



Xmotion

Servo System



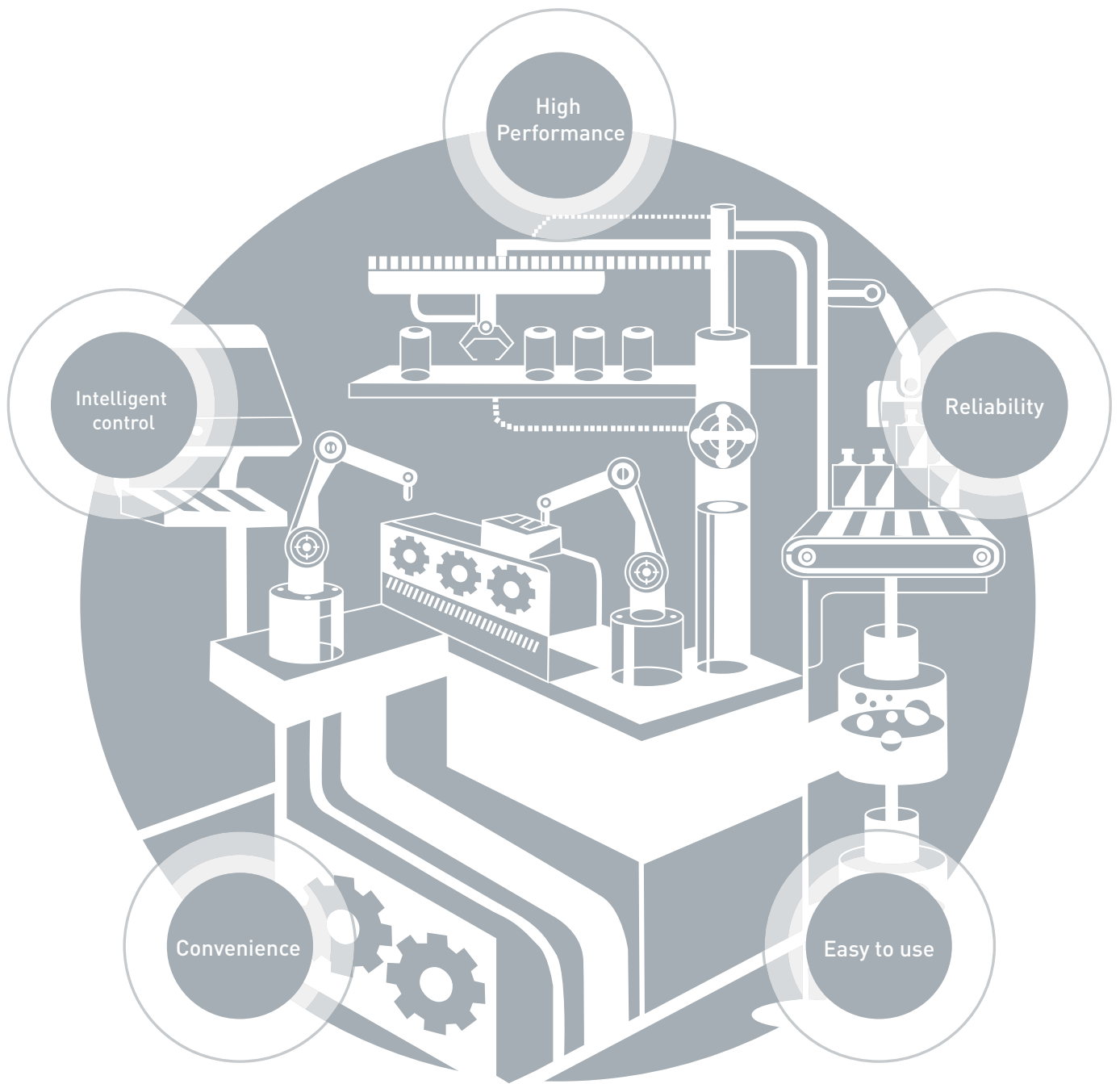
High
Performance

Intelligent
control

Reliability

Convenience

Easy to use



Xmotion

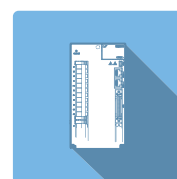
Servo System



Features

4 ~ 13

Features



Servo Drive

14 ~ 65

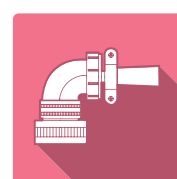
Servo Drive



Servo Motor

66 ~ 99

Servo Motor



Options and Accessories

100 ~ 121

Options and Accessories



Application

122 ~ 137

Application

User-oriented Xmotion Servo Systems
complete your optimal solution.



Xmotion Series

Your motion systems visualize the perfect solution though the LS comprehensive product ranges for the optimal drives and applications. Its high-performance vector, precision and speed control are user-friendly and cost effective.



It's Slim

Compact size with high capacity

Capacity	400W (44% Down Size)			1kW (46% Down Size)			3.5kW (62% Down Size)		
Series	L7	VS	Competitor	L7	VS	Competitor	L7	VS	Competitor
L [mm]	38	80	40	58	88	60	88	137	90
W [mm]	169	187	168	169	210	168	169	256	168
H [mm]	173	132	170	198	195	195	198	225	195

38 mm

The Minimized Width
to 38mm!!! (400W)



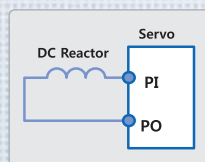
Reliability

Main capacitor quality improved

- Long-life type capacitor applied (2.5 times improvement)

Convenient DC reactor installable

- Power connection to DC-link
- Easier wiring and smaller size compared to 3-phase AC reactor
- Connection for DC input (PI, N)



Stable turn-off function based on the detection of the control power turn-off

Upgraded protection function (II)

- Triple protection functions for power module : IPM fault, CL detecting, over current detecting with S/W
- Main power mis-wiring detecting function : Selecting 3 phase or single phase, and alarm or warning is available
- Protecting overheating with thermal sensor in the drive and motor
- Alarm code grouping and exclusive output contacts (AL00, AL01, AL02)
- Warning function (digital output, warning output) : Mis-wiring of power, low voltage for encoder battery, over speed command, over torque command, over load, mis-matched motor and drive

52%

Compared with VS Drive
Max 52% Slim



1kW



3.5kW

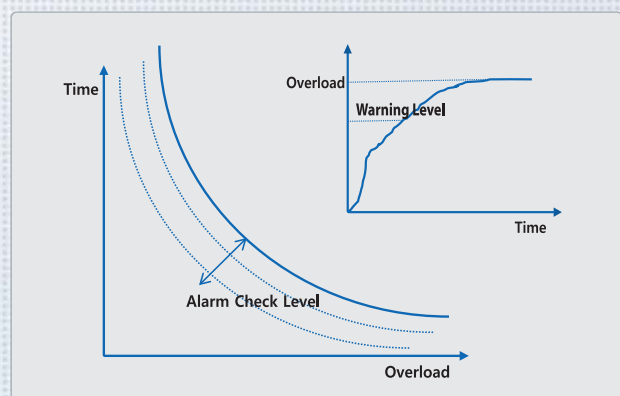
5%

Compared with
competitor's Drive
Max 5% Slim

Upgraded protection function (III)

- Detecting function for accumulated over load of regenerative resistor
 - : Protect algorithm is provided with embedded resistor characteristic
 - : Protection by capacity (P0-11) and resistance (P0-10)
 - : Providing de-rating factor for radiant heat
- Available continuous overload capacity setting as followed operating condition
 - : Protect with separated overload table at stall & operation
 - : Set overload check level (P0-12)
 - : Setting warning signal output level is available (P0-13)

CE, RoHS certificated



Easy to USE

Reliable partner with global standard performance and easy control by user-centric environment

Easy gain tuning with automatic inertia estimating function

- Quick & Accurate Inertia Estimating
- Off-Line Tuning
- Parameter for Estimation (Speed & Distance)



Encoder with bi-directional high speed serial communication

- Automatic Identification (Motor ID / Encoder pulse)
- BiSS protocol
- Easy wiring (15 encoder wires → 7 encoder wires) and anti-external noise

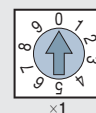
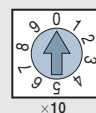


Sufficient input/output contacts and various functions

- L7S: Digital input contacts: 10, output contacts: 8 / Analog input contacts: 2 and output contacts: 2
- L7NH: Digital input contacts: 8, output contacts: 4 / Analog input contacts: 1 and output contacts: 2
- L7P: Digital input contacts: 16, output contacts: 8 / Analog input contacts: 2 and output contacts: 2
- PEGASUS: Digital input contacts: 4, output contacts: 2 / Analog input contacts: 1 and output contacts: 1
- Flexible assignment of input/output signals by parameters and contact setting based on the input/output contact type (N.O / N.C contacts)

Using the rotary switch to configure the drive node address [L7NH, L7P, and PEGASUS]

- Using the rotary switch to configure the drive node address conveniently
- L7NH: 0-99, L7P: 0-31, PEGASUS: 0-15



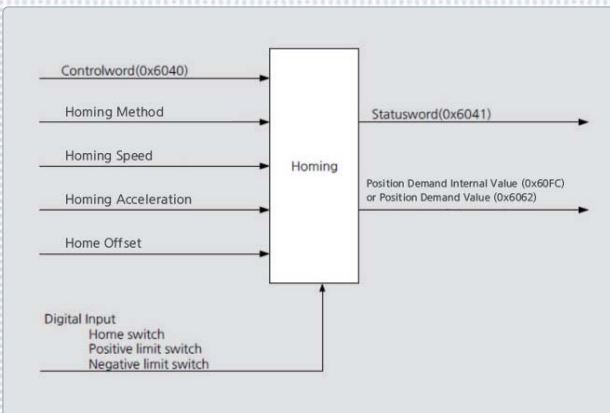
Plug-in type power connector

- Expanded to 100 W - 3.5 kW for improved wiring convenience



Various homing functions [L7NH, L7P, and PEGASUS]

- The drive provides the homing function.
- You can specify the speed, acceleration, offset, and homing method.



Easy firmware upgrade [L7NH, L7P, and PEGASUS]

- Supporting the USB OTG function to allow firmware download with a USB memory
- Useful where space is limited or environmentally unfavorable



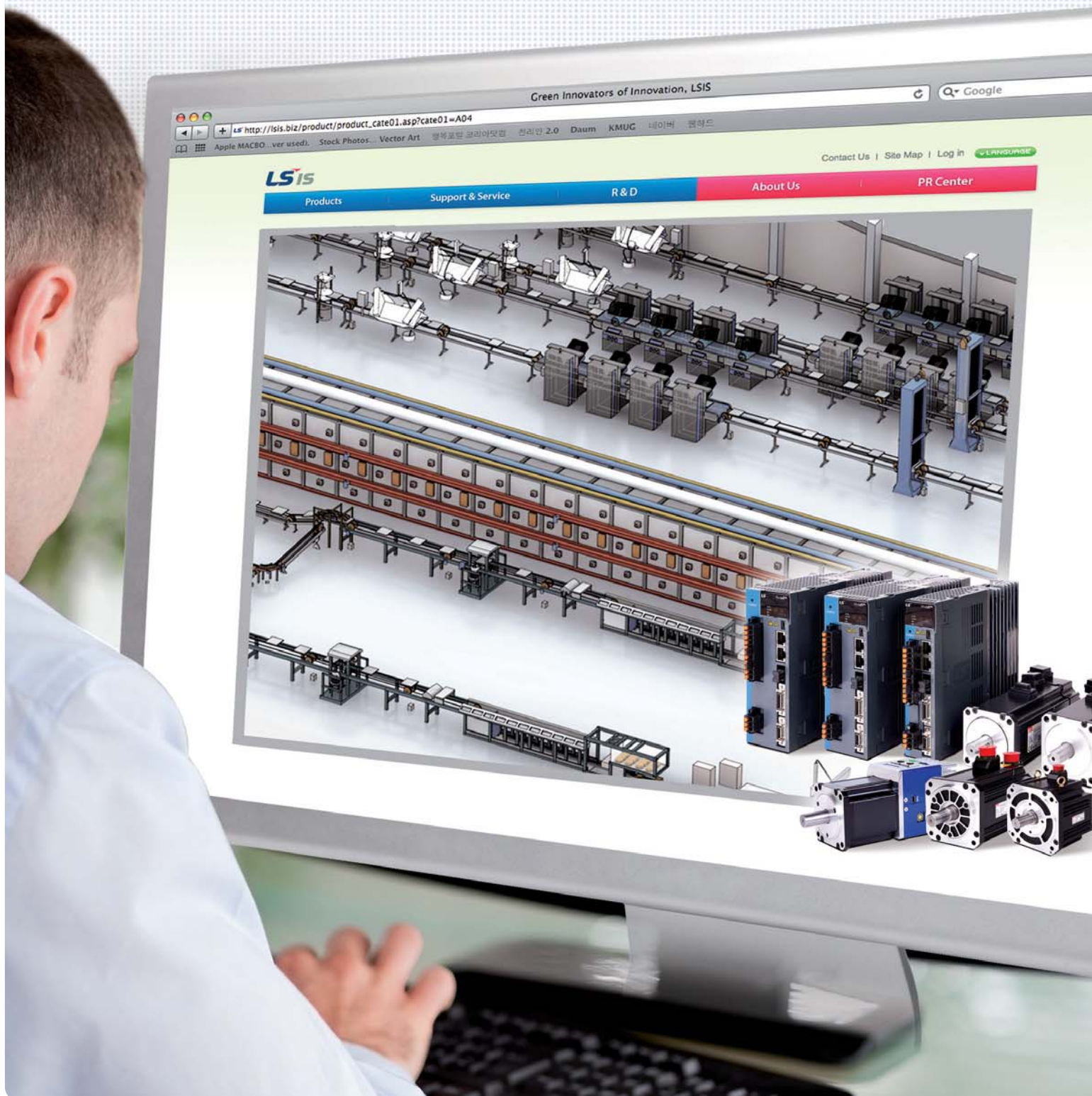
Built-in regenerative braking resistance in the drive

- Drive installed inside to improve user convenience (100 W - 3.5 kW)
- Providing the connection for external installation
- Enhanced protection algorithm



Features

Xmotion servo series with high speed, incredible performance, smart and convenience. It's time to check value of Xmotion series



High Performance

Serial encoder of high resolution (16 bit - 21 bit)

- Stability improved during precision position control and low-speed operation

Stable low-speed properties based on precise speed measurement

- Stable speed measurement at low speed

Calculation speed improved [L7NH, L7P, and PEGASUS]

- FPU (Floating Point Unit) for reliable precision calculation
- Maximum 16kHz switching frequency for precision current control
- 32 bit operation for increased synchronous command processing rate (MIPS)

Dedicated PC program

- L7S : LIVE-I.C.E / L7NH, L7P, and PEGASUS: Drive CM
- PC program for shortened equipment tuning time and debugging
- Monitoring for speed, torque, current feedback, position values and positional error values and alarm occurrence time

Intelligent Control

Notch filter for resonance suppression

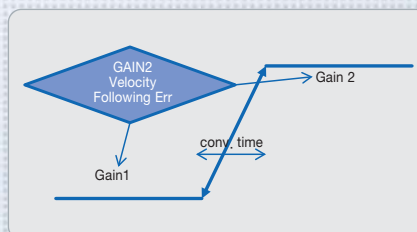
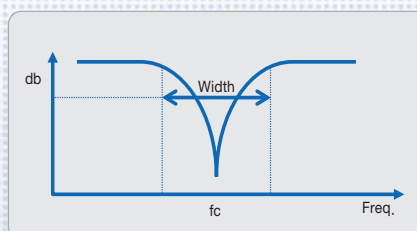
- 4-step notch filter
- 2-step vibration suppression filter at the load position
- FFT function for real-time frequency analysis

Various gain switching modes for improved control performance

- P/PI auto-switching function to reduce overshooting during acceleration/deceleration
- Various Gain1 ↔ Gain2 switching modes

Various dynamic brake control modes

- Configuring the operation mode at stop and after stop



Convenience

Providing various functions– backup, network diagnosis, monitoring and built-in functions focused on improving efficiency



High Performance

- High speed, Real-time capability and Synchronization mechanism

Open Network

- Over 1600 worldwide members

Cost Effective

- Standard Ethernet Cabling + Connectors, Less implementation efforts for master and slave

Easy to Use

- Versatile topology and Diagnostics

L7 Drive with Built-in EtherCAT Interface

- 100BASE-TX(100Mbps) Ethernet based real-time communication
- Support CiA402(IEC61800-7) drive profile
- Interoperability
- Max. 100m between nodes
- Precise synchronization mechanism (1us)
- Freely settable process data length and mapping
- Four status indication LEDs (L/A0, L/A1, RUN, ERR)
- Standard RJ45 connector and cabling(CAT5)
- Support various homing modes
- Support Full-Closed control (L7NHF)

Various operation modes

- L7NH and PEGASUS: Using the EtherCAT communication to support Cyclic & Profile (P/S/T) modes, EOE, COE, and FOE

Safe torque off function

- Torque-off forced by hardware signals without involvement of the drive CPU and FPGA (ASIC); international standards adopted (IEC61508)

High speed position capture function

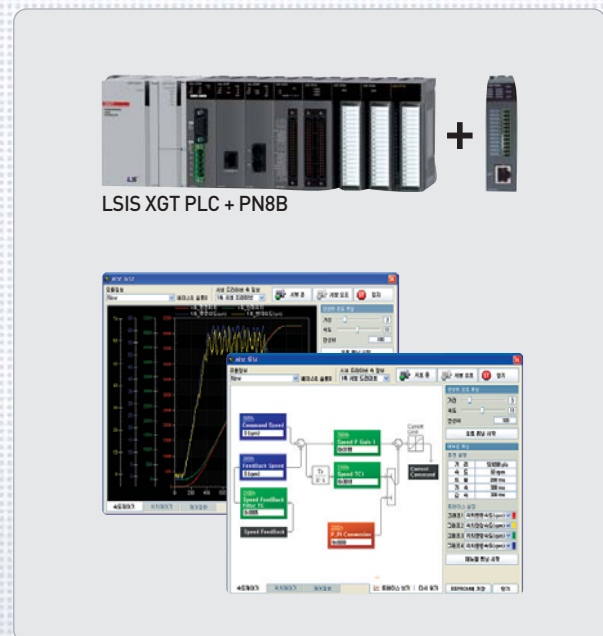
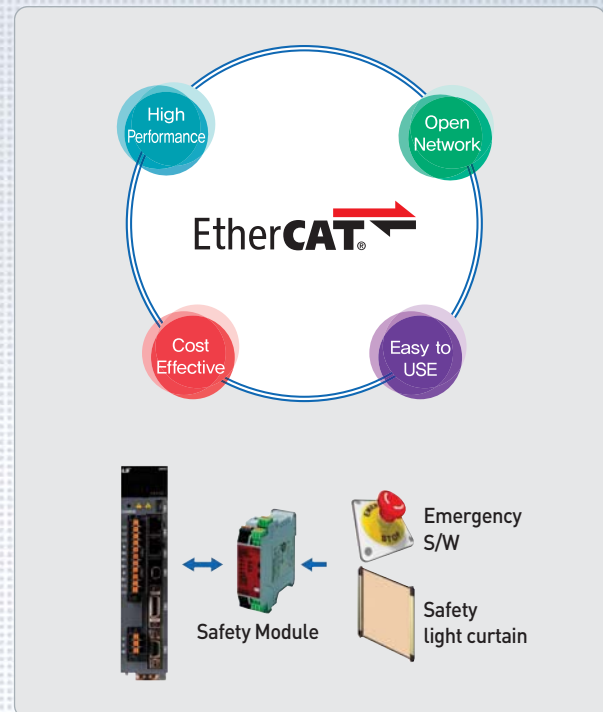
- Touch probe function(PROBE1, PROBE2)

Adjustment function linked with XGT series from LSIS

- Inertia detection, position/speed gain manual adjustment, gain switching setup, etc.

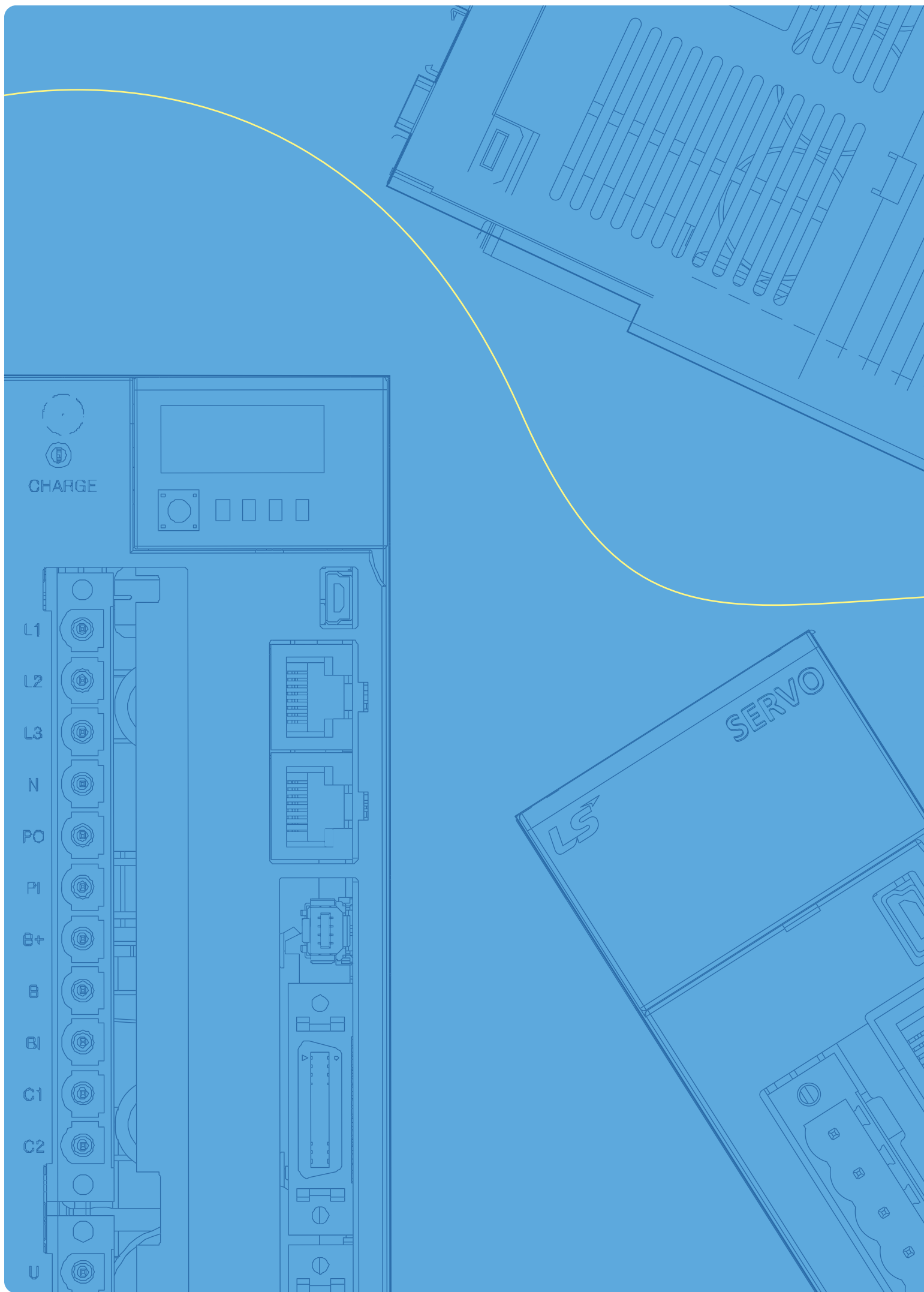
Have conformity of EtherCAT device

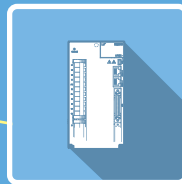
- In-house test using CTT(Conformance Test Tool)



Provide gain tuning tools and commissioning packages

- Automatic inertia tuning and PI gains
- Gain conversion setting
- Manual fine gain tuning tool
- Object save and initialization function
- Alarm history function(recently issued 20 alarm codes)





Servo Drive

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XIP(PEGA) Series

Integrated Servo System Type ----- 54

PH0X Series

Low Voltage DC Drive Type ----- 60

L7S Series



Servo Drive Designation

L7	S	A	004	B	AA
	Communication	Input Power Supply	Capacity	Encoder Type	Option
	S : Standard I/O 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 150 : 15.0kW	A : Incremental B : Serial	Exclusive Option Code

* 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)

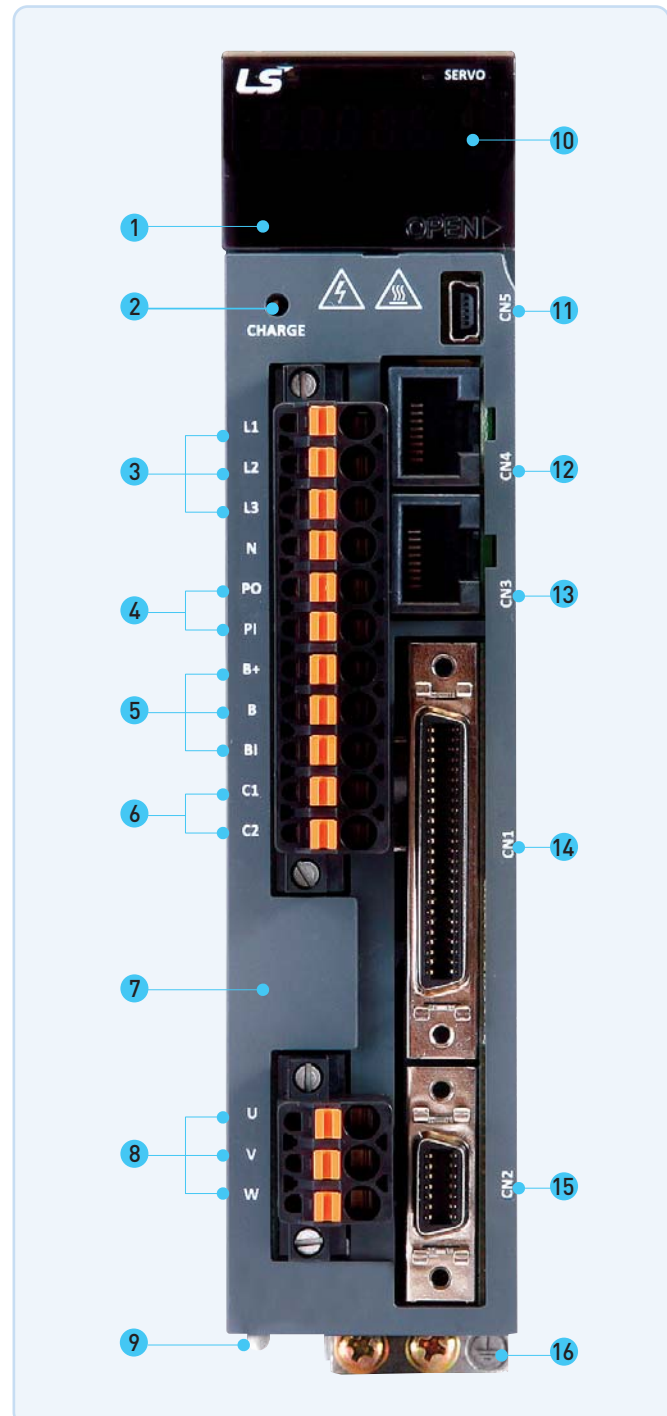
Reliability for Protection Function

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

High Response for Precision Control

- High Resolutions Serial type Encoder(19Bit, BiSS)
- Improved Speed Response($\approx 1\text{Khz}$) 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 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.									

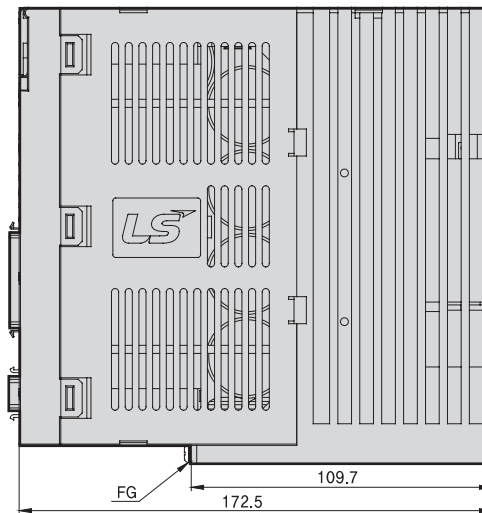
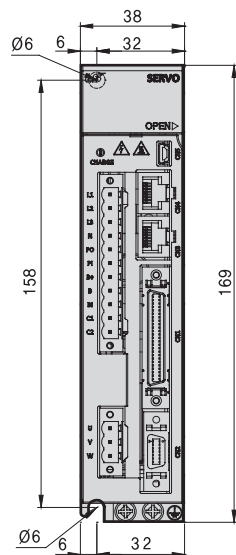
* L7SA075, L7SA150의 경우, Incremental type 지원 안됨

L7SB Drive

Item		Type Name	L7SB010B	XDL-L7SB020B	XDL-L7SB035B	XDL-L7SB050B	XDL-L7SB075B	XDL-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℃]					
	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.					

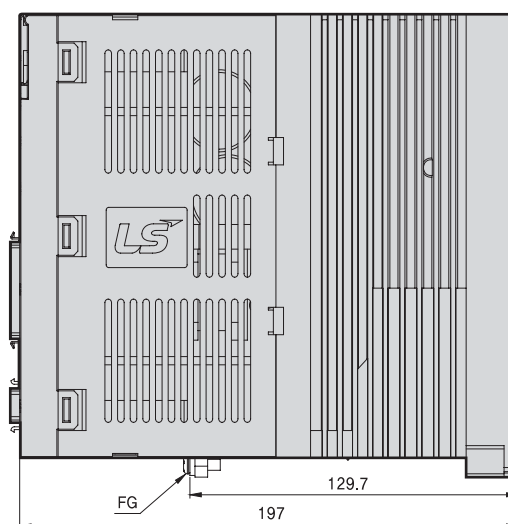
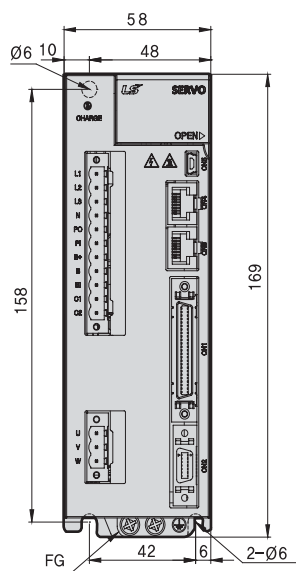
L7SA001□ ~ L7SA004□ [Weight 1.2kg]

*Unit [mm]

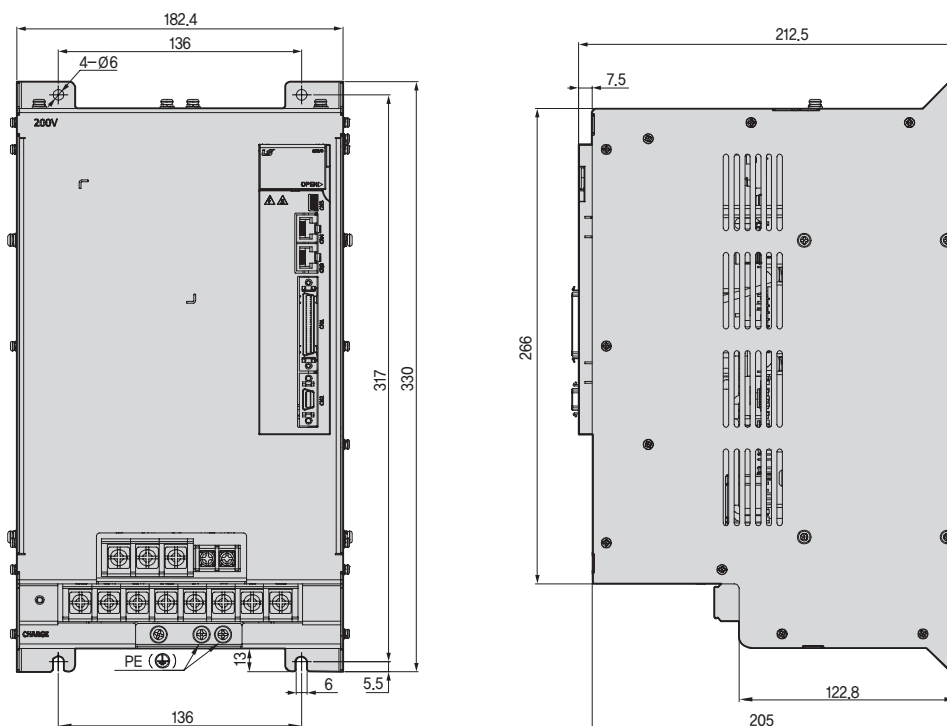


L7SA008□ ~ L7SA010□ [Weight : 1.5kg(Fan-Cooling included)]

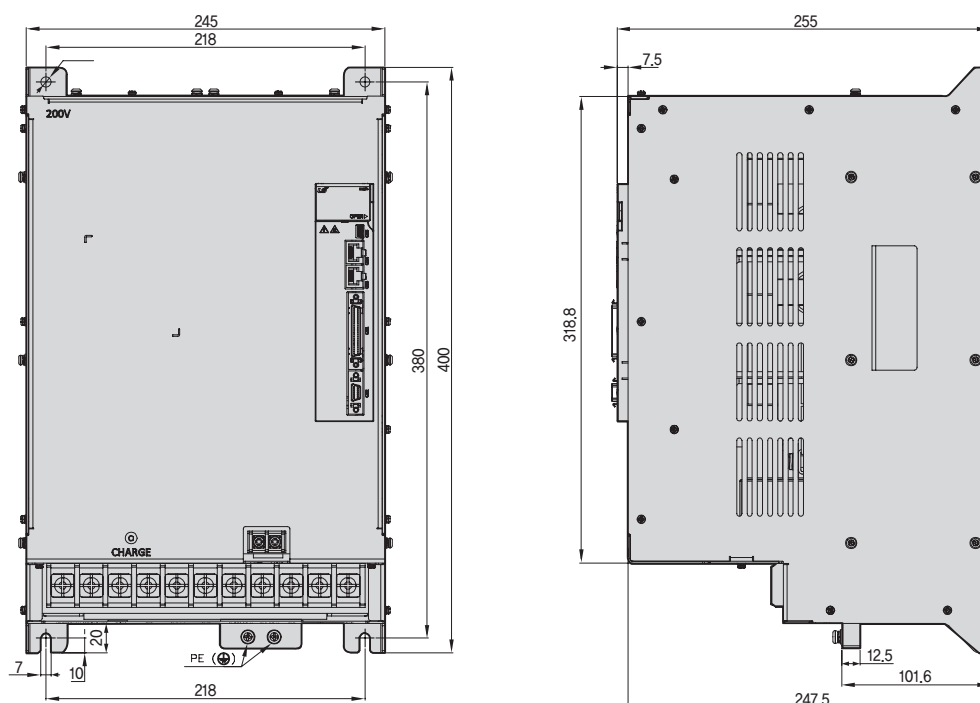
*Unit [mm]



*Unit [mm]

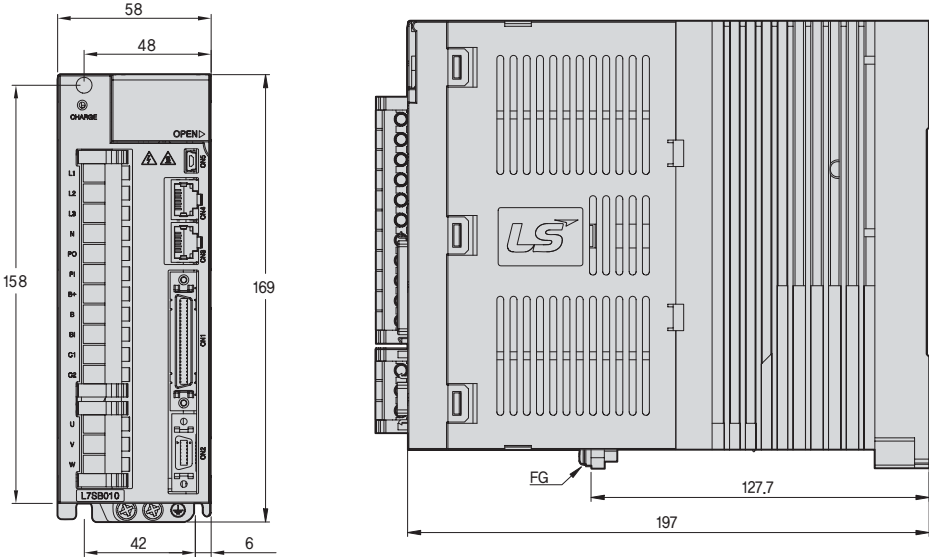


*Unit [mm]



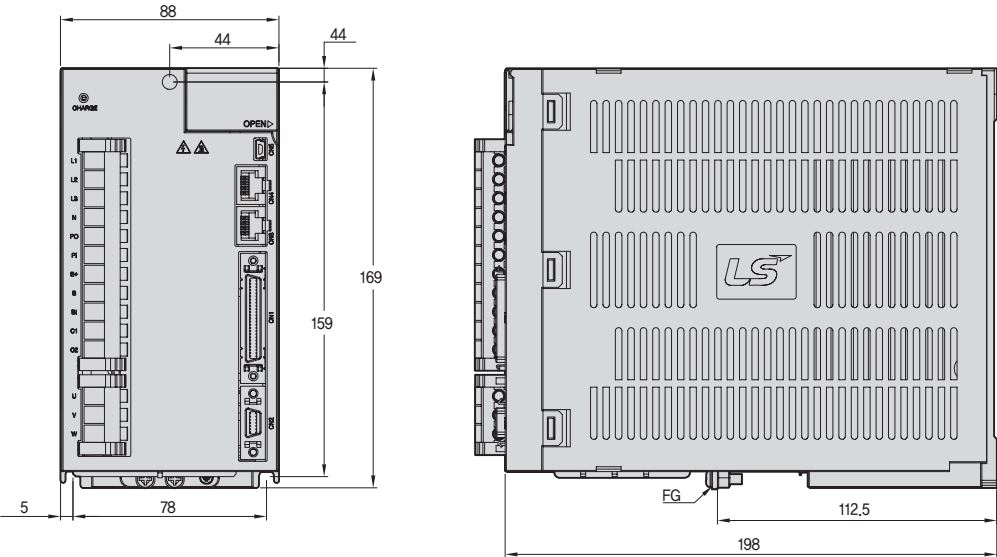
L7SB010B [Weight : 1.5kg(Fan-Cooling included)]

*Unit [mm]



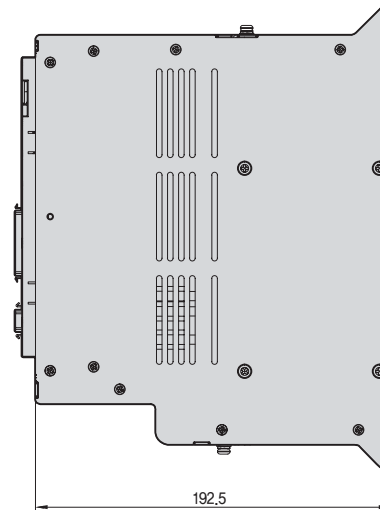
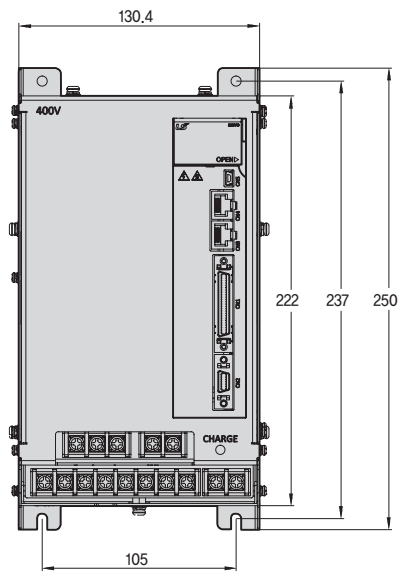
L7SB020B / L7SB035B[Weight : 2.5kg(Fan-Cooling included)]

*Unit [mm]



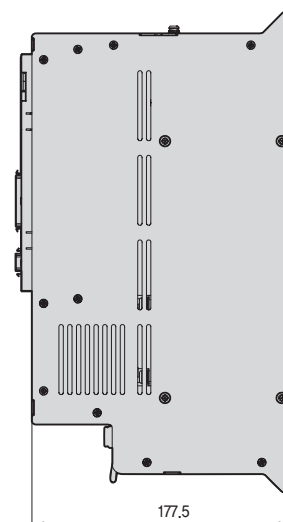
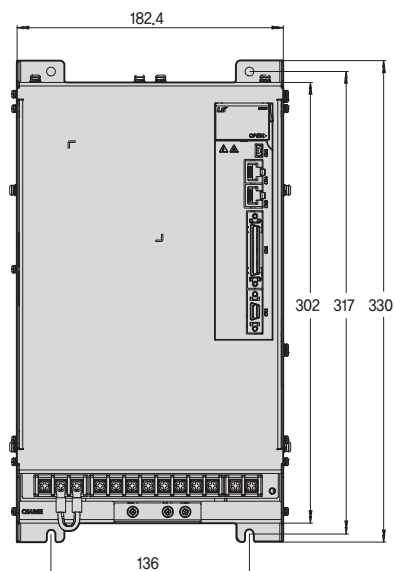
L7SB050B [Weight : 5.5kg(Fan-Cooling included)]

*Unit [mm]



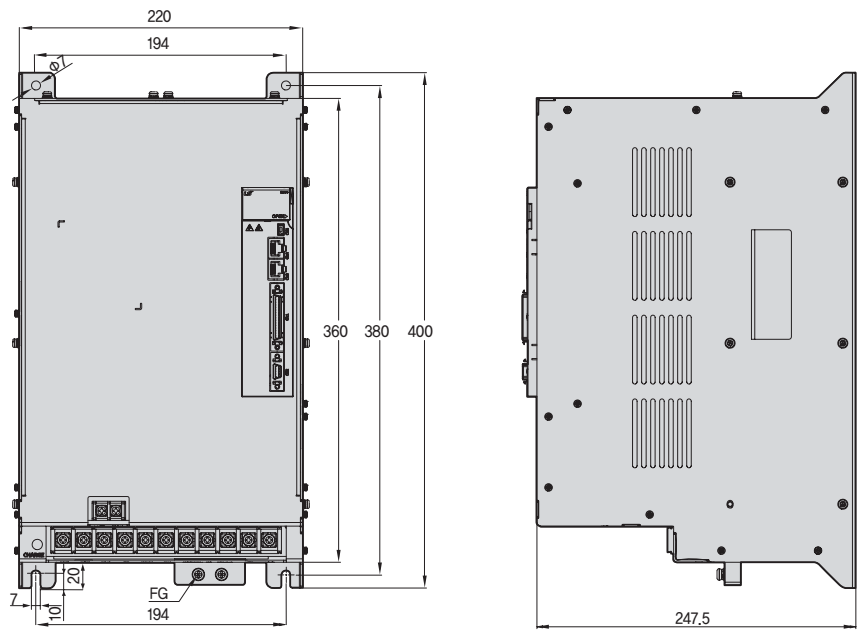
L7SB075B [Weight : 8.5kg(Fan-Cooling included)]

*Unit [mm]



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

*Unit [mm]



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($\approx 1\text{kHz}$) Frequency

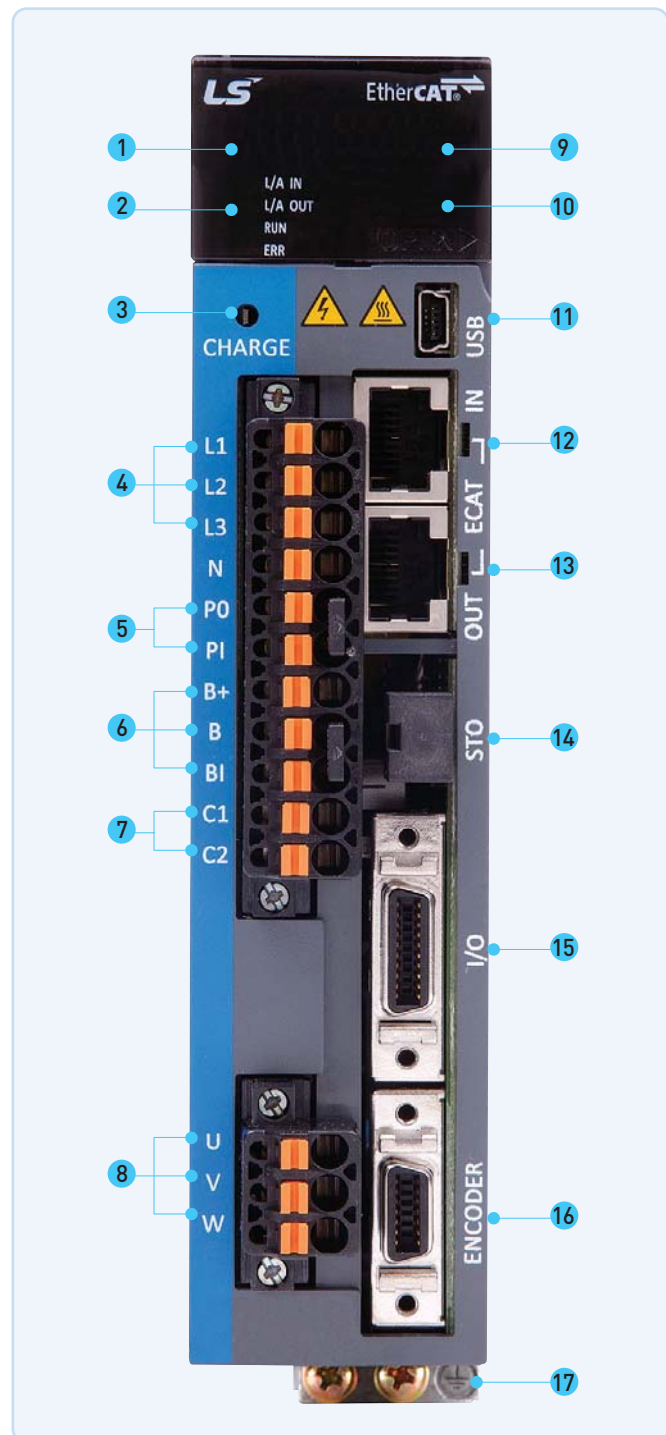
Support various motor and Encoder drive

- 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 Drive

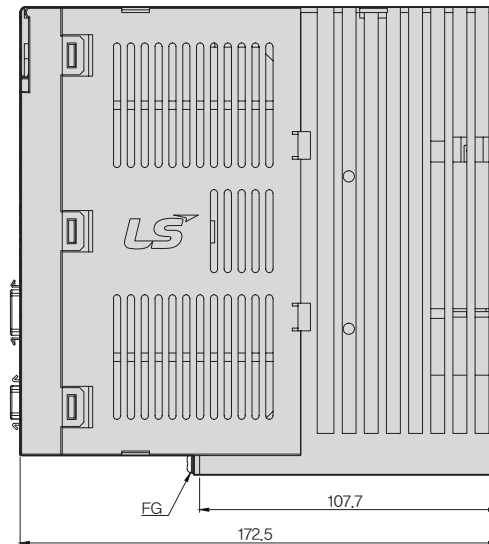
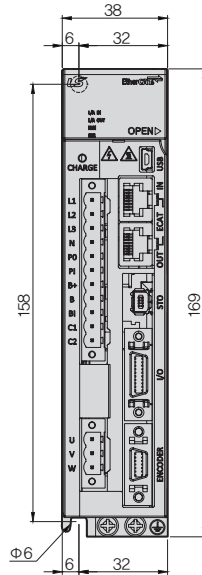
Item		Type Name	L7NHA001U	L7NHA002U	L7NHA004U	L7NHA008U	L7NHA010U	L7NHA020U	L7NHA035U	L7NHA050U	L7NHA075U	L7NHA150U
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]										
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]										
Rated Current[A]		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[_m A] 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 (ST01, ST02), 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		$\pm 0.01[\%]$ or lower(When the load changes between 0 and 100%) $\pm 0.1[\%]$ or less(Temperature of 25°C[± 10])					
	Torque Control Repetition Accuracy		Within $\pm 1\%$					
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] $\pm 10\%$, 120[m A] Total 4 input channels (allocable) Above 11 functions can be used selectively for assignment. (*BRAKE \pm , *ALARM \pm , *READY \pm , *ZSPD \pm , INPOS \pm , TLMT \pm , VLMT \pm , INSPD \pm , WARN \pm , TGON \pm , INPOS \pm)					
Safety Function			2 Input Channels (STO1, STO2), 1 Output Channels (EDM \pm)					
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.					

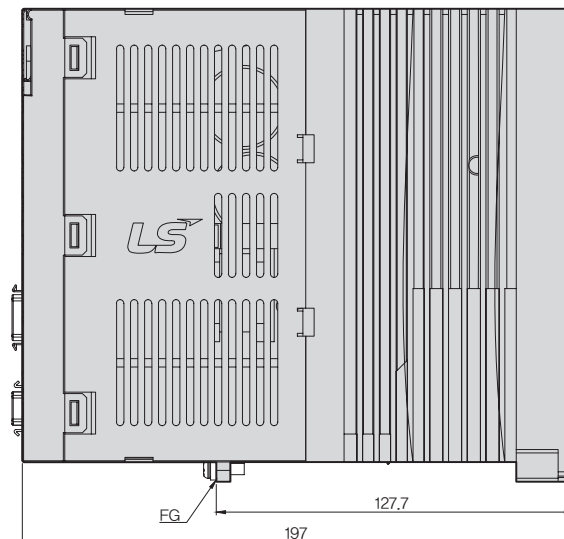
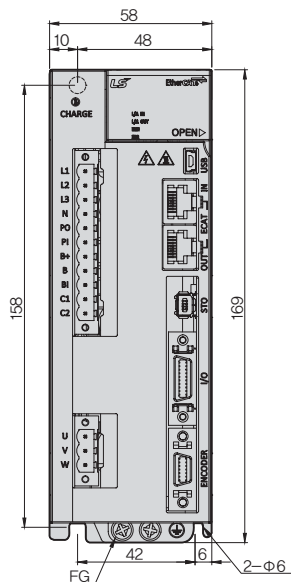
L7NHA001U ~ L7NHA004U[Weight : 1.0kg]

*Unit [mm]



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

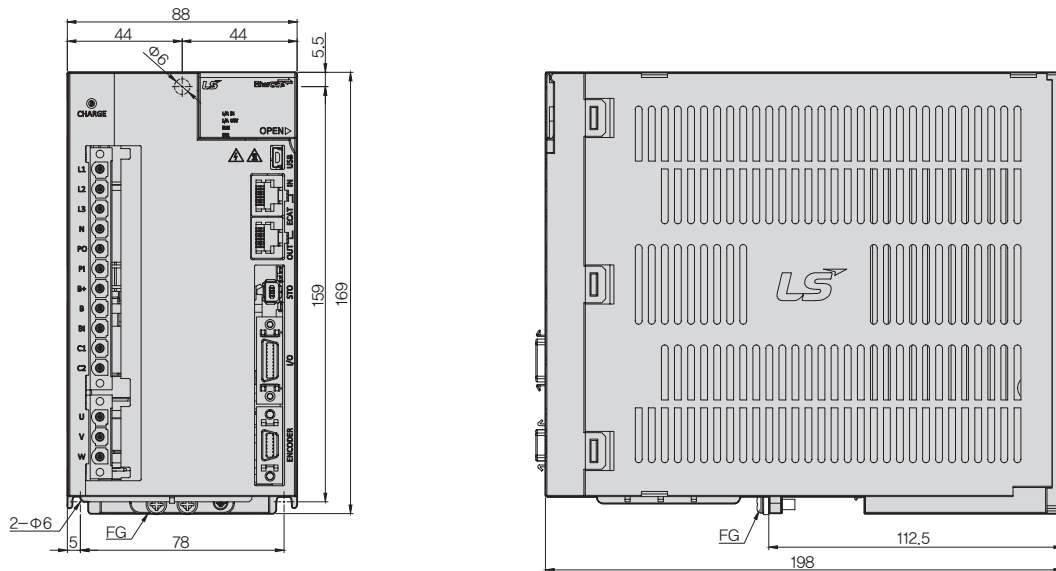
*Unit [mm]



External Dimensions

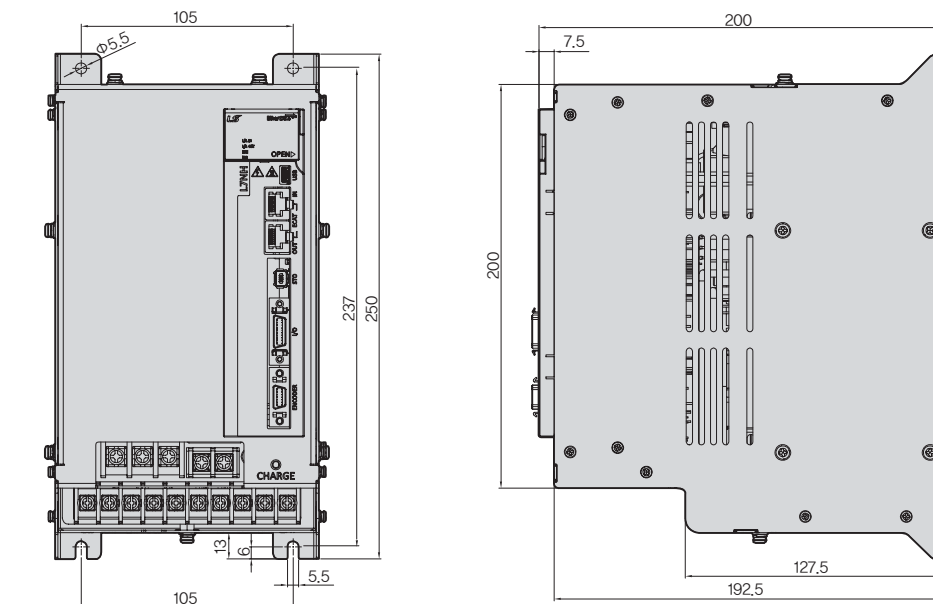
L7NHA020U / L7NHA035U[Weight : 2.5kg(Fan-Cooling included)]

*Unit [mm]



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

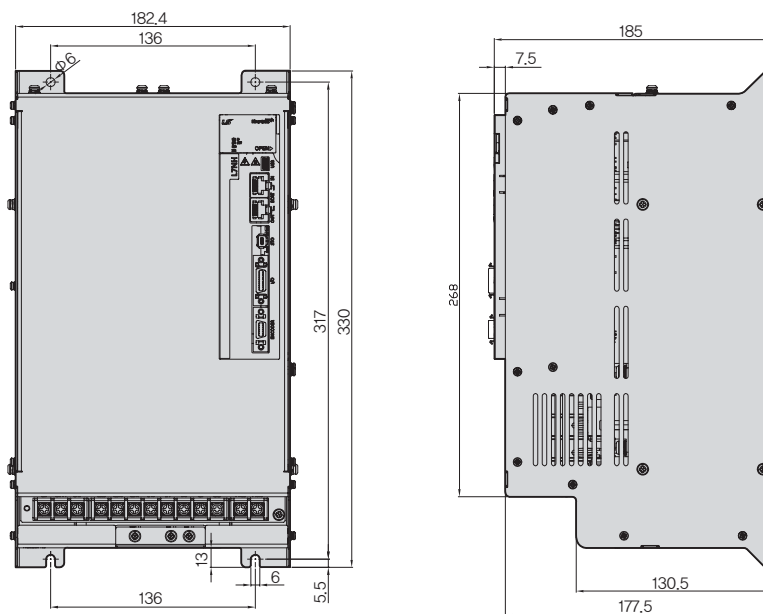
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External Dimensions

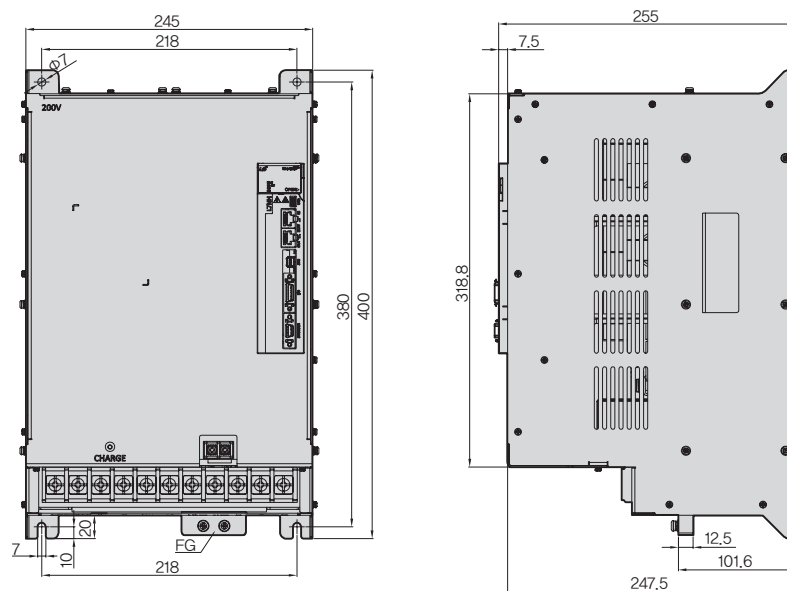
L7NHA075U [Weight : 8.5kg(Fan-Cooling included)]

*Unit [mm]



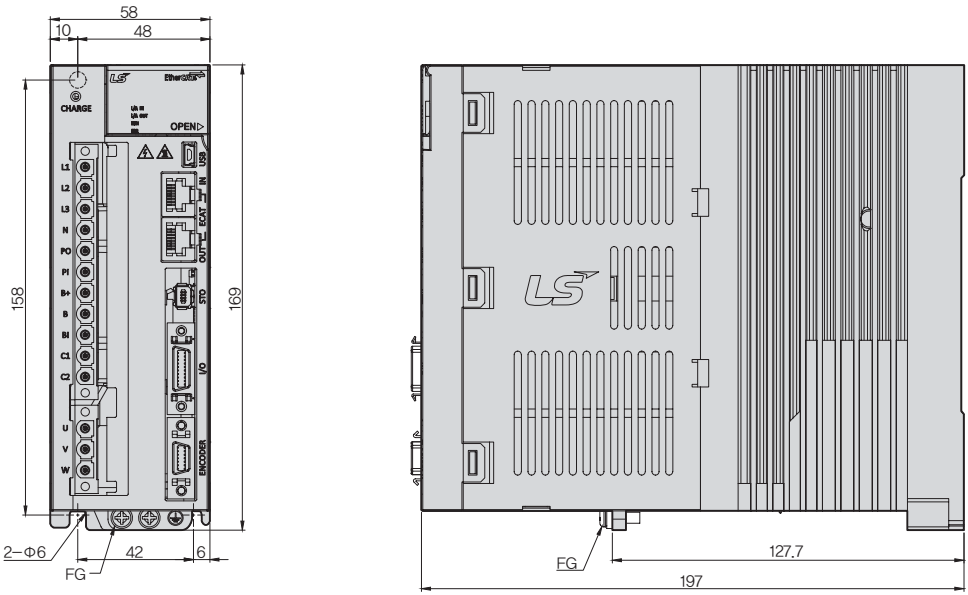
L7NHA150U [Weight : 16.2kg(Fan-Cooling included)]

*Unit [mm]



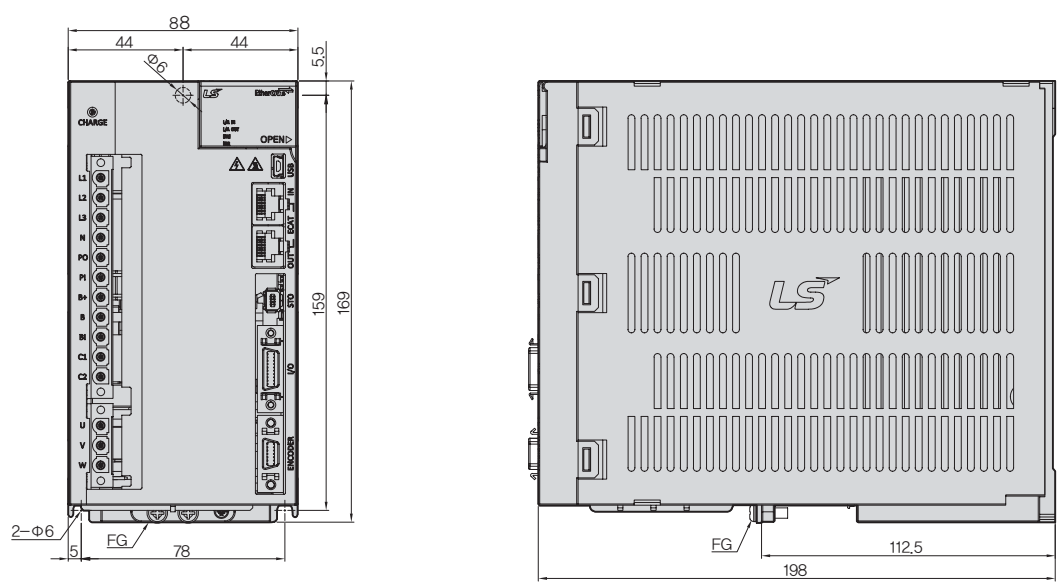
L7NHB010U [Weight : 1.5kg(Fan-Cooling included)]

*Unit [mm]



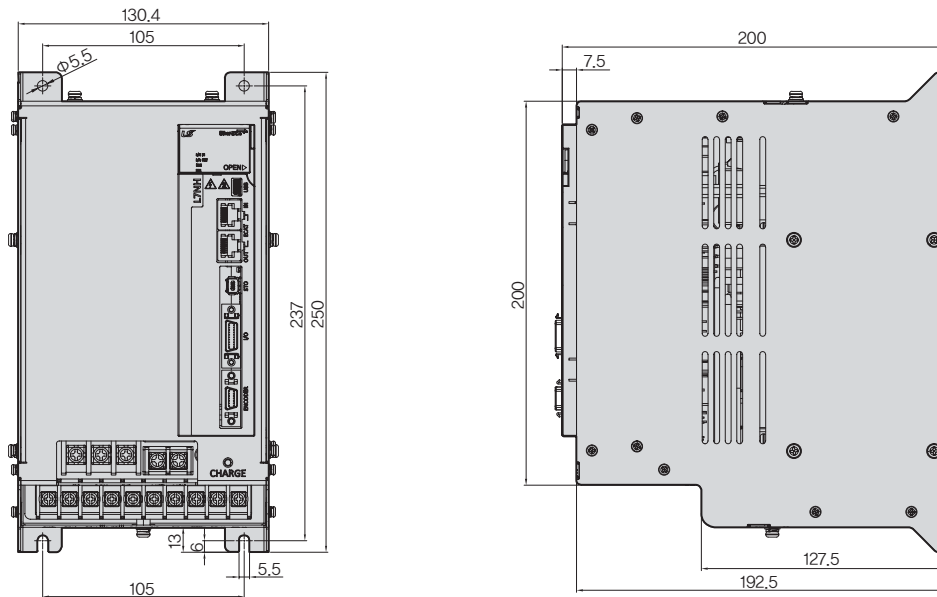
L7NHB020U / L7NHB035U [Weight : 2.5kg(Fan-Cooling included)]

*Unit [mm]



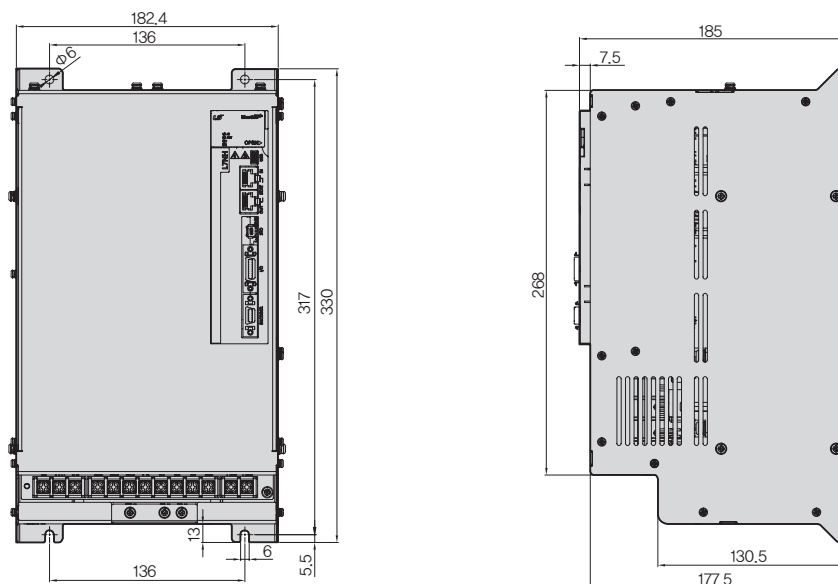
L7NHB050U[Weight : 5.5kg(Fan-Cooling included)]

*Unit [mm]



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

*Unit [mm]



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

*Unit [mm]

