



**VACON SE2**  
**SIMPLE DRIVE FOR HARSH ENVIRONMENTS**

**VACON**  
DRIVEN BY DRIVES

## SIMPLE DRIVE FOR HARSH ENVIRONMENTS

The Vacon SE2 family of AC drives is small in size, big on performance and economical to operate providing a powerful solution for many industrial applications. They feature remote communications capability (using Modbus® protocol), a keypad for easy configuration, and standard NEMA 12 / IP55 enclosures that eliminate the need for mounting in separate enclosures. The Vacon SE2 is suited for all types of applications including industrial conveyors, fans and pumps.

HP Range	Voltage Range	Input Phases
0.5 – 1.5 HP	115 Vac	Single Phase
0.5 – 3 HP	230 Vac	Single Phase
1 – 5 HP	230 Vac	Three Phase
1 – 10 HP	460 Vac	Three Phase

The Vacon SE2 range offers alternatives with or without an integrated main switch, providing solutions for a wide range of applications.

Easy to install and set up with only a dozen basic parameters related to ramp times and motor data to adjust. The Modbus RTU is included as standard, making integration into fieldbus control systems easy.

NEMA12/IP55 Drives meet UL and cUL, CE\* standards.

Benefit – Ensures compliance with global systems.

Consult with Vacon, Inc. about compliance with European CE standards when using Vacon SE2 with integrated RFI filters that meet industrial standards needed.

### INDUSTRY SECTORS

- Food processing
- Bottling
- Pumping
- Chemical
- Waste Water
- HVAC

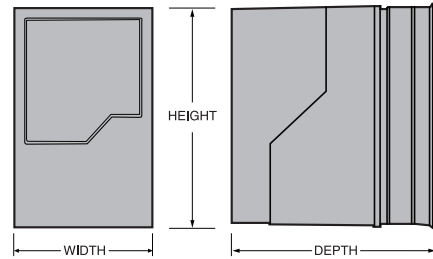
### FEATURES

- Industrial-duty NEMA 12/IP55
- Small footprint & wall mountable
- Integrated main power disconnect, speed control and forward/stop/reverse controls available
- Designed for a harsh 40°C environment
- Resists low-pressure water, dust, dirt and chemicals
- Simple construction
- Full keypad control
- Easy to use due to advanced features
- Fast setup: common parameters available in Level 1
- Display of motor current and motor rpm
- Modbus RTU included
- Control location can be chosen: keypad, terminal strip or fieldbus
- Integrated brake chopper for sizes 2 and 3
- Duplistick programming for easy copying of data between drives
- Ratings reflect overload capacity of 150% for one minute and up to 175% for momentary overloads in high torque applications



# VACON SE2 GENERAL INFORMATION

	Frame 1		Frame 2		Frame 3	
	Inches	mm	Inches	mm	Inches	mm
Height	7.87	200	12.20	310	12.20	310
Width	5.51	140	6.49	164.8	8.29	210.5
Depth	6.38	162	6.83	176	9.65	245
Weight: lbs (kg)	5.06 (2.3)		9.90 (4.5)		13.2 (6)	



Product Code	Motor Shaft Power and Current						OL Amps (1 Min/10 Min)	Frame Size
	High Overload (150%)			Low Overload (120%)				
	HP	kW	Amps	HP	kW	Amps		
<b>VACON SE2 110-115 Vac 1-ph, NEMA 12/IP55, EMC Class C4</b>								
VACONSE2C1S005D01	0.5	0.37	2.3	---	---	---	3.5	F1
VACONSE2C1S010D01	1	0.75	4.3	---	---	---	6.5	F1
VACONSE2C1S015D02	1.5	1.1	5.8	---	---	---	8.7	F2
<b>VACON SE2 110-115 Vac 1-ph, NEMA 12/IP55, EMC Class C4, Power and Control Switches Included</b>								
VACONSE2C1S005D01S	0.5	0.37	2.3	---	---	---	3.5	F1
VACONSE2C1S010D01S	1	0.75	4.3	---	---	---	6.5	F1
VACONSE2C1S015D02S	1.5	1.1	5.8	---	---	---	8.7	F2
<b>VACON SE2 200-240 Vac 1-ph, NEMA 12/IP55, EMC Class C4</b>								
VACONSE2C2S005D01	0.5	0.37	2.3	---	---	---	3.5	F1
VACONSE2C2S010D01	1	0.75	4.3	---	---	---	6.5	F1
VACONSE2C2S020D01	2	1.5	7	---	---	---	10.5	F1
VACONSE2C2S020D02	2	1.5	7	---	---	---	10.5	F2
VACONSE2C2S030D02	3	2.2	10.5	---	---	---	15.8	F2
<b>VACON SE2 200-240 Vac 1-ph, NEMA 12/IP55, EMC Class C4, Power and Control Switches Included</b>								
VACONSE2C2S005D01S	0.5	0.37	2.3	---	---	---	3.5	F1
VACONSE2C2S010D01S	1	0.75	4.3	---	---	---	6.5	F1
VACONSE2C2S020D01S	2	1.5	7	---	---	---	10.5	F1
VACONSE2C2S020D02S	2	1.5	7	---	---	---	10.5	F2
VACONSE2C2S030D02S	3	2.2	10.5	---	---	---	15.8	F2
<b>VACON SE2 200-240 Vac 3-ph, NEMA 12/IP55, EMC Class C4</b>								
VACONSE2C20010D01	1	0.75	4.3	---	---	---	6.5	F1
VACONSE2C20020D01	2	1.5	7	---	---	---	10.5	F1
VACONSE2C20020D02	2	1.5	7	---	---	---	10.5	F2
VACONSE2C20030D02	3	2.2	10.5	---	---	---	15.8	F2
VACONSE2C20050D02	5	4	18	---	---	---	27	F2
<b>VACON SE2 200-240 Vac 3-ph, NEMA 12/IP55, EMC Class C4, Power and Control Switches Included</b>								
VACONSE2C20010D01S	1	0.75	4.3	---	---	---	6.5	F1
VACONSE2C20020D01S	2	1.5	7	---	---	---	10.5	F1
VACONSE2C20020D02S	2	1.5	7	---	---	---	10.5	F2
VACONSE2C20030D02S	3	2.2	10.5	---	---	---	15.8	F2
VACONSE2C20050D02S	5	4	18	---	---	---	27	F3
<b>VACON SE2 380-480 Vac 3-ph, NEMA 12/IP55, EMC Class C4</b>								
VACONSE2C40010D01	1	0.75	2.2	---	---	---	3.3	F1
VACONSE2C40020D01	2	1.5	4.1	---	---	---	6.2	F1
VACONSE2C40020D02	2	1.5	4.1	---	---	---	6.2	F2
VACONSE2C40030D02	3	2.2	5.8	---	---	---	8.7	F2
VACONSE2C40050D02	5	4	9.5	---	---	---	14.3	F2
VACONSE2C40075D02	7.5	5.5	14	---	---	---	21	F3
VACONSE2C40100D02	10	7.5	18	---	---	---	27	F3
<b>VACON SE2 380-480 Vac 3-ph, NEMA 12/IP55, EMC Class C4, Power and Control Switches Included</b>								
VACONSE2C40010D01S	1	0.75	2.2	---	---	---	3.3	F1
VACONSE2C40020D01S	2	1.5	4.1	---	---	---	6.2	F1
VACONSE2C40020D02S	2	1.5	4.1	---	---	---	6.2	F2
VACONSE2C40030D02S	3	2.2	5.8	---	---	---	8.7	F2
VACONSE2C40050D02S	5	4	9.5	---	---	---	14.3	F2
VACONSE2C40075D02S	7.5	5.5	14	---	---	---	21	F3
VACONSE2C40100D02S	10	7.5	18	---	---	---	27	F3

## I/O CONNECTIONS

- 2 analog inputs: configurable 0...10 V, 0/4...20 mA (speed reference and actual value signal)
- 3 digital inputs (0/24 V): one of which is one of the analog inputs as well
- 1 analog/digital output 0...10 V or 0/4...20 mA analog; 24 V max as digital output
- 1 NO relay
- 10 V reference voltage out
- 24 V I/O supply voltage

## OPTIONAL EXTERNAL BRAKE RESISTORS

AC drive	Minimum brake resistance
200 V single- and three-phase models	47 ohms
400 V models, size 2	100 ohms
400 V models, size 3	22 ohms

# VACON SE2 SPECIFICATIONS

<b>Mains connection</b>	Input voltage $\pm 10\%$	115 Vac; 208-240 Vac; 380-480 Vac;		
	Input frequency	48 Hz - 62 Hz		
<b>Motor connection</b>	Output voltage	0% - 100% of Line Voltage [0-230 Vac for 115Vac drives]		
	Continuous output current	Nominal output current @ +40°C; 150% overload for 1 minute		
	Starting current	Nominal output current for 2 sec every 20 sec		
	Output frequency	0...500 Hz		
	Frequency resolution	0.1 Hz		
<b>Control characteristics</b>	Control method	Open Loop Control		
	Switching frequency	4...32 kHz effective		
	Frequency reference	Analog (0...10 V, 0...20 mA, 4...20 mA)		
	Analog input	Digital (keypad)		
	Panel reference	PI control (integral) Modbus RTU		
	Field weakening point	25...500 Hz		
	Acceleration time	0...600 sec		
	Deceleration time	0...600 sec		
	Braking torque	DC brake: 30% without brake option		
	<b>Ambient conditions</b>	Ambient operating temperature	-10°C (no frost)...+40°C: I <sub>H</sub>	
Storage temperature		-40°C...+60°C		
Relative humidity		0 to 95% RH, non-condensing, non-corrosive		
Altitude		100% load capacity (no derating) up to 1,000 m 1% derating for each 100 m above 1,000 m max. 2,000 m with UL, max. 4,000 m without UL		
Enclosure class		NEMA 12 / IP55		
<b>EMC</b>	Immunity	Fulfil EN61800-3, first and second environment		
	Emissions	Fulfil EN61800-3, first and second environment		
<b>Safety*</b>		EN 61800-5-1 (2003), EN 60204-1 (2006), CE, UL, cUL; [see unit nameplate for more detailed approvals]		
<b>Control connections</b>	Analog input voltage	0...+10 V, R <sub>i</sub> = 72 k $\Omega$ Resolution 0.025%, linearity < 1% deviation		
	Analog input current	0(4)...20 mA, R <sub>i</sub> = 500 $\Omega$		
	Digital inputs (3)	Positive logic; 18...30 VDC Logic 0: 0...2 V, Logic 1: 8...30 V		
	Auxiliary voltage	+24 V, $\pm 5\%$ , max. voltage ripple < 100 mV; max. 100 mA		
	Output reference voltage	+10 V, +3%, max. load 10 mA		
	Analog output	Analog output: 0...10 V (20 mA max). Resolution: 10 bits, linearity < 2% deviation		
	Digital outputs	Digital output: 0 V / 24 V push-pull, 20 mA max		
<b>Protections</b>	Relay outputs	1 NO relay output Switching capacity: 30 VDC / 5 A, 250 VAC / 6 A, Min. switching load: 5 V / 10 mA		
	Overvoltage trip limit	230 V Drives	400 V Drives	
	Undervoltage trip limit	Overvoltage trip level: Undervoltage trip level (rising volts): Undervoltage trip level (falling volts):	418 V 239 V 160 V	835 V 478 V 320 V
	Earth fault protection	In case of earth fault in motor or motor cable, only the frequency converter is protected		
	Mains supervision	Trips if any of the input phases is missing		
	Motor phase supervision	Trips if any of the output phases is missing		
	Overcurrent protection	Yes		
	Unit overtemperature protection	Yes		
	Motor overload protection	Yes		
	Motor stall protection	Yes		
	Motor underload protection	Yes		
	Short-circuit protection of +24 V and +10 V reference voltages	Yes		

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BC00375B

Subject to changes without notice.