

New Wave Power Electric Motor Controls



M100

Variable Frequency Drive

Ultra Compact Micro VFD

1 phase 0.1 ~ 2.2kW (0.125 ~ 3.0HP), 200 ~ 240V



- Built-in EMC filter (C2 Class)
- Compact & Micro size
- DIN rail installation
- Side by side installation (2mm)
- Potentiometer
- Built-in RS485 communication (Advanced model)
- Built-in DB Unit (1.5kW or higher)
- Easy connection with RJ 45 port (Modbus, Smart Copier, Remote keypad, DriveView 7)
- CE and New UL 61800-5-2 design

Model Number

LSLV	0008	M100	-	1	E	O	F	N	S
LS Low Voltage Drive Series	Rated Motor (kW) 0001 : 0.1kW-0022:2.2kW	Sereis name M100		Input Voltage 1 : 1-phase, 200 ~ 240V	Keypad E : LED keypad	UL type O : UL open (IP20)	EMC filter F : Built-in EMC filter	Reactor N: Non-Reactor	I/O S: Standard I/O A: Advanced I/O

General specification

Número de modelo: LSLV □□□□M100-1E0FN □		0001	0002	0004	0008	0015	0022
Motor rating	[HP]	0.125	0.25	0.5	1	2	3
	[kW]	0.1	0.2	0.4	0.75	1.5	2.2
Output rating	Rated Capacity [kVA]	0.3	0.6	0.95	1.9	3	4.5
	Rated Current [A]	0.8	1.4	2.4	4.2	7.5	10
Ourput Frequency		0-400 Hz					
Ourput Voltage [V]		3-phase 200-240 V					
Input rating	Service Voltage [V]	3-phase 200-240 V (-15%~+10%)					
	Input Frequency	50-60 Hz (±5%)					
Weight	Rated Current [A]	1	1.8	3.7	7.1	13.6	18.7
	[kg]	0.66		1		1.45	

Control Spec.	Control method	V/F control, slip compensation	
	Frequency settings power resolution	Digital command:	0.01Hz
		Analog command:	0.06 Hz (60 Hz standard)
	Frequency accuracy	1% of maximum output frequency	
	V/F pattern	Linear, square reduction, user V/F	
	Overload capacity	Rated current: 150% 1 min	
Torque boost	Manual torque boost, automatic torque boost		
Operation	Operation type	Select key pad, terminal strip, or communication operation	
	Frequency settings	Analog type: V1terminal 0-10 V, I2 terminal (Advanced I/O) 0-20 mA and 0-10 V Digital type: key pad input	
	Operation function	Anti-forward and reverse direction rotation, Frequency jump, Frequency limit, DC braking, Jog operation, Up-down operation, 3-wire operation, Dwell operation, Slip compensation, PID control, Energy saving operation, Speed search, Automatic restart	
Input signal		Select PNP (Source) or NPN (Sink) mode.	
	Multi-function terminal	Forward direction operation, Reset, Emergency stop, Multi-step speed frequency-high/med/low, DC braking during stop, Frequency increase, 3-wire, Select acc/dec/stop, Reverse direction operation, External trip, Jog operation, Multi-step acc/dec-high/med/low, Second motor selection, Frequency reduction, Fix analog command frequency, Transition from PID to general operation	
Opout signal	Multi- function open collector terminal (standard I/O only)	Fault output and inverter operation status output	Less than DC 24 V, 50 mA
	Multi-function relay terminal		Less than (N.O., N.C.) AC250V 1A, Less than DC 30V, 1A
	Analog output	0-10 Vdc: Select frequency, output current, output voltage, DC terminal voltage and others	
Protection	Fallas	Motor over heat trip, Motor overload trip, Output open-phase trip, External signal trip, Inverter overload trip, Command loss trip Over current trip, Inverter over heat, Over voltage trip, Ground trip, COM trip, Fan trip, Low voltage trip, Command loss trip	
	Alertas	Overload alarm	
	Instantaneous blackout	Less than 15 ms: continue operation (must be within the rated input voltage and rated output range) More than 15 ms: auto restart operation	
Enclosure	IP20		

S100

Variable Frequency Drive

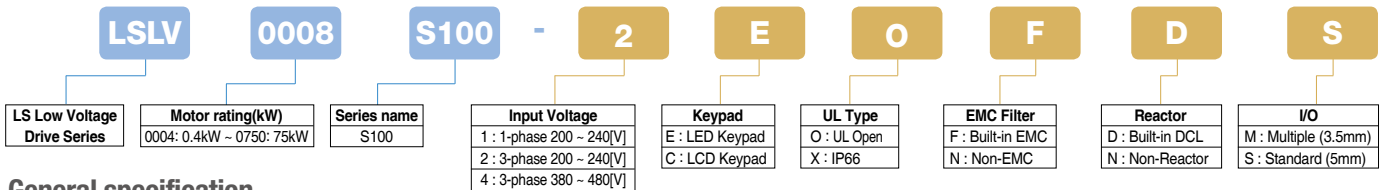
High Performance Standard VFD

1 phase 0.4~2.2kW(0.5~3HP), 200~240V
3 phase 0.4~15kW(0.5~20HP), 200~240V
3 phase 0.4~75kW(0.5~100HP), 380~480V



- Selectable V/f, Sensorless vector control
- Built-in EMC Filter
- Side by Side Installation
- Enhanced Size Competitiveness
- PLC Function(Simple Sequence Operation)
- Compliance with Open Field Networks
 - Profibus-DP, CANopen, EtherNet
- IP66 Enclosure (0.4~22kW)
- PM Sensorless Control
- P2P I/O Share Function
- Capacitor/Fan Life Cycle Management Function
- Smart Copier Option
(Able to copy parameter and download drive main OS)

Model Number



General specification

Model number: LSLV □□□□ S100-1 □□□□	0004	0008	0015	0022	Model number: LSLV □□□□ S100-2 □□□□	0004	0008	0015	0022	0037	0040	0055	0075	0110	0150
Motor rating	Heavy [HP] 0.5	1.0	2.0	3.0	Heavy [HP] 0.5	1.0	2.0	3.0	5.0	5.5	7.5	10.0	15.0	20.0	20.0
	Duty(HD) [kW] 0.4	0.75	1.5	2.2	Duty(HD) [kW] 0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11.0	15.0	15.0
	Normal [HP] 1.0	2.0	3.0	5.0	Normal [HP] 1.0	2.0	3.0	5.0	5.4	7.5	10.0	15.0	20.0	25.0	25.0
	Duty(HD) [kW] 0.75	1.5	2.2	3.7	Duty(HD) [kW] 0.75	1.5	2.2	3.7	4.0	5.5	7.5	11.0	15.0	15.0	18.5
Output rating	Capacity Heavy Duty(HD) 1.0	1.9	3.0	4.2	Capacity Heavy Duty(HD) 1.0	1.9	3.0	4.2	6.1	6.5	9.1	12.2	17.5	22.9	22.9
	[kVA] Normal Duty(ND) 1.2	2.3	3.8	4.6	[kVA] Normal Duty(ND) 1.2	2.3	3.8	4.6	6.9	6.9	11.4	15.2	21.3	26.3	26.3
	Rated Heavy Duty(HD) 2.5	5.0	8.0	11.0	Rated Heavy Duty(HD) 2.5	5.0	8.0	11.0	16.0	17.0	24.0	32.0	46.0	60.0	60.0
	Current Normal Duty(ND) 3.1	6.0	9.6	12.0	Current Normal Duty(ND) 3.1	6.0	9.6	12.0	18.0	18.0	30.0	40.0	56.0	69.0	69.0
	Frequency [Hz] 0~400Hz (IM Sensorless:0~120[Hz])														
	Voltage [V] 3-phase 200~240V														
Input rating	Voltage [V] 1-phase 200 ~ 240VAC (-15%~+10%)														
	Frequency [Hz] 50 ~ 60Hz (±5%)														
	Rated Heavy Duty(HD) 4.4	9.3	15.6	21.7	Rated Heavy Duty(HD) 2.2	4.9	8.4	11.8	17.5	18.5	25.8	34.9	50.8	66.7	66.7
	Current(A) Normal Duty(ND) 5.8	11.7	19.7	24.0	Current(A) Normal Duty(ND) 3.0	6.3	10.8	13.1	19.4	19.4	32.7	44.2	62.3	77.2	77.2
Weight[kg] (Built-in EMC)	0.9(1.14)	1.3(1.76)	1.5(1.76)	2.0(2.22)	0.9	0.9	1.3	1.5	2.0	2.0	3.3	3.3	4.6	7.1	7.1

Model number: LSLV □□□□ S100-4 □□□□	0004	0008	0015	0022	0037	0040	0055	0075	0110	0150	0185	0220	0300	0370	0450	0550	0750
Motor rating	Heavy [HP] 0.5	1.0	2.0	3.0	5.0	5.5	7.5	10.0	15.0	20.0	25.0	30.0	40.0	50.0	60.0	75.0	100.0
	Duty(HD) [kW] 0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0
	Normal [HP] 1.0	2.0	3.0	5.0	5.4	7.5	10.0	15.0	20.0	25.0	30.0	40.0	50.0	60.0	75.0	100.0	120.0
	Duty(HD) [kW] 0.75	1.5	2.2	3.7	4.0	5.5	7.5	11.0	15.0	18.5	22.0	30.0	37.0	45.0	55.0	75.0	90.0
Output rating	Capacity Heavy Duty(HD) 1.0	1.9	3.0	4.2	6.1	6.5	9.1	12.2	18.3	22.9	29.7	34.3	46.5	57.2	69.4	83.8	115.8
	[kVA] Normal Duty(ND) 1.5	2.4	3.9	5.3	7.6	7.6	12.2	17.5	22.9	29.0	33.5	44.2	57.2	69.4	81.5	108.2	128.8
	Rated Heavy Duty(HD) 1.3	2.5	4.0	5.5	8.0	9.0	12.0	16.0	24.0	30.0	39.0	45.0	61.0	75.0	91.0	110.0	152.0
	Current Normal Duty(ND) 2.0	3.1	5.1	6.9	10.0	10.0	16.0	23.0	30.0	38.0	44.0	58.0	75.0	91.0	107.0	142.0	169.0
	Frequency [Hz] 0~400Hz (IM Sensorless:0~120[Hz])																
	Voltage [V] 3-phase 380 ~ 480V																
Input rating	Voltage [V] 3-phase 380 ~ 480VAC (-15%~+10%)																
	Frequency [Hz] 50 ~ 60Hz (±5%)																
	Rated Heavy Duty(HD) 1.1	2.4	4.2	5.9	8.7	9.8	12.9	17.5	26.5	33.4	43.6	50.7	56.0	69.0	85.0	103.0	143.0
	Current(A) Normal Duty(ND) 2.0	3.3	5.5	7.5	10.8	10.8	17.5	25.4	33.4	42.5	49.5	65.7	69.0	85.0	100.0	134.0	160.0
Weight[kg] (Built-in EMC)	0.9(1.18)	1.9(1.18)	1.3(1.77)	1.5(1.80)	2.0(2.23)	2.0(2.23)	3.3	3.4	4.6	4.8	7.5	7.5	25.8	34.4	34.4	41.8	43.8

Control spec	Control method	V/f, Slip compensation, Sensorless vector
	Speed reference resolution	Digital command: 0.01Hz / Analog command: 0.06Hz (Maximum frequency : 60Hz)
	Frequency accuracy	1% of the maximum output frequency
	V/f curve	Linear, Squared, User V/F
	Overload capacity	HD: 150% 1minute, ND: 120% 1minute
	Torque boost	Manual/Automatic torque boost
Operation	Keypad display	4 digit, 7 segment LED keypad
	Operation method	Keypad / Terminal / Communication option selectable
	Frequency setting	Analog: -10 ~10[V] / 0 ~10[V], 420[mA] / Digital: Keypad, Pulse train input
	Operation function	PID, Up/Down, 3-Wire, DC braking, Frequency limit, Frequency jump, 2nd function, Slip compensation, Anti reverse rotation, Automatic restart, Commercial power change, Auto-tuning, Flying start, Energy buffering operation, Power braking, Flux braking, Leakage reduction operation
Input signal	Multi-function terminal	NPN(Sink) / PNP(Source) selectable
	Standard I/O(5points)	Function: Forward run, Reverse run, Reset, External trip, Emergency stop, Jog operation, Multi-step frequency-high, middle, low, Multi-step acceleration/deceleration-high, middle, low, DC braking at stop, 2nd motor select, Frequency up/down, 3-wire operation, Change into normal operation during PID operation, Change into main body operation during option operation,
	Multiple I/O(7points)	Analog command frequency fixing, Acceleration/deceleration stop etc. selectable
Output signal	Pulse train	0Hz~32Hz, Low level: 0~0.8V, High level: 3.5~12V
	Open collector terminal	Fault output and drive operation status output
	Multi-function relay	(N.O., N.C.) less than AC 250V 1A, less than DC30V 1A
	Analog output	0 to 10Vdc (4~20mA): Frequency, Output current, Output voltage, DC stage voltage etc. selectable
	Pulse train	Maximum 32kHz, 10~12[V]
Protection	Drive trip	Overcurrent / Overvoltage / Undervoltage / External trip / Ground fault current detection / Drive overheat / Motor overheat / Input-Output phase open / Overload protection / Light load protection / Communication error / Frequency command loss / Hardware fault / Cooling fan fault / Pre-PID motion failure / No motor trip / External brake trip / Option fault / Safety contact fault / Drive temperature sensor fault / Parameter write error / IO board fault
	Drive alarm	Stall prevention / Overload / Light load / Cooling fan fault / Frequency command loss / DB duty cycle / Rotor time constant tuning fault / Capacitor / Fan life time up
Enclosure Option	Keypad	IP20, UL Type1, IP66
	Communication	Graphic LCD keypad(IS7) Profibus-DP, EtherNet-IP, Modbus-TCP, CANopen

H100

Variable Frequency Drive

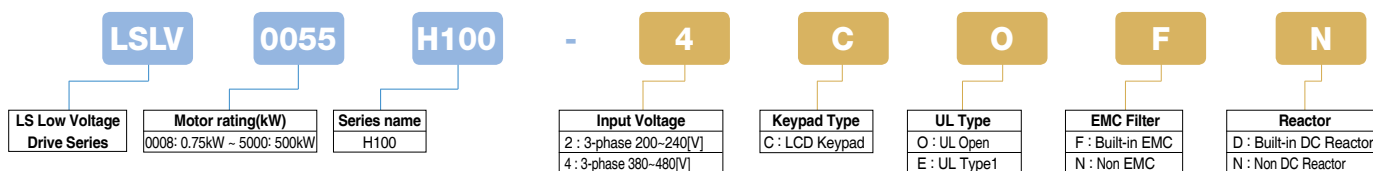
Fan and Pump VFD

3 phase 0.75~18.5kW(1.0~25HP), 200~240V
3 phase 0.75~500kW(1.0~800HP), 380~480V



- Specialized function for HVAC
 - Multi-motor control
 - Scheduling function (Time event: Real Time Clock)
 - Flow Compensation
 - Soft fill operation
 - Start Ramp & End Ramp
 - Dec Valve Ramp
 - Pump Clean
 - Load Tuning
 - Fire Mode
 - Energy-saving Display (Payback Counter)
 - Boost, Wake-up function
- V/f control
- Built-in BACnet communication
- LonWorks(Optional)
- Keypad Exclusive for HVAC
- Built-in EMC filter/DC Reactor
- Side by Side Installation
- Heatsink out the back installation (Flange Option)
- Enhanced Size Competitiveness
- Capacitor/Fan Life Cycle Management Function
- Smart Copier Option (Able to copy parameter and download drive main OS)

Model Number



General specification

Model number: LSLV □□□□ H100-2 □□□□		0008	0015	0022	0037	0055	0075	0110	0150	0185
Applied Motor	[HP]	1.0	2.0	3.0	5.0	7.5	10	15	20	25
	[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5
Rated Output	Rated Capacity [kVA]	1.9	3.0	4.5	6.1	8.4	11.4	16.0	21.3	26.3
	Rated Current	5	8	12	16	22	30	42	56	69
Rated Input	Output Frequency	0~400Hz								
	Output Voltage [V]	3-phase 200~240V								
	Service Voltage [V]	3-phase 200~240VAC (-15%~+10%)								
	Input Frequency	50 ~ 60Hz (±5%)								
Weight	Rated Current [A]	4.9	8.4	12.9	17.5	23.7	32.7	46.4	62.3	77.2
	[kg]	3.3	3.3	3.3	3.3	3.3	3.3	3.3	4.6	7.1

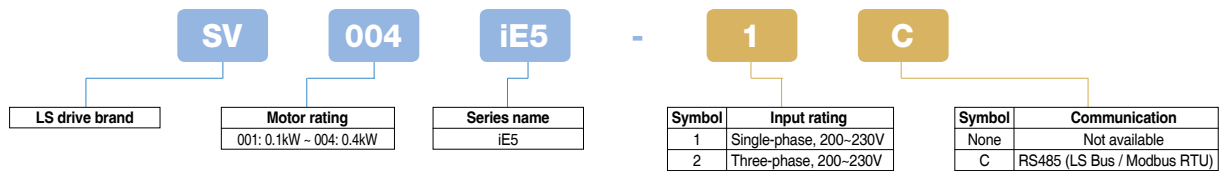
Model number: □□□□ H100-4 □□□□		0008	0015	0022	0037	0055	0075	0110	0150	0185	0220	0300	0370	0450	0550	0750	0900	1100	1320	1600	1850	2200	2500	3150	3550	4000	5000
Applied Motor	[HP]	1.0	2.0	3.0	5.0	7.5	10	15	20	25	30	40	50	60	75	100	120	150	200	250	300	350	400	500	550	650	800
	[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	220	250	315	355	400	500
Rated Output	Rated Capacity [kVA]	1.9	3.0	4.5	6.1	9.1	12.2	18.3	23	29	34.3	46.5	57.1	69.4	82.0	108.2	128.8	170	201	248	282	329	367	467	520	587	733
	Rated Current	2.5	4	6	8	12	16	24	30	38	45	61	75	91	107	142	169	223	264	325	370	432	481	613	683	770	962
Rated Input	Output Frequency	0~400Hz																									
	Output Voltage [V]	3-phase 380~480V																	3-phase 380~500V								
	Service Voltage [V]	3-phase 380~480VAC (-15%~+10%)																	3-phase 380~500VAC (-15%~+10%)								
	Input Frequency	50 ~ 60Hz (±5%)																									
Weight	Rated Current [A]	2.4	4.2	6.5	8.7	12.2	17.5	26.5	33.4	42.5	50.7	69.1	69.3	84.6	100.1	133.6	160.0	215.1	254.6	315.3	358.9	419.1	469.3	598.1	666.4	751.3	938.6
	[kg]	3.3	3.3	3.3	3.3	3.3	3.4	4.6	4.8	7.5	7.5	26	26	35	35	43	43	55.8	55.8	74.7	74.7	120.0	120.0	185.5	185.5	265	265

Control Spec	Control Method	V/F control, slip compensation
	Frequency Set Resolution	Digital command: 0.01Hz Analog command: 0.06Hz (based on 60Hz)
	Control Degree of Frequency	1% of the maximum output frequency
Operation	V/f curve	Liner, squared overload reduction and user V/F
	Overload Capacity	Rated Current: 120% , 1 minute (5.5~90kW), 110% , 1 minute (110~500kW)
	Torque Boost	Manual torque boost, automatic torque boost 1, automatic torque boost 2
Input signal	Operation Method	Optional: Keypad, terminal board or communication control
	Frequency Setting	Analog mode: -10~10V, 0~20mA Digital mode: Keypad and pulse train input
	Operation function	PID control, 3-Wire control, Frequency limitation, Secondary Functions, Forward/Reverse rotation prohibited, DC braking, Commercial power switching, Speed search, Power braking, Reduction of leakage, Up-Down control, DC braking Flux braking, Frequency pump, Slip compensation, Automatic restart, Automatic tuning, Energy buffering control, Energy-saving control
Output signal	Multifunctional Terminal(7points)	Forward Operation, Reset, Emergency stop, Multi-step frequency – High/Mid/Low, DC braking during stop, Pre-Heat, Frequency increase, 3-Wire, Optional: Acceleration, deceleration or stop, MMC interlock, Reverse Operation, Pump cleaning, External trip, Jog control, Multi-step acceleration/deceleration-High/Mid/Low, Secondary motor selection, RTC(Time event function), Frequency decrease, Analog command frequency fixation, Switching to normal operation during PID operation
	Pulse Train	0~3kHz, Low Level: 0~0.8V, High Level: 3.5~12V
Protection	Multifunctional Open Collector Terminal	DC 26V, 50mA or below
	Failure [Fault] Relay Terminal	Failure output & drive control status output: N.O. : AC 250V, 5A or below, DC30V, 3A or below N.C. : AC 250V, 1A or below, DC30V, 1A or below AC 250V, 5A or below, DC30V, 5A or below
	Multifunctional Relay Terminal	
Others	Analog Output	0~12Vdc(0~20mA): Optional among frequency, output current, output voltage and DC voltage
	Pulse train	Maximum 32kHz, 0~12V
	Trip	Over-current trip, Trip caused by external signals, ARM short-circuit current trip, Overheat trip, Pipe broken trip, Input open-phase trip Ground trip, Motor overheat trip, IO board connection trip, No Motor trip, Parameter Write trip, Emergency stop trip, Command loss trip, External memory error, CPU watchdog trip, Motor under-load trip, Overvoltage trip, Temperature sensor trip, Drive overheat, Option trip, Output open-phase trip, Drive overload trip, Fan trip, Low voltage trip during operation, Low voltage trip, Analog input error, Motor overload trip, Keypad command loss trip, Damper trip, Level Detect trip, All auxiliary motor failure trip, Pump clean failure (fault)
Enclosure Option	Warning	Command loss trip warning, overload warning, under-load warning, drive overload warning, fan operation warning, damping resistance brake percentage warning, capacitor life warning, pump clean warning, Fire Mode warning and LDT warning
	Instant Power Interruption	Below 8 ms: Continuous operation [within the rated input voltage and rated output] 8 ms or above: Automatic restart operation
Communication	Board	IP20/UL Open(default), UL Enclosed Type 1(option)
	Communication	Extension I/O (available soon) Lonworks
		Built-in BACnet, Modbus-RTU(RS485), Metasys N2



- V/f control
- Compact size: 68×128×85mm (2.7×5×3.3 inch)
- 0.1 ~ 200Hz frequency output
- 1 ~ 10kHz carrier frequency
- Fault history: Last 3 faults
- IP20 enclosure
- RS485 (LS Bus / Modbus RTU) communication (Built-in option)
- DC Injection braking
- Selectable manual/automatic torque boost
- Selectable PNP/NPN input signal
- PI control
- Up-Down & 3-Wire operation
- Automatic restart after instantaneous power failure
- Built-in potentiometer
- Monitoring & commissioning PC based software tool (Drive View)
- Parameter copy unit

Model Number



General specification

Model number: SV □□□ iE5-□		001-1	002-1	004-1	001-2	002-2	004-2
Motor rating	[HP]	0.13	0.25	0.5	0.13	0.25	0.5
	[kW]	0.1	0.2	0.4	0.1	0.2	0.4
Output rating	Capacity [kVA]	0.3	0.6	0.95	0.3	0.6	1.14
	Current [A]	0.8	1.4	2.5	0.8	1.6	3.0
	Voltage [V]	Three-phase 200 ~ 230V					
	Frequency [Hz]	0.1 ~ 200Hz					
Input rating	Voltage [V]	Single-phase 200 ~ 230V (±10%)			Three-phase 200 ~ 230V (±10%)		
	Frequency [Hz]	50 ~ 60Hz (±5%)					
	Current [A]	2.0	3.5	5.5	1.2	2.0	3.5
Weight	[kg]	0.44	0.46	1.68	0.43	0.45	0.67
Control spec	Control method	V/f, Slip compensation					
	Speed reference resolution	Digital command: 0.01Hz / Analog reference: 0.1Hz (Max freq., 60Hz)					
	Frequency accuracy	Digital command: 0.01% of Max output freq. / Analog signal command of 0.1% of Max output freq.					
	V/f curve	Linear, Squared V/f					
	Overload capacity	150% for 1 minute					
Operation	Torque boost	Auto & manual torque boost					
	Keypad display	4 digit, 7 segment LED					
	Operation method	Keypad / Terminal / Communication					
	Frequency setting	Analog: 0 to 10V / 0 to 20mA / Potentiometer / Digital: Keypad					
Input signal	Operation function	PI control / Up-Down operation / 3-Wire operation					
	Multi-function terminal (P1 ~ P5)	PNP / NPN selectable 5 points (programmable)					
Output signal	Multi-function relay	Fault output & drive status output (N.O., N.C.) Less than AC 250V, 0.3A / Less than DC 30V 1A					
	Analog output	0 to 10Vdc (less than 10mA): frequency / current / voltage / DC voltage selectable					
Protection	Drive trip	Over voltage / Low voltage / Over current / Ground fault / Drive overload / Overload trip / Drive overheat / Condenser overload / Output phase open / Frequency command loss / Hardware fault / etc.					
	Drive alarm	Stall prevention					
Enclosure		IP20					
Option	Communication, copy unit	RS485(LS Bus / Modbus RTU), Parameter copy unit					

iS7

Variable Frequency Drive

High Torque Performance and Precise VFD

3 phase 200V : 0.75~75kW(1~100HP), 200~230V
3 phase 400V : 0.75~375kW(1~500HP), 380~480V

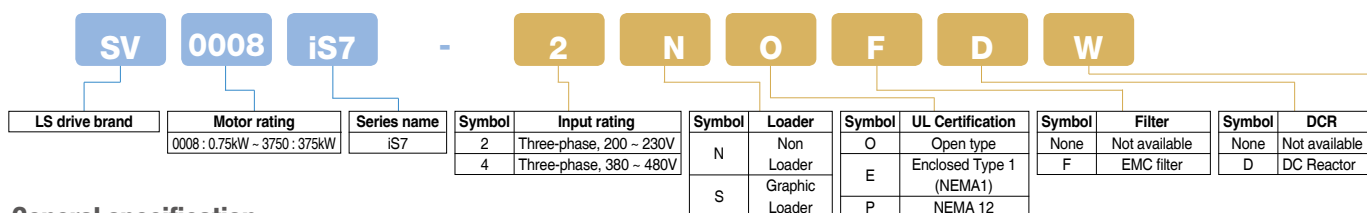


- Constant torque / Variable torque dual rating
- Selectable V/f, V/f PG, sensorless vector, sensed vector
- 150 MIPS(million instructions per second) high speed DSP
- High performances & functions:
 - Droop control (automatic torque balance)
 - KEB (Kinetic Energy Buffering) protection
 - Ride Through (LV Trip Delay) protection
 - Under Load Trip protection
 - Power brake & Flux Brake function
 - Static motor parameter Auto-tuning*
- Easy to control: Easy Start Mode, User & Macro group, Multi Function Key
- 2nd motor sensorless control and parameter setting
- Available IP54 enclosure(0.7522kW[1~30HP]) as built-in option
- Built-in RS485(LS Bus / Modbus RTU) communication
- Built-in Dynamic braking transistor (0.7522kW[1~30HP])
- Available EMC Filter & DC Reactor as built-in option
- EMC Filter(0.7522kW[1~30HP]) / DC Reactor(0.75160kW[1~215HP])
- Wide graphic LCD keypad (6 different languages)
- PLC board (optional):
 - Master-K platform: 14 max. inputs & 7 max. outputs
- Extension I/O boards (Optional):
 - 11 max. inputs & 6 max outputs
- Communication boards (Optional):
 - Profibus-DP, DeviceNet, Modbus TCP, Rnet, LonWorks, CANopen
- Monitoring & commissioning PC based software tool (Drive View)



※ ABS Standard - Acquired (up to 90kW) / In Progress (above 90kW)
※ DNV Standard - Acquired

Model Number



General specification

Model number: SV □□□□ iS7-2 □	0008	0015	0022	0037	0055	0075	0110	0150	0185	0220	0300	0370	0450	0550	0750									
Motor rating	[HP] 1 2 3 5 7.5 10 15 20 25 30 40 50 60 75 100	[kW] 0.75 1.5 2.2 3.7 5.5 7.5 11 15 18.5 22 30 37 45 55 75	Output rating	Capacity [kVA] 1.9 3 4.5 6.1 9.1 12.2 17.5 22.9 29.7 34.3 46 60 74 88 116 146	Current (CT) [A] 5 8 12 16 24 32 46 60 74 88 116 146 180 220 288	Current (VT) [A] 8 12 16 24 32 46 60 74 88 124 146 180 220 288 345	Voltage [V] Three-phase 200 ~ 230V	Frequency [Hz] 0.01 - 400Hz (Sensorless-1 control: 0.01-300Hz, Sensorless-2 or Sensed control: 0.01-120Hz)	Voltage [V] Three-phase 200 ~ 230V (-15% ~ +10%)	Frequency [Hz] 50 ~ 60Hz (±5%)	Current (CT) [A] 4.3 6.9 11.2 14.9 22.1 28.6 44.3 55.9 70.8 85.3 121 154 191 233 305	Current (VT) [A] 6.8 10.6 14.9 21.3 28.6 41.2 54.7 69.7 82.9 116.1 152 190 231 302 326												
Model number: SV □□□□ iS7-4 □	0008	0015	0022	0037	0055	0075	0110	0150	0185	0220	0300	0370	0450	0550	0750	0900	1100	1320	1600	1850	2200	2800	3150	3750
Motor rating	[HP] 1 2 3 5 7.5 10 15 20 25 30 40 50 60 75 100 120 150 180 225 250 300 375 420 500	[kW] 0.75 1.5 2.2 3.7 5.5 7.5 11 15 18.5 22 30 37 45 55 75 90 110 132 160 185 220 280 315 375	Output rating	Capacity [kVA] 1.9 3 4.5 6.1 9.1 12.2 17.5 22.9 29.7 34.3 46 60 74 88 116 139 170 201 248 286 329 416 467 557	Current (CT) [A] 2.5 4 6 8 12 16 24 30 39 45 61 75 91 110 152 183 223 264 325 370 432 547 613 731	Current (VT) [A] 4 6 8 12 16 24 30 39 45 61 75 91 110 152 183 223 264 325 370 432 547 613 731 877	Voltage [V] Three-phase 380 ~ 480V	Frequency [Hz] 0.01 - 400Hz (Sensorless-1 control: 0.01-300Hz, Sensorless-2 or Sensed control: 0.01-120Hz)	Voltage [V] Three-phase 380 ~ 480V (-15% ~ +10%)	Frequency [Hz] 50 ~ 60Hz (±5%)	Current (CT) [A] 2.2 3.6 5.5 7.5 11.0 14.4 22.0 26.6 35.6 41.6 55.5 67.9 82.4 102.6 143.4 174.7 213.5 255.6 316.3 404 466 605 674 798	Current (VT) [A] 3.7 5.7 7.7 11.1 14.7 21.9 26.4 35.5 55.7 67.5 81.7 101.8 123 143.6 173.4 212.9 254.2 315.3 359.3 463 590 673 796 948												
Control spec	Control method	V/f, V/f PG, Slip compensation, Sensorless-1 vector, Sensorless-2 vector, Sensed vector																						
	Speed reference resolution	Digital command: 0.01Hz / Analog reference: 0.06Hz (Max freq., 60Hz)																						
	Frequency accuracy	Digital command: 0.01% of Max output freq. / Analog signal command of 0.1% of Max output freq.																						
	V/f curve	Linear, Squared, User custom V/f																						
	Overload capacity	CT(Heavy duty): 150% for 1 minute, VT(Normal duty): 110% for 1 minute																						
	Torque boost	Auto & Manual torque boost																						
Operation	Keypad display	Wide graphic LCD keypad (available 6 languages)																						
	Operation method	Keypad / Terminal / Communication																						
	Frequency setting	Analog: 0 to 10V / -10 to 10V/ 0 to 20mA / Digital: Keypad																						
	Operation function	PID control / Up-Down operation / 3-Wire operation / DC braking / Frequency limit / Second function / Slip compensation / Reverse rotation prevention / Auto restart / Drive By-pass / Auto-tuning / Flying star / Energy buffering / Power braking / Flux braking / Low leakage / MMC / Easy start																						
Input signal	Multi-function terminal (P1 - P8)	PNP / NPN selectable 8 points (programmable)																						
Output signal	Multi-function relay	Fault output & drive status output (N.O., N.C.) Less than AC250V, 1A / Less than DC 30V 1A																						
	Multi-function open collector	DC24V (less than 50mA)																						
	Analog output	0 to 10Vdc (less than 10mA): frequency / current / voltage / DC voltage selectable																						
Protection	Drive trip	Over current / Over voltage / Low current / External trip / Ground fault / Drive overheat / I/O phase open / Overload / Communication error / Frequency command loss / Hardware fault / Fan fault / Pre-PID fault / No motor trip / External brake trip / etc.																						
	Drive alarm	Stall prevention / Overload / Light load / Encoder connection error / Keypad command loss / Speed command loss																						
Enclosure		IP00 (30~75kW, 200V/90~375kW, 400V), IP21 (0.75~22kW, 200V / 0.75~75kW, 400V), IP54 / NEMA12 (0.75~22kW, 200V/ 400; Optional)																						
Option	Board, Cable, Keypad	Graphic LCD keypad(IP21), Extension I/O, Isolation I/O, Encoder board, PLC board, Remote cable(2M/3M)																						
	Communication	Profibus-DP, DeviceNet, Modbus TCP, Rnet, LonWorks, CANopen, EtherNet/IP																						
Others		Built-in Dynamic braking transistor (0.75-22kW[1~30HP]), Built-in RS485(LS Bus / Modbus RTU)																						

iP5A

Variable Frequency Drive

Fan & Pump specialized VFD

3 phase 200V : 5.5~30kW(1~400HP), 200~230V
3 phase 400V : 5.5~450kW(1~600HP), 380~480V



- Specialized functions for Fan & Pump:
 - Advanced PID control (Pre-PID, Dual PID)
 - Multi Motor Control function (Up to 4 motors: 5.5 ~ 90kW[7.5~125HP])
- Energy saving & High efficiency:
 - Sleep & Wake-up function
 - Flying Starting function
 - Automatic energy saving function
 - Flux Braking Algorithm
- Improved protection functions:
 - Pre-heater function
 - Low Leakage PWM
 - Safety stop function
 - Automatic carrier frequency change
- Selectable V/f, Sensorless vector control
- Long-life condenser & Simple framework
- Easy Start function
- Selectable PNP/NPN input signal
- Plug-in type control terminals
- Cooling fan On/Off control
- Built-in RS485(LS Bus) communication
- Communication boards (Optional):
 - Modbus RTU, DeviceNet, Profibus-DP, LonWorks, BACnet, Modbus TCP*, CANOpen, CC-Link
- Monitoring & commissioning PC based software tool (Drive View)
- DNV Certification

Model Number

SV	0055	iP5A	-	2	N	O	L	(CLASS)				
LS drive brand	Motor rating 0008 : 0.75kW ~ 4500 : 450kW	Series name iP5A	Symbol 2	Input rating Three-phase, 200 ~ 230V	Symbol None	Loader Loader	Symbol O	UL Certification Open type	Symbol None	DCR Not available	Symbol (CLASS)	Certificate DNV
			4	Three-phase, 380 ~ 480V	N	Non Loader	E	Enclosed Type 1	L	DC Reactor		

General specification

Model number: SV □□□□ iP5A-2 □		0055	0075	0110	0150	0185	0220	0300	0370	0450	0550	0750	0900	1100	1320	1600	2200	2800	3150	3750	4500	
Motor rating (Fan/Pump)	[HP]	7.5	10	15	20	25	30	40	50	60	75	100	125	150	175	215	300	350	400	500	600	
	[kW]	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	220	280	315	375	450	
Current (110% overload)	[A]	24	32	46	60	74	88	115														
	Normal duty: 110% for 1 minute																					
Motor rating (General load)	[HP]	5	7.5	15	15	20	25	30	40	50	60	75	100	125	150	175	215	300	350	400	500	
	[kW]	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	220	280	315	375	
Current (150% overload)	[A]	17	23	33	44	54	68	84														
	Heavy duty: 150% for 1 minute																					
Output rating	[kVA]	9.1	12.2	17.5	22.9	28.2	33.5	43.8														
	[V]	Three-phase 200 ~ 230V																				
Input rating	[Hz]	0.01 ~ 120Hz																				
	[V]	Three-phase 200 ~ 230V (-15% ~ +10%)																				
Weight	[kg]	4.9	6	6	13	13.5	20	20	27	27	29	42	43									
	Non DCR type																					
Control spec	Control method	V/f, Slip compensation, Sensorless vector																				
	Speed reference resolution	Digital command: 0.01Hz (below 100Hz), 0.1Hz(over 100Hz) / Analog reference: 0.1Hz/60Hz																				
Frequency accuracy	Digital command: 0.01% of Max output freq. / Analog signal command of 0.1% of Max output freq.																					
V/f curve	Linear, Squared, User custom V/f																					
Overload capacity	110% for 1 minute, 120% for 1 minute(based on ambient 25°C)																					
Torque boost	Auto & Manual(0 ~ 15%) torque boost																					
Operation	Keypad display	32 characters LCD keypad																				
Operation method	Keypad / Terminal / Communication																					
Frequency setting	Analog: 0 ~ 12V / -12V ~ 12V / 4 ~ 20mA or 0 ~ 20mA / Pulse / Ext - PID / Digital: Keypad																					
Operation function	DC braking / Frequency limit / Frequency jump / Second function / Slip compensation / Reverse rotation prevention / Auto restart / Drive By-pass / Auto-tuning / PID control / Flying star / Safety stop / Flux braking / Low leakage / Pre-PID / MMC / Easy start / Pre-heater																					
Input signal	Start signal	Forward / Reverse																				
	Multi-step	Up to 8 speeds can be set including JOG (Use Programmable Digital Input terminal)																				
Multi-step Accel/Decel time	0.1~6.000 sec. Up to 4 types can be set (Use Multi-function terminal)																					
Emergency stop	Interrupts the Output from Drive																					
JOG	JOG operation																					
Fault reset	Trip status is removed when Protection function is active																					
Output signal	Operating status	Frequency detection level / Overload alarm / Stalling / Over voltage / Low voltage / Drive overheating / Run / Stop / Constant speed / Drive By-pass / Speed search																				
	Fault output	Contact output (3A, 3C, 3B) - AC250V 1A, DC30V 1A																				
Indicator	Output frequency / Output current / Output voltage / DC Link voltage(Output voltage:0~10V)																					
Protection	Drive trip	Over voltage / Low voltage / Over current 1, 2 / Ground fault / Drive overheating / Electronic thermal / Output phase open / overload / External Fault A, B / Communication Error / Frequency command loss / Hardware fault / Option fault / etc																				
	Drive alarm	Stall prevention / Overload / Temperature sensor fault																				
Enclosure Option	Board, cable, keypad	IP20/UL type 1(5.5~11kW[7.5~15HP]), IP00/UL open type(15~450kW[20~600HP])																				
	Communication	LCD Keypad, Remote cable(2M/3M/5M), Sub-E board(Current output) DeviceNet, Profibus-DP, Modbus TCP, Modbus RTU, Matasys N2, LonWorks, BACnet, CC-Link, CANopen																				

iV5

Variable Frequency Drive

High duty full flux vector control VFD

3 phase 200V : 2.2~37kW(3~50HP), 200~230V
 3 phase 400V : 2.2~800kW(1~1067HP), 380~480V
 400V DC input type : 5.5~500kW(7.5~666HP)



- Ultimate performance solution for System Drive
- Advanced Speed & Torque control (200% instantaneous torque: Max. 250%)
- Precious Speed & Position synchronization operation
- Static motor parameter Auto-tuning
- Draw / Droop / Process PID control
- Highly precious control through optional Sincos Encoder
- Synchronous motor sensorless control (SPM & IPM motors)
- Specialized functions for various applications
 - Load balance function
 - Diameter calculation / Taper function
 - Splicing / Inertia compensation function
 - Quick stop function
- Built-in Dynamic braking transistor (2.2~22kW[3~30HP])
- User-friendly LCD keypad (Detachable)
- Plug-in type control terminals
- Extension I/O boards (Optional):
 - EL I/O (for Elevator application)
 - Encoder division (open collector)
 - Synchronization option (Speed/Position control)
 - Sincos encoder
- Communication boards (Optional)
 - RS485(LS Bus / Modbus RTU)
 - Profibus-DP
 - DeviceNet
- Monitoring & commissioning PC based software tool (Drive View)



Model Number

SV	022	iV5	-	2	DB	(MD)	(DC)	,	380V			
LS drive brand	Motor rating 022: 2.2kW ~ 8000: 800kW	Series name iV5	Symbol 2 4	Input rating Three-phase, 200 ~ 230V Three-phase, 380 ~ 480V	Symbol None DB	Dynamic Brake Not available Dynamic Braking	Symbol None (MD)	Cover type Metallic cover Mold cover*	Symbol None (DC)	Input type AC Input DC Input	Symbol None ****	Rated voltage 200~230V or 380~480V 380V, 460V, 480V

General specification

Model number: SV □□□ iV5-2 □		022	037	055	075	110	150	185	220	300	370
Motor rating	[HP]	3	5	7.5	10	15	20	25	30	40	50
	[kW]	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37
Output rating	Capacity [kVA]	4.5	6.1	9.1	12.2	17.5	22.5	28.2	33.1	46	55
	Current [A]	12	16	24	32	46	59	74	88	122	146
Input rating	Voltage [V]	Three-phase 200 ~ 230V									
	RPM	0 ~ 3600 [RPM]									
	Frequency [Hz]	Three-phase 200 ~ 230V (+10%, -10%) 50 ~ 60Hz (±5%)									
Weight	Mold cover type [kg]	6	6	7.7	7.7	13.7	13.7	20.3	20.3		
	Metallic cover type [kg]			14	14	28	28	28	28	42	42

Model number: SV □□□ iV5-4 □		022	037	055	075	110	150	185	220	300	370	450	550	750	900	1100	1320	1600	2200	2800	3150	3750	5000	8000
Motor rating	[HP]	3	5	7.5	10	15	20	25	30	40	50	60	75	100	120	150	175	215	300	373	420	500	666	1067
	[kW]	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	220	280	315	375	500	800
Output rating	Capacity [kVA]	4.5	6.1	9.1	12.2	18.3	22.9	29.7	34.3	46	57	70	85	116	140	170	200	250	329	416	468	557	732	1105
	Current [A]	6	8	12	16	24	30	39	45	61	75	91	110	152	183	223	264	325	432	546	614	731	960	1384
Input rating	Voltage [V]	Three-phase 380 ~ 480V																						
	RPM	0 ~ 3600 [RPM]																						
	Frequency [Hz]	Three-phase 380 ~ 480V (+10%, -10%) 50 ~ 60Hz (±5%)																						
Weight	Mold cover type [kg]	6	6	7.7	7.7	13.7	13.7	20.3	20.3															
	Metallic cover type [kg]			14	14	28	28	28	28	42	42	63	63	68	98	98	112	112	175	243	380	380	476	1300

Model number: SV □□□ iV5-4 (DC)		055	075	110	150	185	220	300	370	450	550	750	900	1100	1320	1600	2200	2800	3150	3750	5000
Motor rating	[HP]	7.5	10	15	20	25	30	40	50	60	75	100	120	150	175	215	300	373	420	500	666
	[kW]	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	220	280	315	375	500
Output rating	Capacity [kVA]	9.1	12.2	18.3	22.9	29.7	34.3	46	57	70	85	116	140	170	200	250	329	416	468	557	732
	Current [A]	12	16	24	30	39	45	61	75	91	110	152	183	223	264	325	432	546	614	731	960
Input rating	Voltage [V]	380 ~ 480V																			
	RPM	0 ~ 3600 [RPM]																			
Weight	[kg]	12	12	24	24.5	25	25	38.5	38.5	50	50	55	79	79	98.5	98.5	154.5	206	343	343	466

Control spec	Control method	Sensored Vector (speed sensor)
	Speed reference resolution	Digital command: 0.1rpm / Analog reference: □□0.0005% of Max output freq.
	Speed accuracy	Digital command: □□0.01(0~40°C) of Max output freq. / Analog signal reference: □□0.02(25□□10°C) of Max output freq.
	Cut-off frequency of ASR	50Hz
	Torque control accuracy	3%
	Accel/Decel time	0.00~6000.0 sec
	Accel/Decel combination	4 combinations of Accel/Decel time
	Accel/Decel curve	Linear / S curve
	Frequency setting	Analog: -10 to 10V / 4 to 20mA / Digital: Keypad
Input signal	Analog input	3 channels (AI1, AI2, AI3): Extension I/O 2 channels (AI4, AI5) -10 to 10V / 0 to 10V / 10 to 0V / 4 to 20mA / 20 to 4mA / (AI3, AI5[Extension I/O]: Motor NTC/PTC selectable) Selectable among 15 different Multi-function analog inputs AI3, AI5: NTC is available only with LG-OTIS motors (both of NTC and PTC are available in case of SV2800iV5-SV3750iV5)
	Contact input	FX, RX, BX, RST, P1~P7 Selectable among 40 different Multi-function analog inputs
Output signal	Analog output	2 channels (AO1, AO2) -10 to 10V / 10 to -10V / 0 to 10V / 10 to 0V Selectable among 40 different Multi-function analog outputs
	Contact output	Multi-function contact output: 2 channels (1A-1B, 2A-2B) Fault contact output: 1 channel (30A-30C, 30B-30C)
	Open collector	1 channel (OC1/EG)

Protection	Over voltage / Over current / Low voltage / Drive overheat / Drive thermal malfunction / Motor overheat / Motor thermal malfunction / Overspeed / BX(Instantaneous IGBT gate block) / Fuse open / External fault / Encoder error / Electronic thermal / Overload / IGBT short / Communication error / etc.
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Enclosure	IP00 (2.2~22kW[3~30HP]: Mold cover / 30~374kW[40~500HP]: Metallic cover), IP20 (2.2~22kW[3~30HP]: Metallic cover)
Option	Board Communication EL I/O(for Elevator application), Encoder division(open collector), Synchronization option(Speed/Position control), Sincos encoder RS485(LS Bus / Modbus RTU), Profibus-DP, DeviceNet

Option list

Variable Frequency Drive

Series	Option	Description
iC5	SV-iC5 Modbus RTU	iC5 Modbus communication card
	SV-iC5 Copy Unit	iC5 Copy Unit
iG5A	SV-iG5A Remote Cable 2M	2 meter connection cable between drive and keypad plus fixture
	SV-iG5A Remote Cable 3M	3 meter connection cable between drive and keypad plus fixture
	SV-iG5A Remote Cable 5M	5 meter connection cable between drive and keypad plus fixture
	Nema Option 1 (SV004/008iG5A-2/4)	Conduit Kit for NEMA 1 (iG5A 0.4~0.75kW)
	Nema Option 2 (SV015iG5A-2/4)	Conduit Kit for NEMA 1 (iG5A 1.5kW)
	Nema Option 3 (SV022~040iG5A-2/4)	Conduit Kit for NEMA 1 (iG5A 2.2~4kW)
	Nema Option 4 (SV055/075iG5A-2/4)	Conduit Kit for NEMA 1 (iG5A 5.5~7.5kW)
	Nema Option 5 (SV110/150iG5A-2/4)	Conduit Kit for NEMA 1 (iG5A 11~15kW)
Nema Option 6 (SV185/220iG5A-2/4)	Conduit Kit for NEMA 1 (iG5A 18.5~22kW)	
S100	LSLV-S100 CANopen	CANopen communication card
	LSLV-S100 EtherNet	EtherNet communication card
	LSLV-S100 Profibus	Profibus-DP communication board
H100	LonWorks	LonWorks communication card
iS7	SV-iS7 LCD Keypad	Graphic LCD display keypad for iS7 (128x64 COG, 11 Rubber Key, 3 LED, IP21)- Multi Languages (English, Italian, Spanish, Russian, Turkish, Arabic)
	SV-iS7 Remote Cable(2M)	2 meter connection cable between drive and keypad
	SV-iS7 Remote Cable(3M)	3 meter connection cable between drive and keypad
	SV-iS7 Isolation I/O	Insulated I/O module, 8 multi-functional inputs and 2 output (Standard: 30~375kW / Option: 0.75~22kW)
	SV-iS7 Extension I/O	Extension I/O module, 3 multi-functional inputs and 3 output
	SV-iS7 Encoder	Encoder board for closed loop control
	SV-iS7 Profibus-DP	Profibus-DP communication board
	SV-iS7 PLC	PLC card (MK120S Platform)
	SV-iS7 R-Net	Rnet communication board
	SV-iS7 Modbus TCP	100M BASE-TX, 10M BASE-T support
	SV-iS7 Devicenet	DeviceNet Communication board
	SV-iS7 LonWorks	LonWork Communication board
	SV-iS7 CANopen	CanOpen communication board
iP5A	SV-iP5A LCD Keypad	LCD display keypad for iP5A
	SV-iP5A LonWork Extension	LonWorks communication board
	SV-iP5A BACnet	BACnet communication board
	SV-iP5A/iV5 RS485/Modbus-RTU	RS485(LS Bus / Modbus RTU) communication board
	SV-iS5/iP5A/iV5 Devicenet	DeviceNet communication board
	SV-iS5/iP5A/iV5 Profibus	Profibus-DP communication board
	SV-iS5/iP5A Sub Board E	Current output board
	SV-iS5/iP5A Remote Cable(2M)	2 meter connection cable between drive and keypad
	SV-iS5/iP5A Remote Cable(3M)	3 meter connection cable between drive and keypad
	SV-iS5/iP5A Remote Cable(5M)	5 meter connection cable between drive and keypad
SV-iP5A Modbus-TCP	Modbus TCP communication card	
iV5	SV-iV5 EL I/O	I/O interface board for Elevator application
	SV-iV5 Enc_Div(OC)	Encoder division board (Open collector)
	SV-iV5 SYNC I/O	Synchronization operation board (Speed/Positioning control)
	SV-iS5/iP5A/iV5 Profibus	Profibus-DP communication board
	SV-iS5/iP5A/iV5 Devicenet	DeviceNet communication board
	SV-iP5A/iV5 RS485/Modbus-RTU	RS485(LS Bus / Modbus RTU) communication board
SV-iV5 Sincos Encoder	Sincos encoder signal input board	