JAGUAR VXS

Compact Single and Three Phase Torque Vector Systems for Small Three Phase Motors

Sensorless Vector Variable Frequency Inverters - 0.4kW to 4.0kW

- High performance Torque Vector Control
- Over 200% torque at 1 Hz
- Footprint filters for EMC compliance
- User friendly auto tuning
- Ultra compact IP40 enclosure
- Fast torque response
- Low motor noise profile
- User programmable I/O
- Integral detachable keypad
- Single and three phase versions
- RS485 communications port (optional)
- Renowned IMO 5 year warranty

Electrical specifications

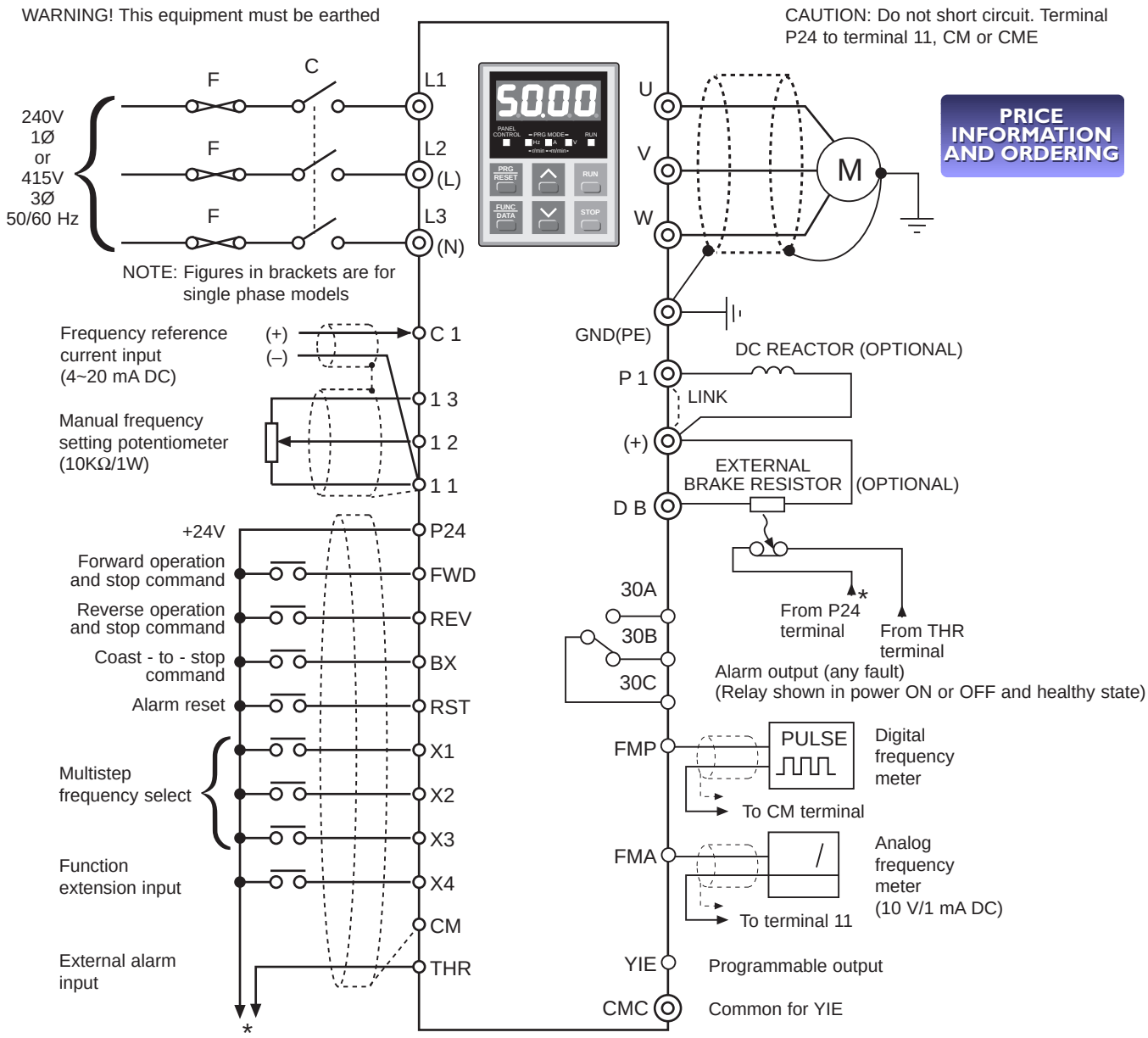
	Single Phase Input					Three Phase Input				
Jaguar VXS order codes	VXS20-1	VXS40-1	VXS75-1	VXS150-1	VXS220-1	VXS40-3	VXS75-3	VXS150-3	VXS220-3	VXS400-3
Motor rating (kW)	0.2	0.37 / 0.55	0.75	1.5	2.2	0.37 / 0.55	0.75	1.5	2.2	4.0
Maximum rated O/P current (A)	1.5	3.0	5.0	8.0	11.0	1.6	2.5	3.7	5.5	9.0
100% Rated I/P current A_{RMS}	2.95	4.1	7.2	14.0	20.0	1.3	2.2	4.3	6.0	9.8
Input voltage	200 - 240 AC, ±10%, 1 phase					380 - 480 AC, +10 to -15%, 3 phase				
Input frequency	50 - 60 Hz, ±5%									
Output voltage	AC, 0 - V_{INPUT} PWM									
Output frequency	0.2 - 400 Hz									

PRICE INFORMATION AND ORDERING

General specifications

Heat loss at minimum carrier frequency (W)	23	45	56	81	129	42	51	67	97	120
Weight (Kg)	1.1	1.6	1.7	2.7	2.8	1.8	1.8	2.7	2.7	3.2
Enclosure rating	IP40									
Cooling method	Natural Convection			Fan Assisted		Natural Convection		Fan Assisted		
Ambient temperature	-10 to +50˚C (remove covers >+40˚C)									
Relative humidity	20 to 95% non condensing									
Vibration	5.9 m/s^2 (0.6G) max									
Altitude	1000 metres max									

Connection diagram



NOTE: Under no circumstances should the above guide be considered sufficient for the attainment of relevant EMC emission limits. Please consult the product manual for full information regarding compliance.

Power Terminals

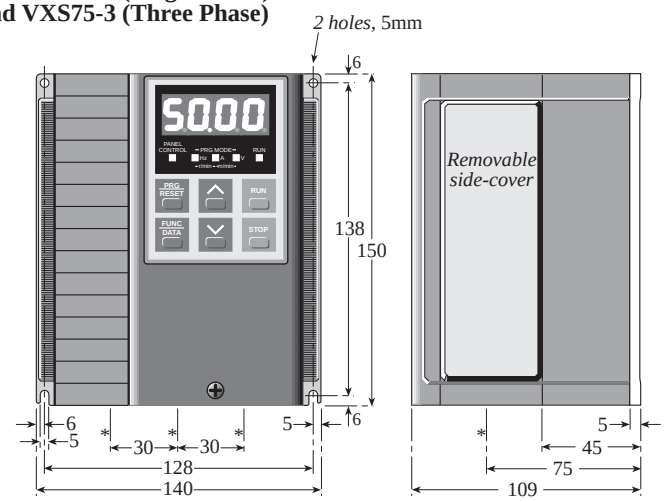
Symbol	Terminal Name	Description
L1, L2, L3	Main input power terminals	For connecting 3 phase power supply (VXS - 3 only)
L, N	Main input power terminals	For connecting single phase power supply (VXS - 1 only)
U, V, W	Power output terminals	For 3 phase AC induction motor
P1, (+)	DC reactor terminals	Optional DC reactor terminals for improving power factor (fitted with shorting link)
(+), DB	External brake resistor terminals	Connection for brake resistor to increase braking torque
GND (PE)	Earth terminal	Safety electrical earth

Control circuit terminals

Purpose	Terminal	Terminal Name	Description	
Analog Frequency Setting	11	Speed reference 0V common	For use with terminals 12, 13, C1 and FMA	
	12	Reference input	0 - 10V DC input, impedance = 22 KΩ	
	13	Potentiometer supply	+10V DC power supply for 1 KΩ speed control potentiometer. Output 10mA max.	
	C1	Current loop input	4 - 20mA input, impedance = 250Ω	
Control Inputs	FWD	Forward and stop command	FWD - P24 Closed – Motor runs forward Open – Motor stops	If both FWD and REV are opened or closed, then the inverter output stops
	REV	Reverse and stop command	REV - P24 Closed – Motor runs in reverse Open – Motor stops	
	BX	Coast - to - Stop command	BX - P24 Closed – Output inhibited instantaneously Open – Normal	
	THR	External trip or Enable/disable data edit mode	• THR - P24 Closed – Normal Open – Trips output instantaneously or • THR - P24 Closed – Normal Open – Data protected	
	RST	Trip/Alarm reset	If RST - P24 is closed for ≥100mS following a trip condition, the inverter will reset	
	X1, X2, X3	Preset speeds	Combinations of X1, X2, X3 - P24 will call for preset frequencies to be output	
	X4	Function extension	Depending upon the setting of function No. 43 terminal acts as – Acc 2 / Dec 2 pattern select – Extension to 15 preset speeds – 2nd motor V/F profile – FWD/REV latch for 3-wire I/P	
	P24	+24V DC supply	Internal 24V DC supply for control inputs	
	CM	Common terminal	Common terminal for FMP and digital inputs	
Meter Outputs	FMA	Analogue output	Output frequency, current, torque or load factor can be selected, 0 - 10V DC, 1mA maximum Up to 2 metres of cable is recommended for connection to this terminal	
	FMP	Digital output	Output proportional to frequency of motor 6 kHz maximum, fully scalable	
Control Outputs	YIE	Programmable output	Selectable for:- 1) Inverter running 2) Frequency level detected 3) Frequency hysteresis band reached 4) Undervoltage trip 5) Torque limiting 6) Auto Restart Maximum 27V DC, 50 mA	
	CMC	Common terminal	Used for YIE output only	
	30A 30B 30C	Fault relay	Normally 30B - 30C closed with power OFF or ON, with drive output healthy 30A - 30C closes on fault. Rated 250V, 0.3A	

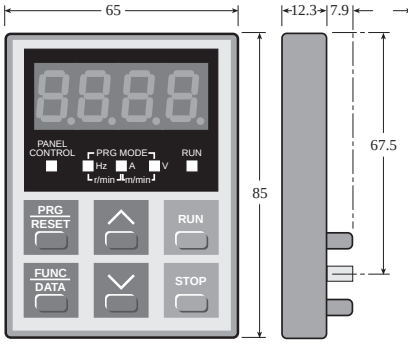
Dimensions (mm)

VXS40-1 and VXS75-1 (Single Phase)
VXS40-3 and VXS75-3 (Three Phase)

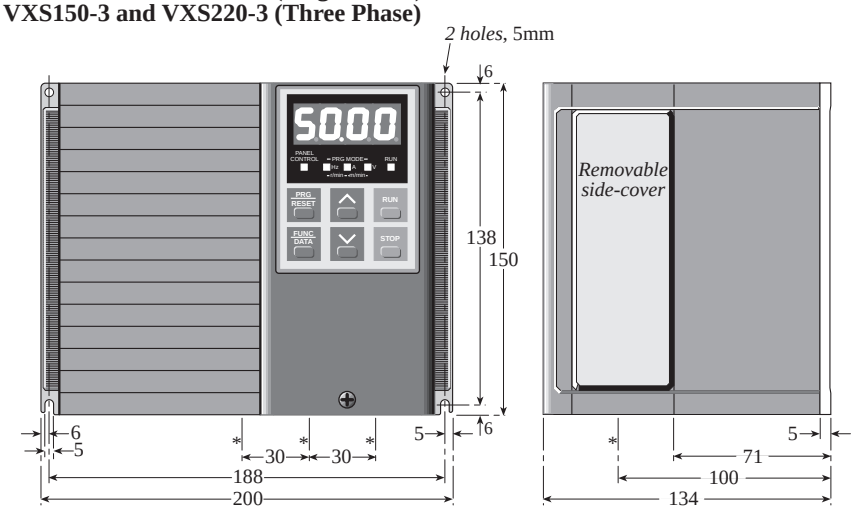


Centrelines of 3 cable entry holes, 22mm dia.

Remote mountable keypad with optional cable

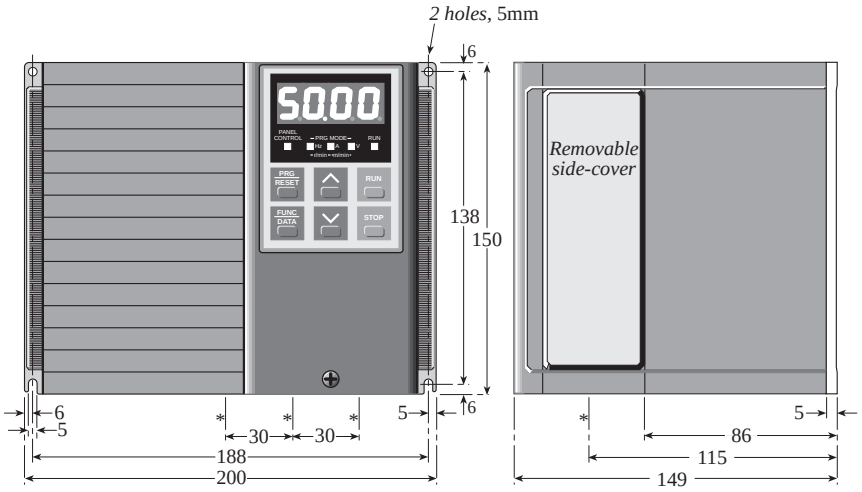


VXS150-1 and VXS220-1 (Single Phase)
VXS150-3 and VXS220-3 (Three Phase)



Centrelines of 3 cable entry holes, 22mm dia.

VXS400-3 (Three Phase)



Centrelines of 3 cable entry holes, 22mm dia.