TECHNICAL DATASHEET

Jaguar VXT Series

General Purpose AC Variable Speed Drives

1 Phase, 200/240V, 50/60Hz 0.4~2.2kW
3 Phase, 200/240V, 50/60Hz 0.4~22kW
3 Phase, 380/480V, 50/60Hz 0.4~315kW

- Extended Range up to 315kW
- Sensorless Dynamic Torque Vector
- Quadruple Ratings for 400v/3Ph models (ND,HD,HND & HHD)
- Motor Auto-tune for system optimization
- 200 step PLC feature
- Carrier Frequency up to 16Khz
- Switch between 2 Motors
- Optimum Energy Control
- Sink/Source Logic
- Inputs Inverse operation
- 0-20/4-20mA Input
- RS485/Modbus RTU/ CANopen as Standard
- Integral RJ45 Socket for Coms/Keypad connectivity
- Internal Brake Chopper to 22kW
- DC Injection Braking
- Safety circuit SIL3 with Safe Torque Off
- Filtered/unfiltered Models
- RoHS & CE compliant
- UL/cUL Approvals

Standard Keypad

Optional Keypads

IMO

Three phase 400V class series

Items			Specifications										
VXT-***A-4 VXT-***A-4E			2	4	6	7	12	22	29	37	44	59	72
Nominal applied motor *1 [kW]		ND	0.75	1.5	2.2	3.0	5.5	11	15	18.5	22	30	37
		HD	0.75	1.1	2.2	3.0	5.5	7.5	11	15	18.5	22	30
		HND	0.75	1.1	2.2	3.0*9	5.5*9	7.5	11	15	18.5	22	30
		HHD	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
Output ratings	Rated capacity [kVA] *2	ND	1.6	3.1	4.2	5.3	9.1	16	22	28	34	45	55
		HD	1.4	2.6	3.8	4.8	8.5	13	18	24	29	34	46
		HND	1.4	2.6	3.8	4.8*9	8.5*9	13	18	24	29	34	46
		HHD	1.1	1.9	3.2	4.2	6.9	9.9	14	18	23	30	34
	Rated voltage [V] *3		Three-phase 380 to 480V (With AVR)										
	Rated current [A] *4	ND	2.1	4.1	5.5	6.9	12	21.5	28.5	37.0	44.0	59.0	72.0
		HD	1.8	3.4	5.0	6.3	11.1	17.5	23.0	31.0	38.0	45.0	60.0
		HND	1.8	3.4	5.0	6.3*9	11.1*9	17.5	23.0	31.0	38.0	45.0	60.0
		HHD	1.5	2.5	4.2	5.5	9.0	13.0	18.0	24.0	30.0	39.0	45.0
	Overload capability	ND, HND	120% of nominal current for 1min										
		HD	150% of nominal current for 1min										
		HHD	150% of nominal current for 1min or 200% of nominal current for 0.5s										
Input ratings	Main power supply		Three-phase 380 to 480V, 50/60Hz										
	Voltage/frequency variations		Voltage: +10 to -15% (Voltage unbalance:2% or less *8, Frequency: +5 to -5%)										
	Rated current without DCR *5 [A]	ND	2.7	4.8	7.3	11.3	16.8	33.0	43.8	52.3	60.6	77.9	94.3
		HD	2.7	3.9	7.3	11.3	16.8	23.2	33.0	43.8	52.3	60.6	77.9
		HND	2.7	3.9	7.3	11.3*9	16.8*9	23.2	33.0	43.8	52.3	60.6	77.9
		HHD	1.7	3.1	5.9	8.2	13.0	17.3	23.2	33.0	43.8	52.3	60.6
	Rated current with DCR *5 [A]	ND	1.5	2.1	4.2	5.8	10.1	21.1	28.8	35.5	42.2	57.0	68.5
		HD	1.5	2.1	4.2	5.8	10.1	14.4	21.1	28.8	35.5	42.2	57.0
		HND	1.5	2.1	4.2	5.8*9	10.1*9	14.4	21.1	28.8	35.5	42.2	57.0
		HHD	0.85	1.6	3.0	4.4	7.3	10.6	14.4	21.1	28.8	35.5	42.2
	Required power supply capacity *6 [kVA]	ND	1.1	1.5	3.0	4.1	7.0	15	20	25	29	39	47
		HD	1.1	1.5	3.0	4.1	7.0	10	15	20	25	29	39
		HND	1.1	1.5	3.0	4.1*9	7.0*9	10	15	20	25	29	39
		HHD	0.6	1.2	2.1	3.1	5.1	7.3	10	15	20	25	29
Braking	Braking torque *7 [%]	ND	53%	50%	48%	29%	27%	12%					
		HD	53%	68%	48%	29%	27%	15%					
		HND	53%	68%	48%	29%*9	27%*9	15%					
		HHD	100%		70%	40%		20%					
	DC braking		Starting frequency: 0.0 to 60.0Hz, Braking time: 0.0 to 30.0s, Braking level: 0 to 60% (ND spec.), 0 to 80% (HD/HND spec.), 0 to 100% (HHD spec.) of nominal current										
	Braking chopper		Built-in										
	Minimum connection resistance [ohm]		200		160		130	80	60	40	34.4	16	
	Braking resistor		Option										
EMC filter			Compliant with EMC Directives, Emission: Category C2. Immunity: Category C3 (2nd Env.) (EN61800-3: 2004)(Pending)					Compliant with EMC Directives, Emission: Category C3. Immunity: Category C3(2nd Env.)(EN61800-3:2004)					
DC reactor (DCR)		ND	Option										
		HND, HD	Option										
		HHD	Option										
Enclosure (IEC60529)			IP20, UL open type										
Cooling method			Natural cooling		Fan cooling								
Mass [kg] Filtered			1.5	1.8	2.3	2.3	2.4	6.5	6.5	11.2	11.2	10.5	11.2
Mass [kg] Unfiltered			1.2	1.5	1.5	1.6	1.9	5	5	8	9	9.5	10

*1 4-pole standard motor. Select an Inverter with a higher rated kW and Ouput Current than the capacity of the motor to be connected.
*2 Rated capacity is calculated by assuming the output rated voltage as 440 V.
*3 Output voltage cannot exceed the power supply voltage.
*4 When the carrier frequency (F26) is set to below value or higher, the inverter is sure to be necessary to derate their nominal current.
HHD spec.---type 2 to 12 : 8kHz, type 22 to 168 : 10kHz, type 203 to 590 : 6kHz
HND spec.---type 2 to 6 : 8kHz, type 7 to 12 : 4kHz, type 22 to 168 : 6kHz, type 203 to 590 : 4kHz
HD,ND spec.---All type : 4kHz
*5 The value is calculated assuming that the inverter is connected with a power supply with the capacity of 500 kVA (or 10 times the inverter capacity if the inverter capacity exceeds 50 kVA) and %X is 5%.Be sure to use the DCR when applicable motor capacity is 75kW or above.
*6 Obtained when a DC reactor (DCR) is used.
*7 Average braking torque for the motor running alone (it varies with the efficiency of the motor).
*8 Voltage unbalance (%) =(Max. voltage (V) - Min. voltage (V))/Three -phase average voltage (V) × 67 (IEC 61800 - 3) If this value is 2 to 3%, use an optional AC reactor (ACR).
*9 HND spec. of the type 7 and 12: allowable ambient temperature 40°C (+104 °F) or less. The rated output current at HND spec. is decreased 1% for every 1°C (1.8 °F) when ambient temperature is +40°C (+104 °F) or more.

IMO

Three phase 400V class series *continued*

Items			Specifications										
VXT-***A-4 VXT-***A-4E			85	105	139	168	203	240	290	361	415	520	590
Nominal applied motor *1 [kW]		ND	45	55	75	90	110	132	160	200	220	280	315
		HD	37	45	55	75	90	110	132	160	200	220	250
		HND	37	45	55	75	90	110	132	160	200	220	280
		HHD	30	37	45	55	75	90	110	132	160	200	220
Output ratings	Rated capacity [kVA] *2	ND	65	80	106	128	155	183	221	275	316	396	450
		HD	57	69	85	114	134	160	193	232	287	316	364
		HND	57	69	85	114	134	160	193	232	287	316	396
		HHD	46	57	69	85	114	134	160	193	232	287	316
	Rated voltage [V] *3		Three-phase 380 to 480V (With AVR)										
	Rated current [A] *4	ND	85.0	105	139	168	203	240	290	361	415	520	590
		HD	75.0	91.0	112	150	176	210	253	304	377	415	477
		HND	75.0	91.0	112	150	176	210	253	304	377	415	520
		HHD	60.0	75.0	91.0	112	150	176	210	253	304	377	415
	Overload capability	ND, HND	120% of nominal current for 1min										
		HD	150% of nominal current for 1min										
		HHD	150% of nominal current for 1min or 200% of nominal current for 0.5s										
Input ratings	Main power supply		Three-phase 380 to 480V, 50/60Hz				Three-phase 380 to 440V, 50Hz Three-phase 380 to 480V, 60Hz*9						
	Voltage/frequency variations		Voltage: +10 to -15% (Voltage unbalance:2% or less *8, Frequency: +5 to -5%)										
	Rated current without DCR *5 [A]	ND	114	140	-	-	-	-	-	-	-	-	-
		HD	94.3	114	140	-	-	-	-	-	-	-	-
		HND	94.3	114	140	-	-	-	-	-	-	-	-
		HHD	77.9	94.3	114	140	-	-	-	-	-	-	-
	Rated current with DCR *5 [A]	ND	83.2	102	138	164	201	238	286	357	390	500	559
		HD	68.5	83.2	102	138	164	201	238	286	357	390	443
		HND	68.5	83.2	102	138	164	201	238	286	357	390	500
		HHD	57.0	68.5	83.2	102	138	164	201	238	286	357	390
	Required power supply capacity *6 [kVA]	ND	58	71	96	114	139	165	199	248	271	347	388
		HD	47	58	71	96	114	140	165	199	248	271	307
		HND	47	58	71	96	114	140	165	199	248	271	347
		HHD	39	47	58	71	96	114	140	165	199	248	271
Braking	Braking torque *7 [%]	ND	5 to 9%										
		HD	7 to 12%										
		HND	7 to 12%										
		HHD	10 to 15%										
	DC braking		Starting frequency: 0.0 to 60.0Hz, Braking time: 0.0 to 30.0s, Braking level: 0 to 60% (ND spec.), 0 to 80% (HD/HND spec.), 0 to 100% (HHD spec.) of nominal current										
	Braking chopper		Option										
	Minimum connection resistance[ohm]		-	-	-	-	-	-	-	-	-	-	-
	Braking resistor		Option										
EMC filter			Compliant with EMC Directives, Emission and Immunity: Category C3 (2nd Env.) (EN61800-3:2004)										
DC reactor (DCR)		ND	Option										
		HND, HD	Option										
		HHD	Option										
Enclosure (IEC60529)			IP00, UL open type										
Cooling method			Fan cooling										
Mass [kg] Filtered			26	27	31	33	40	62	63	95	96	130	140
Mass [kg] Unfiltered			25	26	30	33	40	62	63	95	96	130	140

*1 4-pole standard motor. Select an Inverter with a higher rated kW and Ouput Current than the capacity of the motor to be connected.
*2 Rated capacity is calculated by assuming the output rated voltage as 440 V.
*3 Output voltage cannot exceed the power supply voltage.
*4 When the carrier frequency (F26) is set to below value or higher, the inverter is sure to be necessary to derate their nominal current.
HHD spec.---type 2 to 12 : 8kHz, type 22 to 168 : 10kHz, type 203 to 590 : 6kHz
HND spec.---type 2 to 6 : 8kHz, type 7 to 12 : 4kHz, type 22 to 168 : 6kHz, type 203 to 590 : 4kHz
HD,ND spec.---All type : 4kHz
*5 The value is calculated assuming that the inverter is connected with a power supply with the capacity of 500 kVA (or 10 times the inverter capacity if the inverter capacity exceeds 50 kVA) and %X is 5%.Be sure to use the DCR when applicable motor capacity is 75kW or above.
*6 Obtained when a DC reactor (DCR) is used.
*7 Average braking torque for the motor running alone (it varies with the efficiency of the motor).
*8 Voltage unbalance (%) = (Max. voltage (V) - Min. voltage (V))/Three-phase average voltage (V) × 67 (IEC 61800 - 3) If this value is 2 to 3%, use an optional AC reactor (ACR).
*9 The 400 V class series with type 203 or above is equipped with a set of switching connectors (male) which should be configured according to the power source voltage and frequency.
The rated output current at HD/ND spec. is decreased 2% for every 1°C (1.8°F) when ambient temperature is +40°C (+104°F) or more.

IMO

Three phase 200V class series

Items			Specifications										
VXT-***A-2 VXT-***A-2E			4	6	10	12	20	30	40	56	69	88	115
Nominal applied motor *1 [kW]			0.75	1.1	2.2	3.0*9	5.5*9	7.5	11	15	18.5	22	30
		HND	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
Output ratings	Rated capacity [kVA] *2	HHD	1.3	2.3	3.7	4.6*9	7.5*9	11	15	21	26	34	44
		HND	1.1	1.9	3.0	4.2	6.7	9.5	13	18	23	29	34
	Rated voltage [V] *3	HHD	Three-phase 200 to 240V (With AVR)										
	Rated current [A] *4		3.5	6.0	9.6	12*9	19.6*9	30	40	56	69	88	115
		HND	3.0	5.0	8.0	11	17.5	25	33	47	60	76	90
	Overload capability	HHD	120% of nominal current for 1min										
		HND	150% of nominal current for 1min or 200% of nominal current for 0.5s										
Input ratings	Main power supply	HHD	Three-phase 200 to 240V, 50/60Hz										
	Voltage/frequency variations		Voltage: +10 to -15% (Voltage unbalance:2% or less *8, Frequency: +5 to -5%)										
	Rated current without DCR *5 [A]		4.9	6.7	12.8	17.9*9	31.9*9	42.7	60.7	80.0	97.0	112	151
		HND	3.1	5.3	9.5	13.2	22.2	31.5	42.7	60.7	80.0	97.0	112
	Rated current with DCR *5 [A]	HHD	3.0	4.3	8.3	11.7*9	19.9*9	28.8	42.2	57.6	71.0	84.4	114
		HND	1.6	3.0	5.7	8.3	14.0	21.1	28.8	42.2	57.6	71.0	84.4
	Required power supply capacity *6 [kVA]	HHD	1.1	1.5	2.9	4.1*9	6.9*9	10	15	20	25	30	40
		HND	0.6	1.1	2.0	2.9	4.9	7.3	10	15	20	25	30
Braking	Braking torque *7 [%]	HHD	53%	68%	48%	29%*9	27%*9	15%					
		HND	100%		70%	40%		20%					
	DC braking	HHD	Starting frequency: 0.0 to 60.0Hz, Braking time: 0.0 to 30.0s, Braking level: 0 to 60% (ND spec.), 0 to 80% (HD/HND spec.), 0 to 100% (HHD spec.) of nominal current										
	Braking chopper		Built-in										
	Minimum connection resistance[ohm]		100		40		33	20	15	10	8.6	4	
	Braking resistor		Option										
EMC Filter			Compliant with EMC Directives, Emission: Cat C2. Immunity: Cat C3 (2nd Env.) (EN61800-3:2004)										
DC reactor (DCR)		HND	Option										
		HHD	Option										
Enclosure (IEC60529)			IP20, UL open type Fan cooling										
Cooling method			Natural cooling										
Mass [kg] Filtered			0.7	0.9	2.2	2.3	2.3						
Mass [kg] Unfiltered			0.6	0.8	1.5	1.5	1.8	5.0	5.0	8.0	9.0	9.5	10

*1 4-pole standard motor. Select an Inverter with a higher rated kW and Ouput Current than the capacity of the motor to be connected.
*2 Rated capacity is calculated by assuming the output rated voltage as 220 V.
*3 Output voltage cannot exceed the power supply voltage.
*4 When the carrier frequency (F26) is set to below value or higher, the inverter is sure to be necessary to derate their nominal current.
HHD spec.---type 4 to 20 : 8kHz, type 30 to 115 : 10kHz,
HND spec.---type 4 to 20 : 4kHz, type 30 to 69 : 10kHz, type 88 to 115 : 4kHz
*5 The value is calculated assuming that the inverter is connected with a power supply with the capacity of 500 kVA (or 10 times the inverter capacity if the inverter capacity exceeds 50 kVA) and %X is 5%.
*6 Obtained when a DC reactor (DCR) is used.
*7 Average braking torque for the motor running alone. (It varies with the efficiency of the motor.)
*8 Voltage unbalance (%) = (Max. voltage (V) - Min. voltage (V))/Three -phase average voltage (V) × 67 (IEC 61800 - 3) If this value is 2 to 3%, use an optional AC reactor (ACR).
*9 HND spec. of the type 6, 12 and 20: allowable ambient temperature 40 °C (+104 °F) or less.
The rated output current at HND spec. is decreased 1% for every 1 °C (1.8 °F) when ambient temperature is +40 °C (+104 °F) or more.

IMO

Single phase 200V class series

Items			Specifications			
VXT-***A-1 VXT-***A-1E			3	5	8	11
Nominal applied motor *1 [kW]		HHD	0.4	0.75	1.5	2.2
Output ratings	Rated capacity [kVA] *2	HHD	1.1	1.9	3.0	4.2
	Rated voltage [V] *3		Three-phase 200 to 240V (With AVR)			
	Rated current [A] *4	HHD	3.0	5.0	8.0	11
	Overload capability	HHD	150% of nominal current for 1min or 200% of nominal current for 0.5s			
Input ratings	Main power supply		Single-phase 200 to 240V, 50/60Hz			
	Voltage/frequency variations		Voltage: +10 to -10% Frequency: +5 to -5%			
	Rated current without DCR *5 [A]	HHD	5.4	9.7	16.4	24.8
	Rated current with DCR *5 [A]	HHD	3.5	6.4	11.6	17.5
	Required power supply capacity *6 [kVA]	HHD	0.7	1.3	2.4	3.5
Braking	Braking torque *7 [%]	HHD	100%		70%	40%
	DC braking		Starting frequency: 0.0 to 60.0Hz, Braking time: 0.0 to 30.0s, Braking level: 0 to 100% (HHD spec.) of nominal current			
	Braking chopper		Built-in			
	Minimum connectable resistance [ohm]		100		40	
	Braking resistor		Option			
EMC filter			Compliant with EMC Directives, Emission: Category C2. Immunity: Category C3 (2nd Env.) (EN61800-3:2004)			
DC reactor (DCR)		HHD	Option			
Enclosure (IEC60529)			IP20, UL open type			
Cooling method			Natural cooling		Fan cooling	
Mass [kg] Filtered			0.7	1.1	2.3	2.3
Mass [kg] Unfiltered			0.6	0.9	1.6	1.8

*1 4-pole standard motor. At the selection of the inverter rating, consider not only the rating capacity (kW) is enough but also inverter output current is larger than selected the motor's nominal current.
*2 Rated capacity is calculated by assuming the output rated voltage as 220 V.
*3 Output voltage cannot exceed the power supply voltage.
*4 When the carrier frequency (F26) is set to below value or higher, the inverter is sure to be necessary to derate their nominal current.
HHD spec.---type 0001 to 0011 : 8kHz
*5 The value is calculated assuming that the inverter is connected with a power supply with the capacity of 500 kVA (or 10 times the inverter capacity if the inverter capacity exceeds 50 kVA) and %X is 5%.
*6 Obtained when a DC reactor (DCR) is used.
*7 Average braking torque for the motor running alone. (It varies with the efficiency of the motor.)

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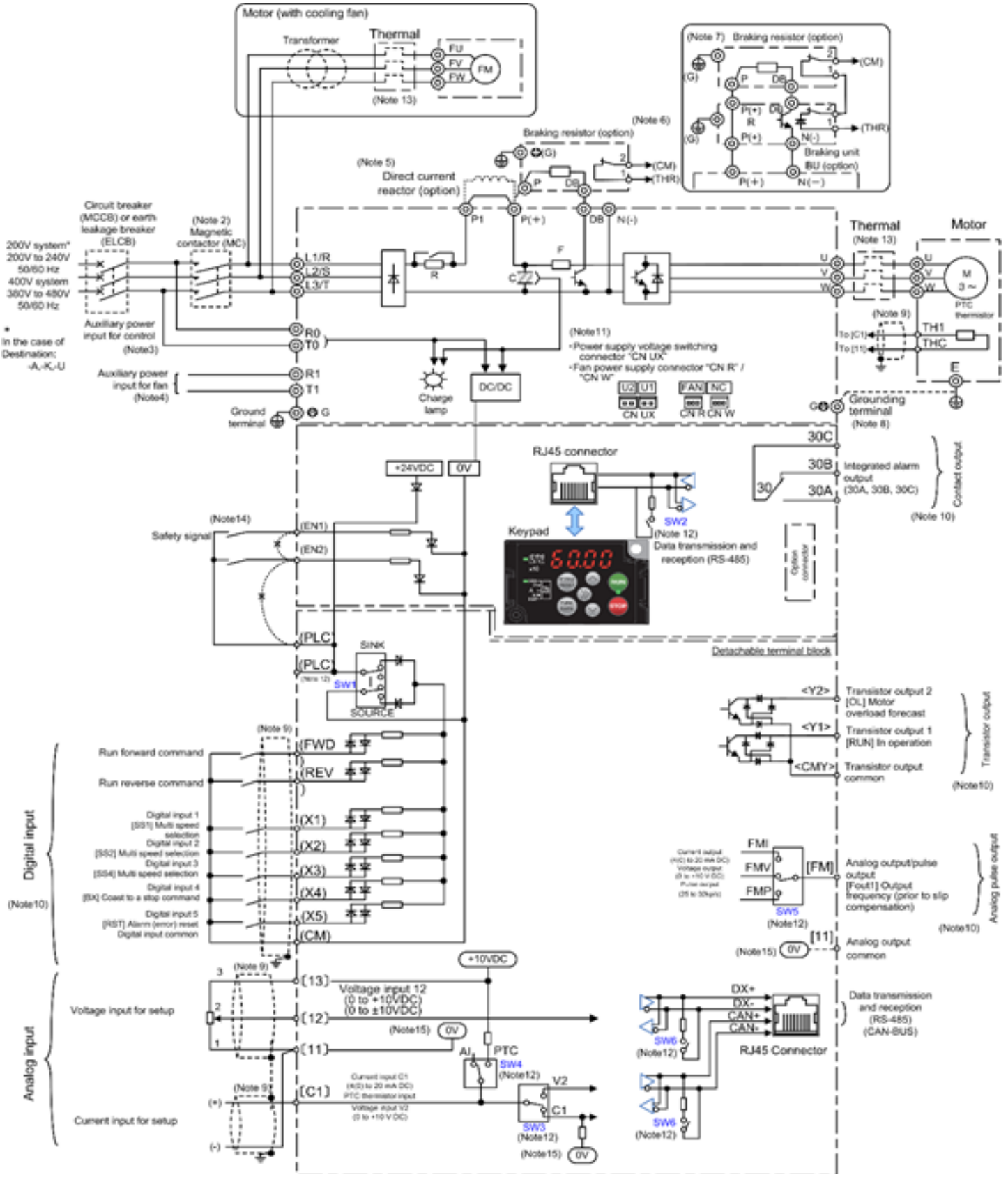
Power & Control Connections



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Dimensions

Model	Height	Width	Depth
Three Phase Standard Models (400V)			
VXT-2A-4	130	110	119
VXT-4A-4	130	110	143
VXT-6A-4	130	110	143
VXT-7A-4	130	110	143
VXT-12A-4	130	140	143
VXT-22A-4	220	180	158
VXT-29A-4	220	180	158
VXT-37A-4	260	220	190
VXT-44A-4	260	220	190
VXT-59A-4	400	250	195
VXT-72A-4	400	250	195
VXT-85A-4	550	326.2	261
VXT-105A-4	550	326.2	261
VXT-139A-4	615	361.2	276
VXT-168A-4	675	361.2	276
VXT-203A-4	740	361.2	276
VXT-240A-4	740	536.4	321
VXT-290A-4	740	536.4	321
VXT-316A-4	1000	536.4	366
VXT-415A-4	1000	536.4	366
VXT-520A-4	1000	686.4	366
VXT-590A-4	1000	686.4	366

Model	Height	Width	Depth
Three Phase Filtered Models (400V)			
VXT-2A-4E	130	110	162
VXT-4A-4E	130	110	186
VXT-6A-4E	130	110	199
VXT-7A-4E	130	110	199
VXT-12A-4E	130	140	199
VXT-22A-4E	285	181.5	213
VXT-29A-4E	285	181.5	213
VXT-37A-4E	357	220	255
VXT-44A-4E	357	220	255
VXT-59A-4E	400	250	195
VXT-72A-4E	400	250	195
VXT-85A-4E	550	326.2	261
VXT-105A-4E	550	326.2	261
VXT-139A-4E	615	361.2	276
VXT-168A-4E	675	361.2	276
VXT-203A-4E	740	361.2	276
VXT-240A-4E	740	536.4	321
VXT-290A-4E	740	536.4	321
VXT-316A-4E	1000	536.4	366
VXT-415A-4E	1000	536.4	366
VXT-520A-4E	1000	686.4	366
VXT-590A-4E	1000	686.4	366

Model	Height	Width	Depth
Three Phase Standard Models (200V)			
VXT-4A-2	127	68	100
VXT-6A-2	127	68	132
VXT-10A-2	130	110	143
VXT-12A-2	130	110	143
VXT-20A-2	130	140	143
VXT-30A-2	220	180	158
VXT-40A-2	220	180	158
VXT-56A-2	260	220	190
VXT-69A-2	260	220	190
VXT-88A-2	400	250	195
VXT-115A-2	400	250	195

Model	Height	Width	Depth
Three Phase Filtered Models (200V)			
VXT-4A-2E	127	68	127
VXT-6A-2E	127	68	152
VXT-10A-2E	130	110	199
VXT-12A-2E	130	110	199
VXT-20A-2E	130	140	199
VXT-30A-2E	To Be Confirmed		
VXT-40A-2E			
VXT-56A-2E			
VXT-69A-2E			
VXT-88A-2E	400	250	195
VXT-115A-2E	400	250	195

Model	Height	Width	Depth
Single Phase Standard Models			
VXT-3A-1	127	68	107
VXT-5A-1	127	68	152
VXT-8A-1	130	110	153
VXT-11A-1	130	140	143

Model	Height	Width	Depth
Single Phase Filtered Models			
VXT-3A-1E	127	68	127
VXT-5A-1E	130	110	129
VXT-8A-1E	130	140	199
VXT-11A-1E	130	140	199

IMO

Options & Ordering Codes

400V / 3 Phase Models

VXT - 2A - 4 E

Drive

series prefix	VXT

Max. Continuous Output Current (A)

2Amp output current	2A
4Amp output current	4A
6Amp output current	6A
7Amp output current	7A
12Amp output current	12A
22Amp output current	22A
29Amp output current	29A
37Amp output current	37A
44Amp output current	44A
59Amp output current	59A
72Amp output current	72A
85Amp output current	85A
105Amp output current	105A
139Amp output current	139A
168Amp output current	168A
203Amp output current	203A
240Amp output current	240A
290Amp output current	290A
361Amp output current	361A
415Amp output current	415A
520Amp output current	520A
590Amp output current	590A

Input Voltage (V) / Phase

4	400V / 3 Phase

Filter

	no filter
E	integrated EMC filter

200V / 3 Phase Models

VXT - 4A - 2 E

Drive

series prefix	VXT

Max. Continuous Output Current (A)

4Amp output current	4A
6Amp output current	6A
10Amp output current	10A
12Amp output current	12A
20Amp output current	20A
30Amp output current	30A
40Amp output current	40A
56Amp output current	56A
69Amp output current	69A
88Amp output current	88A
115Amp output current	115A

Input Voltage (V) / Phase

2	200V / 3 Phase

Filter

	no filter
E	integrated EMC filter

200V / 1 Phase Models

VXT - 8A - 1 E

Drive

series prefix	VXT

Max. Continuous Output Current (A)

3Amp output current	3A
5Amp output current	5A
8Amp output current	8A
11Amp output current	11A

Input Voltage (V) / Phase

1	200V / 1 Phase

Filter

	no filter
E	integrated EMC filter