

Emotron VSA/VSC Variable Speed Drive



Data sheet
English

Emotron VSA and VSC

Table 1 Model specific specifications

Model	Input voltage	Power [kW/hp]	Rated current [A]	EMC filter 1st environment	Enclosure	Dimensions HxWxD [mm]
VSA23-01	1xphase 200-240VAC 50/60Hz	0.18/0.25	1,7	unrestricted distribution	IP20	132x77x130.5
VSA23-03		0.37/0.5	3,1			
VSA23-04		0.75/1	4,2			
VSA23-07		1.5/2	7,5			
VSA23-10		2.2/3	10,5			
VSA48-002	3xphase 380-480VAC 50/60Hz	0.75/1	2,3	restricted distribution	IP20	132x118x148
VSA48-004		1.5/2	3,8			
VSA48-005		2.2/3	5,2			
VSC48-009		4/5	8,8			187x128x148
VSC48-013		5.5/7.5	13			260x186x195
VSC48-018		7.5/10	17.5			

Wiring diagram, example

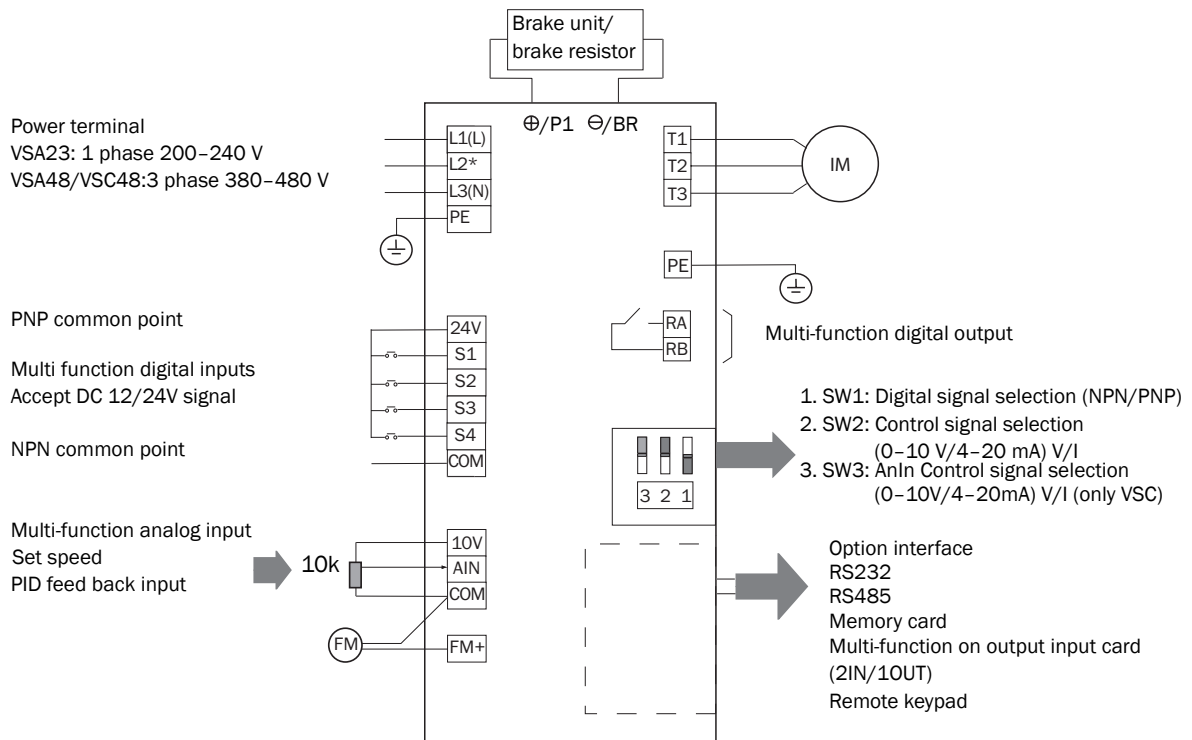




Table 2 General specifications

	Item	VSA	VSC	
Frequency control	Control mode	V/F or Sensorless Vector Control		
	Range	0~200 Hz	0~650 Hz	
	Speed control range	1:50		
	Start torque	100% @ 3Hz	150% @ 1 Hz	
	Speed control precision	±0.5%		
	Setting resolution	Digital: 0.01 Hz, Analog: 0.06 Hz/60 Hz (10 bits)		
	Keypad setting	Up/down keys, or potentiometer on front		
	Display function	7-segment display and status indicator		
	External signal setting	- external potentiometer / 0-10 V/4-20 mA - up/down control via digital inputs		
	Frequency limit function	setting for maximum/minimum frequency, and two skip frequencies		
General control	Switching frequency	2~16 kHz		
	V/F curve	6 fixed and 1 programmable	1 fixed and 18 programmable	
	Acc/Dec control	two stage Acc and Dec time		
	Digital Inputs	4, multi functional	6, multi functional	
		NPN (sink) / PNP (source) type selectable		
	Analog Input	1, for speed reference or PID feedback		
	Digital Output	1, multi functional	2, multi functional	
	Analog Output	1, multi functional		
	Communication	RS232, RS485, Profibus		
Other functions	Low Voltage Override, spin start, auto restart, 8 preset frequencies, torque boost, slip compensation, PID controller, sleep function			
Protective functions	Overload protection	150% for 60 seconds		
	Supply voltage	Over voltage	230 V: >400 VDC, 400 V: >800 VDC	
		Under voltage	230 V: <190 VDC, 400 V: <380 VDC	
	Short-circuit output	electronic circuit protection		
	Earth fault	electronic circuit protection		
	Motor protection	electronic thermal relay		
	EMC	according IEC61800-3, 1 st environment built in		
	Low Voltage Directive	according EN50178		
Complies with	CE, UL, cUL			
ambient conditions	Mounting	Din rail or screw mounting possible		
	Free space	- mounting side by side - 12 cm above and below		
	Temperature	Storage	-20°C ~ 60°C	
		Operation	-10°C ~ 50°C	
	Vibration	0-95%, non condensing		

Table 3 Control signals

Terminal		Description	
VSA-serie	VSC-serie		
RA	R2A	Multi-functional output Normally open contact	
RB	R2B		
	R1C	Common contact	Multi-functional out- put contact
	R1B	Normal closed contact	
	R1A	Normal open contact	
10V	10V	Supply for external potentiometer	
AIN	AIN	Analogue Input for reference or feedback signal	
24V	24V	Supply for digital input control (common for PNP) and option card power	
COM	COM	Common for digital input control (common for NPN), AIN, FM+ and option card power	
FM+	FM+	Multi-functional Analogue Output 0-10VDC	
S1	S1	Multi-functional Digital Inputs	
S2	S2		
S3	S3		
S4	S4		
	S5		
	S6		

Table 4 Description of power terminals

Symbol	Description
L1 (L)	Main power input VSA23: Single-phase: L/N* VSA48/VSC48: Three-phase: L1/L2/L3
L2	
L3 (N)	
VSA 	DC power and braking unit connection terminals, (match with braking units and braking resistor to brake).
VSC 	Braking resistor connection terminals, (Refer to specifications for braking resistor).
T1	Inverter output: VSA23: Three-phase 230 V VSA48/VSC48: Three-phase 400 V
T2	
T3	
PE	Grounding terminals (2 points)

* Terminal at L2 will be non-functional for single-phase units.



DEDICATED DRIVE

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