

Derwent  
Top 100  
Global  
Innovator  
2020

# LV Drive Series

M100/G100/S100/H100/iS7/SP100

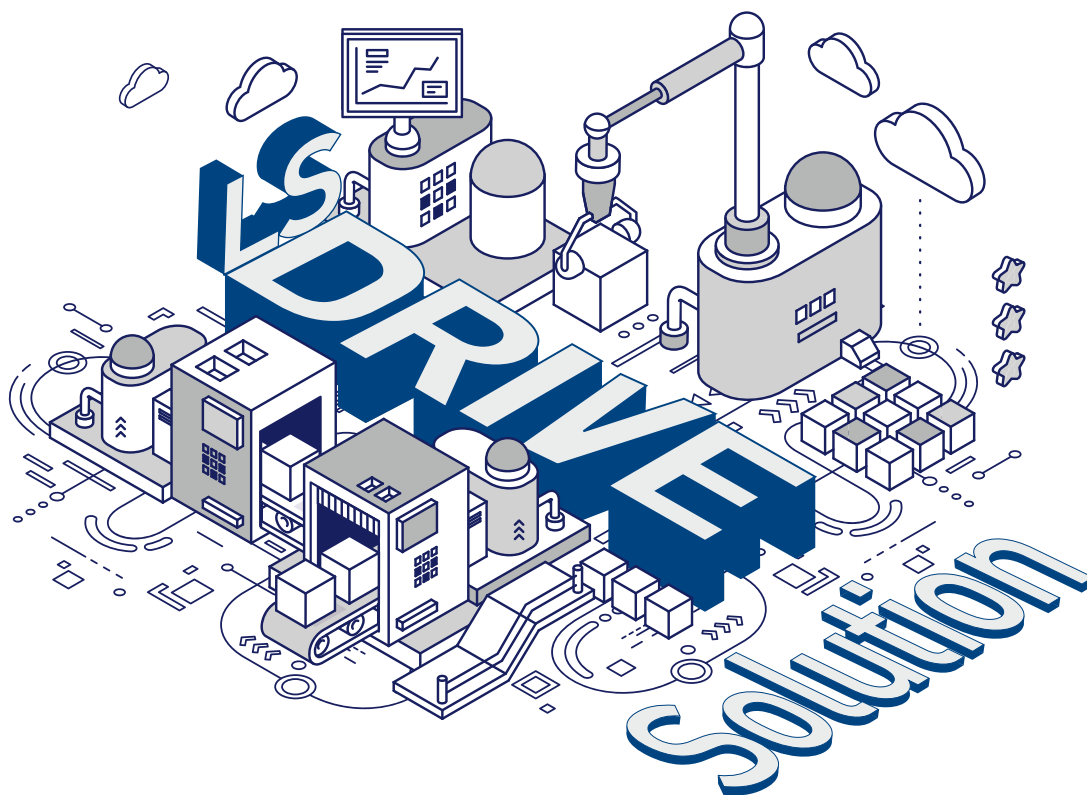


Scan the QR code marked  
on the product cover for further  
details on this product.

**LS** ELECTRIC

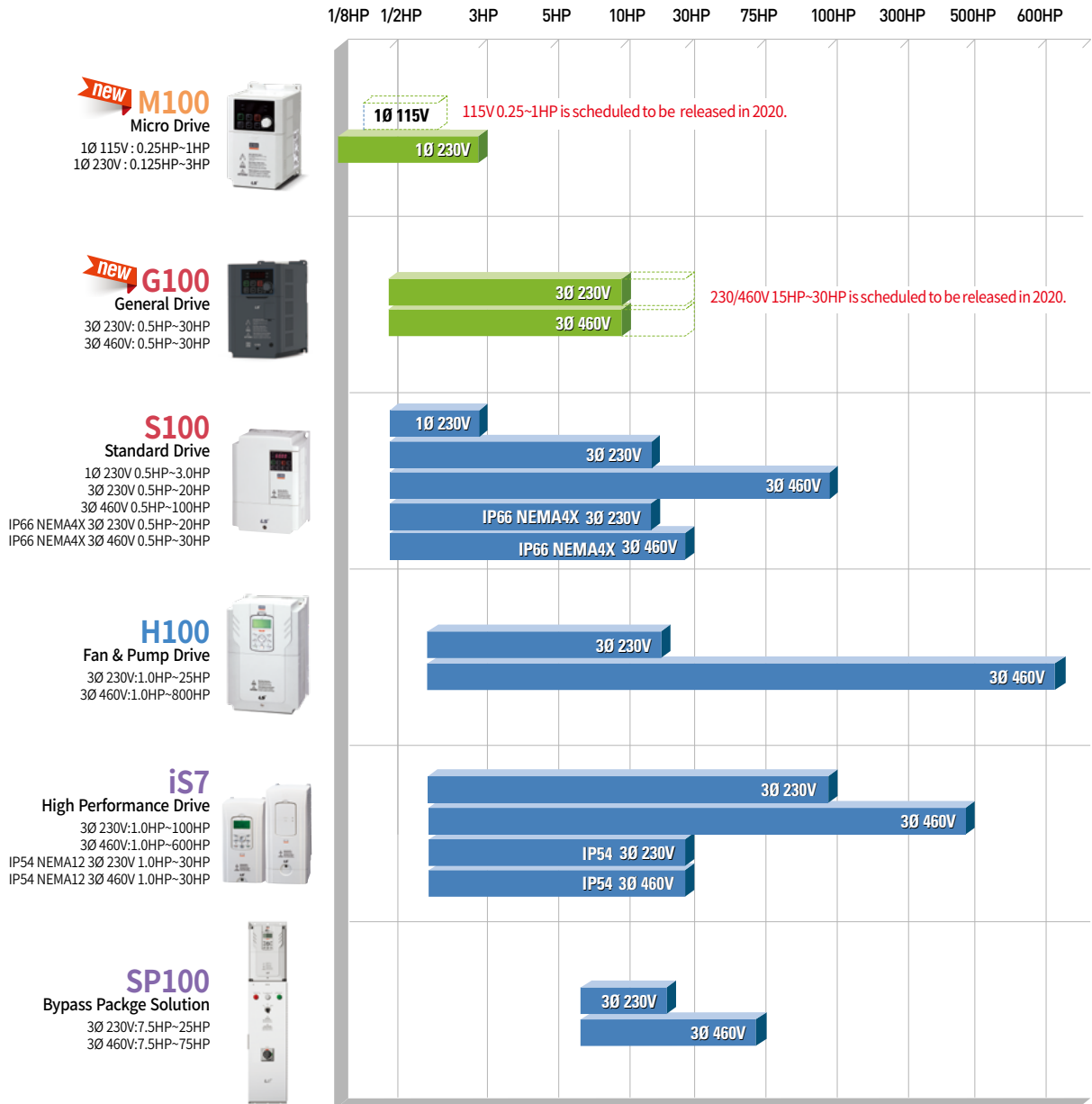
# Contents

- 04 LS Drive Comparison Table
- 06 Micro Drive M100
- 10 General Drive G100
- 16 Standard Drive S100
- 24 Fan & Pump Drive H100
- 30 High Performance Drive iS7
- 38 Bypass Package Solution SP100



# LS Drive at a Glance

LS Drive is characterized by its user-convenience interface, accurate and flexible control, and various functions. LS Drive Series with varied capacities and excellent functionality will be the optimal option for your company's competitiveness.



# LS Drive Comparison Table



Model name		M100	G100
Voltage & Capacity		1Ø 115V : 0.25~1HP 1Ø 230V : 0.125~3HP	3Ø 230V: 0.5~30HP 3Ø 460V: 0.5~30HP
Control Method	V/F Control	Standard	Standard
	Sensor-less Vector	-	Standard
	Sensored Vector	-	-
Input Terminal	Multifunction Terminal	5 Inputs (P1~P5)	5 Inputs (P1~P5)
	Analog Input (Current)	-	1 Inputs (0~20mA)
	Analog Input (Voltage)	1 Inputs (0~10V)	1 Inputs (0~10V)
Output Terminal	Relay Output	2 Outputs (5 port)	2 Outputs (5 port)
	Open Collector Output	-	-
	Analog Output	1 Outputs (0~10V)	1 Outputs (0~10V)
Enclosure Class		IP20	0.5~10.0HP:IP20 (Standard), UL Type 1 (Option)
Keypad		LED 7-segment	LED 7-segment
Remote Cable		1m/2m/3m/5m	1m/2m/3m/5m
Brake Unit		Standard built-in (2.0~3.0HP)	Standard built-in (0.5~10.0HP)
EMC Filter		Standard built-in (0.5~3.0HP)	Standard built-in (0.5~10.0HP)
DC Reactor		-	-
Communications		RS485 (Advanced I/O Standard built-in)	Modbus RTU (Standard built-in), CANopen, Profibus-DP, EtherNet/IP (Option)
Cooling System		Forced air cooling by fan	
Ambient Temperature		-10°C~50°C (2.5% /°C current derating at 40°C or above 75% of the rated current operable at 50°C); without any ice or frost	
Ambient Humidity		Relative humidity 95% RH or below (without any dew formation)	
Storage Temperature		-20°C ~ 65°C	
Surrounding Environment		Non- corrosive gas, flammable gas, oil residue and dust at the indoor environment	
Altitude		1,000m above sea level (From 1,000m or more, voltage/output current derating by 1% for every 100m elevation; up to 4,000m)	
Vibration		9.8m/sec <sup>2</sup> (1.0G) or below	
Ambient Air Pressure		70 ~ 106kPa	
Protective Function	Alarm	Stall prevention, overload, light load, fan failure, keypad command loss, speed command loss	
	Trip	Overvoltage, overcurrent, undervoltage, external trip, grounding current detection, drive overheat, electric motor overheat, I/O phase open, overload protection, communication error, frequency command loss, hardware failure, cooling fan failure, no motor trip, etc.	

Note 1) In case of 40~100HP, Analog 1 output(0~10V) is additionally provided.



	S100		H100	iS7	
	IP20(NEMA1)	IP66(NEMA4X)		IP20(NEMA1)	IP66(NEMA12)
	1Ø 230V 0.5~3.0HP 3Ø 230V 0.5~20HP 3Ø 460V 0.5~100HP	3Ø 230V 0.5HP~20HP 3Ø 460V 0.5HP~30HP	3Ø 230V:1.0~25HP 3Ø 460V:1.0~800HP	3Ø 230V:1.0~100HP 3Ø 460V:1.0~600HP	3Ø 230V:1.0~30HP 3Ø 460V:1.0~30HP
	Standard		Standard	Standard	
	Standard		-	Standard	
	-		-	Option	
	5 Inputs (P1~P5)		7 Inputs (P1~P7)	8 Inputs (P1~P8)	
	1 Input (0~10V or 0~20mA)		1 Input (0~20mA) 1 Input (0~10V)	1 Input (0~20mA) 1 Input (0~10V, -10V~+10V)	
	1 Output (3 port)		5 Outputs	2 Outputs (5 port)	
	1 Output (2 port)		1 Output	1 Output (2 port)	
	1 Output (0~10V or 0~20mA) <i>Note 1)</i>		1 Output (0~10V or 0~20mA)	2 Outputs (0~10V, 0~20mA)	
	0.5HP~100HP: IP20 (Standard), UL Type1 (Option)	0.5HP~30HP : IP66	1-800HP: IP20 (Standard) UL Type 1 (Option) 150-800HP : Heatsink out the back(NEMA12)	200V class (1~30HP), 400V class (1~100HP) : IP20 200V class (40~100HP), 400V class 120~600HP: IP00	1.0~30HP: IP54
	LED 7-segment : 0.5~30HP LCD graphic : 40~100HP	LED 7-segment : 0.5~30HP	LCD Graphic	LCD Graphic	
	1m/2m/3m/5m		1m/2m/3m/5m	1m/2m/3m/5m	
	Standard built-in (0.5~30HP) Option (40~100HP)	Standard built-in (0.5~30HP)	Standard built-in (1~40HP)	Standard built-in (0.5~30HP) Option (40~100HP)	
	Standard built-in (400V class 7.5~30HP)	-	Standard built-in (400V class 1~75HP) (400V class 150~800HP)	Standard built-in (1~30HP)	-
	Standard built-in (400V class 40~100HP)	-	Standard built-in (400V class 50~800HP)	Standard built-in (200V class1~30HP) (400V class1~350HP)	-
	RS485 (Standard built-in), Modbus TCP, EtherCAT, EtherNet/IP, PROFINet, Profibus-DP, CANopen (Option)		Modbus RTU, Metasys N2, BACnet (Standard built-in), Lonworks (Option)	RS485 (Standard built-in), DeviceNet, Profibus-DP, Modbus TCP, R-Net, F-net, LonWorks, CC Link-IE, CANopen (option), EtherNet/IP, Profinet, RAPIENet	

# M100

## Micro Drive



- 1Ø 115V : 0.25HP~1HP
- 1Ø 230V : 0.125HP~3HP



### An Optimal Compact Drive That is Applicable to Small Machinery, Fans/Pumps and Conveyors.

Space efficiency is increased with a compact product design, side-by-side installation and standard installation of Din Rail. Product reliability is improved with a built-in C2 EMC filter and application of a new UL standard.

We offer two I/O types (standard type and advanced type), frequently-used parameter group, built-in potentiometer and parameter copier/remote keypad options.



#### Compact

The M100 Drive is small and cost-effective. Space efficiency can be maximized with side-by-side installation.



#### Convenient Use

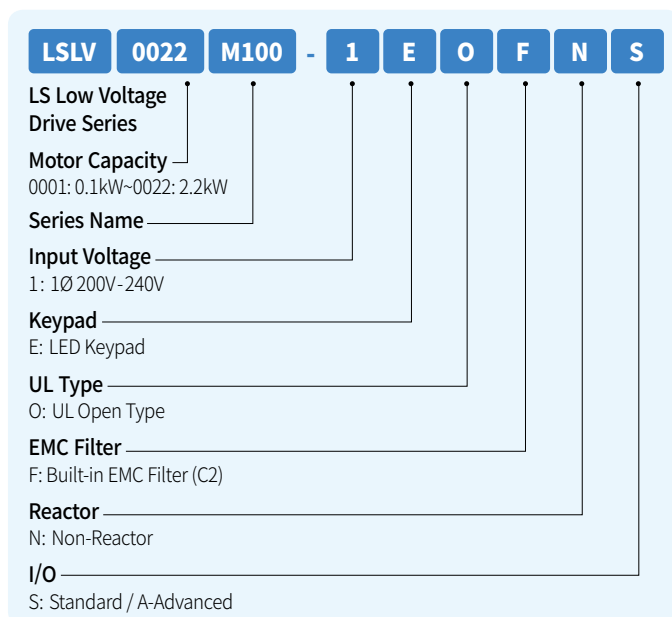
Din Rail installation is standard for the M100 Drive, A RJ45 Port is provided for a convenient connection with peripheral devices.



#### Applications

- Refrigerant compressor, air conditioner, refrigerator
- HVAC industry
- Cargo terminal transfer line (Conveyor)
- Packaging machine transfer line (Conveyor)
- CNC, Machine tool such as a lens grinder, spinning wheel, etc.

### Product Type & Model



## Main Features

Features	Description	Benefits
Micro Size	85×135×100mm (W x H x D); Mini drive (based on 0.2kW)	Reduced area for product installation and increased convenience
EMC Filter	Filter that satisfies the following standard: EN61800-3 Category C2 (1st Environment)	No space and expenses needed for additional filter to reduce electromagnetic noise.
DIN rail Installation	DIN rail and wall mount to the rear and sides of the product with removal clips	Fast and easy product installation that lasts less than 5 minutes and maximized space efficiency through side-by-side installation
Quick Parameter Menu	Frequently-used and useful parameters can be listed in the Quick Parameter group	Quick setting and improved operational convenience for the customer's application type
Potentiometer	Standard potentiometer for analog setting	Easy and flexible operation setting
Global Standard Requirement	Obtained CE certification and new UL 61800-5-1 standard	Ensures product reliability (improved quality of insulation distance)

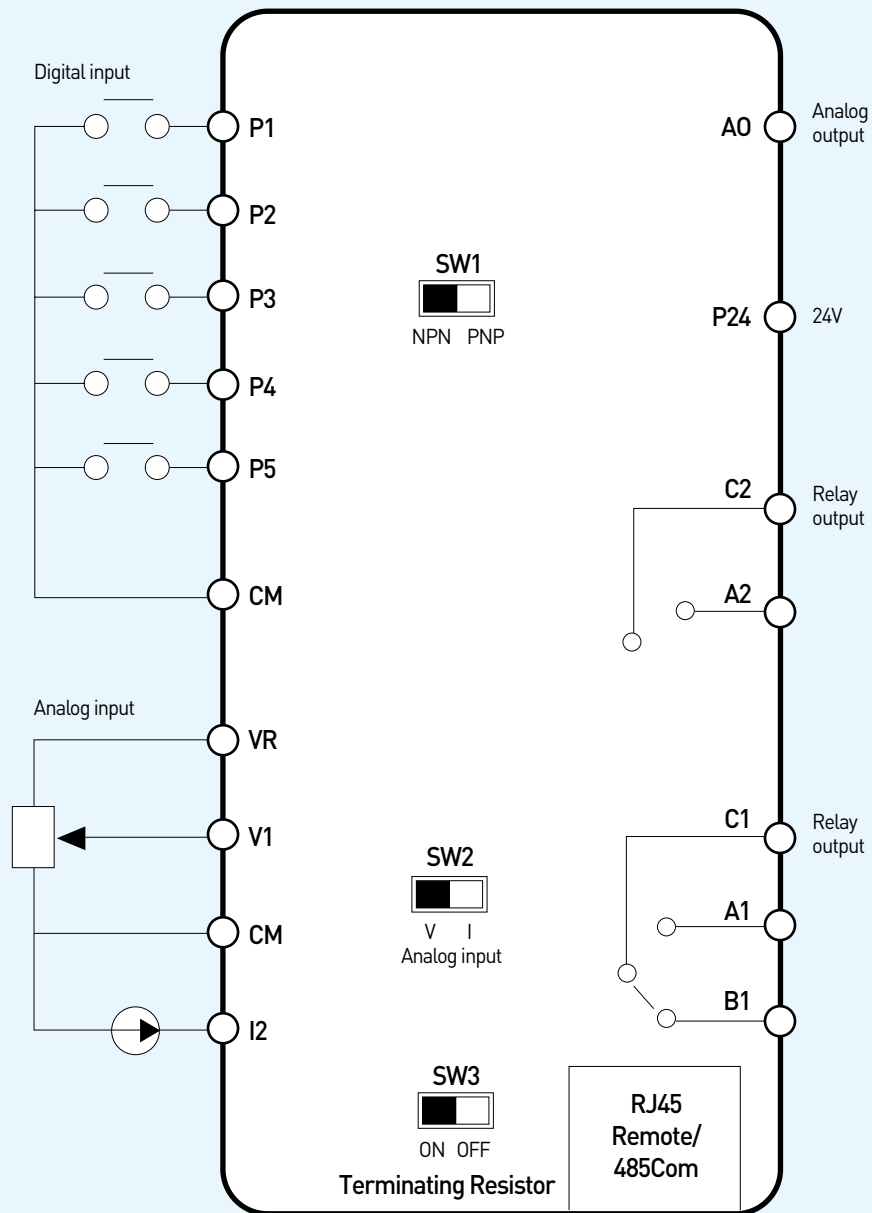
## Single Phase 200 ~ 240VAC (-15% ~ +10%)

Constant Torque 150% for 60 Seconds (HD)		Model Number	List Price	Order Code	Dimensions (in) W X H X D	Approx. Weight (lbs.)	Additional Data			
HP	Output Current						Keypad	Reactor	Filter	Potentiometer
0.125	0.8	LSLV0001M100-1EOFNA	\$240.00	66430007	3.3 X 5.7 X 3.9	1.5	Built-in 7 segment LED keypad	NO	Built-in EMC Filter	Built-in Potentiometer
0.25	1.4	LSLV0002M100-1EOFNA	\$245.00	66430008						
0.5	2.4	LSLV0004M100-1EOFNA	\$255.00	66430009	3.3 X 6.4 X 4.8	2.2				
1	4.2	LSLV0008M100-1EOFNA	\$291.00	66430010						
2	7.5	LSLV0015M100-1EOFNA	\$305.00	66430011	3.9 X 7.5 X 5.5	3.2				
3	10	LSLV0022M100-1EOFNA	\$326.00	66430012						

## Remote Cable with Keypad

Length	Model Number	List Price	Order Code
3.3 ft	INV,REMOTE 1M (LSLV-M100)	\$70.00	64170007
6.6 ft	INV,REMOTE 2M (LSLV-M100)	\$70.00	64170008
9.8 ft	INV,REMOTE 3M (LSLV-M100)	\$72.00	64170009
16.4 ft	INV,REMOTE 5M (LSLV-M100)	\$75.00	64170010

## Wiring





**Memo**

# G100

## General Drive

new



- 3Ø 230V: 0.5HP~30HP
- 3Ø 460V: 0.5HP~30HP



GOOD DESIGN



### G100, the Optimal General Purpose Drive for Various Industrial Sectors!

The G100 is a general drive optimized for use in all industrial sectors with powerful sensor-less functions, improved hardware performance and proven high product reliability.



#### Improved Torque Performance Through Powerful Sensor-less Vector Control Functions

With improved sensor-less vector control functions, when compared to our original standard drive, it maintains high torque performance at low speed and efficiently controls the motor.



#### A Variety of User-convenient Functions

Compact installation is realized through Din Rail mounting and side-by-side installation. RJ port is at the front of the drive which makes it easily connectable with peripheral devices.



#### High Product Reliability

Heat resistance and overall durability of the enclosure has significantly increased. Additionally, the insulation distance and voltage ratings have improved with our design which meets UL61800-5-1 standard.



#### Applications

Metal, elevator/escalator, textile machinery, shipping, food and beverage, pulp/paper, coal mine, oil/gas, water treatment CNC, Machine Tool, Small fan and Pump

- Hoist (Hoist, Gantry, Trolley)
- General crane
- Winder (Loom, Knitting machine)
- Conveyor
- Mixer (Agitator)

### Product Type & Model

LSLV 0022 G100 - 2 E O F N

LSV Low Voltage Drive Series

Motor Capacity  
0004: 0.4kW~0075: 7.5kW

Series Name

Input Voltage  
2: 3Ø 200V-240V / 4: 3Ø 380V-480V

Keypad  
E: LED Keypad

UL Type  
O: UL Open Type

EMC Filter  
N: Non Built-in EMC filter / F: Built-in EMC filter (C3)

Reactor  
N: Non-Reactor

## Main Features

Features	Description	Benefits
Improved Control Performance	Improved sensor-less function and simplified setup	Powerful torque performance at low speed and high load conditions
Din rail Mounting and Side-by-side Installation	2mm installation space between products	Fast and simple product installation that takes less than 5 minutes; increased space efficiency for panels
RJ45 Port at the Front Side of the Product	Easily connected to peripheral devices; and parameters can be copied (read/write) without taking the product out from its box or connecting power	Enhanced convenience in setup and connection with peripheral devices
Various Field Communication Network Support	Modbus, Profibus-DP, CANopen and Ethernet IP communication network support	Connectible with widely-used field networks
Quick Parameter Menu	Frequently-used and useful parameters are set in Quick Parameter Menu (Favorites)	Quick setting with operational convenience according to the customer's application
EMC Filter	Filter that meets the Category C3 standard	Reduced electromagnetic noise and no additional space and expenses for filter installation is necessary
Improved Heat-resisting Property and Intensity of Enclosures	Heat resistance and overall durability of the enclosure has significantly increased	Significantly improved product reliability and MTTF 27 years guaranteed
Network Option, Installation Convenience	Communication network option can be easily connected without removing covers. Dual port ethernet support	Easy and fast removable communication network option
Global Standard Requirement	Obtained a certification of CE and new UL 61800-5-1 standard	Product reliability guaranteed (improved quality of insulation distance)

## Control

Control Mode	V/F control, Slip compensation, Sensorless vector
Frequency Setting Resolution	Digital command: 0.01Hz; analog command: 0.06Hz (based on 60Hz)
Frequency Level	1% of the peak output frequency
V/F Pattern	Linear, square torque reduction, user V/F
Overload Tolerance	Heavy duty: 150% 1min, Normal duty: 120% min
Torque Boost	Passive torque boost; auto torque boost

## Operation

Operation Mode	Keypad / Terminal block / Communication network operation options	
Frequency Setting	Analog method: -10~10 (V), 0~10 (V), 4~20 (mA); digital method: keypad input	
Operation Function	PID control; 3-wire operation; frequency limit; second motor; forward/backward rotation prohibited; power switching; speed search; power braking; up-down operation; DC braking; frequency jump; slip compensation; auto restart; auto tuning; energy buffering operation; flux braking; and Fire Mode	
Input	NPN (Sink) / PNP (Source) options	
	Multifunction Terminal P1~P5	Function: Forward operation; backward operation; reset; external trip; emergency trip; jog operation; switching frequency - high, middle, low; acceleration/deceleration by stage - high, middle, low; DC braking at pause; second motor option; frequency increase; frequency decline; 3-wire operation; switching to general operation during PID operation; switching to the body operation during option operation; analog command fixed frequency; acceleration or deceleration stop option
Output	Multifunctional Relay Terminal	Fault output and inverter operation mode output (N.O., N.C.) AC 250V, 1A or below, DC 30V, 1A or below
	Analog Output	12Vdc: Frequency, output current, output voltage, DC voltage options

### Three Phase 200 ~ 240 VAC (-15% ~ +10%)

UL Three Phase Ratings				UL Single Phase Ratings				Model Number
Constant Torque 150% for 60 Seconds (HD)		Variable Torque 120% for 60 seconds (ND)		Constant Torque (HD) Single Phase		Variable Torque (ND) Single Phase		
HP	Output Current (Amps)	HP	Output Current (Amps)	HP	Output Current (Amps)	HP	Output Current (Amps)	
0.5	2.5	1	3.1	-	1.5	-	2.0	LSLV0004G100-2EONN
1	5.0	2	6.0	0.5	2.8	0.75	3.6	LSLV0008G100-2EONN
2	8.0	3	9.6	1	4.6	1	5.9	LSLV0015G100-2EONN
3	11.0	5	12.0	1.5	6.1	1.5	6.7	LSLV0022G100-2EONN
5	17.0	7.5	18.0	2	9.3	3	9.8	LSLV0040G100-2EONN
7.5	24.0	10	30.0	3	12.8	5	16.3	LSLV0055G100-2EONN
10	32.0	15	40.0	5	17.4	7.5	22.0	LSLV0075G100-2EONN

### Three Phase 380 ~ 480 VAC (-15% ~ +10%)

UL Three Phase Ratings				UL Single Phase Ratings				Model Number
Constant Torque 150% for 60 Seconds (HD)		Variable Torque 120% for 60 seconds (ND)		Constant Torque (HD) Single Phase		Variable Torque (ND) Single Phase		
HP	Output Current (Amps)	HP	Output Current (Amps)	HP	Output Current (Amps)	HP	Output Current (Amps)	
0.5	1.3	1	2.0	-	0.7	0.5	1.3	LSLV0004G100-4EOFN
1	2.5	2	3.1	0.5	1.4	0.75	1.9	LSLV0008G100-4EOFN
2	4.0	3	5.1	1	2.1	1	2.8	LSLV0015G100-4EOFN
3	5.5	5	6.9	1	2.8	2	3.6	LSLV0022G100-4EOFN
5	9.0	7.5	10.0	3	4.9	3	5.4	LSLV0040G100-4EOFN
7.5	12.0	10	16.0	3	6.4	5	8.7	LSLV0055G100-4EOFN
10	16.0	15	23.0	5	8.7	7.5	12.6	LSLV0075G100-4EOFN

### Remote Cable with Keypad

Length	Model Number	List Price	Order Code
3.3 ft	INV,REMOTE 1M (LSLV-G100)	\$70.00	64180001
6.6 ft	INV,REMOTE 2M (LSLV-G100)	\$70.00	64180002
9.8 ft	INV,REMOTE 3M (LSLV-G100)	\$72.00	64180003
16.4 ft	INV,REMOTE 5M (LSLV-G100)	\$75.00	64180004

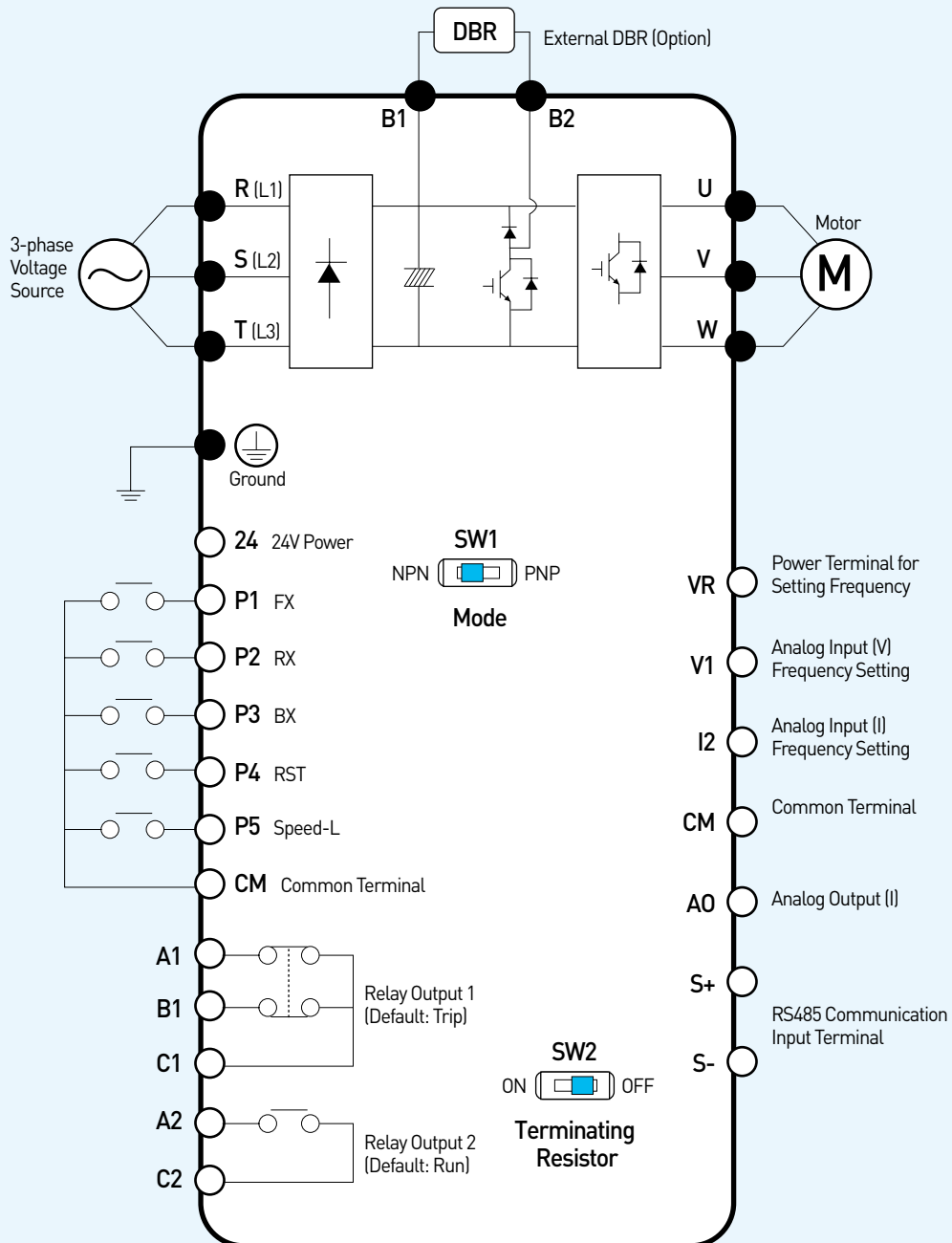
List Price	Order Code	Dimensions(in) W X H X D	Approx. Weight (lbs.)	Conduit Connection Box NEMA1 Enclosure		Additional Data			
				List Price	Order Code	Keypad	Reactor	Filter	Potentiometer
\$292.00	6040000100	3.4 X 6.5 X 5.5	2.3	\$47.00	64180005	Built-in 7 segment LED keypad	NO	NO	Built-in Potentiometer
\$307.00	6040000200								
\$328.00	6040000300	4.0 X 7.0 X 6.3	3.1	\$49.00	64180006				
\$341.00	6040000400								
\$416.00	6040000600	5.3 X 7.6 X 6.3	4.2	\$52.00	64180007				
\$653.00	6040000700	7.1 X 9.5 X 6.0	7.0	\$58.00	64180008				
\$737.00	6040000800								

List Price	Order Code	Dimensions(in) W X H X D	Approx. Weight (lbs.)	Conduit Connection Box NEMA1 Enclosure		Additional Data			
				List Price	Order Code	Keypad	Reactor	Filter	Potentiometer
\$307.00	6041002100	3.4 X 6.5 X 5.5	2.3	\$47.00	64180005	Built-in 7 segment LED keypad	NO	Built-in EMC Filter	Built-in Potentiometer
\$320.00	6041002200								
\$336.00	6041002300	4.0 X 7.0 X 6.3	3.1	\$49.00	64180006				
\$354.00	6041002400								
\$400.00	6041002600	5.3 X 7.6 X 6.3	4.2	\$52.00	64180007				
\$571.00	6041002700	7.1 X 9.5 X 6.0	7.0	\$58.00	64180008				
\$610.00	6041002800								

## Option

	Model Number	List Price	Order Code
Ethernet I/P	INV,Ethernet(LSLV-G100),CENT-G100	\$199.00	64180009

## Wiring



**Memo**



# S100

## Standard Drive



### IP20

1Ø 230V 0.5HP~3.0HP  
3Ø 230V 0.5HP~20HP  
3Ø 460V 0.5HP~100HP

### IP66

NEMA4X 3Ø 230V 0.5HP~20HP  
NEMA4X 3Ø 460V 0.5HP~30HP



## Standard Drive, S100

The S100 is LS's high-performance standard drive offering. It offers powerful sensorless vector control, and a diverse range of user friendly functions and features. The S100 features the ability to run permanent magnet motors, has a redundant safe-torque off(STO) circuit, and offers a wide array of field bus communication options. An IP66/NEMA4X option up to 30HP is available for dusty, wet, or harsh environments.



### Efficient Space Utilization

Space efficiency is maximized with its compact size, which is 40% smaller than the original product, and the ability of side-by-side installation.



### Various Field Network Support

The drive supports the following networks: EtherCAT, EtherNet/IP, Profibus-DP, Modbus TCP, CANopen and etc



### IP66/ NEMA4X

The S100 has been tested for IP66 and NEMA4X (Washdown) standards. This makes the S100 ideal for food and beverage processing or any application with a wet, dusty, or contaminant filled environment.

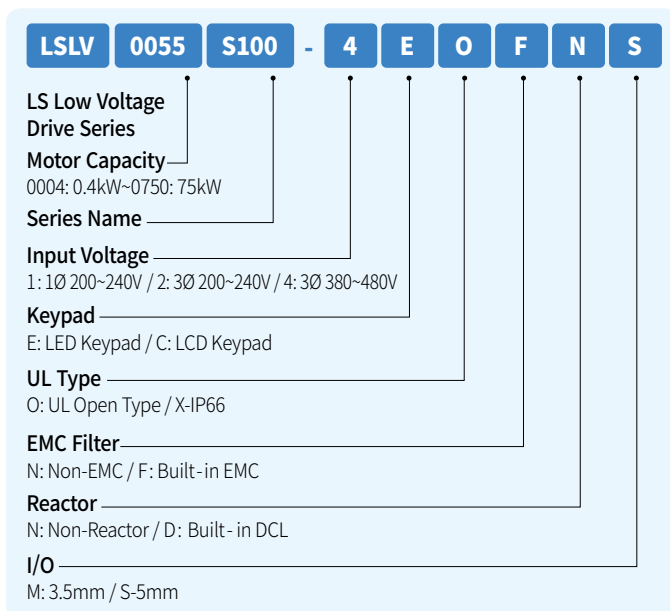


### Applications

Applied to the following industries: metal, elevator/escalator, textile machinery, shipping, food and beverage, pulp/paper, coal mine, oil/gas and water treatment

- Hoist (hoist, gantry, trolley)
- Winder (loom, knitting machine)
- Mixer (agitator)
- Compressor
- Centrifugal separator
- General crane
- Conveyor

## Product Type & Model





## Main Features

Features	Description	Benefits
Sensor-less Control and Static-type/Rotation-type Auto Tuning	Motor tuning is possible without rotating the motor when the motor is installed at a place where rotation is impossible or when the system is already installed.	Accurate velocity and torque control
Product Size Reduction and Side-by-side Installation	The product size has been reduced up to 60% of its original size; simple replacement of cooling fans; installation span between products is about 2mm	Reduced installation area; when multiple drives are installed, the control panel size is significantly reduced
Various Field Networks	EtherCAT, PROFINET, Profibus-DP, Ethernet IP, Modbus TCP and CANopen communication network support	Possible to connect to all widely-used field networks; comfortable maintenance of option cards and easy mounting
Compact PLC Function Option	With a combination of various function blocks, a simple PLC sequence programming is possible	High-level control programming with only the drive and without the external PLC
DC Reactor	Built-in DC reactor ※ 400V, 30~75kW	Improved power factor and THD reduction
Safe Torque Off (STO)	Redundant safe input circuit standard; safe input function meets the following standards: EN ISO 13849-1 PLD and EN 61508 SIL2 (EN60204-1, Stop category 0)	Satisfies the safety standards of systems with a built-in safety design
EMC Filter	Filter satisfying Category C3 (Class A) 2nd Environment CE standard ※ 1-phase 200V 0.4~2.2kW (C2) ※ 3-phase 400V 0.4~75kW (C3)	Reduced electromagnetic noise; additional space and expense for parts are not required
IP66 (NEMA 4X) Enclosure Option	Completely protected from foreign substances such fine dust and water sprayed with a high-pressure sprayer	Inverters can be used even when exposed to the poor environment

## Control

Control Mode	V/F control, Slip compensation, Sensorless vector, PM sensorless
Frequency Setting Resolution	Digital command: 0.01Hz; analog command: 0.06Hz (peak frequency: 60Hz)
Frequency Level	1% of the peak output frequency
V/F Pattern	Linear, square torque reduction, user V/F
Overload Tolerance	Heavy duty: 150% 1min, Normal duty: 120% min
Torque Boost	Passive torque boost; auto torque boost

## Operation

Operation Mode	Keypad/ Terminal block / Communication network options	
Frequency Setting	Analog method: -10~10 (V), 0~10 (V), 4~20 (mA); digital method: keypad, pulse train input	
Operation Function	PID control; up-down operation; 3-wire operation; DC braking; frequency limit; frequency jump; secondary function; slip compensation; forward/backward rotation prohibited; auto restart; power switch; auto tuning; speed search; energy buffering; power braking; flux braking; leakage-reduced operation; Fire Mode	
Input	Multifunctional Terminal Standard I/O (5 input) Multiple I/O (7 input)	NPN (Sink) / PNP (Source) option Function: Forward operation; backward operation; reset; external trip; emergency trip; jog operation; switching frequency – high, middle, low; acceleration/deceleration by stage – high, middle, low; DC braking on stop; second motor option; frequency increase; frequency decline; 3-wire operation; switching to general operation during PID operation; switching to body operation during option operation; analog command fixed frequency; acceleration/deceleration stop option
	Analog Input	V1: -10~10V, V2: 0~10V / I2 4~20mA options
	Pulse Train	0~32kHz, Low Level: 0~2.5V, High Level: 3.5~12V
Output	Multifunctional Open Collector Terminal	DC 24V, 50mA or below
	Multifunctional Relay Terminal	Fault output and drive operation mode output (N.O., N.C.) AC 250V 1A or below, DC 30V 1A or below
	Analog Output	0~12Vdc/0~24mA: selectable among frequency, output current, output voltage and DC terminal voltage
	Pulse Train	Up to 32kHz, 10~12 (V)

# S100

## NEMA1 when used with NEMA1 kit option

### Single Phase 200 ~ 240VAC (-15% ~ +10%)

UL Three Phase Ratings				UL Single Phase Ratings						Model Number
Constant Torque 150% for 60 Seconds (HD)		Variable Torque 120% for 60 seconds (ND)		Constant Torque (HD) Single Phase Input		Constant Torque (HD) 3 Phase Output	Variable Torque (ND) Single Phase Input		Variable Torque (ND) 3 Phase Output	
HP	Output Current (Amps)	HP	Output Current (Amps)	HP	Amps	Amps	HP	Amps	Amps	
0.5	2.5	1	3.1	-	-	-	-	-	-	LSLV0004S100-1EONNS
1	5.0	2	6.0	-	-	-	-	-	-	LSLV0008S100-1EONNS
2	8.0	3	10.0	-	-	-	-	-	-	LSLV0015S100-1EONNS
3	11.0	5	12.0	-	-	-	-	-	-	LSLV0022S100-1EONNS

### Three Phase 200 ~ 240 VAC (-15% ~ +10%)

UL Three Phase Ratings				UL Single Phase Ratings						Model Number
Constant Torque 150% for 60 Seconds (HD)		Variable Torque 120% for 60 seconds (ND)		Constant Torque (HD) Single Phase Input		Constant Torque (HD) 3 Phase Output	Variable Torque (ND) Single Phase Input		Variable Torque (ND) 3 Phase Output	
HP	Output Current (Amps)	HP	Output Current (Amps)	HP	Amps	Amps	HP	Amps	Amps	
0.5	2.5	1	3.1	-	2.2	1.5	-	3.0	1.8	LSLV0004S100-2EONNS
1	5.0	2	6.0	0.5	4.9	2.8	0.75	6.3	3.3	LSLV0008S100-2EONNS
2	8.0	3	10.0	1	8.4	4.6	1	10.8	5.7	LSLV0015S100-2EONNS
3	11.0	5	12.0	1.5	11.8	6.1	1.5	13.1	6.6	LSLV0022S100-2EONNS
5.4	17.0	7.5	18.0	2	18.5	9.3	3	19.4	9.9	LSLV0040S100-2EONNS
7.5	24.0	10	30.0	3	25.8	13.0	5	32.7	16.0	LSLV0055S100-2EONNS
10	32.0	15	40.0	5	34.9	18.0	7.5	44.2	22.0	LSLV0075S100-2EONNS
15	46.0	20	56.0	7.5	50.8	26.0	10	62.3	31.0	LSLV0110S100-2EONNS
20	60.0	25	69.0	10	66.7	33.0	10	77.2	38.0	LSLV0150S100-2EONNS

### Three Phase 380 ~ 480 VAC (-15% ~ +10%)

UL Three Phase Ratings				UL Single Phase Ratings						Model Number
Constant Torque 150% for 60 Seconds (HD)		Variable Torque 120% for 60 seconds (ND)		Constant Torque (HD) Single Phase Input		Constant Torque (HD) 3 Phase Output	Variable Torque (ND) Single Phase Input		Variable Torque (ND) 3 Phase Output	
HP	Output Current (Amps)	HP	Output Current (Amps)	HP	Amps	Amps	HP	Amps	Amps	
0.5	1.3	1	2.0	-	1.1	0.8	0.5	2.0	1.3	LSLV0004S100-4EONNS
1	2.5	2	3.1	0.5	2.4	1.5	0.75	3.3	1.9	LSLV0008S100-4EONNS
2	4.0	3	5.1	0.75	4.2	2.3	1	5.5	3.0	LSLV0015S100-4EONNS
3	5.5	5	6.9	1	5.9	3.1	2	7.5	3.9	LSLV0022S100-4EONNS
5.4	9.0	7.5	10.0	3	9.8	5.4	3	10.8	5.9	LSLV0040S100-4EONNS
7.5	12.0	10	16.0	3	12.9	7.1	5	17.5	9.5	LSLV0055S100-4EONNS
10	16.0	15	23.0	5	17.5	9.5	7.5	25.4	14.0	LSLV0075S100-4EONNS
15	24.0	20	30.0	7.5	26.5	15.0	10	33.4	18.0	LSLV0110S100-4EONNS
20	30.0	25	38.0	10	33.4	18.0	15	42.5	23.0	LSLV0150S100-4EONNS
25	39.0	30	44.0	10	43.6	23.0	15	49.5	27.0	LSLV0185S100-4EONNS
30	45.0	40	58.0	15	50.7	27.0	20	65.7	35.0	LSLV0220S100-4EONNS
40	61.0	50	75.0	20	56	32.0	25	69.0	39.0	LSLV0300S100-4CONDS
50	75.0	60	91.0	25	69	39.0	30	85.0	47.0	LSLV0370S100-4CONDS
60	91.0	75	107.0	30	85	47.0	40	100.0	55.0	LSLV0450S100-4CONDS
75	110.0	100	142.0	40	103	57.0	50	134.0	73.0	LSLV0550S100-4CONDS
100	152.0	120	169.0	50	143	78.0	60	160.0	87.0	LSLV0750S100-4CONDS

List Price	Order Code	Dimensions(in) W X H X D	Approx. Weight (lbs.)	Conduit Connection Box NEMA1 Enclosure		Flange Mount Kit Heat Sink Out the Back		Additional Data		
				List Price	Order Code	List Price	Order Code	Keypad	Reactor	Filter
\$408.00	6033000100	2.7 X 5.0 X 5.0	1.9	\$33.00	64150004	\$51.00	64150013	Built-in 7 segment LED keypad	NO	NO
\$495.00	6033000200	3.9 X 5.0 X 5.1	2.9	\$33.00	64150005	\$51.00	64150014			
\$542.00	6033000300	3.9 X 5.0 X 5.7	3.3	\$33.00	64150005	\$51.00	64150014			
\$707.00	6033000400	5.5 X 5.0 X 5.7	4.9	\$33.00	64150006	\$51.00	64150015			

List Price	Order Code	Dimensions(in) W X H X D	Approx. Weight (lbs.)	Conduit Connection Box NEMA1 Enclosure		Flange Mount Kit Heat Sink Out the Back		Additional Data		
				List Price	Order Code	List Price	Order Code	Keypad	Reactor	Filter
\$348.00	6030000100	2.7 X 5.0 X 4.8	1.9	\$33.00	64150004	\$51.00	64150013	Built-in 7 segment LED keypad	NO	NO
\$400.00	6030000200	2.7 X 5.0 X 5.0	1.9	\$33.00	64150004	\$51.00	64150013			
\$461.00	6030000300	3.9 X 5.0 X 5.1	3.3	\$33.00	64150005	\$51.00	64150014			
\$532.00	6030000400	3.9 X 5.0 X 5.7	3.3	\$33.00	64150005	\$51.00	64150014			
\$717.00	6030000600	5.5 X 5.0 X 5.7	5.1	\$33.00	64150006	\$51.00	64150015			
\$942.00	6030000700	6.3 X 9.1 X 5.5	7.3	\$36.00	64150007	\$51.00	64150016			
\$1,153.00	6030000800									
\$1,485.00	6030000900	7.1 X 11.4 X 6.4	10.1	\$36.00	64150008	\$31.00	64150017			
\$1,690.00	6030001000	8.7 X 13.8 X 7.4	10.1	\$36.00	64150009	\$31.00	64150018			

List Price	Order Code	Dimensions(in) W X H X D	Approx. Weight (lbs.)	Conduit Connection Box NEMA1 Enclosure		Flange Mount Kit Heat Sink Out the Back		Additional Data		
				List Price	Order Code	List Price	Order Code	Keypad	Reactor	Filter
\$507.00	6031000100	2.7 X 5.0 X 4.8	1.9	\$33.00	64150004	\$51.00	64150013	Built-in 7 segment LED keypad	NO	NO
\$601.00	6031000200	2.7 X 5.0 X 5.0	1.9	\$33.00	64150004	\$51.00	64150013			
\$666.00	6031000300	3.9 X 5.0 X 5.1	3.3	\$33.00	64150005	\$51.00	64150014			
\$726.00	6031000400	3.9 X 5.0 X 5.7	3.3	\$33.00	64150005	\$51.00	64150014			
\$746.00	6031000600	5.5 X 5.0 X 5.7	6.0	\$33.00	64150006	\$51.00	64150015			
\$973.00	6031000700	6.3 X 9.1 X 5.5	7.5	\$36.00	64150007	\$51.00	64150016			
\$1,178.00	6031000800									
\$1,562.00	6031000900	7.1 X 11.4 X 6.4	10.6	\$36.00	64150008	\$51.00	64150017			
\$1,895.00	6031001000									
\$2,166.00	6031001100	8.7 X 13.8 X 7.4	16.5	\$36.00	64150009	\$51.00	64150018			
\$2,265.00	6031001200									
\$3,861.00	6031006000	10.8 X 17.7 X 11.2	57.3	\$49.00	64150010	\$31.00	64150019			
\$4,509.00	6031006100	12.8 X 20.1 X 11.2	77.2	\$49.00	64150011	\$31.00	64150020			
\$5,281.00	6031006200									
\$6,239.00	6031001600	12.8 X 21.7 X 12.2	94.8	\$49.00	64150012	\$31.00	64150021			
\$6,462.00	6031001700									

# S100

# NEMA4X

## Three Phase 200 ~ 240 VAC (-15% ~ +10%)

UL Three Phase Ratings		UL Single Phase Ratings			Model Number	List Price
Constant Torque 150% for 60 Seconds (HD)		Constant Torque (HD) Single Phase Input		Constant Torque (HD) 3 Phase Output		
HP	Output Current (Amps)	HP	Amps	Amps		
0.5	2.5	-	2.2	1.5	LSLV0004S100-2EXNNS,IP66	\$597.00
1	5.0	0.5	4.9	2.8	LSLV0008S100-2EXNNS,IP66	\$607.00
2	8.0	1	8.4	4.6	LSLV0015S100-2EXNNS,IP66	\$777.00
3	11.0	1.5	11.8	6.1	LSLV0022S100-2EXNNS,IP66	\$827.00
5	16.0	2	17.5	8.8	LSLV0037S100-2EXNNS,IP66	\$1,107.00
7.5	24.0	3	25.8	13.0	LSLV0055S100-2EXNNS,IP66	\$1,656.00
10	32.0	5	34.9	18.0	LSLV0075S100-2EXNNS,IP66	\$1,848.00
15	46.0	7.5	50.8	26.0	LSLV0110S100-2EXNNS,IP66	\$2,284.00
20	60.0	10	66.7	33.0	LSLV0150S100-2EXNNS,IP66	\$2,600.00

## Three Phase 380 ~ 480 VAC (-15% ~ +10%)

UL Three Phase Ratings		UL Single Phase Ratings			Model Number	List Price
Constant Torque 150% for 60 Seconds (HD)		Constant Torque (HD) Single Phase Input		Constant Torque (HD) 3 Phase Output		
HP	Output Current (Amps)	HP	Amps	Amps		
0.5	1.3	-	1.1	0.8	LSLV0004S100-2EXNNS,IP66	\$727.00
1	2.5	0.5	2.4	1.5	LSLV0008S100-2EXNNS,IP66	\$743.00
2	4.0	0.75	4.2	2.3	LSLV0015S100-2EXNNS,IP66	\$797.00
3	5.5	1	5.9	3.1	LSLV0022S100-2EXNNS,IP66	\$987.00
5	8.0	2	8.7	4.8	LSLV0037S100-2EXNNS,IP66	\$1,540.00
7.5	12.0	3	12.9	7.1	LSLV0055S100-2EXNNS,IP66	\$2,048.00
10	16.0	5	17.5	9.5	LSLV0075S100-2EXNNS,IP66	\$2,271.00
15	24.0	7.5	26.5	15.0	LSLV0110S100-2EXNNS,IP66	\$2,404.00
20	30.0	10	33.4	18.0	LSLV0150S100-2EXNNS,IP66	\$2,916.00
25	39.0	10	43.6	23.0	LSLV0110S100-2EXNNS,IP66	\$2,969.00
30	45.0	15	50.7	27.0	LSLV0150S100-2EXNNS,IP66	\$3,171.00

## Remote Cable with Keypad

Length	Model Number	List Price	Order Code
6.6 ft	INV,REMOTE 2M (LSLV-S100)	\$26.00	64110009
9.8 ft	INV,REMOTE 3M (LSLV-S100)	\$36.00	64110010

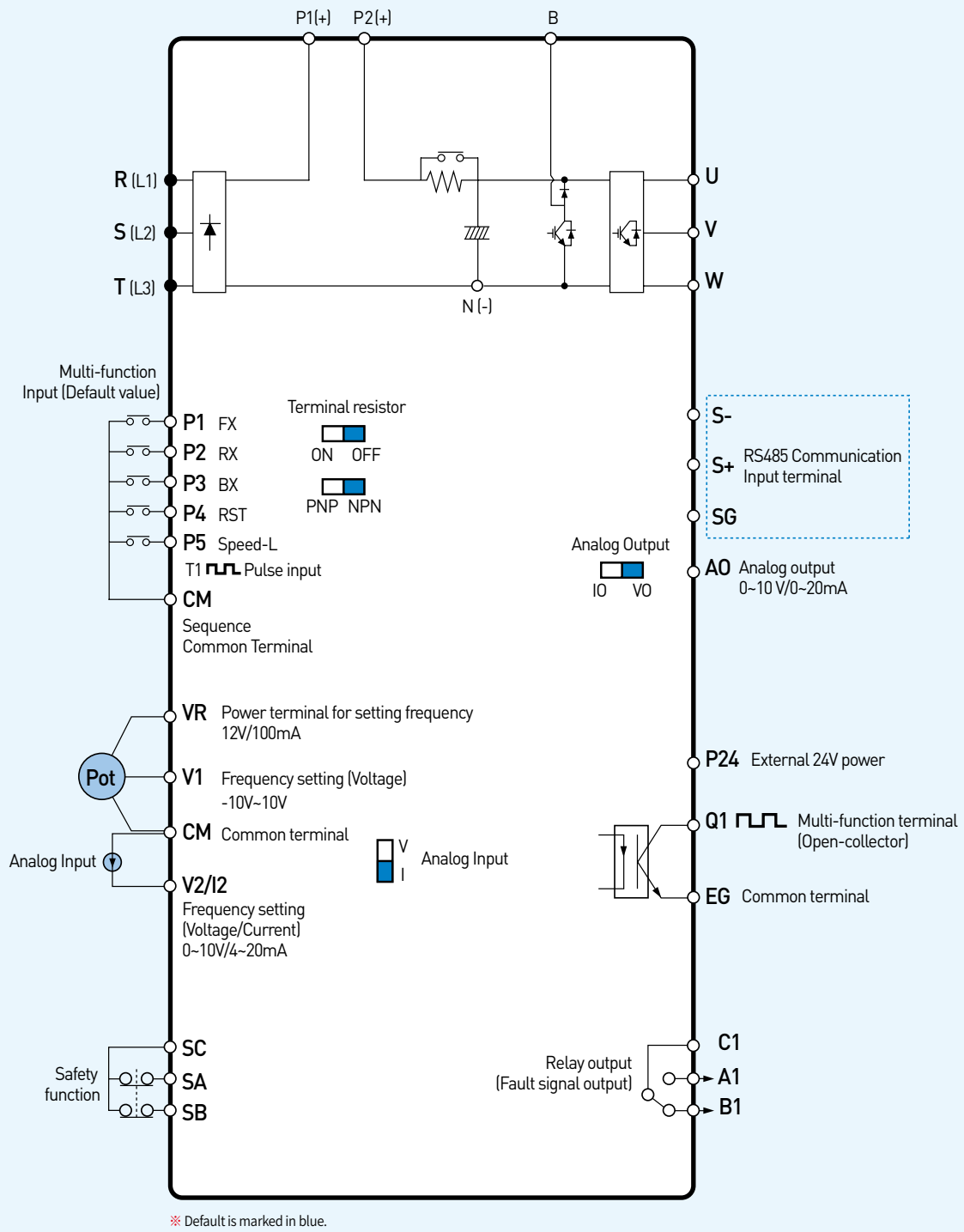
Order Code	Dimensions(in) W X H X D	Approx. Weight (lbs.)	Frame Size	Additional Data		
				Keypad	Reactor	Filter
6030001800	7.1 X 10.1 X 6.9	7.9	1 (NEMA4X)	Built-in 7 segment LED keypad	NO	NO
6030001900						
6030002000	8.7 X 10.2 X 7.9	11.5	2 (NEMA4X)			
6030002100		11.7				
6030002200		12.3				
6030002400	9.8 X 12.9 X 8.9	19.8	3 (NEMA4X)			
6030002500						
6030002600	10.2 X 15.7 X 9.7	21.2	4 (NEMA4X)			
6030002700	11.8 X 18.1 X 9.8	26.7	5 (NEMA4X)			

Order Code	Dimensions(in) W X H X D	Approx. Weight (lbs.)	Frame Size	Additional Data		
				Keypad	Reactor	Filter
6031004200	7.1 X 10.1 X 6.9	8.2	1 (NEMA4X)	Built-in 7 segment LED keypad	NO	NO
6031004300						
6031004400	8.7 X 10.2 X 7.9	11.7	2 (NEMA4X)			
6031004500		12.1				
6031004600		12.3				
6031004800	9.8 X 12.9 X 8.9	19.4	3 (NEMA4X)			
6031004900						
6031005000	10.2 X 15.7 X 9.7	21.2	4 (NEMA4X)			
6031005100		21.6				
6031005200	11.8 X 18.1 X 9.8	27.3	5 (NEMA4X)			
6031005300						

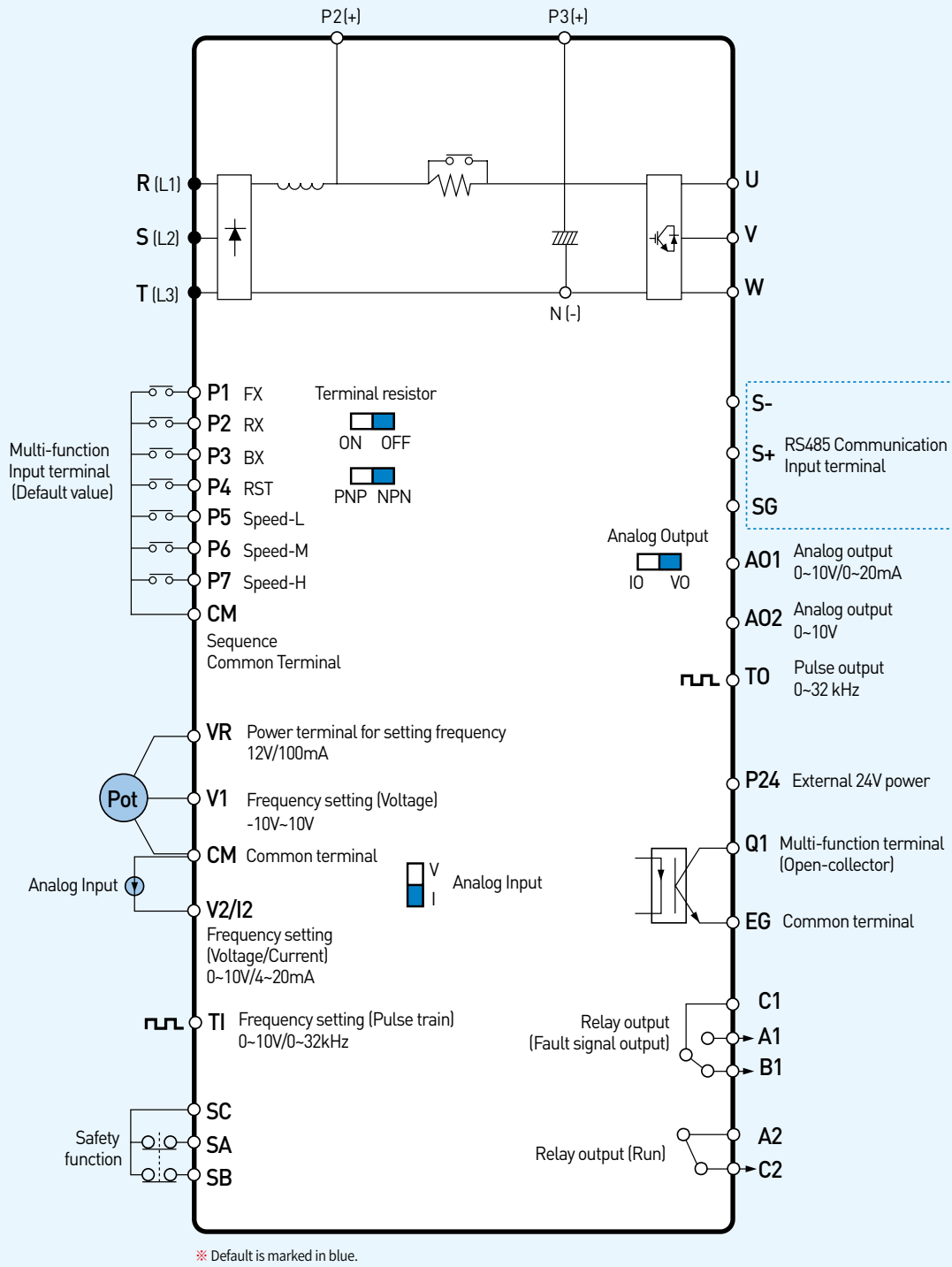
## Option

	Model Number	List Price	Order Code
CAN Open	INV,CANOpen for LSLV-S100	\$ 230.00	64150001
Profibus-DP	INV,Profibus-DP for LSLV-S100	\$ 321.00	64150002
Ethernet IP & Modbus TCP	INV,Ethernet IP & Modbus TCP for LSLV-S100	\$ 179.00	64150003
EtherCAT	INV,EtherCAT for LSLV-S100	\$ 321.00	64150034
Profinet	INV,Profinet for LSLV-S100	\$ 321.00	64150035
Extension I/O	INV,Extension I/O for LSLV-S100	\$ 321.00	64150025
LCD Keypad (Graphic)	INV,LCD Keypad for LSLV-S100	\$ 97.00	64110038
USB-RJ45 Cable	INV,RS232 to USB Converter for LSLV-S100	\$ 15.00	64090353

## Wiring (0.5HP ~30HP)



### Wiring (40HP ~100HP)



# H100

## Fan & Pump Drive



- 3Ø 230V:1.0HP~25HP
- 3Ø 460V:1.0HP~800HP

### Significant Energy Saving With LS Drive Solutions

The H100 Drive was developed to build an environment-friendly system that realizes significant energy savings in the commercial and industrial field of fans/pumps and water treatment applications based on leading drive solutions.



#### System Protection

To protect your pump and application, the following functions are provided for users: Soft Fill; start and stop slope adjustment; valve deceleration time setting; multi-motor control; and underload detection, pipe broken, pump clean



#### Optimized for HVAC and Water Treatment

User-friendly functions for convenient use of fans/pumps such as Fire mode, Lead lag, auxiliary motor PID compensation and load tuning.



#### Applications

- Building • Metal • Pulp/paper • Coal mine
- Oil/gas and water treatment; (fan/pump, dryer)

### Product Type & Model

LSLV 0008 H100 - 4 C O F N

LS Low Voltage Drive Series

Motor Capacity  
0008: 0.75kW~5000: 500kW

Series Name

Input Voltage  
2: 3Ø 200~240 (V)  
4: 3Ø 380~480 (V)

Keypad Type  
C: LCD Keypad

UL Type  
O: UL Open

EMC Filter  
F: Built-in EMC  
N: Non EMC

Reactor  
D: Built-in DC Reactor  
N: Non DC Reactor



OSHDPD



## Main Features

Features	Description	Benefits
HVAC-only Features	Multi Motor Control, PID operation, flow (flux) compensation, scheduling operation	Optimized operation for HVAC applications
Fan/Pump Protection Features	Protective functions include Soft Fill; valve deceleration time setting; pump clean; pipe breakage level detection; Underload Detection; lubrication Fire Mode	Support for optimized fan/pump system performance; extended life of machinery with load; and reduced maintenance cost
Built-in EMC Filter	400V 5.5~30kW, 110~500kW built-in(C3) 400V 37~500kW built-in option (C3) ※ With a filter, 75~90kW meets the EMC standard	Reduced electromagnetic noise and additional space and cost for parts unnecessary
Various Field Networks	RS-485 and BACnet network support for general HVAC system; Modbus-RTU, Metasys N2 and LonWorks options	Connectable with all widely-used field networks; simple maintenance of option cards and easy mounting
Reduced Product Size and Side-by-Side Installation	The product size is reduced up to 60% of its original size; simple replacement of cooling fans; installation span between products is about 2mm	Reduced installation area; and when installing multiple motors, the control panel size is significantly reduced
DC Reactor	400V 37~500kW products have a built-in DC reactor	Improved power factor; and THD reduction
Global Standard Requirement	UL Plenum-Rated 110~500kW; obtained a certificate of new UL 61800-5-1 (improved quality of insulation distance)	Product reliability enhanced as it meets the new global standard

## Control

Control Mode	V/F control, Slip compensation
Frequency Setting Resolution	Digital command: 0.01Hz Analog command: 0.06Hz (based on 60Hz)
Frequency Level	1% of the peak output frequency
V/F Pattern	Linear, square torque reduction, user V/F
Overload Tolerance	5.5~90kW rated current: 120% 1min 110~500kW rated current: 110% 1min
Torque Boost	Passive torque boost; auto torque boost

## Operation

Operation Mode	Keypad, Terminal block, Communication network options	
Frequency Setting	Analog method: -10 ~ 10V, 0 ~ 10V, 0 ~ 20mA Digital method: keypad, pulse train input	
Operation Function	PID control; 3-wire operation; frequency limit; secondary function; forward/backward rotation prohibited; power switch; speed search; power brake; leakage-reduced operation; up-down operation; DC braking; frequency jump; slip compensation; auto restart; auto tuning; energy buffering operation; flux braking; energy saving operation	
Input	Multifunctional Terminal (7 inputs)	PNP(Source), NPN(Sink) options According to the parameter setting of IN-65~71 codes, the following functions can be set. Forward operation; reset; emergency trip; switching frequency – high/middle/low; DC braking upon stop; frequency increase; 3-wire operation; acceleration or deceleration stop; MMC interlock; backward operation; external trip; job operation; acceleration/deceleration by stage – high/middle/low; second motor option; frequency decline; analogue command fixed frequency; switching to the general operation during PID operation; Pre Heat; pump cleaning; RTC (time event function)
	Pulse Train	0~32kHz, Low Level: 0~0.8V, High Level: 3.5~12V
Output	Multifunctional Open Collector Terminal	DC26V, 50mA or below
	Fault Relay Terminal	Fault output and drive operation mode output N.O.: AC 250V, 2A or below; DC 30V, 3A or below N.C.: AC 250V, 1A or below; DC 30V, 1A or below
	Multifunctional Relay Terminal	AC250V, 5A or below, DC30V, 5A or below
	Analog Output	0~12Vdc(0~20mA): Frequency, output current, output voltage, DC voltage options
	Pulse Train	Up to 32kHz, 0~12V

# H100

## Fan & Pump Drive

### Three Phase 200 ~ 240 VAC (-15% ~ +10%)

UL Three Phase Ratings		UL Single Phase Ratings			Model Number	List Price	Order Code	Dimensions(in) W X H X D	Approx. Weight (lbs.)
Variable Torque 120% for 60 Seconds (ND)		Variable Torque (ND) Single Phase Input		Variable Torque (ND) 3 Phase Output					
HP	Output Current (Amps)	HP	Amps	Amps					
1	5.0	0.5	4.9	2.9	LSLV0008H100-2CONN	\$620.00	6730000100	6.3 X 9.1 X 7.1	7.5
2	8.0	1.0	8.4	4.4	LSLV0015H100-2CONN	\$692.00	6730000200		
3	12.0	1.5	12.9	6.4	LSLV0022H100-2CONN	\$730.00	6730000300		
5	16.0	2.0	17.5	8.4	LSLV0037H100-2CONN	\$868.00	6730000400		
7.5	22.0	3.0	23.7	11.0	LSLV0055H100-2CONN	\$1,048.00	6730000500		
10	30.0	5.0	32.7	16.0	LSLV0075H100-2CONN	\$1,265.00	6730000600		
15	42.0	5.0	46.4	23.0	LSLV0110H100-2CONN	\$1,702.00	6730000700		
20	56.0	7.5	62.3	30.0	LSLV0150H100-2CONN	\$2,083.00	6730000800	7.1 X 11.4 X 8.1	10.1
25	69.0	10.0	77.2	37.0	LSLV0185H100-2CONN	\$2,679.00	6730000900	8.7 X 13.8 X 8.8	15.7

### Three Phase 380 ~ 480 VAC (-15% ~ +10%)

UL Three Phase Ratings		UL Single Phase Ratings			Model Number	List Price	Order Code	Dimensions(in) W X H X D	Approx. Weight (lbs.)
Variable Torque 120% for 60 Seconds (ND)		Variable Torque (ND) Single Phase Input		Variable Torque (ND) 3 Phase Output					
HP	Output Current (Amps)	HP	Amps	Amps					
1	2.5	0.5	2.4	1.6	LSLV0008H100-4COFN	\$646.00	6731002500	6.3 X 9.1 X 7.1	7.5
2	4.0	1.0	4.2	2.4	LSLV0015H100-4COFN	\$686.00	6731002600		
3	6.0	1.5	6.5	3.5	LSLV0022H100-4COFN	\$741.00	6731002700		
5	8.0	2.0	8.7	4.6	LSLV0037H100-4COFN	\$854.00	6731002800		
7.5	12.0	3.0	12.2	6.8	LSLV0055H100-4COFN	\$952.00	6731002900		
10	16.0	5.0	17.5	9.2	LSLV0075H100-4COFN	\$1,117.00	6731003000		
15	24.0	7.5	26.5	14.0	LSLV0110H100-4COFN	\$1,433.00	6731003100		
20	30.0	10.0	33.4	17.0	LSLV0150H100-4COFN	\$1,786.00	6731003200	7.1 X 11.4 X 8.1	10.1
25	38.0	10.0	42.5	22.0	LSLV0185H100-4COFN	\$2,286.00	6731003300		10.6
30	45.0	15.0	50.7	26.0	LSLV0220H100-4COFN	\$2,688.00	6731003400	8.7 X 13.8 X 8.8	16.5
40	61.0	20.0	69.1	36.0	LSLV0300H100-4COFN	\$3,242.00	6731003500		
50	75.0	25.0	69.3	39.0	LSLV0370H100-4COFD	\$4,098.00	6731003600	10.8 X 17.7 X 11.2	57.3
60	91.0	30.0	84.6	47.0	LSLV0450H100-4COFD	\$4,776.00	6731003700		
75	107.0	40.0	100.1	55.0	LSLV0550H100-4COFD	\$5,335.00	6731003800	12.8 X 20.1 X 11.2	94.8
100	142.0	50.0	133.6	73.0	LSLV0750H100-4COND	\$6,391.00	6731001500		
125	169.0	60.0	160.0	86.0	LSLV0900H100-4COND	\$7,678.00	6731001600	12.8 X 21.7 X 12.2	94.8

### Three Phase 380 ~ 500 VAC (-15% ~ +10%)

UL Three Phase Ratings		UL Single Phase Ratings			Model Number	List Price	Order Code	Dimensions(in) W X H X D	Approx. Weight (lbs.)
Variable Torque 120% for 60 Seconds (ND)		Variable Torque (ND) Single Phase Input		Variable Torque (ND) 3 Phase Output					
HP	Output Current (Amps)	HP	Amps	Amps					
150	223.0	60.0	215.1	86.0	LSLV1100H100-4COFD	\$7,752.00	6731004100	11.8 X 27.8 X 15.2	123.0
200	264.0	75.0	254.6	101.0	LSLV1320H100-4COFD	\$9,078.00	6731004200		
250	325.0	100.0	315.3	137.0	LSLV1600H100-4COFD	\$11,118.00	6731004300	15.0 X 27.8 X 15.6	164.7
300	370.0	125.0	358.9	157.0	LSLV1850H100-4COFD	\$14,484.00	6731004400		
350	432.0	150.0	419.1	181.0	LSLV2200H100-4COFD	\$16,218.00	6731004500	17.3 X 36.3 X 17.3	264.6
400	481.0	150.0	469.3	195.0	LSLV2500H100-4COFD	\$18,258.00	6731004600		
500	613.0	150.0	598.1	218.0	LSLV3150H100-4COFD	\$31,620.00	6731004700	23.6 X 39.4 X 19.7	409.0
550	683.0	200.0	666.4	245.0	LSLV3550H100-4COFD	\$37,740.00	6731004800		
650	770.0	250.0	751.3	308.0	LSLV4000H100-4COFD	\$39,780.00	6731004900		
800	962.0	350.0	938.6	414.0	LSLV5000H100-4COFD	\$47,940.00	6731005000	30.6 X 41.5 X 19.7	584.2

Conduit Connection Box NEMA1 Enclosure		Flange Mount Kit Heat Sink Out the Back		Additional Data			Disconnect Switch Option		
List Price	Order Code	List Price	Order Code	Keypad	Reactor	Filter	Model Number	List Price	Order Code
\$36.00	64160002	\$51.00	64150016	Built-in LCD keypad	NO	NO	MMS-32H,8A & HANDLE,MEH32R,115,UL	\$278.00	64160028
							MMS-32H,13A & HANDLE,MEH32R,115,UL	\$278.00	64160029
							MMS-32H,17A & HANDLE,MEH32R,115,UL	\$270.00	64160030
							MMS-32H,22A & HANDLE,MEH32R,115,UL	\$270.00	64160031
							MMS-32H,32A & HANDLE,MEH32R,115,UL	\$270.00	64160032
							MMS-32H,40A & HANDLE,MEH32R,115,UL	\$270.00	64160033
							MMS-63H,50A & HANDLE,MEH63,115,UL	\$323.00	64160034
\$36.00	64160003	\$51.00	64150017				MMS-100H,75A & HANDLE,MEH100,115,UL	\$362.00	64160035
\$36.00	64160004	\$51.00	64150018				MMS-100H,90A & HANDLE,MEH100,115,UL	\$517.00	64160036

Conduit Connection Box NEMA1 Enclosure		Flange Mount Kit Heat Sink Out the Back		Additional Data			Disconnect Switch Option		
List Price	Order Code	List Price	Order Code	Keypad	Reactor	Filter	Model Number	List Price	Order Code
\$36.00	64160002	\$51.00	64150016	Built-in LCD keypad	NO	Built-in EMC Filter	UTS150LT FTU 40A 3P & HANDLE,REH2-S-12,UTS250	\$521.00	64160037
							UTS150LT FTU 40A 3P & HANDLE,REH2-S-12,UTS250	\$521.00	64160038
							UTS150LT FTU 40A 3P & HANDLE,REH2-S-12,UTS250	\$521.00	64160039
							UTS150LT FTU 40A 3P & HANDLE,REH2-S-12,UTS250	\$521.00	64160040
							UTS150LT FTU 40A 3P & HANDLE,REH2-S-12,UTS250	\$521.00	64160041
							UTS150LT FTU 40A 3P & HANDLE,REH2-S-12,UTS250	\$521.00	64160042
							UTS150LT FTU 40A 3P & HANDLE,REH2-S-12,UTS250	\$521.00	64160043
							UTS150LT FTU 40A 3P & HANDLE,REH2-S-12,UTS250	\$561.00	64160044
							UTS150LT FTU 50A 3P & HANDLE,REH2-S-12,UTS250	\$574.00	64160045
							UTS150LT FTU 60A 3P & HANDLE,REH2-S-12,UTS250	\$614.00	64160046
							UTS150LT FTU 80A 3P & HANDLE,REH2-S-12,UTS250	\$614.00	64160047
							UTS150LT FTU 100A 3P & HANDLE,REH2-S-12,UTS250	\$684.00	64160048
							UTS150LT ATU 125A 3P & HANDLE,REH2-S-12,UTS250	\$756.00	64160049
\$49.00	64150010	\$31.00	64150019	Built-in DC Reactor	NO	NO	UTS150LT ATU 150A 3P & HANDLE,REH2-S-12,UTS250	\$751.00	64160050
							UTS250LT FTU 175A 3P & HANDLE,REH2-S-12,UTS250	\$857.00	64160051
							UTS250LT FTU 225A 3P & HANDLE,REH2-S-12,UTS250	\$857.00	64160052

Conduit Connection Box NEMA1 Enclosure		Flange Mount Kit Heat Sink Out the Back		Additional Data			Disconnect Switch Option		
List Price	Order Code	List Price	Order Code	Keypad	Reactor	Filter	Model Number	List Price	Order Code
\$303.00	64160020	\$515.00	64160015	Built-in LCD keypad	Built-in DC Reactor	Built-in EMC Filter	NONE		
\$407.00	64160021	\$520.00	64160016						
\$407.00	64160022	\$611.00	64160017						
\$655.00	64160023	\$663.00	64160018						
\$742.00	64160024	\$765.00	64160019						

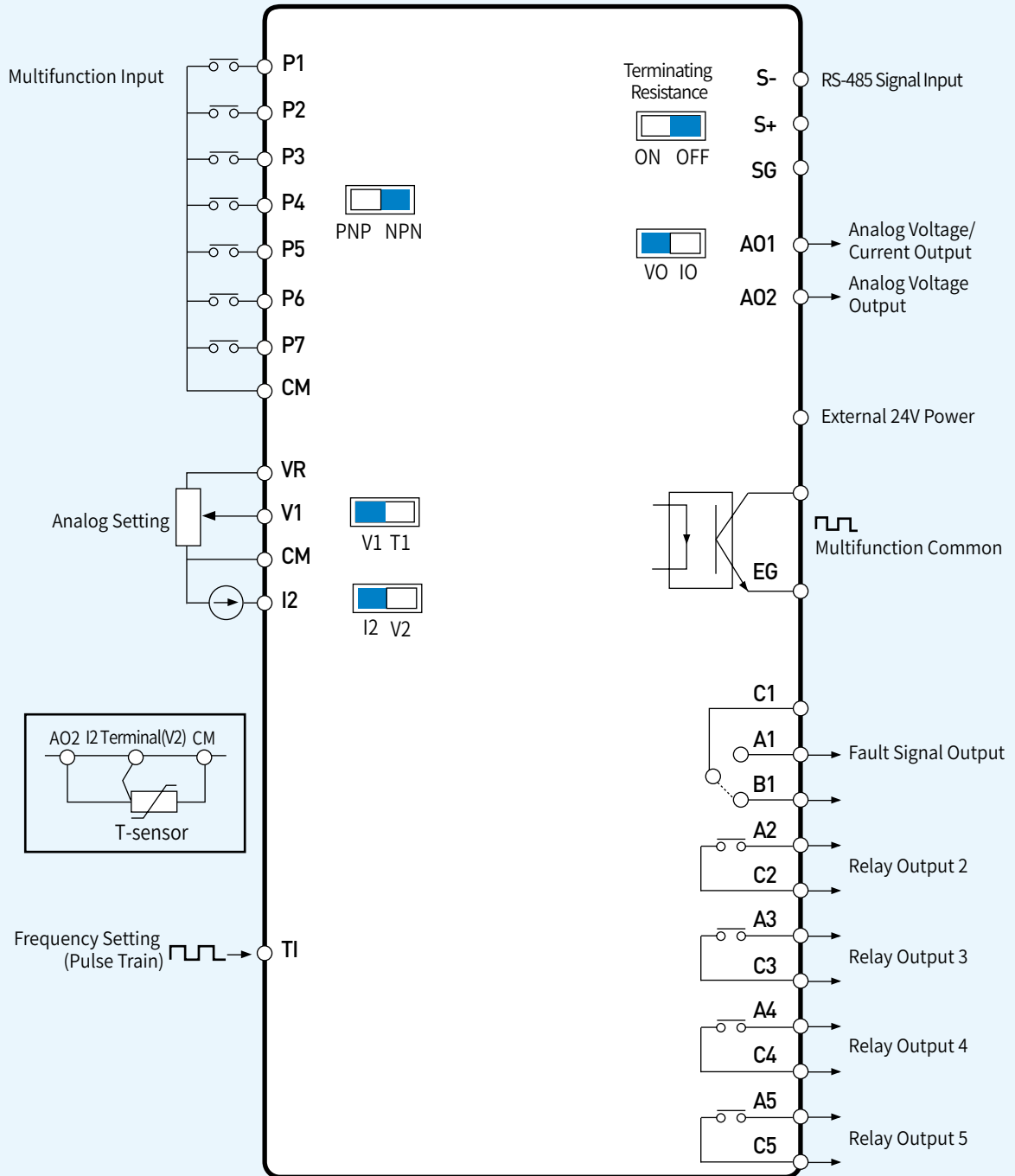
### Remote Cable with Keypad

Length	Model Number	List Price	Order Code
6.6 ft	INV,REMOTE 2M (LSLV-H100)	\$26.00	64110009
9.8 ft	INV,REMOTE 3M (LSLV-H100)	\$36.00	64110010

### Option

	Model Number	List Price	Order Code
LCD Keypad	INV, LCD Keypad for LSLV-H100	\$ 97.00	11040002604
USB-RJ45 Cable	INV, USB-RJ45 Cable for LSLV-H100	\$ 20.00	46310162
Extension I/O	INV, Extension I/O for LSLV-H100	\$ 138.00	64160005
Lonwork	INV,LonWorks for LSLV-H100	\$ 204.00	64160001

## Wiring



※ The default value is displayed in blue color



### IP20

- 3Ø 230V:1.0HP~100HP
- 3Ø 460V:1.0HP~600HP

### IP54

- 3Ø 230V 1.0HP~30HP
- 3Ø 460V 1.0HP~30HP

## iS7, a High-performance and High-reliability Drive

iS7 is a high-performing standard drive that is applicable to any working environment.



### Powerful Sensorless Vector Control

Sensorless vector algorithms developed with our accumulated technologies that demonstrate powerful control of low-speed torque and speed accuracy are built-in.



### Features

Various functions are supported including V/F control, V/F PG, slip compensation, KEB, Easy Start, auto tuning at pause and Flying Start



### Applications

- Warming /Beaming machine
- Laminating machine
- Drawing machine
- Tire line
- Elevator
- Construction lift
- Crane/Hoist
- Parking equipment
- Winder
- Conveyor
- Press
- Washer/Dehydrator
- Compressor
- Load Sharing

## Product Type & Model

**SV 0008 iS7 - 2 N O F D**

LS Drive  
Starvert Series

Motor Capacity  
0008: 0.75kW ~3750: 375kW

Series Name  
2: 3Ø 200~230V / 4: 3Ø 380~480V

Keypad  
N: Non-Keypad / G: Graphic Keypad

UL Standard  
O: Open / E: Enclosed UL Type 1 / P: Enclosed UL Type 12

Filter  
Blank: Non-Filter / F: Built-in EMC Filter

DC Reactor  
Blank: Non-DC Reactor / D: Built-in DC Reactor / R: DB Resistor (Inner mounted)



ISO9001 ISO14001

## Main Features

Features	Description	Benefits
Powerful Control Performance	Sensor-less vector control, sensed control, and auto tuning	Improved accuracy in speed and torque control
Safety Card	2-channel STO (Safety Torque Off) For smaller iS7s (200HP and less), you must order from the factory with the safety option. The safety card can be field installed on iS7s (250HP and up).	Satisfies the safety standards with complete safety function provided
Various Field Networks	Profibus-DP, Ethernet IP, Modbus TCP, CANopen, PROFINET, CC link, RAPIEnet, LonWorks, R-Net/F-Net communication network options	Possible to handle various field networks; convenient maintenance of options board; and easier mounting
EMC Filter	200V/400V 0.75~22kW capacity EMC filter built-in product options	Reduced electromagnetic noise; and additional space and expenses for parts unnecessary
DC Reactor	Capacity with built-in reactors ※ 200V 0.75~22kW ※ 400V 0.75~220kW	Improved power factor, and THD reduction
Application-customized Functions	Web function (wire-drawing machine) S/W option; position and synchronization control option; and classification option	Flexibility for application used in various industrial sectors

## Control

Control Mode	V/F, V/F PG, Slip compensation, Sensorless, Vector control
Frequency Setting Resolution	Digital command: 0.01Hz / Analog command: 0.06Hz (peak frequency: 60Hz)
Frequency Level	Digital command operation: 0.01% of the peak output frequency / Analog command operation: 0.1% of the peak output frequency
V/F Pattern	Linear, square torque reduction, user V/F
Overload Tolerance	CT (Heavy Duty) current rating: 150% 1min / VT (Normal Duty) current rating: 110% 1min
Torque Boost	Passive torque boost; auto torque boost

## Operation

Operation Mode	Keypad / Terminal Block / Communication Network options	
Frequency Setting	Analog method: 0 ~ 10 (V), -10 ~ 10 (V), 0 ~ 20 (mA) Digital method: Keypad	
Operation Function	PID control; up-down operation; 3-wire operation; DC braking; frequency limit; frequency jump; secondary function; slip compensation; reverse rotation prevention; auto restart; power switching; auto tuning; speed search (Flying Start); energy buffering operation; Power Braking; Flux Braking; leakage-reduced operation; MMC; Easy Start	
Input	Multifunctional Terminal (8 inputs) P1 ~ P8 <small>Note 1)</small>	NPN (Sink) / PNP (Source) Options  Function: Forward operation; backward operation; reset; external trip; emergency trip; jog operation; switching frequency – high, middle, low; acceleration and deceleration by stage – high, middle, low; DC braking at pause; second motor option; frequency increase; frequency decline; 3-wire operation; switching to the general operation during PID operation; switching to body operation during option operation; analog command fixed frequency; acceleration or deceleration stop
	Multifunctional Open Collector Terminal	DC 26V 100mA or below
Output	Multifunctional Relay Terminal	(N.O., N.C.) AC 250V 1A or below, DC 30V 1A or below
	Analog Output	0 ~ 10 Vdc (20mA or below): Frequency, current, voltage, DC voltage options

**Note 1)** According to the parameter setting of IN-65~72, various functions related to multifunctional terminal can be set.

### Three Phase 200 ~ 240 VAC (-15% ~ +10%)

UL Three Phase Ratings				UL Single Phase Ratings						Model Number
Constant Torque 150% for 60 Seconds (HD)		Variable Torque 120% for 60 seconds (ND)		Constant Torque (HD) Single Phase Input		Constant Torque (HD) 3 Phase Output	Variable Torque (ND) Single Phase Input		Variable Torque (ND) 3 Phase Output	
HP	Output Current (Amps)	HP	Output Current (Amps)	HP	Amps	Amps	HP	Amps	Amps	
1	5.0	2	8.0	0.5	4.3	2.6	0.75	6.8	4.1	SV0008IS7-2NOFD
2	8.0	3	12.0	0.75	6.9	4.0	1	10.6	6.0	SV0015IS7-2NOFD
3	12.0	5	16.0	1.5	11.2	6.2	2	14.9	8.2	SV0022IS7-2NOFD
5	16.0	7.5	24.0	2	14.9	8.1	3	21.3	12.0	SV0037IS7-2NOFD
7.5	24.0	10	32.0	3	22.1	12.0	5	28.6	16.0	SV0055IS7-2NOFD
10	32.0	15	46.0	5	28.6	16.0	7.5	41.2	23.0	SV0075IS7-2NOFD
15	46.0	20	60.0	7.5	44.3	24.0	10	54.7	31.0	SV0110IS7-2NOFD
20	60.0	25	74.0	10	55.9	31.0	10	69.7	38.0	SV0150IS7-2NOFD
25	74.0	30	88.0	10	70.8	38.0	15	82.9	45.0	SV185IS7-2NOFD
30	88.0	40	124.0	15	85.3	45.0	20	116.1	64.0	SV0220IS7-2NOFD
40	116.0	50	146.0	20	121	60.0	25	152.0	75.0	SV0300IS7-2SO
50	146.0	60	180.0	25	154	75.0	30	190.0	93.0	SV0370IS7-2SO
60	180.0	75	220.0	30	191	93.0	40	231.0	114.0	SV0450IS7-2SO
75	220.0	100	288.0	40	233	114.0	50	302.0	149.0	SV0550IS7-2SO
100	288.0	125	345.0	50	305	149.0	60	362.0	178.0	SV0750IS7-2SO

### Three Phase 380 ~ 480 VAC (-15% ~ +10%)

UL Three Phase Ratings				UL Single Phase Ratings						Model Number
Constant Torque 150% for 60 Seconds (HD)		Variable Torque 120% for 60 seconds (ND)		Constant Torque (HD) Single Phase Input		Constant Torque (HD) 3 Phase Output	Variable Torque (ND) Single Phase Input		Variable Torque (ND) 3 Phase Output	
HP	Output Current (Amps)	HP	Output Current (Amps)	HP	Amps	Amps	HP	Amps	Amps	
1	2.5	2	4.0	0.5	2.2	1.4	0.75	3.7	2.2	SV0008IS7-4NOFD
2	4.0	3	6.0	0.75	3.6	2.1	1	5.7	3.2	SV0015IS7-4NOFD
3	6.0	5	8.0	1	5.5	2.8	2	7.7	4.1	SV0022IS7-4NOFD
5	8.0	7.5	12.0	2	7.5	4.1	3	11.1	6.1	SV0037IS7-4NOFD
7.5	12.0	10	16.0	3	11	6.1	5	14.7	8.1	SV0055IS7-4NOFD
10	16.0	15	24.0	5	14.4	8.1	5	21.9	12.0	SV0075IS7-4NOFD
15	24.0	20	30.0	7.5	22	12.0	7.5	26.4	16.0	SV0110IS7-4NOFD
20	30.0	25	39.0	10	26.6	16.0	10	35.5	20.0	SV0150IS7-4NOFD
25	39.0	30	45.0	10	35.6	20.0	15	41.1	23.0	SV0185IS7-4NOFD
30	45.0	40	61.0	15	41.6	23.0	20	55.7	31.0	SV0220IS7-4NOFD
40	61.0	50	75.0	20	55.5	32.0	25	67.5	39.0	SV0300IS7-4NOD
50	75.0	60	91.0	25	67.9	39.0	30	81.7	47.0	SV0370IS7-4NOD
60	91.0	75	110.0	30	82.4	47.0	40	101.8	57.0	SV0450IS7-4NOD
75	110.0	100	152.0	40	102.6	57.0	50	143.6	78.0	SV0550IS7-4NOD
100	152.0	125	183.0	50	143.4	78.0	60	173.4	94.0	SV0750IS7-4NOD
125	183.0	150	223.0	60	174.7	95.0	75	212.9	116.0	SV0900IS7-4SOD
150	223.0	200	264.0	75	213.5	116.0	100	254.2	138.0	SV1100IS7-4SOD
200	264.0	250	325.0	100	255.6	134.0	125	315.3	165.0	SV1320IS7-4SOD
250	325.0	300	370.0	125	316.3	166.0	150	359.3	189.0	SV1600IS7-4SOD
300	370.0	350	432.0	-	-	-	-	-	-	SV1850IS7-4SOD
350	432.0	400	547.0	-	-	-	-	-	-	SV2200IS7-4SOD
400	547.0	500	613.0	-	-	-	-	-	-	SV2800IS7-4SO
500	613.0	600	731.0	-	-	-	-	-	-	SV3150IS7-4SO
600	731.0	700	877.0	-	-	-	-	-	-	SV3750IS7-4SO



	List Price	Order Code	Dimensions(in) H x W x D	Approx. Weight (lbs.)	Conduit Connection Box NEMA1 Enclosure		Flange Mount Kit Heat Sink Out the Back		Additional Data		
					List Price	Order Code	List Price	Order Code	Keypad	Reactor	Filter
	\$949.00	6120000100	5.9 X 11.2 X 7.9	12.1	\$38.00	64110016	\$33.00	64110027	NO	Built-in DC Reactor	Built-in EMC Filter
	\$985.00	6120000200									
	\$1,052.00	6120000300									
	\$1,189.00	6120000400									
	\$1,347.00	6120000500	7.9 X 14.0 X 8.9	22.0	\$40.00	64110017	\$33.00	64110029			
	\$1,929.00	6120000600									
	\$2,393.00	6120000700	9.8 X 15.2 X 11.2	44.1	\$46.00	64110018	\$52.00	64110030			
	\$2,941.00	6120000800									
	\$3,448.00	6120000900	11 X 18.2 X 11.7	66.1	\$77.00	64110019	\$53.00	64110031			
	\$4,356.00	6120001000									
	\$5,849.00	6120005200	11.8 X 22.4 X 10.4	65.0	\$79.00	64110040	Not Available		Built-in LCD Keypad	NO	NO
	\$7,113.00	6120005300	14.6 X 24.8 X 11.1	97.0	\$79.00	64110041					
	\$8,852.00	6120005400									
	\$9,958.00	6120005500									
	\$10,274.00	6120005600	18.3 X 29.5 X 14.0	159.8	\$82.00	64110042					

	List Price	Order Code	Dimensions(in) H x W x D	Approx. Weight (lbs.)	Conduit Connection Box NEMA1 Enclosure		Flange Mount Kit Heat Sink Out the Back		Additional Data		
					List Price	Order Code	List Price	Order Code	Keypad	Reactor	Filter
	\$989.00	6121000100	5.9 X 11.2 X 7.9	12.1	\$38.00	64110016	\$33.00	64110027	NO	Built-in DC Reactor	Built-in EMC Filter
	\$992.00	6121000200									
	\$1,089.00	6121000300									
	\$1,262.00	6121000400									
	\$1,521.00	6121000500	7.9 X 14.0 X 8.9	22.0	\$40.00	64110017	\$33.00	64110029			
	\$1,866.00	6121000600									
	\$2,288.00	6121000700	9.8 X 15.2 X 11.2	44.1	\$46.00	64110018	\$52.00	64110030			
	\$2,566.00	6121000800									
	\$2,658.00	6121000900	11 X 18.2 X 11.7	66.1	\$77.00	64110019	\$54.00	64110032			
	\$3,360.00	6121001000									
	\$4,936.00	6121001100	11.8 X 23.4 X 11.9	90.4	\$79.00	64110020	\$59.00	64110033			
	\$4,936.00	6121001200									
	\$5,548.00	6121001300	14.6 X 26.1 X 14.7	138.9	\$82.00	64110021	\$61.00	64110034			
	\$6,139.00	6121001400									
	\$7,452.00	6121001500	20.1 X 30.9 X 16.7	222.7	\$369.00	6411006463	\$112.00	64110053			
	\$12,011.00	6121005100									
	\$13,212.00	6121005200	20.1 X 33.9 X 16.7	251.3	\$920.00	6411006563	\$112.00	64110054			
	\$14,792.00	6121005300									
	\$16,183.00	6121005400	27.2 X 42.4 X 17.7	440.9	\$1,000.00	6411006663	\$112.00	64110054			
	\$21,791.00	6121014900									
	\$22,408.00	6121015000	30.4 X 44.8 X 17.3	555.6	\$1,000.00	6411006663	Not Available		Built-in LCD Keypad	NO	
	\$34,627.00	6121015100									
	\$44,402.00	6121015200	36.3 X 51.3 X 19.5	776.0	\$1,027.00	6411006763					
	\$49,286.00	6121015300									

### Three Phase 200 ~ 240 VAC (-15% ~ +10%)

UL Three Phase Ratings		UL Single Phase Ratings						Model Number
Constant Torque 150% for 60 Seconds (HD)		Constant Torque (HD) Single Phase Input		Constant Torque (HD) 3 Phase Output	Variable Torque (ND) Single Phase Input		Variable Torque (ND) 3 Phase Output	
HP	Output Current (Amps)	HP	Amps	Amps	HP	Amps	Amps	
1	5.0	0.5	4.3	2.6	0.75	6.8	4.1	SV0008IS7-2SP
2	8.0	0.75	6.9	4.0	1	10.6	6.0	SV0015IS7-2SP
3	12.0	1.5	11.2	6.2	2	14.9	8.2	SV0022IS7-2SP
5	16.0	2	14.9	8.1	3	21.3	12.0	SV0037IS7-2SP
7.5	24.0	3	22.1	12.0	5	28.6	16.0	SV0055IS7-2SP
10	32.0	5	28.6	16.0	7.5	41.2	23.0	SV0075IS7-2SP
15	46.0	7.5	44.3	24.0	10	54.7	31.0	SV0110IS7-2SP
20	60.0	10	55.9	31.0	10	69.7	38.0	SV0150IS7-2SP
25	74.0	10	70.8	38.0	15	82.9	45.0	SV0185IS7-2SP
30	88.0	15	85.3	45.0	20	116.1	64.0	SV0220IS7-2SP

### Three Phase 380 ~ 480 VAC (-15% ~ +10%)

UL Three Phase Ratings		UL Single Phase Ratings						Model Number
Constant Torque 150% for 60 Seconds (HD)		Constant Torque (HD) Single Phase Input		Constant Torque (HD) 3 Phase Output	Variable Torque (ND) Single Phase Input		Variable Torque (ND) 3 Phase Output	
HP	Output Current (Amps)	HP	Amps	Amps	HP	Amps	Amps	
1	2.5	0.5	2.2	1.4	0.75	3.7	2.2	SV0008IS7-4SP
2	4.0	0.75	3.6	2.1	1	5.7	3.2	SV0015IS7-4SP
3	6.0	1	5.5	2.8	1.5	7.7	4.1	SV0022IS7-4SP
5	8.0	2	7.5	4.1	3	11.1	6.1	SV0037IS7-4SP
7.5	12.0	3	11	6.1	3	14.7	8.1	SV0055IS7-4SP
10	16.0	5	14.4	8.1	5	21.9	12.0	SV0075IS7-4SP
15	24.0	7.5	22	12.0	7.5	26.4	16.0	SV0110IS7-4SP
20	30.0	10	26.6	16.0	10	35.5	20.0	SV0150IS7-4SP
25	39.0	10	35.6	20.0	10	41.1	23.0	SV0185IS7-4SP
30	45.0	15	41.6	23.0	15	55.7	31.0	SV0220IS7-4SP

	List Price	Order Code	Dimensions(in) H x W x D	Approx. Weight (lbs.)	Frame Size	Additional Data		
						Keypad	Reactor	Filter
	\$1,277.00	6120004100	8.0 X 16.5 X 8.2	14.8	1 (NEMA12)	Built-in 7 segment LED keypad	NO	NO
	\$1,280.00	6120004200						
	\$1,299.00	6120004300						
	\$1,328.00	6120004400						
	\$1,512.00	6120004500	10.0 X 18.1 X 9.1	20.9	2 (NEMA12)			
	\$1,818.00	6120004600		21.2				
	\$2,431.00	6120004700	12.3 X 23.3 X 11.6	43.2	3 (NEMA12)			
	\$2,450.00	6120004800		43.9				
	\$3,292.00	6120004900	13.5 X 22.5 X 12.4	65.9	4 (NEMA12)			
	\$3,385.00	6120005000		59.7				

	List Price	Order Code	Dimensions(in) H x W x D	Approx. Weight (lbs.)	Frame Size	Additional Data		
						Keypad	Reactor	Filter
	\$1,277.00	6121007100	8.0 X 16.5 X 8.2	14.8	1 (NEMA12)	Built-in 7 segment LED keypad	NO	NO
	\$1,280.00	6121007200						
	\$1,299.00	6121007300						
	\$1,328.00	6121007400						
	\$1,512.00	6121007500	10.0 X 18.1 X 9.1	20.9	2 (NEMA12)			
	\$1,818.00	6121007600		21.2				
	\$2,431.00	6121007700	12.3 X 23.3 X 11.6	43.2	3 (NEMA12)			
	\$2,450.00	6121007800		43.9				
	\$3,292.00	6121007900	13.5 X 22.5 X 12.4	65.9	4 (NEMA12)			
	\$3,385.00	6121008000		59.7				

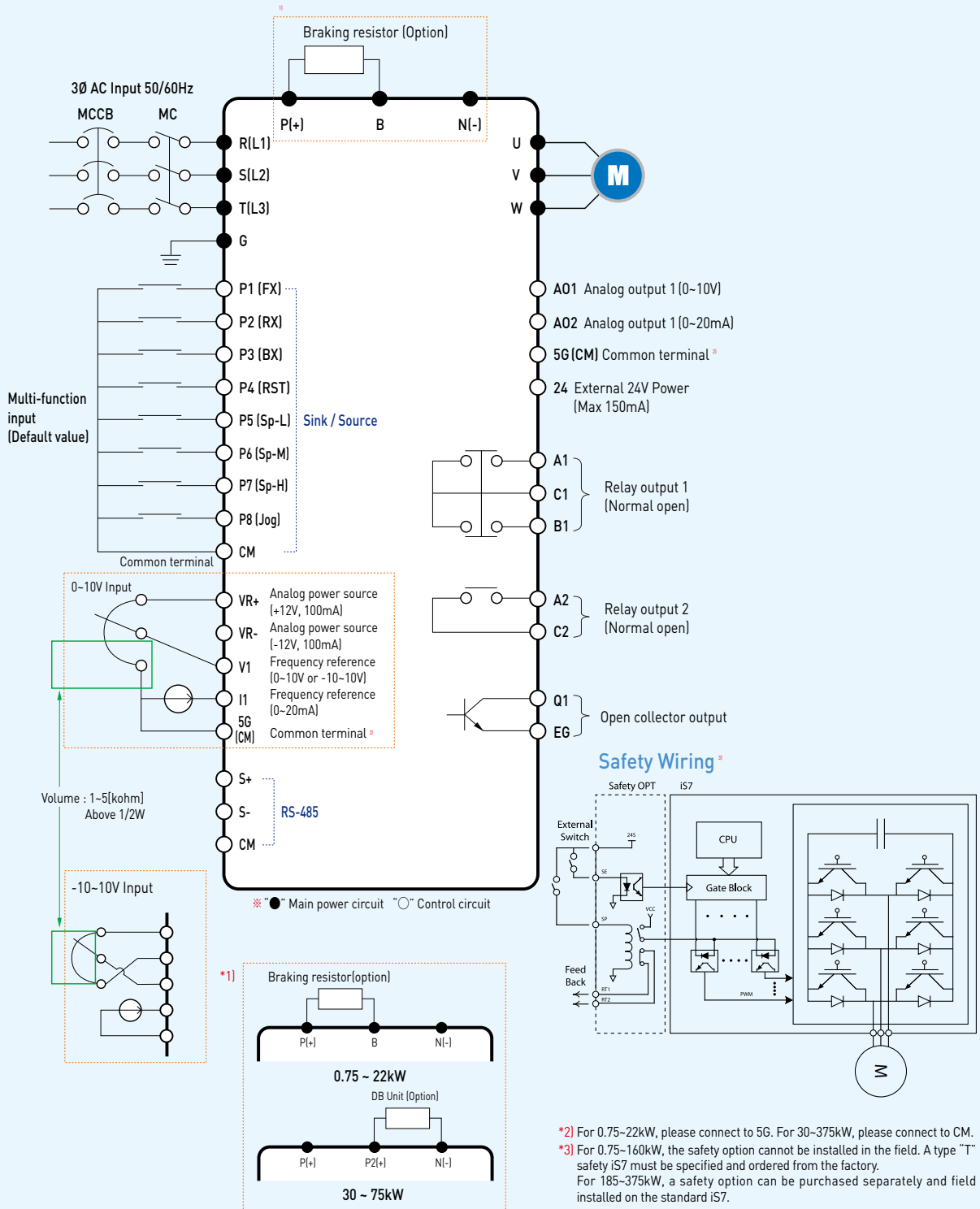
## Remote Cable with Keypad

Length	Model Number	List Price	Order Code
6.6 ft	INV,REMOTE 2M (SV-iS7)	\$26.00	64110009
9.8 ft	INV,REMOTE 3M (SV-iS7)	\$36.00	64110010

## Option

	Model Number	List Price	Order Code
LCD Keypad	INV, LCD Keypad for SV-iS7	\$ 97.00	64110038
RS232C-RJ45 Cable	INV, RS232C-RJ45 Cable for SV	\$ 20.00	76676236322
Isolation I/O	INV,OPTION ISOLATION I/O,SV-iS7	\$ 175.00	64110003
Extension I/O	INV,OPTION EXTENSION I/O,SV-iS7	\$ 281.00	64110004
Encoder	INV,ENCODER OPTION,SV-iS7	\$ 153.00	64110002
CC-Link	INV,OPTION CC-Link,SV-iS7	\$ 510.00	64110023
Ethernet	INV,OPTION ETHERNET,SV-iS7	\$ 362.00	64110022
Ethernet I/P dual port	INV,OPTION ETHERNET,SV-iS7,(CE-S7M1)	\$ 365.00	64110063
Profibus-DP	INV,OPTION PROFIBUS-DP,SV-iS7	\$ 371.00	64110005
PLC	INV,OPTION PLC,SV-iS7	\$ 277.00	64110006
RNET	INV,OPTION RNET/FNET(CR-S7M1),SV-iS7	\$ 205.00	64110007
Devicenet	INV,OPTION DEVICENET,SV-iS7	\$ 255.00	64110013
Lonworks	INV,OPTION LONWORKS,SV-iS7	\$ 255.00	64110014
CANopen	INV,OPTION CANopen,SV-iS7	\$ 255.00	64110012
Profinet	INV,OPTION PROFINET,SV-iS7,(CJ-S7M1)	\$ 362.00	64110052

# Wiring



# SP100

## Bypass Package Solution



- 3Ø 230V 2.0HP~25HP
- 3Ø 460V 2.0HP~75HP



OSHDPD

### SP100, VFD Packaged Solution for Variable Torque Fan and Pump Applications

HVAC applications are optimized with the H100 Bypass. The Bypass series offers security with no downtime and energy savings using the H100 VFD.



#### Features

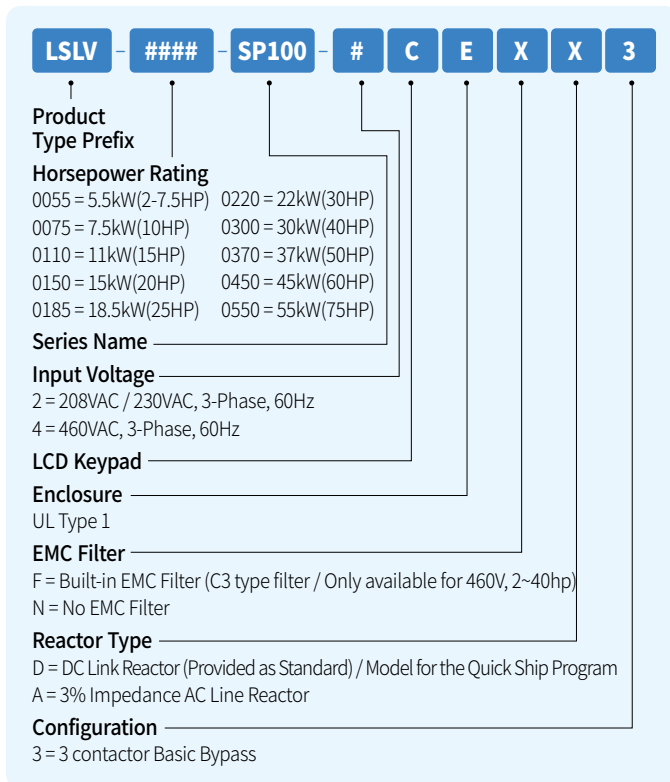
- 3 Contactor Bypass
- HAND/OFF/AUTO selectable
- Compact Size Built-in AC/DC Reactor (Option)
- Easy Wiring and Installation
- Built-in Operation Indicator
- Auto Bypass Function
- Motor OL Trip Detection
- Easy Maintenance
- Built-in Bacnet, Metasys and Modbus Protocols
- NEMA 1 Enclosure
- KEB, Kinetic Energy Buffering
- Fire Mode
- Built-in Five Relay Outputs
- Real Time Clock



#### Applications

- All HVAC Applications

#### Product Type & Model



## Environmental

Enclosure	Type 1
Ambient Temperature	+14°F to +104°F (-10°C to +40°C)
Storage Temperature	-4°F to +149°F (-20°C to +65°C)
Humidity	5% to 95% with no condensation
Altitude	0 to 3,300 ft. (1,000m) without derating, derate output current by 1% for each additional 330 ft (100m)

## Codes and Standards

UL, cUL Listed per UL508A
Conforms to applicable NEMA ICS, NFPA, & IEC Standards

## Electrical

Input Voltage: Nominal - Phase	208VAC, 230VAC, 460VAC - 3 Phase
Input Voltage: Tolerance, Unbalance	+/-10%, ≤3%
Input Frequency	60Hz +/-5%
Displacement Power Factor	≥0.97
Output Frequency	0.00 ~ 400.00Hz
Motor Control Method	V/F for all capacity range
PWM Switch Frequency	1 ~ 15kHz (2~ 40HP) 1 ~ 10kHz (50 ~ 75HP)
Drive Overload Capacity	120% for 1 min - 208V/230V: 2~25HP, 460V: 2~75HP
Motor Overload	Programmable overload / EMPR
Torque Boost	Manual 0~15% boost, automatic torque boost available
Speed Reference	Keypad, 0~10V, -10~10V, 0~20mA, RS485, Fieldbus, Pulse - 208V/230V: 2~25HP, 460V: 2~75HP
Speed Reference Resolution	Digital command: 0.01Hz Analog command: 0.06Hz (60Hz standard)
Acceleration/Deceleration Time	0.00 ~ 6000.0 seconds
Jump Frequencies	3 programmable jump frequency
Output Signals	Qty 4: N.O. dry contacts rated 5A @ 230V max, functionality: Drive Run, Drive Fault, Bypass Run, & Damper Control Qty 1: Open Collector rated 50mA @ 26VDC max, functionality: Drive Run Qty 1: Form C dry contacts rated 2A @ 230V max, functionality: Drive Fault Qty 1: 0 to 10VDC or 4 to 20mA, user selectable programmable analog signal

## Main Features

Soft Fill	Prevents pump damage caused by dramatic pressure changes during initial operation.
Start/End Ramp	Prevents pump damage by changing the acceleration and deceleration ramp profile during initial pump operation and stop.
Decel Valve Ramp	Prevents pump or pipe damage caused by sudden pressure changes when pumps are stopped or valves are closed.
Scheduling (Time Event: Real Time Clock)	Real Time Clock allows sequencing of selected functions during pre-defined time periods.
Flow Compensation	Compensates for hydraulic losses due to elevation or long pipe lengths.
Pump Clean	Removes foreign substances from the pump cavity to extend life and improve efficiency.
Load Tuning	Establishes load curves (current & power) to define load characteristics for under torque and pump clean functions.
Fire Mode	Operates continuously to protect critical systems during emergency situations under set frequency and direction.
Energy Savings Display	Commercial energy consumption is compared to the energy utilized by the VFD to calculate the amount energy savings.
Power-On Resume	Automatic restart upon power interruption.
Sleep, Sleep Boost, Wake-up	Standby mode during PID operation for energy savings and reduction of pump wear.
Auto Torque Boost	Manual or automatic voltage compensation for varying load profiles.
Lubrication Control	Lubrication output signal for a defined time period prior to drive control starting.
Damper Control	Damper control with end-switch confirmation with programmable time period.
Level Detection	User defined low and high detection limits based upon voltage, current or feedback.
Pipe Break Detection	Upon PID operation, pipe breakage or leakage is detected to display a warning or fault condition.
Underload Detection	No flow or pump dry detection with selectable response.
Motor Pre-heat	Prevents condensation in the motor by injecting direct current during idle states.
Kinetic Energy Buffering	Upon loss or momentary power interruption, the drive maintains DC bus voltage by controlled regeneration of the load.
Macro Setting	Application specific parameter groups for commonly used functions.
Bypass Features	Manual bypass selection.
	Automatic transfer to bypass.
	Bypass run indication.
	Motor overload indication.
	Power on indication.
	Hand/Off/Auto selector switch.
	VFD/Off/Bypass selector switch.
	Adjustable trip class for bypass contactor.
	Damper end switch logic with notification.
	Drive and bypass input/output contactors.
	Drive input isolation contactor.
Control power transformer with fusing.	
Five built-in relay outputs.	
Built-in DC reactor. / Built-in 3% AC Line reactor as an option.	

## Three Phase 200 ~ 240 VAC (-15% ~ +10% )

Variable Torque 120% for 60 Seconds (ND)		Model Number	List Price	Order Code	Dimensions(in) W x H x D	Approx. Weight (lbs.)	Additional Data		
HP	Output Current (Amps)						Keypad	Reactor	Filter
7.5	22.0	LSLV0055SP100-2CEND3	\$2,464.00	6730002300	6.23 X 29.53 X 8.56	33.1	Built-in LCD Keypad	Built-in DC Reactor	NO
10	30.0	LSLV0075SP100-2CEND3	\$2,703.00	6730002400					
15	42.0	LSLV0110SP100-2CEND3	\$3,164.00	6730002500	7.78 X 39.32 X 10.27	75.0			
20	56.0	LSLV0150SP100-2CEND3	\$3,590.00	6730002600					
25	69.0	LSLV0185SP100-2CEND3	\$4,815.00	6730002700					

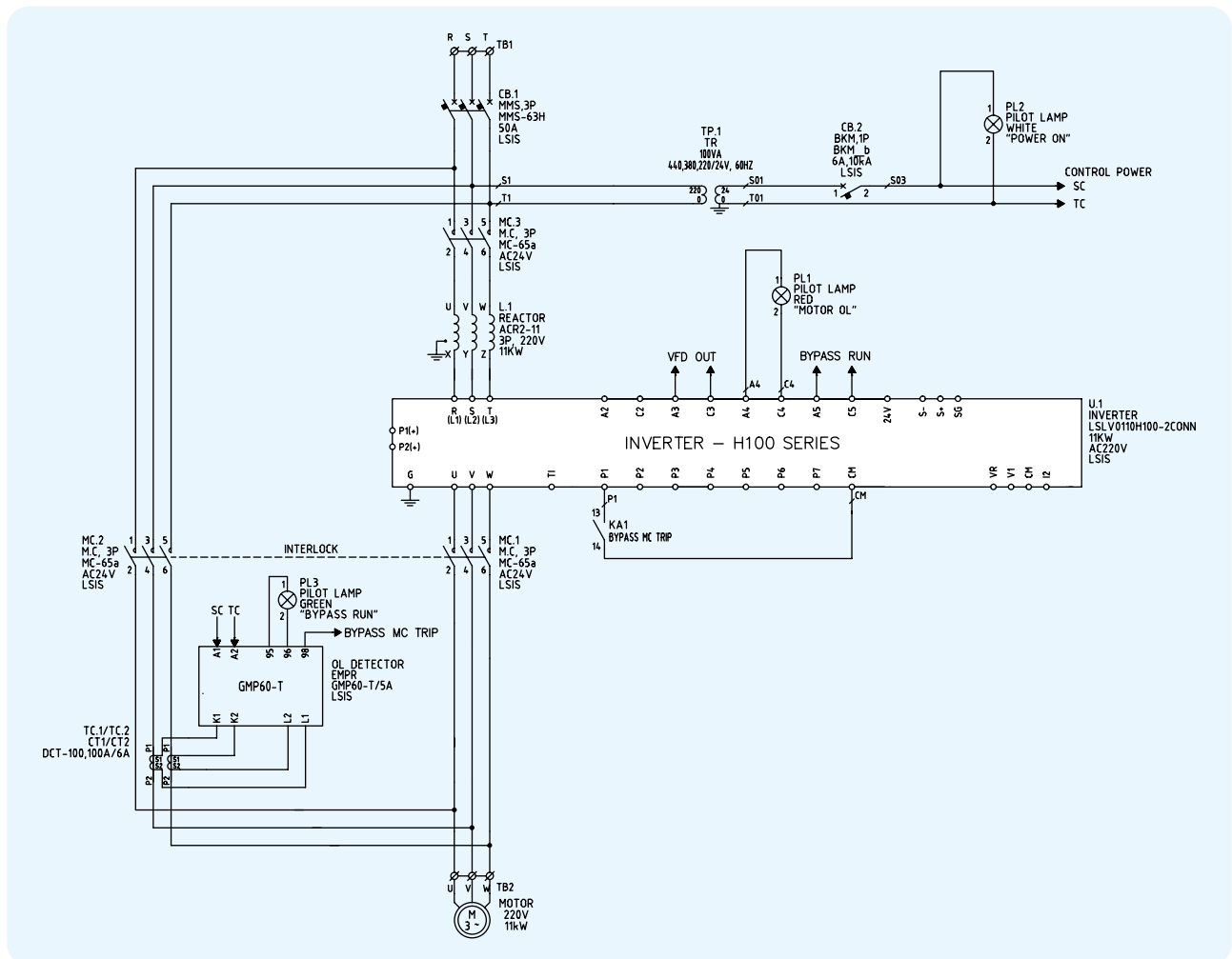


Three Phase 380 ~ 480 VAC (-15% ~ +10%)

Variable Torque 120% for 60 Seconds (ND)		Model Number	List Price	Order Code	Dimensions(in) W x H x D	Approx. Weight (lbs.)	Additional Data		
HP	Output Current (Amps)						Keypad	Reactor	Filter
7.5	12.0	LSLV0055SP100-4CEFD3	\$2,142.00	6731005500	6.23 X 29.53 X 8.56	33.1	Built-in LCD Keypad	Built-in DC Reactor	Built-in EMC Filter
10	16.0	LSLV0075SP100-4CEFD3	\$2,261.00	6731005600					
15	24.0	LSLV0110SP100-4CEFD3	\$2,673.00	6731005700					
20	30.0	LSLV0150SP100-4CEFD3	\$3,156.00	6731005800	7.78 X 39.32 X 10.27	75.0			
25	38.0	LSLV0185SP100-4CEFD3	\$3,660.00	6731005900					
30	45.0	LSLV0220SP100-4CEFD3	\$4,065.00	6731006000	9.36 X 44.57 X 11.33	90.4			
40	61.0	LSLV0300SP100-4CEFD3	\$4,805.00	6731006100					
50	75.0	LSLV0370SP100-4CEND3	\$6,330.00	6731006200	12.87 X 57.48 X 13.46	158.7			
60	91.0	LSLV0450SP100-4CEND3	\$7,221.00	6731006300					
75	107.0	LSLV0550SP100-4CEND3	\$9,249.00	6731006400					

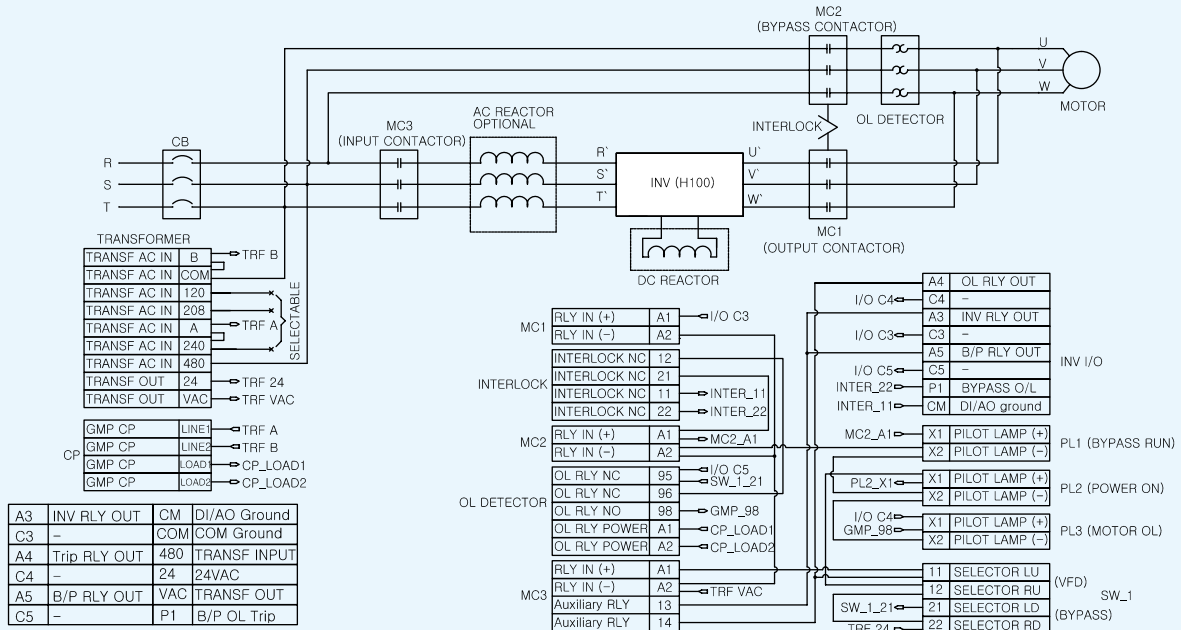
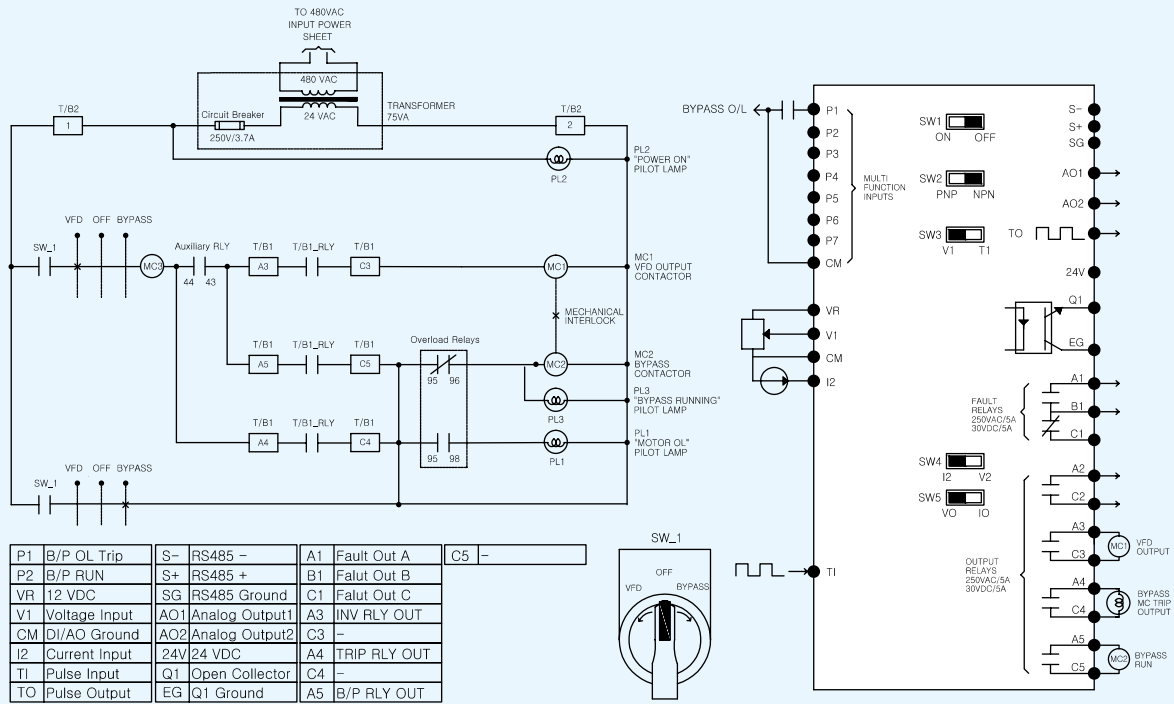
Wiring

Main



## Wiring

### Control Circuit Overview

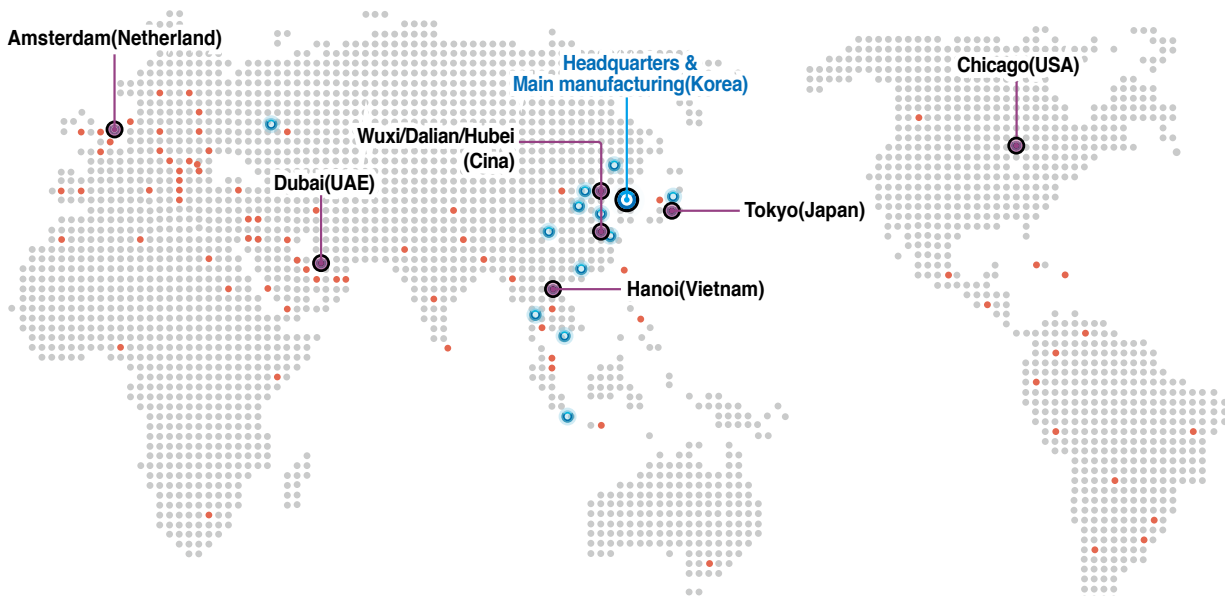


**TOP 100  
GLOBAL  
INNOVATORS**



**LS is one of world's most 100 innovators by Clarivate Analytics.  
With its mission, Futuring Smart Energy,  
LS pursues the world more smart, safe and sustainable.**

## Your World Class Total Solution Provider



- **Overseas Subsidiary Office** Chicago(USA), Dubai(UAE), Amsterdam(Netherland), Wuxi / Dalian / Hubei(China), Tokyo(Japan), Hanoi(Vietnam)
- **Overseas Branch Office** Moscow(Russia), Shanghai / Beijing / Guangzhou / Qingdao / Chengdu / Shenyang / Jinan(China), Tokyo(Japan), Ho Chi Minh(Vietnam), Jakarta(Indonesia), Bangkok(Thailand)
- **International Presence** 106 Countries





## 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.



[www.lselectric.co.kr](http://www.lselectric.co.kr)

### ■ Headquarter

LS-ro 127(Hogye-dong) Dongan-gu, Anyang-si, Gyeonggi-Do, 14119, Korea

### ■ Seoul Office

LS Yongsan Tower, 92, Hangang-daero, Yongsan-gu, Seoul, 04386, Korea  
Tel: 82-2-2034-4644(Europe), 4982(USA), 4884(East Asia)  
Fax: 82-2-2034-4588 E-mail: drivesales@lselectric.co.kr

### ■ Overseas Subsidiaries

- **LS ELECTRIC Japan Co., Ltd. (Tokyo, Japan)**  
Tel: 81-3-6268-8241 E-Mail: jschuna@lselectric.biz
- **LS ELECTRIC (Dalian) Co., Ltd. (Dalian, China)**  
Tel: 86-411-8730-6495 E-Mail: jiheo@lselectric.com.cn
- **LS ELECTRIC (Wuxi) Co., Ltd. (Wuxi, China)**  
Tel: 86-510-6851-6666 E-Mail: sblee@lselectric.co.kr
- **LS ELECTRIC Vietnam Co., Ltd.**  
Tel: 84-93-631-4099 E-Mail: jhchoi4@lselectric.biz (Hanoi)  
Tel: 84-28-3823-7890 E-Mail: sjbaik@lselectric.biz (Hochiminh)
- **LS ELECTRIC Middle East FZE (Dubai, U.A.E.)**  
Tel: 971-4-886-5360 E-Mail: salesme@lselectric.biz
- **LS ELECTRIC Europe B.V. (Hoofddorf, Netherlands)**  
Tel: 31-20-654-1424 E-Mail: europartner@lselectric.biz
- **LS ELECTRIC America Inc. (Chicago, USA)**  
Tel: 1-800-891-2941 E-Mail: sales.us@lselectricamerica.com

### ■ Overseas Branches

- **LS ELECTRIC Tokyo Office (Japan)**  
Tel: 81-3-6268-8241 E-Mail: jschuna@lselectric.biz
- **LS ELECTRIC Beijing Office (China)**  
Tel: 86-10-5095-1631 E-Mail: khpaek@lselectric.com.cn
- **LS ELECTRIC Shanghai Office (China)**  
Tel: 86-21-5237-9977 E-Mail: tsjun@lselectric.com.cn
- **LS ELECTRIC Guangzhou Office (China)**  
Tel: 86-20-3818-2883 E-Mail: chenxs@lselectric.com.cn
- **LS ELECTRIC Chengdu Office (China)**  
Tel: 86-28-8670-3201 E-Mail: yangcf@lselectric.com.cn
- **LS ELECTRIC Qingdao Office (China)**  
Tel: 86-532-8501-2065 E-Mail: wangzy@lselectric.com.cn
- **LS ELECTRIC Nanjing Office (China)**  
Tel: 86-25-8467-0005 E-Mail: ylong@lselectric.com.cn
- **LS ELECTRIC Bangkok Office (Thailand)**  
Tel: 66-90-950-9683 E-Mail: sjleet@lselectric.biz
- **LS ELECTRIC Jakarta Office (Indonesia)**  
Tel: 62-21-2933-7614 E-Mail: jllee@lselectric.biz
- **LS ELECTRIC Moscow Office (Russia)**  
Tel: 7-499-682-6130 E-Mail: jdpark1@lselectric.biz
- **LS ELECTRIC America Western Office (Irvine, USA)**  
Tel: 1-949-333-3140 E-Mail: jwyun@lselectricamerica.com