

L7NH Series



Servo Drive Designation

L7	NH	A	004	U	AA
	Communication	Input Power Supply	Capacity	Encoder Type	Option
	Network / All-in-One Type	A:200VAC B:400VAC	001:100W 002:200W 004:400W 008:750W 010:1.0kW 020:2.0kW 035:3.5kW 050:5.0kW 075:7.5kW 110:11kW 150:15kW	U:Universal	Exclusive Option Code

*** Range**

- 200V : 0.1kW-3.5kW
- 400V : 1.0kW-15kW

All-in-One EtherCAT Communication Type **L7NH**

Real-time control through EtherCAT

- High speed, Real-time capability and Synchronization mechanism
- Improved EtherCAT communication speed (min. 250us, DC support)
- Supporting CoE, EoE and FoE
- Improved Speed Response(\approx 1kHz) Frequency

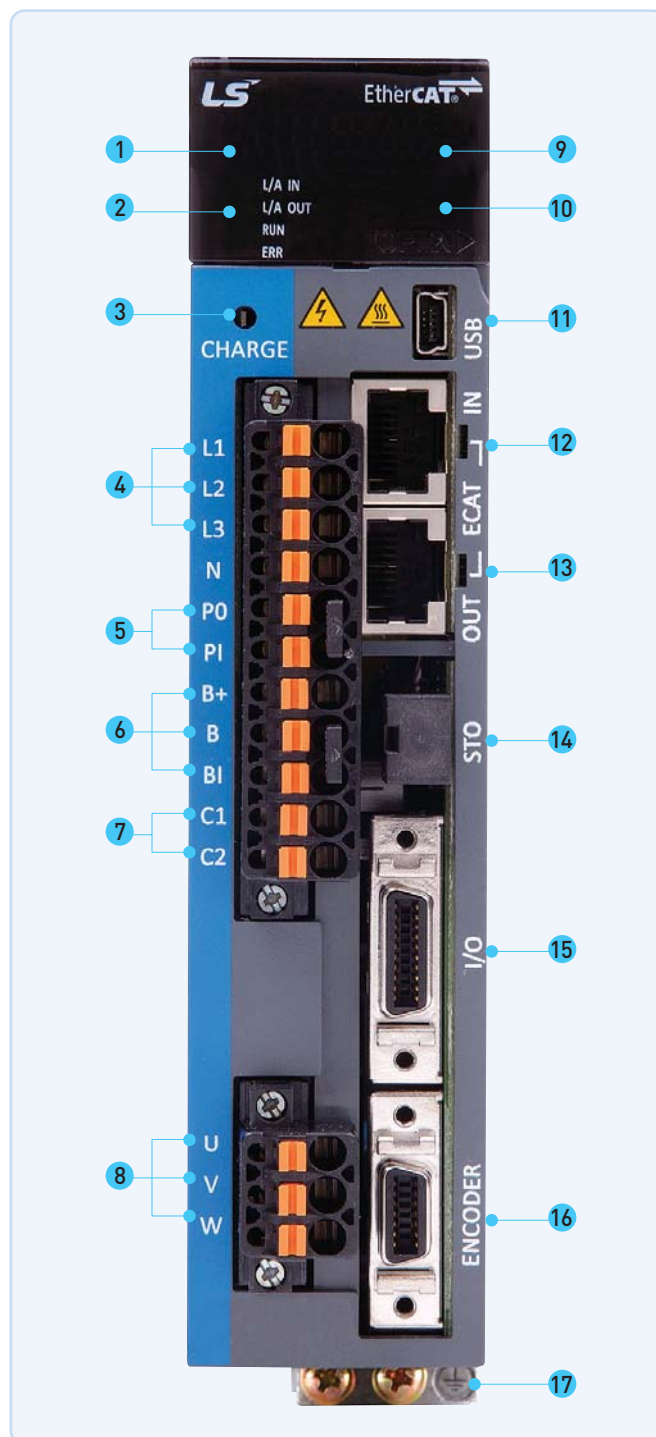
Support various motor and Encoder drive

- Supporting Rotary, DD and Motor drive (supporting 3rd party motor)
- Quadrature, BiSS-C, Tamagawa serial abs, EnDat 2.2, Resolver

Improved Control Performance

- Improved Control bandwidth
- Providing 4-step Notch-Filter
- Vibration control by Real-time FET
- Real-time gain tuning function

- 1 Display
- 2 State LED
- 3 Charge Lamp
- 4 Main Power Connector (L1, L2, L3)
- 5 DC Reactor Connector (PO, PI)
- 6 Regenerative Resistance Connector (B+, B, BI)
 - Short-Circuit B, BI terminals when standard type
 - Use B+, B terminals when using external resistor
- 7 Control Power Connector (C1, C2)
- 8 Servo Motor Connecting Terminal (U,V,W)
- 9 Connector for Analog Monitor
- 10 Node Address Setting Switch
- 11 USB Connector
- 12 EtherCAT Communication Port (IN)
- 13 EtherCAT Communication Port (OUT)
- 14 Safety Connector (STO)
- 15 Input / Output signal /Connector
- 16 Encoder Connector (ENCODER)
- 17 Ground Terminal



L7NHA 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	L7NHA001U	* 18Bit Serial Absolute	APCS-E □ □ □ ES	APCS-E □ □ □ ES1	APCS-P □ □ □ LS	-	APCS-B □ □ □ QS		
		□40	FAL01A	L7NHA001U								
		□40	FAL015A	L7NHA004U								
		□60	FBL01A	L7NHA001U								
		□60	FBL02A	L7NHA002U								
		□60	FBL04A	L7NHA004U								
		□80	FCL04A	L7NHA004U								
		□80	FCL06A	L7NHA008U								
		□80	FCL08A	L7NHA008U								
		□80	FCL10A	L7NHA010U								
		□60	FB01A	L7NHA001U								
		□60	FB02A	L7NHA002U								
		□60	FB04A	L7NHA004U								
		□80	FC04A	L7NHA004U								
		□80	FC06A	L7NHA008U								
		□80	FC08A	L7NHA008U								
		□80	FC10A	L7NHA010U								
		□130	FE09A	L7NHA010U								
		□130	FE15A	L7NHA020U								
		□130	FE22A	L7NHA020U								
□130	FE30A	L7NHA035U										
□180	FF30A	L7NHA035U										
□180	FF50A	L7NHA050U										
2,000	3,000	□80	FCL03D	L7NHA004U	* 19Bit Serial Absolute	APCS-E □ □ □ ES	APCS-E □ □ □ ES1	APCS-P □ □ □ LS	-	APCS-B □ □ □ QS		
		□80	FCL05D	L7NHA008U								
		□80	FCL06D	L7NHA008U								
		□80	FCL07D	L7NHA008U								
		□80	FC03D	L7NHA004U								
		□80	FC05D	L7NHA008U								
		□80	FC06D	L7NHA008U								
		□80	FC07D	L7NHA008U								
		□130	FE06D	L7NHA008U								
		□130	FE11D	L7NHA010U								
	2,500	3,000	□130	FE16D		L7NHA020U	APCS-E □ □ □ DS	APCS-E □ □ □ DS1	APCS-P □ □ □ HS	APCS-P □ □ □ NB	-	APCS-P □ □ □ SB
			□130	FE22D		L7NHA020U						
			□180	FF22D		L7NHA020U						
			□180	FF35D		L7NHA035U						
			□180	FF55D		L7NHA050U						
			□180	FF75D		L7NHA075U						
			□220	FG22D		L7NHA020U						
			□220	FG35D		L7NHA035U						
			□220	FG55D		L7NHA050U						
			□220	FG75D		L7NHA075U						
1,500	3,000	□130	FE05G	L7NHA008U	APCS-E □ □ □ DS	APCS-E □ □ □ DS1	APCS-P □ □ □ HS	APCS-P □ □ □ NB	-	APCS-P □ □ □ SB		
		□130	FE09G	L7NHA010U								
		□130	FE13G	L7NHA020U								
		□130	FE17G	L7NHA020U								
		□180	FF20G	L7NHA020U								
	2,500	3,000	□180	FF30G			L7NHA035U	APCS-P □ □ □ IS	APCS-P □ □ □ PB	-	APCS-P □ □ □ LB	
			□180	FF44G			L7NHA050U					
			□180	FF60G			L7NHA075U					
			□180	FF75G			L7NHA075U					
			□220	FG20G			L7NHA020U					
2,000	3,000	□220	FG30G	L7NHA035U	APCS-P □ □ □ JS	APCS-P □ □ □ LB	-	APCS-P □ □ □ SB				
		□220	FG44G	L7NHA050U								
		□220	FG60G	L7NHA075U								
		□220	FG85G	L7NHA150U								
		□220	FG110G	L7NHA150U								
1,000	2,000	□130	FE03M	L7NHA004U	APCS-P □ □ □ IS	APCS-P □ □ □ MS	APCS-P □ □ □ HS	APCS-P □ □ □ NB	-	APCS-P □ □ □ SB		
		□130	FE06M	L7NHA008U								
		□130	FE09M	L7NHA010U								
		□130	FE12M	L7NHA020U								
		□180	FF12M	L7NHA020U								
	1,700	2,000	□180	FF20M			L7NHA020U	APCS-P □ □ □ JS	APCS-P □ □ □ LB	-	APCS-P □ □ □ SB	
			□180	FF30M			L7NHA035U					
			□180	FF44M			L7NHA050U					
			□220	FG12M			L7NHA020U					
			□220	FG20M			L7NHA020U					
2,000	2,000	□220	FG30M	L7NHA035U	APCS-P □ □ □ JS	APCS-P □ □ □ MS	-	APCS-P □ □ □ SB				
		□220	FG44M	L7NHA050U								
2,000	2,000	□220	FG60M	L7NHA075U	APCS-P □ □ □ JS	APCS-P □ □ □ MS	-	APCS-P □ □ □ SB				
		□220	FG60M	L7NHA075U								

L7NHB 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	L7NHB010U	* 19Bit Serial Absolute	APCS-E □ □ □ DS	APCS-E □ □ □ DS1	APCF-P □ □ □ HS	APCF-P □ □ □ NB	-
		□130	FEP15A	L7NHB020U						
		□130	FEP22A	L7NHB035U						
		□130	FEP30A	L7NHB035U						
		□180	FFP30A	L7NHB035U						
		□180	FFP50A	L7NHB050U						
2,000	3,000	□130	FEP06D	L7NHB010U						
		□130	FEP11D	L7NHB010U						
		□130	FEP16D	L7NHB020U						
		□130	FEP22D	L7NHB020U						
		□180	FFP22D	L7NHB020U						
		□180	FFP35D	L7NHB035U						
	2,500	3,000	□180	FFP55D				L7NHB050U		
			□180	FFP75D				L7NHB075U		
			□220	FGP22D				L7NHB020U		
			□220	FGP35D				L7NHB035U		
			□220	FGP55D				L7NHB050U		
			□220	FGP75D				L7NHB075U		
1,500	3,000	□180	FGP110D	L7NHB150U						
		□130	FEP05G	L7NHB010U						
		□130	FEP09G	L7NHB010U						
		□130	FEP13G	L7NHB020U						
		□130	FEP17G	L7NHB020U						
		□180	FFP20G	L7NHB020U						
	2,700	3,000	□180	FFP30G	L7NHB035U					
			□180	FFP44G	L7NHB050U					
			□180	FFP60G	L7NHB075U					
			□180	FFP75G	L7NHB075U					
			□220	FGP20G	L7NHB020U					
			□220	FGP30G	L7NHB035U					
	3,000	3,000	□220	FGP44G	L7NHB050U					
			□220	FGP60G	L7NHB075U					
			□220	FGP85G	L7NHB150U					
			□220	FGP110G	L7NHB150U					
			□220	FGP150G	L7NHB150U					
			□220	FGP20M	L7NHB020U					
1,000	2,000	□220	FGP30M	L7NHB035U						
		□180	FFP44M	L7NHB050U						
		□130	FEP03M	L7NHB010U						
		□130	FEP06M	L7NHB010U						
		□130	FEP09M	L7NHB010U						
		□130	FEP12M	L7NHB020U						
	1,700	2,000	□180	FFP12M	L7NHB020U					
			□180	FFP20M	L7NHB020U					
			□180	FFP30M	L7NHB035U					
			□180	FFP44M	L7NHB050U					
			□180	FFP60M	L7NHB075U					
			□220	FGP12M	L7NHB020U					
2,000	2,000	□220	FGP20M	L7NHB020U						
		□220	FGP30M	L7NHB035U						
		□220	FGP44M	L7NHB050U						
		□220	FGP60M	L7NHB075U						
		□220	FGP12M	L7NHB020U						
		□220	FGP20M	L7NHB020U						

Servo Drive

L7NHA Drive

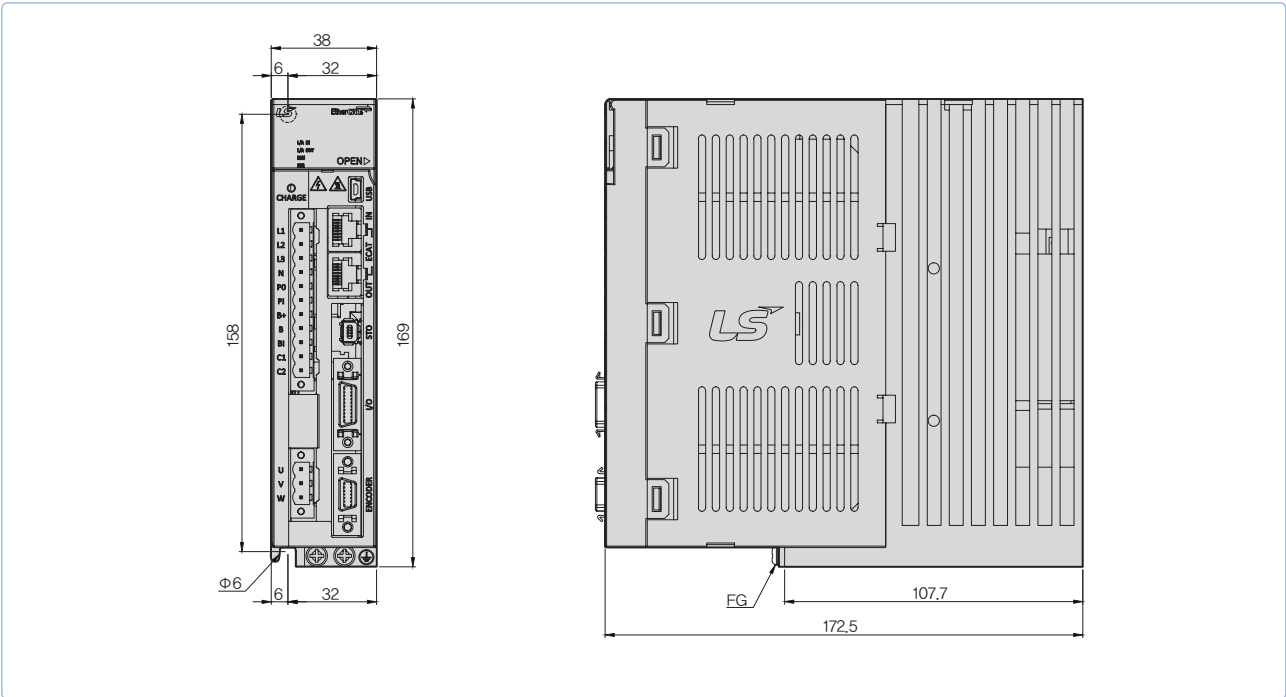
Item		Type Name	L7NHA001U	L7NHA002U	L7NHA004U	L7NHA008U	L7NHA010U	L7NHA020U	L7NHA035U	L7NHA050U	L7NHA075U	L7NHA150U
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]										
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]										
Rated Current[A]		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	90.88	98.5	190	
Encoder Type		Quadrature(Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial(Absolute, Incremental) EnDat 2.2 Sinusoidal Analog Hall										
Control Performance	Speed Control Range	Maximum 1: 5000										
	Frequency Response	Maximum 1[kHz] or above(When the 19-bit Serial Encoder is applied)										
	Speed Variation Ratio	±0.01[%] or lower(When the load changes between 0 and 100%) ±0.1[%] or less(Temperature of 25°C[±10])										
	Torque Control Repetition Accuracy	Within ±1%										
EtherCAT Communication Specifications	Communication Standard	FoE (Firmware download) EoE (Parameter setting by UDP, Tuning, Secondary function, Parameter copy) CoE (IEC 61158 Type12, IEC 61800-7 CIA 402 Drive profile)										
	Physical Layer	100BASE-TX(IEEE802.3)										
	Connector	RJ45 x 2										
	Communication distance	Within connection between nodes 100[m]										
	DC(Distributed Clock)	By DC mode synchronism. minimum DC cycle: 250[us]										
	LED Display	LinkAct IN, LinkAct OUT, RUN, ERR										
	Cia402 Drive Profile	Profile Position Mode Profile Velocity Mode Profile Torque Mode Cyclic Synchronous Position Mode Cyclic Synchronous Velocity Mode Cyclic Synchronous Torque Mode Homing Mode										
Digital Input / Output	Digital Input	Input Voltage range : DC 12[V] ~ DC 24[V] Total 8 input channels (allocable) Above 12 functions can be used selectively for assignment. (*POT, *NOT, *HOME, *STOP, *PCON, *GAIN2, *P_CL, *N_CL, PROBE1, PROBE2, EMG, A_RST)										
	Digital Output	Service rating: DC 24[V] ± 10%, 120[mA] Total 4 input channels (allocable) Above 11 functions can be used selectively for assignment. (*BRAKE±, *ALARM±, *READY±, *ZSPD±, INPOS±, TLMT±, VLMT±, INSPD±, WARN±, TGON±, INPOS±)										
Safety Function		2 Input Channels (STO1, STO2), 1 Output Channels (EDM±)										
USB Communication	Function	Firmware download, Parameter setting, Tuning, Secondary function, Parameter copy										
	Communication Standard	USB 2.0 Full Speed (applies standard)										
	Connect	PC or USB storing medium										
Internal Function	Dynamic Braking	Standard built-in brake (activated when the servo alarm goes off or when the servo is off).										
	Regenerative Braking	Default built-in(excluding 15kW), external installation possible										
	Display Function	7 segments(5DIGIT)										
	Self-setting Function	The [MODE] key changes the content displayed in 7 segments										
	Additional Function	Auto gain tuning function										
Protection 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.										

L7NHB Drive

Item		Type Name	L7NHB010U	L7NHB020U	L7NHB035U	L7NHB050U	L7NHB075U	L7NHB150U
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	47.25	57	97.5
Encoder Type		Quadrature(Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial(Absolute, Incremental) EnDat 2.2 Sinusoidal Analog Hall						
Control Performance	Speed Control Range	Maximum 1: 5000						
	Frequency Response	Maximum 1[kHz] or above(When the 19-bit Serial Encoder is applied)						
	Speed Variation Ratio	±0.01[%] or lower(When the load changes between 0 and 100%) ±0.1[%] or less(Temperature of 25°C[±10])						
	Torque Control Repetition Accuracy	Within ±1%						
EtherCAT Communication Specifications	Communication Standard	FoE (Firmware download) EoE (Parameter setting by UDP, Tuning, Secondary function, Parameter copy) CoE (IEC 61158 Type12, IEC 61800-7 CIA 402 Drive profile)						
	Physical Layer	100BASE-TX(IEEE802.3)						
	Connector	RJ45 x 2						
	Communication distance	Within connection between nodes 100[m]						
	DC(Distributed Clock)	By DC mode synchronism. minimum DC cycle: 250[us]						
	LED Display	LinkAct IN, LinkAct OUT, RUN, ERR						
	Cia402 Drive Profile	Profile Position Mode Profile Velocity Mode Profile Torque Mode Cyclic Synchronous Position Mode Cyclic Synchronous Velocity Mode Cyclic Synchronous Torque Mode Homing Mode						
Digital Input / Output	Digital Input	Input Voltage range : DC 12[V] ~ DC 24[V] Total 8 input channels (allocable) Above 12 functions can be used selectively for assignment. (*POT, *NOT, *HOME, *STOP, *PCON, *GAIN2, *P_CL, *N_CL, PROBE1, PROBE2, EMG, A_RST)						
	Digital Output	Service rating: DC 24[V] ±10%, 120[mA] Total 4 input channels (allocable) Above 11 functions can be used selectively for assignment. (*BRAKE±, *ALARM±, *READY±, *ZSPD±, INPOS±, TLMT±, VLMT±, INSPD±, WARN±, TGON±, INPOS±)						
Safety Function		2 Input Channels (STO1, STO2), 1 Output Channels (EDM±)						
USB Communication	Function	Firmware download, Parameter setting, Tuning, Secondary function, Parameter copy						
	Communication Standard	USB 2.0 Full Speed (applies standard)						
	Connect	PC or USB storing medium						
Internal Function	Dynamic Braking	Standard built-in brake (activated when the servo alarm goes off or when the servo is off).						
	Regenerative Braking	Default built-in(excluding 15kW), external installation possible						
	Display Function	7 segments(5DIGIT)						
	Self-setting Function	The [MODE] key changes the content displayed in 7 segments						
	Additional Function	Auto gain tuning function						
	Protection 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.						

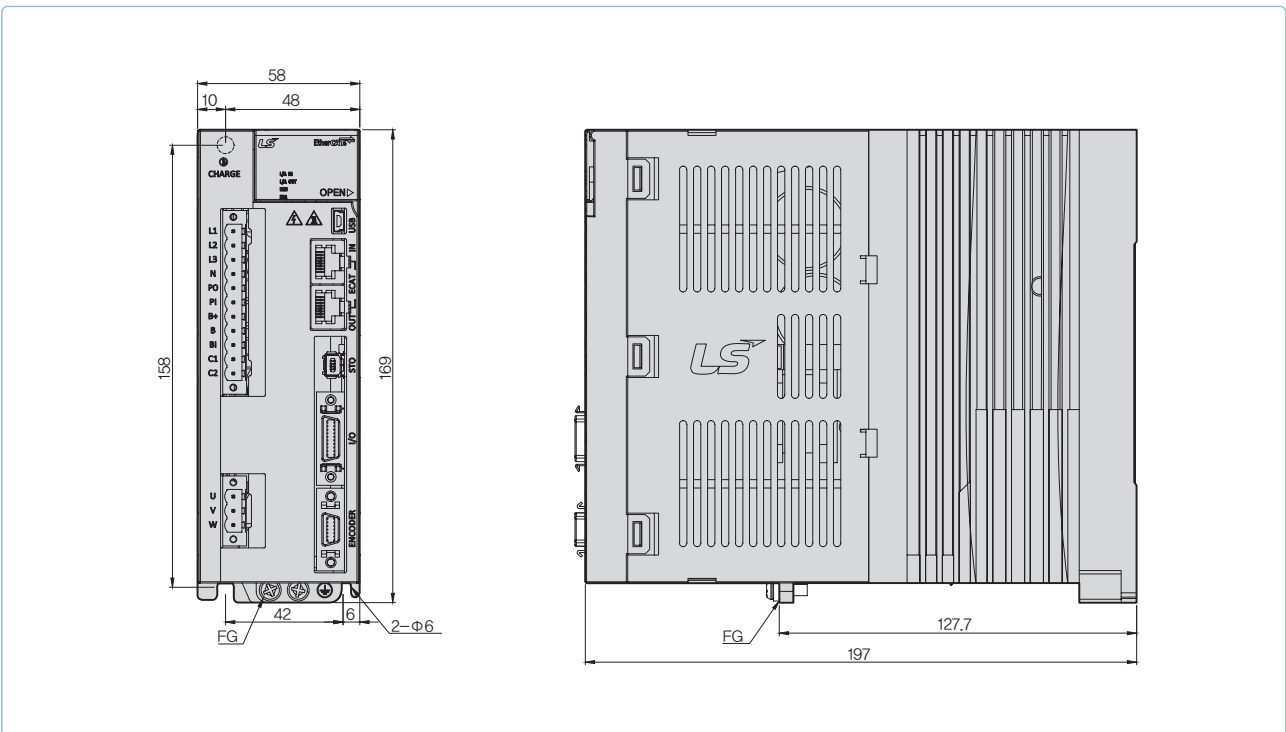
L7NHA001U ~ L7NHA004U [Weight : 1.0kg]

*Unit [mm]



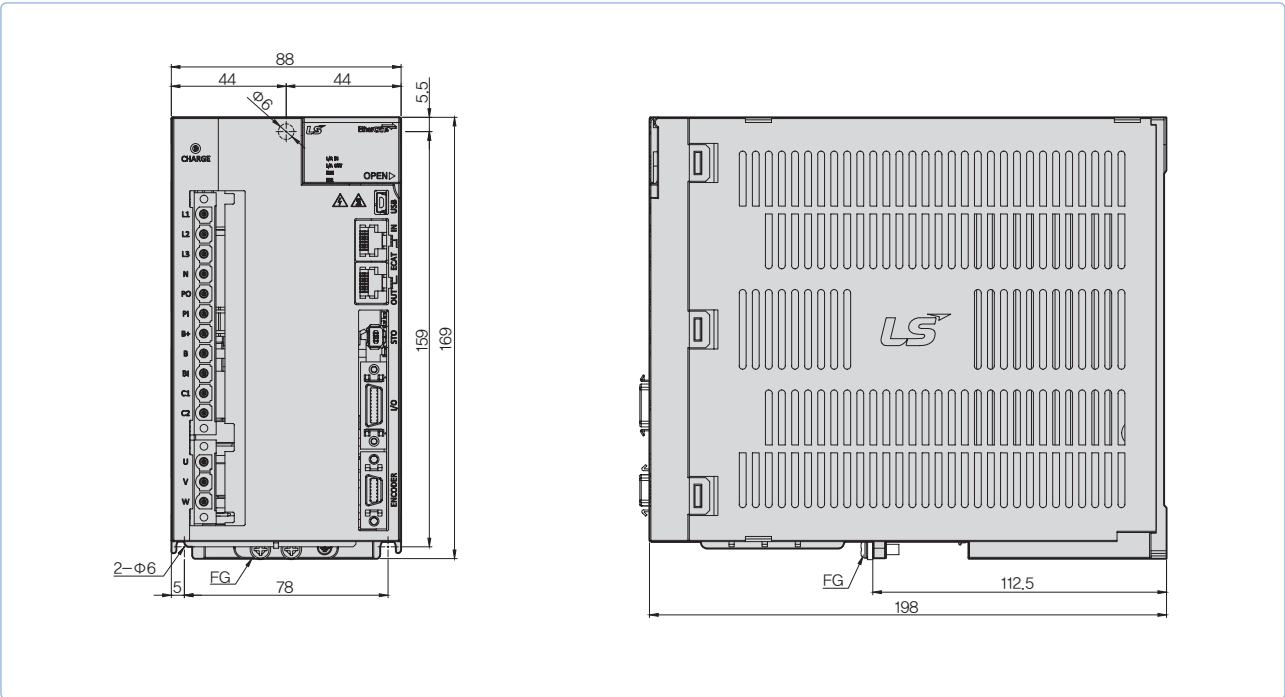
L7NHA008U / L7NHA010U [Weight : 1.5kg (Fan-Cooling included)]

*Unit [mm]



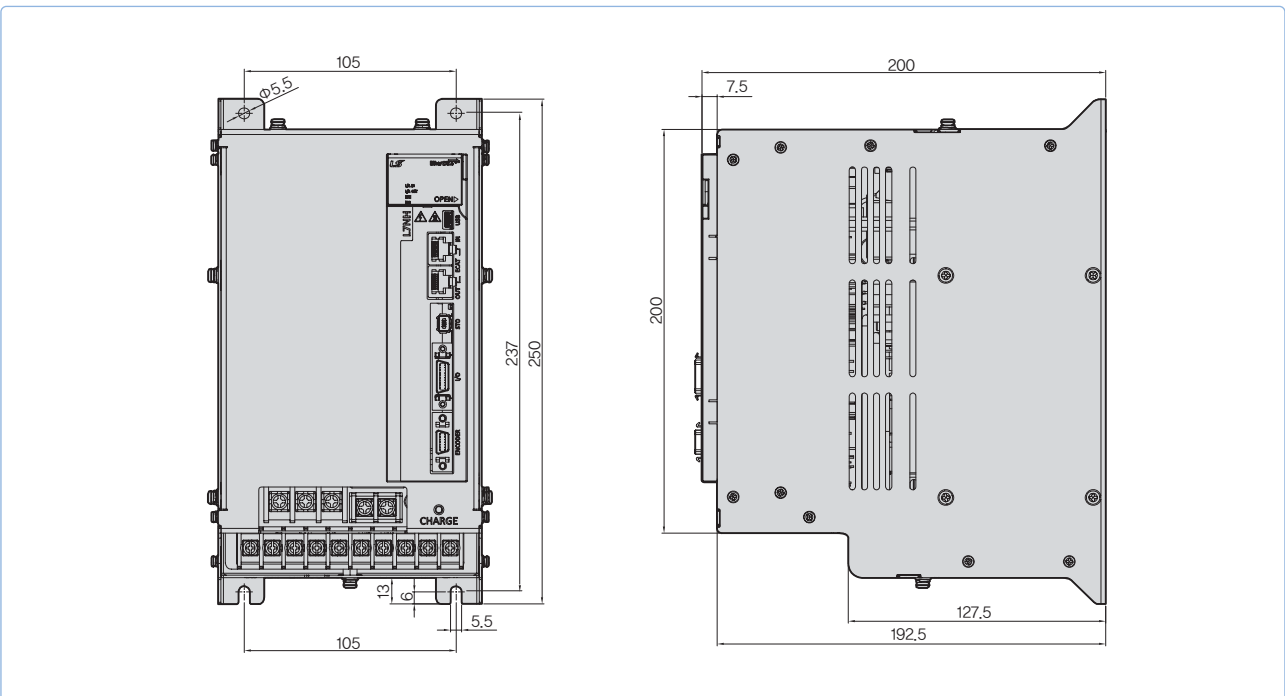
L7NHA020U / L7NHA035U [Weight : 2.5kg (Fan-Cooling included)]

*Unit [mm]



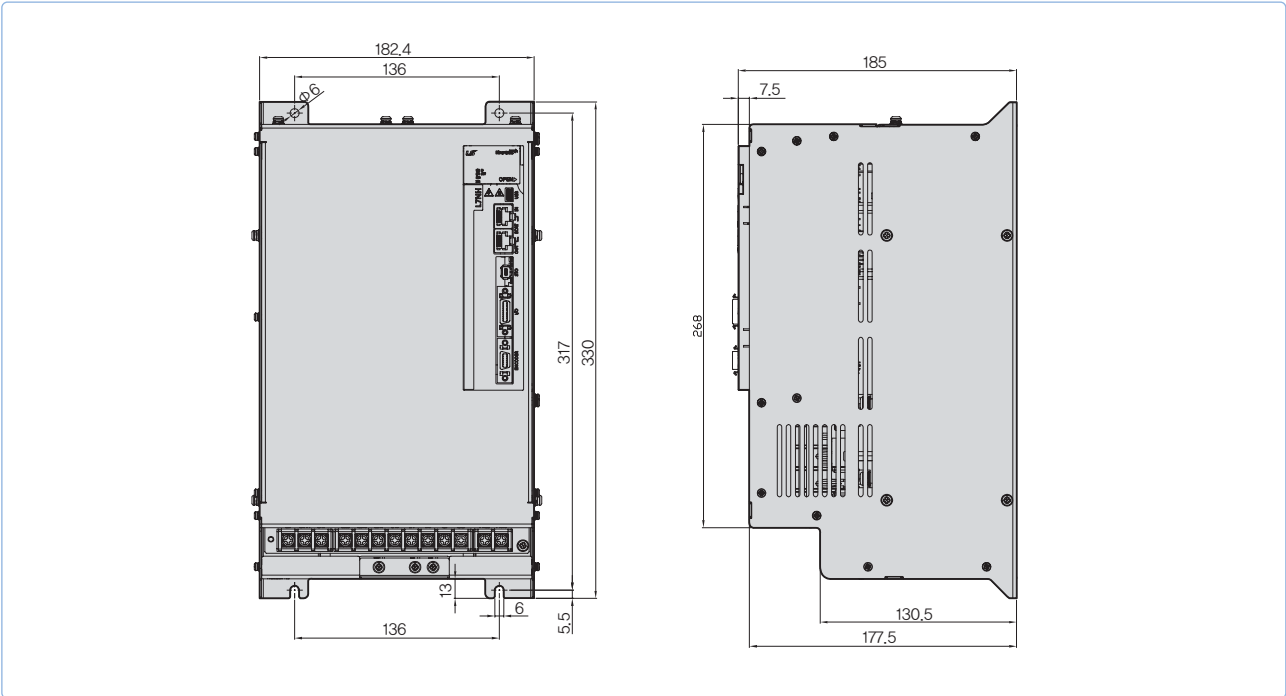
L7NHA050U [Weight : 5.5kg (Fan-Cooling included)]

*Unit [mm]



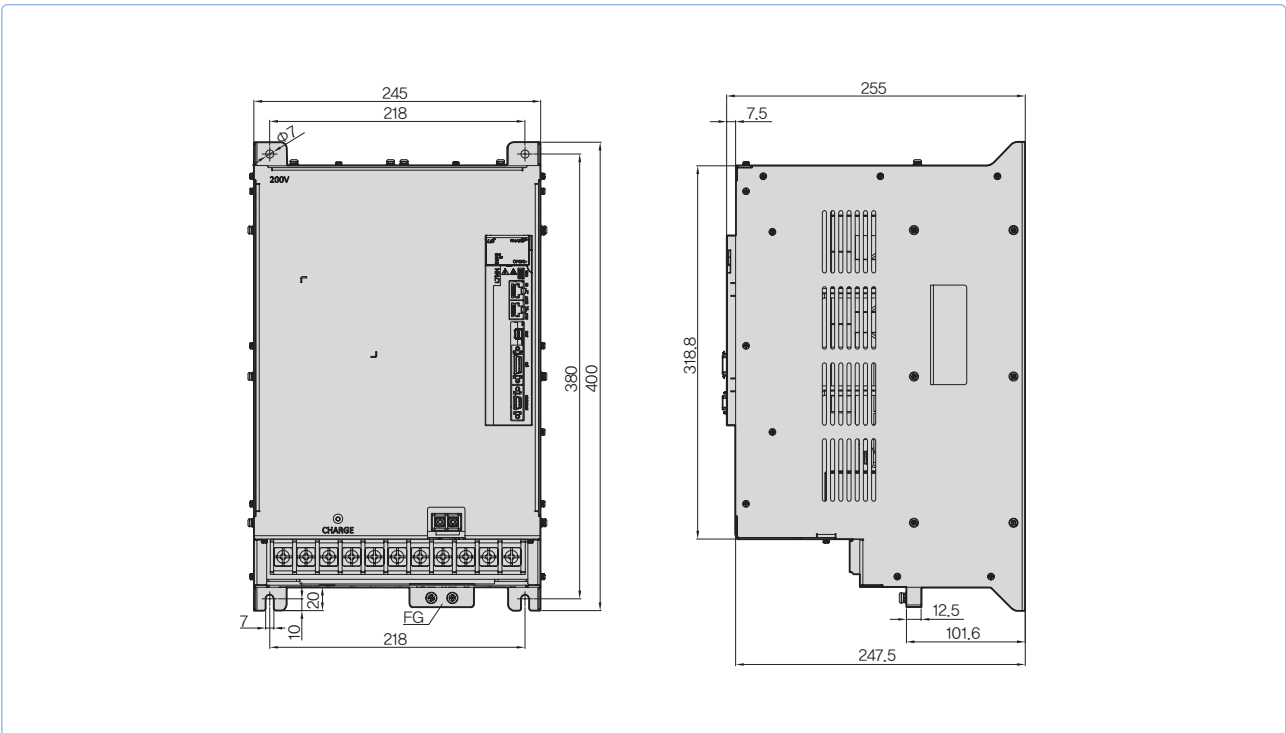
L7NHA075U [Weight : 8.5kg(Fan-Cooling included)]

*Unit [mm]



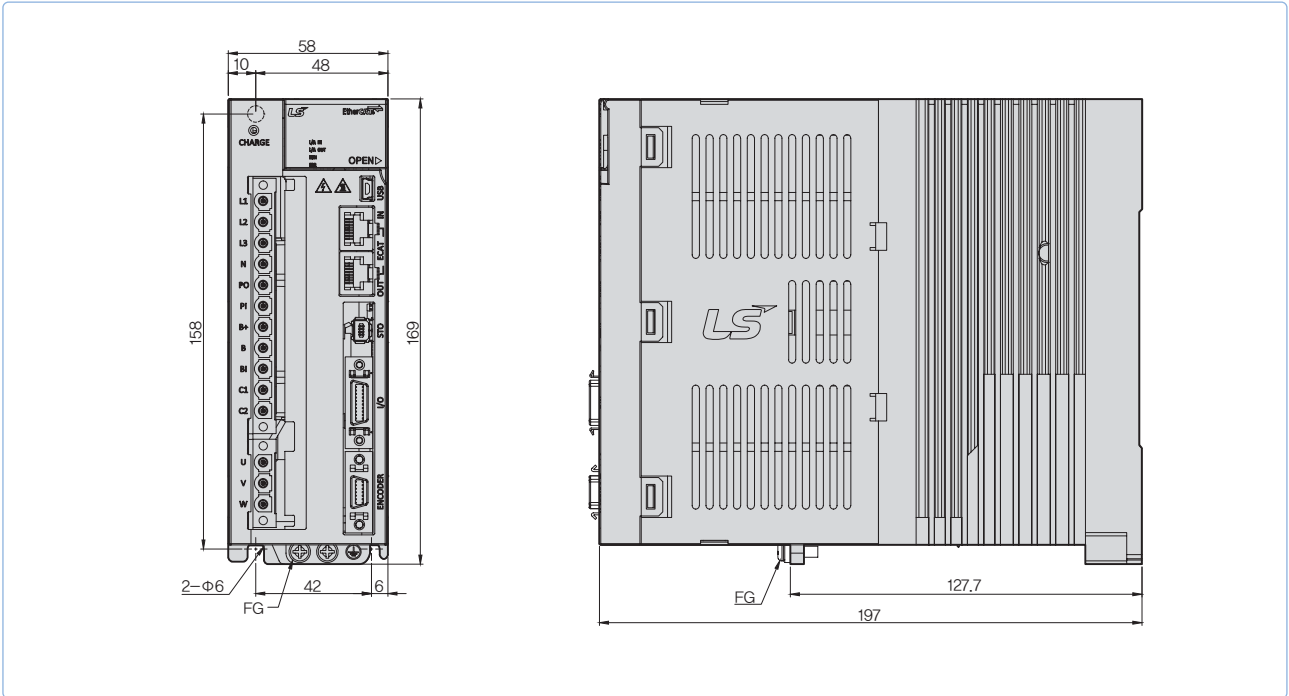
L7NHA150U [Weight : 16.2kg(Fan-Cooling included)]

*Unit [mm]



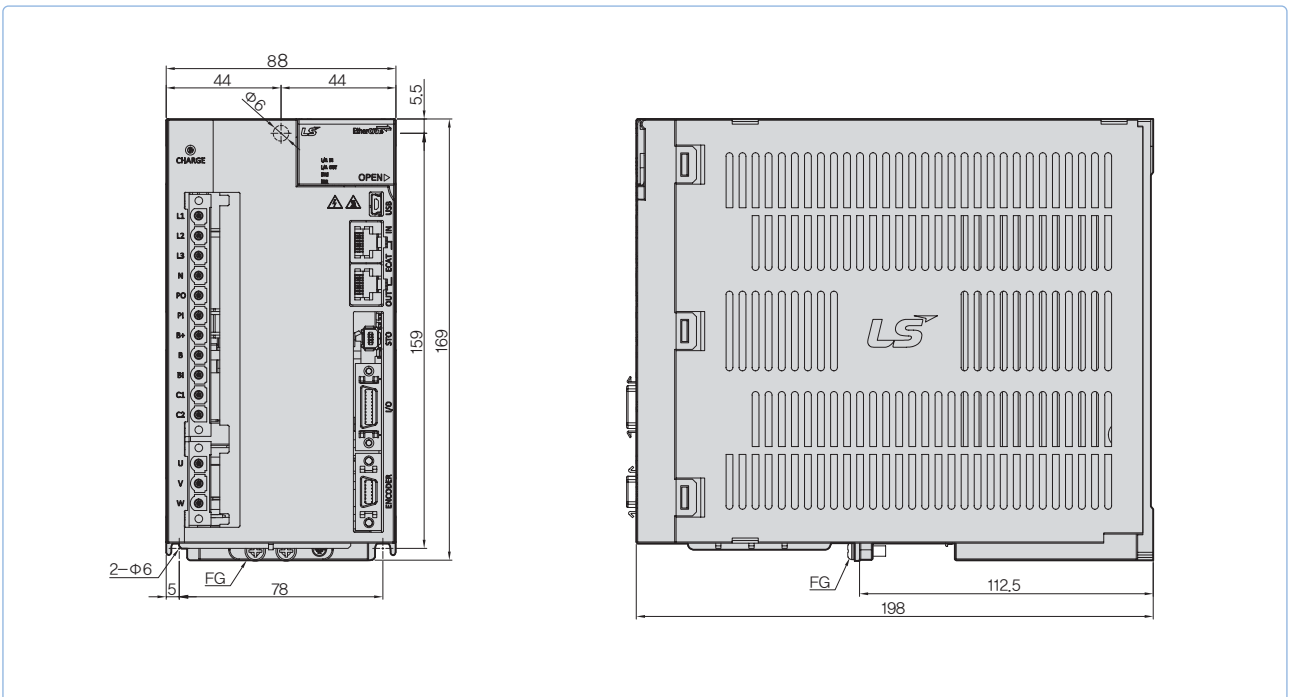
L7NHB010U [Weight : 1.5kg(Fan-Cooling included)]

*Unit [mm]



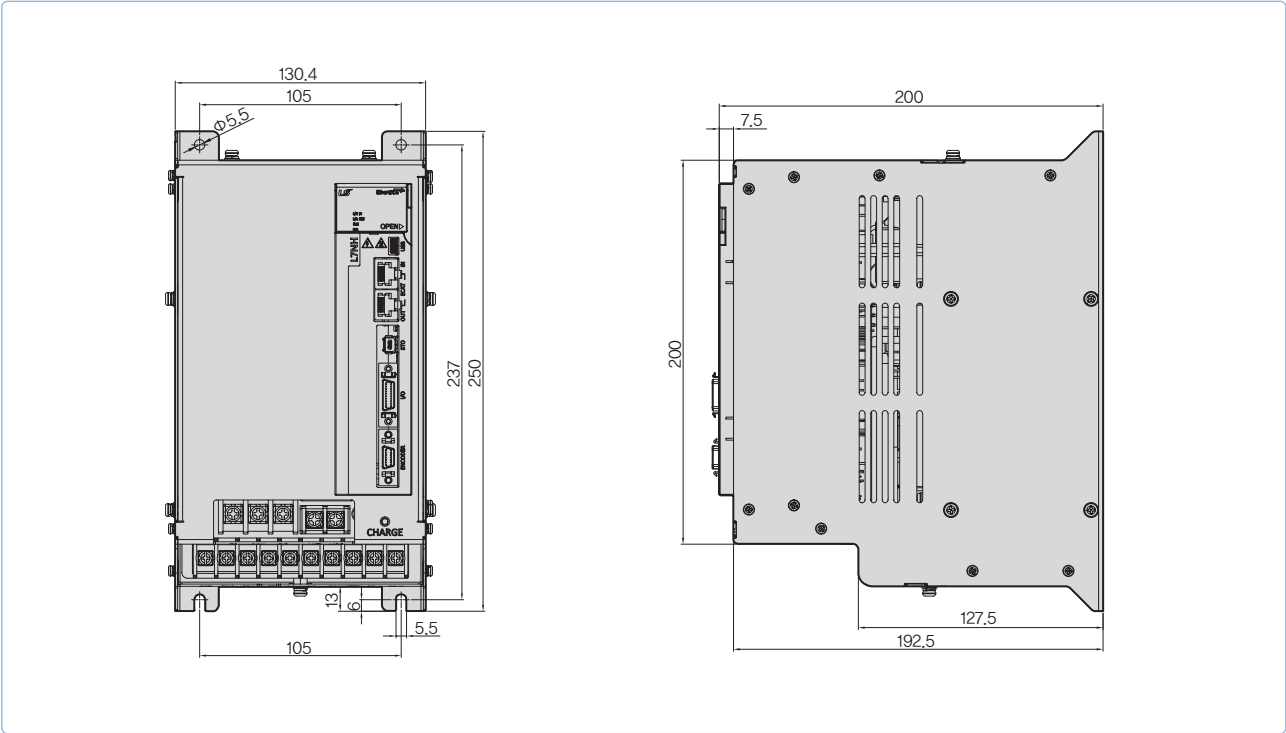
L7NHB020U / L7NHB035U [Weight : 2.5kg(Fan-Cooling included)]

*Unit [mm]



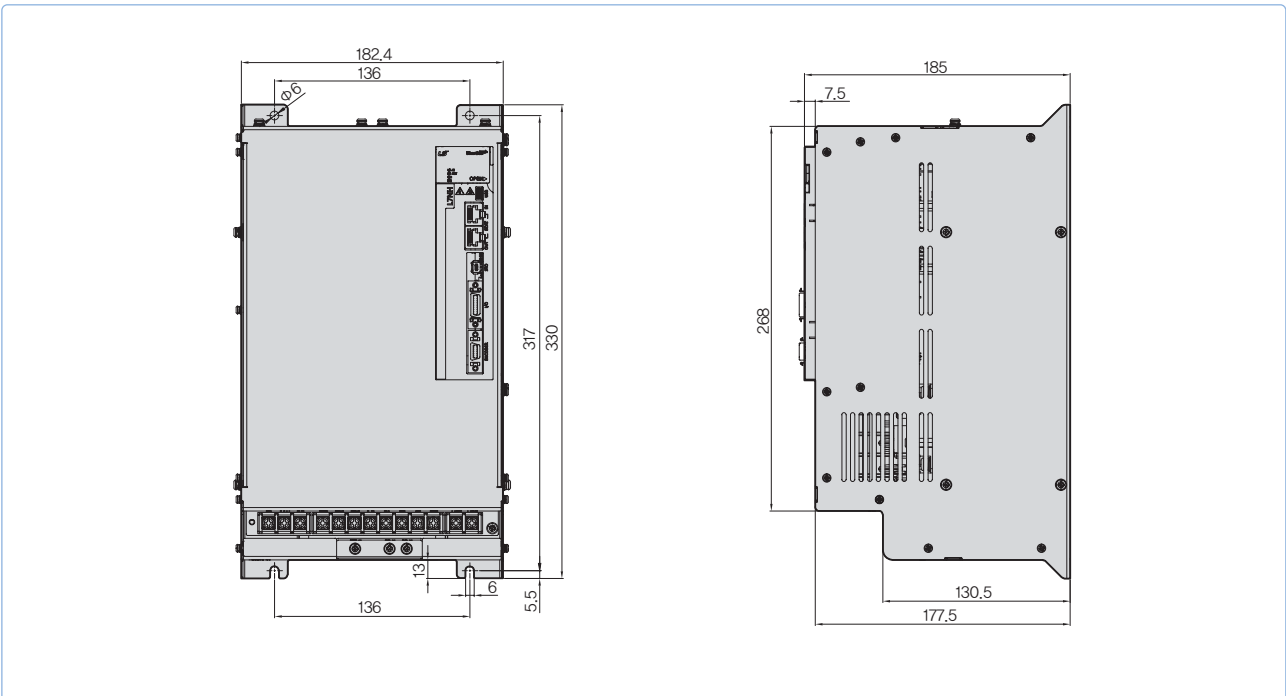
L7NHB050U[Weight : 5.5kg(Fan-Cooling included)]

*Unit [mm]



L7NHB075U[Weight : 8.5kg(Fan-Cooling included)]

*Unit [mm]



L7NHB150U[Weight : 15.5kg(Fan-Cooling included)]

*Unit [mm]

