

## SJ300 SERIES

### Inverter



## Technical Data

### The Intelligent Inverter with full Vector Control

- Advanced Sensorless Vector Control (closed/open loop)
  - Starting Torque >200%
  - Full Torque at 0Hz (open loop)
  - Multi-Motorcontrol (online/offline)
  - P/PI Control
  - Auto-Motortuning
  - Quick-Stop Function
  - RS485 and RS422 Interfaces
  - Automatic Voltage Regulation
  - Motor Thermistor Input
  - Global Standards: CE, UL, c-UL, CTick
  - User Macro Function
  - PID-Control
- and many more.

### For complex industrial applications requiring top dynamic performance:

- Metal Processing
- Textile Manufacturing
- Machine Tool Industry
- Hoist and Elevator Systems



Easy integration into many standard fieldbus systems.



## All features at a glance

Item	400V/3-phase																		
Model Name	007 HFE	015 HFE	022 HFE	040 HFE	055 HFE	075 HFE	110 HFE	150 HFE	185 HFE	220 HFE	300 HFE	370 HFE	450 HFE	550 HFE	750 HFE	900 HFE	1100 HFE	1320 HFE	
Enclosure	IP 20														IP 00				
Maximum applicable motor (4p.kW) (CT)	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	
Rated input voltage	3-phase (3 wires) 380 - 480 V (±10%) / 50 Hz/60 Hz																		
Rated output voltage	380 - 480 V (according to supply voltage)																		
Rated output current [A]	2.5	3.8	5.3	8.6	12	16	23	32	38	48	58	75	90	110	149	176	217	260	
Control method	PWM (Pulse Width Modulation)																		
Output frequency range	0.1 - 400 Hz																		
Frequency accuracy	Digital: ±0.01 % of maximum frequency, Analogue: ±0.2 % (25 ± 10°C) of maximum frequency																		
Frequency resolution	Digital setting: 0.01 Hz, Analogue setting: (Maximum frequency/4000 (0 terminal: 12 bit/0 - 10 V, 11 bit/0 - 5 V, 0 2 terminal: 12 bit/-10 - +10 V, 11 bit/-5																		
V/f characteristics	Base frequency adjustable from 30 Hz to 400 Hz, Rated torque and reduced torque of V/f control, Sensorless vector control, V² closed loop vector																		
Speed fluctuation	± 0.5% (Under sensorless vector control), ± 0.01% with encoder																		
Overload capacity	150 %/60 sec, 200 %/0.5 sec														150%/60 sec; 180%/0.5 sec				
Acceleration/Deceleration time	0.01~3,600.0 sec (linear, curve selection)																		
Starting torque	200 %/0.5 Hz (Under sensorless vector mode), 150 %/0 Hz (zero SLV mode with 1 frame smaller motor)														180% /0.5 Hz; 150%/0 Hz				
Braking	Regenerative brake		BRD circuit integrated (optional resistor)								BRD unit (option)								
	min. optional resistor (Ω)		100	100	100	100	100	50	50	—	—	—	—	—	—	—	—	—	
	DC injection brake		Performs at start or under set frequency at deceleration or external request (braking force, time, operate frequency)																
Input	Frequency set	Standard operator	Set by UP key/DWN key																
		External signal	DC 0 ~ +10V, -10 ~ +10 V, (input impedance 10 kohm) 4~20 mA (input impedance 100 ohm)																
		External port	RS485 / RS422																
	FW-RV RUN-STOP	Standard operator	Run key/Stop key (change FW/RV by function command)																
		External signal	FWD, RUN/STOP (1 a, 1 b selectable, 3-wire input possible)																
		External port	RS485 / RS422																
		Intelligent input	8 terminals assigned (RV, CF1 — CF4, JG, DB, SET, 2 CH, FRS, EXT, USP, CS, SFT, AT, SET 3, RS, STA, STP, F/R, PID, PIDC, UP/DWN, UDC, SF1— SF7, LOAD, TL, TRQ 1, TRQ 2, P/PI, NON)																
	PTC input	One specific terminal (PTC)																	
Output	Intelligent output	5 open collector outputs and 1 relay (1 c) output. Select from (RUN, FA 1, OL, OTQ, FA 2, AL, OD, ACO, AC1, AC2, AC 3, FA 3, IP, UV, TRQ)																	
	Intelligent monitor output	Analogue voltage, Analogue current, Pulse train output terminal (A-F, D-F (*n))																	
Features	Main Features		V/f free setting (5 points), Frequency limitation (Upper & Lower), Frequency jump, 16 Multi-speed, 2nd Acc & Dec, Curve Acc & Dec Manual torque boost level changeover point, Free run stop, UP DOWN function, PID, Intelligent input & output, 3 wire input 2nd & 3rd function, Energy saving, Analogue meter adjustment, Start frequency set, Carrier frequency, Electronic thermal free setting, External start & end frequency and ratio, Retry, Restart after instantaneous power failure, Many kinds of signal output, Reduced voltage start, Jogging, F-stop, DC injection braking, Overload restriction, Software lock, Initial set, External trip, Analogue change over, USP function, Automatic deceleration at power off																
	Control Features		AVR function, Fuzzy Acc & Dec, Auto tuning (ONline and OFFline) High-torque multi-drive control (Drives 2 motors with one inverter under SLV mode) Speed control method : PI, P control (under sensorless vector control <Option:Vector control with speed sensor>)																
	Display Monitor		Output frequency, Output current, Motor torque, Converted value of frequency, Trip history, I/O terminal condition, Input power, Output voltage																
	Carrier Frequency Range		0.5 ~ 15 kHz														0.5 ~ 10 kHz		
Protective Features		OC, OV, UV, OL (electronic thermal), Overheat, Ground fault at start, Instantaneous power failure, USP error, Phase failure detection, Overload for BRD resistor, CT error, External trip, Option error, Communication error																	
Applicable operator		New digital operator (4 digits LED) <standard> / New DRW (6 multi-language: English, German, French, Spanish, Italian, Portuguese) <option>																	
Condition	Ambient/Storage temperature/Humidity		-10 ~ 50°C / -20~65°C / 20~90% RH (No condensation)																
	Vibration		5.9 m/s² (0.6G) 10~55 Hz										2.94 m/s² (0.3 G) 10~55 Hz						
	Installation		Less than 1000 m of altitude, no corrosive gas or dust																
Colour	Grey																		
Option	Feedback option		Vector control with sensor																
	Digital input		4 digits BCD, 16 bit binary, Pulse train input																
Other options		EMC Filter, Input/Output Reactors, DC-Reactors, Braking Choppers (≥15 kW), Braking Resistors, Sine Wave Filter, Communication Cables, Bus Communication ((Profibus, LonWorks, DeviceNet, CanOpen)																	

## Dimensions

Type	SJ300-007 HFE	SJ300-015 HFE	SJ300-022 HFE	SJ300-040 HFE	SJ300-055 HFE	SJ300-075 HFE	SJ300-110 HFE	SJ300-150 HFE	SJ300-185 HFE	SJ300-220 HFE	SJ300-300 HFE	SJ300-370 HFE	SJ300-450 HFE	SJ300-550 HFE	SJ300-750 HFE	SJ300-900 HFE	SJ300-1100 HFE	SJ300-1320 HFE
Width mm	150	150	150	150	150	210	210	250	250	250	310	390	390	390	390	390	480	480
Height mm	255	255	255	255	255	260	260	390	390	390	540	550	550	550	700	700	740	740
Depth mm	140	140	140	140	140	170	170	190	190	190	195	250	250	250	270	270	270	270

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