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.

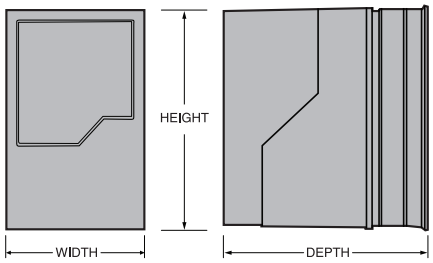
INDUSTRY SECTORS

- 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

	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							Frame
	High Overload (150%)			Low Overload (120%)			OL Amps (1 Min/10 Min)	Size
	HP	kW	Amps	HP	kW	Amps		
VACON SE2 110-115 Vac 1-ph, NEMA 12/IP55, EMC Class C4								
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
VACON SE2 110-115 Vac 1-ph, NEMA 12/IP55, EMC Class C4, Power and Control Switches Included								
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
VACON SE2 200-240 Vac 1-ph, NEMA 12/IP55, EMC Class C4								
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
VACON SE2 200-240 Vac 1-ph, NEMA 12/IP55, EMC Class C4, Power and Control Switches Included								
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
VACON SE2 200-240 Vac 3-ph, NEMA 12/IP55, EMC Class C4								
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
VACON SE2 200-240 Vac 3-ph, NEMA 12/IP55, EMC Class C4, Power and Control Switches Included								
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
VACON SE2 380-480 Vac 3-ph, NEMA 12/IP55, EMC Class C4								
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
VACON SE2 380-480 Vac 3-ph, NEMA 12/IP55, EMC Class C4, Power and Control Switches Included								
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

Mains connection	Input voltage ± 10%	115 Vac; 208-240 Vac; 380-480 Vac;
	Input frequency	48 Hz - 62 Hz
Motor connection	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
Control characteristics	Control method	Open Loop Control
	Switching frequency	4...32 kHz effective
	Frequency reference Analog input Panel reference	Analog (0...10 V, 0...20 mA, 4...20 mA) Digital (keypad) 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
Ambient conditions	Ambient operating temperature	–10°C (no frost)...+40°C: I_H
	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
EMC	Immunity	Fulfils EN61800-3, first and second environment
	Emissions	Fulfils EN61800-3, first and second environment
Safety*		EN 61800-5-1 (2003), EN 60204-1 (2006), CE, UL, cUL; (see unit nameplate for more detailed approvals)
Control connections	Analog input voltage	0...+10 V, R_i = 72 kΩ Resolution 0.025%, linearity < 1% deviation
	Analog input current	0(4)...20 mA, R_i = 500 Ω
	Digital inputs (3)	Positive logic; 18...30 VDC Logic 0: 0...2 V, Logic 1: 8...30 V
	Auxiliary voltage	+24 V, ±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
	Relay outputs	1 NO relay output Switching capacity: 30 VDC / 5 A, 250 VAC / 6 A, Min. switching load: 5 V / 10 mA
Protections	Overvoltage trip limit Undervoltage trip limit	230 V Drives / 400 V Drives Overvoltage trip level: 418 V / 835 V Undervoltage trip level (rising volts): 239 V / 478 V Undervoltage trip level (falling volts): 160 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