

SJ300 Inverter Specifications

Tables for 200V class inverters

The general specifications on page 1–9 covers all SJ300 inverters, followed by footnotes for all specifications tables. The 200V models in the upper table below (1/2 to 15 hp) include internal dynamic braking units (see dynamic braking section starting on page 5–6 for more specs).

Item		200V Class Specifications							
SJ300 inverters, 200V models, UL version		004LFU	007LFU	015LFU	022LFU	037LFU	055LFU	075LFU	110LFU
Applicable motor size, 4-pole *2	HP	1/2	1	2	3	5	7.5	10	15
	kW	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11
Rated capacity (200/240V) kVA		1.0 / 1.2	1.7 / 2.0	2.5 / 3.1	3.6 / 4.3	5.7 / 6.8	8.3 / 9.9	11 / 13.3	15.9 / 19.1
Rated input voltage		3-phase: 200 to 240V ±10%, 50/60 Hz ±5%							
Rated input current (A)		3.8	5.5	8.3	12	18	26	35	51
Rated output voltage *3		3-phase (3-wire) 200 to 240V (corresponding to input voltage)							
Rated output current (A)		3.0	5.0	7.5	10.5	16.5	24	32	46
Efficiency at 100% rated output, %		85.1	89.5	92.3	93.2	94.0	94.4	94.6	94.8
Watt loss, approximate (W)	at 70% output	64	76	102	127	179	242	312	435
	at 100% output	70	88	125	160	235	325	425	600
Starting torque *6		200% at 0.5 Hz (SLV), 150% at around 0 Hz (SLV, 0 Hz domain, with motor one frame size down), 100% at 0 Hz (with feedback board)							
Dynamic braking approx. % torque, short time stop *7	internal res. only	50%			20%			10%	
	with external res.	200%			160%	100%	80%	70%	
DC braking		Variable operating frequency, time, and braking force							
Weight	kg / lb	3.5 / 7.7	3.5 / 7.7	3.5 / 7.7	3.5 / 7.7	3.5 / 7.7	3.5 / 7.7	5 / 11	5 / 11

Item		200V Class Specifications, continued							
SJ300 inverters, 200V models, UL version		150LFU	185LFU	220LFU	300LFU	370LFU	450LFU	550LFU	
Applicable motor size *2	HP	20	25	30	40	50	60	75	
	kW	15	18.5	22	30	37	45	55	
Rated capacity (200/240V) kVA		22.1 / 26.6	26.3 / 31.5	32.9 / 39.4	41.9 / 50.2	50.2/60.2	63 / 75.6	76.2/91.4	
Rated input voltage		3-phase: 200 to 240V ±10%, 50/60 Hz ±5%							
Rated input current (A)		70	84	105	133	160	200	242	
Rated output voltage *3		3-phase (3-wire) 200 to 240V (corresponding to input voltage)							
Rated output current (A)		64	76	95	121	145	182	220	
Efficiency at 100% rated output, %		94.9	95.0	95.0	95.1	95.1	95.1	95.1	
Watt loss, approximate (W)	at 70% output	575	698	820	1100	1345	1625	1975	
	at 100% output	800	975	1150	1550	1900	2300	2800	
Starting torque *6		200% at 0.5 Hz (SLV), 150% at around 0 Hz (SLV, 0 Hz domain, with motor one frame size down), 100% at 0 Hz (with feedback board)							
Dynamic braking approx. % torque, short time stop *7	w/o braking unit	10%							
	with braking unit	30–200%	25–170%	25–150%	55–110%	45–90%	35–75%	30–60%	
DC braking		Variable operating frequency, time, and braking force							
Weight	kg / lb	12 / 26.4	12 / 26.4	12 / 26.4	20 / 44	30 / 66	30 / 66	50 / 110	

Tables for 400V class inverters

The general specifications on page 1–9 covers all SJ300 inverters, followed by footnotes for all specifications tables. The 400V models in the upper table below (1 to 15 hp) include internal dynamic braking units (see dynamic braking section starting on page 5–6 for more specs).

Item		400V Class Specifications						
SJ300 inverters, 400V models	UL version	007HFU	015HFU	022HFU	040HFU	055HFU	075HFU	110HFU
	CE version	007HFE	015HFE	022HFE	040HFE	055HFE	075HFE	110HFE
Applicable motor size *2	HP	1	2	3	5	7.5	10	15
	kW	0.75	1.5	2.2	4.0	5.5	7.5	11
Rated capacity (400 / 480V) kVA		1.7 / 2.0	2.6 / 3.1	3.6 / 4.4	5.9 / 7.1	8.3 / 9.9	11 / 13.3	15.9/19.1
Rated input voltage		3-phase (3-wire) 380 to 480V ±10%, 50/60 Hz ±5%						
Rated input current (A)		2.8	4.2	5.8	9.5	13	18	25
Rated output voltage *3		3-phase (3-wire): 380 to 480V (corresponding to input voltage)						
Rated output current (A)		2.5	3.8	5.3	8.6	12	16	23
Efficiency at 100% rated output, %		89.5	92.3	93.2	94.0	94.4	94.6	94.8
Watt loss, approximate (W)	at 70% output	76	102	127	179	242	312	435
	at 100% output	88	125	160	235	325	425	600
Starting torque *6		200% at 0.5 Hz (SLV), 150% at around 0 Hz (SLV, 0 Hz domain, with motor one frame size down), 100% at 0 Hz (with feedback board)						
Dynamic braking approx. % torque, short time stop *7	internal res. only	50%			20%			10%
	with external res.	200%			140%	100%		70%
DC braking		Variable operating frequency, time, and braking force						
Weight	kg / lb	3.5 / 7.7	3.5 / 7.7	3.5 / 7.7	3.5 / 7.7	3.5 / 7.7	55 / 121	55 / 121

Item		400V Class Specifications						
SJ300 inverters, 400V models	UL version	150HFU	185HFU	220HFU	300HFU	370HFU	450HFU	550HFU
	CE version	150HFE	185HFE	220HFE	300HFE	370HFE	450HFE	550HFE
Applicable motor size *2	HP	20	25	30	40	50	60	75
	kW	15	18.5	22	30	37	45	55
Rated capacity (400 / 480V) kVA		22.1 / 26.6	26.3 / 31.5	33.2 / 39.9	40.1 / 48.2	51.9 / 62.3	62.3 / 74.8	76.2/91.4
Rated input voltage		3-phase (3-wire) 380 to 480V ±10%, 50/60 Hz ±5%						
Rated input current (A)		35	42	53	64	83	99	121
Rated output voltage *3		3-phase (3-wire): 380 to 480V (corresponding to input voltage)						
Rated output current (A)		32	38	48	58	75	90	110
Efficiency at 100% rated output, %		94.9	95.0	95.0	95.1	95.1	95.1	95.1
Watt loss, approximate (W)	at 70% output	575	698	820	1100	1345	1625	1975
	at 100% output	800	975	1150	1550	1900	2300	2800
Starting torque *6		200% at 0.5 Hz (SLV), 150% at around 0 Hz (SLV, 0 Hz domain, with motor one frame size down), 100% at 0 Hz (with feedback board)						
Dynamic braking approx. % torque, short time stop *7	w/o braking unit	10%						
	with braking unit	40–200%	40–200%	35–200%	110–170%	90–150%	70–120%	60–100%
DC braking		Variable operating frequency, time, and braking force						
Weight	kg / lb	12 / 26.4	12 / 26.4	12 / 26.4	20 / 44	30 / 66	30 / 66	50 / 110

SJ300 Inverter Specifications

Tables for 400V class inverters, continued...

Item		400V Class Specifications				
SJ300 inverters, 400V models	UL version	750HFU	900HFU	1100HFU	—	1500HFU
	CE version	750HFE	900HFE	1100HFE	1320HFE	—
Applicable motor size *2	HP	100	125	150	175	200
	kW	75	90	110	132	150
Rated capacity (400 / 480V) kVA		103.2 / 123.8	121.9 / 146.3	150.3 / 180.4	180.1 / 216.1	180.1 / 216.1
Rated input voltage		3-phase (3-wire) 380 to 480V ±10%, 50/60 Hz ±5%				
Rated input current (A)		164	194	239	286	286
Rated output voltage *3		3-phase (3-wire): 380 to 480V (corresponding to input voltage)				
Rated output current (A)		149	176	217	260	260
Efficiency at 100% rated output, %		95.2	95.2	95.2	95.2	95.2
Watt loss, approximate (W)	at 70% output	2675	3375	3900	4670	4670
	at 100% output	3800	4800	5550	6650	6650
Starting torque *6		180% at 0.5 Hz (SLV), 130% at around 0 Hz (SLV, 0 Hz domain, with motor one frame size down), 100% at 0 Hz (with feedback board)				
Dynamic braking approx. % torque, short time stop *7	w/o braking unit	10%				
	with braking unit	45–70%	40–60%	30–50%	25–40%	20–35%
DC braking		Variable operating frequency, time, and braking force				
Weight	kg / lb	60 / 132	60 / 132	80 / 176	80 / 176	80 / 176

General Specifications

The following table (continued on next page) applies to all SJ300 inverter models.

Item		General Specifications	
Protective enclosure *1, *11		IP20 (NEMA 1)	
Control method		Line-to-line sine wave pulse-width modulation (PWM) control	
Output frequency range *4		0.1 to 400 Hz	
Frequency accuracy		Digital command: $\pm 0.01\%$ of the maximum frequency Analog command: $\pm 0.2\%$ ($25^{\circ}\text{C} \pm 10^{\circ}\text{C}$)	
Frequency setting resolution		Digital: ± 0.01 Hz; Analog: (max. frequency)/4000, (O terminal: 12-bit 0 to 10V; OI terminal: 12-bit, 4-20mA; O2 terminal: 12-bit -10 to +10V)	
Volt./Freq. characteristic *5		V/F optionally variable (30 to 400Hz base frequency), V/F control (constant torque, reduced torque), sensorless vector control	
Speed fluctuation		$\pm 0.5\%$ (sensorless vector control)	
Overload capacity (output current)		150% for 60 seconds, 200% for 0.5 seconds	
Acceleration/deceleration time		0.01 to 3600 sec., (linear curve profiles, accel./decel. selection), two-stage accel./decel.	
Input signal	Freq. setting	Operator keypad	Up and Down keys / Value settings
		Potentiometer	Analog setting via potentiometer on operator keypad
		External signal *8	0 to 10 VDC (input impedance 10k Ohms), 4 to 20 mA (input impedance 100 Ohms), Potentiometer (1k to 2k Ohms, 2W)
		Serial port	RS485 interface
	FW/RV Run	Operator panel	Run key / Stop key (change FW/RV by function command)
		External signal	FW Run/Stop (NO contact), RV set by terminal assignment (NC/NO), 3-wire input available
	Intelligent Input terminals (assign eight functions to terminals)		RV (reverse run/stop), CF1~CF4 (multi-speed select), JG (jogging), DB (external DC braking), SET (set 2nd motor data), 2CH (2-stage accel./decel.), FRS (free-run stop), EXT (external trip), USP (unattended start protection), CS (commercial power source), SFT (software lock), AT (analog input voltage/current select), SET3 (set 3rd motor data), RS (reset inverter), STA (start, 3-wire interface), STP (stop, 3-wire interface), F/R (FW/RV 3-wire interface), PID (PID ON/OFF), PIDC (PID reset), CAS (control gain setting), UP (remote control Up function, motorized speed pot.), DWN (remote control Down function, motorized speed pot.), UDC (remote control data clearing), OPE (Operator control), SF1-SF7 (Multispeed bits 0-7), OLR (Overload limit change), TL (torque limit enable), TRQ1 (torque limit selection bit 1, LSB), TRQ2 (torque limit selection bit 2, MSB), PPI (Proportional / Proportional/Integral mode selection), BOK (Brake confirmation signal), ORT (Orientation – home search), LAC (LAC: LAD cancel), PCLR (Position deviation reset), STAT (pulse train position command input enable), NO (not selected)
Thermistor input		One terminal (PTC characteristics)	
Output signal	Intelligent Output terminals (assign six functions to five open collector outputs and one relay NO-NC contact)	RUN (run signal), FA1 (Frequency arrival type 1 – constant speed), FA2 (Frequency arrival type 2 – over-frequency), OL (overload advance notice signal 1), OD (Output deviation for PID control), AL (alarm signal), FA3 (Frequency arrival type 3 – at-frequency), OTQ (over-torque signal), IP (Instantaneous power failure signal), UV (Under-voltage signal), TRQ (In torque limit), RNT (Run time over), ONT (Power-ON time over), THM (thermal alarm), BRK (Brake release signal), BER (Brake error signal), ZS (Zero speed detect), DSE (speed deviation maximum), POK (Positioning completion), FA4 (Frequency arrival type 4 – over-frequency 2), FA5 (Frequency arrival type 5 – at-frequency 2), OL2 (Overload notice advance signal 2), Terminals 11-13 or 11-14 automatically configured as AC0-AC2 or AC0-AC3 per alarm code output selection)	
	Intelligent monitor output terminals	Analog voltage monitor, analog current monitor (8-bit resolution), and PWM output, on terminals [AM], [AMI], [FM]	
Display monitor		Output frequency, output current, motor torque, scaled value of output frequency, trip history, I/O terminal condition, input power, output voltage	