 comes standard with no keypad, which means that it is designed to save you money when used in equipment where a user interface is not required.
- Three different interface tools are available for you to select from based on your specific setup and operator needs.



## Local Keypad.

Use this tool for adjustments and operation during setup. Remove when finished or leave installed for permanent local access to settings and monitoring.

## CopyCat Keypad.\*

Use this hand-held tool for the most efficient method of setting up multiple units with the same settings. This tool will download, upload, and store multiple parameter sets. Also supports operator control functions.



## Proven Ease of Use

The SP200 has been extensively tested for ease-of-use in Rockwell Automation's state-of-the-art usability lab.

Fully functioning products were tested in real applications by real users. They installed, set up, and

operated SP200 drives while being observed by our engineers and technical writers.

We discovered what was easy to use—and what should be easier. As a result we made many improvements to the SP200 and its documentation to make it easier to install, set up and operate.



**Remote Keypad.\***

Use this panel flush-mount operator interface for permanent remote (outside enclosure) access to operator controls and settings.



\*Contact your local sales office or distributor for availability.



**PowerMatched™ Motors and Drives**

At Reliance, we know that AC motors require specific features to reliably operate over a range of speeds from

variable frequency drive (inverter) power. That's why we design and test our motors and drives in parallel



to provide you with more uptime, fewer headaches, and single source support. Now that's peace of mind!

PowerMatched motors include extra thermal capacity for low speed operation and an insulation system that can withstand the voltage stresses associated with inverter power.



**Selection**

Available in a broad range of enclosures such as Open, Enclosed, Washdown, Extra Tough, Explosion Proof, and Metric, for many different environments and applications.



# Worldwide Training, Service And Support



Rockwell Automation Global Technical Services provides comprehensive service and training for the SP200 and all Reliance Electric products. For information on class availability and pricing, call 1-800-RELIANCE (1-800-735-4262).

## Performance Driven

To find out how Reliance Electric can help you meet the productivity and performance demands of your application, call or FAX today:

**Toll Free 1-800-245-4501**

**FAX 1-216-266-7120**



From 1/8 to 1500 HP. There is a Reliance Electric variable speed drive to solve your simple or complex motor control requirements.



To obtain the latest information about Reliance Electric products, services, career opportunities, and contacts worldwide, visit us on line at

**<http://www.reliance.com>**

*This document is located at: <http://www.reliance.com/prodserv/drives/d2000.pdf>*

### IMPORTANT NOTICE

This brochure is not intended to provide operating instructions. Appropriate Rockwell Automation instruction manuals and precautions attached to apparatus should be read carefully prior to installation, operation, and/or maintenance of equipment.

©1998 by Rockwell International Corporation  
Reliance® and PowerMatched™ are trademarks of Rockwell Automation.



Reliance Electric / 24800 Tungsten Rd. / Cleveland, OH 44117

 **Rockwell** Automation  
**Reliance Electric**