

ALL-PURPOSE DRIVE



# SP2000



## ONE PRODUCT, FIVE INTEGRATED FUNCTIONS

- 3HP to 1690HP at 380 – 480Vac
- 75HP to 2100HP at 525 – 690Vac
- 4-Quadrant/Zero Harmonic

### • Most Complete Communication Card Offering:

- EtherNetIP
- Control-Net
- Profibus DP
- Device-Net
- Interbus
- CAN-Open
- ProfiDrive
- BACNet
- Modbus TCP
- Lonworks
- Modbus RTU

**3 YEAR WARRANTY**



**CONTROLS PRODUCTS**

**TECO**   **Westinghouse**

MOTORS (CANADA) INC.

# SP2000

ONE PRODUCT, FIVE FUNCTIONS

- **IFD (Inverter Frequency Drive):** functionality for general purpose applications (V/Hz)
- **VTC (Vector Torque Control):** sensor-less vector functionality for high torque performance applications (direct torque control)
- **FOC (Field Oriented Control):** vector function with encoder for high torque precision and wide speed range
- **SYN (Synchronous):** vector function for brush-less synchronous motors with permanent magnets requiring very accurate torque values and excellent energy performance
- **RGN (Regenerative):** functionality for the inverter to accept regeneration back on to DC bus. Also allows inverter to act as an AC/DC converter for the DC supply of multiple drives

## Output Characteristics

SP2000 4T / 5T / 6T	480V 3HP – 1690HP Constant Torque 575V 75HP – 2100HP Constant Torque 690V 75HP – 2100HP Constant Torque
Maximum Voltage	380V – 690V
Rated Output Frequency	0 - 1000Hz
Output Frequency Resolution	0.01Hz

## Power Supply

Rated Input Voltage & Frequency	480V 3HP – 1690HP, 3-Phase, 380-500V, 50/60Hz 575V 75HP – 2100HP, 3-Phase, 500-575V, 50/60Hz 690V 75HP – 2100HP, 3-Phase, 575-690V, 50/60Hz
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## Control Characteristics

Control Mode	IFD (Inverter Frequency Drive): Vector modulation function for generic applications (V/F Pattern) VTC (Vector Torque Control): Sensor-less vector function for high torque performance applications (Direct Torque Control) FOC (Field Oriented Control): Vector function with encoder for high torque precision and wide speed range SYN (Synchronous): Vector function for brushless synchronous motors with permanent magnets characterized by high torque precision joined to high energy efficiency level RGN (Regenerative): Sinusoidal $\cos\phi=1$ , AC/DC supplier function for direct supply of a series of drives
Operation Mode	5 Languages LCD Display – English, Italian, Spanish, Portuguese, German
Carrier Frequency	Programmable: 2.0 – 16KHz
Frequency Control Range	0 to 1000Hz

## Protective Functions

Overload Capacity	Constant Torque: 168% Rated Output Current for 60 Sec. Variable Torque: 144% Rated Output Current for 60 Sec.
Frequency Setting Signal	0-10VDC, 4-20MA
Braking Torque	Approximately 20%
Stall Prevention	Stall Prevention at Acceleration/Deceleration and Constant Speed Operation
Instantaneous Over-current	200% of Rated Output Current
Motor Overload Protection	Electronic Overload Protection
Overheat Protection	Protected by Thermistor
Ground Fault	Protected by DC Current Sensor
Power Charge Indication (LED)	Charge Lamp stays ON until Bus Voltage drops below 50VDC

## Control Connections

Control Power	24VDC
Analog Input	3 Analog Inputs, 0-10VDC 0(4)-20mA
Auxiliary Analog Input Frequency	5,000 - 65,000Hz
Auxiliary Analog Output Frequency	5,000 - 65,000Hz
Digital Inputs	8 Digital Inputs (4 Programmable): Positive or Negative Control Logic
Digital Outputs	2 Programmable Form C Relays, 250VAC, 1 Amp or 30VDC/1 Amp Programmable Open Collector, 48VDC, 50mA
Serial Communications	RS-485 Port, MODBUS Protocol up to 38.400 Baud

## Environmental Conditions

Location	IP00 to IP20
Ambient Temperature	-25°C to +70°C de-rating of 2% for each degree beyond +40°C
Storage Temperature	-25°C to +70°C
Humidity	<90% RH (Non-Condensing)
Vibration	<1000m, 5.9m/s <sup>2</sup> (0.6G)

## Certifications/Compliance



### VANCOUVER, BC

1-800-565-6055  
Ph: (604) 469-9888  
Fx: (866) 400-2311

### EDMONTON, AB

1-800-661-4023  
Ph: (780) 444-8933  
Fx: (780) 486-4575

### CALGARY, AB

Ph: (403) 640-2063  
Fx: (403) 640-2075

### CAMBRIDGE, ON

1-800-268-4770  
Ph: (519) 624-1616  
Fx: (519) 624-1557

### LACHINE, PQ

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