



High Torque Performance and Precise Control **iS7**
Standard Drive

0.75~75kW (1~100HP) 3Phase 200 ~ 230Volts
0.75~375kW (1~500HP) 3Phase 380 ~ 480Volts

LSIS



User-Friendly Options

Diverse communication options, expansion I/O options,
PLC options, encoder options, IP54 enclosure options



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iS7 generates a more powerful performance through its superior V/F control, V/F PG, slip compensation, and sensorless vector control. The iS7 focuses on a user-friendly interface and environment-friendly features including a wide graphic LCD keypad, user & macro group support, electro-thermal functions for motor protection, and protection for input/output phase loss.



The iS7 sets the world standard for drives (VFDs) because of its features that meet all of your needs in AC drives. The iS7 offers powerful performance, flexibility through diverse options, and a more convenient and user-friendly interface. The iS7 offers more than you can imagine.



※ ABS Standard – Acquired (up to 90kW) / In Progress (above 110kW)
※ DNV Standard – Acquired (up to 375kW)



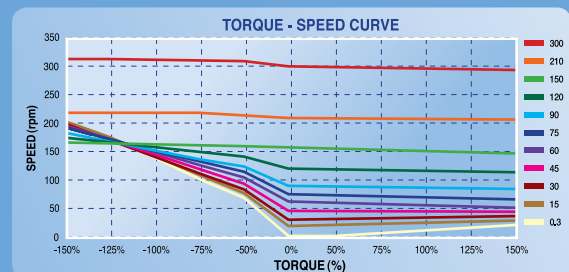
iS7 is dependable because it has high performance and reliability.



iS7 Feature | Reliability & High Performance

Reliability

- ▶ Powerful electric current type sensorless vector control
Our iS7 technology includes a competitive and strong low-speed torque control and a speed-precision-driven vector algorithm.
- Speed control range 100:1
- Extremely low torque control capability: 0.1Hz/150% real torque
- Max. torque control capability within the restoration range

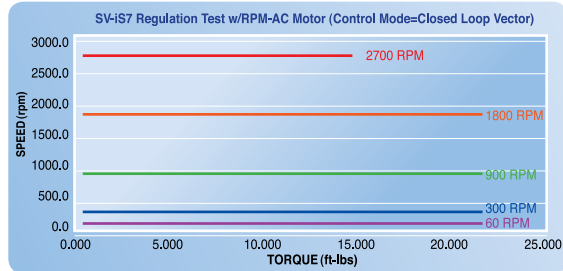


High Performance

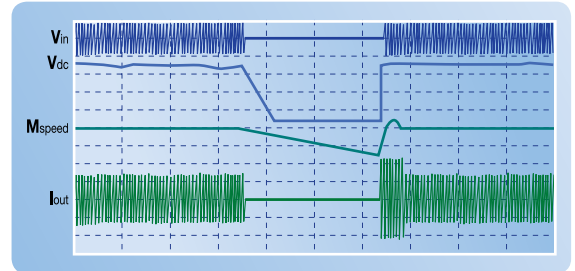
➤ Sensored vector realizing precise speed/torque control

In the entire speed range including zero speed, powerful torque (more than 250%) performance is materialized through receiving Max. 200kHz frequency pulse via encoder-dedicated board.

- Speed control range 1000:1
- Instant Max. torque control capability 250%
- 50Hz speed control response



➤ Ride-through (LV trip delay) for sudden power loss

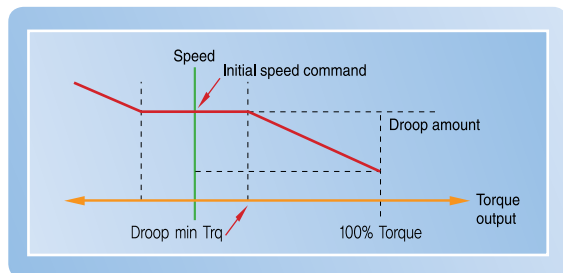


Powerful Performance

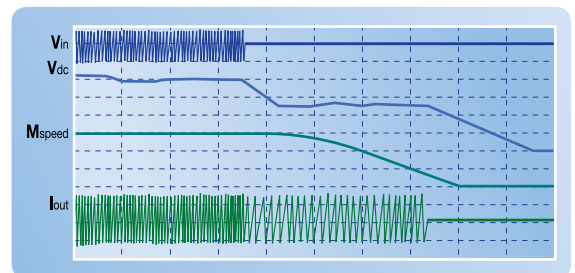
V/F control, V/F PG, slip compensation, sensorless vector control

➤ Automatic torque balance droop control

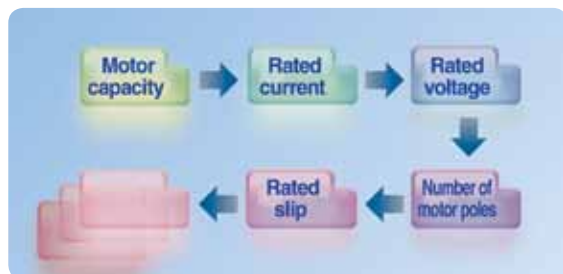
Droop control algorithm adjusts changeable torque driven by speed. This algorithm is easily applicable to open loop linking driving and load sharing driving.



➤ Kinetic Energy Buffering (KEB) for a stable system stop in case of power loss or failure

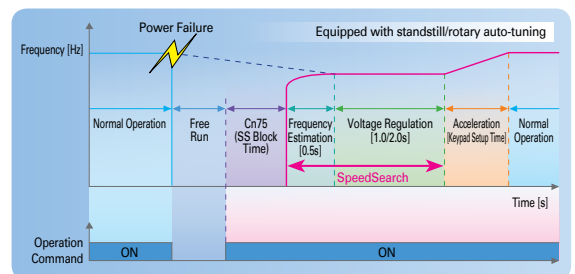


➤ Easy start parameter setting



➤ Flying start function

Drive capable of quick reliable smooth restarts into bi-directional rotating loads.



➤ Power and flux braking for maximum deceleration

➤ Safety Option

The Safety input function meets EN ISO 13849-1 PLd and EN 61508 SIL2 (EN60204-1, stop category 0).

This feature is standard and enables compliance with current safety standards.

iS7 is flexible because it is easily expandable.



iS7 Feature | **Flexibility & Expansion**

Flexibility Expansion

- * 1) Extension I/O-2 is only dedicated for WEB(Winder) customized models.
- * 2) In order to use position control and synchronous options, customer have to purchase that customized product or to install customized main software.
- * 3) Below 22kW : Default Built-in Basic I/O
Above 30kW : Default Built-in Isolation I/O
- * More information about the options, refer to the 22Page.

Conduit kit option

- Acquired UL open type & enclosed type1 certification
- * UL open type is offered as default
- * UL enclosed type1 needs conduit kit(option) installation
- 0.75~75kW (1~100HP)



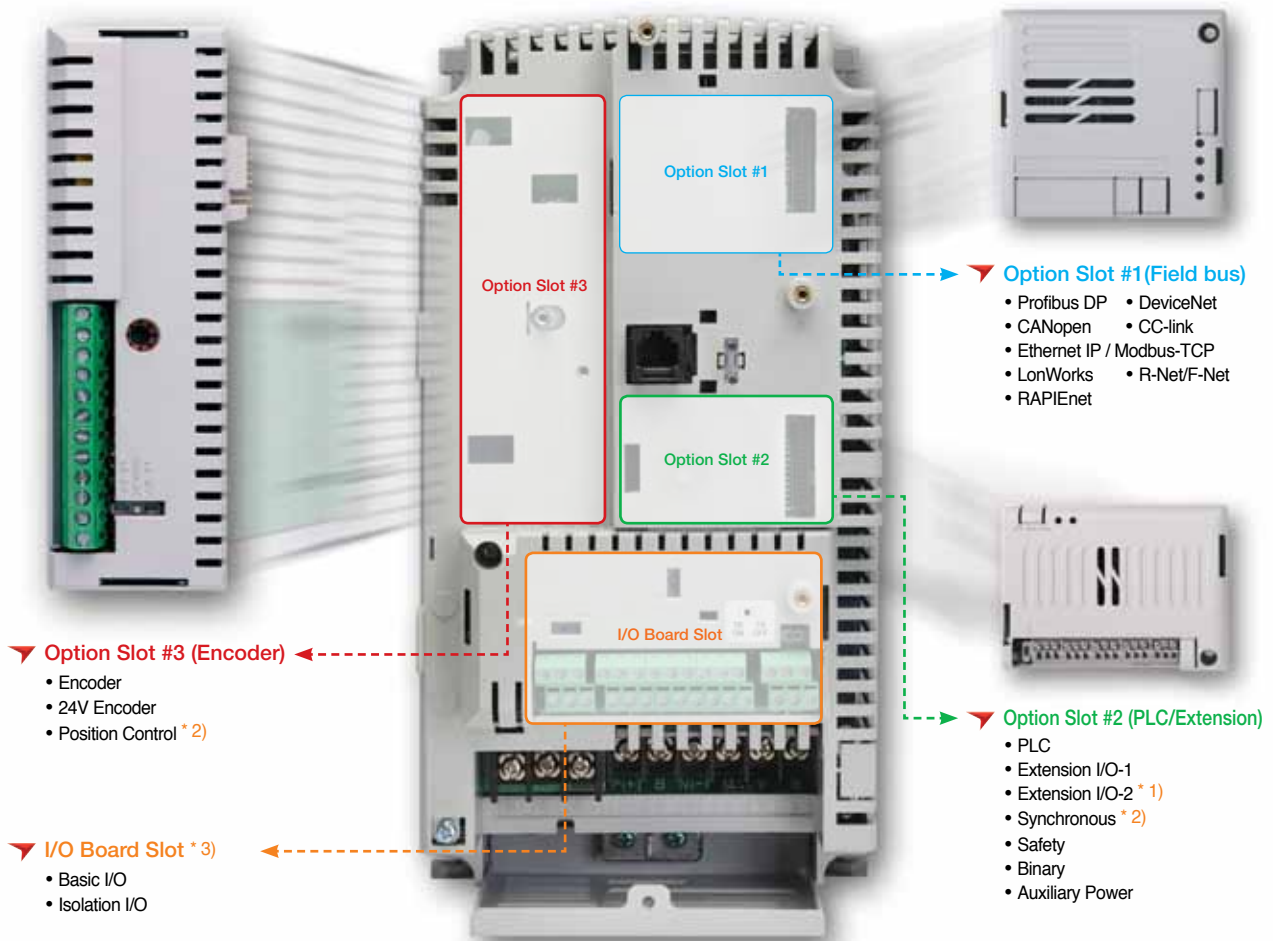
Flange Option

- The heat sink can be mounted outside of the panel in case the space is limited.
- 0.75~75kW (1~100HP)



User-Friendly Options

Diverse communication options, expansion I/O options, PLC options, encoder options, IP54 enclosure options



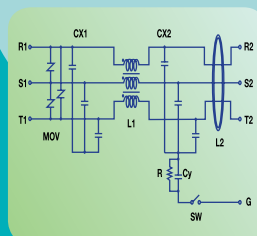
iS7 is convenient because it has a user friendly interface.



iS7 Feature | Convenience & Environment

Convenience Environment

- ▶ EMC filter (in conformity with EN61800-3) built-in for protection from excessive electronic distortion



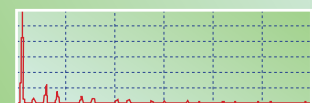
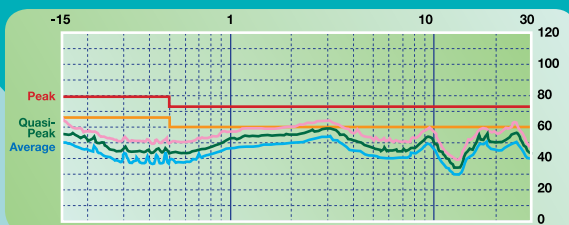
- ▶ DC reactor built-in for harmonic reduction and power factor improvement



Overloading rate	110% (VT rated standard)
THD	18 ~ 37%
power factor	94 ~ 96%
IP Level	IP21
Insulation Class	155°C (300°F)

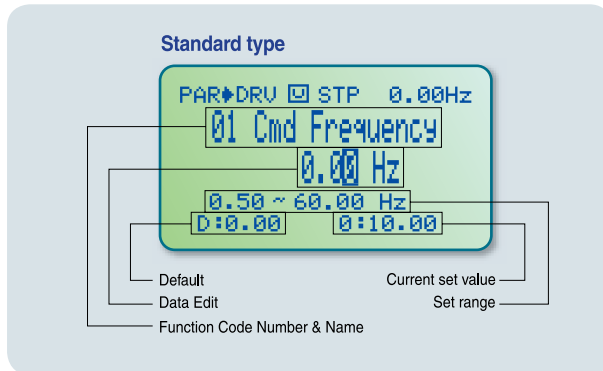


Input current and THD analysis



THD : 29.3% PF : 95.9%

➤ Widened graphic LCD keypad

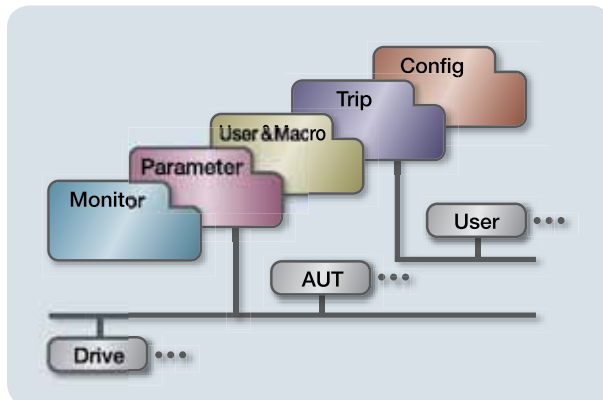


➤ Multi-language support (5 languages)

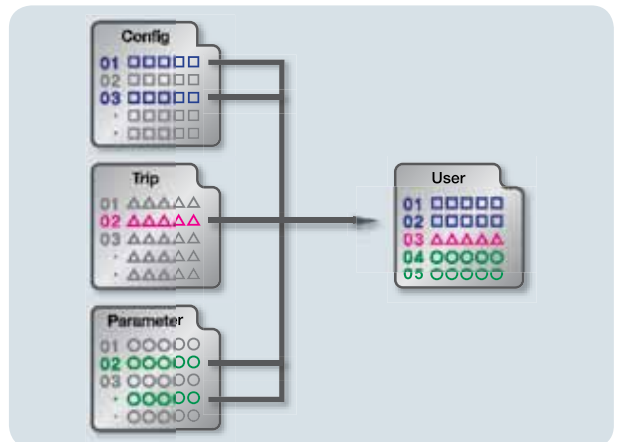


Convenience through User-friendly Interface

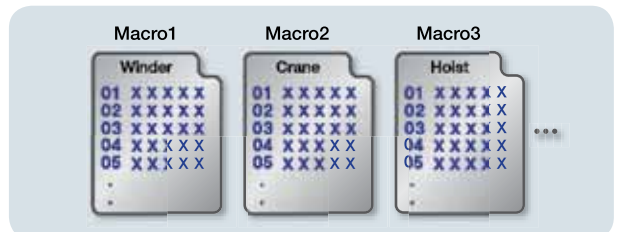
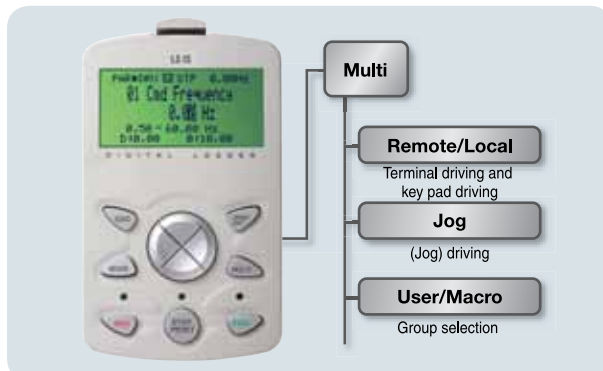
➤ Efficient architecture of 5-mode 15-parameter groups



➤ User & macro group support



➤ Multi-function key



➤ Protective functions dedicated motor control

iS7 iS7 is competitive because it is applicable to various industrial fields.

Application

STARVERT iS7 Feature | **Variety Application**

Variety



Warping/Beaming Machine

- Encoder feedback
- Tension control with built-in PID
- (Winding)
- Jog operation
- Anti-rollback



Laminating Machine

- Tension control with dancer feedback
- Diameter estimator winding
- Positive/negative taper
- Constant linear speed control



Wire Drawing Machine

- Capstan operation with sensorless
- Tension control with dancer feedback
- Diameter estimator winding
- Skip function
- Constant linear speed control



Tire Line

- Tag time reduction (Fast response time)
- Tension control with draw function
- Jog operation
- C3 conformal coating
- IP54 enclosure



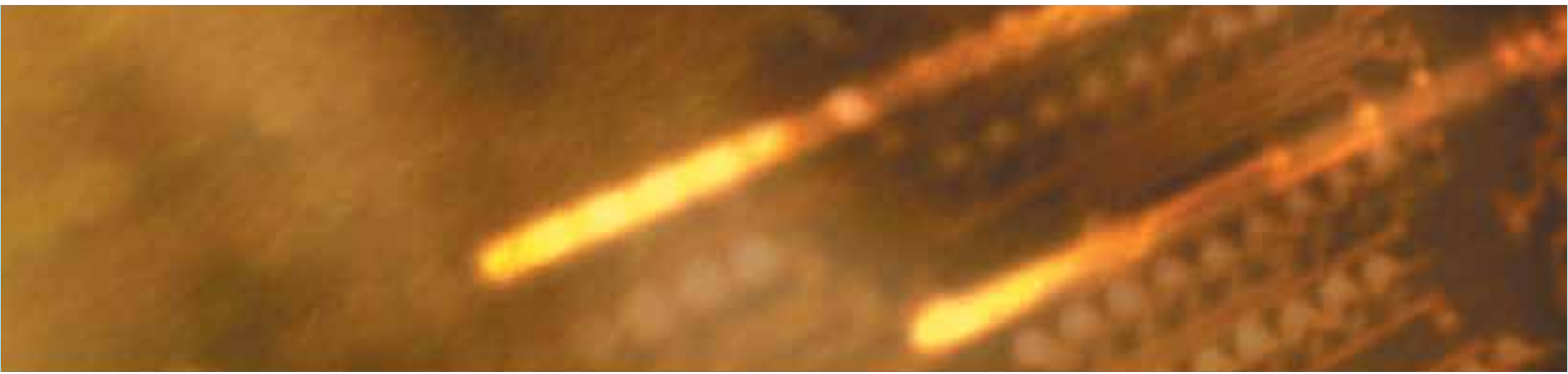
Elevator

- Elevator optimized brake control
- Zero speed control (with encoder)
- Over speed check function
- Elevator master function (with PLC option)
- Ideal S curve (for comfortable driving)



Lift

- Joystick function
- Soft start & stop
- Over speed check function
- Stationary torque holding
- Dual motor control



Crane/Hoist

- Sensorless control
- Weight load brake control function
- Optimized load balancing
- Customized DB unit



Parking Facility

- Low speed torque control
- Powerful starting torque
- 2nd source for Vertical and horizontal transverse sequential motor control



Automated Warehouse

- Smooth deceleration and precise target layer stops with powerful torque
- Real-time monitoring with Driveview7



Press Machine

- Peak current limit
- Inhibit regenerative operation



Washing Machine/extractor

- Powerful laundry property with strong torque
- Effective deceleration with power braking & flux braking
- High speed operation with optimized algorithm



Air Compressor

- Optimized operation with enhanced PID algorithm
- Energy saving with sleep & wake up function
- Soft start/stop function



Model and Type

Motor Rating	3-Phase 200V Class	3-Phase 400V Class
0.75kW	SV0008 iS7-2NO(F)(D)	SV0008 iS7-4NO(F)(D)
1.5kW	SV0015 iS7-2NO(F)(D)	SV0015 iS7-4NO(F)(D)
2.2kW	SV0022 iS7-2NO(F)(D)	SV0022 iS7-4NO(F)(D)
3.7kW	SV0037 iS7-2NO(F)(D)	SV0037 iS7-4NO(F)(D)
5.5kW	SV0055 iS7-2NO(F)(D)	SV0055 iS7-4NO(F)(D)
7.5kW	SV0075 iS7-2NO(F)(D)	SV0075 iS7-4NO(F)(D)
11kW	SV0110 iS7-2NO(F)(D)	SV0110 iS7-4NO(F)(D)
15kW	SV0150 iS7-2NO(F)(D)	SV0150 iS7-4NO(F)(D)
18.5kW	SV0185 iS7-2NO(F)(D)	SV0185 iS7-4NO(F)(D)
22kW	SV0220 iS7-2NO(F)(D)	SV0220 iS7-4NO(F)(D)
30kW	SV0300 iS7-2SO	SV0300 iS7-4NO(D)
37kW	SV0370 iS7-2SO	SV0370 iS7-4NO(D)
45kW	SV0450 iS7-2SO	SV0450 iS7-4NO(D)
55kW	SV0550 iS7-2SO	SV0550 iS7-4NO(D)
75kW	SV0750 iS7-2SO	SV0750 iS7-4NO(D)
90kW		SV0900 iS7-4SOD
110kW		SV1100 iS7-4SOD
132kW		SV1320 iS7-4SOD
160kW		SV1600 iS7-4SOD
185kW		SV1850iS7-4SOD
220kW		SV2200iS7-4SOD
280kW		SV2800iS7-4SO
315kW		SV3150iS7-4SO
375kW		SV3750iS7-4SO

※ (F) : Built-in EMC(F) or Non-EMC(Blank) selectable

※ (D) : Built-in DCR(F) or Non-Reactor(Blank) selectable

※ Non DCR products are provided warranty service when used in CT (Heavy Duty) load rating only.

※ Please request LSIS sale person for UL Type12(IP54) / Web customized product,

SV	0008	iS7	-	2	N	O	F	D	W
LS Drive Starvert Series	Capacity of Applied Motor	Series Name		Input Voltage	Keypad		Filter	DC Reactor	Customized Model
	0008 0.75 [kW]			2 3-Phase 200~230[V]	N NON		Blank NON	Blank NON	Blank Standard
	0015 1.5 [kW]			4 3-Phase 380~480[V]	S GLCD (Graphic Loader)		D DC Reactor	D DC Reactor	W WEB (Winder)
	0022 2.2 [kW]						R Braking Resistor ^{*)}		S Position/Synchronous
	0037 3.7 [kW]								T Safety
	0055 5.5 [kW]								V Classification
	0075 7.5 [kW]								
	0110 11 [kW]								
	0150 15 [kW]								
	0185 18.5 [kW]								
	0220 22 [kW]								
	0300 30 [kW]								
	0370 37 [kW]								
	0450 45 [kW]								
	0550 55 [kW]								
	0750 75 [kW]								
	0900 90[kW]								
	1100 110[kW]								
	1320 132[kW]								
	1600 160[kW]								
	1850 185kW								
	2200 220kW								
	2800 280kW								
	3150 315kW								
	3750 375kW								

^{*)} Enclosed UL Type 1 is only satisfied with Conduit Option.

Applied Capacity: 0.75~75kW

^{*)} Built-in braking resistor product is an option of a winder dedicated iS7

Applied Capacity: 200V/400V 0.75~3.7kW

Specification

Rated Input and Output: Input voltage of 200V class (0.75~22kW)

Type: SV □□□□ iS7-2 □		0008	0015	0022	0037	0055	0075	0110	0150	0185	0220
Motor Applied ^{*1)}	[HP]	1	2	3	5	7.5	10	15	20	25	30
	[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
Rated Output	Rated Capacity [kVA] ^{*2)}	1.9	3.0	4.5	6.1	9.1	12.2	17.5	22.9	28.2	33.5
	Rated Current [A] ^{*3)}	CT	5	8	12	16	24	32	46	60	74
		VT	8	12	16	24	32	46	60	74	88
	Output Frequency [Hz]	0 ~ 400 [Hz] ^{*4)}									
Rated Input	Output Voltage [V]	3-phase 200 ~ 230V ^{*5)}									
	Available Voltage [V]	3-phase 200 ~ 230 VAC (-15% ~ +10%)									
	Frequency [Hz]	50 ~ 60 [Hz] (±5%)									
	Rated Current [A]	CT	4.3	6.9	11.2	14.9	22.1	28.6	44.3	55.9	70.8
		VT	6.8	10.6	14.9	21.3	28.6	41.2	54.7	69.7	82.9

2.1.2 Rated Input and Output: Input voltage of 200V class (30~75kw)

Type: SV □□□□ iS7-2 □		0300	0370	0450	0550	0750	-	-	-	-	-
Motor Applied ^{*1)}	[HP]	40	50	60	75	100	-	-	-	-	-
	[kW]	30	37	45	55	75	-	-	-	-	-
Rated Output	Rated Capacity [kVA] ^{*2)}	46	57	69	84	116	-	-	-	-	-
	Rated Current [A] ^{*3)}	CT	116	146	180	220	-	-	-	-	-
		VT	146	180	220	288	-	-	-	-	-
	Output Frequency [Hz]	0 ~ 400 [Hz] ^{*4)} (Sensorless -1: 0 ~ 300Hz, Sensorless -2, Vector. 0 ~ 120Hz)									
Rated Input	Output Voltage [V]	3-phase 200 ~ 230V ^{*5)}									
	Available Voltage [V]	3-phase 200 ~ 230 VAC (-15% ~ +10%)									
	Input Frequency	50 ~ 60 [Hz] (±5%)									
	Rated Current [A]	CT	121	154	191	233	305	-	-	-	-
		VT	152	190	231	302	362	-	-	-	-

Rated Input and Output: Input voltage of 400V class (0.75~22kW)

Type: SV □□□□ iS7-4 □		0008	0015	0022	0037	0055	0075	0110	0150	0185	0220
Motor Applied ^{*1)}	[HP]	1	2	3	5	7.5	10	15	20	25	30
	[kW]	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
Rated Output	Rated Capacity [kVA] ^{*2)}	1.9	3.0	4.5	6.1	9.1	12.2	18.3	22.9	29.7	34.3
	Rated Current [A] ^{*3)}	CT	2.5	4	6	8	12	16	24	30	39
		VT	4	6	8	12	16	24	30	39	45
	Output Frequency [Hz]	0 ~ 400 [Hz] ^{*4)}									
Rated Input	Output Voltage [V]	3-phase 380 ~ 480V ^{*5)}									
	Available Voltage [V]	3-phase 380 ~ 480 VAC (-15% ~ +10%)									
	Frequency	50 ~ 60 [Hz] (±5%)									
	Rated Current [A]	CT	2.2	3.6	5.5	7.5	11.0	14.4	22.0	26.6	35.6
		VT	3.7	5.7	7.7	11.1	14.7	21.9	26.4	35.5	41.1

^{*1)} Motor Applied indicates the maximum capacity of a standard 4 pole OTIS-LG motor.

^{*2)} Rated Capacity: the input capacity of a 200V class is based on 220V and that of a 400V class is based on 440V. The current rating is based on CT current.

^{*3)} The output of rated current is limited according to the setting of the carrier frequency (CON-04).

^{*4)} You can set the frequency at up to 300Hz by selecting 3, 4 Sensorless-1, Sensorless-2 as the control mode (DRV-09 Control Mode).

^{*5)} The maximum output voltage does not go over the supplied power voltage. You can select the output voltage as you want below the supplied power voltage.



Specifications

Rated Input and Output: Input voltage of 400V class (30~375kW)

Type: SV □□□□ iS7-4 □			0300	0370	0450	0550	0750	0900	1100	1320	1600	1850	2200	2850	3150	3750
Motor Applied ^{*1)}		[HP]	40	50	60	75	100	120	150	180	225	250	300	375	420	500
		[kW]	30	37	45	55	75	90	110	132	160	185	220	285	315	375
Rated Output	Rated Capacity [kVA] ^{*2)}		46	57	69	84	116	139	170	201	248	286	329	416	467	557
	Rated Current [A] ^{*3)}	CT	61	75	91	110	152	183	223	264	325	370	432	547	613	731
		VT	75	91	110	152	183	223	264	325	370	432	547	613	731	877
	Output Frequency [Hz]		0 ~ 400 [Hz] (Sensorless-1: 0 ~ 300Hz, Sensorless-2, Vector: 0 ~ 120Hz) ^{*4)}													
	Output Voltage [V]		3-phase 380 ~ 480V ^{*5)}													
Rated Input	Available Voltage [V]		3-phase 380 ~ 480 VAC (-15% ~ +10%)													
	Frequency [Hz]		50 ~ 60 [Hz] (±5%)													
	Rated Current [A]	CT	55.5	67.9	82.4	102.6	143.4	174.7	213.5	255.6	316.3	404	466	605	674	798
		VT	67.5	81.7	101.8	143.6	173.4	212.9	254.2	315.3	359.3	463	590	673	796	948

^{*1)} Motor Applied indicates the maximum capacity of a standard 4 pole OTIS-LG motor.

^{*2)} Rated Capacity: the input capacity of a 200V class is based on 220V and that of a 400V class is based on 440V. The current rating is based on CT current.

^{*3)} The output of rated current is limited according to the setting of the carrier frequency (CON-04).

^{*4)} You can set the frequency at up to 300Hz by selecting 3, 4 Sensorless-1, Sensorless-2 as the control mode (DRV-09 Control Mode).

^{*5)} The maximum output voltage does not go over the supplied power voltage. You can select the output voltage as you want below the supplied power voltage.

Control

Control Method	V/F control, V/F PG, slip compensation, sensorless vector control, vector control
Frequency Setting Resolution	Digital command: 0.01Hz Analog command: 0.06Hz (maximum frequency: 60Hz)
Frequency Tolerance	Digital command operation: 0.01% of the maximum frequency Analog command operation: 0.1% of the maximum frequency
V/F Pattern	Linear, double reduction, user V/F
Overload Capacity	CT current rating :150% for 1 minute, VT current rating :110% for 1 minute
Torque Boost	Manual torque boost, automatic torque boost

Specifications

Specifications

Operating Method		Selectable among keypad/terminal block/communication operation	
Frequency Setting		Analog: 0 ~ 10[V], -10 ~ 10[V], 0 ~ 20[mA] Digital: keypad	
Operating Function		PID control, up-down operation, 3-wire operation, DC brake, frequency limit, frequency jump, second function, slip compensation, reverse rotation prevention, auto restart, drive by-pass, auto tune flying start, energy buffering, power braking, flux braking, leakage current reduction, MMC, easy start	
Input	Multi-function terminal (8 points) P1 ~ P81 ^{*1)}	NPN / PNP selectable	
		Function: forward operation; reverse operation; reset; external trip; emergency stop; jog operation; sequential frequency-high; medium and low; multi-level acceleration and deceleration-high; medium and low; D.C. control during stop; selection of a second motor; frequency increase; frequency decrease; 3-wire operation; change to general operation during PID operation; main body operation during option operation; analog command frequency fixation; acceleration and deceleration stop selectable	
Output	Multi-function open collector terminal	Drive fault output	Below DC 24V 50mA
	Multi-function relay terminal		Below (N.O., N.C.) AC250V 1A, Below DC 30V 1A
	Analog output	0 ~ 10 Vdc (below 10mA): selectable from frequency, current, voltage, direct current voltage	

^{*1)} The Functions for Multi-function terminal available according to IN-65~72 parameter setting of IN Group.

Protective Functions

Trip	Over voltage, low voltage, over current, over current detection, drive overheat, motor thermal protection, phase loss protection, overload protection, communication error, frequency command loss, hardware failure, cooling fan failure, pre-PID failure, no motor trip, external brake trip. etc
Alarm	Stall prevention, overload, diminished load, encoder error, fan failure, keypad command loss, speed command loss.
Instantaneous Interruption ^{*2)}	Below CT class 15 msec (VT class 8 msec): operation continues (within rated input voltage, rated output) Over CT class 15 msec (VT class 8 msec): automatic restart

^{*2)} Operation at the CT (Heavy Duty) current rating

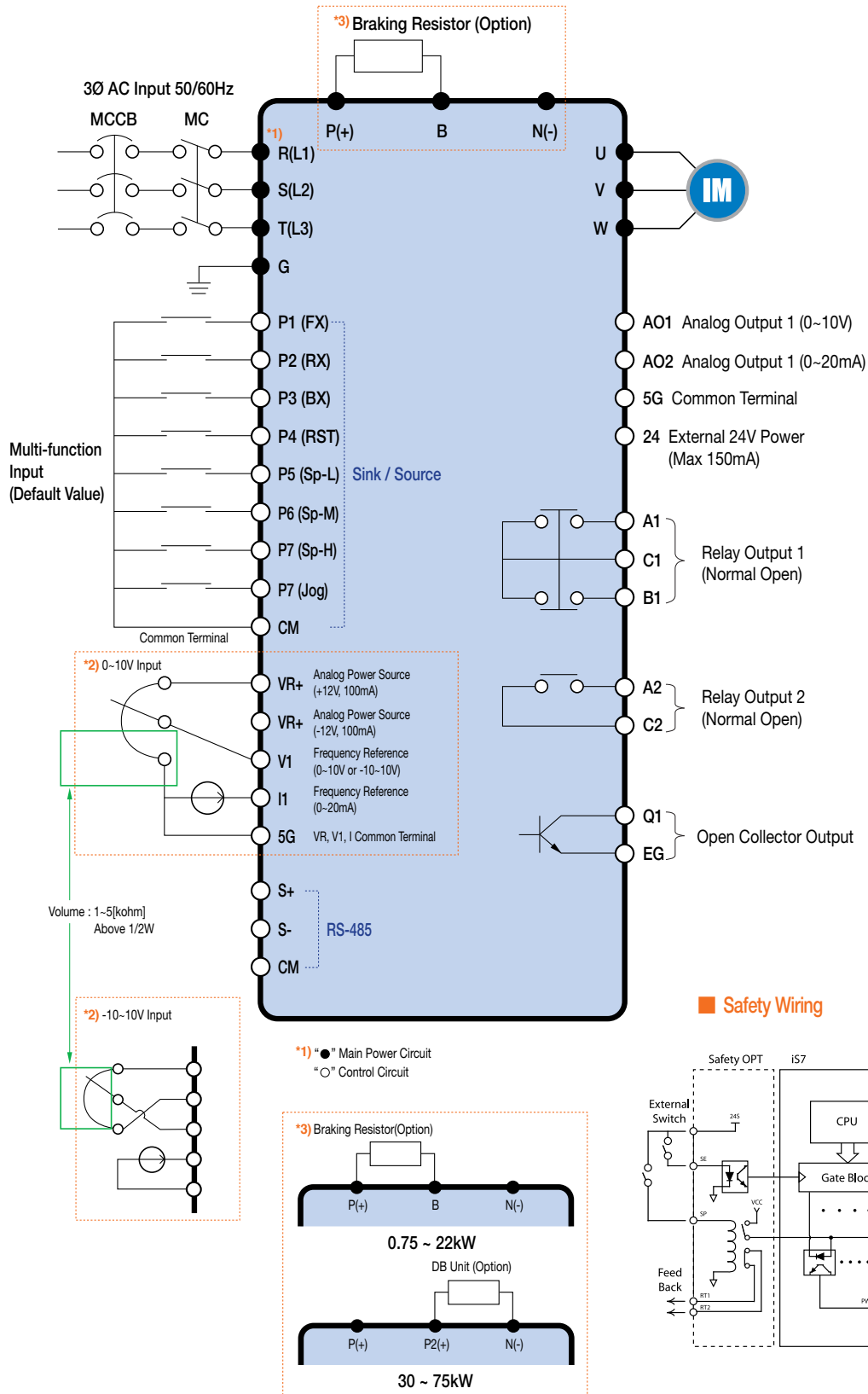
Structure and Use Environment

Cooling Method	Forced air blast cooling: 0.75 ~ 15kW (200/400V class), 22kW (400V class) Inhalation cooling: 22 ~ 75kW (200V class), 30 ~ 160kW (400V class)
Protection Structure	Below 75kW: Open Type(IP21), UL enclosed type 1(Option) ^{*3)} 30 ~ 75kW 200V, Above 90kW: Open type(IP00) The others (Below 22kW): Enclosed IP54 type, UL enclosed type 12
Surrounding Temperature	CT (Heavy Duty) load: -10 ~ 50°C, (14 ~ 122°F) without ice or frost VT (Normal Duty) load: -10~ 40°C (14 ~ 104°F) without ice or frost (It is recommended that you use less than 80% load when you use VT load at 50°C (122°F)) IP54 product: -10~40°C (14~122°F) without ice or frost
Preservation Temperature	-20 ~ 65°C (-4 ~ 149°F)
Surrounding Humidity	Below 90% RH of relative humidity (with no dew formation)
Altitude, Vibration	Below 1,000m (3280 ft), below 5.9m/sec 2 (19.36 ft/sec 2, 0.6G)
Environment	There should be no corrosive gas, flammable gas, oil mist or dust. Pollution Degree 2 Environment
Conformal Coating	To meet the below IEC standard In the harsh operating environment and to enhance PCB Ass'y life cycle IEC 60721-3-3(3C2) / IEC 60068-2-43 / IEC 60068-2-60

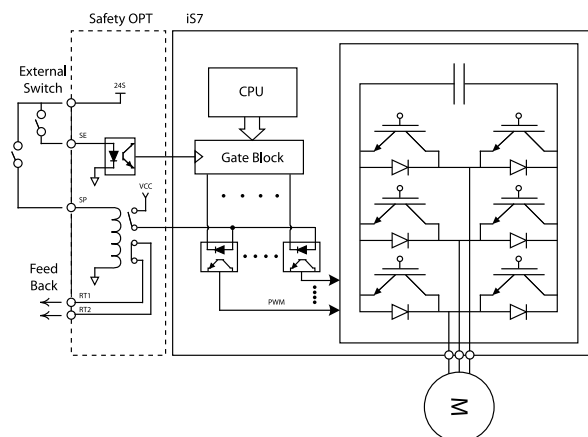
^{*3)} UL Enclosed type 1 with conduit box installed



Wiring

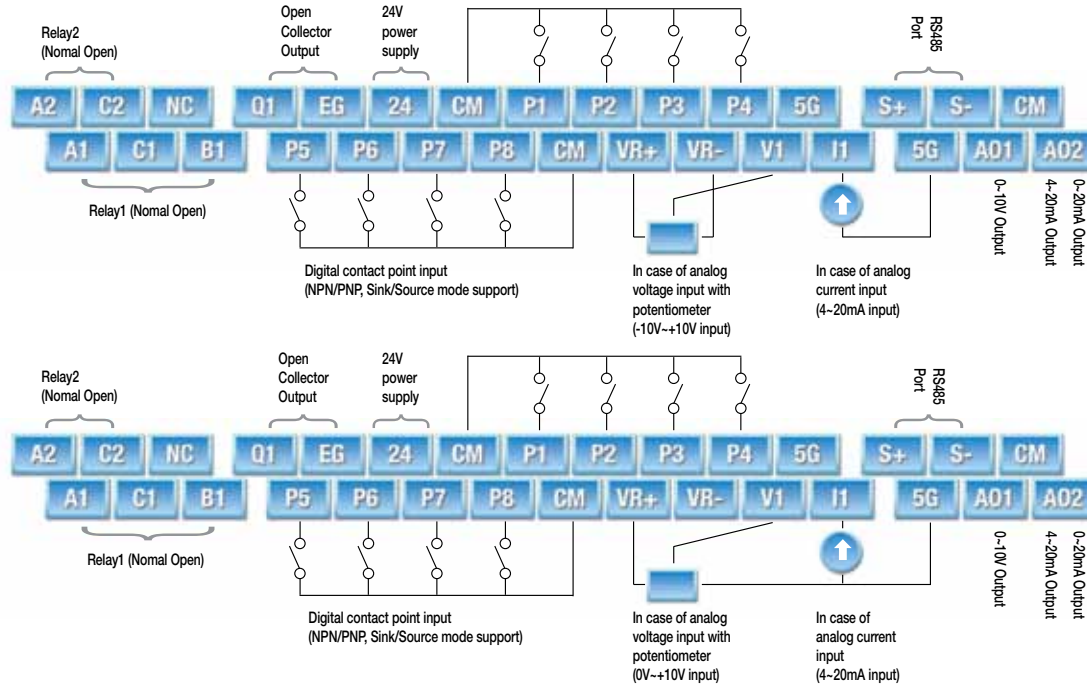


Safety Wiring



Wiring

0.75~37kW (Basic I/O)

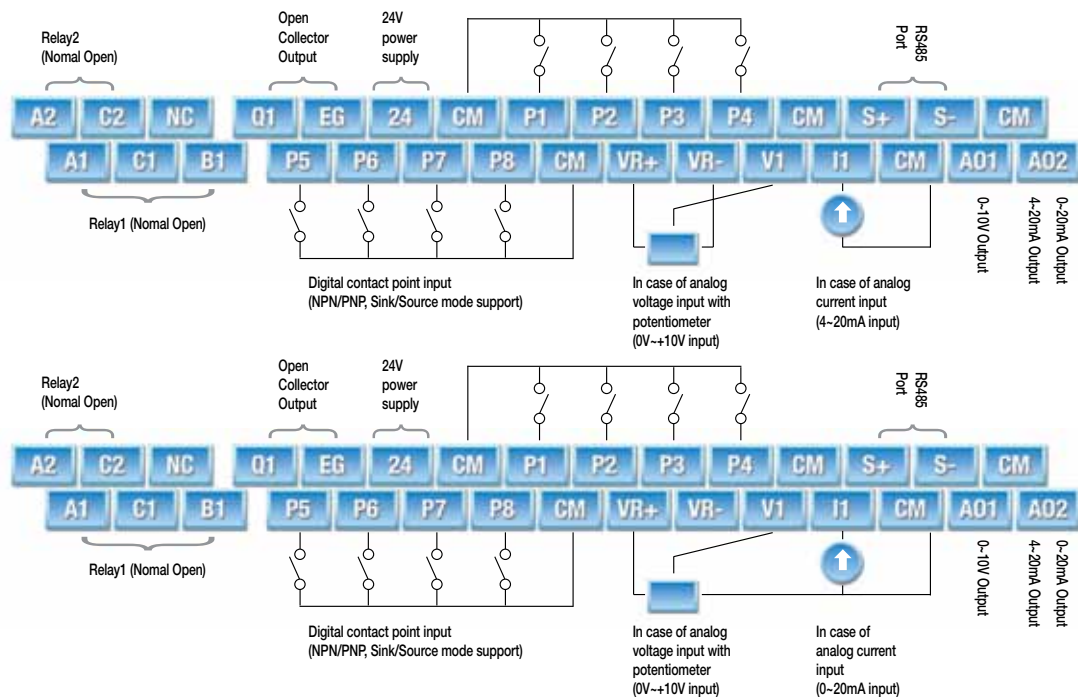


TR terminal located on the above the right side of terminal block is for the terminal resistor of RS485 communication(120Ω)

We recommend the potentiometer for 1/2W, 1kΩ.

* Description of TR terminal and variable resistance are same as those of insulated I/O.

30~375kW (Isolation I/O)



TR terminal located on the above the right side of terminal block is for the terminal resistor of RS485 communication(120Ω)



Peripheral Devices

AC Reactor Specifications

Capacity of Drive	Specifications of the AC reactor			
	Heavy Duty		Normal Duty	
	mH	A	mH	A
0008iS7-2	2.13	5.7	1.20	10
0015iS7-2	1.20	10	0.88	14
0022iS7-2	1.88	14	0.56	20
0037iS7-2	0.56	20	0.39	30
0055iS7-2	0.39	30	0.28	40
0075iS7-2	0.28	40	0.20	59
0110iS7-2	0.20	59	0.15	75
0150iS7-2	0.15	75	0.12	96
0185iS7-2	0.12	96	0.10	112
0220iS7-2	0.10	112	0.07	160
0300iS7-2	0.07	160	0.05	200
0370iS7-2	0.05	200	0.044	240
0450iS7-2	0.044	240	0.038	280
0550iS7-2	0.038	280	0.026	360
0750iS7-2	0.026	360	0.02	500
0008iS7-4	8.63	2.8	4.81	4.8
0015iS7-4	4.81	4.8	3.23	7.5
0022iS7-4	3.23	7.5	2.34	10
0037iS7-4	2.34	10	1.22	15
0055iS7-4	1.22	15	1.14	20
0075iS7-4	1.14	20	0.81	30
0110iS7-4	0.81	30	0.61	38
0150iS7-4	0.61	38	0.45	50
0185iS7-4	0.45	50	0.39	58
0220iS7-4	0.39	58	0.287	80
0300iS7-4	0.287	80	0.232	98
0370iS7-4	0.232	98	0.195	118
0450iS7-4	0.195	118	0.157	142
0550iS7-4	0.157	142	0.122	196
0750iS7-4	0.122	196	0.096	237
0900iS7-4	0.096	237	0.081	289
1100iS7-4	0.081	289	0.069	341
1320iS7-4	0.069	341	0.057	420
1600iS7-4	0.057	420	0.042	558
1850iS7-4	0.042	558	0.042	558
2200iS7-4	0.042	558	0.029	799
2800iS7-4	0.029	799	0.029	799
3150iS7-4	0.029	799	0.024	952
3750iS7-4	0.024	952	0.024	952

DC Reactor Specifications

Capacity of Drive	Specifications of the DC reactor	
	mH	A
0300iS7-2	0.24	200
0370iS7-2	0.2	240
0450iS7-2	0.17	280
0550iS7-2	0.12	360
0750iS7-2	0.1	500

Capacity of Drive	Specifications of the DC reactor	
	mH	A
2800iS7-4	0.09	836
3150iS7-4	0.076	996
3750iS7-4	0.64	1195

Peripheral Devices

Dynamic Braking Unit

Voltage	Type	Applied Motor	DB Unit	Dimensions
200V Class	UL type	30 ~ 37 kW	SV370DBU-2U	Refer to the appearance of Group 2
		45 ~ 55 kW	SV550DBU-2U	
		75 kW	SV370DBU-2U, 2 set	
400V Class	Non UL type	30 ~ 37 kW	SV370DBH-4	Refer to the appearance of Group 1
		45 ~ 55 kW	SV075DBH-4	Refer to the appearance of Group 3
		75 kW		
		185 ~ 220 kW	SV2200DB-4 *1)	Refer to the appearance of Group 4
		280 ~ 375 kW	SV2200DB-4, 2 set	
	UL type	75 kW	SV370DBU-4U	Refer to the appearance of Group 2
		90 kW	SV550DBU-4U	
		110 ~ 132 kW	SV750DBU-4U	
		160 kW	SV550DBU-4U, 2 set	
		185 ~ 220 kW	SV750DBU-4U, 2 set	
		280 ~ 375 kW	SV750DBU-4U, 3 Set	

*1): Contact LSIS sales person for 185kW and above.

Terminal arrangement

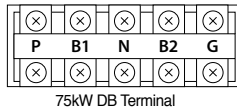
Group 1



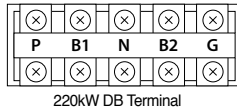
Group 2



Group 3



Group 4

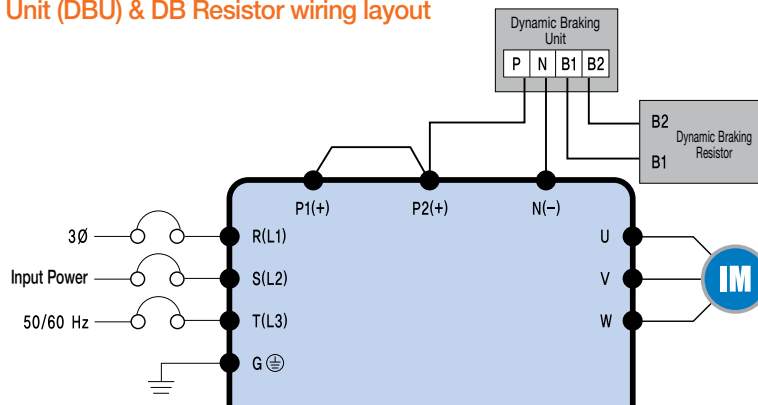


Terminal	Function
G	Ground Terminal
B2	Terminal for connection with B2 of DBU
B1	Terminal for connection with B1 of DBU
N	Terminal for connection with N of Drive
P	Terminal for connection with P1 of Drive

*Note: READ DBU User manual certainly when selecting DB resistors.

Terminal	Function
P	Terminal for connection with P of Drive
B1	Terminal for connection with B1 of DBU
N	Terminal for connection with N of Drive
B2	Terminal for connection with B2 of DBU
G	Ground Terminal

Dynamic Braking Unit (DBU) & DB Resistor wiring layout



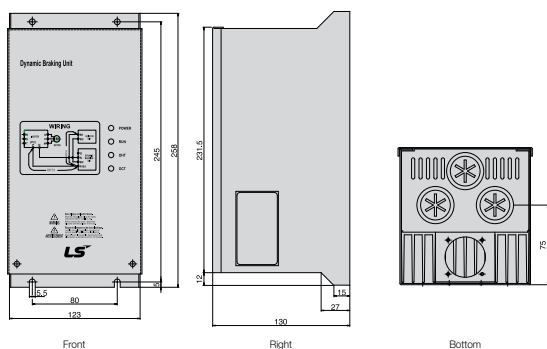
DBU Terminals	Description
B1, B2	Wire correctly referring to diagram. DB Resistors connect with B1,B2 of DB Unit



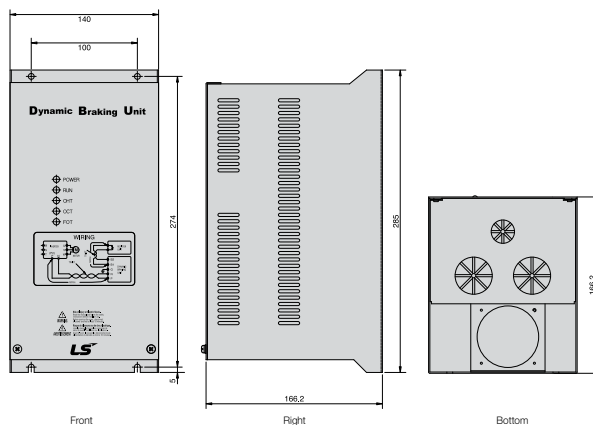
Peripheral Devices

Dimension: Dynamic Braking Unit (DBU)

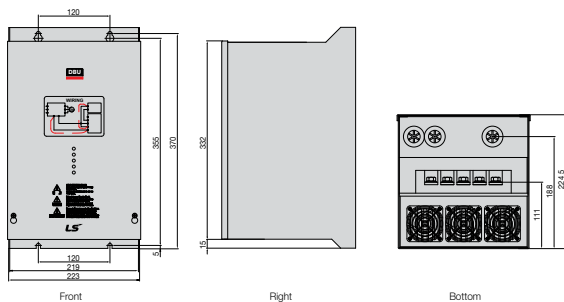
Group 1



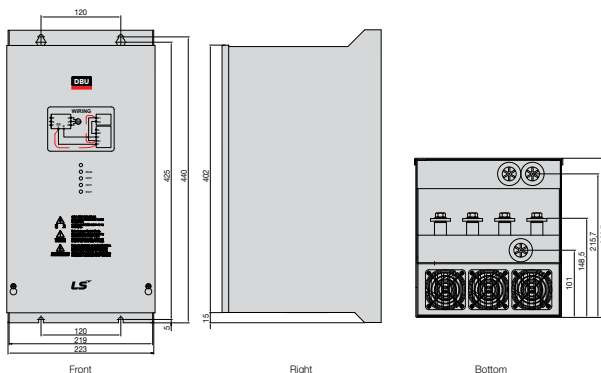
Group 2



Group 3



Group 4



Display Functions

DB Resistors connect with B1, B2 of DB Unit, DBU has 3 LEDs. Red LED which is located in middle displays supplying main power, one Green LED which is right side displays under braking and another green LED which is left side displays Over Heat Trip(OHT).

Displays	Function description
POWER (Red LED)	POWER LED is turned On when main power is supplied. Generally, POWER LED is turn On while main power supplied because DBU is connected with drive
RUN (Green LED)	RUN LED is turned off while DBU is ON by regenerative energy of Motor.
OHT (Green LED)	Under Braking, if the temperature is exceeded over setting value due to overheat of Heatsink, Cut the TURN ON signal of DBU and LED is turned on by working overheat protection function.

Peripheral Devices

Dynamic Braking Resistor (Option)

Following table has reference that DC braking torque: 150%, %ED: 5%, Rating Watt of DBU has to be doubled when %ED is 10%

Voltage Class	Drive Capacity (kW)	150% Braking Torque, 5%ED		
		Resistor [ohm]	Watt [W]	Appearance
200V Class	SV0008iS7-2	150	150	TYPE 1
	SV0015iS7-2	60	300	TYPE 1
	SV0022iS7-2	50	400	TYPE 1
	SV0037iS7-2	33	600	TYPE 2
	SV0055iS7-2	20	800	TYPE 3
	SV0075iS7-2	15	1,200	TYPE 3
	SV0110iS7-2	10	2,400	TYPE 3
	SV0150iS7-2	8	2,400	TYPE 3
	SV0185iS7-2	5	3,600	TYPE 3
	SV0220iS7-2	5	3,600	-
	SV0300iS7-2	5	5,000	-
	SV0370iS7-2	4.5	7,000	-
	SV0450iS7-2	3.5	10,000	-
	SV0550iS7-2	3.0	15,000	-
	SV0750iS7-2	2.5	20,000	-
400V Class	SV0008iS7-4	600	150	TYPE 1
	SV0015iS7-4	300	300	TYPE 1
	SV0022iS7-4	200	400	TYPE 1
	SV0037iS7-4	130	600	TYPE 2
	SV0055iS7-4	85	1,000	TYPE 3
	SV0075iS7-4	60	1,200	TYPE 3
	SV0110iS7-4	40	2,400	TYPE 3
	SV0150iS7-4	30	2,400	TYPE 3
	SV0185iS7-4	20	3,600	TYPE 3
	SV0220iS7-4	20	3,600	TYPE 3
	SV0300iS7-4	16.9	6,400	-
	SV0370iS7-4	16.9	6,400	-
	SV0450iS7-4	11.4	9,600	-
	SV0550iS7-4	11.4	9,600	-
	SV0750iS7-4	8.4	12,800	-
	SV0900iS7-4	4.5	15,000	-
	SV1100iS7-4	3.5	17,000	-
	SV1320iS7-4	3.0	20,000	-
	SV1600iS7-4	2.5	25,000	-
	SV1850iS7-4	2	30,000	-
	SV2200iS7-4	2	30,000	-
	SV2800iS7-4	1.5	40,000	-
	SV3150iS7-4	1	60,000	-
	SV3750iS7-4	1	60,000	-

In case of iS7 90~160kW, Dynamic braking unit for 220kW (SV2200DB-4) needs above listed DB resistor. If Dynamic braking unit (SV075DBH-4) is connected in parallel, use above listed DB resistor in parallel.



Option Slot #1) Fieldbus options

▶ Profibus-DP Card

- Profibus dedicated connector
- Max. 12Mbps communication speed
- Max. 32 stations per segment
- Bus topology
- Enhanced on-line diagnosis



▶ DeviceNet

- Communication speed: 125kbps, 250kbps, 500kbps
- Free/Bus topology
- Max. 64 node connection points
- Max. 500m (1640 ft.) transmission distance (125kbps)



▶ CanOpen Card

- 1Mbps communication speed
- Bus Topology
- Max. 64 node connection points (include master)
- PDO, SDO, Sync, NMC communication support
- Support profile: PDO1 (CiA402 drive & motion control device profile) PDO3 (LS Profile)



▶ CC-Link Card

- 10Mbps communication speed
- Connecting up to 42 AC drives
- Station type: Remote device station
- 1 connection point for 1 AC drive



▶ Ethernet Card

- Modbus TCP, Ethernet IP Protocol support
- 10Mbps, 100Mbps communication speed
- Half duplex, full duplex support
- Auto negotiation
- Max. 100m(328ft.) transmission distance
- CSMA/CD communication access method



▶ LonWorks

- 78kbps communication speed
- Free/bus topology
- Resistance built-in per topology
- Max. 2700m (8858 ft.) connection distance (bus topology)



▶ R-Net/F-Net Card

- 1Mbps Communication speed
- Manchester Biphas-L Frame synchronization
- Max. 64 node connection points
- Max. 750m transmission distance (segment each)



▶ RAPIEnet Card

- RAPIEnet Protocol support
- 100Mbps communication speed
- Full Duplex support
- High speed link(8 WORD), P2P(2 WORD) support
- Max. 64 connection points
- Topology: Line/Ring topology



Option Slot #2) PLC/Extension Options

PLC Card

- Master-K 120S platform
- Normal input 6 points (Sink/Source selectable),
Max. input 14 points when expanded
- Normal output 4 points (N.O. Relay),
Max. output 7 points when expanded
- RTC (Real Time Clock)
- KGL WIN operating system



I/O Expansion Card

- Insulated I/O 3 points each
- Ext-1
Analog voltage (-10~10V) I/O 1 point
Analog current (0~20mA) I/O 1 point
- Ext-2
Analog voltage (-10~10V) I/O 2 points
Analog current (0~20mA) I/O 2 points



Safety Card

- 2-Channel STO function
(STO : Safety Torque Off)
- Safety standard certified



Synchronization Option Card

- Closed loop control
- 100kHz Max. input frequency
- Position/Speed synchronization
- Synchronization hold (only slave)
- 15 slaves per master(3 serial - 5 parallel max)
- Open collector output : 26V/100mA (2 points)



Binary Input Card

- Operating frequency setting with
digital input (NPN/PNP)
- Max. 16bit digital input (8bit / 12bit / 16bit)
- Frequency setting with Bias-Gain or BCD
- Frequency resolution (0.01Hz~10Hz)
- Digital input filter function Input signal
read timing terminal



Auxiliary Power Option

- Power supply via external 200~230VAC
when main power is off
- 5Vdc power supply to fieldbus cards
and control board
- Support fieldbus options
(Ret, CANopen, DeviceNet, LonWorks,
Profibus-DP, EtherNet, CC-Link,
RAPIEnet)



Option Slot #3) Encoder Options

Encoder Card

- Closed loop control
- Pulse train reference
- 5/12/15 V insulated power supply
- Line driver or open collector
- 200kHz Max. input frequency
- Signal loss detection



24V Encoder Card

- Closed loop control
- Pulse train reference
- 24V insulated power supply
- Line driver or open collector
- 200kHz Max. input frequency
- Signal loss detection



Position Control Option Card

- Closed loop control
- Pulse train reference
- 5/12/15V insulated power supply
- Line driver or open collector
- 200kHz Max. input frequency
- Signal loss detection
- External brake control





Parameter Copy Unit

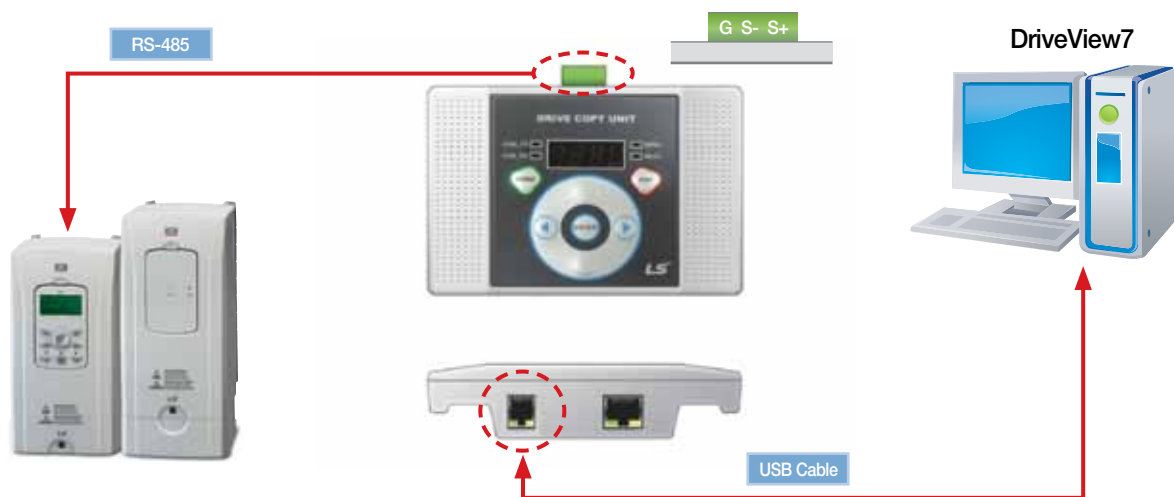
■ Drive Copy Unit (UX-07V1)

- Support Products: iS7, iE5
- Support function: Parameter copy, RS485 converter
- Copy speed: 9,600bps (iE5) / 19,200bps (iS7)
- Max. save paramete: 5 Sets
- Converter support speed: 1,200 / 2,400 / 9,600 / 19,200 / 38,400 bps

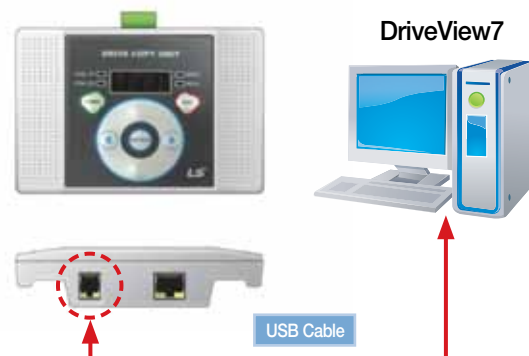
iS7 Parameter Copy Unit



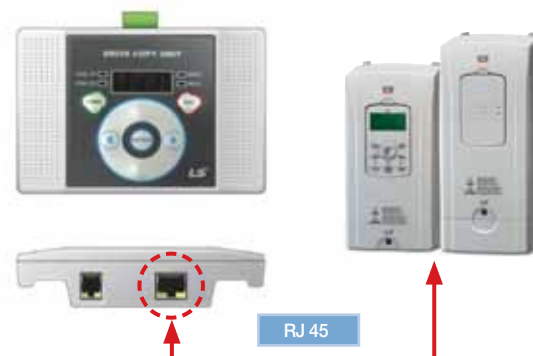
Drive $\longleftrightarrow$ Parameter copy unit $\longleftrightarrow$ PC



Parameter copy unit $\longleftrightarrow$ PC

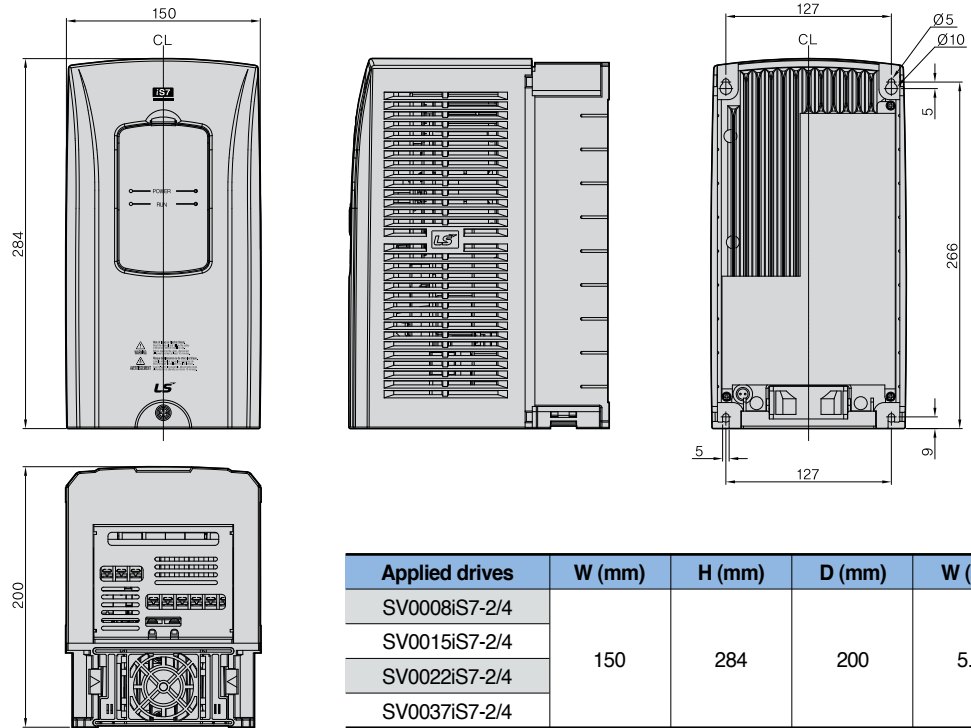


Parameter copy unit $\longleftrightarrow$ Drive



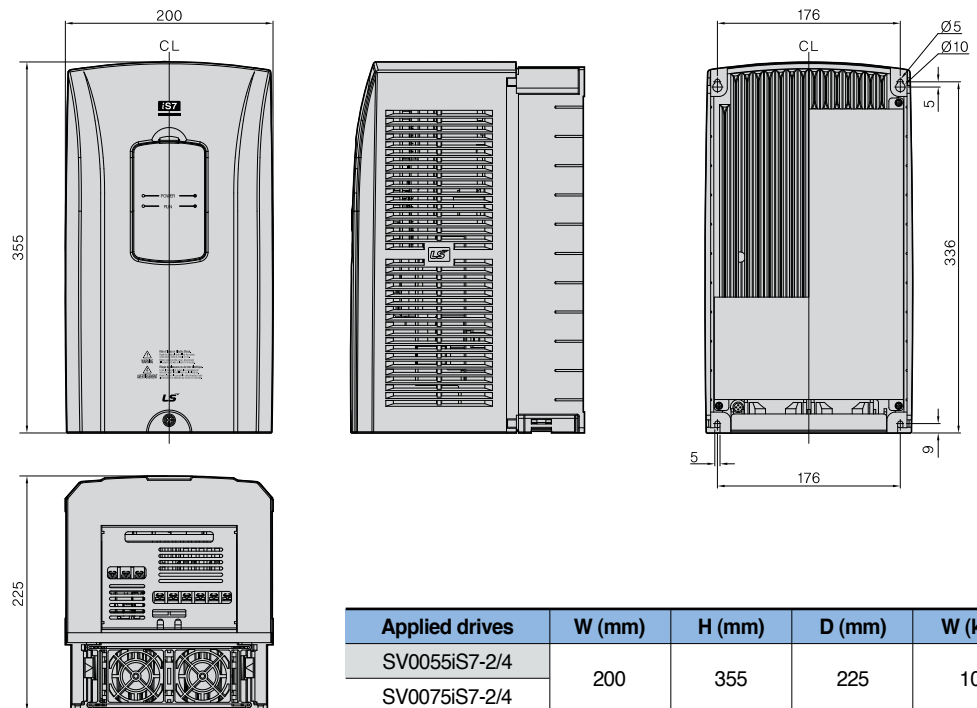
Dimensions

SV0008 ~ 0037iS7 (200V/400V Class)



* The weight above represents the total weight including EMC filter and DCL.

SV0055 ~ 0075iS7 (200V/400V Class)

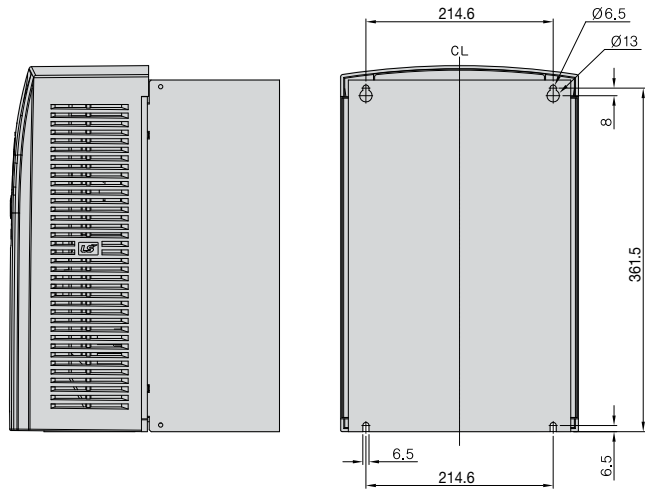
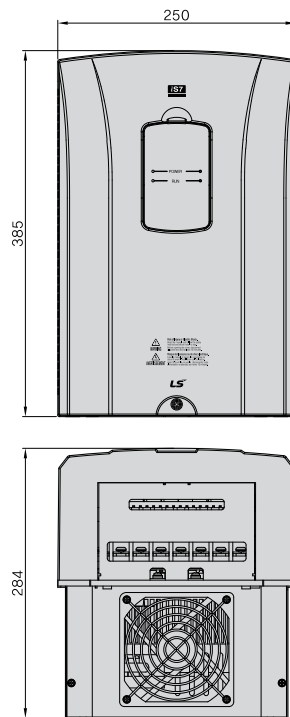


* The weight above represents the total weight including EMC filter and DCL.



Dimensions

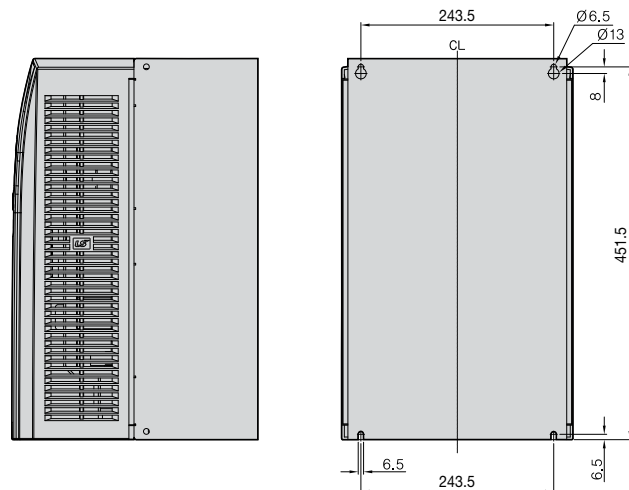
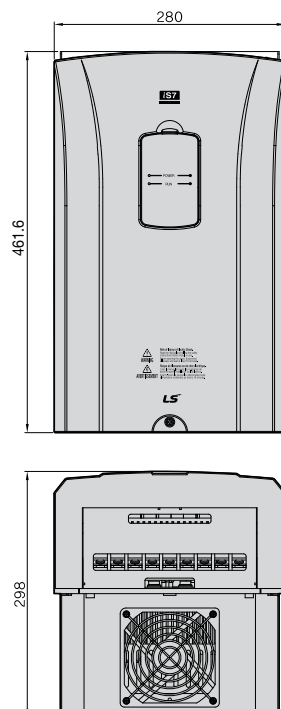
SV0110 ~ 0150iS7 (200V/400V Class)



Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0110iS7-2/4	250	385	284	20
SV0150iS7-2/4				

* The weight above represents the total weight including EMC filter and DCL.

SV0185 ~ 0220iS7 (200V/400V Class)

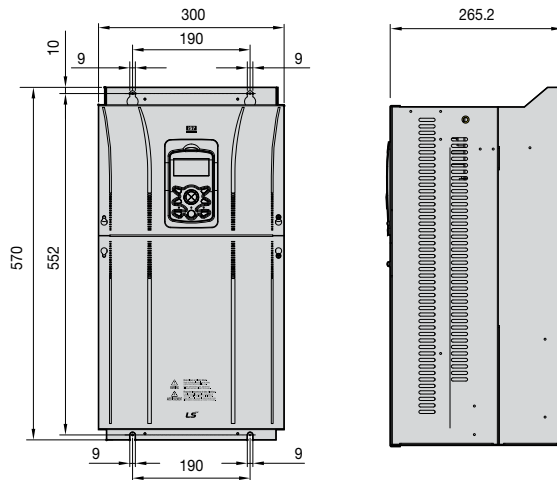


Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0185iS7-2	280	461.6	298	30
SV0220iS7-2				
SV0185iS7-4				
SV0220iS7-4				

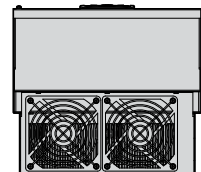
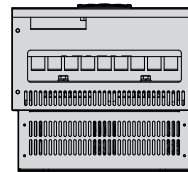
* The weight above represents the total weight including EMC filter and DCL.

Dimensions

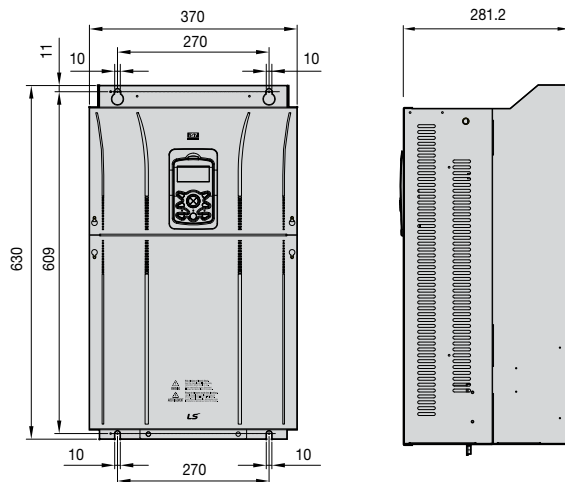
SV0300iS7 (200V Class)



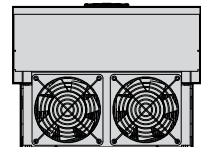
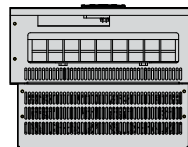
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0300iS7-2	300	570	265.2	29.5



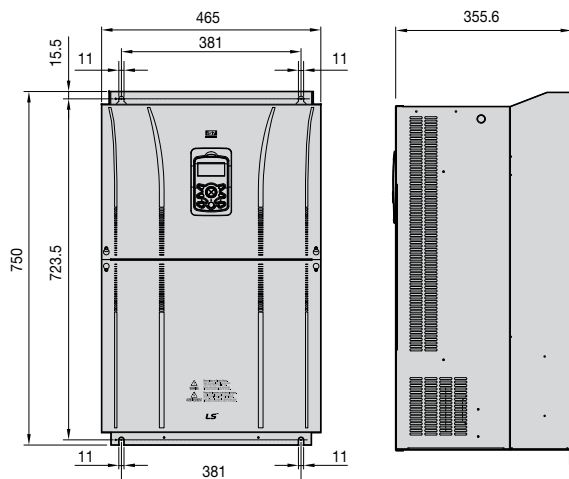
SV0370 ~ 0450iS7 (200V Class)



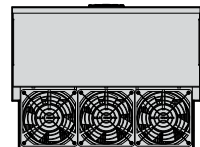
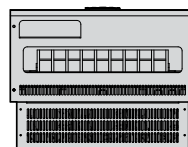
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0370iS7-2	370	630	281.2	44
SV0450iS7-2				



SV0550 ~ 0750iS7 (200V Class)



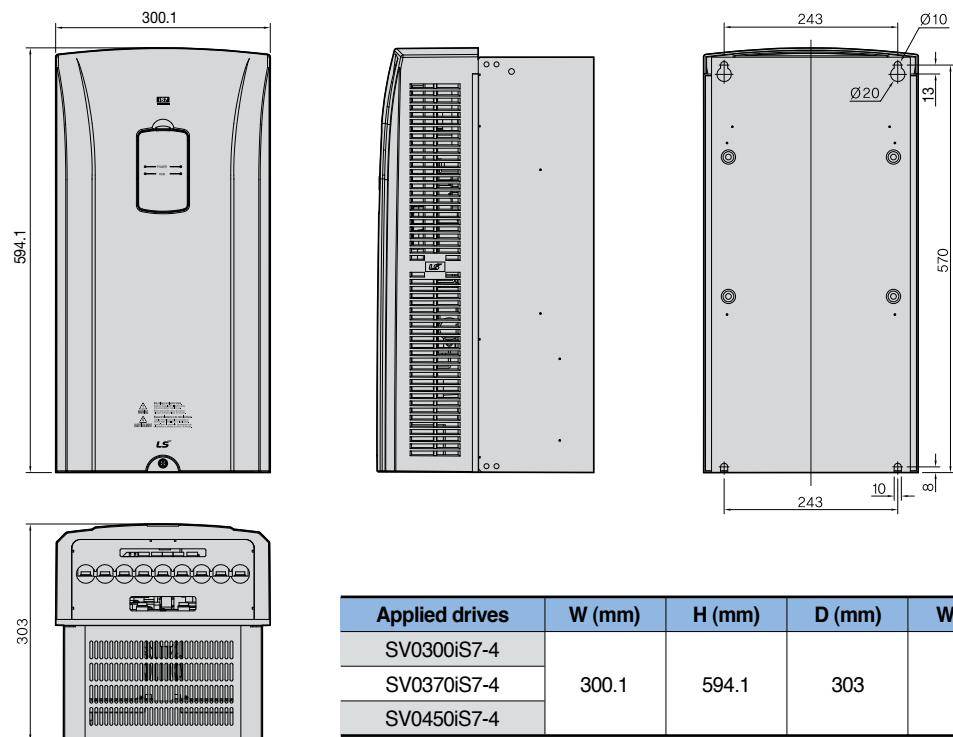
Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV0550iS7-2	465	750	355.6	72.5
SV0750iS7-2				



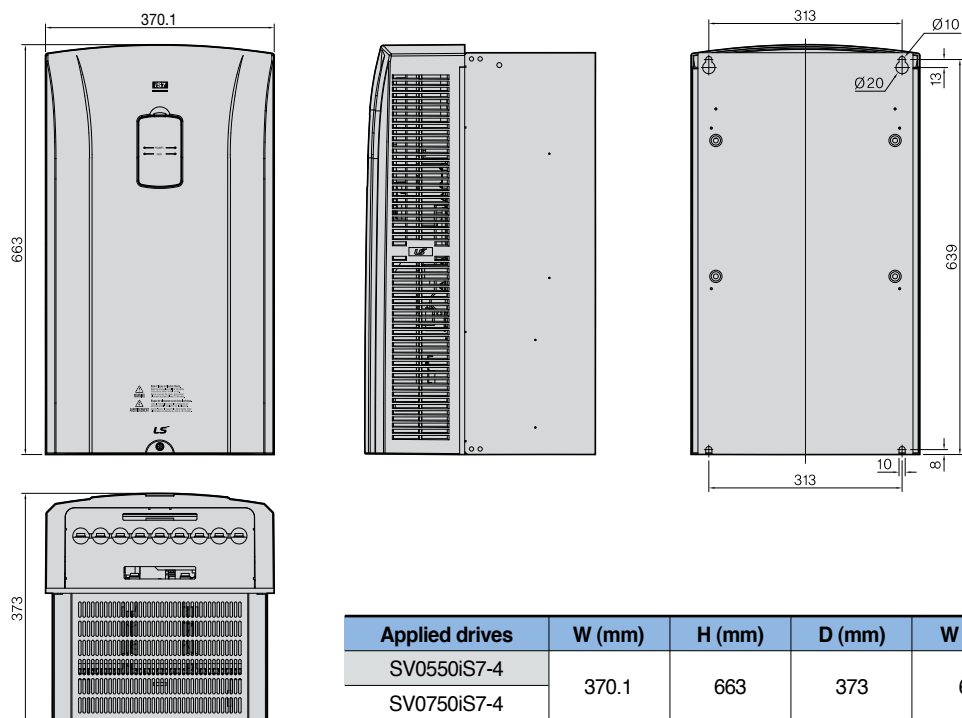


Dimensions

SV0300 ~ 0450iS7 (400V Class)

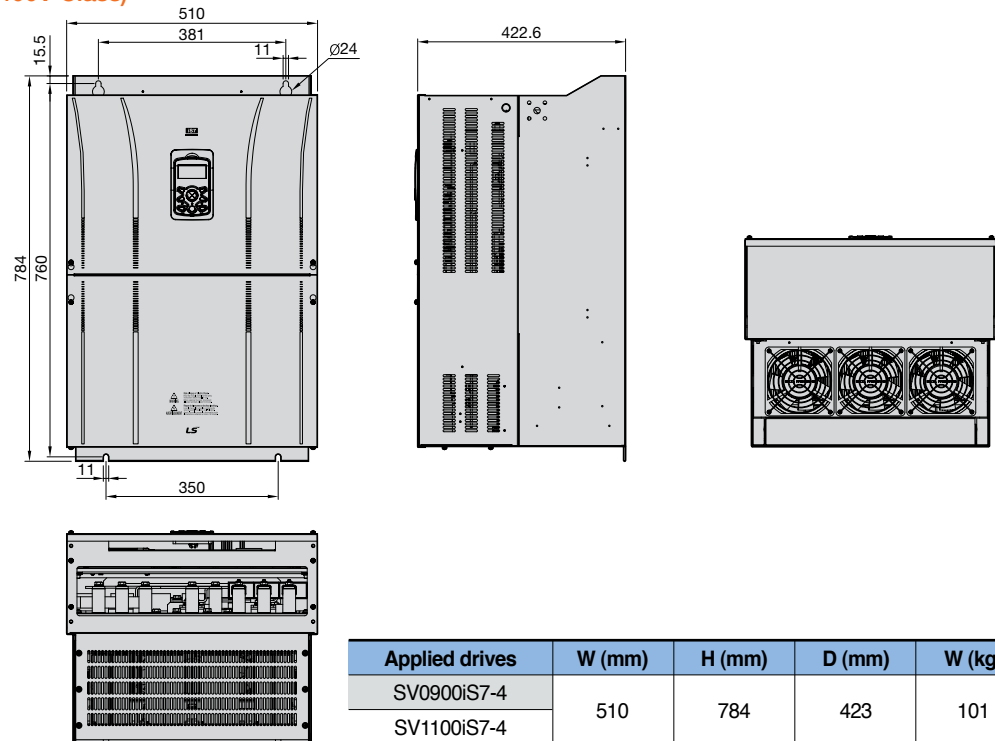


SV0550 ~ 0750iS7 (400V Class)

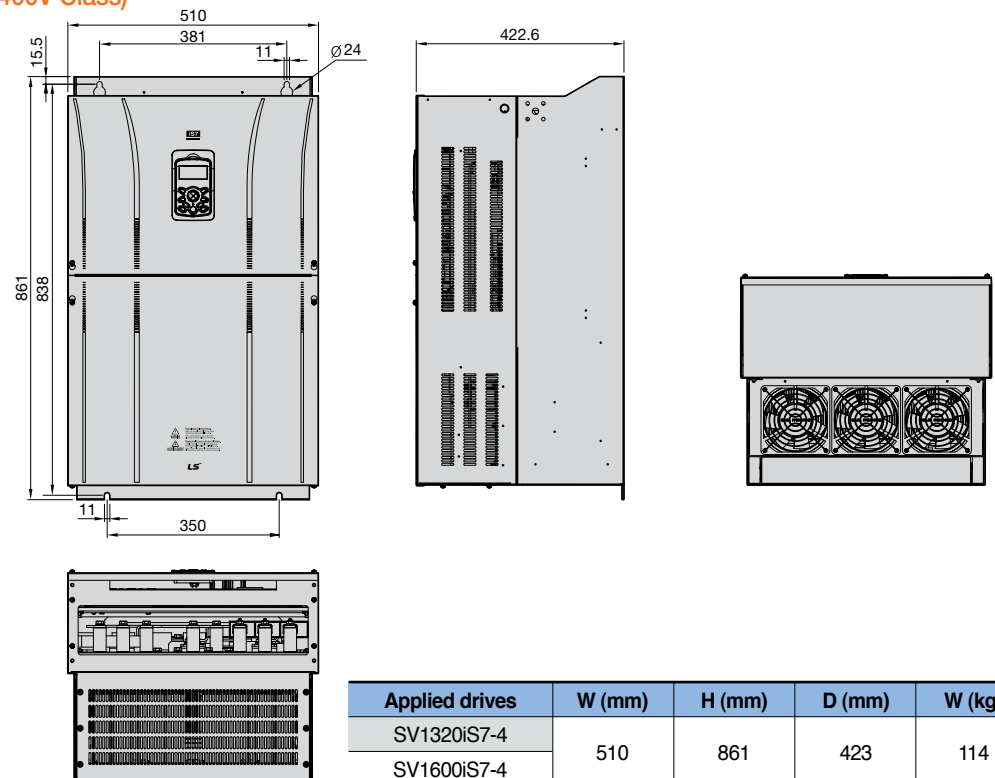


Dimensions

SV0900 ~ 1100iS7 (400V Class)



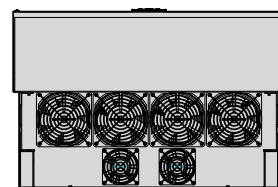
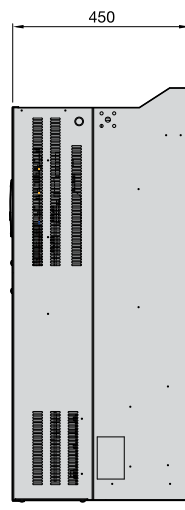
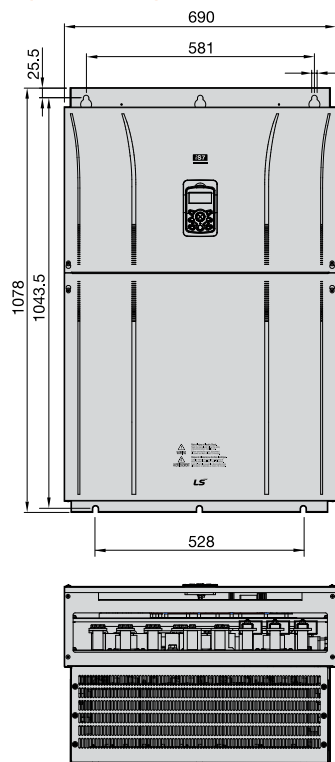
SV1320 ~ 1600iS7 (400V Class)





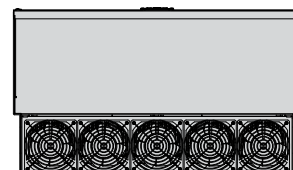
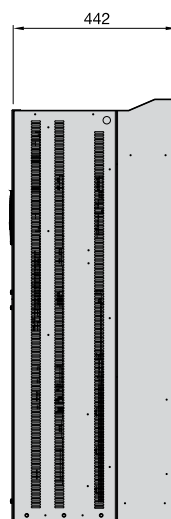
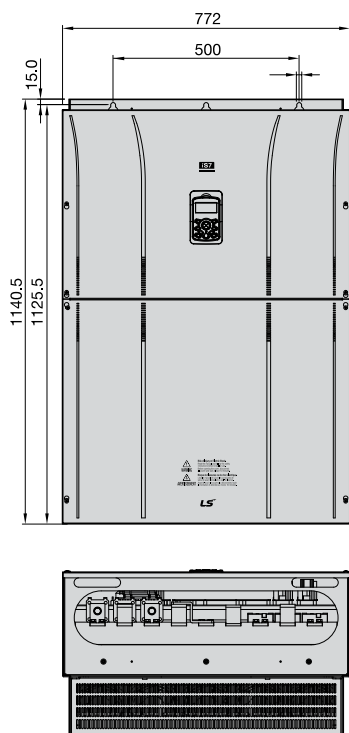
Dimensions

■ SV1850 ~ SV2200iS7 (400V Class)



Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV1850iS7-4	690	1078	450	200
SV2200iS7-4				

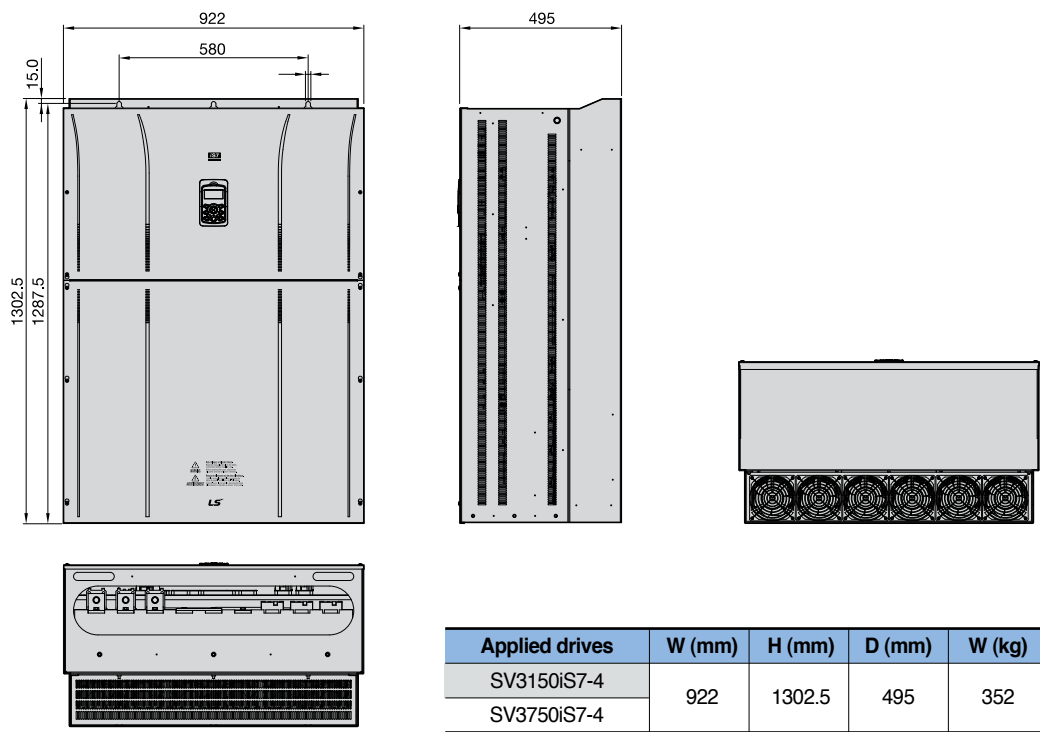
■ SV2800iS7 (400V Class)



Applied drives	W (mm)	H (mm)	D (mm)	W (kg)
SV2800iS7-4	771	1138	440	252

Dimensions

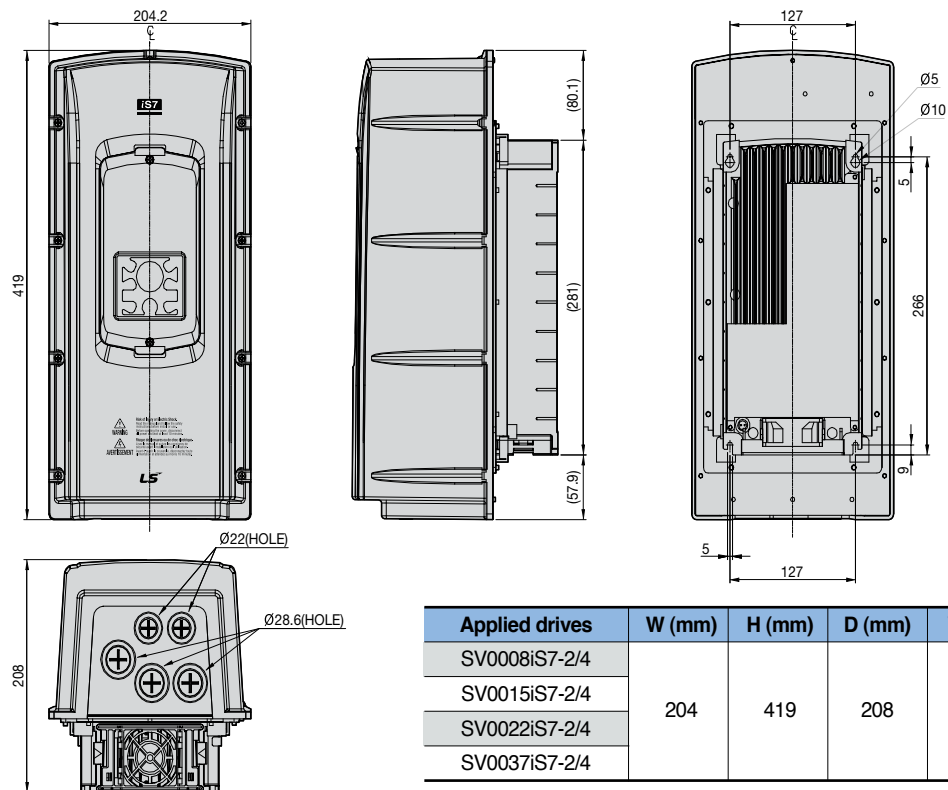
■ SV3150 ~ 3750iS7 (400V Class)



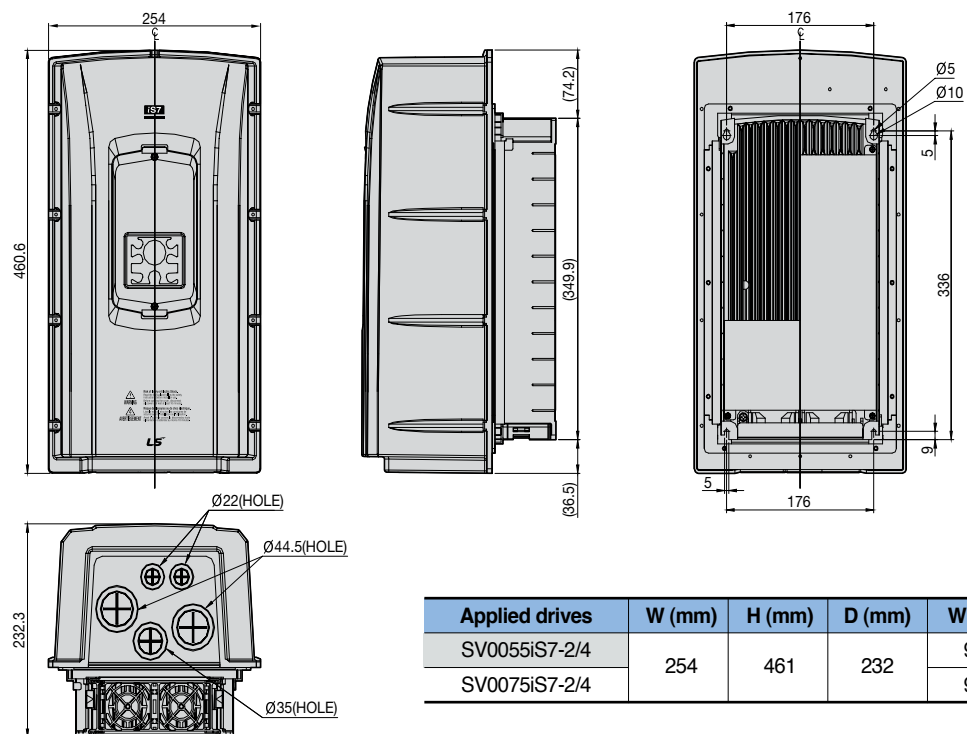


Dimensions (IP54)

SV0008 ~ 0037iS7 (200V/400V Class)

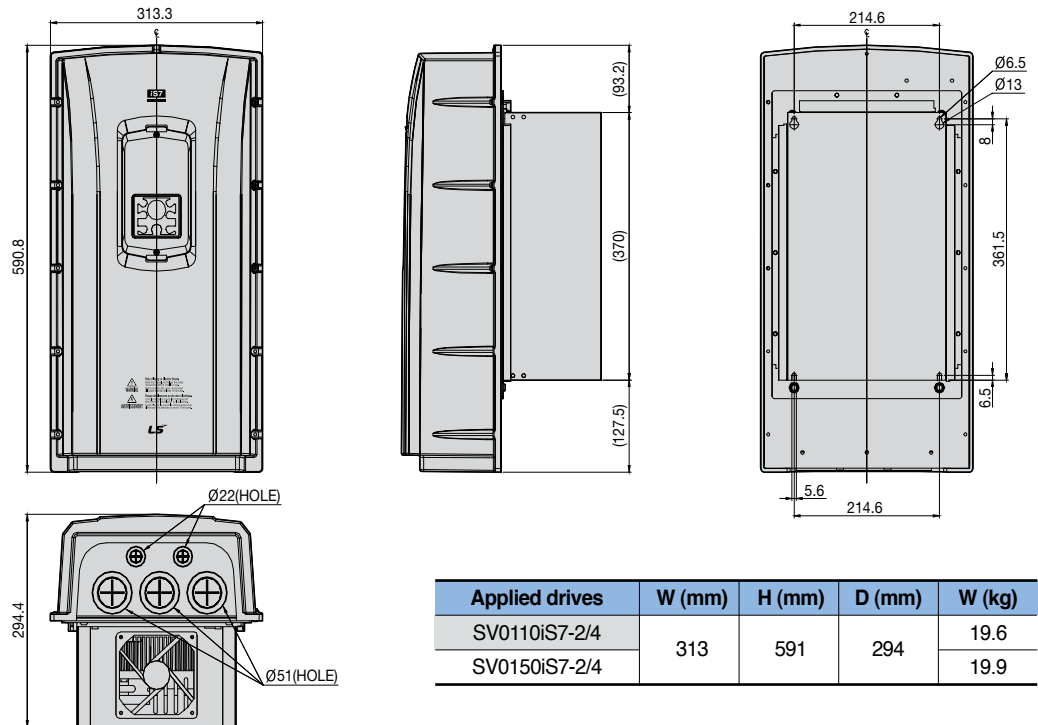


SV0055 ~ 0075iS7 (200V/400V Class)

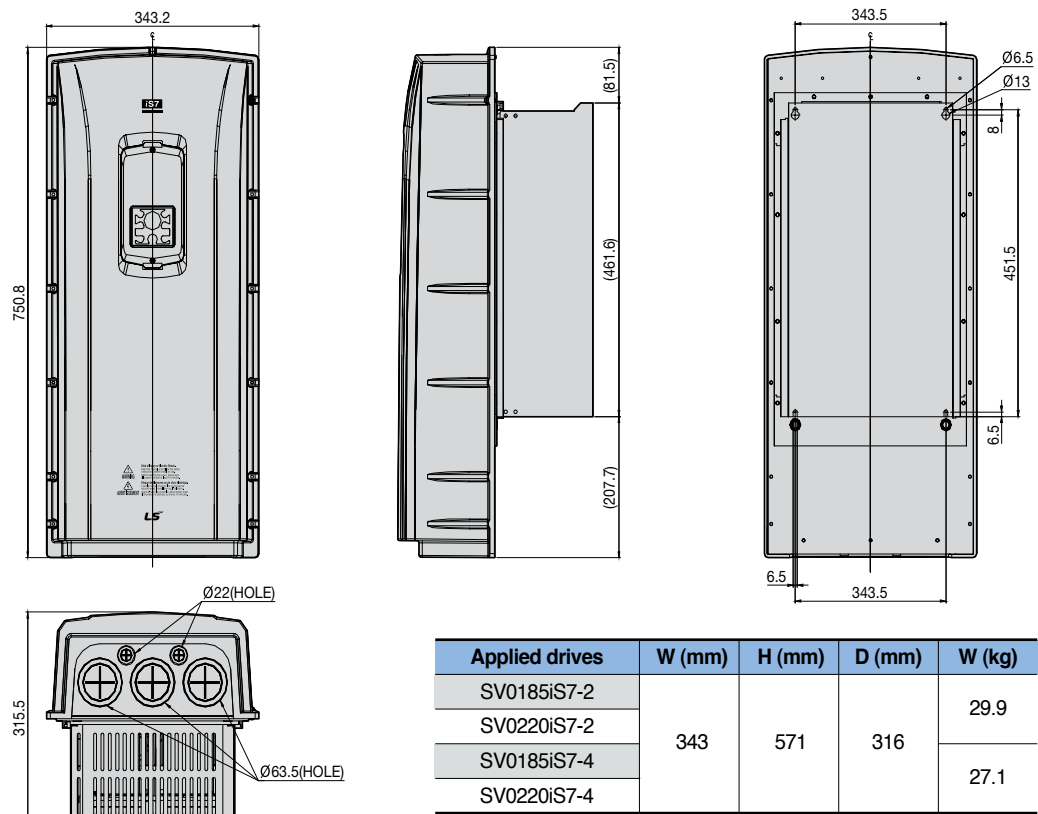


Dimensions (IP54)

SV0110 ~ 0150iS7 (200V/400V Class)



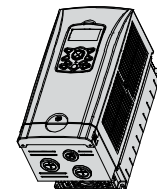
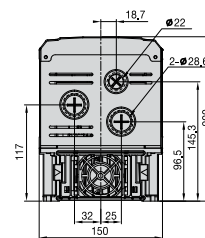
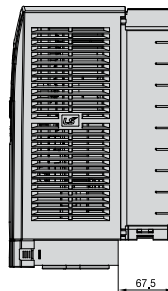
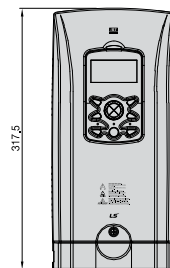
SV0185 ~ 0220iS7 (200V/400V Class)





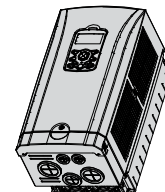
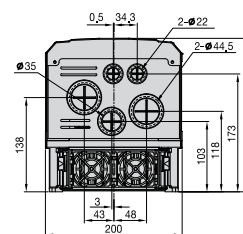
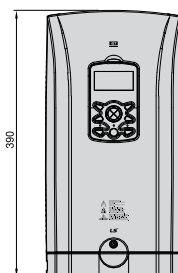
Dimensions (Conduit option)

■ SV0008 ~ 0037iS7 (200V/400V Class)



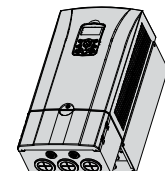
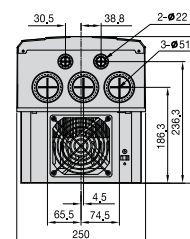
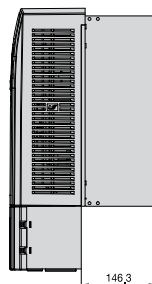
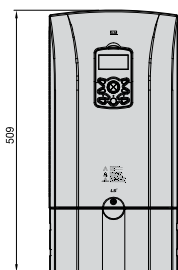
Drive + Conduit Box

■ SV0055 ~ 0075iS7 (200V/400V Class)



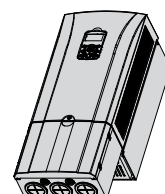
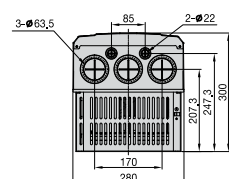
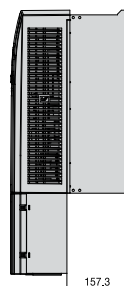
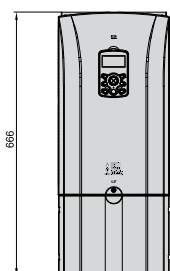
Drive + Conduit Box

■ SV0110 ~ 0150iS7 (200V/400V Class)



Drive + Conduit Box

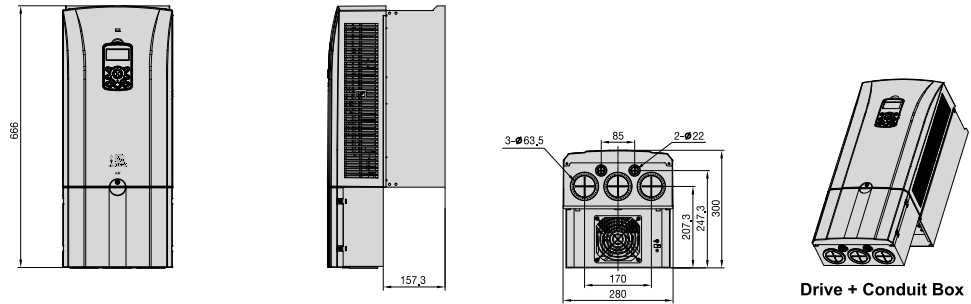
■ SV0185 ~ 0220iS7 (200V Class)



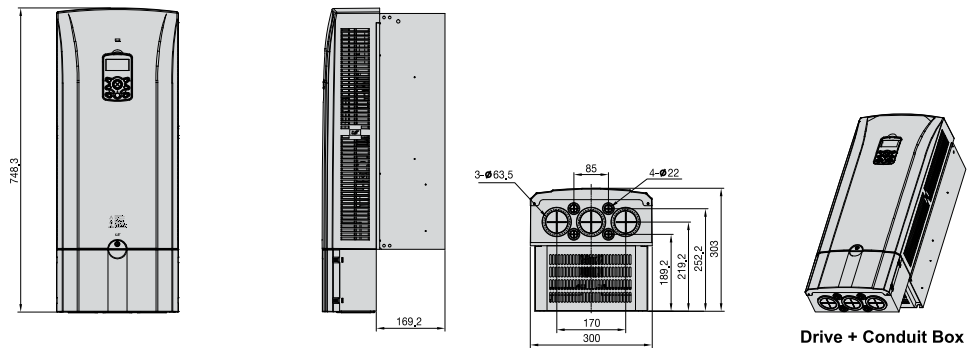
Drive + Conduit Box

Dimensions (Conduit option)

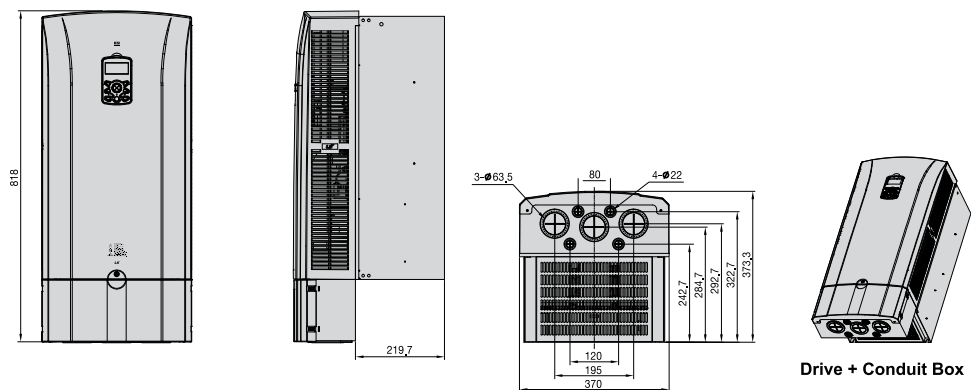
SV0185 ~ 0220iS7 (400V Class)



SV0300 ~ 0450iS7 (400V Class)



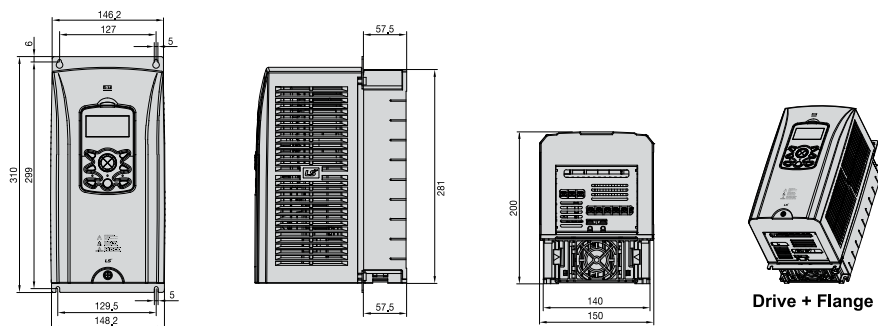
SV0550 ~ 0750iS7 (400V Class)



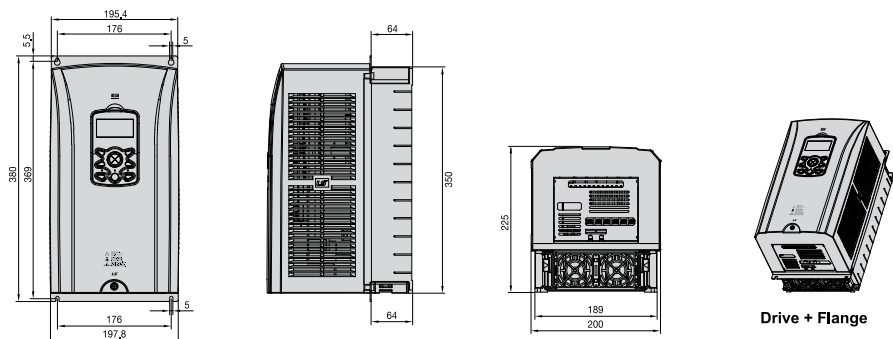


Dimensions (Flange option)

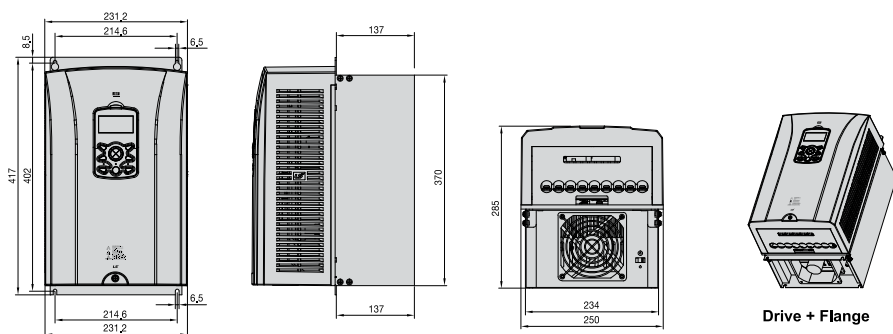
■ SV0008 ~ 0037iS7 (200V/400V Class)



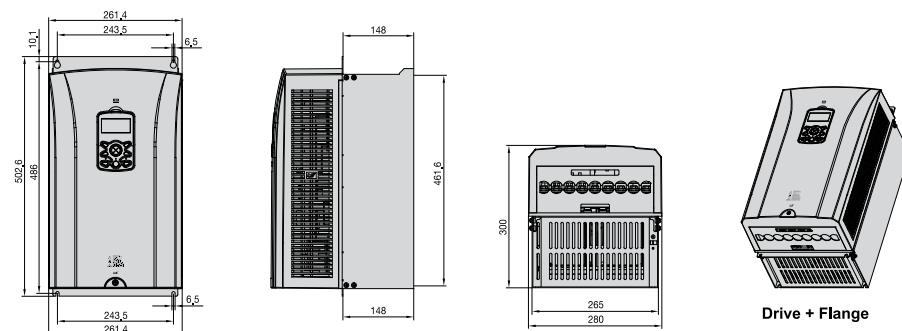
■ SV0055 ~ 0075iS7 (200V/400V Class)



■ SV0110 ~ 0150iS7 (200V/400V Class)

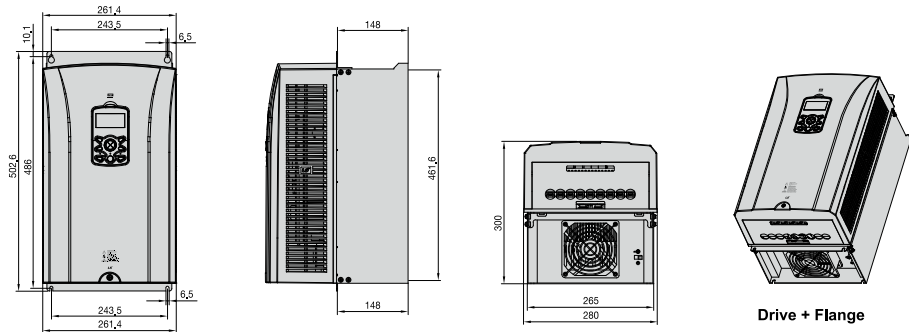


■ SV0185 ~ 0220iS7 (200V Class)

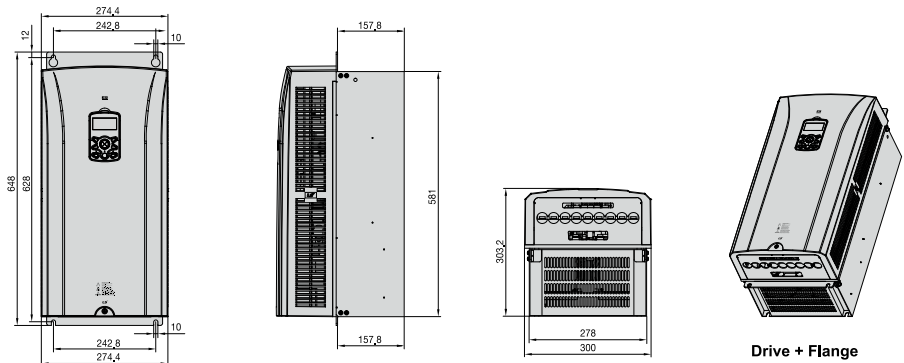


Dimensions (Flange option)

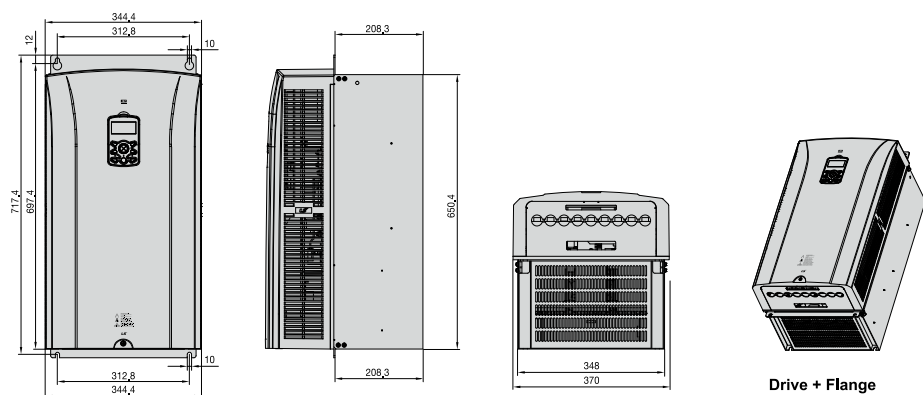
SV0185 ~ 0220iS7 (400V Class)



SV0300 ~ 0450iS7 (400V Class)



SV0550 ~ 0750iS7 (400V Class)





Memo

Memo



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 a 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.

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