

# Xmotion

## Servo System L7S

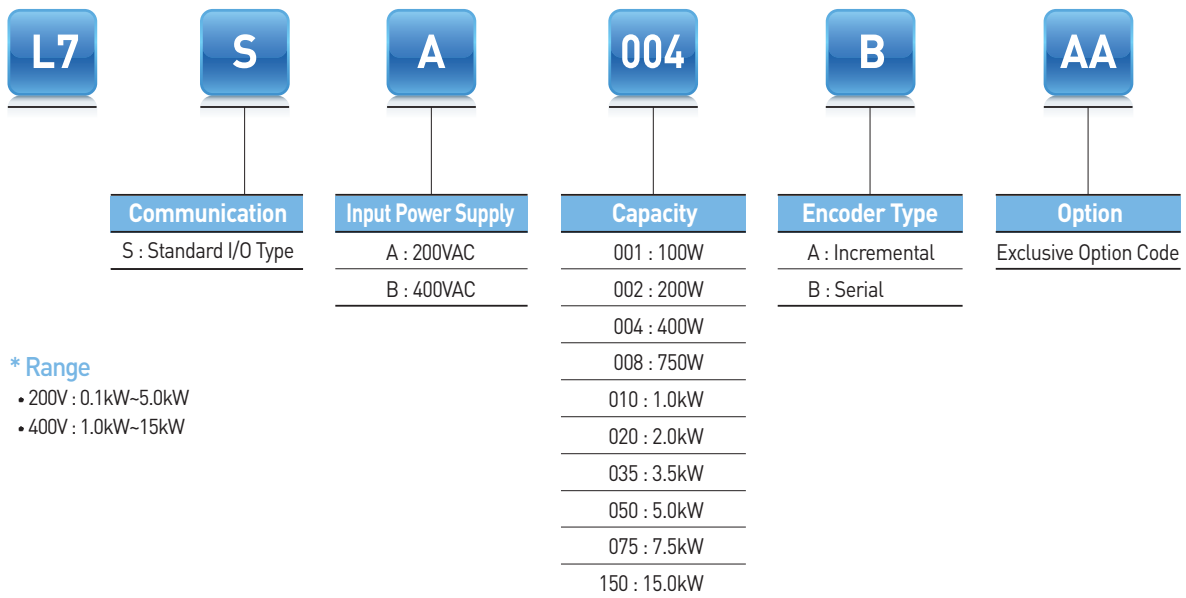
L7S Series



## L7S Series



### Servo Drive Designation



**\* Range**

- 200V : 0.1kW-5.0kW
- 400V : 1.0kW-15kW

## Pulse, Analog Command Type **L7S**

### Easy to USE

- Easy Gain Tuning with Automatic Inertia Estimating Function
- Easy Setting Built-in Panel Operator
- Many I/O Contacts and Various Functions [Digital Input: 10 contacts, Digital Output: 8 contacts / Analog input, output : 2 contacts]

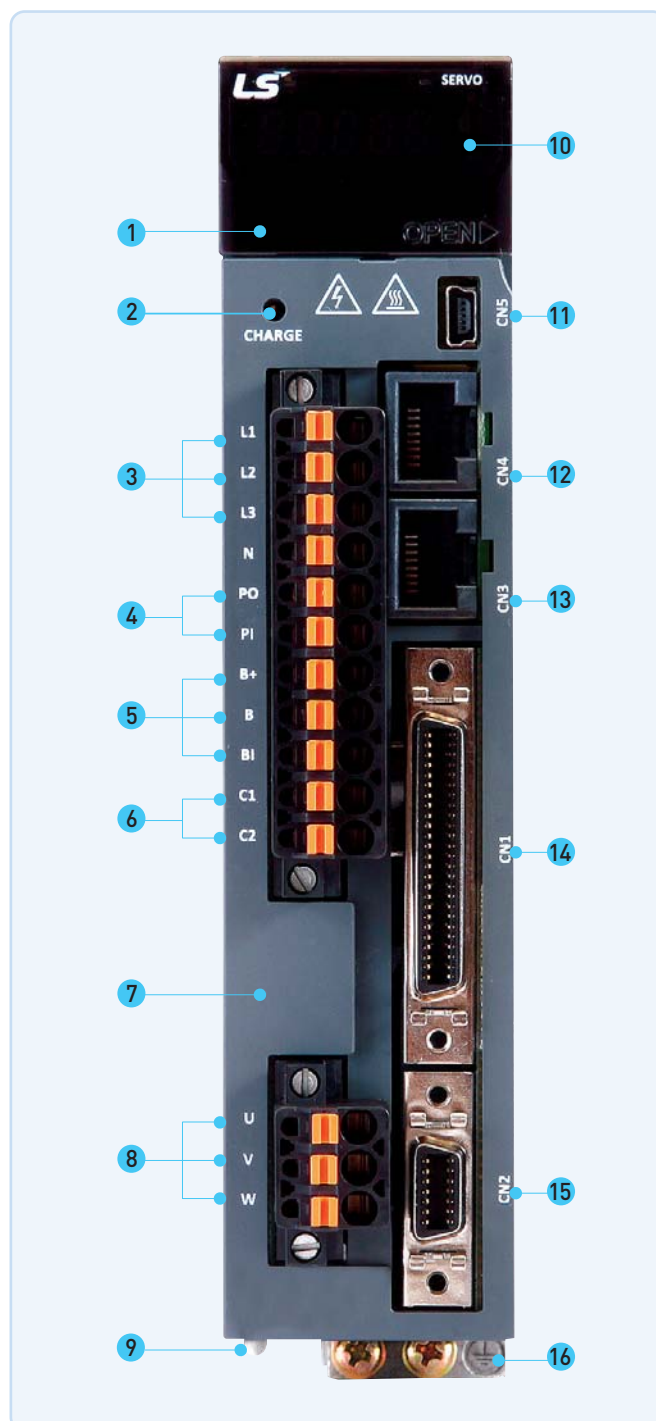
### Reliability for Protection Function

- CE, RoHS Certificated
- Drive Protection Function and Warn Function

### High Response for Precision Control

- High Resolutions Serial type Encoder(19Bit, BiSS)
- Improved Speed Response(≒1Khz) Frequency

- 1 Operation keys (Mode, Up, Down, Set)
- 2 Charge Lamp
- 3 Main Power Connector (L1, L2, L3)
- 4 DC Reactor Connector(PO, PI)
  - Short-Circuit when not used
- 5 Regenerative resistance connector (B+, B, BI)
  - Short-Circuit B, BI terminals when standard type
  - Use B+, B terminals when using external resistor
- 6 Control Power Connector (C1, C2)
- 7 Front Cover
- 8 Motor Power Cable Connector (U, V, W)
- 9 Heat Sink
- 10 Display
- 11 CN5 : USB Connector
- 12 CN4 : RS-422 Communication Connector
- 13 CN3 : RS-422 Communication Connector
- 14 CN1 : Control Signal Connector
- 15 CN2 : Encoder Signal Connector
- 16 Ground



## L7SA Serial Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder Cable		Power Cable											
					Serial Type	Serial	Abs	For power	Power + Brake	Brake									
3,000	5,000	□40	FALR5A	L7SA001B	* 18Bit Serial M-Turn Absolute														
		□40	FAL01A	L7SA001B															
		□40	FAL015A	L7SA004B															
		□60	FBL01A	L7SA001B															
		□60	FBL02A	L7SA002B															
		□60	FBL04A	L7SA004B															
		□80	FCL04A	L7SA004B															
		□80	FCL06A	L7SA008B															
		□80	FCL08A	L7SA008B															
		□80	FCL10A	L7SA010B															
		□60	FB01A	L7SA001B															
		□60	FB02A	L7SA002B															
		□60	FB04A	L7SA004B															
		□80	FC04A	L7SA004B															
		□80	FC06A	L7SA008B															
		□80	FC08A	L7SA008B															
		□80	FC10A	L7SA010B															
		□130	FE09A	L7SA010B															
		□130	FE15A	L7SA020B															
		□130	FE22A	L7SA020B															
□130	FE30A	L7SA035B																	
□180	FF30A	L7SA035B																	
□180	FF50A	L7SA050B																	
2,000	3,000	□80	FCL03D	L7SA004B	* 19Bit Serial M-Turn Absolute														
		□80	FCL05D	L7SA008B															
		□80	FCL06D	L7SA008B															
		□80	FCL07D	L7SA008B															
		□80	FC03D	L7SA004B															
		□80	FC05D	L7SA008B															
		□80	FC06D	L7SA008B															
		□80	FC07D	L7SA008B															
		□130	FE06D	L7SA008B															
		□130	FE11D	L7SA010B															
	□130	FE16D	L7SA020B																
	□130	FE22D	L7SA020B																
	□180	FF22D	L7SA020B																
	□180	FF35D	L7SA035B																
	□180	FF55D	L7SA050B																
	□220	FG22D	L7SA020B																
	2,700	□220	FG35D	L7SA035B															
	3,000	□220	FG55D	L7SA050B															
	1,500	3,000	□130	FE05G								L7SA008B							
			□130	FE09G								L7SA010B							
□130			FE13G	L7SA020B															
□130			FE17G	L7SA020B															
□180			FF20G	L7SA020B															
2,700		□180	FF30G	L7SA035B															
3,000		□180	FF44G	L7SA050B															
		□220	FG20G	L7SA020B															
		2,700	□220	FG30G	L7SA035B														
		3,000	□220	FG44G	L7SA050B														
	□130		FE03M	L7SA004B															
1,000	2,000	□130	FE06M	L7SA008B															
		□130	FE09M	L7SA010B															
		□130	FE12M	L7SA020B															
		□180	FF12M	L7SA020B															
		□180	FF20M	L7SA020B															
	1,700	□180	FF30M	L7SA035B															
	2,000	□180	FF44M	L7SA050B															
		□220	FG12M	L7SA020B															
		□220	FG20M	L7SA020B															
		1,700	□220	FG30M								L7SA035B							
2,000		□220	FG44M	L7SA050B															



### L7SB Serial Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder Cable		Power Cable																					
					Serial Type	Serial	Abs	For power	Power + Brake	Brake																			
3,000	5,000	□130	FEP09A	L7SB010B	* 19Bit Serial Absolute	APCS-E □ □ □ DS	APCS-E □ □ □ DS1	-	APCF-P □ □ □ HS	APCF-P □ □ □ NB	-																		
		□130	FEP15A	L7SB020B																									
		□130	FEP22A	L7SB035B																									
		□130	FEP30A	L7SB035B								APCF-P □ □ □ IS	APCF-P □ □ □ PB																
		□180	FFP30A	L7SB035B																									
		□180	FFP50A	L7SB050B								APCF-P □ □ □ JS	APCF-P □ □ □ LB																
2,000	3,000	□130	FEP06D	L7SB010B								* 19Bit Serial Absolute	APCS-E □ □ □ DS	APCS-E □ □ □ DS1	-	APCF-P □ □ □ HS	APCF-P □ □ □ NB	-											
		□130	FEP11D	L7SB010B																									
		□130	FEP16D	L7SB020B																									
		□130	FEP22D	L7SB020B																									
		□180	FFP22D	L7SB020B															APCF-P □ □ □ IS	APCF-P □ □ □ PB									
		□180	FFP35D	L7SB035B																									
		□180	FFP55D	L7SB050B															APCF-P □ □ □ JS	APCF-P □ □ □ LB									
		2,500	3,000	□220															FGP22D	L7SB020B	APCF-P □ □ □ IS	-	APCF-P □ □ □ SB						
	□220			FGP35D															L7SB035B										
	2,500	3,000	□220	FGP55D															L7SB050B	APCF-P □ □ □ JS	-	APCF-P □ □ □ SB							
			□220	FGP75D															L7SB075B										
	1,500	3,000	□130	FEP05G															L7SB010B	* 19Bit Serial Absolute	APCS-E □ □ □ DS	APCS-E □ □ □ DS1	-	APCF-P □ □ □ HS	APCF-P □ □ □ NB	-			
			□130	FEP09G															L7SB010B										
			□130	FEP13G															L7SB020B										
□130			FEP17G	L7SB020B																									
2,700		3,000	□180	FFP20G								L7SB020B	* 19Bit Serial Absolute	APCS-E □ □ □ DS	APCS-E □ □ □ DS1	-	APCF-P □ □ □ IS	APCF-P □ □ □ PB	-										
			□180	FFP30G								L7SB035B																	
			□180	FFP44G								L7SB050B																	
			□180	FFP60G								L7SB075B															APCF-P □ □ □ JS	APCF-P □ □ □ LB	
			□180	FFP75G								L7SB075B																	
			□220	FGP20G								L7SB020B															APCF-P □ □ □ MS	-	APCF-P □ □ □ SB
			□220	FGP30G								L7SB035B															APCF-P □ □ □ IS		
			□220	FGP44G								L7SB050B															APCF-P □ □ □ JS	-	APCF-P □ □ □ SB
			□220	FGP60G								L7SB075B															APCF-P □ □ □ MS		
			2,500	3,000	□220	FGP85G	L7SB150B	* 19Bit Serial Absolute	APCS-E □ □ □ DS	APCS-E □ □ □ DS1	-	APCF-P □ □ □ IS															APCF-P □ □ □ PB	-	
□220	FGP110G	L7SB150B																											
□220	FGP150G	L7SB150B																											
□220	FGP150G	L7SB150B																											
1,000	2,000	□130	FEP03M	L7SB010B	* 19Bit Serial Absolute	APCS-E □ □ □ DS	APCS-E □ □ □ DS1	-	APCF-P □ □ □ HS	APCF-P □ □ □ NB	-																		
		□130	FEP06M	L7SB010B																									
		□130	FEP09M	L7SB010B																									
		□130	FEP12M	L7SB020B																									
		□180	FFP12M	L7SB020B																									
		□180	FFP20M	L7SB020B								APCF-P □ □ □ IS	APCF-P □ □ □ PB																
	□180	FFP30M	L7SB035B																										
	1,700	2,000	□180	FFP44M								L7SB050B	* 19Bit Serial Absolute	APCS-E □ □ □ DS	APCS-E □ □ □ DS1	-	APCF-P □ □ □ JS	APCF-P □ □ □ LB	-										
			□220	FGP12M								L7SB020B																	
			□220	FGP20M								L7SB020B																	
			□220	FGP30M								L7SB050B								APCF-P □ □ □ IS	-	APCF-P □ □ □ SB							
			□220	FGP44M								L7SB050B																	
			□220	FGP44M								L7SB050B								APCF-P □ □ □ JS	-	APCF-P □ □ □ SB							
			□220	FGP60M								L7SB075B								APCF-P □ □ □ MS									

Servo Drive

## L7SA Drive

Item		Type Name	L7SA001 □	L7SA002 □	L7SA004 □	L7SA008 □	L7SA010 □	L7SA020 □	L7SA035 □	L7SA050 □	L7SA075B	L7SA150B	
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]											
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]											
Rated Current[A]			1.4	1.7	3.0	5.2	6.75	13.5	16.7	32	39.4	76	
Peak Current[A]			4.2	5.1	9.0	15.6	20.25	40.5	50.1	96	98.5	190	
Encoder Type		Quad. Type Incremental Line Driver 2,000~10,000[P/R] Serial Type 18Bit(100WC M8 only), 19bit, 20bit(DD motor only)											
Control Performance	Speed Control	Speed Control Range	Maximum 1: 5000										
		Frequency Response	Maximum 1 [kHz] or above (When using 19bit Serial Encoder)										
		Speed Command	DC -10 [V]~+10 [V] (Reverse rotation in case of negative voltage)										
		Accel/Decel Time	Straight or S-curve acceleration/deceleration (0-10,000 [ms], possible to be set by one [ms] unit)										
		Speed Variation Ratio	±0.01 [%] or lower [when load changes between 0 and 100%] ±0.1[%] or lower [temperature 25 ±10°C]										
	Position Control	Input Frequency	1[Mpps], Line Driver / 200[kpps], Open Collector										
		Input Pulse Type	Symbol + Pulse Series, CW+CCW, A/B Phase										
		Electric Gear Ratio	Four digital gear ratios can be set, selected and tuned.										
	Torque Control	Torque Command	DC-10~+10 [V] (Reverse direction torque in case of negative voltage)										
		Speed Limit	DC 0~10 [V], internal speed command within ±1[%]										
Repetition accuracy		Within ±1[%]											
Input/Output Signal	Analog Input	Input Range	DC -10 ~ 10[V]										
		Resolution	12[bit]										
	Analog Output	Output Range	DC -10 ~ 10[V]										
		Resolution	12[bit]										
	Digital Input	Total 10 Input Channels(assignment available) SVON, SPD1, SPD2, SPD3, ALMRST, DIR, CCWLIM, CWLIM, EMG, STOP, EGEAR1, EGEAR2, PCON, GAIN2, P_CLR, T_LMT, MODE, ABS_RQ, ZCLAMP Above 19 functions can be used selectively for assignment Signal can be set as positive logic or negative logic											
	Digital Output	Total 5 Channels(assignment available), 3 Channels(set as alarm code) ALARM, READY, ZSPD, BRAKE, INPOS, TLMT, VLMT, INSPD, WARN Above 9 outputs can be used selectively for assignment Signal can be set as positive logic or negative logic											
Communication	RS-422	Accessible to PC software and the RS422 server											
	USB	Status monitoring, JOG operation, parameter upload/download are available with PC Software											
Encoder		Serial BiSS encoder and quadrature encoder supported											
Encoder Output Type		Random pre-scale output through FPGA (maximum 6.4 Mpps)											
Built-in functions	Dynamic Braking	Standard built-in (activated when the servo alarm goes off or when the servo is off)											
	Regenerative Braking	Both default built-in and external installation possible											
	Display	Seven segments (5 DIGIT)											
	Setting Function	Loader (SET, MODE, UP, and [DOWN] keys)											
	Additional Function	Auto gain tuning, phase Z detection, manual JOG operation, program JOG operation, automatic analog input calibration											
	Protective Function	Overcurrent, overload, overvoltage, insufficient voltage, main power input problem, control power input problem, overspeed, motor cable, overheat(power module overheat, abnormal drive operation's temp), encoder problem, over-regenerative, sensor problem, communication problem											
Operation Environment	Operating Temperature / Storage Temperature	0 ~ 50[°C] / -20 ~ 70[°C]											
	Operating Humidity / Storage Humidity	Below 80[%]RH / Below 90[%]RH(avoid dew-condensation)											
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.											

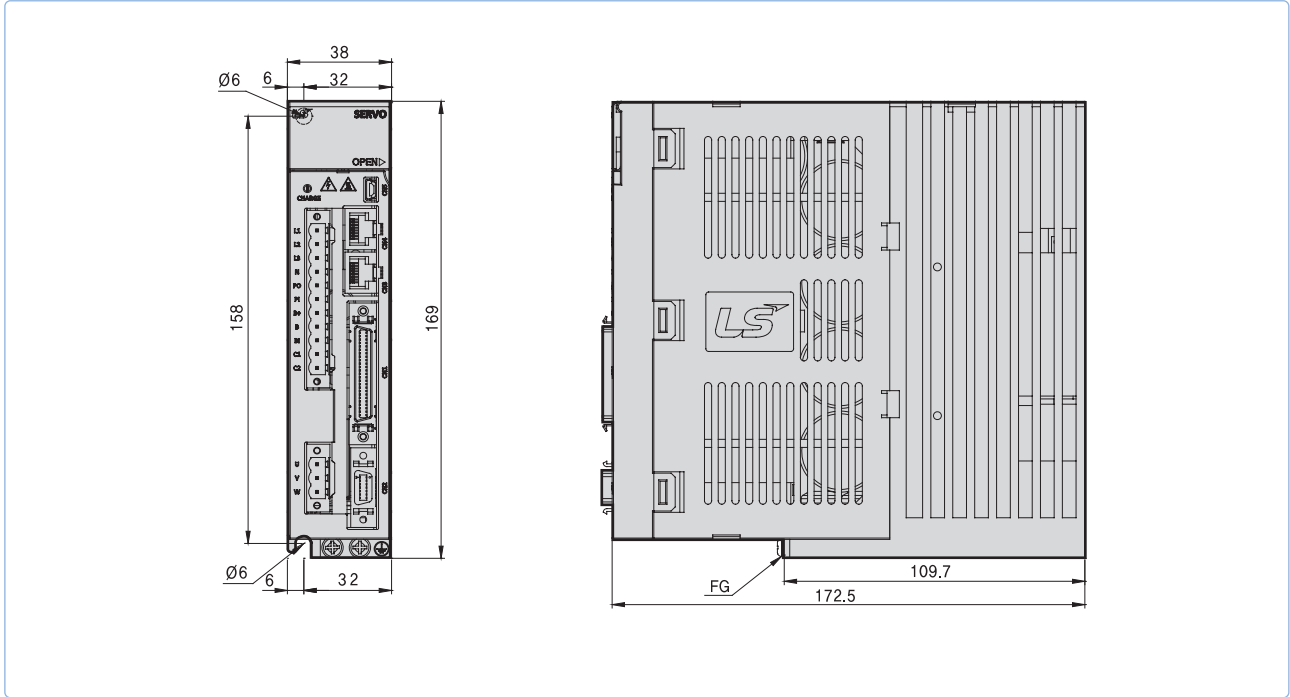
\* L7SA075, L7SA150의 경우, Incremental type 지원 안됨

## L7SB Drive

Item		Type Name	L7SB010B	L7SB020B	L7SB035B	L7SB050B	L7SB075B	L7SB150B
Input Power	Main Power Supply	3 Phase AC380 ~ 480[V](-15 ~ +10[%]), 50 ~ 60[Hz]						
	Control Power Supply	Single Phase AC380 ~ 480[V](-15 ~ +10[%]), 50 ~ 60[Hz]						
Rated Current[A]			3.7	8	10.1	17.5	22.8	39
Peak Current[A]			11.1	24	30.3	52.5	57	97.5
Encoder Type			Serial 17bit, 19bit, 21bit					
Control Performance	Speed Control	Speed Control Range	Maximum 1: 5000					
		Frequency Response	Maximum 1 [kHz] or above (when the 19-bit serial encoder is applied)					
		Speed Command	DC -10 [V]~+10 [V] (Reverse rotation in case of negative voltage)					
		Accel/Decel Time	Straight or S-curve acceleration/deceleration (0-10,000 [ms], possible to be set by one [ms] unit)					
		Speed Variation Ratio	±0.01 [%] or lower [when load changes between 0 and 100%], ±0.1[%] or lower [temperature 25 ± 10°C]					
	Position Control	Input Frequency	1[Mpps], Line Driver / 200[kpps], Open Collector					
		Input Pulse Type	Symbol + pulse series, CW+CCW, A/B phase					
		Electric Gear Ratio	Four digital gear ratios can be set, selected and tuned.					
	Torque Control	Torque Command	DC-10~+10 [V] (Reverse direction torque in case of negative voltage)					
		Speed Limit	DC 0~10 [V], internal speed command within ±1[%]					
Repetition accuracy		Within ±1[%]						
Input/Output Signal	Analog Input	Input Range	DC 0 ~ 10[V]					
		Resolution	12[bit]					
	Analog Output	Output Range	DC 0 ~ 10[V]					
		Resolution	12[bit]					
	Digital Input	A total of 10 input channels (allocable) SVON, SPD1, SPD2, SPD3, ALMRST, DIR, CCWLIM, CWLIM, EMG, STOP, EGEAR1, EGEAR2, PCON, GAIN2, P_CLR, T_LMT, MODE, ABS_RQ, ZCLAMP You can selectively allocate a total of 19 functions. You can set the positive/negative logic of the selected signal.						
	Digital Output	A total of 5 channels (allocable), 3 channels (fixed with alarm codes) ALARM, READY, ZSPD, BRAKE, INPOS, TLMT, VLMT, INSPD, WARN You can selectively allocate a total of nine kinds of output. You can set the positive/negative logic of the selected signal.						
Communication	RS-422	Accessible to PC software and the RS422 server						
	USB	Status monitoring through PC software, JOG operation, and parameter uploading/downloading are possible.						
Encoder			Serial BiSS encoder and quadrature encoder supported					
Encoder Output Type			Random pre-scale output through FPGA (maximum 6.4 Mpps)					
Built-in functions	Dynamic Braking	Standard built-in (activated when the servo alarm goes off or when the servo is off)						
	Regenerative Braking	Both default built-in and external installation possible						External installation Possible
	Display	Seven segments (5 DIGIT)						
	Setting Function	Loader (SET, MODE, UP, and [DOWN] keys)						
	Additional Function	Auto gain tuning, phase Z detection, manual JOG operation, program JOG operation, automatic analog input calibration						
	Protective Function	Overcurrent, overload, overvoltage, voltage lack, main power input error, control power input error, overspeed, motor cable, heating error (power module heating, drive temperature error), encoder error, excessive regeneration, sensor error, communication error						
Operation Environment	Operating Temperature / Storage Temperature	0 ~ 50[°C] / -20 ~ 70[°C]						
	Operating Humidity / Storage Humidity	Below 80[%]RH / Below 90[%]RH(avoid dew-condensation)						
	Environment	Indoor, avoid corrosive, inflammable gas or liquid, and electrically conductive dust.						

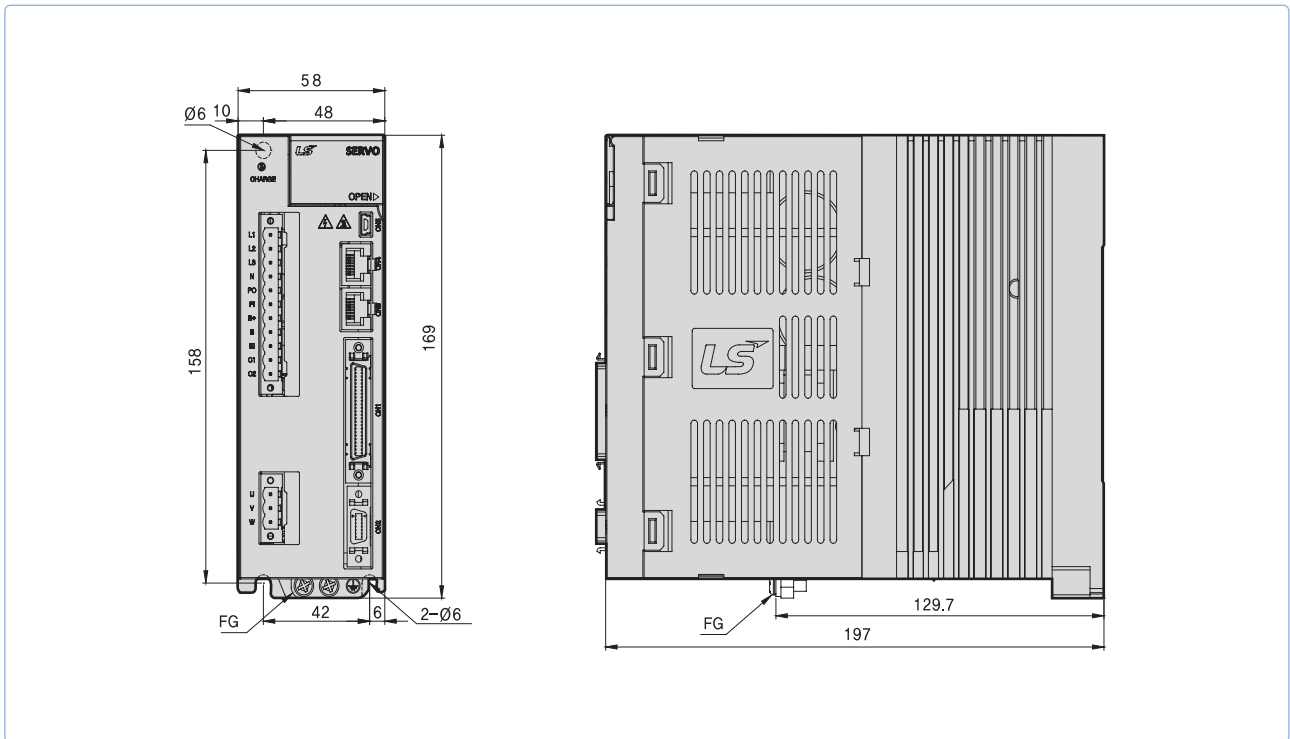
L7SA001□ ~ L7SA004□ [Weight 1.2kg]

\*Unit [mm]



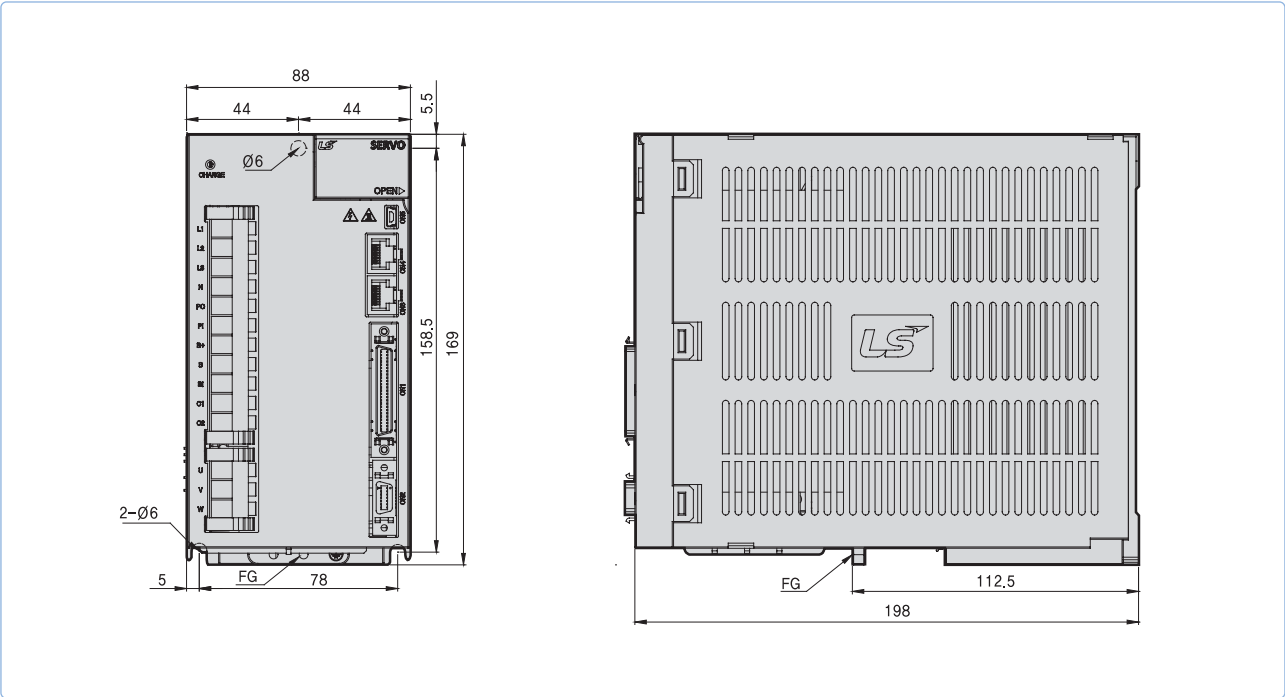
L7SA008□ ~ L7SA010□ [Weight : 1.5kg(Fan-Cooling included)]

\*Unit [mm]



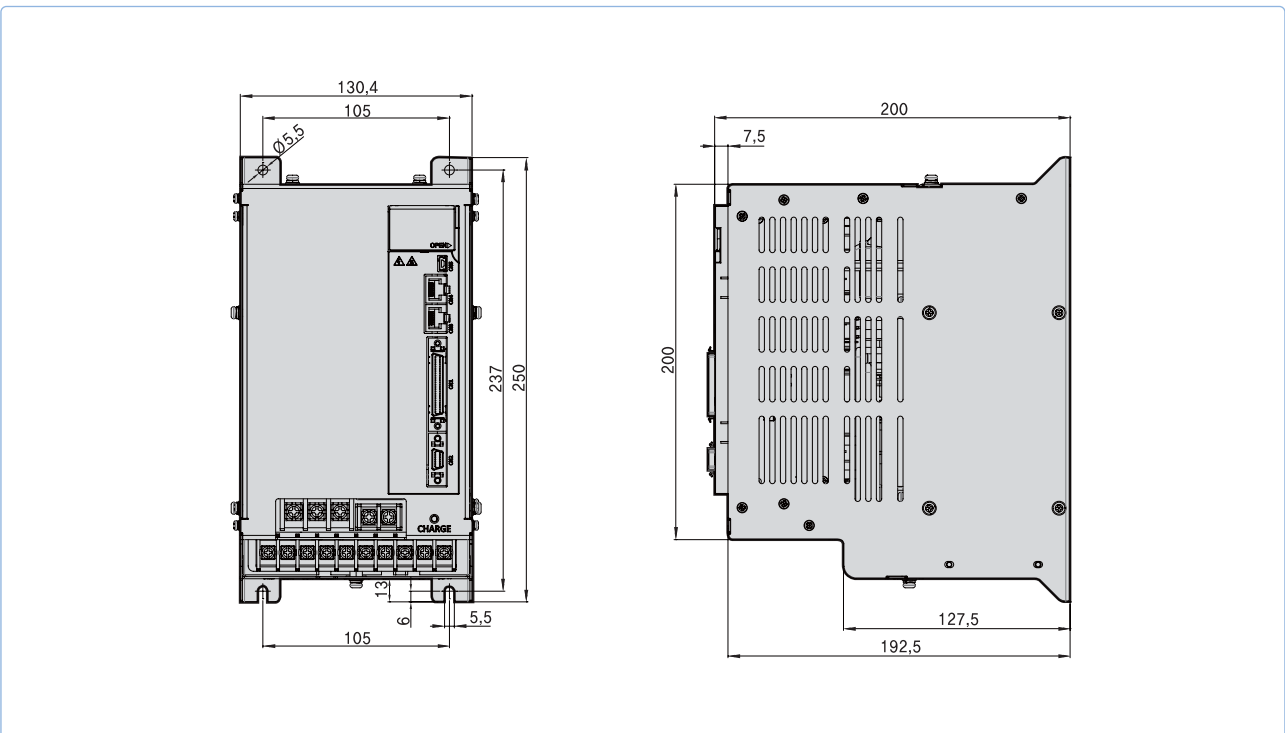
L7SA020 □ ~ L7SA035 □ [Weight : 2.5kg(Fan-Cooling included)]

\*Unit [mm]



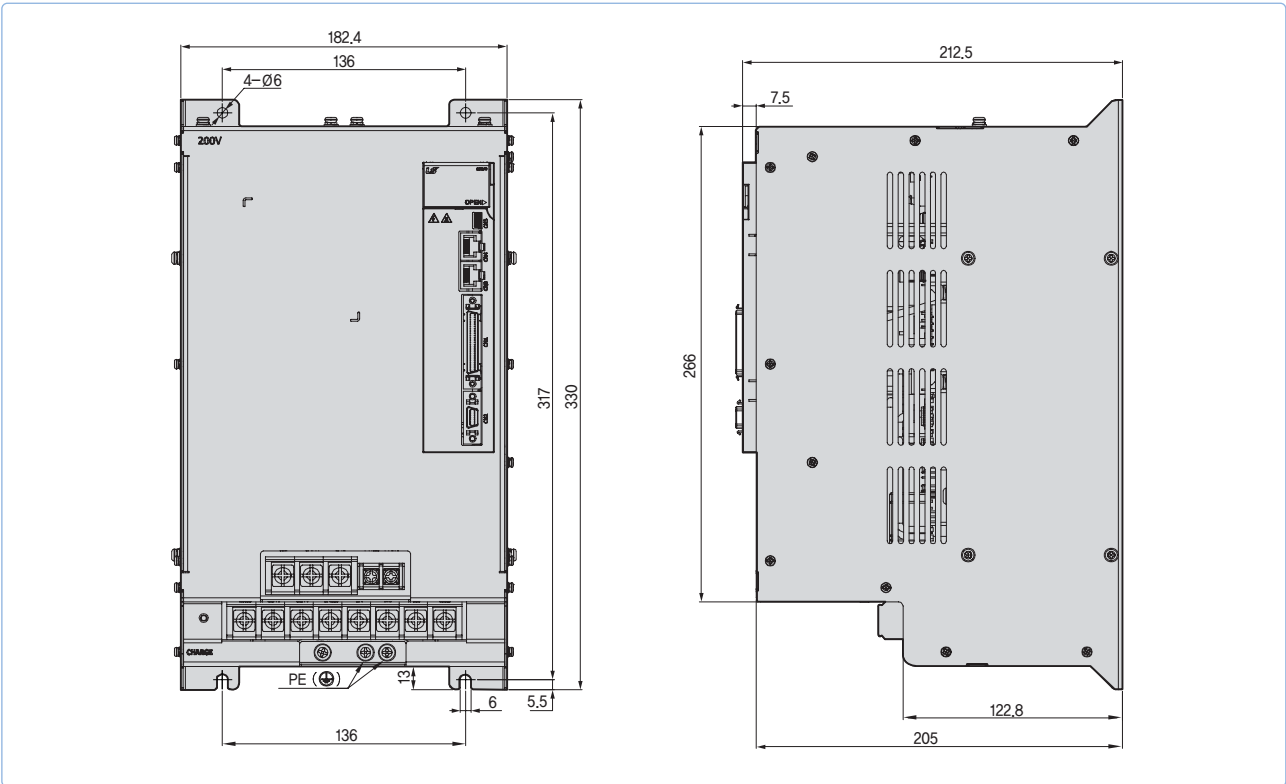
L7SA050 □ [Weight : 5.5kg(Fan-Cooling included)]

\*Unit [mm]



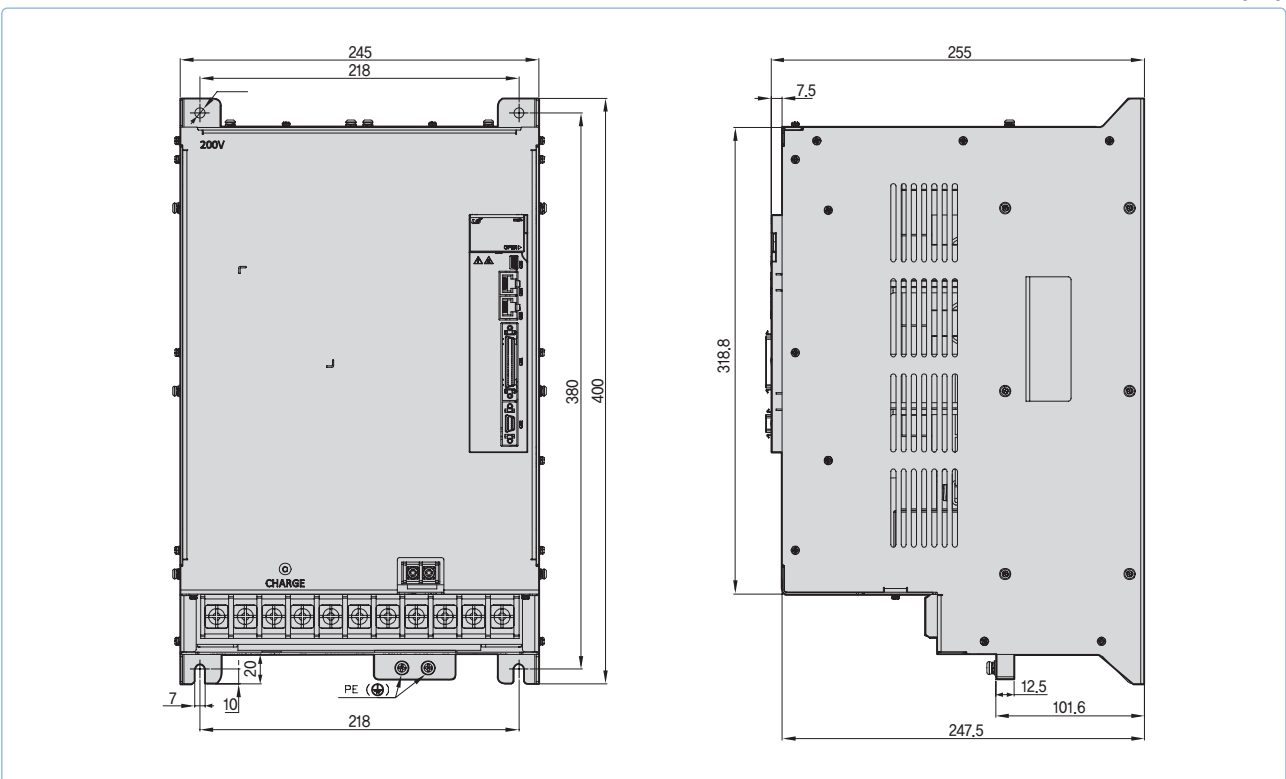
L7SA075B [Weight : 8.5kg(Fan-Cooling included)]

\*Unit [mm]



L7SA150B [Weight : 16.2kg(Fan-Cooling included)]

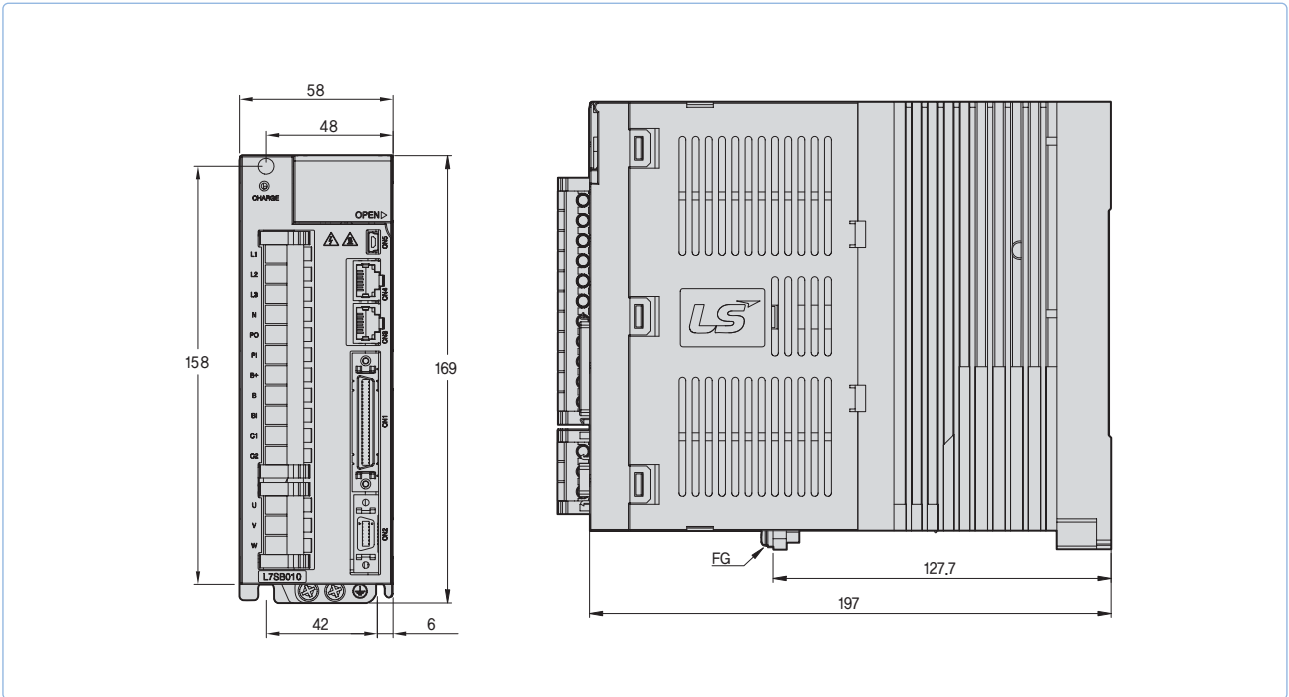
\*Unit [mm]





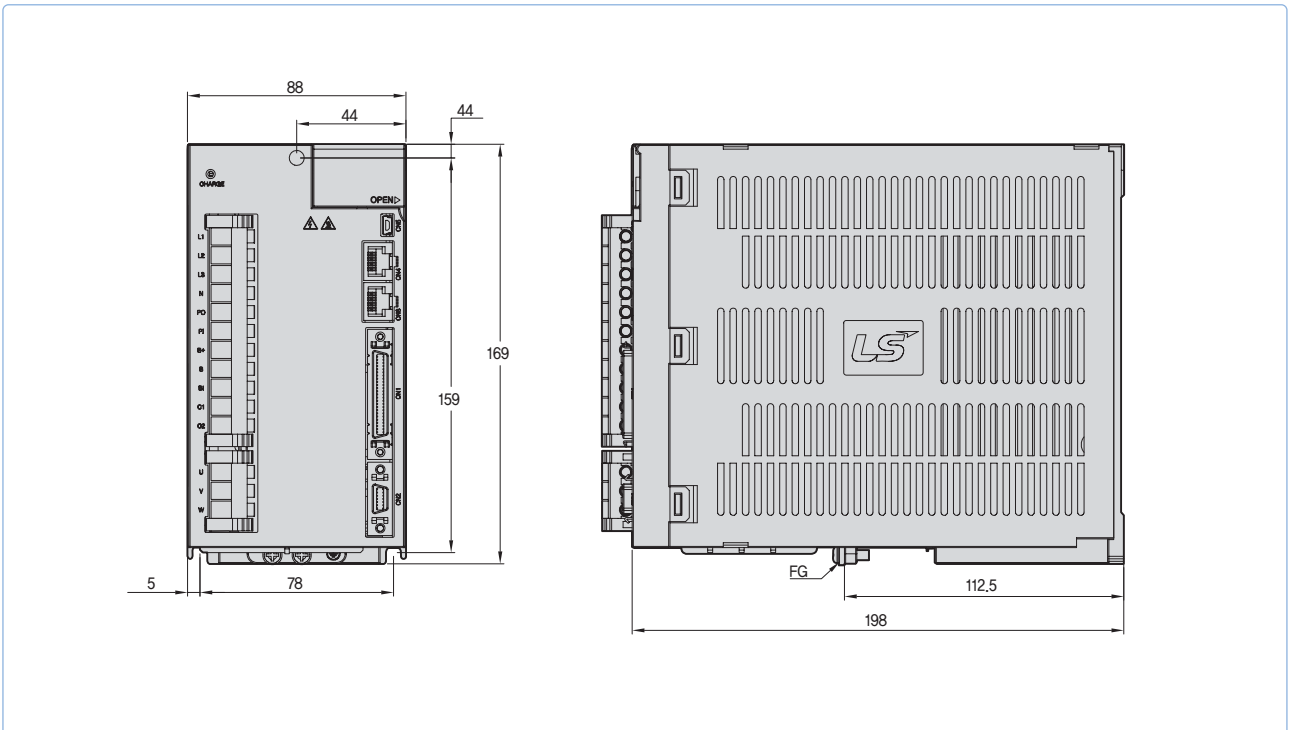
L7SB010B [Weight : 1.5kg(Fan-Cooling included)]

\*Unit [mm]



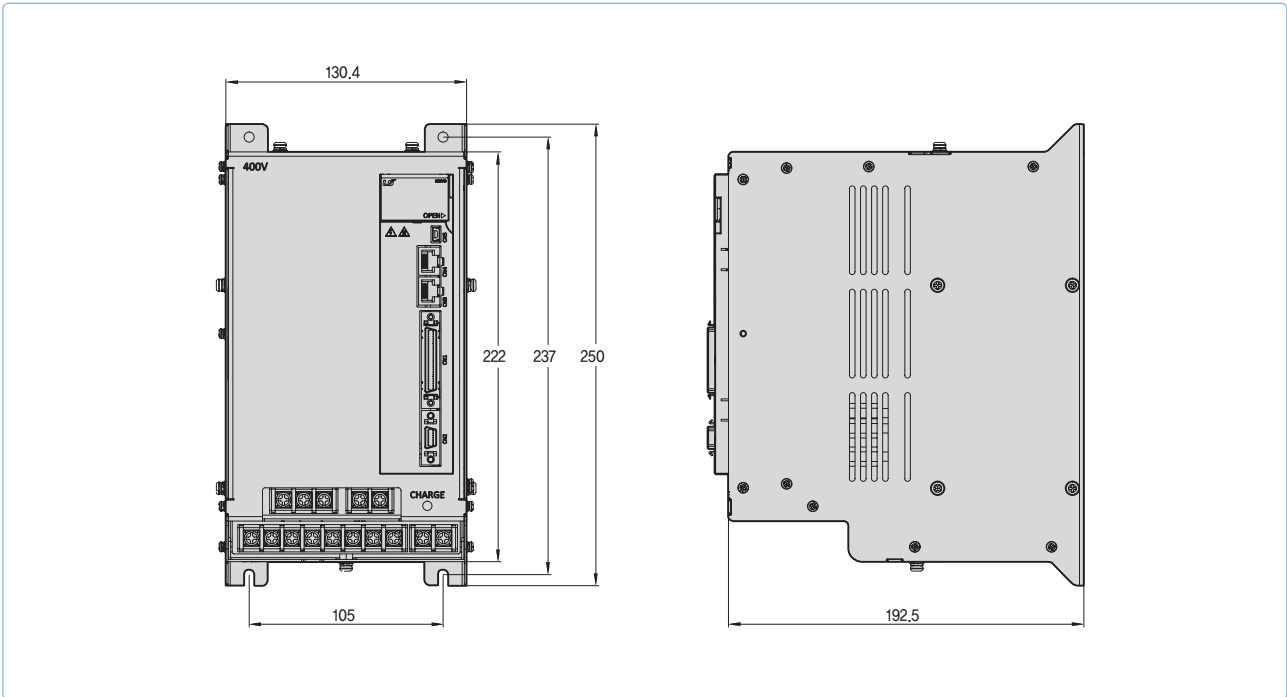
L7SB020B / L7SB035B [Weight : 2.5kg(Fan-Cooling included)]

\*Unit [mm]



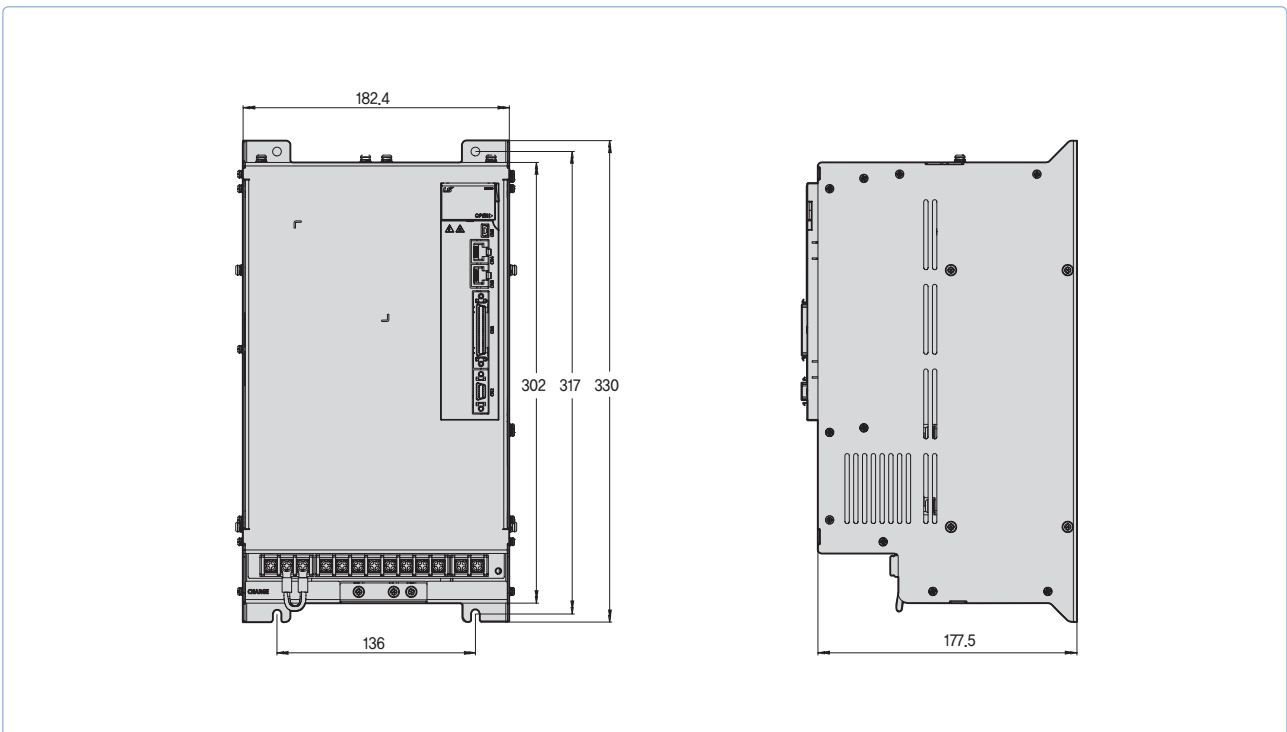
## L7SB050B [Weight : 5.5kg(Fan-Cooling included)]

\*Unit [mm]



## L7SB075B [Weight : 8.5kg(Fan-Cooling included)]

\*Unit [mm]



L7SB150B [Weight : 15.5kg(Fan-Cooling included)]

\*Unit [mm]

