Variable Frequency Drive

LS Drive Series

iE5 / iC5 / M100 / iG5A / S100 / H100 / iS7 / iP5A / iV5

LSIS



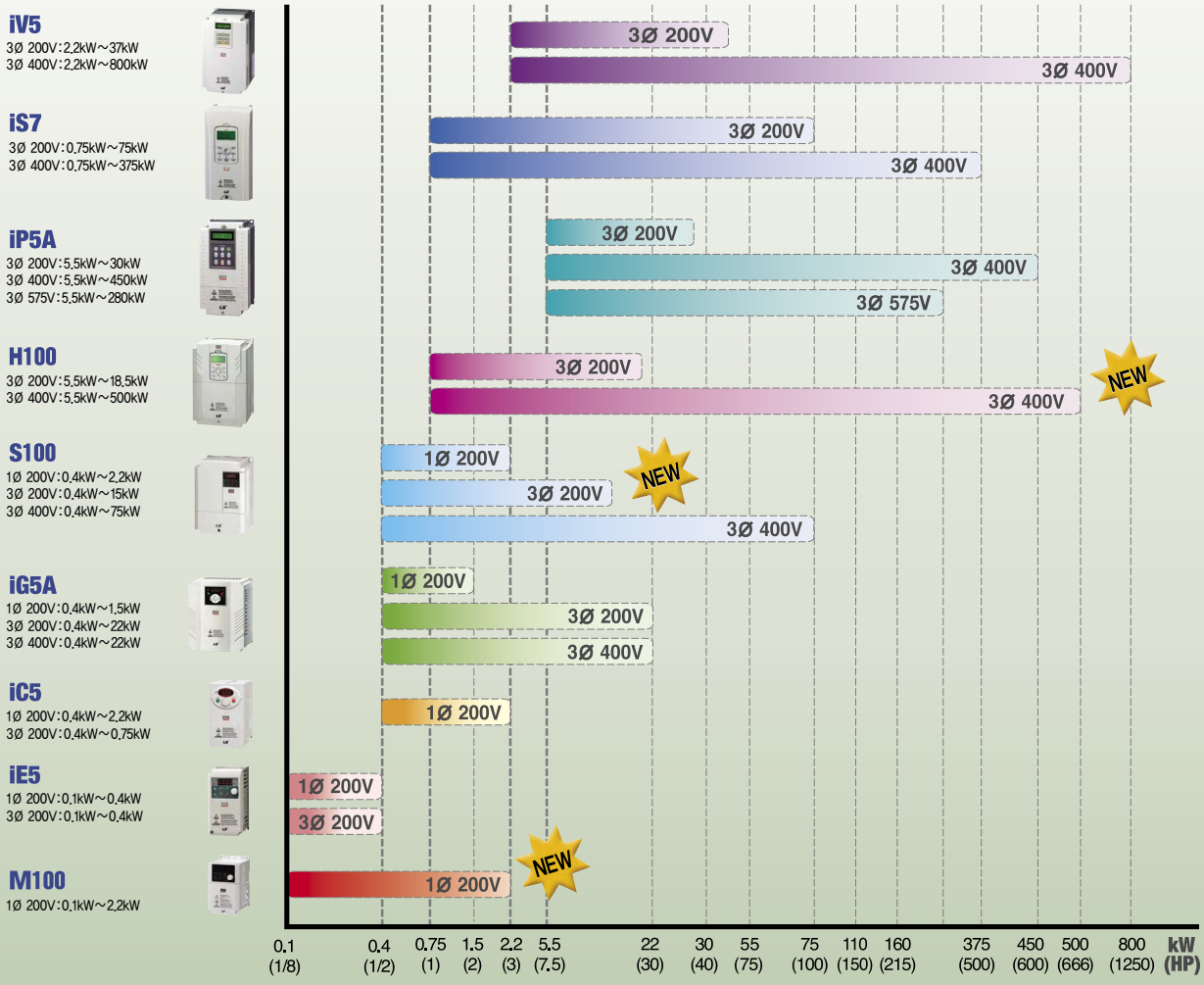
Take another look!

Simplicity-Precision, Flexibility-Standardization and Easy to use-Diversity are the inherent qualities of LS Variable Frequency Drives.

As an one-stop drive solution provider, LS is ready to offer its own competitive solutions into the general power transmission industry.

ISO9001 ISO14000

Performance



Contents



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)
- Potenciometer
- 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□□□□M100-1EOFN□			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%)					
	Rated Current	[A]	1	1.8	3.7	7.1	13.6	18.7
Weight		[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	
Ouput 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 than15 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

LSLV	0008	S100	-	2	E	O	F	D	S
LS Low Voltage Drive Series	Motor rating(kW): 0004: 0.4kW ~ 0750: 75kW	Series name: S100		Input Voltage: 1 : 1-phase 200 ~ 240[V]; 2 : 3-phase 200 ~ 240[V]; 4 : 3-phase 380 ~ 480[V]	Keypad: E : LED Keypad; C : LCD Keypad	UL Type: O : UL Open; X : IP66	EMC Filter: F : Built-in EMC; N : Non-EMC	Reactor: D : Built-in DCL; N : Non-Reactor	I/O: M : Multiple (3.5mm); S : Standard (5mm)

General specification

Model number: LSLV□□□□ S100-1□□□□□			0004	0008	0015	0022
Motor rating	Heavy	[HP]	0.5	1.0	2.0	3.0
	Duty(HD)	[kW]	0.4	0.75	1.5	2.2
	Normal	[HP]	1.0	2.0	3.0	5.0
	Duty(HD)	[kW]	0.75	1.5	2.2	3.7
Output rating	Capacity Heavy Duty(HD)		1.0	1.9	3.0	4.2
	[kVA] Normal Duty(ND)		1.2	2.3	3.8	4.6
	Rated Heavy Duty(HD)		2.5	5.0	8.0	11.0
	Current Normal Duty(ND)		3.1	6.0	9.6	12.0
	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
	Current[A] Normal Duty(ND)		5.8	11.7	19.7	24.0
Weight[kg] (Built-in EMC)			0.9(1.14)	1.3(1.76)	1.5(1.76)	2.0(2.22)

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	5.0	5.5	7.5	10.0	15.0	20.0
	Duty(HD)	[kW]	0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11.0	15.0
	Normal	[HP]	1.0	2.0	3.0	5.0	5.4	7.5	10.0	15.0	20.0	25.0
	Duty(HD)	[kW]	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11.0	15.0	18.5
Output rating	Capacity Heavy Duty(HD)		1.0	1.9	3.0	4.2	6.1	6.5	9.1	12.2	17.5	22.9
	[kVA] Normal Duty(ND)		1.2	2.3	3.8	4.6	6.9	6.9	11.4	15.2	21.3	26.3
	Rated Heavy Duty(HD)		2.5	5.0	8.0	11.0	16.0	17.0	24.0	32.0	46.0	60.0
	Current Normal Duty(ND)		3.1	6.0	9.6	12.0	18.0	18.0	30.0	40.0	56.0	69.0
	Frequency	[Hz]	0~400Hz (IM Sensorless:0~120[Hz])									
	Voltage	[V]	3-phase 200~240V									
Input rating	Voltage	[V]	3-phase 200 ~ 240VAC (–15%~+10%)									
	Frequency	[Hz]	50 ~ 60Hz (±5%)									
	Rated Heavy Duty(HD)		2.2	4.9	8.4	11.8	17.5	18.5	25.8	34.9	50.8	66.7
	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
Weight[kg] (Built-in EMC)			0.9	0.9	1.3	1.5	2.0	2.0	3.3	3.3	4.6	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,
	Multiple I/O(7points)	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, Analog command frequency fixing, Acceleration/deceleration stop etc. selectable
	Pulse train	0Hz~32Hz, Low level: 0~0.8V, High level: 3.5~12V
Output signal	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		IP20, UL Type1, IP66
Option	Keypad	Graphic LCD keypad(iS7)
	Communication	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(Option)
- 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

LSLV	0055	H100	-	4	C	O	F	N
LS Low Voltage Drive Series	Motor rating(kW): 0008: 0.75kW ~ 5000: 500kW	Series name: H100		Input Voltage: 2 : 3-phase 200~240[V]; 4 : 3-phase 380~480[V]	Keypad Type: C : LCD Keypad	UL Type: O : UL Open; E : UL Type1	EMC Filter: F : Built-in EMC; N : Non EMC	Reactor: D : Built-in DC Reactor; N : Non DC Reactor

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
	Output Frequency	0~400Hz								
	Output Voltage [V]	3-phase 200~240V								
Rated Input	Service Voltage [V]	3-phase 200~240VAC (-15%~+10%)								
	Input Frequency	50 ~ 60Hz (±5%)								
	Rated Current [A]	4.9	8.4	12.9	17.5	23.7	32.7	46.4	62.3	77.2
Weight	[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
	Output Frequency	0~400Hz																									
	Output Voltage [V]	3-phase 380~480V																3-phase 380~500V									
Rated Input	Service Voltage [V]	3-phase 380~480VAC (-15%~+10%)																3-phase 380~500VAC (-15%~+10%)									
	Input Frequency	50 ~ 60Hz (±5%)																									
	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
Weight	[kg]	3.3	3.3	3.3	3.3	3.3	3.3	3.4	4.6	4.8	7.5	7.5	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	
	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	
Operation	Operation Method	Optional: Keypad, terminal board or communication control	
	Frequency Setting	Analog mode: -10~10V, 0~10V, 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	
Input 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	
Output signal	Multifunctional Open Collector Terminal	Failure output & drive control status output:	DC 26V, 50mA or below
	Failure [Fault] Relay Terminal		N.O. : AC 250V, 5A or below, DC30V, 3A or below N.C. : AC 250V, 1A or below, DC30V, 1A or below
	Multifunctional Relay Terminal		AC 250V, 5A or below, DC30V, 5A or below
	Analog Output	0~12Vdc(0~20mA): Optional among frequency, output current, output voltage and DC voltage	
	Pulse train	Maximum 32kHz, 0~12V	
Protection	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)	
	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	
Enclosure		IP20/UL Open(default), UL Enclosed Type 1(option)	
Option	Board	Extension I/O (available soon)	
	Communication	Lonworks	
Others		Built-in BACnet, Modbus-RTU(RS485), Metasys N2	

iE5

Variable Frequency Drive

User friendly micro size slim VFD

1 phase 0.1~0.4kW(0.1~0.5HP), 200~230V
3 phase 0.1~0.4kW(0.1~0.5HP), 200~230V

- 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

SV 004 iE5 - 1 C

LS drive brand	Motor rating	Series name
	001: 0.1kW ~ 004: 0.4kW	iE5

Symbol	Input rating
1	Single-phase, 200~230V
2	Three-phase, 200~230V

Symbol	Communication
None	Not available
C	RS485 (LS Bus / Modbus RTU)

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
	Torque boost	Auto & manual torque boost
Operation	Keypad display	4 digit, 7 segment LED
	Operation method	Keypad / Terminal / Communication
	Frequency setting	Analog: 0 to 10V / 0 to 20mA / Potentiometer / Digital: Keypad
	Operation function	PI control / Up-Down operation / 3-Wire operation
Input signal	Multi-function terminal	PNP / NPN selectable
	(P1 ~ P5)	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



iC5

Variable Frequency Drive

High torque micro VFD

1 phase 0.4~2.2kW(0.5~3HP), 200~230V

- EMC filter - class A (Built-in option)
- Selectable V/f, sensorless vector control
- Motor parameter Auto-tuning
- 150% torque at 0.5Hz
- 0.1 ~ 400Hz frequency output
- 1 ~ 15kHz carrier frequency
- 0 ~ 10Vdc analog input
- IP20 enclosure
- Selectable manual/automatic torque boost
- Built-in potentiometer
- Selectable PNP/NPN Input signal
- Fault history: Last 5 faults
- Enhanced process PID control
- Up-Down & 3-Wire operation
- Modbus RTU communication (optional)
- 8 programmable I/O
- Parameter copy unit
- Monitoring & commissioning PC based software tool (Drive View)

Model Number

SV | 004 | iC5 | - | 1 | F

LS drive brand

Motor rating
004: 0.4kW ~ 022: 2.2kW

Series name
iC5

Symbol	Input rating
1	Single-phase, 200~230V

Symbol	Filter
None	Not available
F	EMC filter

General specification

Model number: SV□□□ iC5-□			004-1	008-1	015-1	022-1
Motor rating		[HP]	0.5	1	2	3
		[kW]	0.4	0.75	1.5	2.2
Output rating	Capacity	[kVA]	0.95	1.9	3	4.5
	Current	[A]	2.5	5	8	12
	Voltage	[V]	Three-phase 200 ~ 230V			
	Frequency	[Hz]	0.1 ~ 400Hz			
Input rating	Voltage	[V]	Single-phase 200 ~ 230V (±10%)			
	Frequency	[Hz]	50 ~ 60Hz (±5%)			
	Current	[A]	5.5	9.2	16	21.6
Weight		[kg]	0.87	0.89	1.79	1.85

Control spec	Control method	V/f, Slip compensation, Sensorless 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	150% for 1 minute, 200% for 30 seconds
	Torque boost	Auto & manual torque boost
Operation	Keypad display	3 digit, 7 segment LED
	Operation method	Keypad / Terminal / Communication
	Frequency setting	Analog: 0 to 10V / 4 to 20mA / Potentiometer / Digital: Keypad
	Operation function	PID control / Up-Down operation / 3-Wire operation
Input signal	Multi-function terminal (P1 ~ P5)	PNP / NPN selectable 5 points (programmable)
Output signal	Multi-function relay Multi-function open collector	Fault output & drive status output (N.O., N.C.) Less than AC 250V, 0.3A / Less than DC 30V 1A DC24V (less than 50mA)
	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 overheat / Output phase open / Drive overload Overload trip / Communication error / Frequency command loss / Hardware fault / Fan fault / etc.
	Drive alarm	Stall prevention, Overload
Enclosure		IP20
Option	Communication, copy unit	Modbus RTU, Parameter copy unit

iG5A
Variable Frequency Drive

Powerful & compact sensorless vector control VFD
1 phase 0.4~1.5kW(0.5~2HP), 200~230V
3 phase 0.4~22kW(0.5~30HP), 200~230V
3 phase 0.4~22kW(0.5~30HP), 380~480V

- Selectable V/f, sensorless vector control
- Motor parameter Auto-tuning
- Powerful torque at overall speed range
- 0.1 ~ 400Hz frequency output
- 1 ~ 15kHz carrier frequency
- -15% ~ +10% input voltage margin
- Fault history: Last 5 faults
- 0~10Vdc / -10~+10Vdc analog input
- IP20 enclosure, UL Type 1 (Option)
- Selectable manual/automatic torque boost
- Selectable PNP/NPN input signal

- 2nd motor control and parameter setting
- Built-in Dynamic braking transistor as standard
- Enhanced process PID control
- Built-in RS485 (LS Bus / Modbus RTU) communication
- Cooling fan On/Off control & Easy change
- Remote control using external keypad * RJ45 cable(Optional)
- Upgraded functions: Sleep & Wake-up (Energy savings)
  KEB (Kinetic Energy Buffering) protection
  Low leakage PWM algorism
- Monitoring & commissioning PC based software tool (Drive View)
- Footprint EMC Filter (Option)
- Communication options
  - DeviceNet, EtherNet, Profibus-DP, CANOpen

Model Number

SV 015 iG5A - 2 FB

LS drive brand

Motor rating
004: 0.4kW ~ 220: 22kW

Series name
iG5A

Symbol	Input rating
1	Single-phase, 200 ~ 230V
2	Three-phase, 200 ~ 230V
4	Three-phase, 380 ~ 480V

Symbol	Type
FB	Field bus communication
EN	EMC Filter
ENC	EMC Filter + Field bus communication

General specification

Model number: SV □□□ iG5A-1 □			004	008	015
Motor rating		[HP]	0.5	1	2
		[kW]	0.4	0.75	1.5
Output rating	Capacity	[kVA]	0.95	1.9	3.0
	Current	[A]	2.5	5	8
	Voltage	[V]	Three-phase 200 ~ 230V		
	Frequency	[Hz]	0.1 ~ 400Hz		
Input rating	Voltage	[V]	Single-phase 200 ~ 230V (+10%, -15%)		
	Frequency	[Hz]	50 ~ 60Hz (±5%)		
Weight		[kg]	0.77	1.12	1.84

Model number: SV □□□ iG5A-2 □			004	008	015	022	037	040	055	075	110	150	185	220
Motor rating		[HP]	0.5	1	2	3	5	5.4	7.5	10	15	20	25	30
		[kW]	0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22
Output rating	Capacity	[kVA]	0.95	1.9	3	4.5	6.1	6.5	9.1	12.2	17.5	22.9	28.2	33.5
	Current	[A]	2.5	5	8	12	16	17	24	32	46	60	74	88
	Voltage	[V]	Three-phase 200 ~ 230V											
	Frequency	[Hz]	0.1 ~ 400Hz											
Input rating	Voltage	[V]	Three-phase 200 ~ 230V (+10%, -15%)											
	Frequency	[Hz]	50 ~ 60Hz (±5%)											
Weight		[kg]	0.76	0.77	1.12	1.84	1.89	1.89	3.66	3.66	9.00	9.00	13.3	13.3

Model number: SV □□□ iG5A-4 □			004	008	015	022	037	040	055	075	110	150	185	220
Motor rating		[HP]	0.5	1	2	3	5	5.4	7.5	10	15	20	25	30
		[kW]	0.4	0.75	1.5	2.2	3.7	4.0	5.5	7.5	11	15	18.5	22
Output rating	Capacity	[kVA]	0.95	1.9	3	4.5	6.1	6.5	9.1	12.2	18.3	22.9	29.7	34.3
	Current	[A]	1.25	2.5	4	6	8	9	12	16	24	30	39	45
	Voltage	[V]	Three-phase 380 ~ 480V											
	Frequency	[Hz]	0.1 ~ 400Hz											
Input rating	Voltage	[V]	Three-phase 380 ~ 480V (+10%, -15%)											
	Frequency	[Hz]	50 ~ 60Hz (±5%)											
Weight		[kg]	0.76	0.77	1.12	1.84	1.89	1.89	3.66	3.66	9.00	9.00	13.3	13.3

Control spec	Control method	V/f, Slip compensation, Sensorless 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	150% for 1 minute
	Torque boost	Auto & manual torque boost
Operation	Keypad display	4 digit, 7 segment LED
	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
Input signal	Multi-function terminal (P1 ~ P8)	PNP / NPN selectable 8 points (programmable)
Output signal	Multi-function relay Multi-function open collector	Fault output & drive status output (N.O., N.C.) Less than AC250V, 0.3A / Less than DC 30V 1A DC24V (less than 50mA)
	Analog output	0 to 10Vdc (less than 10mA): frequency / current / voltage / DC voltage selectable
Protection	Drive trip	Over voltage / Low voltage / Over current / Over Current 2 / Ground fault / Drive overheat / Output phase open / Drive overload / Overload trip / Communication error / Frequency command loss / Hardware fault / Fan fault / Brake error / etc.
	Drive alarm	Stall prevention, Overload
Enclosure		IP20, NEMA1 (Optional)
Option	Cable, conduit kit	Remote cable(2M/3M/5M) plus external keypad, Conduit kit for NEMA 1
	Communication	DeviceNet, EtherNet, CANOpen, Profibus-DP
Others		Built-in Dynamic braking transistor, Built-in RS485(LS Bus / Modbus RTU)



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, sensored 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(0.75~22kW[1~30HP]) as built-in option
- Built-in RS485(LS Bus / Modbus RTU) communication
- Built-in Dynamic braking transistor (0.75~22kW[1~30HP])
- Available EMC Filter & DC Reactor as built-in option
  EMC Filter(0.75~22kW[1~30HP]) / DC Reactor(0.75~160kW[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)

ISO14001, ISO9001

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

Model Number

SV 0008 iS7 - 2 N O F D W

LS drive brand
SV

Motor rating	Series name
0008 : 0.75kW ~ 3750 : 375kW	iS7

Symbol	Input rating
2	Three-phase, 200 ~ 230V
4	Three-phase, 380 ~ 480V

Symbol	Loader
N	Non Loader
S	Graphic Loader

Symbol	UL Certification
O	Open type
E	Enclosed Type 1 (NEMA1)
P	NEMA 12

Symbol	Filter
None	Not available
F	EMC filter

Symbol	DCR
None	Not available
D	DC Reactor

Symbol	Application
None	Normal application
W	Web application

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	28.5	33.5	46	57	69	84	116
	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 Sensored control: 0.01~120Hz)														
Input rating	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	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	57	69	84	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 Sensored control: 0.01~120Hz)																							
Input rating	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, Sensored 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 Multi-function open collector	Fault output & drive status output (N.O., N.C.) Less than AC250V, 1A / Less than DC 30V 1A 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	Series name
	0008 : 0.75kW ~ 4500 : 450kW	iP5A

Symbol	Input rating
2	Three-phase, 200 ~ 230V
4	Three-phase, 380 ~ 480V

Symbol	Loader
None	Loader
N	Non Loader

Symbol	UL Certification
O	Open type
E	Enclosed Type 1

Symbol	DCR
None	Not available
L	DC Reactor

Symbol	Certificate
(CLASS)	DNV

General specification

Model number: SV □□□□ iP5A-2 □			0055	0075	0110	0150	0185	0220	0300
Motor rating (Fan/Pump)		[HP]	7.5	10	15	20	25	30	40
		[kW]	5.5	7.5	11	15	18.5	22	30
	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
		[kW]	3.7	5.5	7.5	11	15	18.5	22
	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
	Voltage	[V]	Three-phase 200 ~ 230V						
	Frequency	[Hz]	0.01 ~ 120Hz						
Input rating	Voltage	[V]	Three-phase 200 ~ 230V (-15% ~ +10%)						
	Frequency	[Hz]	50 ~ 60Hz (±5%)						
Weight	Non DCR type	[kg]	4.9	6	6	13	13.5	20	20

Model number: SV □□□□ iP5A-4 □			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	151	8.5	22	30	37	45	55	75	90	110	132	160	220	280	315	375	450
	Current (110% overload)	[A]	12	16	24	30	39	45	61	75	91	110	152	183	223	264	325	432	547	613	731	877
			Normal duty: 110% for 1 minute																			
Motor rating (General load)		[HP]	5	7.5	10	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 (Non DCR / DCR) (150% overload)	[A]	8.8	12	16	22/24	28/30	34/39	44/45	61	75	91	110	152	183	223	264	325	432	547	613	731
			Heavy duty: 150% for 1 minute																			
Output rating		[kVA]	9.6	12.7	19.1	23.9	31.1	35.9	48.6	59.8	72.5	87.6	121.1	145.8	178	210	259	344	436	488	582	699
	Voltage	[V]	Three-phase 380 ~ 480V																			
	Frequency	[Hz]	0.01 ~ 120Hz																			
Input rating	Voltage	[V]	Three-phase 380 ~ 480V (-15% ~ +10%)																			
	Frequency	[Hz]	50 ~ 60Hz (±5%)																			
Weight	Non DCR type	[kg]	4.9	6	6	12.5	13	20	20	27	27	29	42	43						243	280	380
	Built-in DCR type	[kg]				19.5	19.5	26.5	26.5	39	40	42	67	68	101	101	114	200	200			

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 / Dual-PID / MMC / Easy start / Pre-heater
Input signal	Sart 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) Accel/Decel curve : Linear, U curve, S curve
	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	Ouput frequency / Output current / Output voltage / DC Link voltage(Output valtage: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		IP20/UL type 1(5.5~11kW[7.5~15HP]), IP00/UL open type(15~450kW[20~600HP])
Option	Board, cable, keypad	LCD Keypad, Remote cable(2M/3M/5M), Sub-E board(Current output)
	Communication	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 encorder
- 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	Series name
	022: 2.2kW ~ 80000: 800kW	iV5

Symbol	Input rating
2	Three-phase, 200 ~ 230V
4	Three-phase, 380 ~ 480V

Symbol	Dynamic Brake
None	Not available
DB	Dynamic Braking

Symbol	Cover type
None	Metallic cover
(MD)	Mold cover*

Symbol	Input type
None	AC Input
(DC)	DC Input

Symbol	Rated voltage
None	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
	Voltage	[V]	Three-phase 200 ~ 230V									
	RPM		0 ~ 3600 [RPM]									
Input rating	Voltage	[V]	Three-phase 200 ~ 230V (+10%, -10%)									
	Frequency	[Hz]	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
Voltage	[V]		Three-phase 380 ~ 480V																						
	RPM		0 ~ 3600 [RPM]																						
Input rating	Voltage	[V]	Three-phase 380 ~ 480V (+10%, -10%)																						
	Frequency	[Hz]	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
	Voltage	[V]	380 ~ 480V																			
	RPM		0 ~ 3600 [RPM]																			
Input rating	Voltage	[V]	DC 540 ~ 680V (+10%,)																			
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 accurancy	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
	Aceel/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): Extention I/O 2 channels (AI4, AI5) -10 to 10V / 0 to 10V / 10 to 0V / 4 to 20mA / 20 to 4mA / (AI3, AI5[Extention I/O]: Motor NTC/PTC selectable) Selectable among 15 diferent Multi-function analog inputs AI3, AI5: NTC is avaliable 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 diferent Multi-function analog inputs
Output signal	Aanalog output	2 channels (AO1, AO2) -10 to 10V / 10 to -10V / 0 to 10V / 10 to 0V Selectable among 40 diferent 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.
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	EL I/O(for Elevator application), Encorder division(open collector), Synchronization option(Speed/Position control), Sincos encorder
	Communication	RS485(LS Bus / Modbus RTU), Profibus-DP, DeviceNet

Comparison

Variable Frequency Drive

Model Series		iE5		iC5	iG5A			S100			
Input Phase		Single-phase	Three-phase	Single-phase	Single-phase	Three-phase		Single-phase	Three-phase		
Voltage Range		200~230V		200~230V	200~230V		380~480V	200~240V	200~240V		380~480V
Motor rating		0.1~0.4kW	0.1~0.4kW	0.4~2.2kW	0.4~1.5kW	0.4~22kW	0.4~22kW	0.4~2.2kW	0.4~15kW		0.4~75kW
		0.13~0.5HP	0.13~0.5HP	0.5~3HP	0.5~2HP	0.5~30HP	0.5~30HP	0.5~3HP	0.5~20HP		0.5~100HP
Constant Torque		Standard		Standard	Standard			Standard			
Variable Torque								Standard			
Control method	V/f	Standard		Standard	Standard			Standard			
	Sensorless			Standard	Standard			Standard			
Vector											
	Sensored										
Vector											
Enclosure	IP00										
		Standard		Standard	Standard			Standard			
		0.1~0.4kW		0.4~2.2kW	0.4~22kW			0.4~2.2kW	0.4~15kW		0.4~75kW
	IP20	0.13~0.5HP		0.5~3HP	0.5~30HP			0.5~3HP	0.5~20HP		0.5~100HP
					Option			Option			
					0.4~22kW			0.4~2.2kW	0.4~15kW		0.4~75kW
	UL Type1				0.5~30HP			0.5~3HP	0.5~20HP		0.5~100HP
	IP54										
									0.4~15kW		0.4~22kW
	IP66								0.5~20HP		0.5~30HP
		Fixed type		Fixed type	Fixed type			Fixed type			Detachable type
		7 Segment		7 Segment	7 Segment			7 Segment			iS7 Graphic LCD
Keypad	Type	0.1~0.4kW		0.4~2.2kW	0.4~22kW			0.4~2.2kW	0.4~15kW	0.4~22kW	30~75kW
	Built-in	0.13~0.5HP		0.5~3HP	0.5~30HP			0.5~3HP	0.5~20HP	0.5~30HP	40~100HP
								iS7 Graphic LCD			
								0.4~2.2kW	0.4~15kW	0.4~22kW	
	Option							0.5~3HP	0.5~20HP	0.5~30HP	
					Option			Option			
					Option			Option			
Remote cable	2 meters				Option						
	3 meters				Standard			Standard			Option
	5 meters				0.4~22kW			0.4~22kW			30~75kW
Braking transistor					0.5~30HP			0.5~30HP			40~100HP
				Built-in Option			Footprint Filter* note 1)	Built-in		Built-in	Built-in Option
				0.4~2.2kW			0.4~4kW	0.4~2.2kW		0.4~22kW	30~45kW
EMC Filter				0.5~3HP			0.5~5.4HP	0.5~3HP		0.5~30HP	40~60HP
											Built-in
											30~75kW
DC Reactor											40~100HP
RS485(LS Bus)		Standard			Standard		Standard* note 2)	Standard			
Modbus RTU		Standard		Option	Standard		Standard* note 2)	Standard			
Modbus TCP							Option* note 3)	Option			
DeviceNet							Option* note 4)				
Profibus-DP								Option			
Fnet(LS PLC link)											
Rnet											
LonWorks											
CANopen							Standard* note 3&4)	Option			
BACnet											
EtherNet/IP							Standard* note 3)	Option			
CC-Link											
Encoder											
Sin/Cos encoder											
PLC											
Standard I/O								Standard			
Multiple I/O								Standard			
Extension I/O								Option			
Elevator I/O											
Synchronization I/O											

Note1) SV□□□iG5A-4EN-4EN or ENC
Note2) SV□□□iG5A-FB and ENC
Note3) SV□□□iG5A-FB
Note4) SV□□□iG5A-ENC



Comparison

Variable Frequency Drive

Model Series		iP5A		H100		iS7		iV5	
Input Phase		Three-phase		Three-phase		Three-phase		Three-phase	
Voltage Range		200~230V	380~480V	200~240V	380~480V	200~230V	380~480V	200~230V	380~480V
Motor rating		5.5~30kW	5.5~450kW	0.75~18.5kW	0.75~90kW	0.75~22kW	0.75~375kW	2.2~37kW	2.2~375kW
		7.5~40HP	7.5~600HP	1.0~22HP	1.0~120HP	1~30HP	1~500HP	3~50HP	3~666HP
Constant Torque						Standard		Standard	
Variable Torque		Standard		Standard	Standard	Standard			
Control method	V/f	Standard		Standard	Standard	Standard			
	Sensorless Vector	Standard				Standard			
	Sensored Vector					Option		Standard	
Enclosure	IP00	Standard	Standard			Standard	Standard	Standard	Standard 30~75kW
		15~30kW	15~450kW			30~75kW	90~375kW	2.2~37kW	2.2~375kW
		20~40HP	20~600HP			40~100HP	125~500HP	3~30HP	3~500HP
	IP20	Standard		Standard				Standard	
		5.1~11kW		0.75~18.5kW	0.75~90kW			5.5~22kW	
		7.5~15HP		1.0~22HP	1.0~120HP			7.5~30HP	
	IP21 [1]	Standard	Standard	Option		Standard	Standard		
		5.1~11kW	5.1~11kW	0.75~18.5kW	0.75~90kW	0.75~22kW	0.75~75kW		
		7.5~15HP	7.5~15HP	1.0~22HP	1.0~120HP	1~30HP	1~100HP		
	IP54					Built-in Option [2]			
						0.75~22kW			
						1~30HP			
Keypad	Type	Detachable type		Detachable type		Detachable type		Detachable type	
	Built-in	37~450kW		0.75~90kW		90~160kW		2.2~370kW	
		50~600HP		1.0~22HP		125~215HP		3~500HP	
	Option					0.75~75kW		5.5~30kW	
Remote cable	2 meters	7.5~40HP				1~100HP			
		Option		Option		Option			
	3 meters	Option		Option		Option			
	5 meters	Option							
Braking transistor						Standard		Standard	
						0.75~22kW		2.2~22kW	
						1~30HP		3~30HP	
EMC Filter					Built-in	Built-in Option			
					0.75~90kW	0.75~22kW			
					1.0~120HP	1~30HP			
DC Reactor			Built-in Option		Built-in	Built-in Option			
			15~280kW		37~90kW	0.75~22kW	0.75~220kW		
			20~350HP		50~120HP	1~30HP	1~300HP		
RS485(LS Bus)		Standard / Option		Standard		Standard		Option	
Modbus RTU		Option		Standard		Standard		Option	
Modbus TCP		Option				Option			
DeviceNet		Option				Option		Option	
Profibus-DP		Option				Option		Option	
Fnet(LS PLC link)									
Rnet						Option			
LonWorks		Option		Option		Option			
CANopen						Option			
BACnet		Option		Standard					
EtherNet/IP						Option			
CC-Link		Option				Option		Option	
Metasys N2		Option							
Encoder						Option		Standard	
Encoder option (SIN/COS, Endat)								Option	
PLC						Option			
Extension I/O				Option		Option		Option	
Elevator I/O								Option	
Synchronization I/O						Option		Option	

1) UL Enclosed Type 1 with conduit box installed.
2) Enclosed IP54 Type, UL Enclosed Type 12

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 comminication 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

FUTURING SMART ENERGY

We open up a brighter future through
efficient and convenient energy solutions.

Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact qualified service technician when you need maintenance.
  Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

- According to The WEEE Directive, please do not discard the device with your household waste.

LS IS

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2019. 04

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