



# SP600 AC DRIVES

**RELIANCE  
ELECTRIC**

**Rockwell  
Automation**



ON  
OFF  
NET A  
NET B



Control panel buttons:

- F1 (Yellow)
- F2 (Yellow)
- F3 (Yellow)
- F4 (Yellow)
- ESC PROG (White)
- JOG (White)
- Green Start Button
- Red Emergency Stop Button
- Directional Arrow Buttons (White)
- Refresh Button (White)

**SP600**  
A-C DRIVE

**RELIANCE ELECTRIC**

Ready

## SP600 AC Drives

# THE BENCHMARK IN DRIVE VALUE

The full-featured, highly functional SP600 AC Drive carries on the reputation of reliability and excellence you have come to expect from Reliance Electric. With more than 90 years of experience in developing variable-speed drives for almost every type of application, we know how unforgiving the industrial environment can be.

This real-world, plant-floor knowledge and expertise is reflected in the design and manufacturing of the SP600 AC Drive. Dirty power is an industrial

fact of life. The SP600 is designed to deliver reliable performance under a range of frequency variations, voltage dips and surges.

The SP600 product line provides versatility in enclosure choices regardless of the environment. A standard NEMA 1 package is available for normal industrial applications, while the NEMA 4X/12 (IEC IP66) package protects the drive hardware in the harshest of conditions. Finally, for environments where excess heat

is a factor, the NEMA 1 Flange product is designed for mounting the drive in a separate enclosure.

Reliance Electric continues to provide precise power and control. The added benefit of single-source responsibility from the most recognized motor and drive leader maximizes your uptime, productivity and peace-of-mind.

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# SP600 AC DRIVE...SIMPLE INTELLIGENCE

The functionality and versatility of the SP600 make it an ideal AC drive solution for a broad range of applications.

The full-featured SP600 AC Drive delivers the performance and flexibility benefits of more expensive AC drives, without the complexity or cost.

Consider the benefits of having both Sensorless Vector Control and V/Hz operation—two modes of operation that are standard, out-of-box, in every SP600 AC Drive!

With the SP600, you also get many additional benefits including:

- A scalable motor overload protection circuit, from 110% to 400% of rated motor current, allows you to match any motor to any oversized SP600 AC Drive to meet the performance needs of hard to start applications, while maintaining proper scaling of the motor's protection circuit.
- A unique, built-in Intelligent Thermal Management™ (ITM) system monitors the SP600 thermal condition. In the event of a potential over-temperature fault, the drive automatically adjusts operating variables, such as carrier

frequency and/or current, to reduce the drive's temperature, allowing the process to be maintained without faults and with minimal reduction in throughput.

- Built-in snubber braking circuitry and optional drive-mounted resistor kits save panel space and lower installation costs.
- Embedded PI control allows the SP600 to be adapted to a variety of process application requirements. This is made possible by the two analog inputs standard on every SP600 model. Use one input for speed set point and the second input for process trim to maintain constant pressure or flow in any centrifugal fan or pump system.

- The SP600 standard I/O provides for two relay outputs to indicate fault, alarm or drive-ready conditions.

- In the event of a power dip, the drive automatically decelerates into a regenerative mode for energy recovery to avoid a low DC bus fault. It then returns to the preset speed reference when AC line power returns to normal.

- Conformance with global standards—UL, cUL and C-Tick—ensures international acceptability and out-of-box performance anywhere in North American, Europe and Australia.
- Quick Start Utility, accessible from the Start Up icon, provides operators with a set of the most commonly programmed parameters. With Quick Start self-prompting screens, the drive can be quickly and easily set up without in-depth knowledge of parameter structure.
- Parameters can be viewed in factory defined groups, in numerical order, or by those which have changed from factory default values.



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## SIMPLE, FAST & FAMILIAR

Main Menu Icons allow access, through drop-down menus of subdirectories, to all supported drive functions and supported devices.



Start Up Icon provides access to Quick Start utility that allows for fast, easy set-up involving as few as eight parameters.



Parameter Icon provides quick access to drive parameters via functional group, number or values changed from default settings.



Control Source Icon allows control and reference selection.



Diagnostics Icon provides information on faults and alarms.



Display Icon allows operators to configure the OIM for language, monitoring display, function keys and display configuration.



Memory Icon allows operators to load and save different parameter sets into the drive or to restore factory-set defaults.



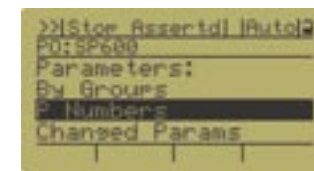
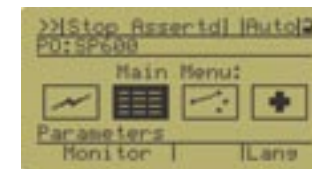
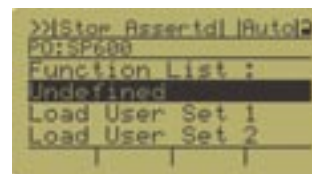
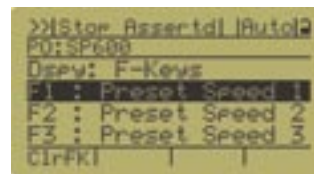
Device Select Icon allows operators to select the drive, network device or other peripheral for configuration.



Password Icon provides protection against modification of parameters or selection of unauthorized parameter access levels.

**Drive Monitoring** information can be reported on LCD OIM in terms of output frequency, motor amps, speed or voltage; or in operator-defined terms such as gallons-per-minute, cans-per-hour or bagels-per-minute. Units and text are definable by the user.

**Quick Start Utility**, accessible from the Start Up Icon, provides operators with a set of the most commonly programmed parameters. With Quick Start self-prompting screens, the drive can be quickly and easily set up without in-depth knowledge of parameter structure.



**Parameters**, can be reviewed in factory defined groups, in numerical order or by those which have changed from factory default values.

**Function Keys** provide configurable hotkey functionality for quick and easy drive configuration, set up and process operation. For configuration and set up, each of the four function keys provides access to factory-assigned operations. When operating, each function key provides a shortcut to operator-defined process operations such as preset speeds, auto/manual operation and fault log information. Each function key is allowed to have two user assigned functions allowing eight possible assignments, eliminating the need for hardwired pushbuttons and switches.

Test drive the SP600 OIM at [www.reliance.com](http://www.reliance.com)



# SP600 AC DRIVE...PACKAGING PERFECT



## SUITABLE FOR WALL OR MACHINE INSTALLATIONS

The SP600 is available in three enclosure styles, offering a compact footprint with the versatility you need for various applications. The NEMA 1 and NEMA 4X/12 enclosures can be mounted directly on a wall or machine. The NEMA 1 enclosure can also be converted to IP20 where mounting in an industrial enclosure is desired. The NEMA 1 Flange is designed to be mounted in an industrial enclosure with the heatsink extended out the rear, thus removing the major source of heat from the cabinet interior. For your toughest environments, the NEMA 4X/12 can provide the protection needed.

## EQUIPPED WITH BUILT-IN 7TH TRANSISTOR FOR CONTROLLED DECELERATION

The 7th transistor needed for dynamic (snubber) braking is supplied within the SP600 enclosure, thus eliminating the need for additional panel space. This capability is standard on all SP600 drives rated 0.5 to 50HP (optional for drive rated 60HP to 200HP) and provides a mechanism for dissipating energy during the rapid deceleration of high inertia loads without sacrificing control. To dissipate the heat during low inertia and light duty braking, a drive mounted resistor kit can be supplied. If the application is more demanding, an external resistor kit can be utilized.



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## COMMUNICATION OPTIONS SHARE A COMMON FOOTPRINT FOR SIMPLE INSTALLATION

A wide range of network options allow you to maximize both data access and drive control.

- EtherNet/IP™
- DeviceNet™
- ControlNet™
- ProfiBus™
- InterBus-S™
- RS485 Modbus™
- RS485 DF1

SP600 Dimensions

Normal Duty Horsepower			Frame	Height (in)	Width (in)	Depth (in)	Weight (lb)
@ 230 V	@ 460 V	@ 575 V					
NEMA 1 Enclosures							
0.5 - 1	0.5 - 1	0.5 - 1	A	8.89	4.82	7.08	6.0
2 - 3	2 - 5	2 - 5	B	9.24	6.76	7.08	7.9
5	7.5 - 10	7.5 - 10	C	11.81	7.28	7.08	15.2
7.5 - 15	15 - 30	15 - 30	D	13.78	8.66	7.08	20.4
20 - 25	40 - 50	40 - 50	E	21.88	11.04	8.15	41.0
N/A	20 - 25	20 - 25	2	13.48	8.74	7.87	27.6
N/A	30 - 50	30 - 50	3	20.37	8.74	7.87	40.9
N/A	60	60	4	29.87	8.66	7.94	54.0
N/A	75 - 100	75 - 100	5	25.37	12.16	10.84	82.0
N/A	125 - 200	125 - 150	6	38.43	15.90	10.85	157.5 to 165.5*
NEMA 1 Flange Enclosures							
0.5 - 1	0.5 - 1	0.5 - 1	A	8.89	6.14	7.03	11.5
2 - 3	2 - 5	2 - 5	B	9.24	8.08	7.03	15.5
5	7.5 - 10	7.5 - 10	C	11.81	8.62	7.03	27.6
7.5 - 15	15 - 30	15 - 30	D	13.78	9.78	7.03	40.9
20 - 25	40 - 50	40 - 50	E	21.88	11.04	8.15	41.0
NEMA 4X/12 Enclosures							
0.5 - 3	0.5 - 5	0.5 - 5	B4	9.44	6.76	8.00	8.0
5 - 15	7.5 - 30	7.5 - 30	D4	13.78	8.66	8.29	20.1
20 - 25	40 - 50	40 - 50	E4	21.88	11.04	8.65	41.0

\* Depends on Horsepower Rating

SP600 Features

FEATURES	RATING
230V Three Phase	Fractional to 25HP
460V	Fractional to 200HP
575V	Fractional to 150HP
Overload Rating	110% or 150% 1 Minute
NEMA 1	✓
NEMA 1 Flange	✓
IP20	✓
NEMA 4X/12	✓
IP66	✓
EMC Filtering	Internal
Internal DB Transistor	✓
Drive Mounted Display	LCD
Scalable User Display	✓
Parameter R/W Password	✓
CopyCat Function	VS Utilities
Control Type	Sensorless Vector / V/Hz
Preset Speeds	8
Skip Frequency	3 Frequency Bands
Flying Start	✓
Auto Restart	✓
PI Process Control Loop	✓
I/O	
Discrete Inputs	6 Fully Programmable 24V Sink/Source (115 VAC Available)
Discrete Output	2 - N.O./N.C. Dry Contact
Analog Inputs	2 - Voltage or Current
Analog Output	0 to 10 VDC
Communications	
DeviceNet	✓
EtherNet	✓
Profibus	✓
ControlNet	✓
InterBus-S	✓
Modbus	✓

## RAISING THE BAR WITH ENGINEERING INNOVATION AND VALUE-ADDED SERVICES

Just as the DODGE TYPE E bearings raise the bar in engineering innovation, Rockwell Automation's Power Services Group sets new standards in value-added service solutions. With our Power Services Group and local service centers located throughout North America, we can help you maintain your operation with maintenance programs, equipment startup, and repair/rebuild services for motor and mechanical products that are unmatched in the industry.



## INDUSTRY SOLUTIONS

Today, DODGE S-2000 and S-2000e bearings are proving ideal for use in pharmaceutical, unit handling, and food & beverage applications throughout the world.



## RENEWAL PARTS

Having an effective and sound maintenance program that ensures minimal downtime depends on the ready availability and easy accessibility of quality renewal parts, as well as the knowledge and experience of a value-added support team. For genuine DODGE and Reliance Electric renewal parts and support that's ready when you are, talk with your local authorized distributor; contact DODGE/Reliance Electric Parts Customer Service at 864-284-5202; or log onto PTplace.com or reliance.com.



## E-COMMERCE

Rockwell Automation offers a variety of e-Commerce solutions, allowing our customers to become more efficient and lower their overall operating costs. To learn more, reference the iHow to Buy! section on [www.dodge-pt.com](http://www.dodge-pt.com) and [www.reliance.com](http://www.reliance.com) or contact your Rockwell Automation Sales Representative.



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