

NE200 & NE300

HIGH PERFORMANCE VECTOR CONTROL DRIVE



Outstanding control performance

- Outstanding software control platform with unique vector control algorithm
- Authentic current vector control: torque current and field current decoupling control
- Advanced vector control algorithm: induction motor and PM motor control
- Three control modes: Vector control without PG, Vector control with PG and V/F control
- Dynamic current torque control, quickly response to load variation
- Superior torque performance at low frequency, open loop vector control 150% torque output at 0.5Hz, satisfied low frequency high torque applications such as machine tool, crane and hoist industry.
- Superior overload performance: 180% current for 20s
- High precision speed control, enable high accurate synchronous control

Powerful function

- Open-loop / close-loop torque control function, torque control mode/ speed control mode online switching
- PID function provide two groups PI parameters, PID output range is settable, supporting sleep mode
- V/F separate control function in V/F control mode
- Tension control drive enable automatic rolling diameter calculation pre-setup function
- Automatic load balance droop control function
- RS-485 communication port supporting MODBUS-RTU communication protocol for multi drive synchronization.
- Automatic energy saving function, power off automatically restart function, and parameter cloning through keypad.
- Parameter backup function and recovery through terminals.
- Comprehensive protection and supervision functions.

Superior adaptability

- Unique IGBT drive circuit, more reliable operation for power components
- Phase-to-phase Short-circuit protection for all product, grounding protection for >18.5KW products, adaptable for harsh environment
- German conformal coating material
- Optimize EMC design, immunity for high interference environment
- 100% incoming inspection

How to select a drive

(Consult online catalog for complete drive information)

1. Electrical Considerations

- What is the supply voltage?
- Single or 3Ø input power?
- What is the motor rating?
- Continuous current – FLA (Full Load Amps)
- Select the drive based on motor Amps rather than horsepower

2. Load Type (choose one)

- Normal Duty: Peak current is 110% of drive rating (fans, pumps, etc.)
- Heavy Duty: Peak current is 180% (mixers, conveyors, etc.)

3. Drive Mechanical Mounting

- Panel mounting – as standard

| Environment | |
|-------------------------|--|
| Application environment | Vertical installation in well ventilated cabinet. Horizontal or other installation are forbidden. The cooling medium is air. Free from direct sunlight, dust, corrosive gas, combustible gas, oil mist, steam, and water drop. |
| Ambient temperature | -10~+40°C, deration is required from 40 to 50°C, rated output current decreasing 1% per 1°C temperature higher |
| Humidity | 5~95% without condensation |
| Altitude | 0~2000m, deration is required for more than 1000 meters, at rated output current decreasing 1% per 100m higher |
| Vibration | 3.5mm, 2~9Hz; 10 m/s ² , 9~200Hz; 15 m/s ² , 200~500Hz |
| Storage temperature | -40~+70°C |
| Structure | |
| Protection level | IP20 |
| Cooling | Fan force cooling |

TECHNICAL DATA

NE200 Series Drive

| Input | | |
|---|---|-------------|
| Rated power/ frequency | NE200-2Sxxxx: 1-phase 200V ~ 240V; 50Hz/60Hz | |
| | NE200-4Txxxx: 3-phase 380V ~ 440V; 50Hz/60Hz | |
| Output | | |
| Voltage range | NE200-2Sxxxx: 0~200V/440V; NE200-4Txxxx: 0~380V/440V | |
| Overload capacity | Type G: 150% rated current 1min, 180% rated current 20s | |
| | Type P: 120% rated current 1min, 150% rated current 1s | |
| Control features | | |
| Control mode | Vector control without PG(SVC) | V/F control |
| Startup torque | 0.5Hz 150% | 1.5Hz 150% |
| Speed adjustable range | 1:100 | 1:50 |
| Speed stabilization precision | ± 0.2% | ± 0.5% |
| Torque control | Yes | N/A |
| Torque precision | ± 10% | ---- |
| Torque response time | <20ms | ---- |
| Control features | | |
| Key functions | Torque/speed control mode switching, Multi-function input/output terminals, under voltage regulation, AC operation grounding switching, torque limit, multi step operation, slip compensation, PID regulation, simple PLC, current control, manual/ automatic torque boost, current limit, AVR function | |
| Output frequency | 0.00~550.0Hz | |
| Unique functions | | |
| Parameter cloning | Parameter upload, download. User can forbid the overwriting of the uploaded parameters. | |
| Protection function | | |
| Power undervoltage/overvoltage protection, overcurrent protection, IGBT protection, heatsink overheat protection, drive overload protection, motor overload protection, External devices faults protection, output phase-to-phase short-circuit protection, Abnormal power failure in running, power supply trip, output phase loss, EEPROM trip, Analog input trip, communication trip, version compatibility trip, cloning trip, hardware overload protection | | |

NE300 Series Drive

| Input | | | |
|----------------------------------|---|-----------------------------------|-------------|
| Rated power/ frequency | 3-phase 380V ~ 440V; 50Hz/60Hz | | |
| Voltage range | 304V ~ 456V; Voltage unbalance degree: ≤ 3% ; Permissible frequency fluctuation: ±5% | | |
| Output | | | |
| Voltage range | 0~380V/440V | | |
| Overload capacity | Type G: 150% rated current 1min, 180% rated current 20s Type P: 120% rated current for 1min, 150% rated current for 1s | | |
| Control features | | | |
| Control mode | Vector control with PG(VC) | Vector control without PG(SVC) | V/F control |
| Startup torque | 0.00Hz 180% | 0.5Hz 150% | 1.5Hz 150% |
| Speed adjustable range | 1:1000 | 1:100 | 1:50 |
| Speed stabilization precision | ± 0.02% | ± 0.2% | ± 0.5% |
| Torque control | Yes | Yes | N/A |
| Torque precision | ± 5% | ± 10% | ---- |
| Torque response time | <10ms | <20ms | ---- |

| Product functions | |
|---|---|
| Key functions | Torque/speed control switching, Multi-function input/ output terminals, under voltage regulation, AC operation grounding switching, flying start, torque limit, multi speed operation, autotune, S curve Acc/Dec, slip compensation, PID regulation, simple PLC, fix length control, droop control, current control, manual/ automatic torque increase, current limit, AVR function |
| Frequency setup | Keypad, terminal Up/Down, communication, Analog input AI1/AI2, Terminal pulse input X4,X5 |
| Output frequency | 0.00~550.0Hz |
| Startup frequency | 0.00~60.00Hz |
| Acc/Dec time | 0.1~3600s |
| Dynamic braking | 400V drive: braking unit voltage: 650 ~ 750V; |
| | 200V drive: braking unit voltage: 360 ~ 390V; |
| DC injection braking | DC braking activation: 0.00 ~ 550.0Hz |
| | DC braking current: G type 0.0 ~ 100.0%; P type 0.0 ~ 80.0% |
| | DC braking time: 0.0 ~ 30.0s; Quick DC brake activation without lag time |
| Magnetic flux braking | Fast deceleration through adding motor magnetic flux |
| Unique functions | |
| Parameter cloning | Parameter upload, download. User can forbid the overwriting of the uploaded parameters. |
| Keypad | LED keypad as standard. |
| Common DC bus | Common DC bus for multiple drives power supply |
| Independent air duct | Independent air duct design for whole series product |
| Extension card | IO extension card, injection molding machine connecting card etc. |
| Power-up detection | Automatic detection of internal and external circuits when power-up |
| Protection function | |
| Power undervoltage/overvoltage protection, overcurrent protection, autotune trip, IGBT protection, heatsink overheat protection, drive overload protection, motor overload protection, external device false protection, output to ground short-circuit protection, abnormal power failure in running, power supply abnormal, output phase loss, EEPROM trip, relay contact error, temperature sampling abnormal, encoder off-line, analog input trip, communication trip, version compatibility trip, cloning trip, extension card connection trip, hardware overload protection | |
| Efficiency | |
| Operation at rated power: 7.5kW or below≥ 93%; 11kW~45kW≥ 95%; 55kW or above≥ 98% | |
| Environment | |
| Application environment | Vertical installation in well ventilated cabinet. Horizontal or other installation are forbidden. The cooling medium is air. Free from direct sunlight, dust, corrosive gas, combustible gas, oil mist, steam, and water drop. |
| Ambient temperature | -10°C~+40°C, deration is required from 40 to 50°C, rated output current decreasing 1% per 1 °C temperature higher |
| Humidity | 5~95% without condensation |
| Altitude | 0~2000m, deration is required for more than 1000 meters, at rated output current decreasing 1% per 1 00m higher |
| Vibration | 3.5mm, 2~9Hz; 10 m/s ² , 9~200Hz; 15 m/s ² , 200~500Hz |
| Storage temperature | -40~+70°C |
| Structure | |
| Protection level | IP20 |
| Cooling | Fan force cooling |

ORDER CODE AND DIMENSIONS

NE200 Series Drive

| Drive model G: Heavy Duty P: Normal Duty | Order code | Rated output current (A) | Motor power (KW) |
|--|------------|--------------------------|------------------|
| NE200-2S0004GB | 01189010_E | 2.5 | 0.4 |
| NE200-2S0007GB | 01189011_E | 4.5 | 0.75 |
| NE200-2S0015GB | 01189012_E | 7 | 1.5 |
| NE200-4T0007G/015PB | 01189013_E | 2.5/4.0 | 0.75/1.5 |
| NE200-4T0015G/0022PB | 01189014_E | 4.0/6.0 | 1.5/2.2 |
| NE200-4T0022GB-M | 01189015_E | 6.0 | 2.2 |
| NE200-2S0022GB | 01189016_E | 10 | 2.2 |
| NE200-4T0022G/0040PB | 01189018_E | 6.0/9.0 | 2.2/4.0 |
| NE200-4T0040G/0055PB | 01189019_E | 9.0/13 | 4.0/5.5 |

NE300 Options

| Optional card | Order code | Terminal | Description | Drive model |
|------------------------|----------------|-------------|--|--------------------|
| I/O extension card | NE30-I/O Lite | X6 | Multi-function input 6 (to PLC) | NE300 whole series |
| | | X7 | Multi-function input 7 (to PLC) | |
| | | X8 | Multi-function input 8 (to PLC) | |
| | | Y2 | Multi-function output Y2 (to COM) | |
| | | BRA/BRB/BRC | Relay output 2 | |
| | | PLC | PLC common end (to PLC) | |
| | | A02 | Analog output 2 (0 ~ 10V, 0/4 ~ 20mA selectable) | |
| | | GND | Analog output common end | |
| | NE30-I/O Relay | BRA/BRB/BRC | Relay output 2 | |
| | | A02 | Analog output 2 (0 ~ 10V, 0/4 ~ 20mA selectable) | |
| | | GND | Analog output common | |
| +/- 10V extension card | NE30-AN01 | 485+ | 485 differential signal positive | NE300 whole series |
| | | 485- | 485 differential signal negative | |
| | | -10V | Provide -10V to external (to GND) | |
| | | A13 | +/- 10V analog input (to GND) | |
| | | GND | Analog output common | |

*-F freestanding drive with DC reactor inbuilt;

*-U upside input downside output type wall mounting structure;

*-D downside input upside output type wall mounting structure.

* Specialized drive and Vector control with PG card model selection, please consult our company for detail.

NE300 Series Drive

| Drive model G: Heavy Duty P: Normal Duty | Rated output current (A) | Motor power (KW) |
|--|--------------------------|------------------|
| NE300-4T0015G/0022PB | 4.0/6.0 | 1.5/2.2 |
| NE300-4T0022G/0040PB | 6.0/9.0 | 2.2/4.0 |
| NE300-4T0040G/0055PB | 9.0/13 | 4.0/5.5 |
| NE300-4T0055G/0075PB | 13/17 | 5.5/7.5 |
| NE300-4T0075G/0110PB | 17/25 | 7.5/11 |
| NE300-4T0110G/0150PB | 25/32 | 11/15 |
| NE300-4T0150G/0185PB | 32/37 | 15/18.5 |
| NE300-4T0185G/0220PB | 37/45 | 18.5/22 |
| NE300-4T0220G/0300PB | 45/60 | 22/30 |
| NE300-4T0300G/0370P | 60/75 | 30/37 |
| NE300-4T0370G/0450P | 75/90 | 37/45 |
| NE300-4T0450G/0550P | 90/110 | 45/55 |
| NE300-4T0550G/0750P | 110/150 | 55/75 |
| NE300-4T0750G/0900P | 150/176 | 75/90 |
| NE300-4T0900G/1100P | 176/210 | 90/110 |
| NE300-4T1100G/1320P | 210/250 | 110/132 |
| NE300-4T1320G/1600P-U | 250/300 | 132/160 |
| NE300-4T1320G/1600P-D | 250/300 | 132/160 |
| NE300-4T1600G/1850P-U | 300/340 | 160/185 |
| NE300-4T1600G/1850P-D | 300/340 | 160/185 |
| NE300-4T1850G/2000P-U | 340/380 | 185/200 |
| NE300-4T1850G/2000P-D | 340/380 | 185/200 |
| NE300-4T2000G/2200P-U | 380/420 | 200/220 |
| NE300-4T2000G/2200P-D | 380/420 | 200/220 |
| NE300-4T2200G/2500P-U | 420/470 | 220/250 |
| NE300-4T2200G/2500P-D | 420/470 | 220/250 |
| NE300-4T2500G/2800P-U | 470/540 | 250/280 |
| NE300-4T2500G/2800P-D | 470/540 | 250/280 |
| NE300-4T3550G/4000P-F | 660/730 | 355/400 |
| NE300-4T4000G/4500P-F | 730/840 | 400/450 |
| NE300-4T4500G/5000P-F | 840/900 | 450/500 |
| NE300-4T5000G/5600P-F | 900/950 | 500/560 |
| NE300-4T5600G/6300P-F | 950/1160 | 560/630 |
| NE300-4T6300G/7100P-F | 1160/1300 | 630/710 |
| NE300-4T7100G/8000P-F | 1300/1460 | 710/800 |
| NE300-4T8000G/9000P-F | 1460/1640 | 800/900 |
| NE300-4T9000G-F | 1640 | 900 |



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