

variable speed drives 0.25 kW - 132 kW (0.33 hp to 200hp) 100 V | 200 V | 400 V

Commander C200

Commander C family

AC DRIVES, GENERAL PURPOSE

the first world commercial vector drive

Highlights:

- Set just 4 parameters to get your drive started
- Plug-in options for advanced control
- Dual Safe Torque Off (STO)
- Equipped with the latest energy saving features
- Up to 180% overload for high torque applications
- On board PLC
- Straightforward installation and commissioning
- Easy motor pairing and performance control
- Robust and reliable design

Super-quick start-up Tap in 4 key parameters (the motor rated current, RPM, voltage and power factor) and off you go.

Equipped with the latest energy saving features: The latest energy-saving technology means you get high productivity and low running costs.

Flexible connectivity: The plug in communication modules enable integration with a wide range of industrial fieldbuses

available models:

- C200
- C300 – As C200 + dual STO



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Images



Details

Commander C200variable speed drives: 0.25 kW - 132 kW (0.33 hp to 200hp) 100 V | 200 V | 400 V

Control Mode		Open loop vector or V / Hz induction motor control Open loop Rotor Flux Control for induction motors (RFC-A)
Environment		
Ambient Operating Temperature	Size 1 - 4: -20°C to 40°C (-4°F to 104°F) @ 3 kHz switching freq. Operation to 60°C (140°F) with de-rating Size 5 - 9: -20°C to 40°C (-4°F to 104°F) @ 3 kHz switching freq. Operation to 55°C (131°F) with de-rating	
Cooling Method	Forced convection	
Humidity	95 % non-condensing at 40 °C (104 °F)	
Storage Temperature	Size 1 - 4: -40°C to 60°C (-40°F to 140°F) — 24 months Max. Size 5 - 9: -40°C to 55°C (-40°F to 131°F) — 24 months Max.	
Altitude	De-rate the continuous output current by 1% for every 100 m (328 ft) above 1000 m (3,280 ft), maximum of 3000 m (9,840 ft)	

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Vibration	Tested in accordance with IEC 60068-2-64 and IEC 60068-2-6
Mechanical Shock	Tested in accordance with IEC 60068-2-27 and IEC 60068-2-29
Enclosure Rating	IP20, NEMA 1 conduit kits available
Electromagnetic Capability	IEC/ EN 61800-3 Immunity and Emissions EN 61000-6-2: Immunity for industrial environments EN 61000-6-4: Emissions for industrial environments EN 61000-3-2: Harmonic current emissions An EMC data sheet is available on request
RoHS	Complies with the Restriction of Hazardous Substances Directive (2011/65/EU)

AC Supply Requirements

Voltage	100 V models: 100 to 120 Vac $\pm 10\%$ 200 V models: 200 to 240 Vac $\pm 10\%$ 400 V models: 380 to 480 Vac $\pm 10\%$
Phase	1Ø and 3Ø (Model dependent)
Maximum Supply Imbalance	2% negative phase sequence, 3% voltage imbalance between phases
Input Frequency	45 to 66 Hz
Input Displacement Power Factor	0.97

Control

Switching Frequency	Size 1 - 4: 0.667, 1, 2, 3, 4, 6, 8 12 & 16 kHz Size 5 - 9: 2, 3, 4, 6, 8 12 & 16 kHz
Output Frequency Range	0 to 550 Hz
Frequency Accuracy	$\pm 0.02\%$ of full scale
Frequency Resolution	0.01 Hz
Analog Input Resolution	Voltage mode: 11 bits (unipolar) Current mode: 11 bits
Braking	Dynamic braking transistor included, requires external resistor

Protection

DC Bus Undervoltage Trip	100 V models: 175 Vdc 200 V models: 175 Vdc 400 V models: 330 Vdc
DC Bus Overvoltage Trip	Frame sizes 1 - 4: 100 V models: 510 Vdc 200 V models: 510 Vdc 400V models: 870 Vdc

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	Frame size 5 - 9:
	200V models: 415 Vdc
	400 V models: 830 Vdc
Drive Overload Trip	Programmable: Default settings: 180% for 3s, 150% for 60s
Instantaneous Overcurrent Trip	220% of rated motor current
Phase Loss Trip	DC bus ripple threshold exceeded
Over-temperature Trip	Drive heatsink temperature exceeds 95° C (203° F)
Short Circuit Trip	Protects against output phase-to-phase fault
Ground Fault Trip	Protects against output phase-to-ground fault
Motor Thermal Trip	Electronically protects the motor from overheating due to loading conditions

Approval & Listings

UL, cUL	UL file NMMS/8: E171230
CE	CE approval
EU	These products comply with the Restriction of Hazardous Substances Directive (2011/65/EU), the Low Voltage Directive (2014/35/EU) and the Electromagnetic Compatibility Directive, (2014/30/EU).
RCM	RCM Registered supplier No. 12003815281
ISO	Manufacturing facilities comply with ISO 9001:2015 and ISO 14001
TÜV	C300 models only: The Safe Torque Off (STO) function may be used as a safety component on the machine. Type examination certificates by TÜV Rheinland: Frame sizes 1 - 4: No. 01/205/5383.03/18 Frame sizes 5 - 9: No. 01/205/5387.02/18

Functional safety parameters:

EN ISO 13849-1 - Cat 4, PLe
EN61800-5-2/EN62061/IEC 61508 - SIL 3
UL functional safety approval: FSPC E171230

1 fase 100 - 120 Volt AC +/- 10%

Type (frame 1)	power	Nominal current	part nr.
C200-011-00017	0,25 kW	1,7 A	C200-01100017A10100AB100
C200-011-00024	0,37 kW	2,4 A	C200-01100024A10100AB100
Type (frame 2)	power	Nominal current	part nr.

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C200-021-00042	0,75 kW	4,2 A	C200-02100042A10100AB100
C200-021-00056	1,1 kW	5,6 A	C200-02100056A10100AB100

remark: output Voltage is 3 Phase 200 - 240 Volt AC!

1 fase 200 - 240 Volt AC +/- 10%

Type (frame 1)	power	Nominal current	part nr.
C200-012-00017	0,25 kW	1,7 A	C200-01200017A10100AB100
C200-012-00024	0,37 kW	2,4 A	C200-01200024A10100AB100
C200-012-00033	0,55 kW	3,3 A	C200-01200033A10100AB100
C200-012-00042	0,75 kW	4,2 A	C200-01200042A10100AB100

1 of 3 fase(n) 200 - 240 Volt AC +/- 10%

Type (frame 2)	power	Nominal current	part nr.
C200-022-00024	0,37 kW	2,4 A	C200-02200024A10100AB100
C200-022-00033	0,55 kW	3,3 A	C200-02200033A10100AB100
C200-022-00042	0,75 kW	4,2 A	C200-02200042A10100AB100
C200-022-00056	1,1 kW	5,6 A	C200-02200056A10100AB100
C200-022-00075	1,5 kW	7,5 A	C200-02200075A10100AB100
Type (frame 3)	power	Nominal current	part nr.
C200-032-00100	2,2 kW	10,0 A	C200-03200100A10100AB100
Type (frame 4)	power	Nominal current	part nr.
C200-042-00133	3,0 kW	13,3 A	C200-04200133A10100AB100

3 fasen 200 - 240 Volt AC +/- 10%

Type (frame 4)	power	Nominal current	part nr.
C200-042-00176	4,0 kW	17,6 A	C200-04200176A10100AB100
Type (frame 5)	power	Nominal current	part nr.
C200-052-00250	5,5 / 7,5 kW	25 / 30 A	C200-05200250A10100AB100
Type (frame 6)	power	Nominal current	part nr.
C200-062-00330	7,5 / 11 kW	33 / 50 A	C200-06200330A10100AB100
C200-062-00440	11 / 15 kW	44 / 58 A	C200-06200440A10100AB100
Type (frame 7)	power	Nominal current	part nr.
C200-072-00610	15 / 18,5 kW	61 / 75 A	C200-07200610A10100AB100
C200-072-00750	18,5 / 22 kW	75 / 94 A	C200-07200750A10100AB100

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C200-072-00830	22 / 30 kW	83 / 117 A	C200-07200830A10100AB100
Type (frame 8)	power	Nominal current	part nr.
C200-082-01160	30 / 37 kW	116 / 149 A	C200-08201160A10100AB100
C200-082-01320	37 / 45 kW	132 / 180 A	C200-08401320A10100AB100
Type (frame 9)	power	Nominal current	part nr.
C200-092-01760	45 / 55 kW	176 / 216 A	C200-09201760A10100AB100
C200-092-02190	55 / 75 kW	219 / 266 A	C200-09402190A10100AB100

3 fasen 380 - 480 Volt AC +/- 10%

Type (frame 2)	power	Nominal current	part nr.
C200-024-00013	0,37 kW	1,3 A	C200-02400013A10100AB100
C200-024-00018	0,55 kW	1,8 A	C200-02400018A10100AB100
C200-024-00023	0,75 kW	2,3 A	C200-02400023A10100AB100
C200-024-00032	1,1 kW	3,2 A	C200-02400032A10100AB100
C200-024-00041	1,5 kW	4,1 A	C200-02400041A10100AB100
Type (frame 3)	power	Nominal current	part nr.
C200-034-00056	2,2 kW	5,6 A	C200-03400056A10100AB100
C200-034-00073	3,0 kW	7,3 A	C200-03400073A10100AB100
C200-034-00094	4,0 kW	9,4 A	C200-03400094A10100AB100
Type (frame 4)	power	Nominal current	part nr.
C200-044-00135	5,5 kW	13,5 A	C200-04400135A10100AB100
C200-044-00170	7,5 kW	17,0 A	C200-04400170A10100AB100
Type (frame 5)	power	Nominal current	part nr.
C200-054-00270	11 / 15 kW	27 / 30 A	C200-05400270A10100AB100
C200-054-00300	15 kW	30 A	C200-05400300A10100AB100
Type (frame 6)	power	Nominal current	part nr.
C200-064-00350	15 / 18,5 kW	35 / 38 A	C200-06400350A10100AB100
C200-064-00420	18,5 / 22 kW	42 / 48 A	C200-06400420A10100AB100
C200-064-00470	22 / 30 kW	47 / 63 A	C200-06400470A10100AB100
Type (frame 7)	power	Nominal current	part nr.
C200-074-00660	30 / 37 kW	66 / 79 A	C200-07400660A10100AB100
C200-074-00770	37 / 45 kW	77 / 94 A	C200-07400770A10100AB100
C200-074-01000	45 / 55 kW	100 / 112 A	C200-07401000A10100AB100
Type (frame 8)	power	Nominal current	part nr.
C200-084-01340	55 / 75 kW	134 / 155 A	C200-08401340A10100AB100

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C200-084-01570	75 / 90 kW	157 / 184 A	C200-08401570A10100AB100
Type (frame 9)	power	Nominal current	part nr.
C200-094-02000	90 / 110 kW	200 / 221 A	C200-09402000A10100AB100
C200-094-02240	110 / 132 kW	224 / 266 A	C200-09402240A10100AB100

3 fasen 500 - 575 Volt AC +/- 10%

Type (frame 5)	power	Nominal current	part nr.
C200-055-00030	1,5 / 2,2 kW	3,0 / 3,9 A	C200-05500030A10100AB100
C200-055-00040	2,2 / 4,0 kW	4,0 / 6,1 A	C200-05500040A10100AB100
C200-055-00069	4,0 / 5,5 kW	6,9 / 10 A	C200-05500069A10100AB100
Type (frame 6)	power	Nominal current	part nr.
C200-065-00100	5,5 / 7,5 kW	10 / 12 A	C200-06500100A10100AB100
C200-065-00150	7,5 / 11 kW	15 / 17 A	C200-06500150A10100AB100
C200-065-00190	11 / 15 kW	19 / 22 A	C200-06500190A10100AB100
C200-065-00230	15 / 18,5 kW	23 / 27 A	C200-06500230A10100AB100
C200-065-00290	18,5 / 22 kW	29 / 34 A	C200-06500290A10100AB100
C200-065-00350	22 / 30 kW	35 / 43 A	C200-06500350A10100AB100
Type (frame 7)	power	Nominal current	part nr.
C200-075-00440	30 / 37 kW	44 / 53 A	C200-07500440A10100AB100
C200-075-00550	37 / 45 kW	55 / 73 A	C200-07500550A10100AB100
Type (frame 8)	power	Nominal current	part nr.
C200-085-00630	45 / 55 kW	63 / 86 A	C200-08500630A10100AB100
C200-085-00860	55 / 75 kW	86 / 108 A	C200-08500860A10100AB100
Type (frame 9)	power	Nominal current	part nr.
C200-095-01040	75 / 90 kW	104 / 125 A	C200-09501040A10100AB100
C200-095-01310	90 / 110 kW	131 / 150 A	C200-09501310A10100AB100

3 fasen 500 - 690 Volt AC +/- 10%

Type (frame 7)	power	Nominal current	part nr.
C200-076-00190	15 / 18,5 kW	19 / 23 A	C200-07600190A10100AB100
C200-076-00240	18,5 / 22 kW	24 / 30 A	C200-07600240A10100AB100
C200-076-00290	22 / 30 kW	29 / 36 A	C200-07600290A10100AB100
C200-076-00380	30 / 37 kW	38 / 46 A	C200-07600380A10100AB100
C200-076-00440	37 / 45 kW	44 / 52 A	C200-07600440A10100AB100

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C200-076-00540	45 / 55 kW	54 / 73 A	C200-07600540A10100AB100
Type (frame 8)	power	Nominal current	part nr.
C200-086-00630	55 / 75 kW	63 / 86 A	C200-08600630A10100AB100
C200-086-00860	75 / 90 kW	86 / 108 A	C200-08600860A10100AB100
Type (frame 9)	power	Nominal current	part nr.
C200-096-01040	90 / 110 kW	104 / 125 A	C200-09601040A10100AB100
C200-096-01310	110 / 132 kW	131 / 150 A	C200-09601310A10100AB100

Specifications

Supplier	Nidec Control Techniques	Nominal Current	1.7 to 266 A	Power	0.25 to 132 KW
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