Frequency Inverter

# SJ200 Series

The Compact Choice with Full Vector Control for Demanding Applications

HITACHI
Inspire the Next


- Capacity Range: 0.2-7.5 kW
- Intelligent Sensorless Vector Control (SLV) Starting Torque > 200 %
- Internal Brake Chopper
- Auto-Motor-Tuning
- PID Control
- Automatic Voltage Regulation
- Motor Potentiometer
- Motor Thermistor Input
- RS485/Modbus Integrated
- Fieldbus Interfaces for Profibus, DeviceNet, CANopen (optional)
- Removable Digital Display with Potentiometer
- Integrated EMC-Filter
- Global Standards: CE, UL, c-UL, C-Tick

and many more

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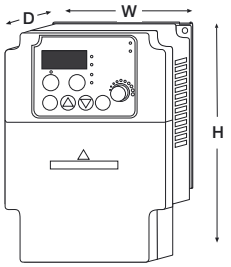
## All features at a glance

| Inverter SJ200 | | | 200V-Series | | | | | | | 400V-Series | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 002 NFEF2 | 004 NFEF2 | 005 NFEF2 | 007 NFEF2 | 011 NFEF2 | 015 NFEF2 | 022 NFEF2 | 004 HFEF2 | 007 HFEF2 | 015 HFEF2 | 022 HFEF2 | 030 HFEF2 | 040 HFEF2 | 055 HFEF2 | 075 HFEF2 |
| Applicable motor (kW) | | | 0.2 | 0.4 | 0.55 | 0.75 | 1.1 | 1.5 | 2.2 | 0.4 | 0.75 | 1.5 | 2.2 | 3.0 | 4.0 | 5.5 | 7.5 |
| Rated output current (A) | | | 1.6 | 2.6 | 3.0 | 4.0 | 5.0 | 8.0 | 11.0 | 1.5 | 2.5 | 3.8 | 5.5 | 7.8 | 8.6 | 13.0 | 16.0 |
| Input supply phase | | | Single phase / three phase | | | | | | | Three phase | | | | | | | |
| Rated input voltage | | | 200 VAC –10 % ~ 240 VAC +10 % 50/60 Hz ±5 % | | | | | | | 380 VAC -10 % ~ 460 VAC +10 % 50/60 Hz ±5 % | | | | | | | |
| Rated output voltage | | | Three phase 200 ~ 240VAC (corresponds to input voltage) | | | | | | | Three phase 380 ~ 460 VAC (corresponds to input voltage) | | | | | | | |
| Output frequency range | | | 0.5 ~ 400 Hz | | | | | | | | | | | | | | |
| Frequency accuracy (at 25 °C ±10 °C) | | | Digital command: ±0.01 % of maximum frequency (Analogue command: ±0.1 % of maximum frequency) | | | | | | | | | | | | | | |
| Frequency setting resolution | | | Digital setting: 0.1 Hz Analogue setting: maximum frequency / 1000 | | | | | | | | | | | | | | |
| Voltage/frequency characteristic | | | Intelligent sensorless vector control, constant or reduced torque | | | | | | | | | | | | | | |
| Overload capacity (current) | | | 150 % for 60 seconds (once every 10 minutes) | | | | | | | | | | | | | | |
| Acceleration/deceleration time | | | 0.01 ~ 3000 s in selectable linear and non-linear mode (second acceleration/deceleration usable) | | | | | | | | | | | | | | |
| Starting torque (using SLV) | | | 200 % or more<br>180 % or more | | | | | | | | | | | | | | |
| Braking torque | Dynamic braking, feedback to capacitor (50 Hz) | | approx. 100 % | | | | | approx. 70 % | appr. 20% | approx. 100 % | | | appr. 70% | approx. 20 % | | | |
| | External braking resistor | | approx. 150 % | | | | | | appr. 100% | approx. 150 % | | | approx. 100 % | | | | |
| | DC injection braking | | Variable operating frequency, time and braking force can be set | | | | | | | | | | | | | | |
| Inputs | Frequency setting | Digital operator | Settings using keys ▲ ▼ or potentiometer | | | | | | | | | | | | | | |
| | | External signals | 0-10 VDC (input impedance 10k ohm) 4-20 mA (input impedance 250 ohm) potentiometer 1k-2k ohm, 2 W | | | | | | | | | | | | | | |
| | Forward / reverse run | Digital operator | Via keys RUN (for start) and STOP/RESET (for stop) (default setting: forward run) | | | | | | | | | | | | | | |
| | | External signals | Forward run/stop, Reverse run/stop | | | | | | | | | | | | | | |
| | Intelligent input terminals programmable as, i.e. | | FW: Forward run start/stop RV: Reverse run start/stop CF1–CF4: Multistage speed JG: Jogging command AT: Analogue current input selection 2CH: 2nd accel./decel. time FRS: Free run stop EXT: External trip USP: USP function RS: Reset SFT: Software lock PTC: Thermal protection DB: Ext. DB input SET: 2nd setting active UP: Acceleration (remote) DWN: Decelerate (remote) | | | | | | | | | | | | | | |
| Outputs | Intelligent output terminals programmable as, i.e. | | FA1/FA2: Frequency arrival signal RUN: Motor running signal OL: Overload signal OD: Deviation signal at PID control AL: Alarm signal DC, FBV, NDC, LOG, OPDC | | | | | | | | | | | | | | |
| | Frequency and current monitoring | | 0-10 VDC, 8 bit | | | | | | | | | | | | | | |
| PID loop operation | | | Air velocity, temperatur etc. | | | | | | | | | | | | | | |
| Other functions | | | Autotuning, automatic voltage regulation, analog input calculate function, automatic carrier frequency reduction, frequency jump, output frequency display, trip history monitoring, carrier frequency setting, PID control, automatic torque boost, USP function, 2nd setting function, ON/OFF control of cooling fan | | | | | | | | | | | | | | |
| Standards | | | CE, UL, cUL, c-Tick | | | | | | | | | | | | | | |
| Thermal motor protection | | | Thermistor input PTC (intelligent input 5) | | | | | | | | | | | | | | |
| Protection functions | | | Overcurrent, overvoltage, undervoltage, electronic thermal, temperature abnormality, ground fault at starting , overload, CT error, BRD error | | | | | | | | | | | | | | |
| Environmental conditions | Ambient temperature | | -10 ~ 50 °C; > 40 °C current derating | | | | | | | | | | | | | | |
| | Storage temperature and humidity | | -25 ~ 60 °C<br>20 ~ 90 % RH (no dew condensation) | | | | | | | | | | | | | | |
| Options | | | Remote operator, copy unit, cable for digital operator, reactor for improving power factor, noise filter, ProDrive software | | | | | | | | | | | | | | |
| Protection class | | | IP20 | | | | | | | | | | | | | | |
| Overall weight (approx.) in kg | | | 0.7 | 0.85 | | 1.8 | | 1.8 | 2.8 | 1.3 | 1.7 | 2.8 | | | | 3.8 | 5.7 |

## SJ200 Series Dimensions

| SJ200 | | 002 NFEF | 004 NFEF<br>005 NFEF | 007 NFEF<br>011 NFEF | 015 NFEF<br>022 NFEF | 004 HFEF | 007 HFEF<br>015 HFEF<br>022 HFEF<br>030 HFEF<br>040 HFEF | 055 HFEF<br>075 HFEF |
|---|---|---|---|---|---|---|---|---|
| Width | mm | 80 | 80 | 110 | 110 | 110 | 110 | 180 |
| Height | mm | 140 | 140 | 155 | 155 | 155 | 155 | 250 |
| Depth | mm | 110 | 124 | 146 | 173 | 146 | 173 | 163 |

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