

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		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

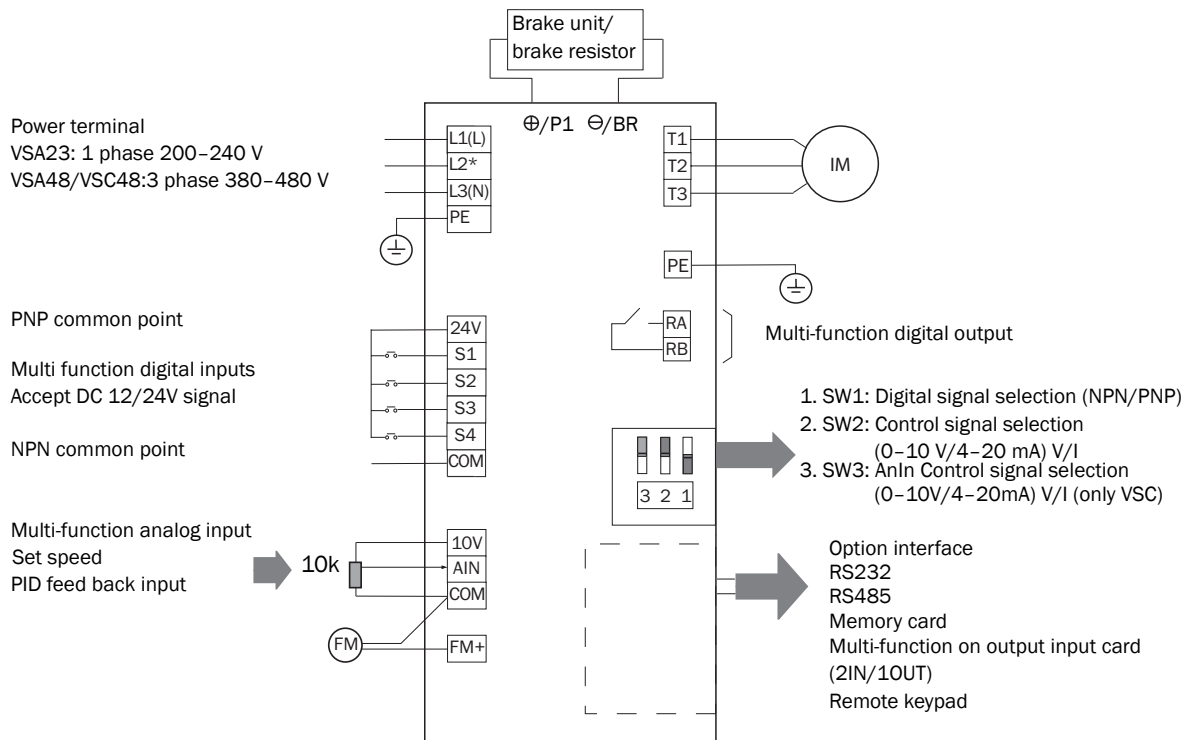


Table 2 General specifications

	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 programable	1 fixed and 18 programable
	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	
Protective functions	Other functions	Low Voltage Override, spin start, auto restart, 8 preset frequencies, torque boost, slip compensation, PID controller, sleep function	
	Overload protection	150% for 60 seconds	
	Supply voltage	230 V: >400 VDC, 400 V: >800 VDC	
	Over voltage	230 V: <190 VDC, 400 V: <380 VDC	
	Under voltage		
	Short-circuit output	electronic circuit protection	
	Earth fault	electronic circuit protection	
	Motor protection	electronic thermal relay	
ambient conditions	EMC	according IEC61800-3, 1 st environment built in	
	Low Voltage Directive	according EN50178	
	Complies with	CE, UL, cUL	
	Mounting	Din rail or screw mounting possible	
	Free space	- mounting side by side - 12 cm above and below	
	Temperature	-20°C ~ 60°C	
	Storage	-10°C ~ 50°C	
	Operation		
	Humidity	0-95%, non condensing	
	Vibration	1g	

Table 3 Control signals

Terminal		Description		
VSA-serie	VSC-serie			
RA	R2A	Multi-functional output Normally open contact		Rated contact capacity: 250VAC/1A or 30VDC/1A
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	P1	Braking resistor connection terminals, (Refer to specifications for braking resistor).
	BR	
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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