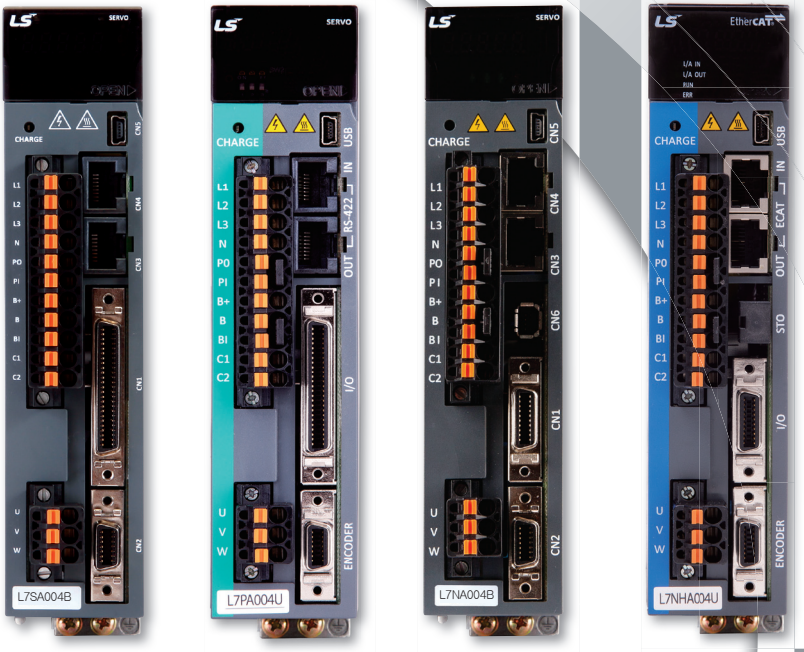


LS MECAPION L7 Series

Game Must Be Changed !



L7 Drive

Designing your future with

LS Mecapion L7 Series.

Your reasonable selection for total solution

The wide range of LS Mecapion line up will satisfy your requirements for the motion system through optimal application and use of the products.

With the excellent functionality, high precision and high-speed control, LS Mecapion AC servo system is customer-friendly and cost-effective.



Moving towards tomorrow 

The Best Automation **Brand** in Korea The World Class Leader in Automation System

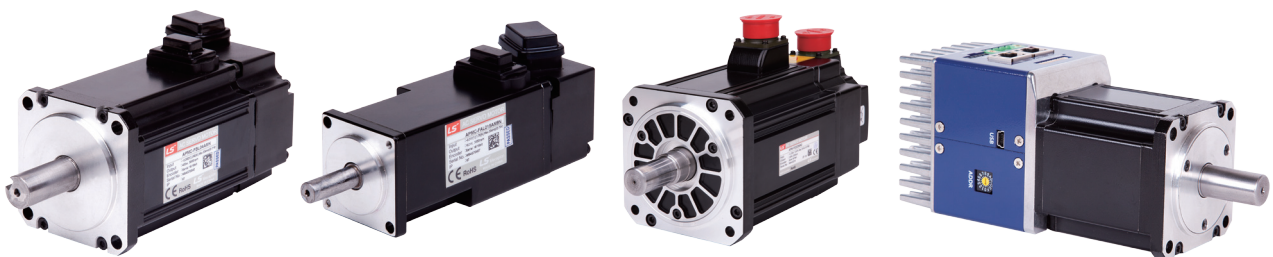
LS Mecapion has supplied not only the servo drives and servo motors of high quality and high efficiency but also rotary encoders and actuators for the Korean and Global Industries for the past 20 years.

We are making efforts to provide a variety of products to our customers all over the world to satisfy their requirements. We have provided cutting-edge technologies that consider the needs of our customers by adopting the best functionality as well as innovative ideas.

We have accumulated a deep and wide range of experiences in the field of the control system for years and are venturing into new possibilities to provide the technologies of a higher level to our customers.

We hope that you don't miss the opportunity to use the proven, **world-class products** from **LS Mecapion** to improve the performance and value of your equipment.

We hope that we can provide the best services and partnerships for our customers by utilizing our expertise and technologies.



L7 SERIES SYSTEM

Features of L7 Drive

Compact Size

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]	L7	38	80	40	L7	58	88	60	L7	88	137	90
W [mm]	L7	169	187	168	L7	169	210	168	L7	169	256	168
H [mm]	L7	173	132	170	L7	198	195	195	L7	198	225	195

Compared with VS

Slim up to 52% More

Compared with a representative competitor

Slim up to 5% More

Ultra-thin 38 mm width (400 W)

Its small footprint allows flexible installation, reducing the size of the equipment.

400W



1kW



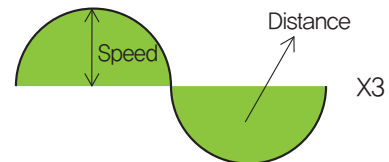
3.5kW



Easy to USE

The automatic inertia detection function for easier gain adjustment.

- Fast and accurate inertia detection
- Off-line tuning
- Parameters for inertia detection (speed and distance) provided



Encoder based on two-way high-speed serial communication

- Automatic recognition for motors and encoders
- BiSS protocol
- Wire-saving system (7-line) for encoder, resistant to noise



Support for various motors and encoders [L7NH and L7P Series]

- Support for standard BiSS encoders as well as other encoders

Motor	Encoder
Rotary	Quadrature / BiSS Interface Tamagawa serial absolute EnDat 2.2 / Resolver
DD	
Linear	

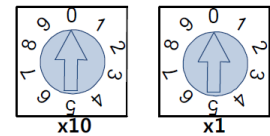
Features of L7 Drive

● Sufficient input/output contacts and various functions

- L7S: Digital input contacts: 10, output contacts: 8 / Analog input contacts: 2 and output contacts: 2
- L7N: Digital input contacts: 6, output contacts: 4 / 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)

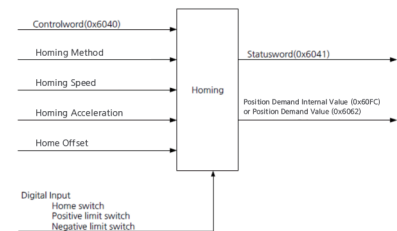
● Using the rotary switch to configure the drive node address [L7NH, L7P, and PEGASUS]

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



● Various homing functions [L7NH, L7P, and PEGASUS]

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



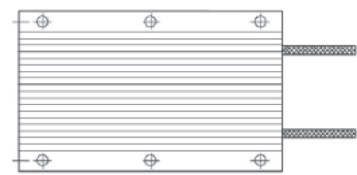
● Easy firmware upgrade [L7NH, L7P, and PEGASUS]

- 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



● Plug-in type power connector

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



L7 SERIES SYSTEM

Features of L7 Drive

■ 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

● CE certification and RoHS certification

● Enhanced protection function

- Triple protection function for the protection of power module
- Detection of the main power phase loss
- Temperature sensor installed in the drive and motor for the prevention of overheat
- Alarm code grouping and dedicated output contacts (ALO0, ALO1, ALO2)
- Warning function (Digital output WARN)

■ High Performance

● Serial encoder of high resolution (19 bit)

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

● Stable low-speed properties based on precise speed measurement

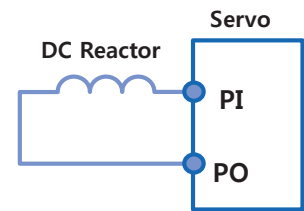
- Stable speed measurement at low speed

● Calculation speed improved [L7NH, L7P, and PEGASUS]

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

● Dedicated PC program

- L7S, and L7N: 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

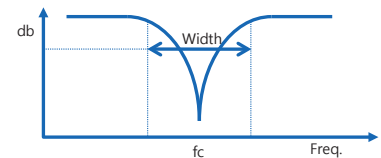


Features of L7 Drive

Intelligent Control

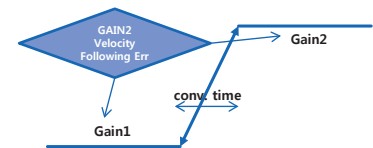
Notch filter for resonance suppression

- 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

Network Based – EtherCAT Network Type

A wide range of products

- L7N: EtherCAT communication command type
- L7NH: All-in-one EtherCAT communication command type
- PEGASUS: Motor drive-integrated EtherCAT communication command type

High performance

- Synchronization mechanism of high speed, high accuracy, and real-time communication
- Various Gain1 ↔ Gain2 switching modes

Open network

- An international standard network with 1,600 members over the world

Low cost

- Standard Ethernet connector and cabling supported and slave-master implemented at a low cost

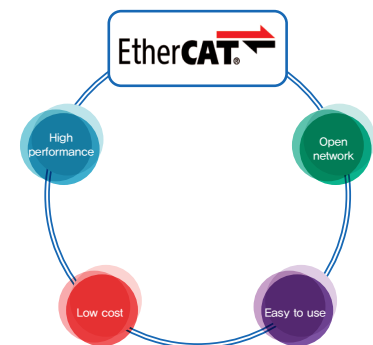
Easy to use

- Various topology types supported and easy diagnosis for devices

L7 drive with a built-in EtherCAT interface

- 100BASE-TX (100 Mbps) real-time communication
- CiA402 (IEC61800-7) drive profile supported
- Connection with various masters and slaves
- Up to 100 m connection between nodes
- Precision synchronization mechanism of 1 us or less

Field Bus



L7 SERIES SYSTEM

Features of L7 Drive

● Various operation modes

- L7N: Using the EtherCAT communication to support Cyclic (P/S/T) and Profile (P/S/T) 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)

● Flexible I/O setup

- Mapping and level (A/B) setup by parameters

● High-speed position capture

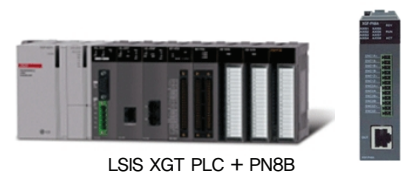
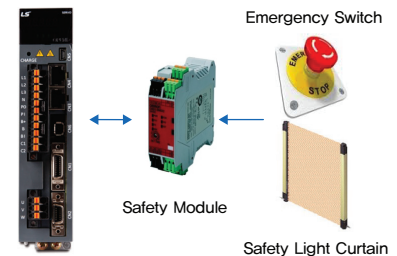
- Touch probe function (PROBE1 and PROBE2)

● Adjustment function linked with XGT series from LSIS

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

● EtherCAT drive compatibility

- Verified by CTT (Conformance Test Tool)

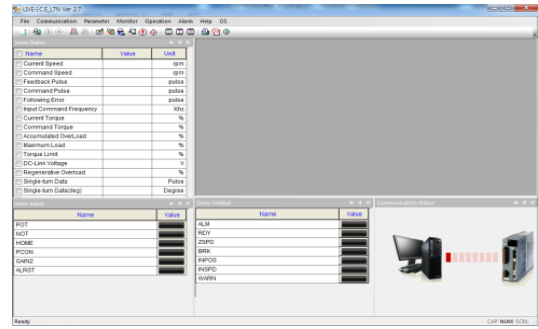


Servo Setup Software

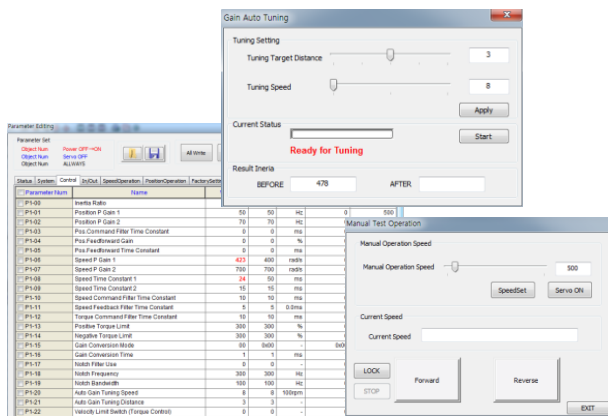
Software dedicated for Live-ICE / L7S and L7N Series

Monitoring function

- Monitoring for I/O input contact and I/O output contact
- Driving Information monitoring: Monitoring and displaying the parameter values
- Communication connection monitoring : Displaying the current communication connection status using animation in real time



Name	Value	Unit
Current Speed	3000	rpm
Command Speed	3000	rpm
Feedback Pulse	5371653	pulse
Command Pulse	0	pulse
Following Error	0	pulse
Feed Command Frequency	4.41	Hz
Current Torque	0.0	kgcm
Command Torque	4.41	kgcm
Accumulated OverLoad	0.0	%
Minimum Load	-300.0	%
Torque Limit	200.0	%
DC Link Voltage	200.0	V
DC Link Voltage	15	V
Output Status	0	bits
ABS Single Turn	7764	pulse
ABS Single Turn(s)	220.0	degree
ABS Turn Data	350	deg/Encoder-Cal
Software Version	A0 57.3	Ver. Change
FTCN Version	1.0	Ver.

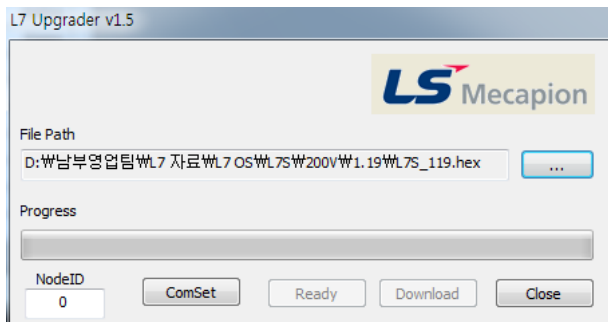
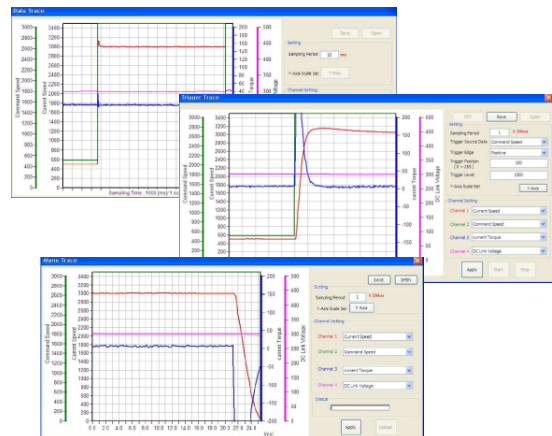


Setup function

- Using the PC to read and write parameters
- Manual JOG function: Manual jog speed adjustment and forward/reverse test
- Automatic gain tuning
- Alarm history and alarm reset

Graph function

- Data Trace: Graphic presentation of pre-defined channels in real time
- Trigger Monitoring: Graphic presentation by the channel and trigger settings
- Alarm Trace: Graphic presentation of alarm history for channels



Download software

- OS Download: Firmware version upgrade software

L7 SERIES SYSTEM

Servo Setup Software

Software dedicated for Drive CM / L7NH, L7P, and PEGASUS Series

I/O CONFIG

- Setting the output function and its signal level for I/O input contacts and I/O output signal pins
- Limiting the analog input torque and using the analogue voltage to override the speed
- Analog monitoring output for the gain tuning or internal state variables of the drive



Monitoring function

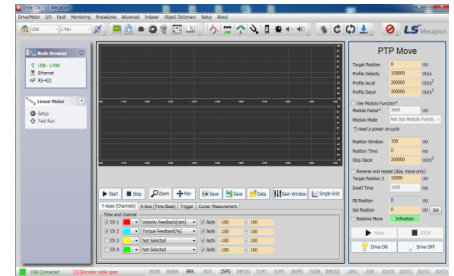
- Implementation of 4-channel tracer or trigger monitor
- Performing various operations, including Manual Jog, Program Jog, PTP Move, etc., and monitoring the operation state
- Monitoring Zoom or Pan / Mouse Wheel / Rollover or Cursor

Setup function

- Configuring the data structure including parameters, state variables, commands, etc. inside the drive
- Using Manual Jog and Program Jog to carry out the test
- Using Offline Auto Tuning for one-touch adjustment
- Customer convenience functions such as PTP movement, homing, and touch probe

Indexer setup [L7P only]

- Using Index Edit to enter/configure the index parameters
- Using Indexer Test to configure the operation and provide testing function



INDEX

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Servo Motor

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Integrated Servo System

PEGASUS Series _110

L7 SERIES SYSTEM

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Servo Drive

L7S Series

General Pulse Type, Analog Command Type

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- Product Feature _18
- External Dimensions _20



L7N Series

EtherCAT Communication Command Type

- Servo Drive Designation _25
- Product Feature _28
- External Dimensions _29



L7NH Series

All-in-one EtherCAT Communication Command Type

- Servo Drive Designation _31
- Product Feature _37
- External Dimensions _39



L7P Series

Indexer Function Type

- Servo Drive Designation _44
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General Pulse Type, Analog Command Type

L7S Series



Servo Drive Designation

L7	S	A	004	B	AA
Model Name	Communication	Input Power Supply	Capacity	Encoder Type	Option
Servo Series	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 : Quadrature (Pulse Type) B : Serial (Communication Type)	Exclusive Option Code

*** Range**

- 200V : 0.1KW~5.0KW
- 400V : 1.0KW~15KW

- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

L7S Series

Characteristic

● 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)

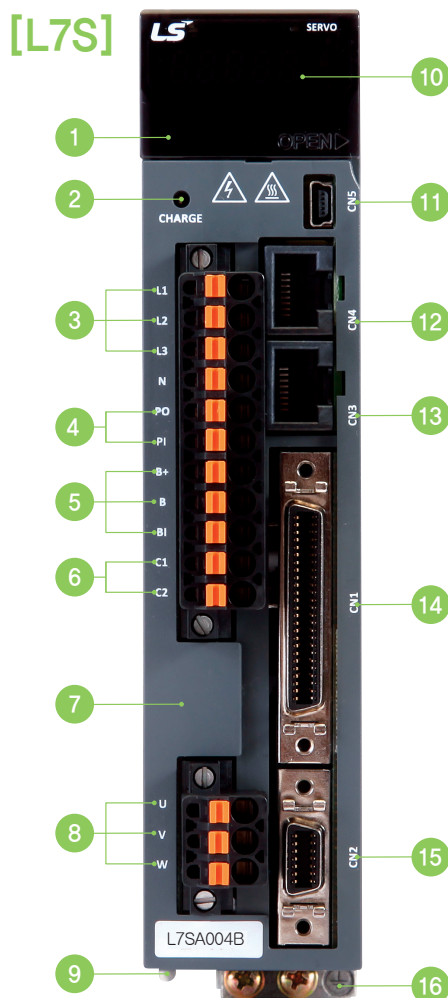
● Reliability for Protection Function

- CE, RoHS Certified
- Drive Protection Function and Warning Function

● High Response for Precision Control

- High Resolutions Serial type Encoder(19Bit, BiSS)
- Improved Speed Response(\approx 1KHz) Frequency

Identifying the Part of L7S



- 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

L7S Drive Combination Table

L7SA Incremental Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder Cable	Power Cable																		
					Quadrature Type	INC	For power	Power + Brake	Brake																
3,000	5,000	□40	SAR3A	L7SA001A	2,048 P/R	APCS-E□□□AS	APCS-P□□□GS	APCS-P□□□KB																	
		□40	SAR5A	L7SA001A																					
		□40	SA01A	L7SA001A																					
		□40	SA015A	L7SA002A																					
		□60	SB01A	L7SA002A																					
		□60	SB02A	L7SA002A																					
		□60	SB04A	L7SA004A																					
		□80	SC04A	L7SA004A																					
		□80	SC06A	L7SA008A																					
		□80	SC08A	L7SA008A																					
		□80	SC10A	L7SA010A																					
		□130	SE09A	L7SA008A																					
		□130	SE15A	L7SA020A																					
		□130	SE22A	L7SA020A																					
		□130	SE30A	L7SA050A																					
		□180	SF30A	L7SA035A																					
□180	SF50A	L7SA050A																							
2,000	3,000	□80	SC03D	L7SA004A	3,000 P/R	APCS-E□□□AS	APCS-P□□□GS	APCS-P□□□KB																	
		□80	SC05D	L7SA008A																					
		□80	SC06D	L7SA008A																					
		□80	SC07D	L7SA008A																					
		□130	SE06D	L7SA008A																					
		□130	SE11D	L7SA010A																					
		□130	SE16D	L7SA020A																					
		□130	SE22D	L7SA020A																					
		□180	SF22D	L7SA020A																					
		□180	LF35D	L7SA035A																					
		□180	SF55D	L7SA050A																					
		□220	SG22D	L7SA020A																					
	□220	LG35D	L7SA035A																						
	□220	SG55D	L7SA050A																						
	1,500	3,000	□130	SE05G						L7SA008A	3,000 P/R	APCS-E□□□BS	APCS-P□□□HS	APCS-P□□□NB											
			□130	SE09G						L7SA010A															
□130			SE13G	L7SA020A																					
□130			SE17G	L7SA020A																					
2,700		3,000	□180	SF20G	L7SA035A	3,000 P/R	APCS-E□□□BS	APCS-P□□□HS	APCS-P□□□NB																
			□180	LF30G	L7SA035A																				
			□180	SF44G	L7SA050A																				
			□220	SG20G	L7SA020A																				
		2,700	3,000	□220	LG30G											L7SA035A	3,000 P/R	APCS-E□□□BS	APCS-P□□□HS	APCS-P□□□NB					
				□220	LG30G											L7SA035A									
				□220	SG44G											L7SA050A									
				□220	SG20M											L7SA035A									
1,000	2,000	□130	SE03M	L7SA004A	3,000 P/R											APCS-E□□□BS						APCS-P□□□HS	APCS-P□□□NB		
		□130	SE06M	L7SA008A																					
		□130	SE09M	L7SA010A																					
		□130	SE12M	L7SA020A																					
		□180	SF12M	L7SA020A																					
		□180	SF20M	L7SA035A																					
	1,700	2,000	□180	LF30M							L7SA035A	3,000 P/R	APCS-E□□□BS	APCS-P□□□HS	APCS-P□□□NB										
			□180	SF44M							L7SA050A														
			□220	SG12M		L7SA020A																			
			□220	SG20M		L7SA035A																			
			□220	LG30M		L7SA035A																			
			□220	SG44M		L7SA050A																			
3,000	3,500	□60	HB01A	L7SA002A		1,024 P/R	APCS-E□□□AS	APCS-P□□□GS																	
		□60	HB02A	L7SA002A																					
		□60	HB04A	L7SA004A																					
		□130	HE09A	L7SA008A																					
		□130	HE15A	L7SA020A																					
		□130	HE30A	L7SA050A																					
3,000	3,500	□60	HB01A	L7SA002A	2,048 P/R	APCS-E□□□BS	APCS-P□□□HS																		
		□60	HB02A	L7SA002A																					
		□60	HB04A	L7SA004A																					
		□130	HE09A	L7SA008A																					
		□130	HE15A	L7SA020A																					
		□130	HE30A	L7SA050A																					

L7S Series

L7N Series

L7NH Series

L7P Series

S Series

F Series

MDM Series

Options

PEGASUS Series

L7 SERIES SYSTEM

L7S Drive Combination Table

L7SA Serial Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder Cable		Power Cable																			
						Serial Type	Single Turn	Multi Turn	For power	Power + Brake	Brake																
3,000	5,000	□40	FALR5A	L7SA001B	18Bit Serial / M-Turn Abs				APCS-P□□□LS		APCS-P□□□GS																
		□40	FAL01A	L7SA001B																							
		□40	FAL015A	L7SA002B																							
		□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 Abs				APCS-P□□□LS		APCS-P□□□GS																
		□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																							
		3,000	□220	FG22D								L7SA020B					APCS-P□□□HS	APCS-P□□□NB									
		2,700	□220	FG35D								L7SA035B															
		3,000	□220	FG55D								L7SA050B															
		1,500	3,000	□130								FE05G								L7SA008B	APCS-E□□□DS	APCS-E□□□DS1			APCS-P□□□HS	APCS-P□□□NB	
				□130								FE09G								L7SA010B							
□130	FE13G			L7SA020B																							
□130	FE17G			L7SA020B																							
2,700	□180		FF30G	L7SA035B	APCS-P□□□IS	APCS-P□□□PB																					
3,000	□180		FF44G	L7SA050B																							
3,000	□220		FG20G	L7SA020B																							
2,700	□220		FG30G	L7SA035B																							
3,000	□220	FG44G	L7SA050B	APCS-P□□□US	APCS-P□□□LB	APCS-P□□□SB																					
1,000	2,000	□130	FE03M				L7SA004B	APCS-E□□□DS	APCS-E□□□DS1		APCS-P□□□HS	APCS-P□□□NB															
		□130	FE06M				L7SA008B																				
		□130	FE09M				L7SA010B																				
		□130	FE12M	L7SA020B																							
	□180	FF12M	L7SA020B	APCS-P□□□IS	APCS-P□□□PB																						
	□180	FF20M	L7SA020B																								
	1,700	□180	FF30M				L7SA035B																				
	2,000	□180	FF44M			L7SA050B																					
2,000	□220	FG12M	L7SA020B	APCS-P□□□US	APCS-P□□□LB	APCS-P□□□SB																					
2,000	□220	FG20M	L7SA020B																								
1,700	□220	FG30M	L7SA035B																								
2,000	□220	FG44M	L7SA050B																								

L7S Drive Combination Table

L7SB Serial Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder Cable		Power Cable											
						Serial Type	Single Turn	Multi Turn	For power	Power + Brake	Brake								
3,000	5,000	□130	FEP09A	L7SB010B	19Bit Serial / M-Turn Abs	APCS-E□□□DS	APCS-E□□□DS1	APCF-P□□□HS	APCF-P□□□NB										
		□130	FEP15A	L7SB020B															
		□130	FEP22A	L7SB035B															
		□130	FEP30A	L7SB035B															
		□180	FFP30A	L7SB035B															
2,000	3,000	□180	FFP50A	L7SB050B				APCF-P□□□JS	APCF-P□□□PB	APCF-P□□□LS	APCF-P□□□NB								
		□130	FEP06D	L7SB010B															
		□130	FEP11D	L7SB010B															
		□130	FEP16D	L7SB020B															
		□130	FEP22D	L7SB020B															
		□180	FFP22D	L7SB020B															
	3,000	2,500	□180	FFP35D				L7SB035B	APCF-P□□□JS	APCF-P□□□PB	APCF-P□□□JS	APCF-P□□□NB							
			□180	FFP55D				L7SB050B											
			□180	FFP75D				L7SB075B											
		2,500	3,000	□220				FGP22D	L7SB020B	APCF-P□□□JS				APCF-P□□□LS	APCF-P□□□NB	APCF-P□□□SB			
				□220				FGP35D	L7SB035B										
			□220	FGP55D				L7SB050B											
			□220	FGP75D				L7SB075B											
			□220	FGP110D				L7SB150B											
			□220	FGP150G				L7SB150B											
1,500	3,000	□130	FEP05G	L7SB010B				19Bit Serial / M-Turn Abs	APCS-E□□□DS	APCS-E□□□DS1	APCF-P□□□HS	APCF-P□□□NB							
		□130	FEP09G	L7SB010B															
		□130	FEP13G	L7SB020B															
		□130	FEP17G	L7SB020B															
		□180	FFP20G	L7SB020B															
	2,700	2,700	□180	FFP30G	L7SB035B	APCF-P□□□JS	APCF-P□□□PB				APCF-P□□□JS	APCF-P□□□NB							
			□180	FFP44G	L7SB050B														
		3,000	2,500	□180	FFP60G	L7SB075B	APCF-P□□□JS							APCF-P□□□LB					
				□180	FFP75G	L7SB075B													
			2,200	3,000	□220	FGP20G	L7SB020B							APCF-P□□□MS	APCF-P□□□LS	APCF-P□□□NB	APCF-P□□□SB		
					□220	FGP30G	L7SB035B												
				2,700	3,000	□220	FGP44G							L7SB050B				APCF-P□□□JS	
						□220	FGP60G							L7SB075B					
					2,500	2,500	□220							FGP85G				L7SB150B	APCF-P□□□MS
							□220							FGP110G				L7SB150B	
1,000	2,000	□220	FGP150G	L7SB150B	19Bit Serial / M-Turn Abs	APCS-E□□□DS	APCS-E□□□DS1	APCF-P□□□HS	APCF-P□□□NB										
		□130	FEP03M	L7SB010B															
		□130	FEP06M	L7SB010B															
		□130	FEP09M	L7SB010B															
		□130	FEP12M	L7SB020B															
		□180	FFP12M	L7SB020B															
	1,700	2,000	□180	FFP20M				L7SB020B	APCF-P□□□JS	APCF-P□□□PB	APCF-P□□□JS	APCF-P□□□NB							
			□180	FFP30M				L7SB035B											
			□180	FFP44M				L7SB050B											
		2,000	1,700	□220				FGP12M	L7SB020B	APCF-P□□□JS				APCF-P□□□LB					
				□220				FGP20M	L7SB020B										
			2,000	2,000				□220	FGP30M	L7SB050B				APCF-P□□□MS	APCF-P□□□LS	APCF-P□□□NB	APCF-P□□□SB		
								□220	FGP44M	L7SB050B									
				2,000				2,000	□220	FGP60M				L7SB075B				APCF-P□□□MS	
									□220	FGP60M				L7SB075B					

- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

L7SA Drive Product Features

Item		Type Name	L7SA001□	L7SA002□	L7SA004□	L7SA008□	L7SA010□	L7SA020□	L7SA035□	L7SA050□	
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	
	Peak Current[A]		4.2	5.1	9.0	15.6	20.25	40.5	50.1	96	
Encoder Type		Quad. Type Incremental Line Driver Max 6000 [P/R] Serial Type : 18bit(FA type), 19bit, 20bit(MDM series)									
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)								
	Position Control	Speed Variation Ratio	±0.01 [%] or lower [when load changes between 0 and 100%] ±0.1[%] or lower [temperature 25 ±10°C]								
		Input Frequency	1[Mpps], Line Driver / 200[kpps], Open Collector								
		Input Pulse Type	Symbol + Pulse Series, CW+CCW, A/B Phase								
	Torque Control	Electric Gear Ratio	Four digital gear ratios can be set, selected and tuned.								
		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, CCWLM, 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	RS422	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									
Environment	Temperature	0 ~ 50[°C]									
	Humidity	Below 90[%]RH(avoid dew-condensation)									
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.									

L7SB Drive Product Features

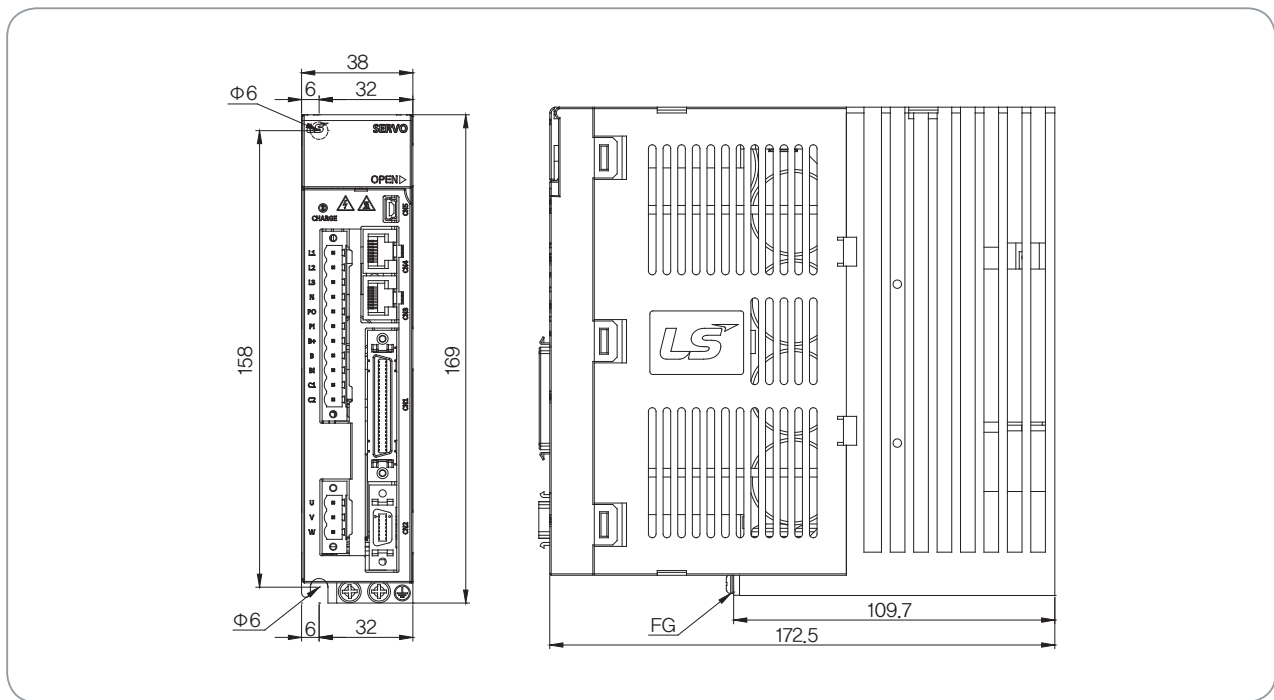
Item		Type Name	L7SB010□	L7SB020□	L7SB035□	L7SB050□	L7SB075□	L7SB150□	
Input Power	Main Power Supply	3 Phase AC380 ~ 480[V](-15 ~ +10[%]), 50 ~ 60[Hz]							
	Control Power Supply	Single Phase AC380 ~ 480[V](-15 ~ +10[%]), 50 ~ 60[Hz]							
Rated Current[A]			3.7	8	10.1	17.5	22.8	39	
Peak Current[A]			11.1	24	30.3	52.5	57	97.5	
Encoder Type		Quad. Type Incremental Line Driver Max 6000 [P/R] Serial Type : 18bit(FA type), 19bit, 20bit(MDM series)							
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	RS422	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							
	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							
Environment	Temperature	0 ~ 50[°C]							
	Humidity	90[%] RH or lower (no condensation)							
	Environment	Indoors, a place free from corrosive gas or combustible gas, or a place without liquid or conductive dust.							

L7 SERIES SYSTEM

External Dimensions of L7SA Drive

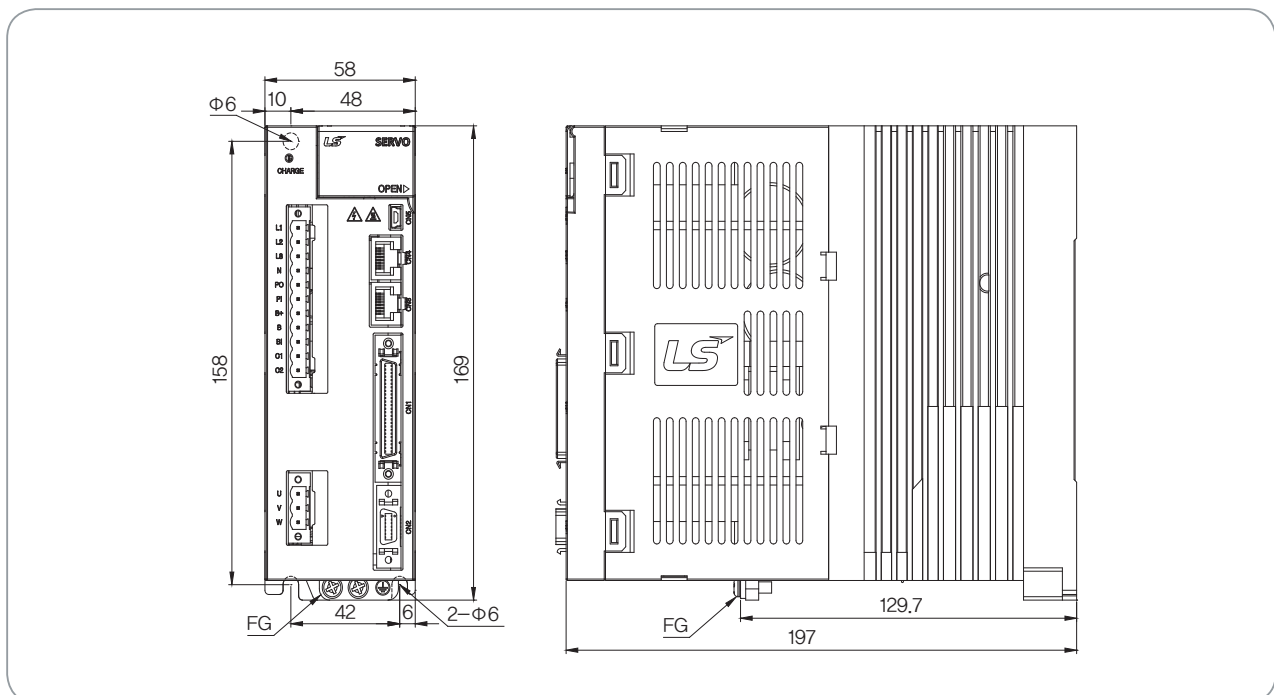
■ L7SA001□ ~ L7SA004□ [Weight : 1.2kg]

*Unit [mm]



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

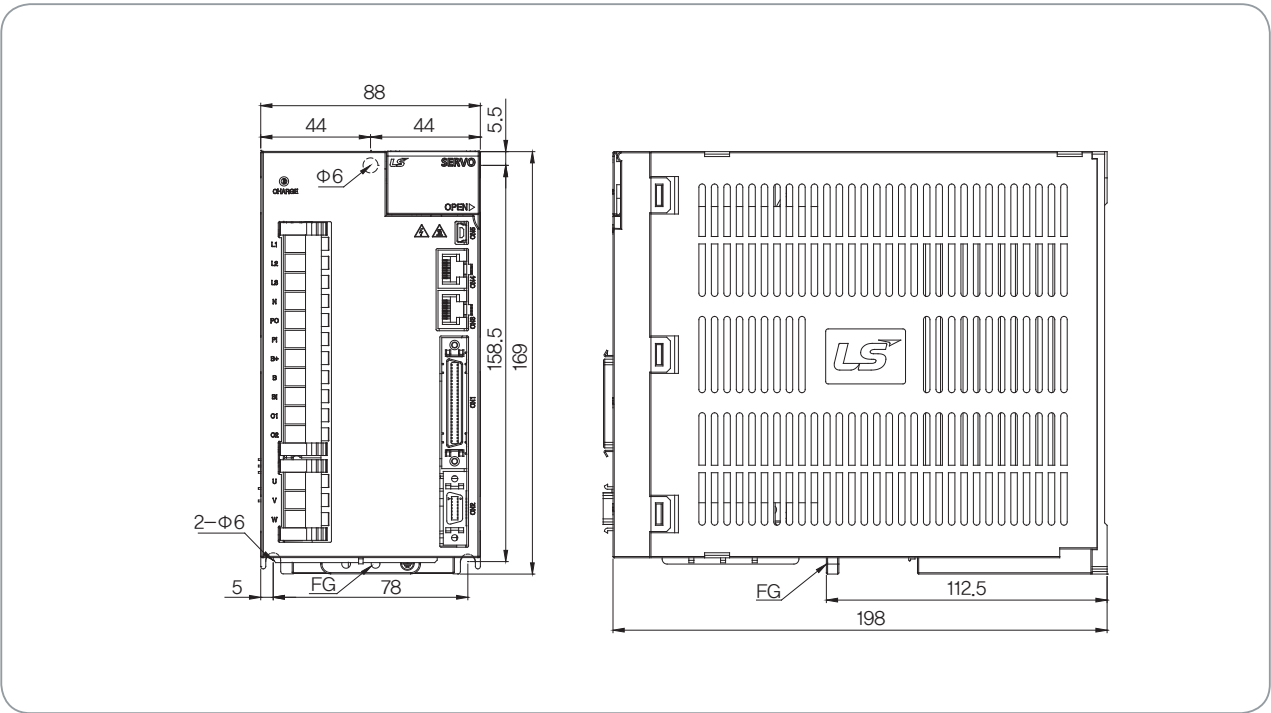
*Unit [mm]



External Dimensions of L7SA Drive

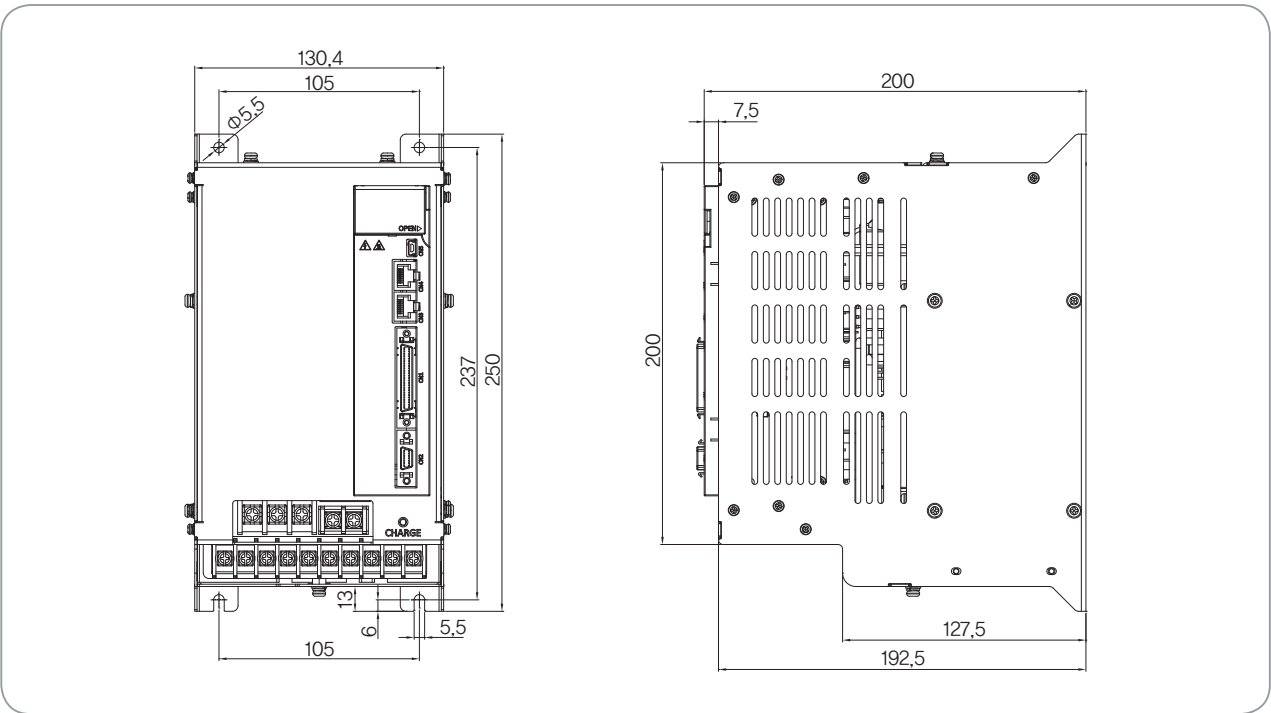
L7SA020 ~ L7SA035 [Weight : 2.5kg(Fan-Cooling included)]

*Unit [mm]



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

*Unit [mm]



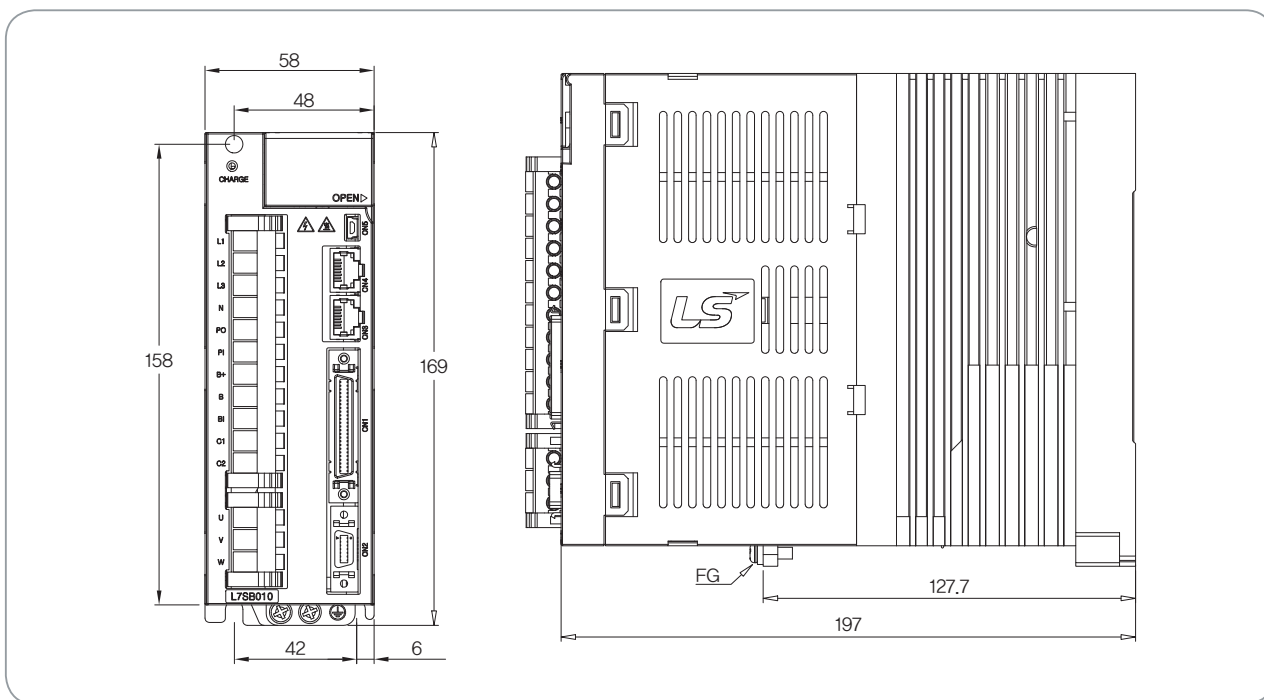
- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

External Dimensions of L7SB Drive

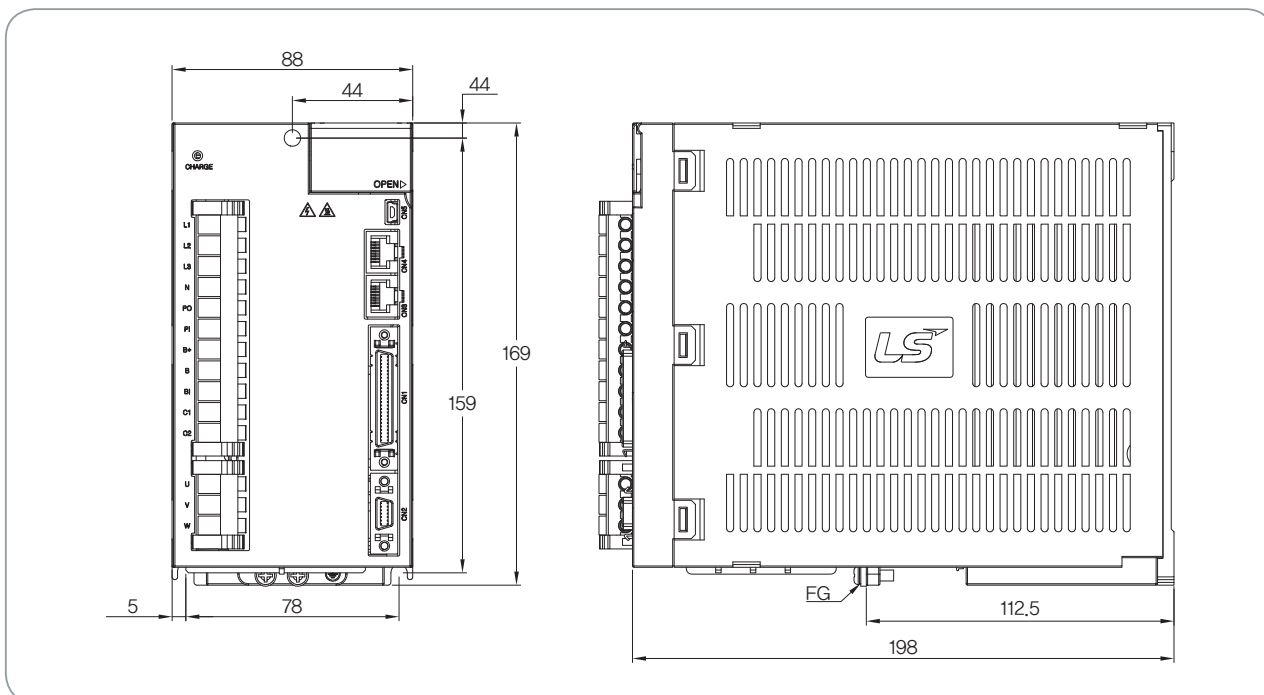
■ L7SB010 □ [Weight : 1.5kg(Fan-Cooling included)]

*Unit [mm]



■ L7SB020 □ / L7SB035 □ [Weight : 2.5kg(Fan-Cooling included)]

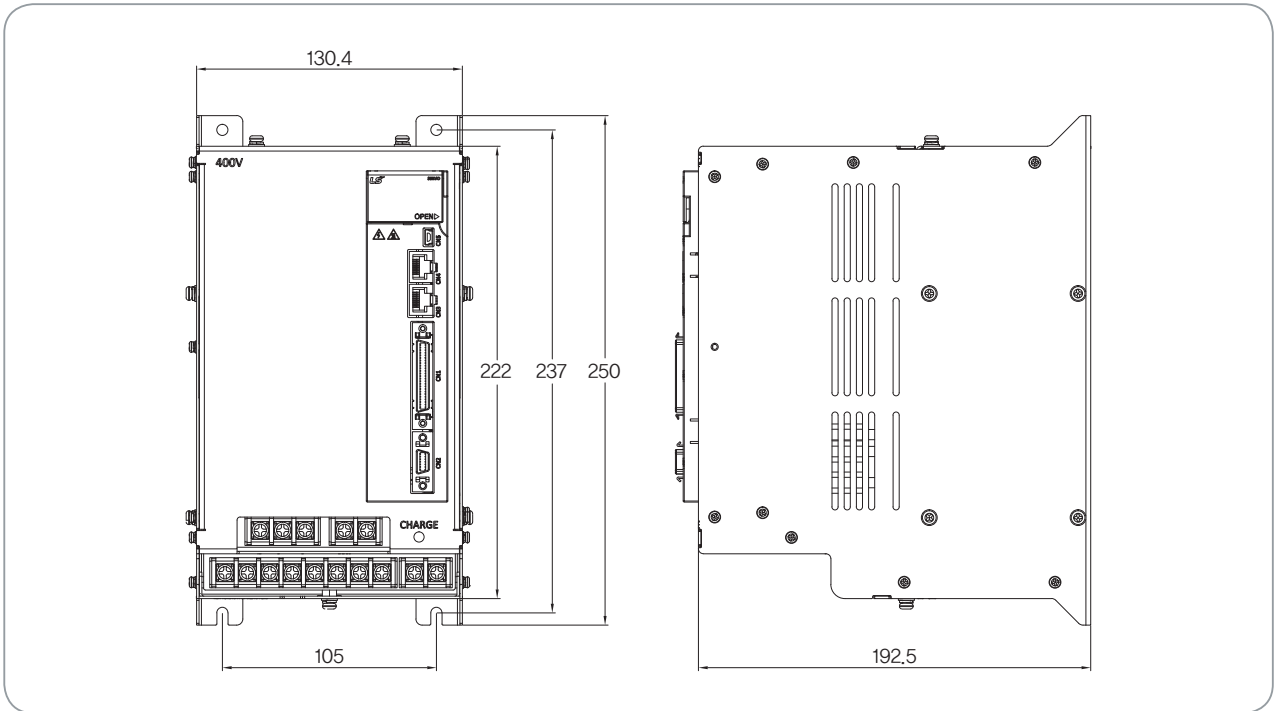
*Unit [mm]



External Dimensions of L7SB Drive

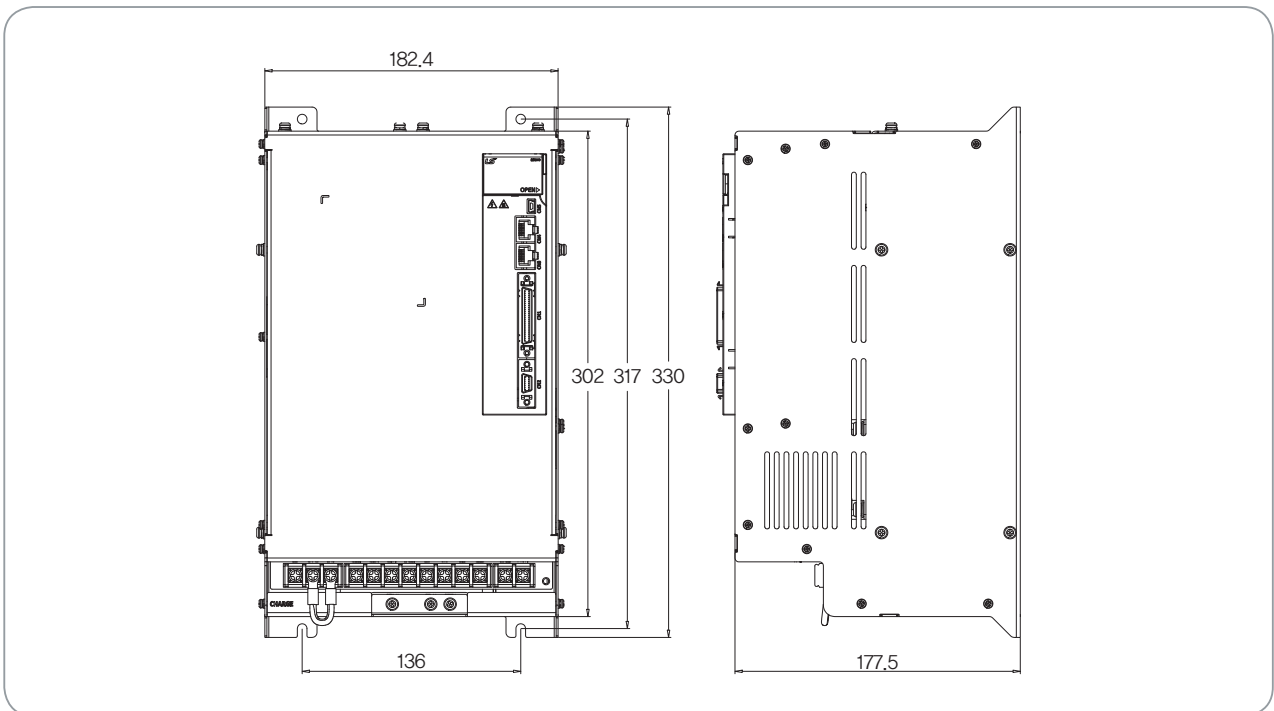
L7SB050 [Weight : 5.5kg(Fan-Cooling included)]

*Unit [mm]



L7SB075 [Weight : 8.5kg(Fan-Cooling included)]

*Unit [mm]



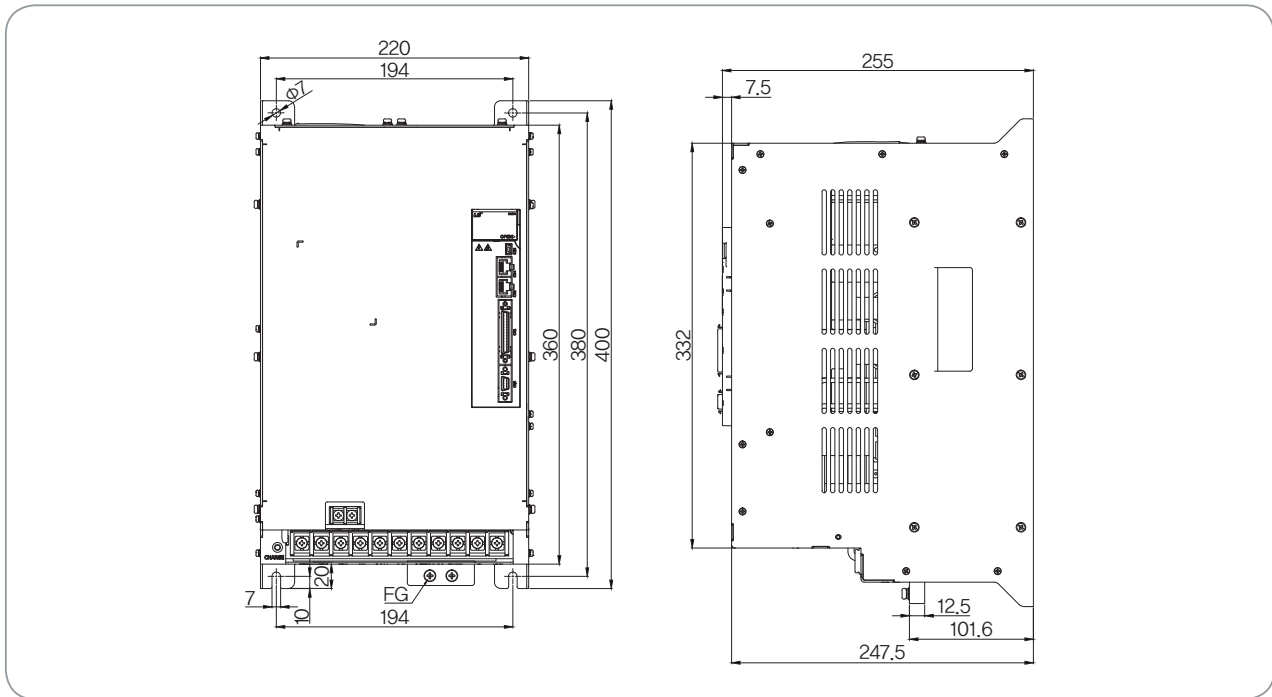
- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

External Dimensions of L7SB Drive

■ L7SB150 □ [Weight : 15.5kg(Fan-Cooling included)]

*Unit [mm]



L7S Series

L7N Series

L7NH Series

L7P Series

S Series

F Series

MDM Series

Options

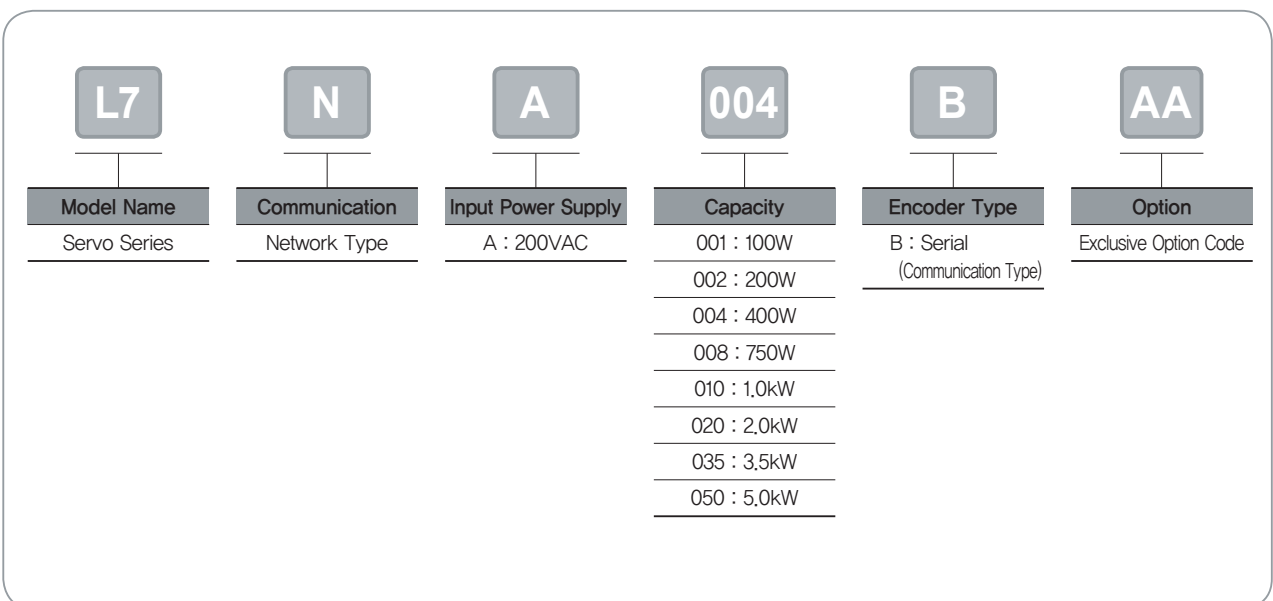
PEGASUS Series

EtherCAT Communication Command Type

L7N Series



Servo Drive Designation



- L7S Series
- L7N Series**
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

L7N Series

Characteristic

● Real-time control by EtherCAT

- High speed, Real-time capability and Synchronization mechanism
- 100BASE-TX(100Mbps) EtherNET based real-time communication

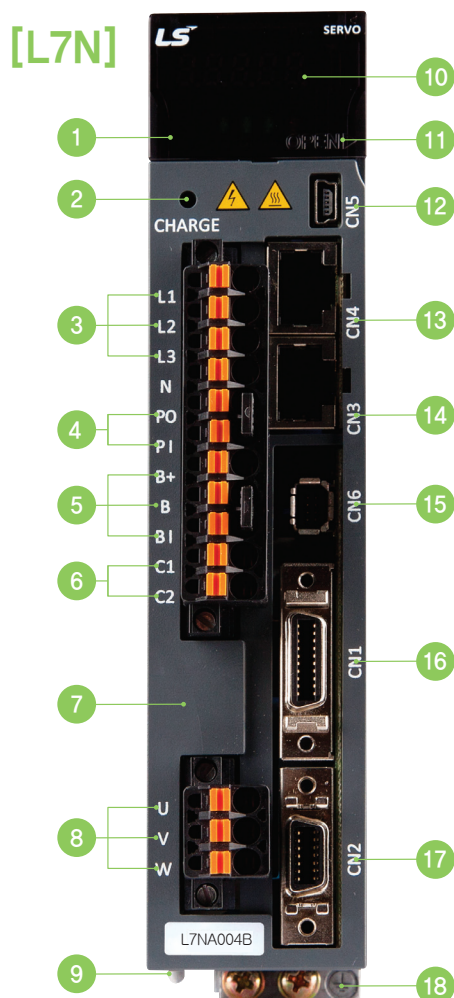
● Support Various Operation Mode

- Cyclic(P/S/T) Mode and Profile (P/S/T)Mode, Homming Mode

● High Response for Precision Control

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

Identifying the Part of L7N Drive



- 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 Resistor 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 Servo Motor Connecting Terminals (U, V, W)
- 9 Heat Sink
- 10 Display
- 11 Status LED
- 12 CN5:USB connector
- 13 CN4:EtherCAT Communication Port (IN)
- 14 CN3:EtherCAT Communication Port (OUT)
- 15 CN6 : STO Connector
- 16 CN1 : Control Signal Connector
- 17 CN2 : Encoder Signal Connector
- 18 Ground

L7N Drive Combination Table

L7N Serial Type

Rated Speed (rpm)	Maximum speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder Cable		Power Cable										
					Serial Type	Single Turn	Multi Turn	For power	Power + Brake	Brake								
3,000	5,000	□40	FALR5A	L7NA001B	18Bit Serial / M-Turn Abs	APCS-E□□□ES	APCS-E□□□ES1	APCS-P□□□LS	APCS-P□□□GS									
		□40	FAL01A	L7NA001B														
		□40	FAL015A	L7NA002B														
		□60	FBL01A	L7NA001B														
		□60	FBL02A	L7NA002B														
		□60	FBL04A	L7NA004B														
		□80	FCL04A	L7NA004B														
		□80	FCL06A	L7NA008B														
		□80	FCL08A	L7NA008B														
		□80	FCL10A	L7NA010B														
		□60	FB01A	L7NA001B														
		□60	FB02A	L7NA002B														
		□60	FB04A	L7NA004B														
		□80	FC04A	L7NA004B														
		□80	FC06A	L7NA008B														
		□80	FC08A	L7NA008B														
		□80	FC10A	L7NA010B														
		□130	FE09A	L7NA010B														
		□130	FE15A	L7NA020B														
		□130	FE22A	L7NA020B														
□130	FE30A	L7NA035B																
□180	FF30A	L7NA035B																
□180	FF50A	L7NA050B																
2,000	3,000	□80	FCL03D	L7NA004B	19Bit Serial / M-Turn Abs	APCS-E□□□ES	APCS-E□□□ES1	APCS-P□□□LS	APCS-P□□□GS									
		□80	FCL05D	L7NA008B														
		□80	FCL06D	L7NA008B														
		□80	FCL07D	L7NA008B														
		□80	FC03D	L7NA004B														
		□80	FC05D	L7NA008B														
		□80	FC06D	L7NA008B														
		□80	FC07D	L7NA008B														
		□130	FE06D	L7NA008B														
		□130	FE11D	L7NA010B														
		□130	FE16D	L7NA020B														
		□130	FE22D	L7NA020B														
		□180	FF22D	L7NA020B														
		□180	FF35D	L7NA035B														
		□180	FF55D	L7NA050B														
		3,000	□220	FG22D							L7NA020B							
		2,700	□220	FG35D							L7NA035B							
		3,000	□220	FG55D							L7NA050B							
		1,500	3,000	□130							FE05G	L7NA008B	APCS-E□□□DS	APCS-E□□□DS1	APCS-P□□□HS	APCS-P□□□NB	APCS-P□□□PB	APCS-P□□□LB
				□130							FE09G	L7NA010B						
□130	FE13G			L7NA020B														
□130	FE17G			L7NA020B														
□180	FF20G			L7NA020B														
2,700	□180		FF30G	L7NA035B														
3,000	□180		FF44G	L7NA050B														
3,000	□220		FG20G	L7NA020B														
2,700	□220		FG30G	L7NA035B														
3,000	□220		FG44G	L7NA050B														
1,000	2,000	□130	FE03M	L7NA004B	APCS-P□□□IS	APCS-P□□□LS	APCS-P□□□HS	APCS-P□□□NB	APCS-P□□□PB	APCS-P□□□LB								
		□130	FE06M	L7NA008B														
		□130	FE09M	L7NA010B														
		□130	FE12M	L7NA020B														
		□180	FF12M	L7NA020B														
		□180	FF20M	L7NA020B														
	1,700	□180	FF30M	L7NA035B														
	2,000	□180	FF44M	L7NA050B														
		□220	FG12M	L7NA020B														
		□220	FG20M	L7NA020B														
		1,700	□220	FG30M							L7NA035B							
		2,000	□220	FG44M							L7NA050B							
2,000		□220	FG30M	L7NA035B														

L7S Series
L7N Series
L7NH Series
L7P Series
S Series
F Series
MDM Series
Options
PEGASUS Series

L7 SERIES SYSTEM

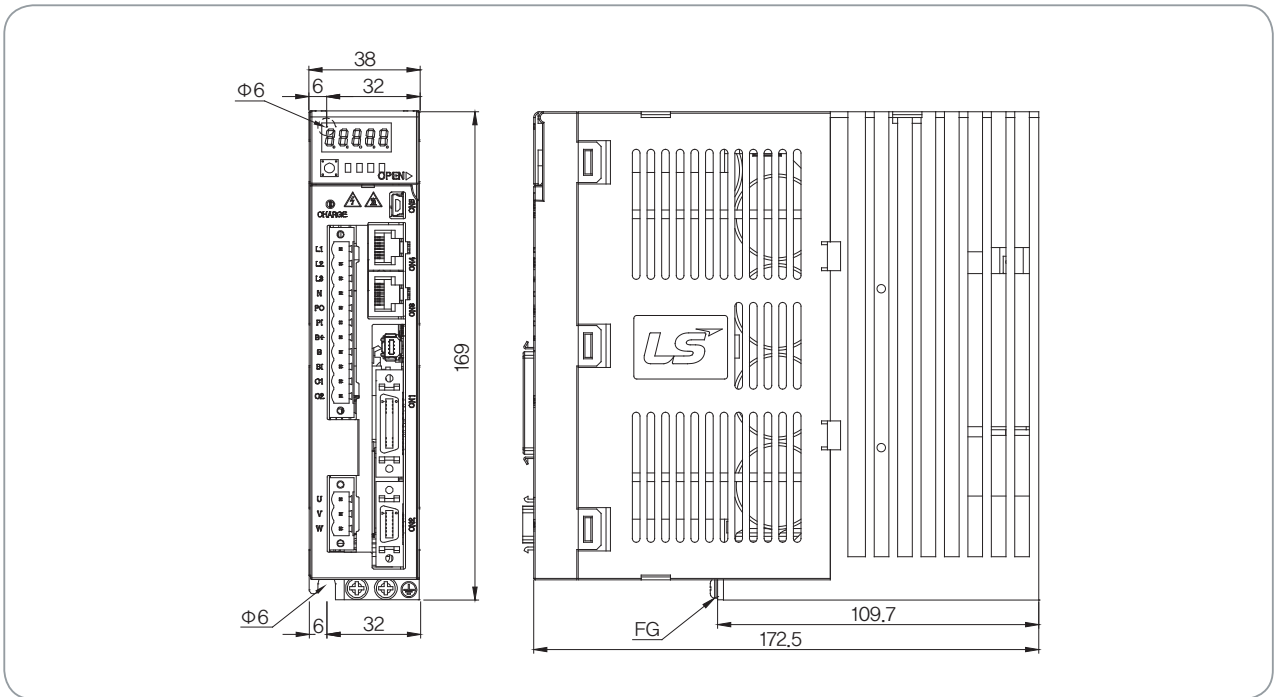
L7N Drive Product Features

Item		Type Name	L7NA001B	L7NA002B	L7NA004B	L7NA008B	L7NA010B	L7NA020B	L7NA035B	L7NA050B
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
Peak Current[A]			4.2	5.1	9.0	15.6	20.25	40.5	50.1	96
Encoder Type		Serial Type : 18 bit(FA type), 19bit, 20bit(MDM series)								
Control Performance	Speed Control Range	Maximum 1: 5000								
	Frequency Response	Maximum 1 kHz or more (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%								
Supported Drive Modes (CiA402)		Profile Position Mode Profile Velocity Mode Profile Torque Mode Interpolated Position Mode Cyclic Synchronous Position Mode Cyclic Synchronous Velocity Mode Cyclic Synchronous Torque Mode Homing Mode								
Digital Input/Output	Digital Input	Total 6 input channels (allocable) PCON, GAIN2, ALMRST, HOME, P-OT, N-OT Above 6 functions can be used selectively for assignment. Signal can be set as positive logic or negative logic.								
	Touch Probe Input	There are 2 input channels. Provides rising and falling edge detection functions for each channel.								
	Digital Output	Total 4 channels (allocable) ALARM, READY, ZSPD, BRAKE, INPOS, INSPD, WARN Above 7 outputs can be used selectively for assignment. Signal can be set as positive logic or negative logic.								
Additional Communication	USB	Program download is available with USB Communication.								
Built-in Functions	Dynamic Braking	Built-in type(operates when Servo alarm or Servo off)								
	Regenerative Braking	Built-in type, and also external connection is available								
	Display	7 segments(5DIGIT)								
	Setting Function	Loder(SET), (MODE)								
	Additional Function	Auto gain tuning function								
Operation Environment	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								
	Temperature	0 ~ 50[°C]								
	Humidity	Below 90[%]RH(avoid dew-condensation)								
Environment		Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.								

External Dimensions of L7SN Drive

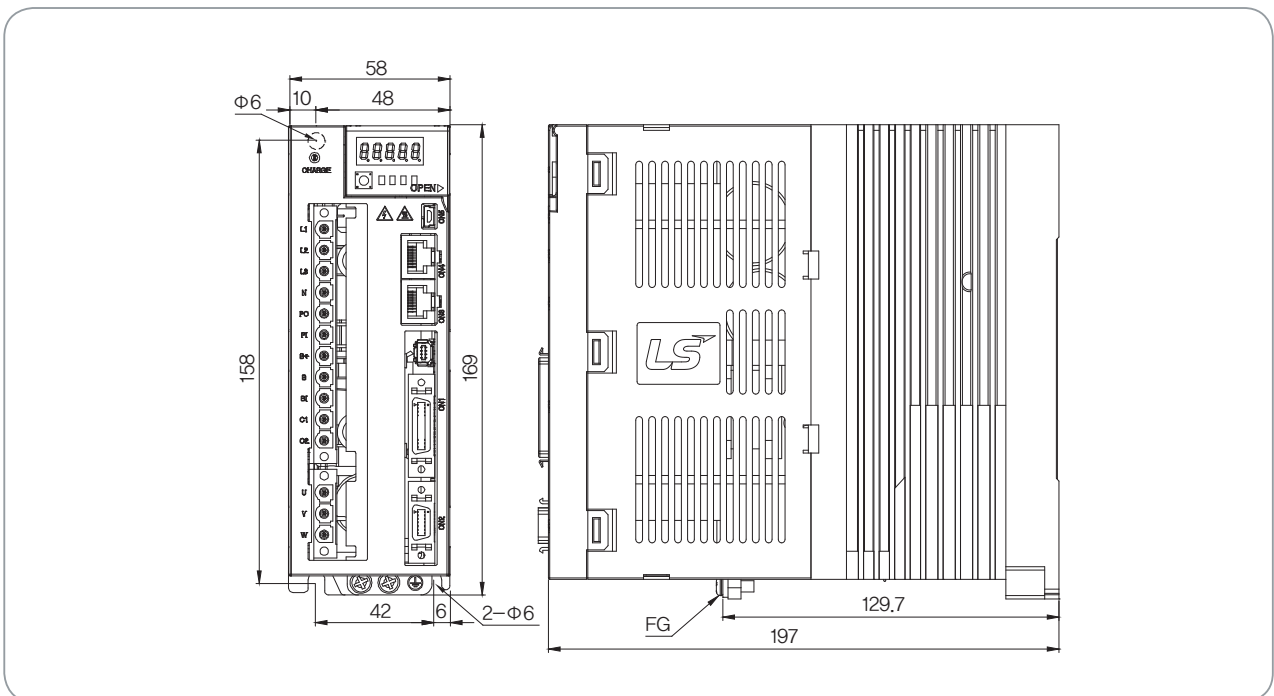
L7NA001B ~ L7NA004B [Weight : 1.0kg]

*Unit [mm]



L7NA008B / L7NA010B [Weight : 1.5kg(Fan-Cooling included)]

*Unit [mm]



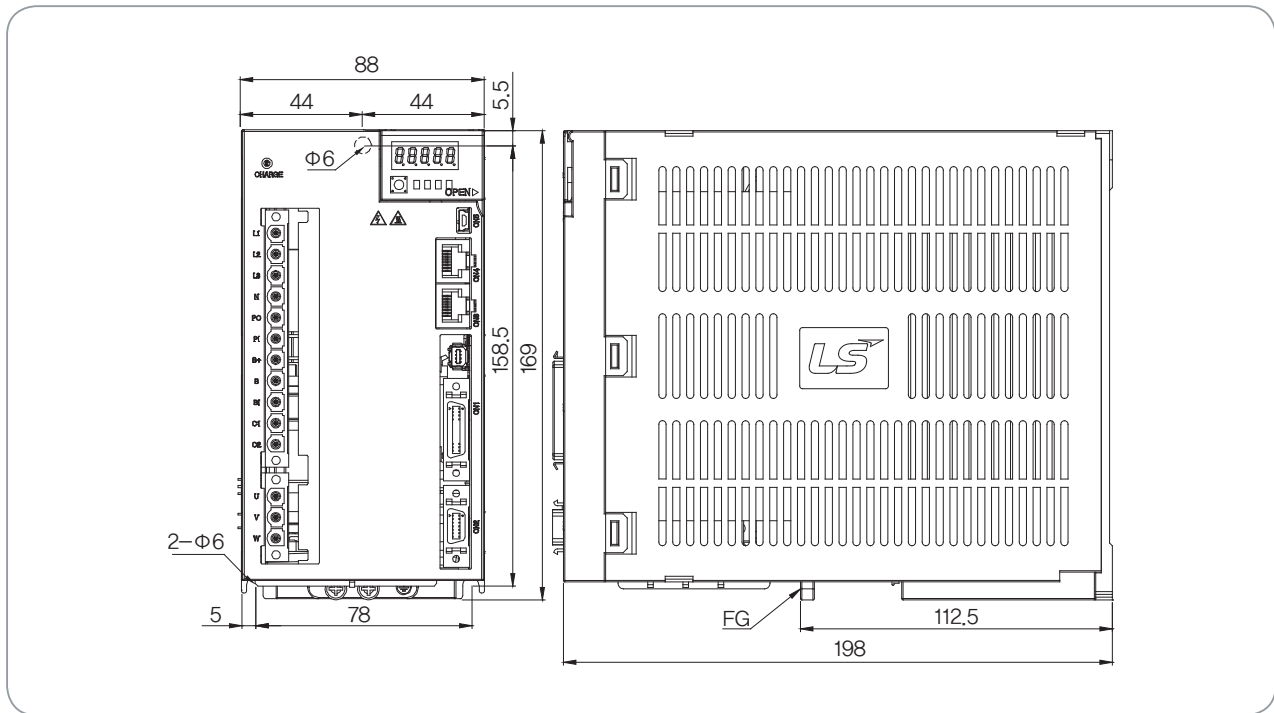
- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

External Dimensions of L7SN Drive

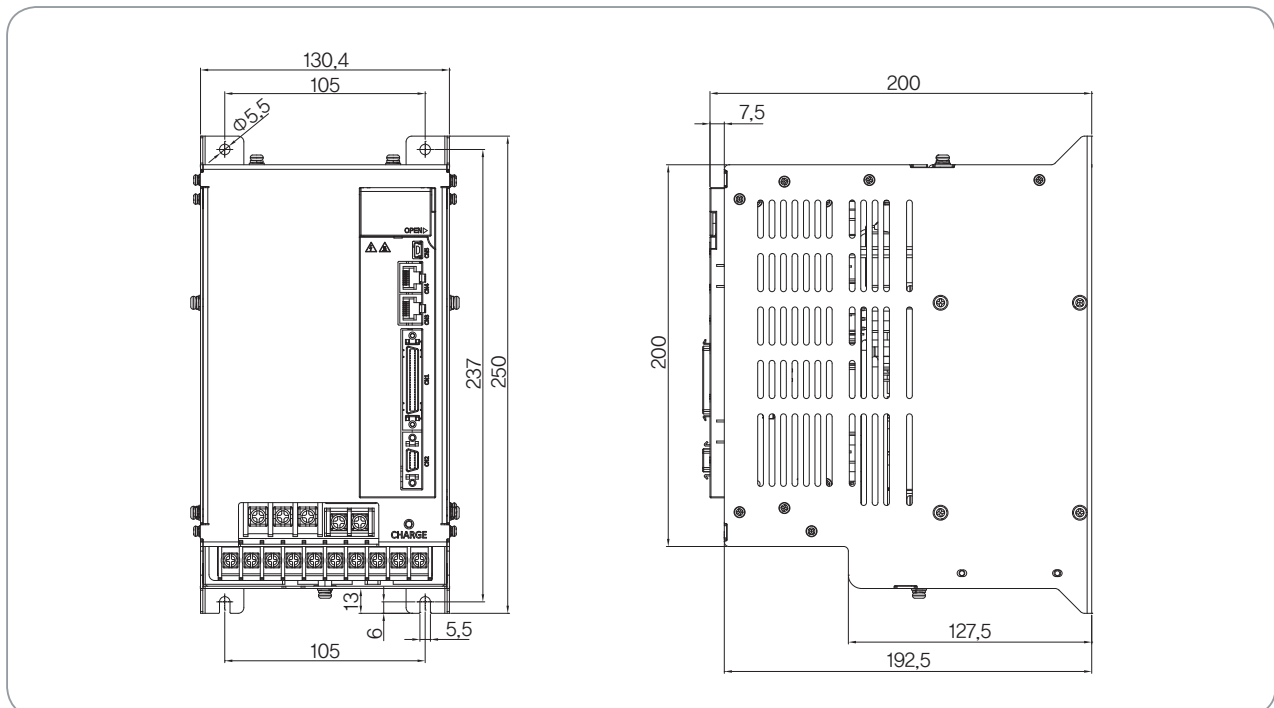
■ L7NA020B / L7NA035B [Weight : 2.5kg(Fan-Cooling included)]

*Unit [mm]



■ L7NA050B [Weight : 5.5kg(Fan-Cooling included)]

*Unit [mm]



All-in-one EtherCAT Communication Command Type

L7NH Series



Servo Drive Designation

L7	NH	A	004	B	AA
Model Name	Communication	Input Power Supply	Capacity	Encoder Type	Option
Servo Series	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
<p>* Range</p> <ul style="list-style-type: none"> · 200V : 0.1KW~3.5KW · 400V : 1.0KW~15KW 					

- L7S Series
- L7N Series
- L7NH Series**
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

L7NH Series

Characteristic

● 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(=1.6Khz) Frequency

● Improved Control Performance

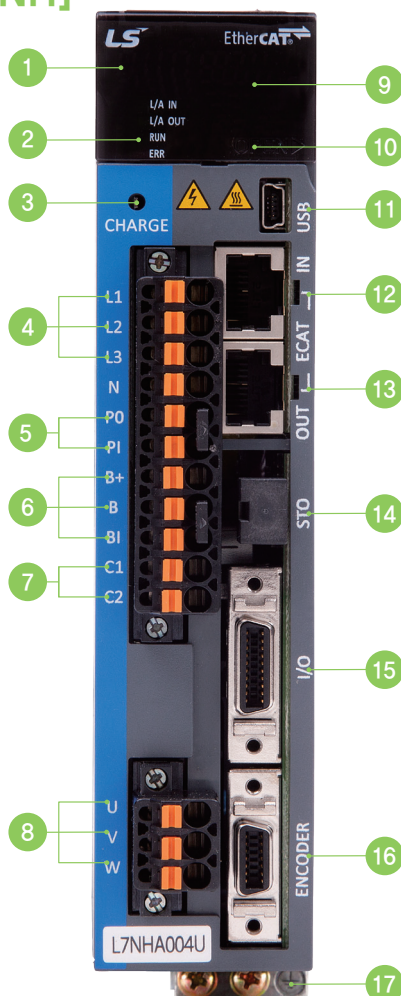
- Improved Control bandwidth
- Providing 4-step Notch-Filter
- Vibration control by Real-time FFT
- Real-time gain tuning function

● 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

Identifying the Part of L7NH Drive

[L7NH]



- 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 Combination Table

L7NHA Incremental Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder cable	Power Cable							
					Quadrature Type	INC	For power	Power + Brake	Brake					
3,000	5,000	□40	SAR3A	L7NHA001U	2,048 P/R	APCS-E□□□AS	APCS-P□□□GS	APCS-P□□□NB	APCS-P□□□KB					
		□40	SAR5A	L7NHA001U										
		□40	SA01A	L7NHA001U										
		□40	SA015A	L7NHA002U										
		□60	SB01A	L7NHA002U										
		□60	SB02A	L7NHA002U										
		□60	SB04A	L7NHA004U										
		□80	SC04A	L7NHA004U										
		□80	SC06A	L7NHA008U										
		□80	SC08A	L7NHA008U										
		□80	SC10A	L7NHA010U										
		□130	SE09A	L7NHA008U										
		□130	SE15A	L7NHA020U										
		□130	SE22A	L7NHA020U										
□180	SF30A	L7NHA035U	3,000 P/R	APCS-E□□□BS	APCS-P□□□HS	APCS-P□□□NB								
□80	SC03D	L7NHA004U		APCS-E□□□AS	APCS-P□□□GS	APCS-P□□□NB	APCS-P□□□PB	APCS-P□□□SB						
□80	SC05D	L7NHA008U												
□80	SC06D	L7NHA008U												
□80	SC07D	L7NHA008U												
□130	SE06D	L7NHA008U												
□130	SE11D	L7NHA010U												
□130	SE16D	L7NHA020U												
□130	SE22D	L7NHA020U												
□180	SF22D	L7NHA020U												
□180	LF35D	L7NHA035U												
□220	SG22D	L7NHA020U												
□220	LG35D	L7NHA035U												
1,500	3,000	□130							SE05G	L7NHA008U	APCS-E□□□BS	APCS-P□□□HS	APCS-P□□□NB	APCS-P□□□PB
		□130	SE09G						L7NHA010U					
		□130	SE13G	L7NHA020U										
		□130	SE17G	L7NHA020U										
	2,700	□180	SF20G	L7NHA035U										
	3,000	□220	SG20G	L7NHA020U										
	2,700	□220	LG30G	L7NHA035U										
1,000	2,000	□130	SE03M	L7NHA004U	APCS-E□□□BS	APCS-P□□□HS	APCS-P□□□NB	APCS-P□□□PB	APCS-P□□□SB					
		□130	SE06M	L7NHA008U										
		□130	SE09M	L7NHA010U										
		□130	SE12M	L7NHA020U										
		□180	SF12M	L7NHA020U										
	□180	SF20M	L7NHA035U											
	1,700	□180	LF30M	L7NHA035U										
	1,700	□220	SG12M	L7NHA020U										
3,000	3,500	□60	HB01A	L7NHA002U	1,024 P/R	APCS-E□□□AS	APCS-P□□□GS		APCS-P□□□SB					
		□60	HB02A	L7NHA002U	2,048 P/R	APCS-E□□□BS	APCS-P□□□HS	APCS-P□□□NB						
		□60	HB04A	L7NHA004U										
		□130	HE09A	L7NHA008U										
		□130	HE15A	L7NHA020U										

L7S Series

L7N Series

L7NH Series

L7P Series

S Series

F Series

MDM Series

Options

PEGASUS Series

L7 SERIES SYSTEM

L7NHA Drive Combination Table

L7NHA Serial Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder cable		Power Cable			
						Serial Type	Single Turn	Multi Turn	For power	Power + Brake	Brake
3,000	5,000	□40	FALR5A	L7NHA001U	18Bit Serial / M-Turn Abs				APCS-P□□□LS		APCS-P□□□QS
		□40	FAL01A	L7NHA001U							
		□40	FAL015A	L7NHA002U							
		□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									
2,000	3,000	□80	FCL03D	L7NHA004U	19Bit Serial / M-Turn Abs				APCS-P□□□LS		APCS-P□□□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							
		□130	FE16D	L7NHA020U							
		□130	FE22D	L7NHA020U							
		□180	FF22D	L7NHA020U							
		□180	FF35D	L7NHA035U							
		□220	FG22D	L7NHA020U							
		□220	FG35D	L7NHA035U							
1,500	3,000	□130	FE05G	L7NHA008U	APCS-E□□□DS	APCS-E□□□DS1			APCS-P□□□HS	APCS-P□□□NB	
		□130	FE09G	L7NHA010U							
		□130	FE13G	L7NHA020U							
		□130	FE17G	L7NHA020U							
	□180	FF20G	L7NHA020U								
	2,700	□180	FF30G	L7NHA035U							
	3,000	□220	FG20G	L7NHA020U							
2,700	□220	FG30G	L7NHA035U								
1,000	2,000	□130	FE03M	L7NHA004U	APCS-P□□□IS				APCS-P□□□HS	APCS-P□□□NB	
		□130	FE06M	L7NHA008U							
		□130	FE09M	L7NHA010U							
		□130	FE12M	L7NHA020U							
		□180	FF12M	L7NHA020U							
		□180	FF20M	L7NHA020U							
	1,700	□180	FF30M	L7NHA035U							
		□220	FG12M	L7NHA020U							
		□220	FG20M	L7NHA020U							
	1,700	□220	FG30M	L7NHA035U							

L7NHB Drive Combination Table

L7NHB Incremental Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder cable	Power Cable		
					Quadrature Type	INC	For power	Power + Brake	Brake
3,000	5,000	□130	SEP09A	L7NHB010U	3,000 P/R	APCS-E□□□BS	APCF-P□□□HS	APCF-P□□□NB	
		□130	SEP15A	L7NHB010U					
		□130	SEP22A	L7NHB020U					
		□130	SEP30A	L7NHB035U					
		□180	SFP30A	L7NHB035U					
		□180	SFP50A	L7NHB050U					
2,000	3,000	□130	SEP06D	L7NHB010U					
		□130	SEP11D	L7NHB010U					
		□130	SEP16D	L7NHB020U					
		□130	SEP22D	L7NHB020U					
		□180	SFP22D	L7NHB020U					
		□180	SFP35D	L7NHB035U					
		□180	SFP55D	L7NHB050U					
		□180	SFP75D	L7NHB075U					
		□220	SGP22D	L7NHB020U					
		□220	SGP35D	L7NHB035U					
		□220	SGP55D	L7NHB050U					
		1,500	2,500	□220			SGP75D	L7NHB075U	
□220	SGP110D			L7NHB150U					
3,000	□130			SEP05G			L7NHB010U		
	□130			SEP09G			L7NHB010U		
	□130			SEP13G			L7NHB020U		
	□130			SEP17G			L7NHB020U		
	□180	SFP20G	L7NHB020U						
	□180	SFP30G	L7NHB050U						
1,500	2,500	□180	SFP44G	L7NHB050U					
		□180	SFP60G	L7NHB075U					
		□180	SFP75G	L7NHB075U					
		□220	SGP20G	L7NHB020U					
		□220	SGP30G	L7NHB050U					
		□220	SGP44G	L7NHB050U					
	2,000	□220	SGP60G	L7NHB075U					
		□220	SGP85G	L7NHB150U					
		□220	SGP110G	L7NHB150U					
		□220	SGP150G	L7NHB150U					
		1,000	2,000	□130	SEP03M	L7NHB010U			
				□130	SEP06M	L7NHB010U			
□130	SEP09M			L7NHB010U					
□130	SEP12M			L7NHB020U					
□180	SFP12M			L7NHB020U					
□180	SFP20M			L7NHB020U					
1,000	1,700	□180	SFP30M	L7NHB035U					
		□180	SFP44M	L7NHB050U					
	2,000	□220	SGP12M	L7NHB020U					
		□220	SGP20M	L7NHB020U					
		□220	SGP30M	L7NHB050U					
		□220	SGP44M	L7NHB050U					
		□220	SGP60M	L7NHB075U					

L7S Series

L7N Series

L7NH Series

L7P Series

S Series

F Series

MDM Series

Options

PEGASUS Series

L7 SERIES SYSTEM

L7NHB Drive Combination Table

L7NHB Serial Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder cable		Power Cable					
						Serial Type	Single Turn	Multi Turn	For power	Power + Brake	Brake		
3,000	5,000	□130	FEP09A	L7NH-B010U	19Bit Serial / M-Turn Abs	APCS-E□□□DS	APCS-E□□□DS1	APCF-P□□□HS	APCF-P□□□NB				
		□130	FEP15A	L7NH-B020U									
		□130	FEP22A	L7NH-B035U									
		□130	FEP30A	L7NH-B035U									
		□180	FFP30A	L7NH-B035U									
2,000	3,000	□180	FFP50A	L7NH-B050U				APCF-P□□□IS	APCF-P□□□PB	APCF-P□□□JS	APCF-P□□□LB		
		□130	FEP06D	L7NH-B010U									
		□130	FEP11D	L7NH-B010U									
		□130	FEP16D	L7NH-B020U									
		□130	FEP22D	L7NH-B020U									
		□180	FFP22D	L7NH-B020U									
	2,500	3,000	□180	FFP35D				L7NH-B035U	APCF-P□□□IS	APCF-P□□□PB	APCF-P□□□JS	APCF-P□□□LB	
			□180	FFP55D				L7NH-B050U					
			□180	FFP75D				L7NH-B075U					
			□220	FGP22D				L7NH-B020U					
1,500	2,700	□220	FGP35D	L7NH-B035U				APCF-P□□□IS	APCF-P□□□PB	APCF-P□□□JS	APCF-P□□□LB	APCF-P□□□SB	
		□220	FGP55D	L7NH-B050U									
		□220	FGP75D	L7NH-B075U									
		□220	FGP110D	L7NH-B150U									
		□220	FGP150G	L7NH-B150U									
1,500	3,000	□130	FEP05G	L7NH-B010U				APCF-P□□□IS	APCF-P□□□PB	APCF-P□□□JS	APCF-P□□□LB	APCF-P□□□SB	
		□130	FEP09G	L7NH-B010U									
		□130	FEP13G	L7NH-B020U									
		□130	FEP17G	L7NH-B020U									
		□180	FFP20G	L7NH-B020U									
	2,500	3,000	□180	FFP30G	L7NH-B050U								
			□180	FFP44G	L7NH-B050U								
			□180	FFP60G	L7NH-B075U								
			□180	FFP75G	L7NH-B075U								
			□220	FGP20G	L7NH-B020U								
2,000	3,000	□220	FGP30G	L7NH-B035U									
		□220	FGP44G	L7NH-B050U									
		□220	FGP60G	L7NH-B075U									
		□220	FGP85G	L7NH-B150U									
		□220	FGP110G	L7NH-B150U									
1,000	2,000	□130	FEP03M	L7NH-B010U	APCF-P□□□HS	APCF-P□□□NB	APCF-P□□□JS	APCF-P□□□LB	APCF-P□□□SB				
		□130	FEP06M	L7NH-B010U									
		□130	FEP09M	L7NH-B010U									
		□130	FEP12M	L7NH-B020U									
		□180	FFP12M	L7NH-B020U									
	2,000	2,000	□180	FFP20M						L7NH-B020U			
			□180	FFP30M						L7NH-B035U			
			□180	FFP44M						L7NH-B050U			
			□220	FGP12M						L7NH-B020U			
			□220	FGP20M						L7NH-B020U			
2,000	2,000	□220	FGP30M	L7NH-B050U									
		□220	FGP44M	L7NH-B050U									
		□220	FGP60M	L7NH-B075U									
		□220	FGP60M	L7NH-B075U									

L7NHA Drive Product Features

Item		Type Name	L7NHA001U	L7NHA002U	L7NHA004U	L7NHA008U	L7NHA010U	L7NHA020U	L7NHA035U
Input Power	Main Power Supply	3-Phase AC 200-230 [V] (-15~10[%]), 50~60 [Hz]							
	Control Power Supply	Single-Phase AC 200-230 [V] (-15~10[%]), 50~60 [Hz]							
Rated Current[A]			1.4	1.7	3.0	5.2	6.75	13.5	16.7
Peak Current[A]			4.2	5.1	9.0	15.6	20.25	40.5	50.1
Encoder Type		Quadrature (Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial (Absolute, Incremental) EnDat 2,2							
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							
Digital Input/Output	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	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) *Basic allocation signal							
	Digital Output	Service rating: DC 24[V] $\pm 10\%$, 120[mA] 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 , INPOS2 \pm) *Basic allocation signal							
Analog Monitor		There are 2 input channels. Above 15 functions can be used selectively for assignment.							
Safety Function		2 Input Channels (STO1, STO2), 1 Output Channels (EDM \pm)							
USB Communication	Fuction	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	Both the default built-in brake and an externally installed brake are 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							
Environment	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							
	Temperature	0 ~ +50[°C] / -20 ~ +70[°C]							
	Humidity	Below 90[%]RH(avoid dew-condensation)							
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.							

L7 SERIES SYSTEM

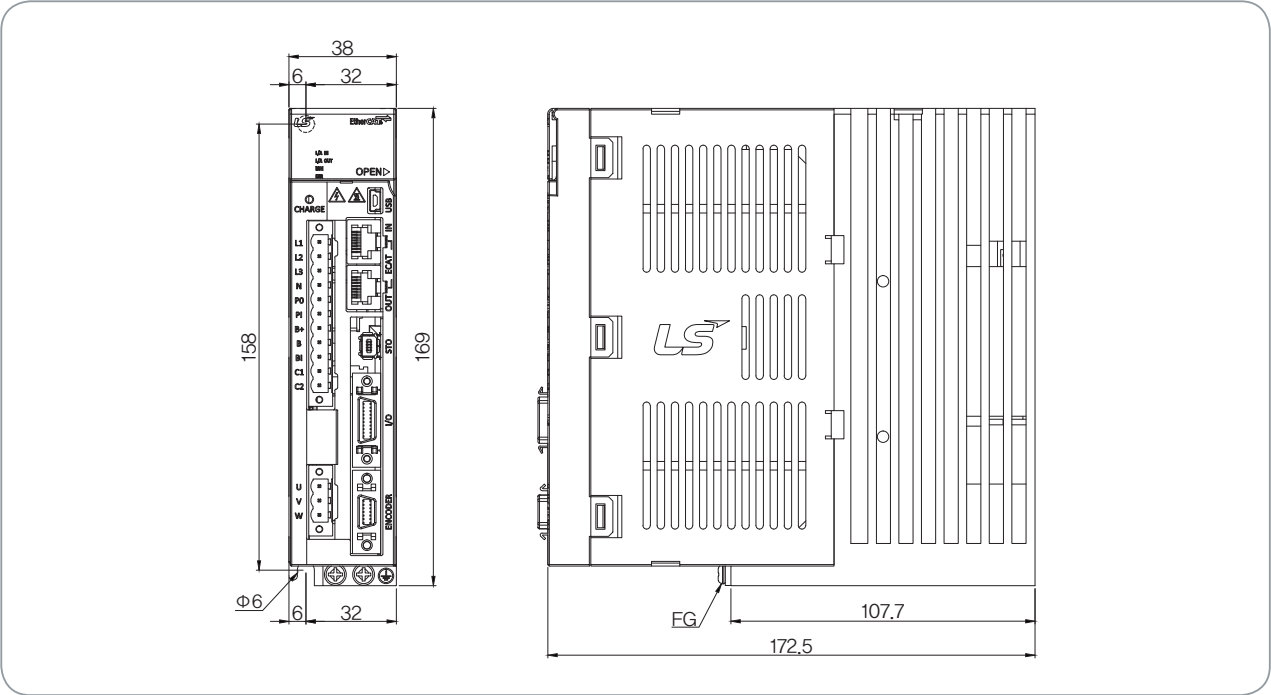
L7NHB Drive Product Features

Item		Type Name	L7NHB010U	L7NHB020U	L7NHB035U	L7NHB050U	L7NHB075U	L7NHB150U
Input Power	Main Power Supply	3-Phase AC 380-480 [V] (-15~10[%]), 50~60 [Hz]						
	Control Power Supply	Single-Phase AC 380-480 [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						
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						
Digital Input/Output	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	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) *Basic allocation signal						
Digital Input/Output	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±, INPOS2±) *Basic allocation signal						
	Analog Monitor	There are 2 input channels. Above 15 functions can be used selectively for assignment.						
Safety Function		2 Input Channels (STO1, STO2), 1 Output Channels (EDM±)						
USB Communication	Fuction	Firmware download, Parameter setting, Tuning, Secondary function, Parameter copy						
	Communication Standard	USB 2.0 Full Speed (applies standard)						
	Connect	PC or USB storing medium						
USB Communication	Dynamic Braking	Standard built-in brake (activated when the servo alarm goes off or when the servo is off).						
	Regenerative Braking	Both the default built-in brake and an externally installed brake are possible.						
	Display Function	7 segments(5DIGIT)						
	Self-setting Function	Possible to set the drive node address by using Rotary Switch						
	Additional Function	Auto gain tuning function						
Operation Environment	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						
	Temperature	0 ~ +50[°C] / -20 ~ +70[°C]						
	Humidity	Below 90[%]RH(avoid dew-condensation)						
Other		Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.						

External Dimensions of L7NHA Drive

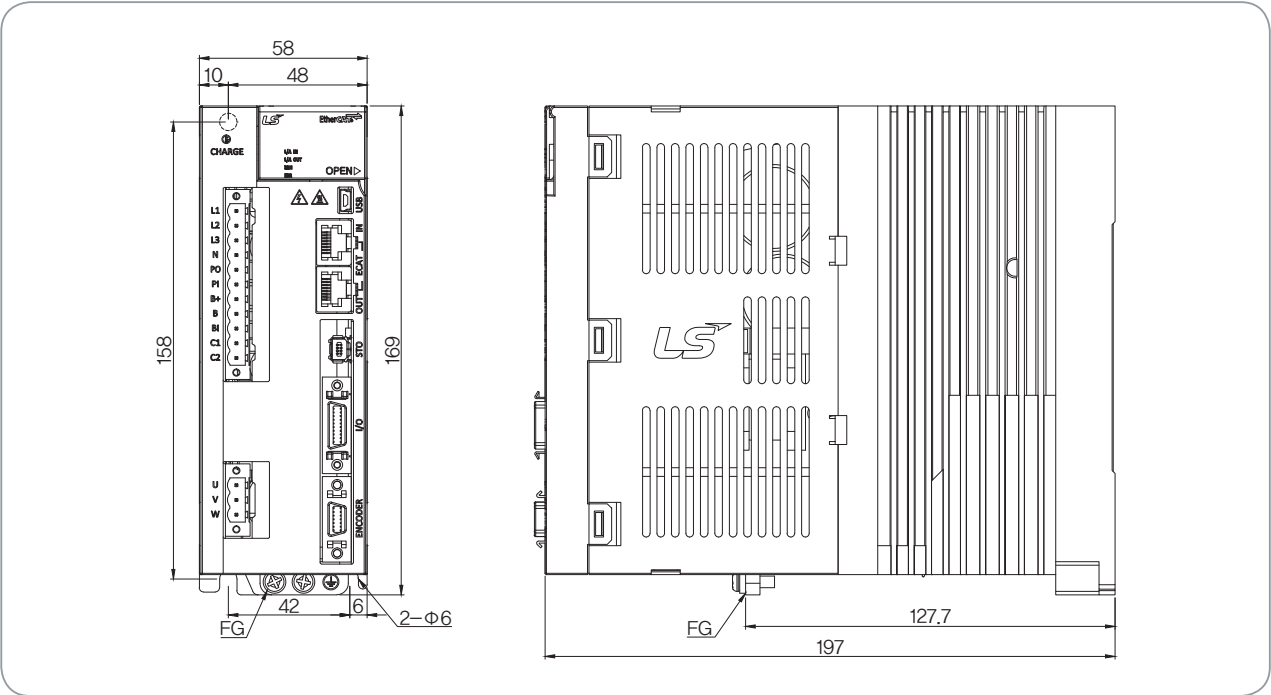
L7NHA001U ~ L7NHA004U [Weight : 1.0kg]

*Unit [mm]



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

*Unit [mm]

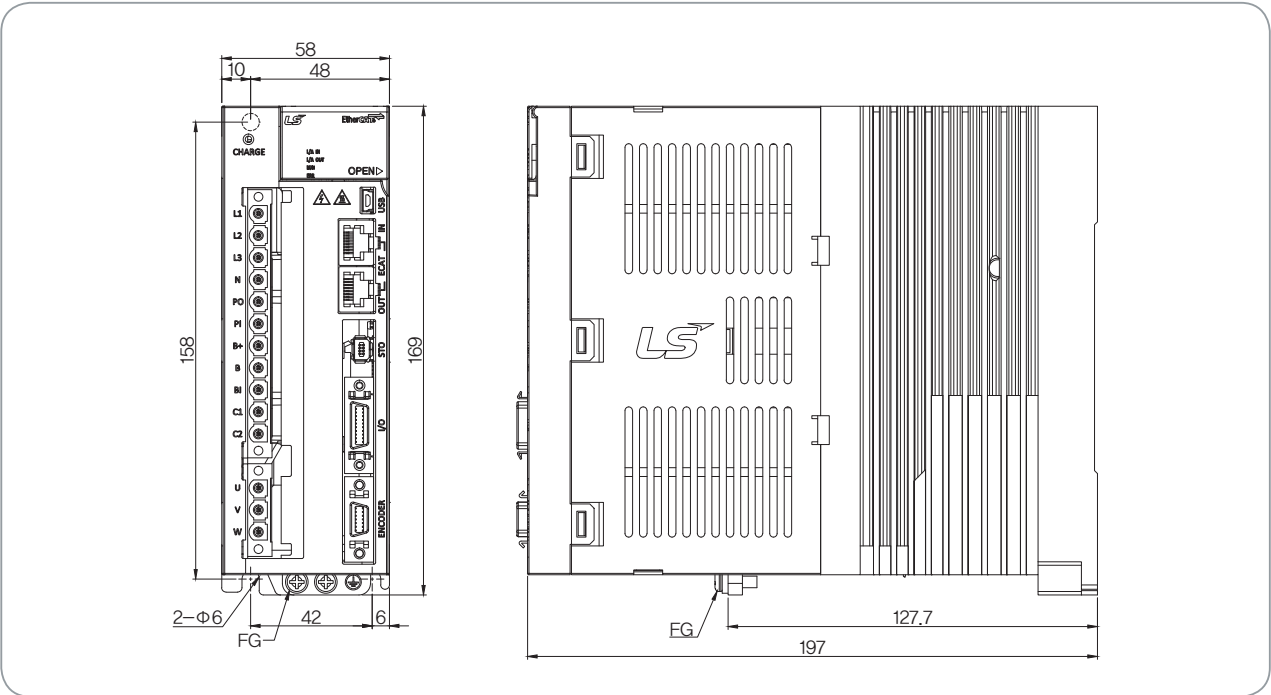


- L7S Series
- L7N Series
- L7NH Series**
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

External Dimensions of L7NHB Drive

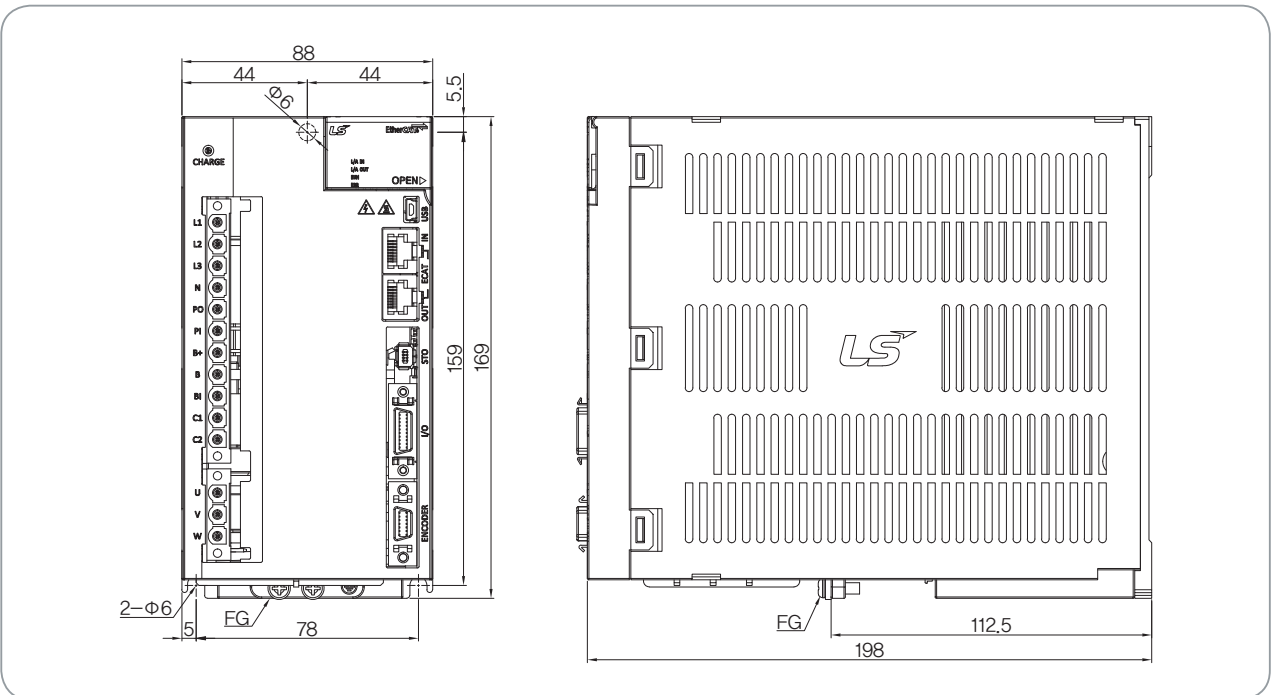
L7NHB010U [Weight : 1.5kg(Fan-Cooling included)]

*Unit [mm]



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

*Unit [mm]



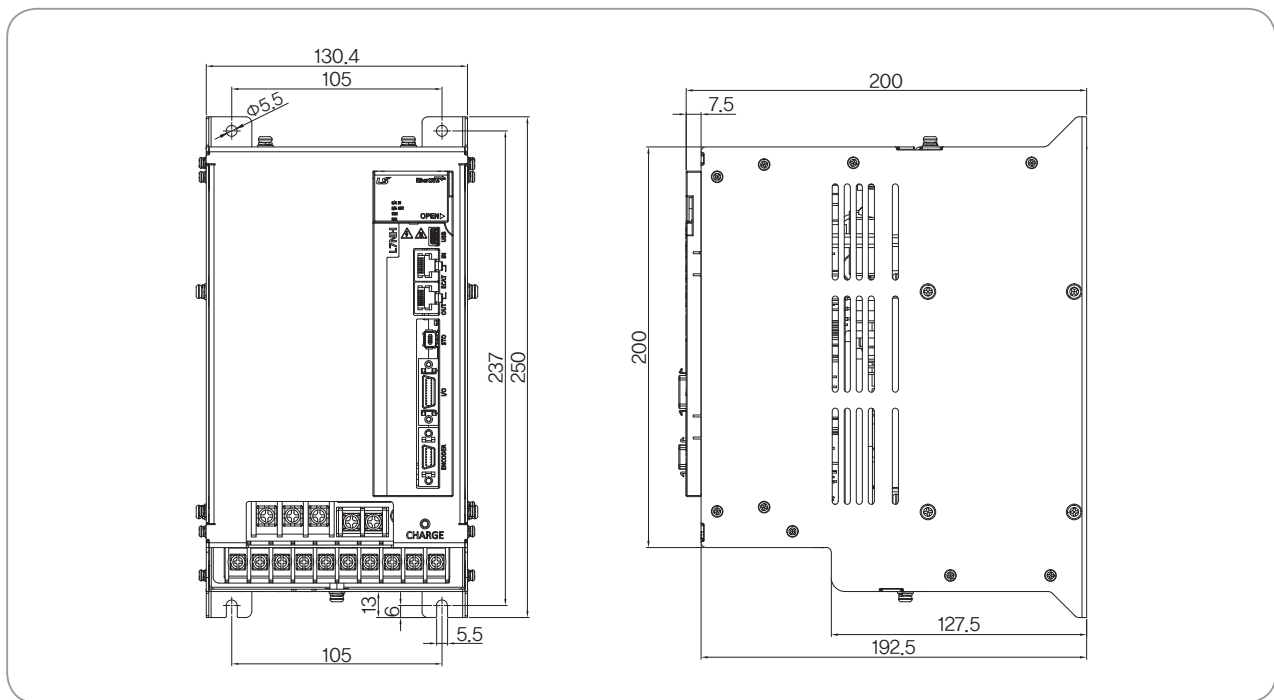
- L7S Series
- L7N Series
- L7NH Series**
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

External Dimensions of L7NHB Drive

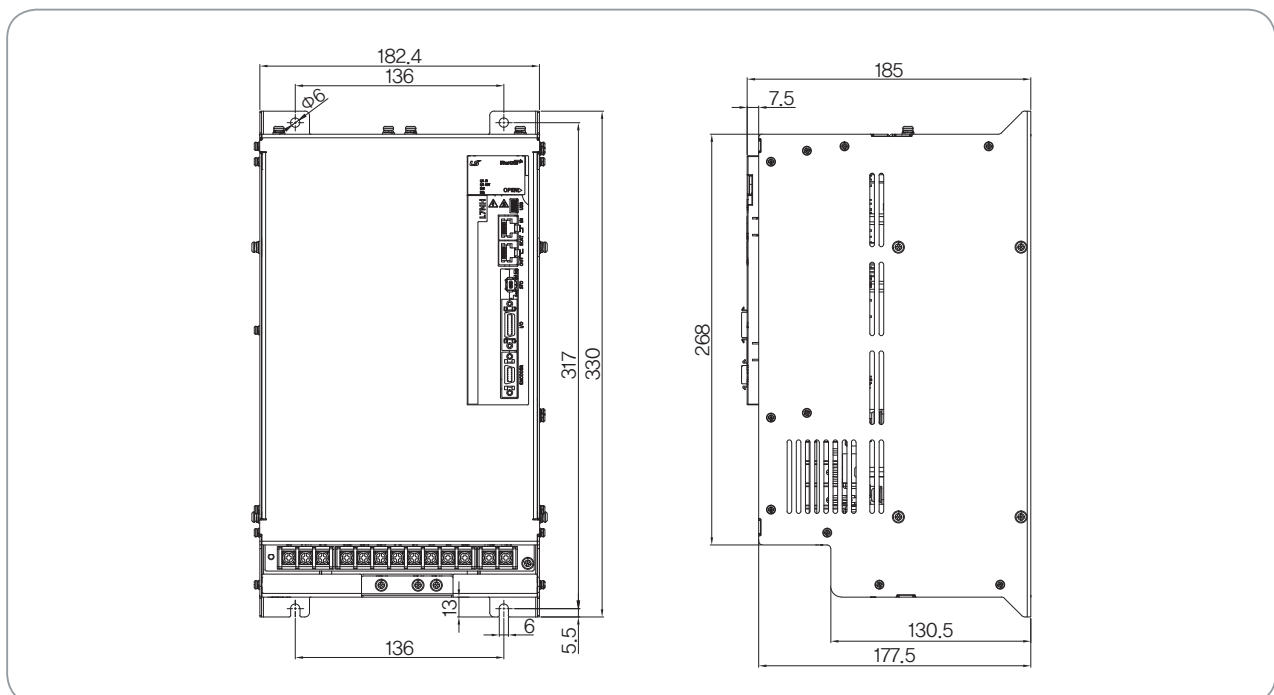
L7NHB050U [Weight : 5.5kg(Fan-Cooling included)]

*Unit [mm]



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

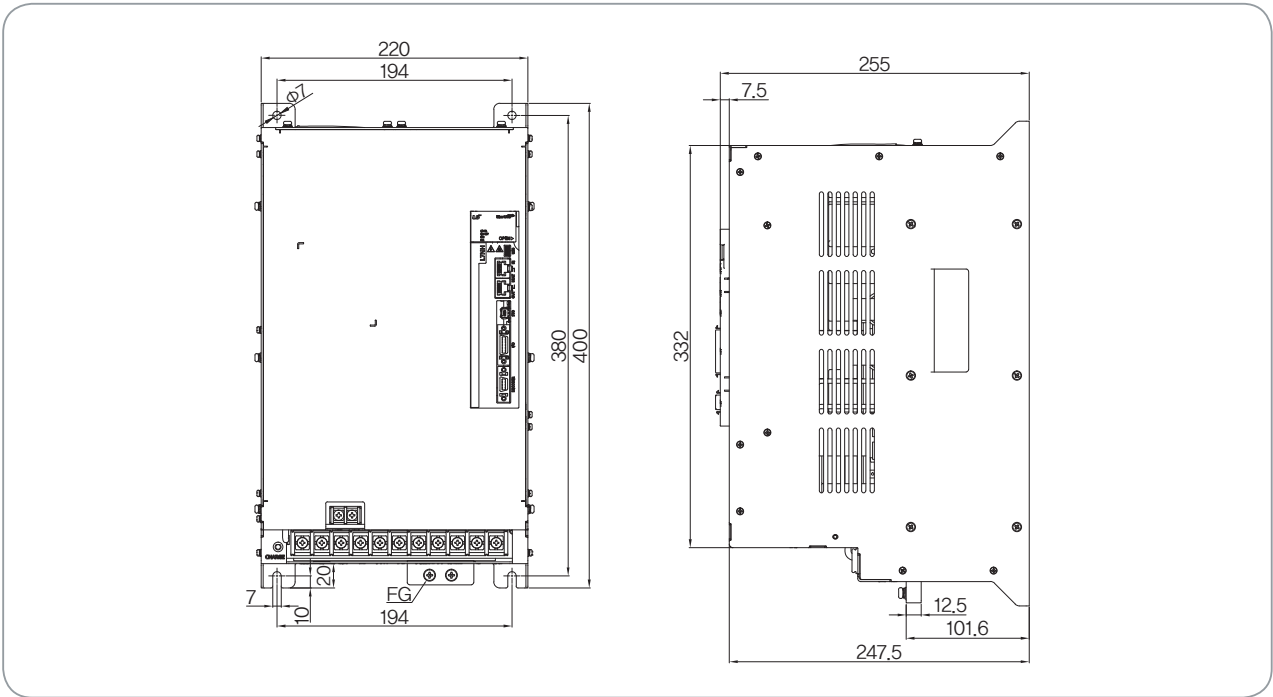
*Unit [mm]



External Dimensions of L7NHB Drive

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

*Unit [mm]



- L7S Series
- L7N Series
- L7NH Series**
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

Indexer Function Type

L7P Series



Servo Drive Designation

L7

Model Name
Servo Series

P

Communication
Stand I/O & Index Type

A

Input Power Supply
A : 200VAC

004

Capacity
001 : 100W
002 : 200W
004 : 400W
008 : 750W
010 : 1.0kW
020 : 2.0kW
035 : 3.5kW

B

Encoder Type
U : Universal

AA

Option
Exclusive Option Code

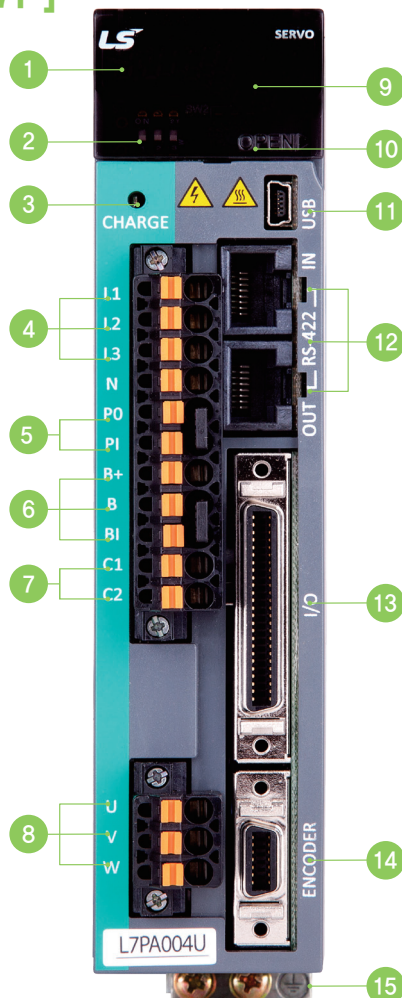
L7P Series

Characteristic

- **Providing Program Function built-in single axis position determination module**
 - Supporting position control mode by pulse input
 - Position control mode
 - Possible to use without upper controller
 - Modbus RTU Protocol (RS-422)
- **Improved Control Performance**
 - Improved Control bandwidth
 - Providing 4-step Notch-Filter
 - Vibration control by Real-time FFT
 - Real-time gain tuning function
- **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

Identifying the Part of L7P Drive

[L7P]



- 1 Display
- 2 Status LED
- 3 Charge Lamp
- 4 Main Power Connector (L1, L2, L3)
- 5 DC Reactor Connector(PO, PI) Short-Circuit When Not used
- 6 Regenerative Resistor 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 Motor power connector(U, V, W)
- 9 Connector for analogue monitor
- 10 Switch for nod address setting
- 11 USB connector (USB)
- 12 RS-422 communication connector (CN3, CN4)
- 13 Control signal connector (I/O)
- 14 Encoder Connector (ENCODER)
- 15 Ground

L7 SERIES SYSTEM

L7P Drive Combination Table

L7P Incremental Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder cable	Power Cable		
					Quadrature Type	INC	For power	Power + Brake	Brake
3,000	5,000	□40	SAR3A	L7PA001U	2,048 P/R	APCS-E□□□AS	APCS-P□□□GS	APCS-P□□□KB	
		□40	SAR5A	L7PA001U					
		□40	SA01A	L7PA001U					
		□40	SA015A	L7PA002U					
		□60	SB01A	L7PA002U					
		□60	SB02A	L7PA002U					
		□60	SB04A	L7PA004U					
		□80	SC04A	L7PA004U					
		□80	SC06A	L7PA008U					
		□80	SC08A	L7PA008U					
		□80	SC10A	L7PA010U					
		□130	SE09A	L7PA008U					
		□130	SE15A	L7PA020U					
		□130	SE22A	L7PA020U					
2,000	3,000	□80	SF30A	L7PA035U	3,000 P/R	APCS-E□□□BS	APCS-P□□□HS	APCS-P□□□NB	APCS-P□□□PB
		□80	SC03D	L7PA004U					
		□80	SC05D	L7PA008U					
		□80	SC06D	L7PA008U					
		□80	SC07D	L7PA008U					
		□130	SE06D	L7PA008U					
		□130	SE11D	L7PA010U					
		□130	SE16D	L7PA020U					
		□130	SE22D	L7PA020U					
		□180	SF22D	L7PA020U					
		□180	LF35D	L7PA035U					
		□220	SG22D	L7PA020U					
		□220	LG35D	L7PA035U					
		1,500	3,000	□130					
□130	SE09G			L7PA010U					
□130	SE13G			L7PA020U					
□130	SE17G			L7PA020U					
□180	SF20G		L7PA035U						
2,700	□180		LF30G	L7PA035U					
3,000	□220		SG20G	L7PA020U					
2,700	□220	LG30G	L7PA035U						
1,000	2,000	□130	SE03M	L7PA004U	APCS-E□□□BS	APCS-P□□□HS	APCS-P□□□NB	APCS-P□□□PB	APCS-P□□□SB
		□130	SE06M	L7PA008U					
		□130	SE09M	L7PA010U					
		□130	SE12M	L7PA020U					
		□180	SF12M	L7PA020U					
		□180	SF20M	L7PA035U					
	1,700	□180	LF30M	L7PA035U					
	1,700	□220	SG12M	L7PA020U					
		□220	SG20M	L7PA035U					
		□220	LG30M	L7PA035U					
□220		LG30M	L7PA035U						
3,000	3,500	□60	HB01A	L7PA002U	1,024 P/R	APCS-E□□□AS	APCS-P□□□GS		
		□60	HB02A	L7PA002U					
		□60	HB04A	L7PA004U					
		□130	HE09A	L7PA008U	2,048 P/R	APCS-E□□□BS	APCS-P□□□HS		
		□130	HE15A	L7PA020U					

L7P Drive Combination Table

L7P Serial Type

Rated Speed (rpm)	Maximum Speed (rpm)	Flange Size	Applicable Motor	Applicable Drive	Standard Encoder Type	Encoder cable		Power Cable										
					Serial Type	Single Turn	Multi Turn	For power	Power + Brake	Brake								
3,000	5,000	□40	FALR5A	L7PA001U	18Bit Serial / M-Turn Abs													
		□40	FAL01A	L7PA001U														
		□40	FAL015A	L7PA002U														
		□60	FBL01A	L7PA001U														
		□60	FBL02A	L7PA002U														
		□60	FBL04A	L7PA004U														
		□80	FCL04A	L7PA004U														
		□80	FCL06A	L7PA008U														
		□80	FCL08A	L7PA008U														
		□80	FCL10A	L7PA010U														
		□60	FB01A	L7PA001U														
		□60	FB02A	L7PA002U														
		□60	FB04A	L7PA004U														
		□80	FC04A	L7PA004U														
		□80	FC06A	L7PA008U														
		□80	FC08A	L7PA008U														
		□80	FC10A	L7PA010U														
		□130	FE09A	L7PA010U														
		□130	FE15A	L7PA020U														
		□130	FE22A	L7PA020U														
□130	FE30A	L7PA035U																
□180	FF30A	L7PA035U																
2,000	3,000	□80	FCL03D	L7PA004U	19Bit Serial / M-Turn Abs													
		□80	FCL05D	L7PA008U														
		□80	FCL06D	L7PA008U														
		□80	FCL07D	L7PA008U														
		□80	FC03D	L7PA004U														
		□80	FC05D	L7PA008U														
		□80	FC06D	L7PA008U														
		□80	FC07D	L7PA008U														
		□130	FE06D	L7PA008U														
		□130	FE11D	L7PA010U														
		□130	FE16D	L7PA020U														
		□130	FE22D	L7PA020U														
		□180	FF22D	L7PA020U														
		□180	FF35D	L7PA035U														
		□220	FG22D	L7PA020U														
		□220	FG35D	L7PA035U														
		1,500	3,000	□130							FE05G	L7PA008U						
				□130							FE09G	L7PA010U						
				□130							FE13G	L7PA020U						
				□130							FE17G	L7PA020U						
□180	FF20G		L7PA020U															
2,700	□180		FF30G	L7PA035U														
3,000	□220		FG20G	L7PA020U														
2,700	□220		FG30G	L7PA035U														
1,000	2,000	□130	FE03M	L7PA004U														
		□130	FE06M	L7PA008U														
		□130	FE09M	L7PA010U														
		□130	FE12M	L7PA020U														
		□180	FF12M	L7PA020U														
		□180	FF20M	L7PA020U														
	1,700	□180	FF30M	L7PA035U														
		□220	FG12M	L7PA020U														
		□220	FG20M	L7PA020U														
	1,700	□220	FG30M	L7PA035U														

- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

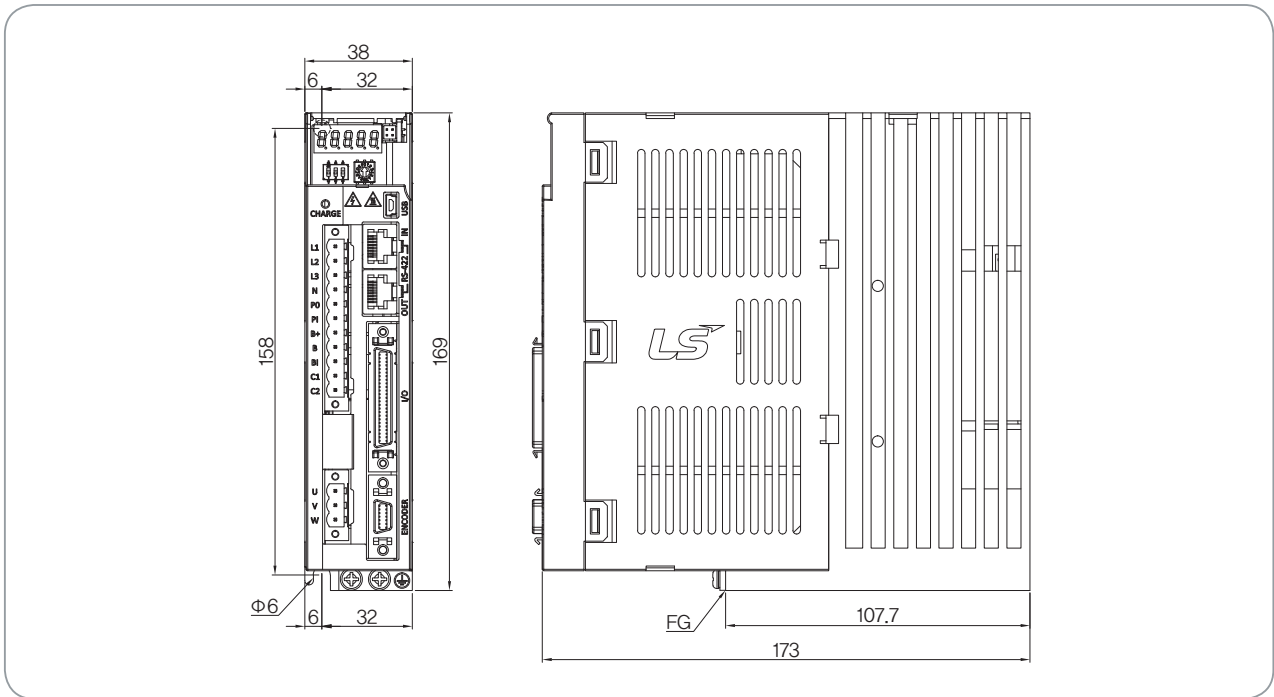
L7P Drive Product Features

Item		Type Name	L7PA001U	L7PA002U	L7PA004U	L7PA008U	L7PA010U	L7PA020U	L7PA035U
Input Power	Main Power Supply	3-Phase AC 200-230 [V] (-15~10[%]), 50-60 [Hz]							
	Control Power Supply	Single-Phase AC 200-230 [V] (-15~10[%]), 50-60 [Hz]							
Rated Current[A]			1.4	1.7	3.0	5.2	6.75	13.5	16.7
Peak Current[A]			4.2	5.1	9.0	15.6	20.25	40.5	50.1
Encoder Type		Quadrature(Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial(Absolute, Incremental) EnDat 2.2							
Control Performance	Speed Control Range	Maximum 1: 5000							
	Frequency Response	Maximum 1 [kHz] or above (When using 19bit Serial Encoder)							
	Speed Variation Ratio	±0.01 [%] or lower [when load changes between 0 and 100%] ±0.1[%] or lower [temperature 25 ±10℃]							
	속도 가감속시간	Straight or S-curveacceleration/deceleration (0~10,000[ms], 0~1,000[ms] Unitconfigurable)							
	입력주파수	1[Mpps], line drive / 200[kpps], Open Collectopr							
입력펄스 방식		Symbol + Pulse Series, CW+CCW, A/B Phase							
RS422 Communication Specifications	Communication Specifications	ANSI/TIA/EIA-422 StandardSpecficiations							
	Communication Protocol	MODBUS-RTU							
	Connector	RJ45 x 2							
	Synchro Method	Asynchronous							
	Transmission Speed	9600 /19200/38400/57600 [bps] Can be configured at [0x3002]							
	Transmission Distance	Maximum 200 [m]							
	Power Consumption	100[mA] 이하							
Terminating Resistance	Dip S/W(On/Off), Built-In 120Ω								
Input/Output Signal	Digital Input	Input voltage range: DC 12[V] ~ DC 24[V] Total 16 input channel (allocatable) 32 function inputs can be selectively allocated (*SV_ON, *POT, *NOT, *A-RST, *START, *STOP, *REGT, *EMG, *HOME, *HSTART, *ISEL0, *ISEL1, *ISEL2, *ISEL3, *ISEL4, *ISEL5, PCON, GAIN2, P_CL, N_CL, MODE, PAUSE, ABSRQ, JSTART, JDIR, PCLR, AOVr, SPD1/LVSF1, SPD2/LVSF2, SPD3, PROBE1, PROBE2) * Basic allocationsignal.							
	Digital Output	Use rating: DC 24[V] ±10%, 120[mA] Total 8 input channel (allocatable) 19 function inputs can be selectively allocated (*ALARM±, *READY±, *BRAKE±, *INPOS1±, *ORG±, *EOS±, *TGON±, *TLMT±, VLMT±, INSPD±, ZSPD±, WARN±, INPOS2±, IOUT0±, IOUT1±, IOUT2± IOUT3±, IOUT4±, IOUT5±) * Standard Allocationsignal							
Analog Input/output	Analog input	Total 2 channels analogspeedoverrideinput(-10[V] ~ +10[V]) analogtorquecommand input(-10[V] ~ +10[V])							
	Analog output	Total 2 channels 15 function inputs can be selectively allocated							
USB Communication	Protection	Firmware download, parametersetting, tuning, auxiliary function,parametercopy							
	Communication Specifications	Complies with USB 2.0 Full Speed Specifications							
	Connection Device	PC or USB storage media							
Built-in functions	Dynamic Braking	Standard built-in(activated by servoalarm or servo OFF)							
	Regenerative Braking	Built-in, external brake attachable							
	Display	7 Segment(5 DIGIT)							
	Setting Function	Drive node address can be set using rotary switch							
	Additional Function	Gaintuning, alarm history, JOG operation, origin search							
Protective Function	Excessive current, overload, excessive current limit, overheating, excessive voltage, low voltage, excessive speed, encoder fail, position following fail, current sensing fail								
Environment	Temperature	0 ~ 50[℃] / -20 ~ 65 ℃							
	Humidity	Below 90[%]RH(avoid dew-condensation)							
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.							

External Dimensions of L7P Drive

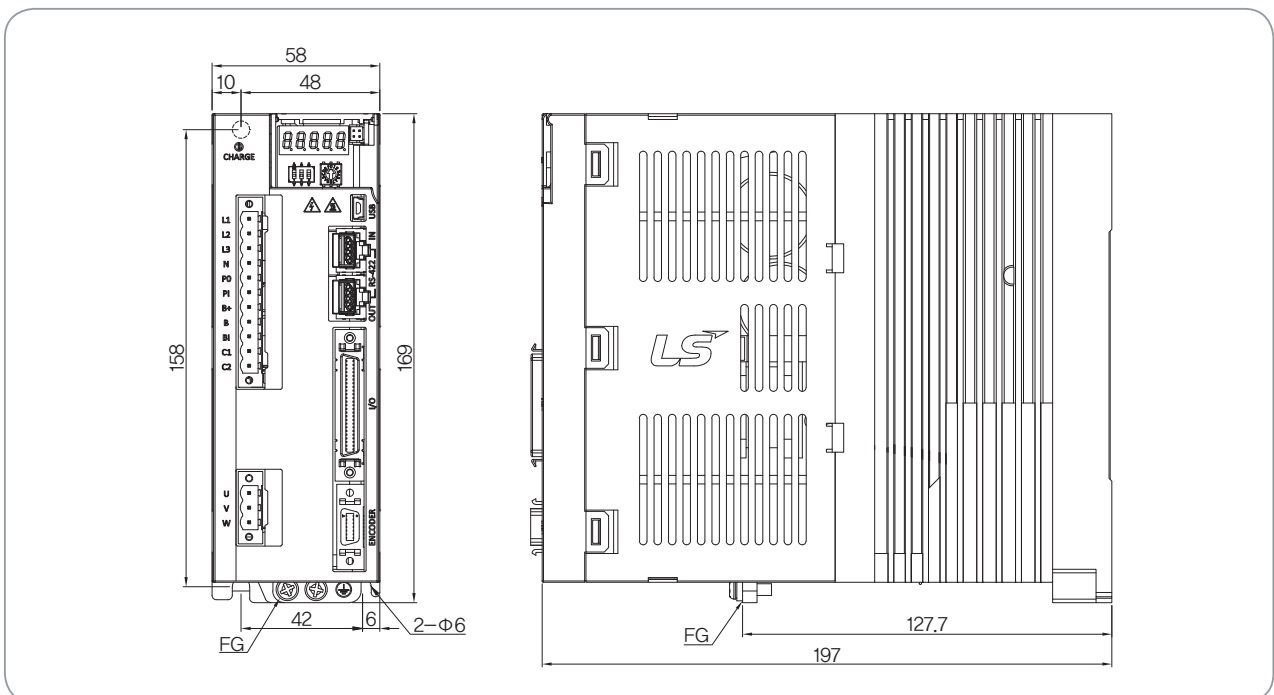
■ L7PA001U ~ L7PA004U [Weight : 1.0kg(Fan-Cooling included)]

*Unit [mm]



■ L7PA008U / L7PA010U [Weight : 1.5kg(Fan-Cooling included)]

*Unit [mm]

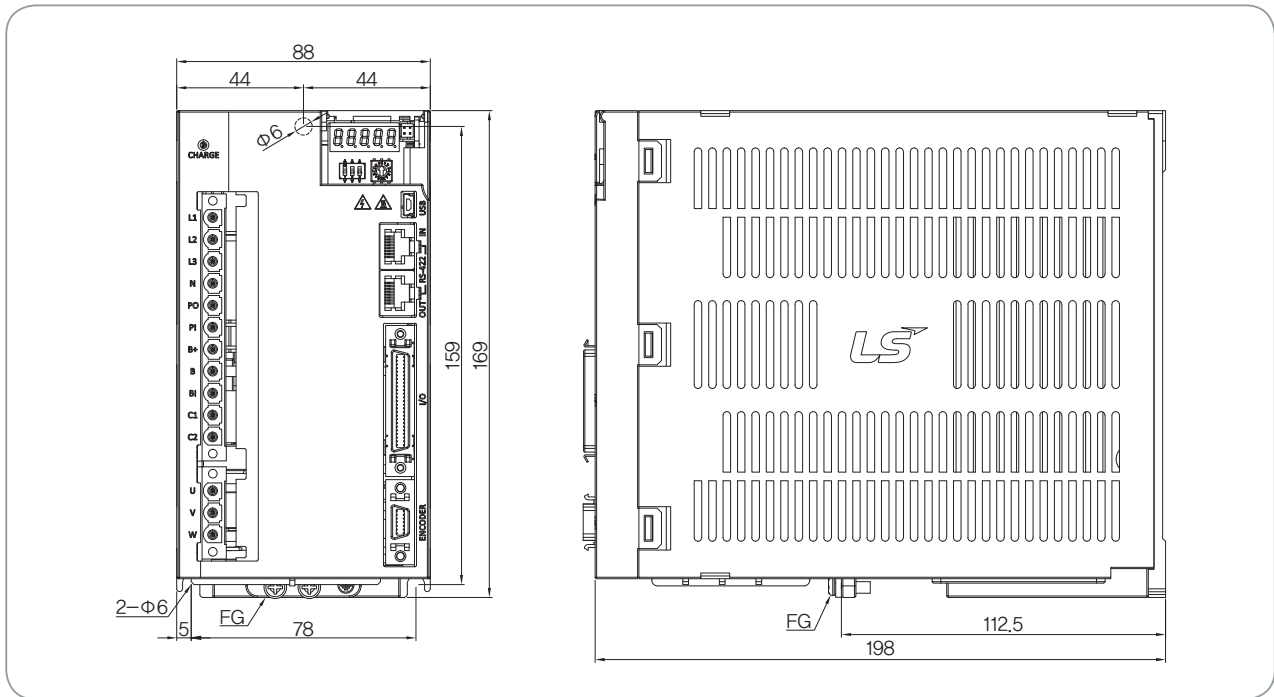


L7 SERIES SYSTEM

External Dimensions of L7P Drive

■ L7PA020U / L7PA035U [Weight : 2.5kg(Fan-Cooling included)]

*Unit [mm]



L7S Series

L7N Series

L7NH Series

L7P Series

S Series

F Series

MDM Series

Options

PEGASUS Series

Contents

Servo Motor

S Series

Solid/Hollow Type Roatating Servo Motor

- Servo Drive Designation _ 52
- Product Feature _ 53
- External Dimensions _ 63



F Series

Flat Type Roatating Servo Motor

- Servo Drive Designation _ 68
- Product Feature _ 69
- External Dimensions _ 79



MDM Series

Direct-Drive Motor

- Servo Drive Designation _ 83
- Product Feature _ 87
- External Dimensions _ 89



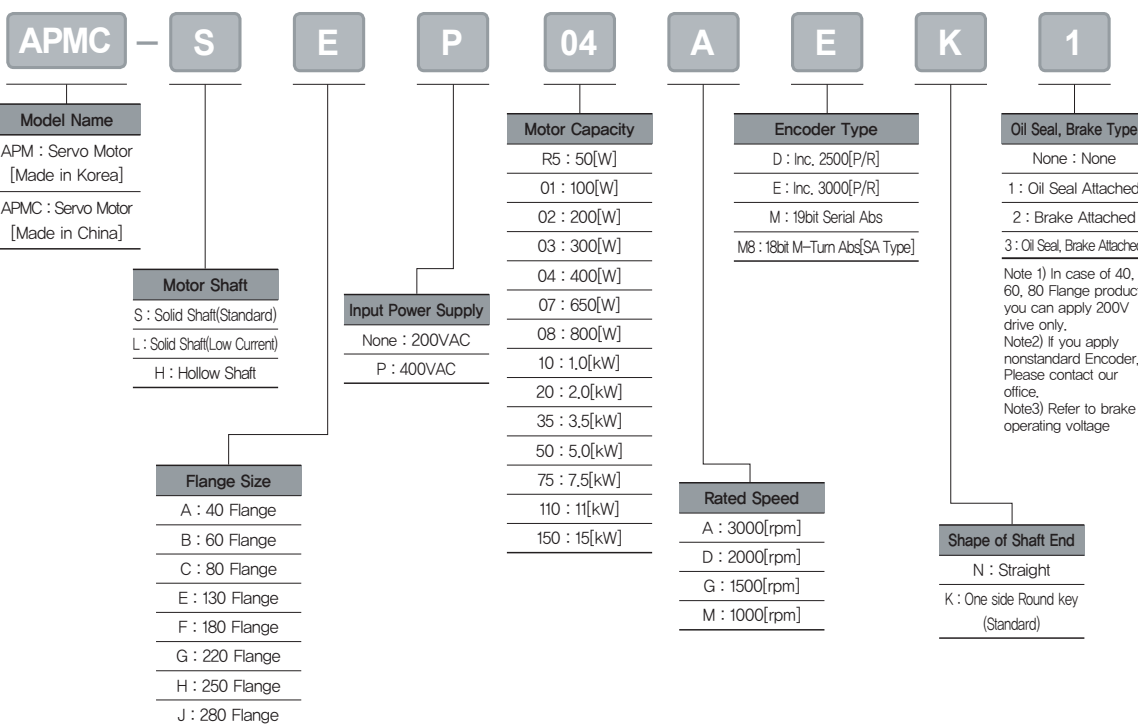
L7 SERIES SYSTEM

Solid/Hollow Type Roatating Servo Motor

S Series



Servo Motor Designation



L7S Series
L7N Series
L7NH Series
L7P Series
S Series
F Series
MDM Series
Options
PEGASUS Series

S Series Motor Characteristics (200V)

Motor Specifications [Rated 3000r/min]

Servo Motor (APM-□□□□)	SAR5A	SA01A	SA015A	SB01A	SB02A	SB04A	SC04A	SC06A	SC08A	SC10A	
Applicable Drive (L7□A□□)	L7□A001			L7□A002			L7□A004	L7□A008		L7□A010	
Flange Size(□)	□40			□60			□80				
Rated Output	[kW]	0.05	0.1	0.15	0.1	0.2	0.4	0.4	0.6	0.8	1
Rated Torque	[N · m]	0.16	0.32	0.48	0.32	0.64	1.27	1.27	1.91	2.55	3.19
	[kgf · cm]	1.62	3.25	4.87	3.25	6.49	12.99	12.99	19.49	25.98	32.48
Max. Instantaneous	[N · m]	0.48	0.96	1.43	0.96	1.91	3.82	3.82	5.73	7.64	9.56
	[kgf · cm]	4.87	9.74	14.62	9.74	19.48	38.96	38.96	58.47	77.95	97.43
Rated Current	[A]	1.2	1.38	1.73	1.65	1.63	2.89	2.82	3.58	4.83	5.37
Max. Current	[A]	3.6	4.14	5.19	4.95	4.89	8.67	8.46	10.74	14.49	16.11
Rated Speed	[r/min]	3000									
Max. Speed	[r/min]	5000									
Inertia	[kg · m ² × 10 ⁻⁴]	0.02	0.05	0.06	0.11	0.18	0.32	0.67	1.09	1.51	1.93
	[gf · cm × s ²]	0.02	0.05	0.07	0.12	0.19	0.33	0.69	1.11	1.54	1.97
Allowable Load Inertia Ratio		30 times of motor inertia			20 times of motor inertia			15 times of motor inertia			
Rated Power Rate	[kW/s]	10.55	23.78	35.34	8.89	22.26	50.49	24.05	33.39	43.02	52.57
Speed/Position Detector	Standard(Note1)	Quad, Type Incremental 2048[P/R]					Quad, Type Incremental 3000[P/R]				
	Option	Serial Type 18[Bit]					Serial Type 19[Bit]				
Specifications & Features	Structure	Fully closed · Self cooling IP55 Note1)					Fully closed · Self cooling IP65 Note1)				
	Rated Time	Continuous									
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]									
	Ambient Humidity	20 ~ 80[%] (avoid dew-condensation)									
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.									
E/V	Elevation/vibration 49[m/s ²](5G)										
Weight	[kg]	0.38	0.5	0.7	0.82	1.08	1.58	1.88	2.52	3.15	3.8

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



L7S Series
L7N Series
L7NH Series
L7P Series
S Series
F Series
MDM Series
Options
PEGASUS Series

L7 SERIES SYSTEM

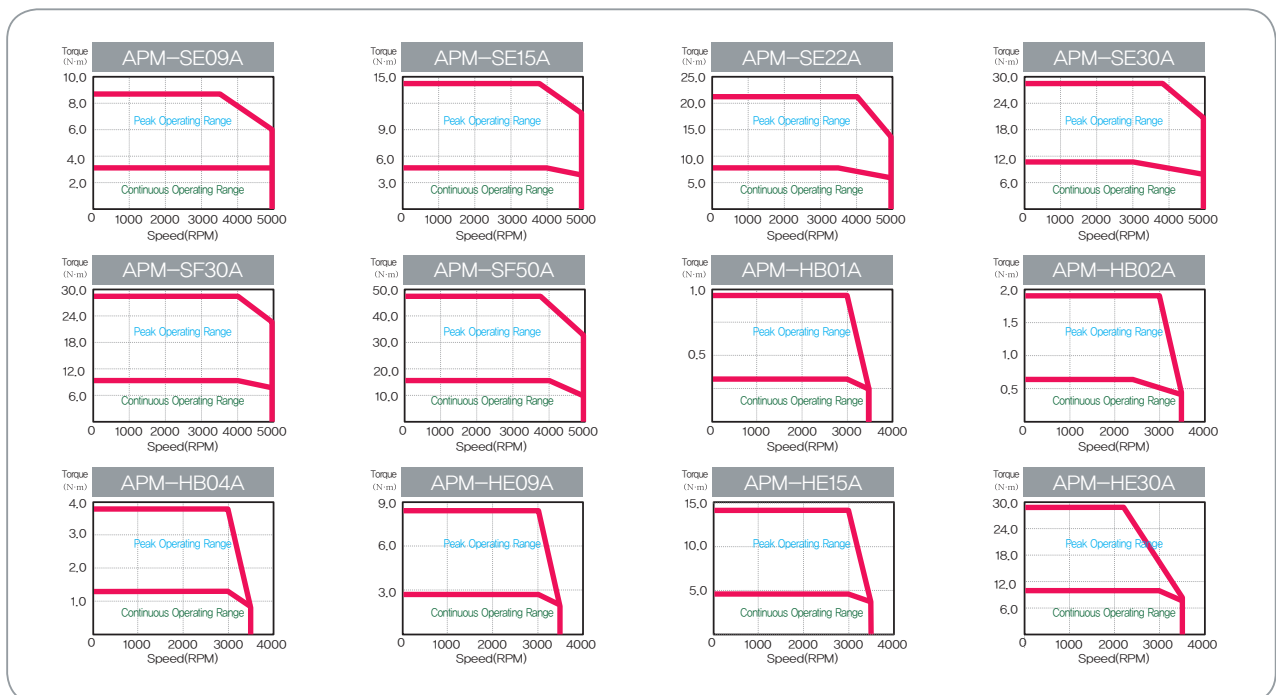
S Series Motor Characteristics (200V)

Motor Specifications [Rated 3000r/min]

Servo Motor (APM-□□□□)	SE09A	SE15A	SE22A	SE30A	SF30A	SF50A	HB01A	HB02A	HB04A	HE09A	HE15A	HE30A	
Applicable Drive (L7□A□□)	L7□A008	L7□A020			L7□A050	L7□A035	L7□A050		L7□A002	L7□A004	L7□A008	L7□A020	L7□A050
Flange Size(□)	□130				□180			□60			□130		
Rated Output	[kW]	0.9	1.5	2.2	3	3	5	0.1	0.2	0.4	0.9	1.5	3
Rated Torque	[N·m]	2.86	4.77	7	9.55	9.55	15.91	0.32	0.64	1.27	2.86	4.77	9.55
	[kgf·cm]	29.23	48.72	71.45	97.43	97.43	162.38	3.25	6.49	12.99	29.23	48.72	97.43
Max. Instantaneous	[N·m]	8.59	14.32	21.01	28.64	28.64	47.74	0.96	1.91	3.82	8.59	14.32	28.64
	[kgf·cm]	87.69	146.15	214.35	292.29	292.29	487.15	9.74	19.48	38.96	87.69	146.15	292.29
Rated Current	[A]	4.95	8.23	11.98	17.16	16.7	27.4	1.65	1.63	2.89	4.95	8.23	17.16
Max. Current	[A]	14.85	24.69	35.94	51.48	50.1	82.2	4.95	4.89	8.67	14.85	24.69	51.48
Rated Speed	[r/min]	3000											
Max. Speed	[r/min]	5000						3500					
	[kg·m ² ×10 ⁻⁴]	6.66	12	17.34	22.68	30.74	52.13	0.27	0.33	0.46	19.56	22.27	31.81
Inertia	[gf·cm×s ²]	6.8	12.24	17.69	23.14	31.37	53.19	0.27	0.34	0.47	19.96	22.72	32.46
	Allowable Load Inertia Ratio	10 times of motor inertia				5 times of motor inertia		20 times of motor inertia			10 times of motor inertia		
Rated Power Rate	[kW/s]	12.32	18.99	28.28	40.20	29.66	48.58	3.34	11.98	34.47	4.10	10.01	22.03
Speed/Position Detector	Standard(Note1)	Quad. Type Incremental 3000[P/R]						Quad. Type Incremental 1024[P/R]			Quad. Type Incremental 2048[P/R]		
	Option	Serial Type 19[Bit]						X					
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)						Fully closed · Self cooling IP55 Note1)					
	Rated Time	Continuous											
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]											
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)											
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.											
	E/V	Elevation/vibration 49[m/s ²](5G)											
Weight	[kg]	5.5	7.5	9.7	11.8	12.4	17.7	0.9	1.2	1.7	5.8	7.4	

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked
It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



S Series Motor Characteristics (200V)

Motor Specifications [Rated 2000r/min]

Servo Motor (APM-□□□□)		SC03D	SC05D	SC06D	SC07D	SE06D	SE11D	SE16D	SE22D	
Applicable Drive (L7□A□□)		L7□A004	L7□A008			L7□A008	L7□A010	L7□A020		
Flange Size(□)		□80				□130				
Rated Output	[kW]	0.3	0.45	0.55	0.65	0.6	1.1	1.6	2.2	
Rated Torque	[N · m]	1.43	2.15	2.63	3.1	2.86	5.25	7.64	10.5	
	[kgf · cm]	14.61	21.92	26.79	31.66	29.23	53.59	77.94	107.17	
Max. Instantaneous	[N · m]	4.3	6.45	7.88	9.31	8.59	15.75	22.92	31.51	
	[kgf · cm]	43.84	65.77	80.38	94.99	87.69	160.76	233.83	321.52	
Rated Current	[A]	2.59	3.23	3.82	4.42	3.97	6.28	9.23	12.37	
Max. Current	[A]	7.77	9.69	11.46	13.26	11.91	18.84	27.69	37.11	
Rated Speed	[r/min]	2000								
Max. Speed	[r/min]	3000								
Inertia	[kg · m ² × 10 ⁻⁴]	0.67	1.09	1.51	1.93	6.66	12	17.34	22.68	
	[gf · cm × s ²]	0.69	1.11	1.54	1.97	6.8	12.24	17.69	23.14	
Allowable Load Inertia Ratio		15 times of motor inertia					10 times of motor inertia			
Rated Power Rate	[kW/s]	30.43	42.27	45.69	49.97	12.32	22.98	33.65	48.64	
Speed/Position Detector	Standard(Note1)	Quadr. Type Incremental 3000[P/R]								
	Option	Serial Type 19[Bit]								
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)								
	Rated Time	Continuous								
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]								
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)								
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.								
	E/V	Elevation/vibration 49[m/s ²](5G)								
Weight	[kg]	1.9	2.5	3.2	3.9	5.5	7.5	9.7	11.8	

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



L7 SERIES SYSTEM

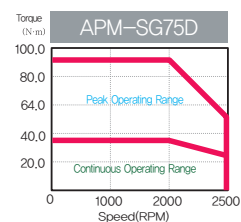
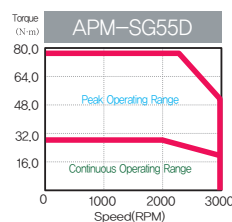
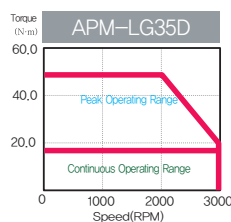
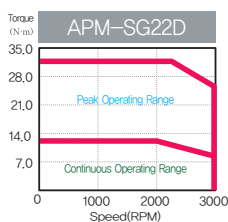
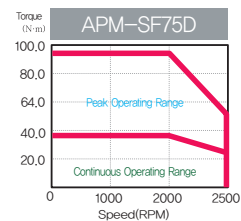
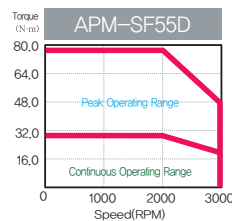
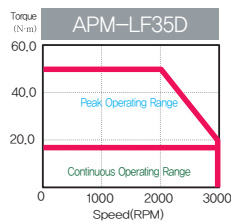
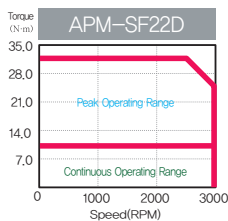
S Series Motor Characteristics (200V)

Motor Specifications [Rated 2000r/min]

Servo Motor (APM-□□□□)	SF22D	LF35D	SF55D	SF75D	SG22D	LG35D	SG55D	SG75D	
Applicable Drive (L7□A□□)	L7□A020	L7□A035	L7□A050	L7□A075	L7□A020	L7□A035	L7□A050	L7□A075	
Flange Size(□)	□180				□220				
Rated Output	[kW]	2.2	3.5	5.5	7.5	2.2	3.5	5.5	7.5
Rated Torque	[N · m]	10.5	16.71	26.26	35.81	10.5	16.71	26.26	35.81
	[kgf · cm]	107.17	170.5	267.93	365.36	107.2	170.52	267.9	365.4
Max. Instantaneous	[N · m]	31.51	50.13	78.77	89.51	31.51	50.13	78.77	89.51
	[kgf · cm]	321.52	511.51	803.8	913.41	321.52	511.51	803.8	913.4
Rated Current	[A]	13.5	15.85	30.25	34.6	12.3	16.05	30.25	38
Max. Current	[A]	40.5	47.55	90.75	86.5	36.9	48.15	90.75	102
Rated Speed	[r/min]	2000							
Max. Speed	[r/min]	3000			2500		3000		2500
Inertia	[kg · m ² × 10 ⁻⁴]	30.74	52.13	83.6	121.35	51.42	80.35	132.41	172.91
	[gf · cm × s ²]	31.35	53.16	85.31	123.74	52.47	81.99	135.11	176.44
Allowable Load Inertia Ratio		5 times of motor inertia							
Rated Power Rate	[kW/s]	35.88	53.56	82.56	105.75	21.45	34.75	52.07	74.15
Speed/Position Detector	Standard(Note1)	Quade. Type Incremental 3000[P/R]							
	Option	Serial Type 19[Bit]							
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)							
	Rated Time	Continuous							
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]							
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)							
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.							
Weight	E/V	Elevation/vibration 49[m/s ²](5G)							
	[kg]	12.4	17.7	26.3	35.6	17	22	30.8	37.5

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked
It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



S Series Motor Characteristics (200V)

Motor Specifications [Rated 1500r/min]

Servo Motor (APM-□□□□)	SE05G	SE09G	SE13G	SE17G	SF20G	LF30G	SF44G	SF60G	SG20G	LG30G	SG44G	SG60G	
Applicable Drive (L7□A□□)	L7□A008	L7□A010	L7□A020		L7□A035		L7□A050	L7□A075	L7□A020	L7□A035	L7□A050	L7□A075	
Flange Size(□)	□130				□180				□220				
Rated Output	[kW]	0.45	0.85	1.3	1.7	1.8	2.9	4.4	6	1.8	2.9	4.4	6
Rated Torque	[N · m]	2.86	5.41	8.28	10.82	11.46	18.46	28.01	38.19	11.46	18.46	28.01	38.19
	[kgf · cm]	29.23	55.21	84.44	110.42	116.92	188.37	285.8	389.7	116.92	188.37	285.8	389.7
Max. Instantaneous	[N · m]	8.59	16.23	24.83	32.46	34.37	55.38	84.02	95.48	34.47	55.38	84.02	95.48
	[kgf · cm]	87.69	165.63	253.32	331.26	350.75	565.1	857.39	974.3	350.8	565.1	857.39	974.3
Rated Current	[A]	3.97	6.47	10	12.75	14.7	15.92	31.75	38	13.1	16.19	31.5	38
Max. Current	[A]	11.91	19.41	30	38.25	44.1	47.64	95.25	102	39.3	48.57	94.5	102
Rated Speed	[r/min]	1500											
Max. Speed	[r/min]	3000				3000	2700	3000	2500	3000	2700	3000	2500
Inertia	[kg · m ² × 10 ⁻⁴]	6.66	12	17.34	22.68	30.74	52.13	83.6	121.35	51.42	80.35	132.41	172.91
	[gf · cm × s ²]	6.8	12.24	17.69	23.14	31.37	53.19	85.31	123.83	52.47	81.99	135.11	176.44
Allowable Load Inertia Ratio		10 times of motor inertia				5 times of motor inertia							
Rated Power Rate	[kW/s]	12.32	24.4	39.49	51.63	42.71	65.37	93.83	120.21	25.53	42.41	59.24	84.36
Speed/Position Detector	Standard(Note1)	Quad. Type Incremental 3000[P/R]											
	Option	Serial Type 19[Bit]											
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)											
	Rated Time	Continuous											
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]											
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)											
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.											
Weight	E/V	Elevation/vibration 49[m/s ²](5G)											
	[kg]	5.5	7.5	9.7	11.8	12.4	17.7	26.3	35.6	17	22	30.8	37.52

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



L7 SERIES SYSTEM

S Series Motor Characteristics (200V)

Motor Specifications [Rated 1000r/min]

Servo Motor (APM-□□□□)	SE03M	SE06M	SE09M	SE12M	SF12M	SF20M	LF30M	SF44M	SG12M	SG20M	LG30M	SG44M	SG60M			
Applicable Drive (L7□A□□)	L7□A004	L7□A008	L7□A010	L7□A020		L7□A035		L7□A050	L7□A020	L7□A035		L7□A050	L7□A075			
Flange Size(□)	□130				□180				□220							
Rated Output	[kW]	0.3	0.6	0.9	1.2	1.2	2	3	4.4	1.2	2	3	4.4	6		
Rated Torque	[N·m]	2.86	5.73	8.59	11.46	11.46	19.1	28.64	42.01	11.46	19.1	28.64	42.01	57.29		
	[kgf·cm]	29.23	58.46	87.69	116.92	116.92	194.86	292.29	428.69	116.92	194.86	292.29	428.69	584.6		
Max. Instantaneous	[N·m]	8.59	17.19	25.78	34.37	34.37	57.29	85.93	126.04	34.37	57.29	85.93	126.04	171.87		
	[kgf·cm]	87.69	175.3	263.06	350.75	350.75	584.58	876.88	1286.08	350.75	584.58	876.88	1286.08	1753.80		
Rated Current	[A]	2.51	4.15	5.78	7.63	8.4	14.4	15.99	31.24	8.87	15.02	16.04	31.83	38		
Max. Current	[A]	7.53	12.45	17.34	22.89	25.2	43.2	47.97	93.72	26.61	45.06	48.12	95.49	102		
Rated Speed	[r/min]	2000						1000			2000					
Max. Speed	[r/min]	2000						1700			2000		1700		2000	
	[r/min]	2000						1700			2000		1700		2000	
Inertia	[kg·m ² ×10 ⁻⁴]	6.66	12	17.34	22.68	30.74	52.13	83.6	121.35	51.42	80.35	132.41	172.91	291.36		
	[gf·cm ² ×s ²]	6.8	12.24	17.69	23.14	31.37	53.19	85.31	123.83	52.47	81.99	135.11	176.44	297.31		
Allowable Load Inertia Ratio		10 times of motor inertia						5 times of motor inertia								
Rated Power Rate	[kW/s]	12.32	27.35	42.59	57.89	42.71	69.95	98.15	145.45	25.53	45.39	61.97	102.08	112.65		
Speed/Position Detector	Standard(Note1)	Quad. Type Incremental 3000[P/R]														
	Option	Serial Type 19[Bit]														
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)														
	Rated Time	Continuous														
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]														
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)														
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.														
	E/V	Elevation/vibration 49[m/s ²](5G)														
Weight	[kg]	5.5	7.5	9.7	11.8	12.4	17.7	26.3	35.6	17	22	30.8	37.5	66.2		

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked
It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



S Series Motor Characteristics (400V)

Motor Specifications [Rated 3000r/min]

Servo Motor (APM-□□□□)		SEP09A	SEP15A	SEP22A	SEP30A	SFP30A	SFP50A
Applicable Drive (L7□A□□)		L7□B010	L7□B020		L7□B035		L7□B050
Flange Size(□)		□130				□180	
Rated Output	[kW]	0.9	1.5	2.2	3	3	5
Rated Torque	[N · m]	2.86	4.77	7	9.55	9.55	15.92
	[kgf · cm]	29.23	48.72	71.46	97.44	97.44	162.4
Max. Instantaneous	[N · m]	8.59	14.32	21.01	28.65	28.65	39.79
	[kgf · cm]	87.7	146.16	214.37	292.33	292.33	406.01
Rated Current	[A]	2.97	4.89	7.17	9.78	9.37	15.49
Max. Current	[A]	8.62	14.2	20.84	28.41	27.38	45.27
Rated Speed	[r/min]	3000					
Max. Speed	[r/min]	5000					
Inertia	[kg · m ² × 10 ⁻⁴]	6.659	11.999	17.339	22.679	30.74	52.13
	[gf · cm × s ²]	6.795	12.244	17.693	23.142	31.367	53.194
Allowable Load Inertia Ratio		10 times of motor inertia				5 times of motor inertia	
Rated Power Rate	[kW/s]	12.32	19.00	28.28	40.21	42.71	65.37
Speed/Position Detector	Standard(Note1)	Quad. Type Incremental 3000[P/R]					
	Option	Serial Type 19[Bit]					
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)					
	Rated Time	Continuous					
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]					
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)					
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.					
Weight	E/V	Elevation/vibration 49[m/s ²](5G)					
	[kg]	5.5	7.54	9.68	11.78	12.4	17.7

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



L7/S Series
L7/N Series
L7/NH Series
L7/P Series
S Series
F Series
MDM Series
Options
PEGASUS Series

L7 SERIES SYSTEM

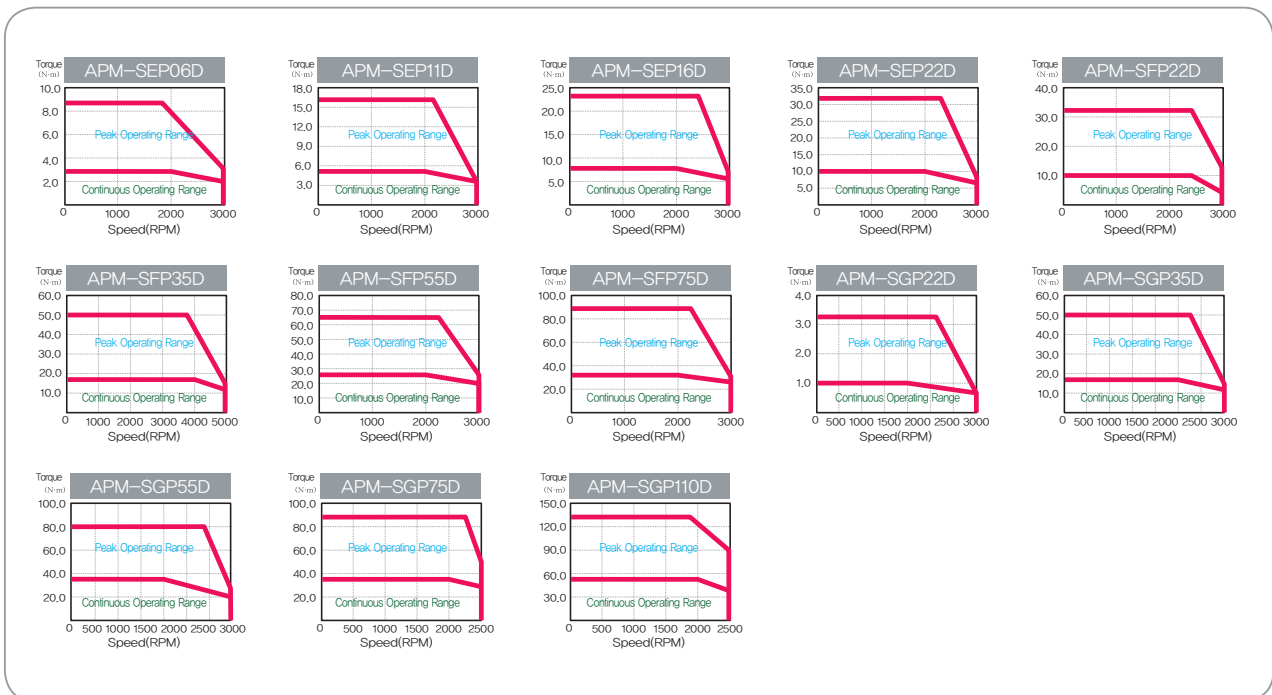
S Series Motor Characteristics (400V)

Motor Specifications [Rated 2000r/min]

Servo Motor (APM-□□□□)	SEP06D	SEP11D	SEP16D	SEP22D	SFP22D	SFP35D	SFP55D	SFP75D	SGP22D	SGP35D	SGP55D	SGP75D	SGP110D	
Applicable Drive (L7□□□□)	L7□B010		L7□B020			L7□B035	L7□B050	L7□B075	L7□B020	L7□B035	L7□B050	L7□B075	L7□B150	
Flange Size(□)	□130				□180				□220					
Rated Output	[kW]	0.6	1.1	1.6	2.2	2.2	3.5	5.5	7.5	2.2	3.5	5.5	7.5	11
Rated Torque	[N · m]	2.86	5.25	7.64	10.5	10.5	16.71	26.26	35.81	10.50	16.71	26.26	35.81	52.52
	[kgf · cm]	29.23	53.59	77.95	107.19	107.19	170.52	267.96	365.41	107.19	170.52	267.96	365.41	535.93
Max. Instantaneous	[N · m]	8.59	15.76	22.92	31.51	31.51	50.13	65.65	89.52	31.51	50.13	78.78	89.52	131.30
	[kgf · cm]	87.7	160.78	233.86	321.56	321.56	511.57	669.91	913.52	321.56	511.57	803.89	913.52	1,339.82
Rated Current	[A]	1.78	3.27	4.79	6.54	6.56	10.07	15.82	21.36	6.27	10.03	15.66	18.42	27.41
Max. Current	[A]	5.18	9.5	13.92	19	19.17	29.43	38.64	52.16	18.43	29.51	46.08	45.25	67.33
Rated Speed	[r/min]	2000												
Max. Speed	[r/min]	3000									2500			
Inertia	[kg · m ² × 10 ⁻⁴]	6.659	11,999	17,339	22,679	30,74	52,13	83,6	121,35	51,42	80,35	132,41	172,91	291,36
	[gf · cm × s ²]	6,795	12,244	17,693	23,142	31,367	53,194	85,306	123,827	52,47	81,99	135,11	176,44	297,10
Allowable Load Inertia Ratio		10 times of motor inertia					5 times of motor inertia							
Rated Power Rate	[kW/s]	12.32	22.99	48.64	91.96	35.89	53.57	82.49	105.67	21.46	34.76	52.08	74.16	94.65
Speed/Position Detector	Standard(Note1)	Quad. Type Incremental 3000[P/R]												
	Option	Serial Type 19[Bit]												
Specifications & Features	Structure	Fully closed · Self cooling IP65 (Note1)												
	Rated Time	Continuous												
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]												
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)												
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.												
	E/V	Elevation/vibration 49[m/s ²](5G)												
Weight	[kg]	5.5	7.54	9.68	11.78	12.4	17.7	26.3	35.6	16.95	21.95	30.8	37.52	66.2

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked
It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



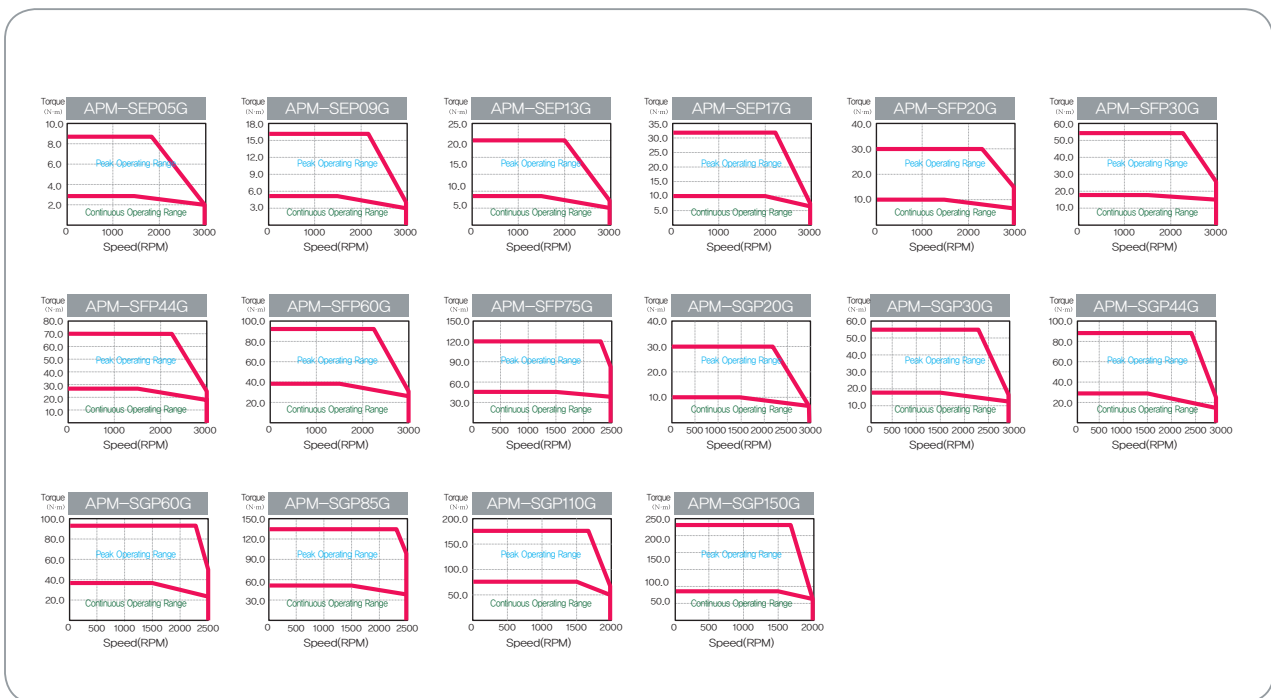
S Series Motor Characteristics (400V)

Motor Specifications [Rated 1500r/min]

Servo Motor (APM-□□□□)	SEP05G	SEP09G	SEP13G	SEP17G	SFP20G	SFP30G	SFP44G	SFP60G	SFP75G	SGP20G	SGP30G	SGP44G	SGP60G	SGP85G	SGP110G	SGP150G	
Applicable Drive (L7□A□□)	L7□B010		L7□B020		L7□B020	L7□B050		L7□B075	L7□B150	L7□B020	L7□B050		L7□B075	L7□B150			
Flange Size(□)	□130				□180				□220								
Rated Output	[kW]	0.45	0.85	1.3	1.7	1.8	2.9	4.4	6	7.5	1.8	2.9	4.4	6	8.5	11	15
Rated Torque	[N · m]	2.86	5.41	8.28	10.82	11.46	18.46	28.01	38.2	47.75	11.46	18.46	28.01	38.2	54.11	70.03	95.49
	[kgf · cm]	29.23	55.22	84.45	110.43	116.93	188.39	285.83	389.77	487.21	116.93	188.39	285.83	389.77	552.17	714.57	974.42
Max. Instantaneous	[N · m]	8.59	16.23	24.83	32.47	34.38	55.39	70.03	95.49	119.37	34.38	55.39	70.03	95.49	135.28	175.07	219.6
	[kgf · cm]	87.7	165.65	253.35	331.3	350.79	565.16	714.57	974.42	1218.02	350.79	565.16	714.57	974.42	1380.43	1786.43	2240
Rated Current	[A]	1.78	3.37	5.19	6.74	7.15	11.12	16.87	22.78	28.13	6.84	11.08	16.71	19.65	28.24	28.28	35.71
Max. Current	[A]	5.18	9.79	15.07	19.58	20.91	165.9	41.21	55.64	65.7	20.11	33	49.15	48.23	69.37	68.83	87.7
Rated Speed	[r/min]	1500															
Max. Speed	[r/min]	3000				2500				3000				2500		2000	
Inertia	[kg · m ² × 10 ⁻⁴]	6.659	11.999	17.339	22.679	30.74	52.13	83.6	121.35	143.82	51.42	80.35	132.41	172.91	291.36	291.36	385.54
	[gf · cm × s ²]	6.795	12.244	17.693	23.142	31.367	53.194	85.306	123.827	146.755	52.47	81.99	135.11	176.44	297.31	297.1	393.14
Allowable Load Inertia Ratio		10 times of motor inertia				5 times of motor inertia											
Rated Power Rate	[kW/s]	12.32	24.4	57.08	97.61	42.72	65.38	93.86	120.23	158.51	25.531	42.41	59.25	84.36	100.5	168.3	214.8
Speed/Position Detector	Standard(Note1)	Quad. Type Incremental 3000[P/R]															
	Option	Serial Type 19[Bit]															
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)															
	Rated Time	Continuous															
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]															
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)															
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.															
E/V		Elevation/vibration 49[m/s ²](5G)															
Weight	[kg]	5.5	7.54	9.68	11.78	12.4	17.7	26.3	35.6	39.4	16.95	21.95	30.8	37.52	66.2	66.3	92.2

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be specified protection grade when you use private cable only.

Speed-Torque Characteristics



L7 SERIES SYSTEM

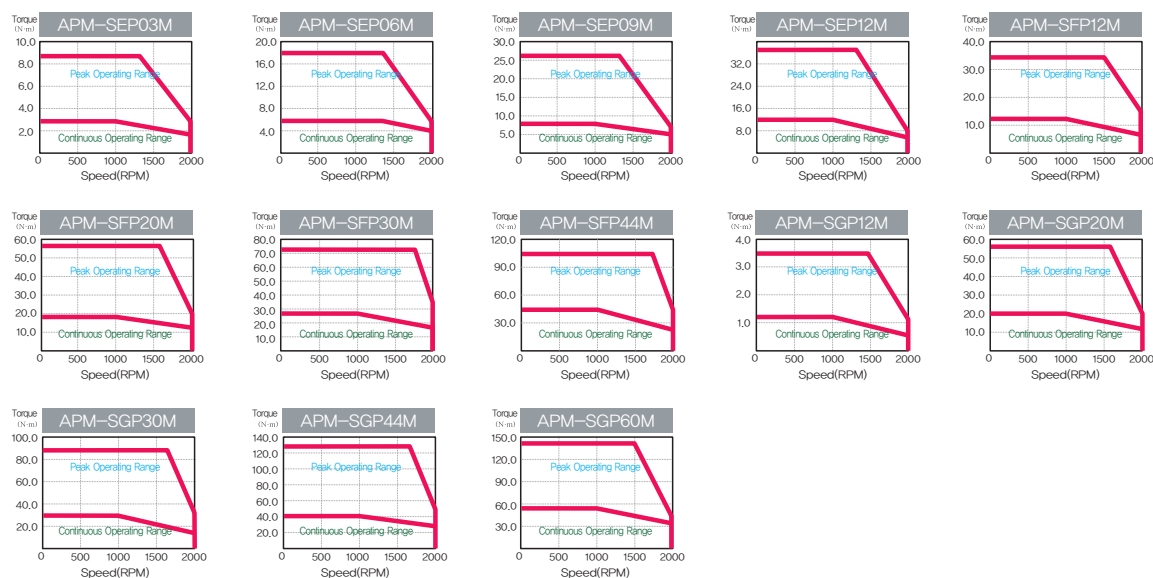
S Series Motor Characteristics (400V)

Motor Specifications [Rated 1000r/min]

Servo Motor (APM-□□□□)	SEP03M	SEP06M	SEP09M	SEP12M	SFP12M	SFP20M	SFP30M	SFP44M	SGP12M	SGP20M	SGP30M	SGP44M	SGP60M	
Applicable Drive (L7□A□□)	L7□B010			L7□B035	L7□B020		L7□B050		L7□B020		L7□B050		L7□B150	
Flange Size(□)	□130				□180				□220					
Rated Output	0.3	0.6	0.9	1.2	1.2	2	3	4.4	1.2	2	3	4.4	6	
Rated Torque	[N · m]	2.86	5.73	8.59	11.46	11.46	19.1	28.65	42.02	11.46	19.1	28.65	42.02	57.3
	[kgf · cm]	29.23	58.47	87.7	116.93	116.93	194.88	292.33	428.74	116.93	194.88	292.33	428.74	584.65
Max. Instantaneous	[N · m]	8.59	17.19	25.78	34.38	34.38	57.3	71.62	105.04	34.38	57.3	85.94	105.04	143.24
	[kgf · cm]	87.7	175.4	263.09	350.79	350.79	584.65	730.81	1,071.86	350.79	584.65	876.98	1,071.86	1,461.63
Rated Current	[A]	1.26	2.42	3.62	4.8	4.77	7.88	11.92	17.15	4.72	7.84	11.73	17.29	23.58
Max. Current	[A]	3.65	7.04	10.51	13.95	13.94	23.03	29.12	41.88	13.87	23.06	34.51	50.87	57.92
Rated Speed	[r/min]	1000												
Max. Speed	[r/min]	2000												
Inertia	[kg · m ² × 10 ⁻⁴]	6.659	11,999	17,339	22,679	30.74	52.13	83.6	121.35	51.42	80.35	132.41	172.91	291.36
	[gf · cm × s ²]	6,795	12,244	17,693	23,142	31,367	53,194	85,306	123,827	52,47	81,99	135,11	176,44	297,31
Allowable Load Inertia Ratio		10 times of motor inertia						5 times of motor inertia						
Rated Power Rate	[kW/s]	12.32	27.36	42.6	57.9	42.72	69.97	98.17	145.48	25.53	45.39	61.97	102.08	112.64
Speed/Position Detector	Standard(Note1)	Quad. Type Incremental 3000[P/R]												
	Option	Serial Type 19[Bit]												
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)												
	Rated Time	Continuous												
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]												
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)												
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.												
	E/V	Elevation/vibration 49[m/s ²](5G)												
Weight	[kg]	5.5	7.54	9.68	11.78	12.4	17.7	26.3	35.6	16.95	21.95	30.8	37.52	66.2

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked
It can be satisfied protection grade when you use private cable only.

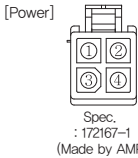
Speed-Torque Characteristics



External Dimensions of S Series Motor

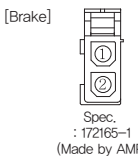
SA Series

Plug Specifications



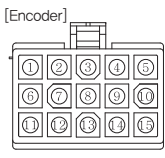
Pin No.	Color	Signal
1	Red	U
2	White	V
3	Black	W
4	Green	Ground

(Power Connector Pin Table)



Pin No.	Signal
1	BK+
2	BK-

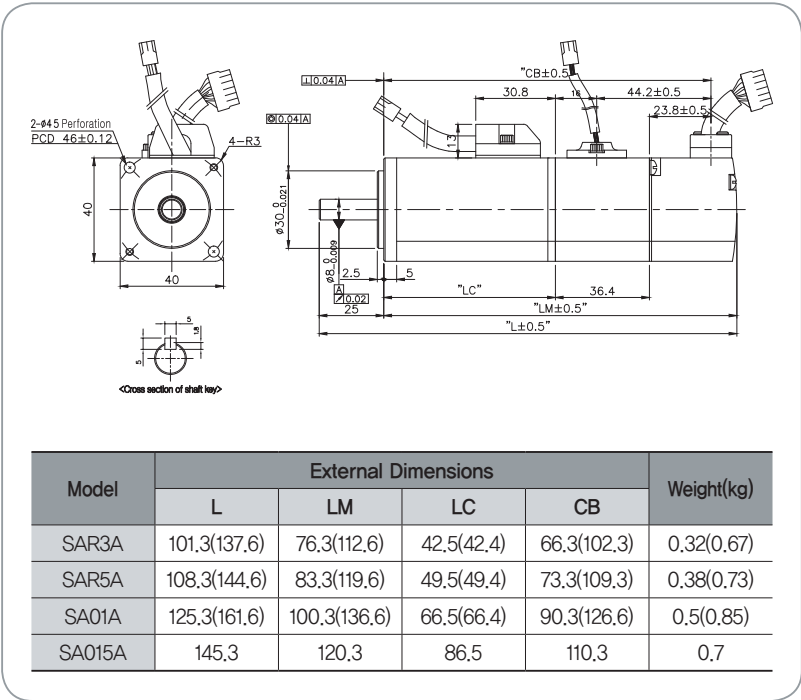
(Brake Connector Pin Table)



Pin No.	Signal	Pin No.	Signal
1	A	9	V
2	A	10	V
3	B	11	W
4	B	12	W
5	Z	13	+5V
6	Z	14	0V
7	U	15	SHIELD
8	U		

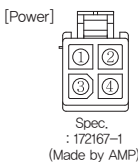
(Parallel Encoder Connector Pin Table)

- Note1)** Use DC[24V] for brake input power supply.
- Note2)** The () is for brake-attached type.
- Note3)** For external dimensions for oil-sealed type. Please kindly contact us separately.
- Note4)** Refer to page 24 for serial encoder pin table.



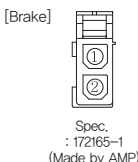
SB Series

Plug Specifications



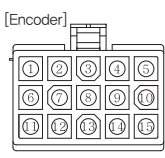
Pin No.	Color	Signal
1	Red	U
2	White	V
3	Black	W
4	Green	Ground

(Power Connector Pin Table)



Pin No.	Signal
1	BK+
2	BK-

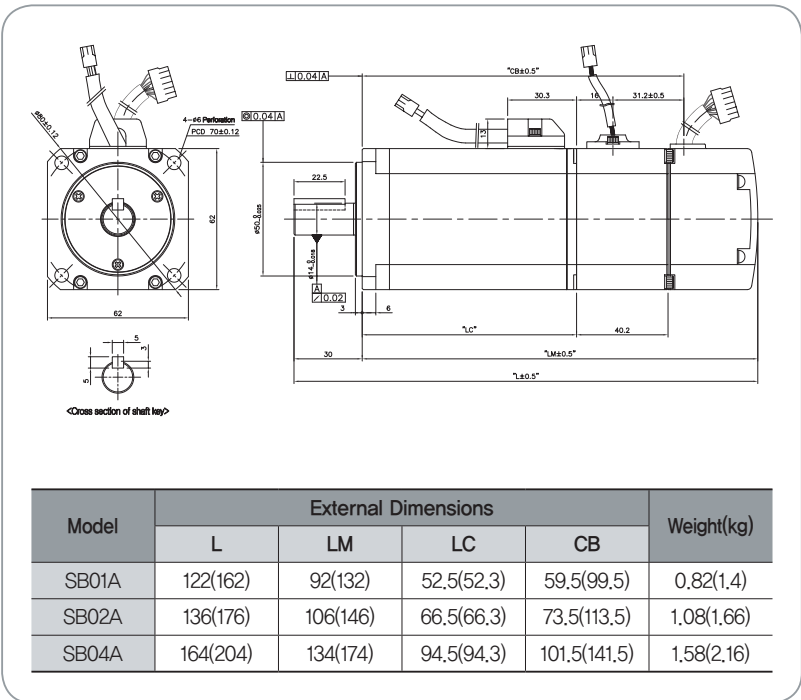
(Brake Connector Pin Table)



Pin No.	Signal	Pin No.	Signal
1	A	9	V
2	A	10	V
3	B	11	W
4	B	12	W
5	Z	13	+5V
6	Z	14	0V
7	U	15	SHIELD
8	U		

(Parallel Encoder Connector Pin Table)

- Note1)** Use DC[24V] for brake input power supply.
- Note2)** The () is for brake-attached type.
- Note3)** For external dimensions for oil-sealed type. Please kindly contact us separately.
- Note4)** Refer to page 24 for serial encoder pin table.



L7/S Series
L7/N Series
L7/NH Series
L7/P Series
S Series
F Series
MDM Series
Options
PEGASUS Series

L7 SERIES SYSTEM

External Dimensions of S Series Motor

SC Series

Plug Specifications

[Power]

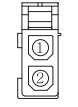


Spec. : 172167-1
(Made by AMP)

Pin No.	Color	Signal
1	Red	U
2	White	V
3	Black	W
4	Green	Ground

(Power Connector Pin Table)

[Brake]

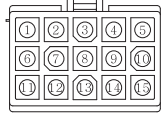


Spec. : 172165-1
(Made by AMP)

Pin No.	Signal
1	BK+
2	BK-

(Brake Connector Pin Table)

[Encoder]



Spec. : 172171-1(Made by AMP)

Pin No.	Signal	Pin No.	Signal
1	A	9	V
2	A	10	V
3	B	11	W
4	B	12	W
5	Z	13	+5V
6	Z	14	0V
7	U	15	SHIELD
8	U		

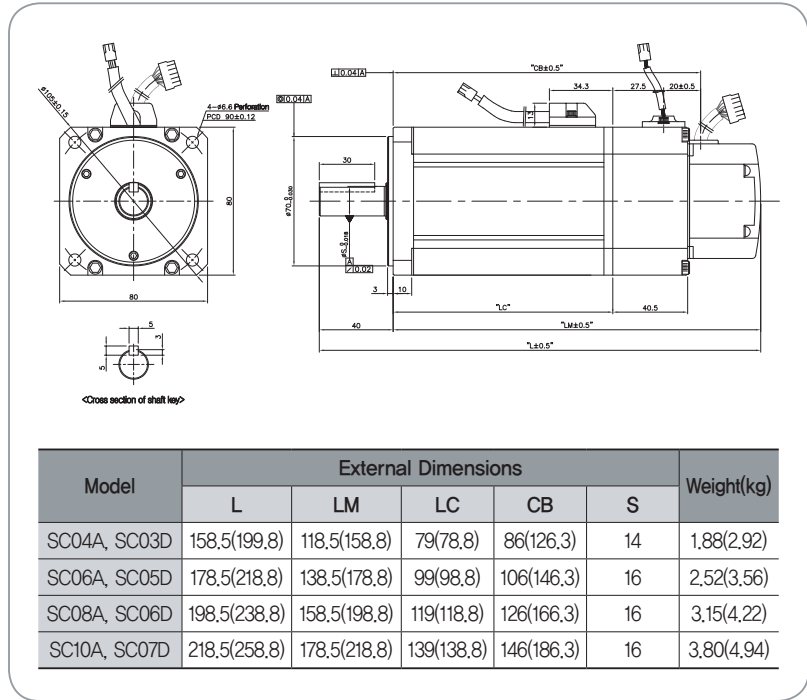
(Parallel Encoder Connector Pin Table)

Note1) Use DC[24V] for brake input power supply.

Note2) The () is for brake-attached type.

Note3) For external dimensions for oil-sealed type. Please kindly contact us separately.

Note4) Refer to page 24 for serial encoder pin table.

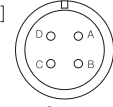


Model	External Dimensions					Weight(kg)
	L	LM	LC	CB	S	
SC04A, SC03D	158.5(199.8)	118.5(158.8)	79(78.8)	86(126.3)	14	1.88(2.92)
SC06A, SC05D	178.5(218.8)	138.5(178.8)	99(98.8)	106(146.3)	16	2.52(3.56)
SC08A, SC06D	198.5(238.8)	158.5(198.8)	119(118.8)	126(166.3)	16	3.15(4.22)
SC10A, SC07D	218.5(258.8)	178.5(218.8)	139(138.8)	146(186.3)	16	3.80(4.94)

SE, SEP Series

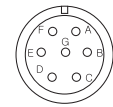
Plug Specifications

[Power]



Spec. : MS3102A20-4P
(Standard)

Pin No.	Signal
A	U
B	V
C	W
D	Ground

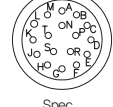


Spec. : MS3102A20-15P
(Brake-attached type)

Pin No.	Signal	Pin No.	Signal
A	U	D	Ground
B	V	E	BK+
C	W	F	BK-

[Encoder]

1) Incremental type



Spec. : MS3102A20-29P

Pin No.	Signal	Pin No.	Signal
A	A	M	V
B	A	N	V
C	B	P	W
D	B	R	W
E	Z	H	+5V
F	Z	G	0V
K	U	J	SHIELD
L	U		

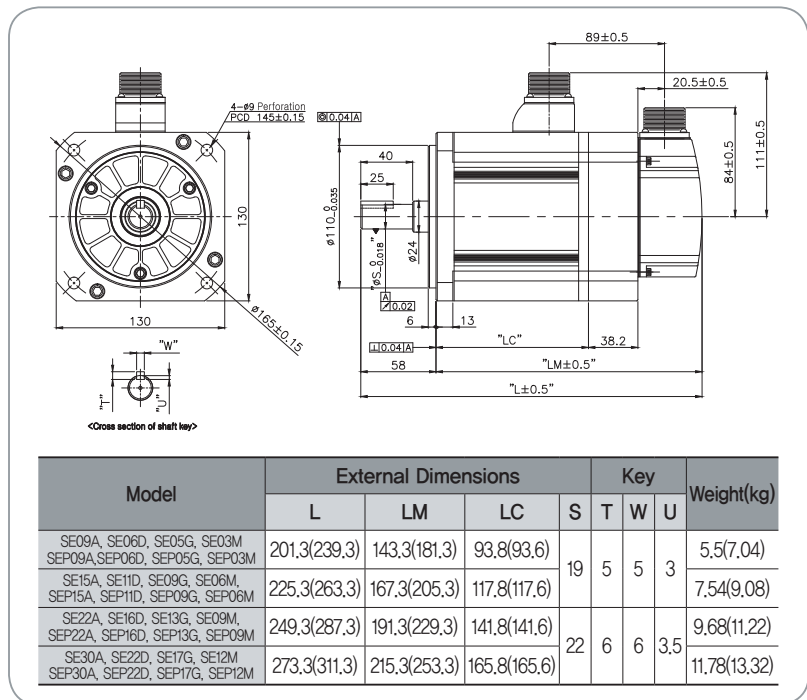
(Parallel Encoder Connector Pin Table)

Note1) Use DC[24V] for brake input power supply.

Note2) The () is for brake-attached type.

Note3) For external dimensions for oil-sealed type. Please kindly contact us separately.

Note4) Refer to page 24 for serial encoder pin table.



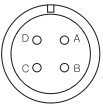
Model	External Dimensions			Key				Weight(kg)
	L	LM	LC	S	T	W	U	
SE09A, SE06D, SE05G, SE03M SEP09A, SEP06D, SEP05G, SEP03M	201.3(239.3)	143.3(181.3)	93.8(93.6)	19	5	5	3	5.5(7.04)
SE15A, SE11D, SE09G, SE06M, SEP15A, SEP11D, SEP09G, SEP06M	225.3(263.3)	167.3(205.3)	117.8(117.6)					7.54(9.08)
SE22A, SE16D, SE13G, SE09M, SEP22A, SEP16D, SEP13G, SEP09M	249.3(287.3)	191.3(229.3)	141.8(141.6)	22	6	6	3.5	9.68(11.22)
SE30A, SE22D, SE17G, SE12M SEP30A, SEP22D, SEP17G, SEP12M	273.3(311.3)	215.3(253.3)	165.8(165.6)					11.78(13.32)

External Dimensions of S Series Motor

■ SF, LF, SFP Series

Plug Specifications

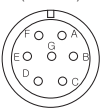
[Power]



Pin No.	Signal
A	U
B	V
C	W
D	Ground

Spec.
: MS3102A22-22P
(Standard)

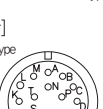
[Encoder]



Pin No.	Signal	Pin No.	Signal
A	U	D	Ground
B	V	E	BK+
C	W	F	BK-

Spec.
: MS3102A24-10P
(Brake-attached type)

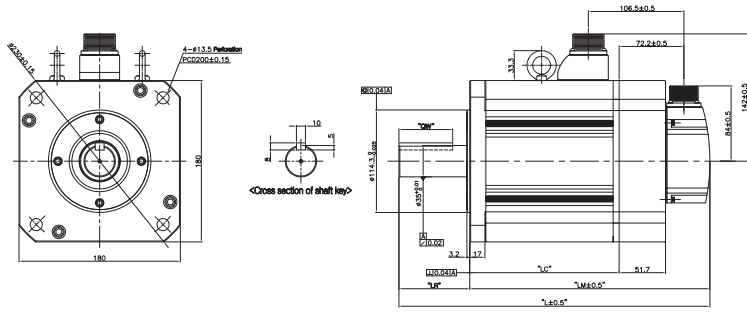
[Encoder]



Pin No.	Signal	Pin No.	Signal
A	A	M	V
B	A̅	N	V̅
C	B	P	W
D	B̅	R	W̅
E	Z	H	+5V
F	Z̅	G	0V
K	U	J	SHIELD
L	U̅		

Spec.
: MS3102A20-29P
(Parallel Encoder Connector Pin Table)

- Note1)** Use DC[24V] for brake input power supply.
Note2) The () is for brake-attached type.
Note3) For external dimensions for oil-sealed type. Please kindly contact us separately.
Note4) Refer to page 24 for serial encoder pin table.
Note5) Use MS3102A32-17 for SF75G Power connector.

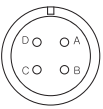


Model	External Dimensions				Key					Weight(kg)
	L	LM	LC	LR	S	QW	T	W	U	
SF30A, SF22D, SF20G, SF12M, SFP30A, SFP22D, SFP20G, SFP12M	261.5(312.9)	182.5(233.9)	133(132.7)							12.4(19.2)
SF50A, LF35D, LF30G, SF20M, SFP50A, SFP20M	295.5(346.9)	216.5(267.9)	167(166.7)	79	35 ^{+0.01} ₀	60	8	10	5	17.7(24.9)
SF55D, SF44G, LF30M, SFP55D, SFP44G	345.5(396.9)	266.5(317.9)	217(216.7)							26.3(33.4)
SF75D, SF60G, SF44M, SFP75D, SFP60G, SFP44M	405.5(456.9)	326.5(377.9)	277(276.7)							35.6(42.8)
SF75G, SFP75G	457.5	344.5	295	113	42 ⁰ _{-0.016}	96	8	12	5	39.4

■ SG, LG, SGP Series

Plug Specifications

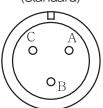
[Power]



Pin No.	Signal
A	U
B	V
C	W
D	Ground

Spec.
: MS3102A22-22P
(Standard)

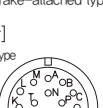
[Bracket]



Pin No.	Signal
A	BK+
B	BK-
C	NC

Spec.
: MS3102A14S-7P
(Brake-attached type)

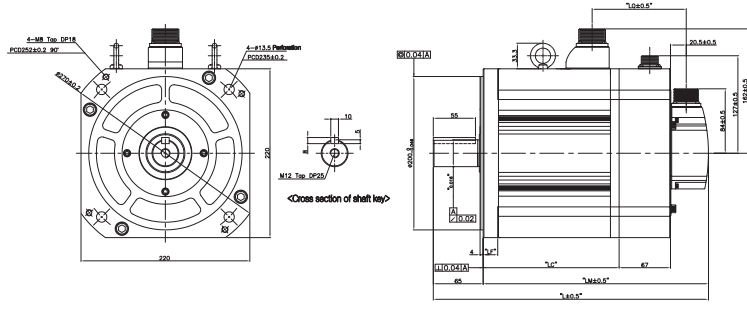
[Encoder]



Pin No.	Signal	Pin No.	Signal
A	A	M	V
B	A̅	N	V̅
C	B	P	W
D	B̅	R	W̅
E	Z	H	+5V
F	Z̅	G	0V
K	U	J	SHIELD
L	U̅		

Spec.
: MS3102A20-29P
(Parallel Encoder Connector Pin Table)

- Note1)** In case of SG, use DC[90V] for brake input power supply.
Note2) The () is for brake-attached type.
Note3) For external dimensions for oil-sealed type. Please kindly contact us separately.
Note4) Refer to page 24 for serial encoder pin table.
Note5) Use MS3102A32-17 for SG60M Power connector.



Model	External Dimensions						Key					Weight(kg)	Power Connector	
	L	LM	LC	LR	LF	LQ	S	QK	T	W	U			
SG22D, SG20G, SG12M, SGP22D, SGP20G, SGP12M	236.5(302.7)	171.5(237.7)	122(121.2)										16.95(30.76)	MS3102A22-22P
LG35D, LG30G, SG20M, SGP20M	256.5(322.7)	191.5(257.7)	142(142.2)			56.4(122.6)							21.95(35.7)	
SG55D, SG44G, LG30M, SGP55D, SGP44G	292.5(358.7)	227.5(293.7)	178(177.2)	65	19		35 ⁰ _{-0.016}	55	8	10	5		30.8(44.94)	
SG75D, SG60G, SG44M, SGP75D, SGP60G, SGP44M	320.5(386.7)	255.5(321.7)	206(205.2)										37.52(50.94)	MS3102A32-17P
SG110D, SG85G, SG60M, SGP110D, SGP85G, SGP60M	418.5(484.7)	353.5(419.7)	304(303.2)	65	21		45 ⁰ _{-0.015}	96	10	12	5		66.2(82.6)	
SG110G, SG110G	469	354	304	115	21	66(132.2)	42 ⁰ _{-0.016}	96	10	16	6		66.3	
SG150G, SG150G	575	459	409	115	35		55 ⁰ _{-0.026}	96	10	16	6		92.2	

L7 SERIES SYSTEM

External Dimensions of S Series Motor

HB Series [Hollow Shaft type]

Plug Specifications

[Power]

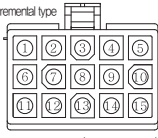


Spec. : 172167-1
(Made by AMP)

Pin No.	Color	Signal
1	Red	U
2	White	V
3	Black	W
4	Green	Ground

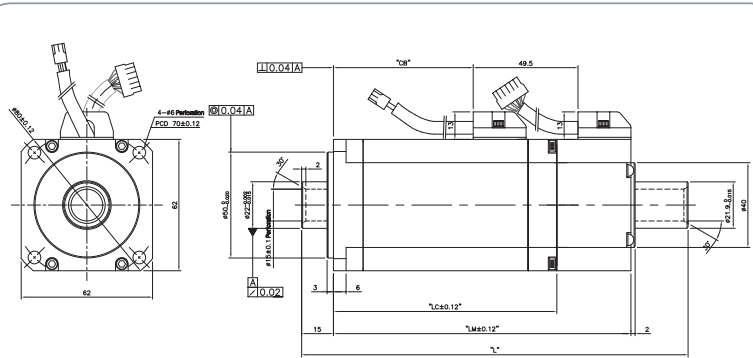
(Power Connector Pin Table)

[Encoder]
Incremental type



Spec. : 172171-1(Made by AMP) (Parallel Encoder Connector Pin Table)

Pin No.	Signal	Pin No.	Signal
1	A	9	V
2	A̅	10	V̅
3	B	11	W
4	B̅	12	W̅
5	Z	13	+5V
6	Z̅	14	0V
7	U	15	SHIELD
8	U̅		

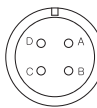


Model	External Dimensions					Weight(kg)
	L	LM	LC	CB	Hollow Shaft	
HB01A	140.5	103.5	68.5	24	15	0.89
HB02A	154.5	117.5	82.5	38	15	1.16
HB04A	182.5	140.5	105.5	66	15	1.69

HE Series [Hollow Shaft type]

Plug Specifications

[Power]



Spec. : MS3102A20-4P
(Standard)

Pin No.	Signal
A	U
B	V
C	W
D	Ground

(Power Connector Pin Table)

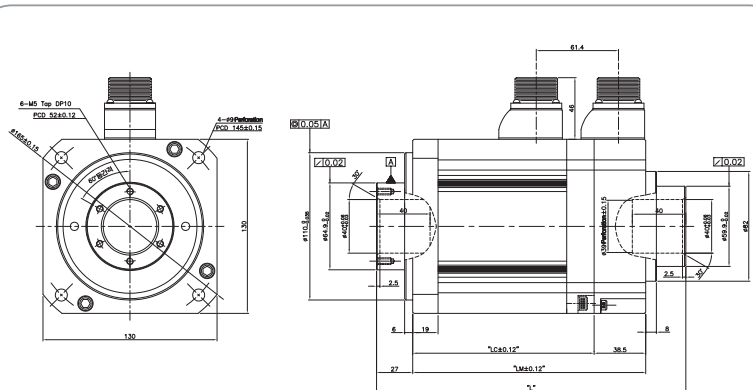
[Encoder]



Spec. : MS3102A20-29P

Pin No.	Signal	Pin No.	Signal
A	A	M	V
B	A̅	N	V̅
C	B	P	W
D	B̅	R	W̅
E	Z	H	+5V
F	Z̅	G	0V
K	U	J	SHIELD
L	U̅		

(Parallel Encoder Connector Pin Table)



Model	External Dimensions					Weight(kg)
	L	LM	LC	Hollow Shaft		
HE09A	207	150	111.5	40	5.82	
HE15A	231	174	135.5	40	7.43	
HE30A	279	222	183.5	40		

Brake and Heat Sink Specificaion

Electric Brake Specifications

Applicable Motor Series	APM-SA,FAL	APM-SB,FB,FBL	APM-SC,FC,FCL	APM-SE,SEP,FE,FEP	APM-SF,SFP,FF,FFP	APM-SG,SGP,FG,FGP
Purpose	Maintenance					
Input voltage [V]	DC 24V	DC 24V	DC 24V	DC 24V	DC 24V	DC 90V
Static friction torque [N · m]	0,32	1,47	3,23	10,4	40	74
Capacity [W]	6	6,5	9	19,4	25	32
Coil resistance [Ω]	96	89	64	29,6	23	327
Rated current [A]	0,25	0,27	0,38	0,81	1,04	0,28
Braking mechanism	Spring brake					
Insulation grade	GraDde F					

Note1) For the Electronic Brake that is attached to our Servo Motor, the same specifications are to be applied as per the series.

Note2) Do not use it for braking purpose because the electronic brake is only for maintaining the stopped condition.

Note3) The characteristics of electronic brake is measured at 20°C

Note4) Please make sure to always check the voltage specification on the motor because indicated brake specifications are subject to change.

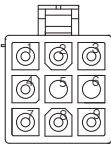
Heat Sink Specifications

Type	Dimensions(mm)	Materials
AP04	250x250x6	Aluminum
AP06	250x250x6	
AP08	250x250x12	
AP13	350x350x20	
AP18	550x550x30	
AP22	650x650x35	

NOTE 1) The data on the product features is measured when those heat sinks are applied.

S Series Encoder Pin Map

| SA, SB, SC Series |

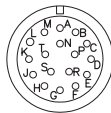


Plug Specification :
172169-1
(AMP)

Single Turn (N)		Multi Turn (M)	
Pin No.	Signal	Pin No.	Signal
1	MA	1	MA
2	MA	2	MA
3	SLO	3	SLO
4	SLO	4	SLO
5	-	5	VOD_B
6	-	6	GND_B
7	+5V	7	+5V
8	0V	8	0V
9	SHIELD	9	SHIELD

(Serial Encoder Connector Pin Table)

| SE, SF, SG Series |



17 Pole Plug
(MS3102A20-29P)

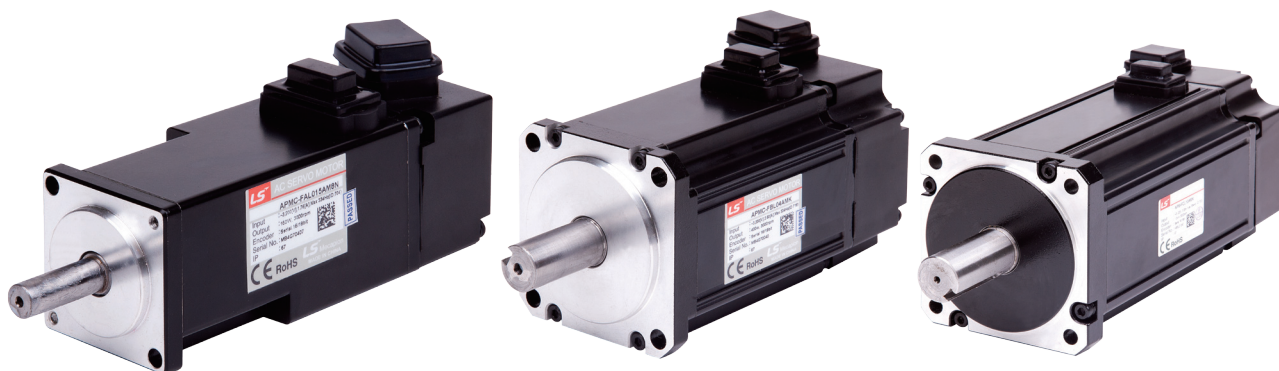
Single Turn (N)				Multi Turn (M)			
Pin No.	Signal	Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
A	MA	M	-	A	MA	M	-
B	MA	N	-	B	MA	N	-
C	SLO	P	-	C	SLO	P	-
D	SLO	R	-	D	SLO	R	-
E	-	H	+5V	E	VOD_B	H	+5V
F	-	G	0V	F	GND_B	G	0V
K	-	J	MA	K	-	J	MA
L	-	-	-	L	-	-	-

(Serial Encoder Connector Pin Table)

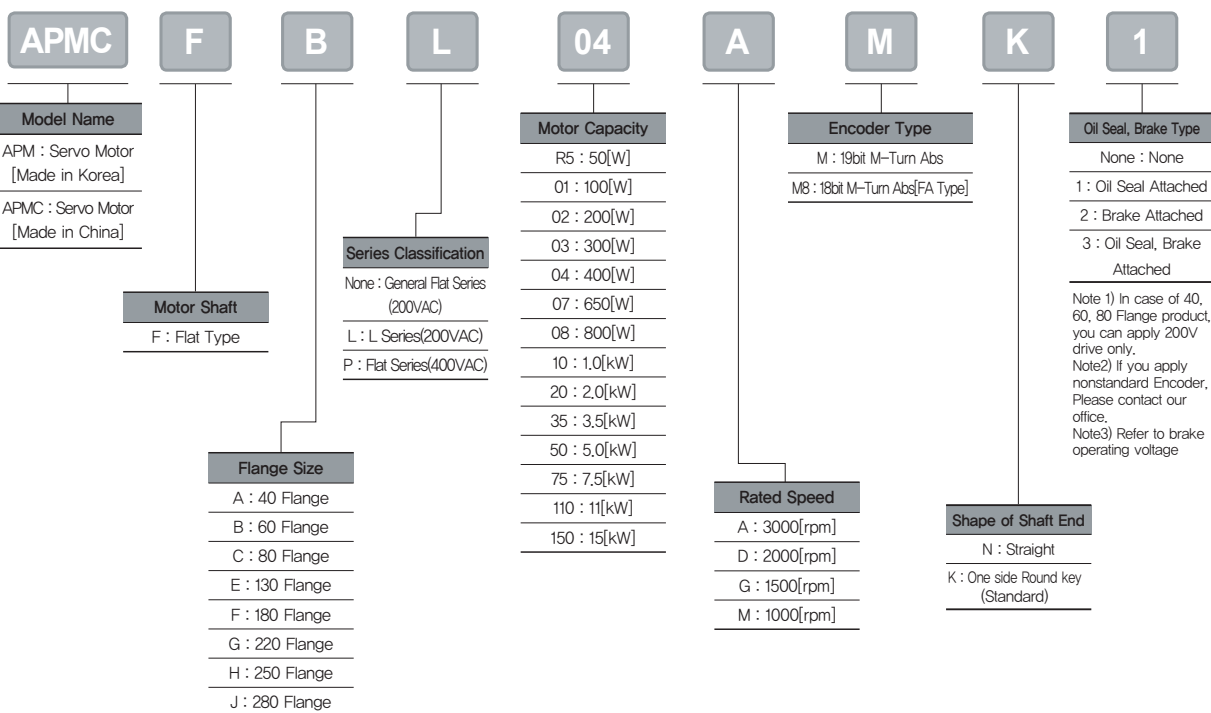
L7 SERIES SYSTEM

Flat Type Servo Motor

F Series



Servo Motor Designation



L7S Series
L7N Series
L7NH Series
L7P Series
S Series
F Series
MDM Series
Options
PEGASUS Series

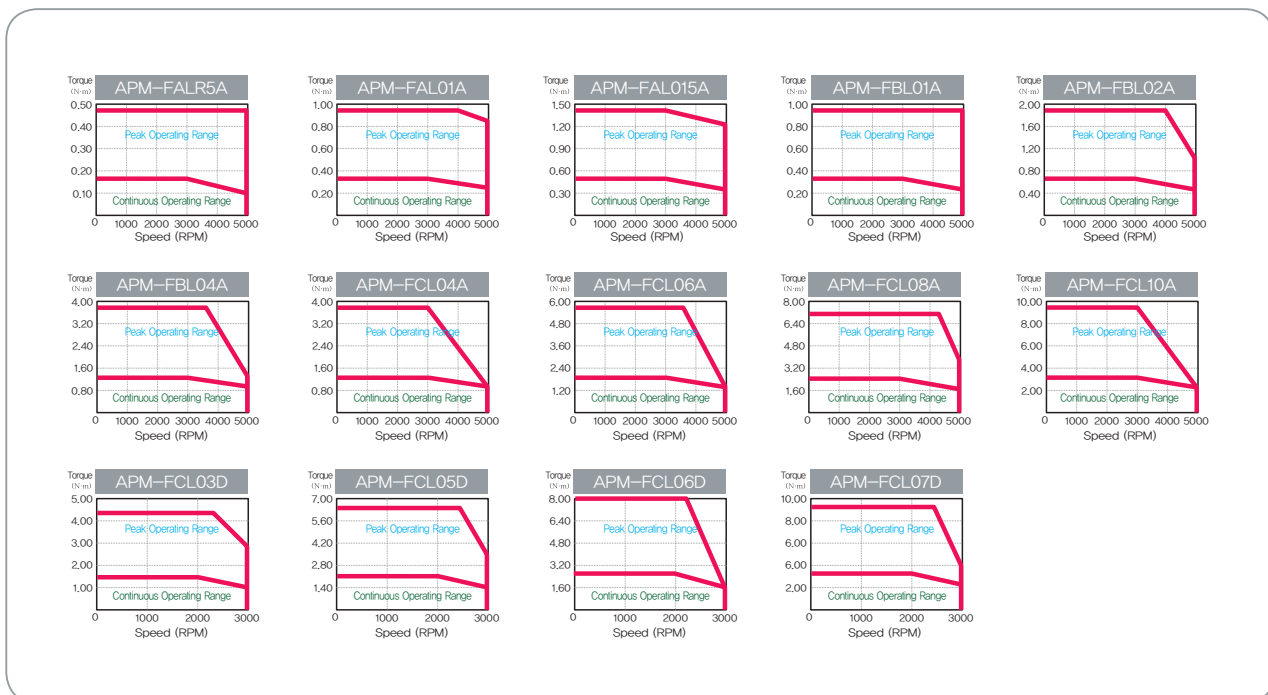
F Series Motor Characteristics (200V)

Motor Specifications [Rated 3000r/min, 2000r/min]

Servo Motor (APM-□□□□□)	FALR5A	FAL01A	FAL015A	FBL01A	FBL02A	FBL04A	FCL04A	FCL06A	FCL08A	FCL10A	FCL03D	FCL05D	FCL06D	FCL07D	
Applicable Drive	L7□A001		L7□A002		L7□A004		L7□A008		L7□A010		L7□A008				
Flange Size(□)	□40				□60				□80						
Rated Output	[kW]	0.05	0.1	0.15	0.1	0.2	0.4	0.4	0.6	0.75	1	0.3	0.45	0.55	0.65
Rated Torque	[N·m]	0.16	0.32	0.48	0.32	0.64	1.27	1.27	1.91	2.39	3.18	1.43	2.15	2.63	3.1
	[kgf·cm]	1.62	3.25	4.87	3.25	6.49	12.99	12.99	19.49	24.36	32.48	14.62	21.92	26.8	31.67
Max. Instantaneous	[N·m]	0.48	0.96	1.43	0.96	1.91	3.82	3.82	5.73	7.16	9.55	4.3	6.45	7.88	9.31
	[kgf·cm]	4.87	9.74	14.62	9.74	19.48	38.96	38.98	58.47	73.08	97.44	43.85	65.77	80.39	95.01
Rated Current	[A]	0.95	1.25	1.76	0.95	1.45	2.6	2.58	3.81	5.02	5.83	2.5	3.05	3.06	3.83
Max. Current	[A]	2.85	3.75	5.28	2.85	4.35	7.8	7.75	11.42	15.07	17.5	7.51	9.16	9.18	11.5
Rated Speed	[r/min]	3000										2000			
Max. Speed	[r/min]	5000										3000			
Inertia	[kg·m ² ×10 ⁻⁴]	0.023	0.042	0.063	0.091	0.147	0.248	0.53	0.897	1.264	1.632	0.53	0.897	1.264	1.63
	[gf·cm×s ²]	0.024	0.043	0.065	0.093	0.15	0.253	0.541	0.915	1.29	1.665	0.541	0.915	1.29	1.66
Allowable Load Inertia Ratio		30 times of motor inertia			20 times of motor inertia			15 times of motor inertia							
Rated Power Rate	[kW/s]	10.55	23.78	35.34	11.09	27.6	27.57	30.6	40.66	45.09	62.08	38.73	51.47	54.56	59.03
Speed/Position Detector	Standard(Note1)	Serial Multi-Turn Built-in Type (18bit)				Serial Multi-Turn Built-in Type (19bit)									
	Option	X													
Specifications & Features	Structure	Fully closed · Self cooling IP67 Note1)													
	Rated Time	Continuous													
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]													
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)													
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.													
	E/V	Elevation/vibration 49[m/s ²](5G)													
Weight	[kg]	0.31	0.45	0.61	0.56	0.74	1.06	1.52	2.14	2.68	3.3	1.26	2.12	2.66	2.78

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



L7/S Series
 L7/N Series
 L7/NH Series
 L7/P Series
 S Series
 F Series
 MDM Series
 Options
 PEGASUS Series

L7 SERIES SYSTEM

F Series Motor Characteristics (200V)

Motor Specifications [Rated 3000r/min]

Servo Motor (APM-□□□□)	FB01A	FB02A	FB04A	FC04A	FC06A	FC08A	FC10A	FE09A	FE15A	FE22A	FE30A	FF30A	FF50A
Applicable Drive	L7□A001	L7□A002	L7□A004	L7□A004	L7□A008			L7□A010	L7□A010	L7□A020		L7□A035	L7□A050
Flange Size(□)	□60			□80				□130			□180		
Rated Output	[kW]	0.1	0.2	0.4	0.4	0.6	0.75	1	0.9	1.5	2.2	3	5
Rated Torque	[N·m]	0.32	0.64	1.27	1.27	1.91	2.39	3.18	2.86	4.77	7	9.55	15.91
	[kgf·cm]	3.25	6.5	12.99	13	19.5	24.36	32.5	29.2	48.7	71.4	97.4	162.3
Max. Instantaneous	[N·m]	0.96	1.91	3.82	3.82	5.73	7.16	9.55	8.59	14.32	21.01	28.65	47.74
	[kgf·cm]	9.74	19.49	38.98	38.98	58.47	73.08	97.44	87.7	146.1	214.3	292.2	487
Rated Current	[A]	0.95	1.45	2.6	2.58	3.81	5.02	6.7	6.45	9.15	13.24	16.09	26.47
Max. Current	[A]	2.86	4.35	7.79	7.75	11.42	15.07	20.09	19.35	27.45	39.72	48.27	79.41
Rated Speed	[r/min]	3000											
Max. Speed	[r/min]	5000											
Inertia	[kg·m ² ×10 ⁻⁴]	0.09	0.15	0.25	0.5	0.88	1.25	1.62	5.66	10.18	14.62	19.04	27.96
	[gf·cm ² ×s ²]	0.09	0.15	0.25	0.51	0.89	1.27	1.65	5.77	10.39	14.92	19.43	28.53
Allowable Load Inertia Ratio		20 times of motor inertia			15 times of motor inertia			10 times of motor inertia			5 times of motor inertia		
Rated Power Rate	[kW/s]	11.38	27.95	65.9	32.62	41.69	45.78	62.74	14.47	22.38	33.59	47.85	54.33
Speed/Position Detector	Standard(Note1)	Serial Type 19[bit]											
	Option	X											
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)											
	Rated Time	Continuous											
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]											
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)											
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.											
	E/V	Elevation/vibration 49[m/s ²](5G)											
Weight	[kg]	0.7	0.9	1.3	1.6	2.2	2.7	3.8	5	6.7	8.5	10.1	17.4

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



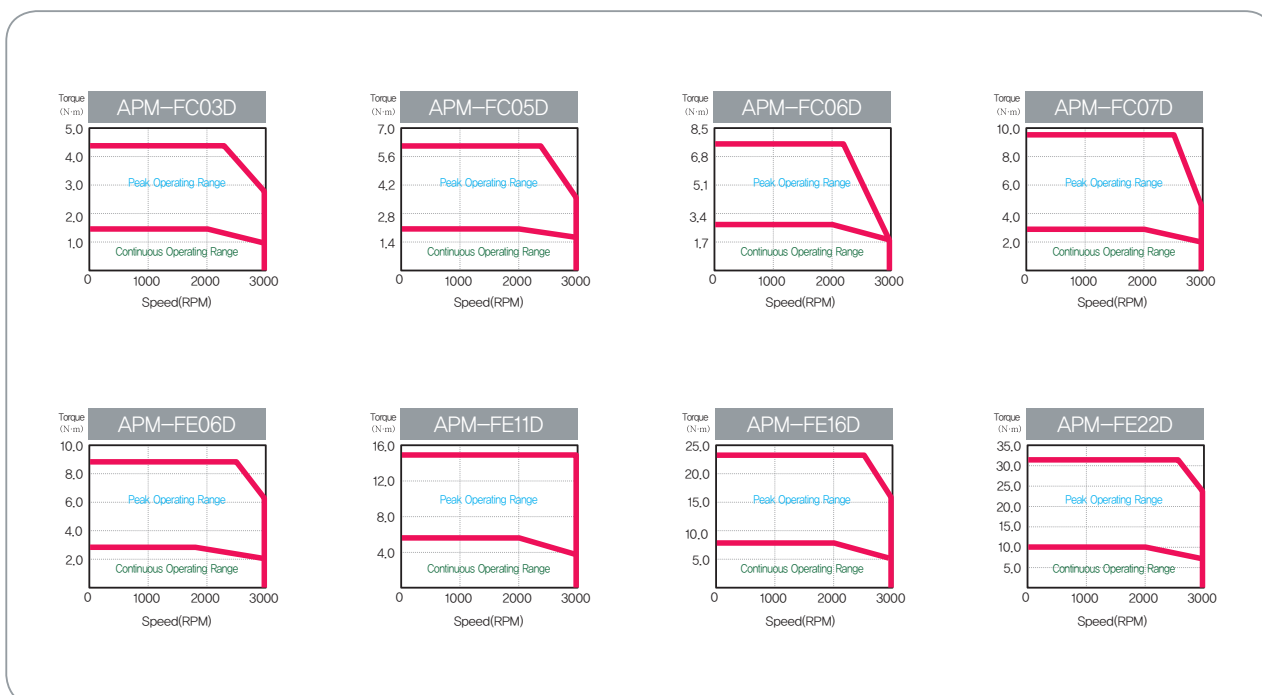
F Series Motor Characteristics (200V)

Motor Specifications [Rated 2000r/min]

Servo Motor (APM-□□□□□)	FC03D	FC05D	FC06D	FC07D	FE06D	FE11D	FE16D	FE22D	
Applicable Drive	L7□A004	L7□A008			L7□A010		L7□A020		
Flange Size(□)	□80				□130				
Rated Output	[kW]	0.3	0.45	0.55	0.65	0.6	1.1	2.2	
Rated Torque	[N · m]	1.43	2.15	2.6	3.1	2.86	5.25	10.5	
	[kgf · cm]	14.6	21.9	26.8	31.7	29.2 0	53.6	107.1	
Max. Instantaneous	[N · m]	4.3	6.45	7.88	9.31	8.59	15.75	31.51	
	[kgf · cm]	43.8	65.8	80.4	95	87.7	160.7	321.4	
Rated Current	[A]	2.5	3.05	3.06	3.83	4.56	6.47	12.97	
Max.Current	[A]	7.51	9.16	9.18	11.5	13.68	19.41	38.91	
Rated Speed	[r/min]	2000							
Max. Speed	[r/min]	3000							
Inertia	[kg · m ² × 10 ⁻⁴]	0.5	0.88	1.25	1.62	5.66	10.18	14.62	19.04
	[gf · cm × s ²]	0.51	0.89	1.27	1.65	5.77	10.39	14.92	19.43
Allowable Load Inertia Ratio		15 times of motor inertia				10 times of motor inertia			
Rated Power Rate	[kW/s]	41.28	52.76	55.39	59.64	14.49	27.08	39.89	57.9
Speed/Position Detector	Standard(Note1)	Serial Multi-Turn Built-in Type(19bit)							
	Option	X							
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)							
	Rated Time	Continuous							
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]							
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)							
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.							
Weight	E/V	Elevation/vibration 49[m/s ²](5G)							
	[kg]	1.6	2.2	2.7	3.8	5	6.7	8.5	10.1

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



L7 SERIES SYSTEM

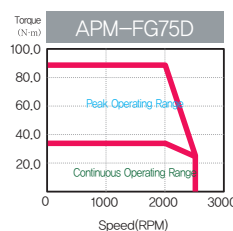
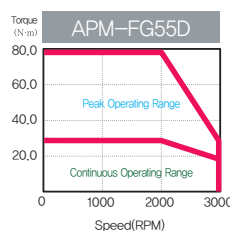
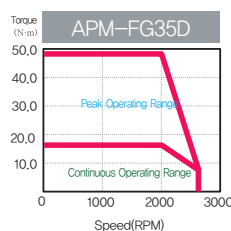
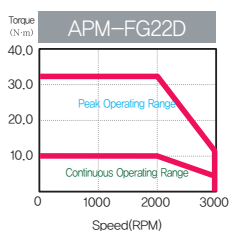
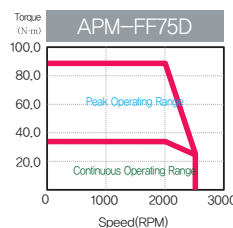
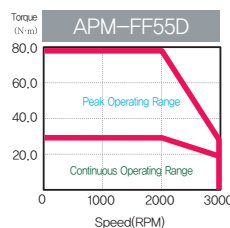
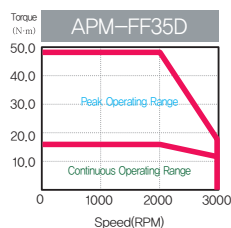
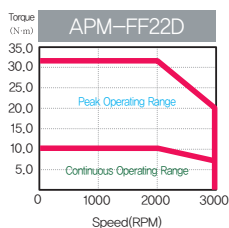
F Series Motor Characteristics (200V)

Motor Specifications [Rated 2000r/min]

Servo Motor (APM-□□□□)	FF22D	FF35D	FF55D	FF75D	FG22D	FG35D	FG55D	FG75D	
Applicable Drive	L7□A020	L7□A035	L7□A050	L7□A075	L7□A020	L7□A035	L7□A050	L7□A075	
Flange Size(□)	□180				□220				
Rated Output	[kW]	2.2	3.5	5.5	7.5	2.2	3.5	5.5	7.5
Rated Torque	[N · m]	10.5	16.7	26.25	35.81	10.5	16.71	26.25	35.81
	[kgf · cm]	107.1	170.4	267.8	365.4	107.1	170.4	267.8	365.4
Max. Instantaneous	[N · m]	31.5	50.1	78.76	89.53	31.51	50.12	78.76	89.53
	[kgf · cm]	321.3	511.4	803.4	913.5	321.3	511.3	803.4	913.5
Rated Current	[A]	13.07	16.48	28.78	32.95	10.25	14.67	29.74	30.17
Max. Current	[A]	39.21	49.44	86.34	98.85	30.75	44.01	89.22	90.51
Rated Speed	[r/min]	2000							
Max. Speed	[r/min]	3000			2500	3000	2700	3000	2500
Inertia	[kg · m ² × 10 ⁻⁴]	27.96	46.56	73.85	106.7	41.13	71.53	117.72	149.4
	[gf · cm × s ²]	28.53	47.51	75.36	108.9	41.97	72.99	120.12	152.45
Allowable Load Inertia Ratio		5 times of motor inertia							
Rated Power Rate	[kW/s]	39.43	59.89	93.27	120.15	26.78	38.99	58.51	85.83
Speed/Position Detector	Standard(Note1)	Serial Type 19[bit]							
	Option	X							
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)							
	Rated Time	Continuous							
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]							
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)							
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.							
	E/V	Elevation/vibration 49[m/s ²](5G)							
Weight	[kg]	12.5	17.4	25.12	33.8	15.4	20.2	28.12	33.45

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



F Series Motor Characteristics (200V)

Motor Specifications [Rated 1500r/min]

Servo Motor (APM-□□□□□)	FE05G	FE09G	FE13G	FE17G	FF20G	FF30G	FF44G	FF60G	FF75G	FG20G	FG30G	FG44G	FG60G	
Applicable Drive	L7□A008	L7□A010	L7□A020	L7□A020	L7□A035	L7□A050	L7□A075	L7□A075	L7□A020	L7□A035	L7□A050	L7□A075	L7□A075	
Flange Size(□)	□130				□180				□220					
Rated Output	[kW]	0.45	0.85	1.3	1.7	1.8	2.9	4.4	6	7.5	1.8	2.9	4.4	6
Rated Torque	[N · m]	2.86	5.41	8.27	10.82	11.45	18.46	28	38.2	47.7	11.5	18.5	28	38.2
	[kgf · cm]	29.22	55.19	84.41	110.38	116.9	188.3	285.7	389.8	487.2	116.9	188.4	285.8	389.7
Max. Instantaneous	[N · m]	8.59	16.23	24.82	32.46	34.35	55.38	84.03	95.5	143.2	34.4	55.4	84	95.5
	[kgf · cm]	87.66	165.57	253.23	331.14	350.6	564.9	857.1	974.9	1462	350.8	565.1	857.4	974.3
Rated Current	[A]	4.56	6.67	11.9	13.36	12.16	15.98	30.7	35.14	35.26	11.18	16.21	31.72	32.18
Max. Current	[A]	13.68	20.01	35.7	40.08	36.48	47.94	92.1	105.42	105.78	33.54	48.63	95.16	96.54
Rated Speed	[r/min]	1500												
Max. Speed	[r/min]	3000				3000	2700	3000	2500	2200	3000	2700	3000	2500
Inertia	[kg · m ² × 10 ⁻⁴]	5.66	10.18	14.62	19.04	27.96	46.56	73.85	106.7	131.3	14.13	71.53	117.72	149.4
	[gf · cm × s ²]	5.77	10.39	14.92	19.43	28.53	47.51	75.36	108.9	134	41.97	72.99	120.12	152.45
Allowable Load Inertia Ratio		10 times of motor inertia					5 times of motor inertia							
Rated Power Rate	[kW/s]	14.49	28.74	46.81	61.46	46.92	73.14	106.15	136.73	173.63	31.91	47.66	66.64	97.63
Speed/Position Detector	Standard(Note1)	Serial Type 19 [bit]												
	Option	X												
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)												
	Rated Time	Continuous												
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]												
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)												
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.												
Weight	E/V	Elevation/vibration 49[m/s ²](5G)												
	[kg]	5.0	6.7	8.5	10.1	12.5	17.4	25.2	33.8	38.5	15.4	20.2	28	33.45

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



L7 SERIES SYSTEM

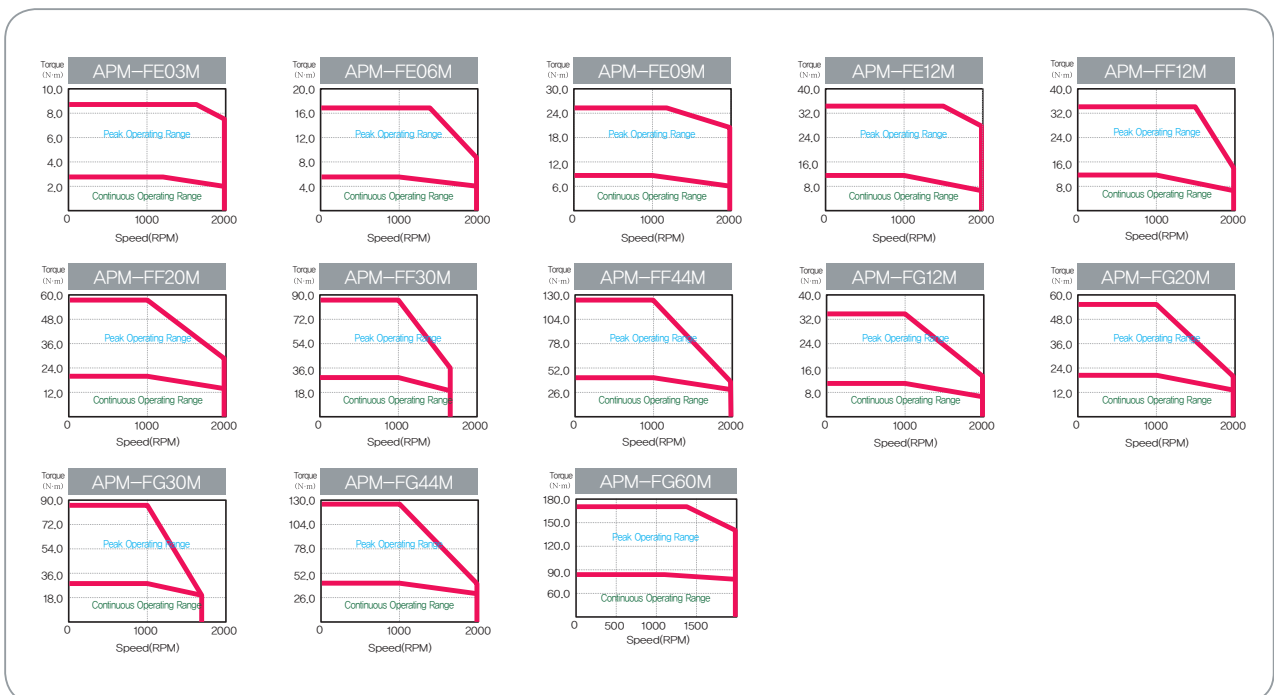
F Series Motor Characteristics (200V)

Motor Specifications [Rated 1000r/min]

Servo Motor (APM-□□□□)	FE03M	FE06M	FE09M	FE12M	FF12M	FF20M	FF30M	FF44M	FG12M	FG20M	FG30M	FG44M	FG60M			
Applicable Drive	L7□A004	L7□A008	L7□A010	L7□A020	L7□A020	L7□A035	L7□A050	L7□A020	L7□A035	L7□A050	L7□A075	L7□A075	L7□A075			
Flange Size(□)	□130				□180				□220							
Rated Output	[kW]	0,3	0,6	0,9	1,2	1,2	2	3	4,4	1,2	2	3	4,4	6		
Rated Torque	[N·m]	2,86	5,72	8,59	11,46	11,46	19,09	28,64	42,02	11,5	19,1	28,6	42	57,29		
	[kgf·cm]	29,22	58,4	87,7	116,9	116,9	194,8	292,2	428,7	116,9	194,9	292,3	428,7	584,6		
Max. Instantaneous	[N·m]	8,59	17,18	25,77	34,22	34,38	57,29	85,94	126,1	34,4	57,3	85,9	126	171,87		
	[kgf·cm]	87,66	175,3	262,9	349,1	350,7	584,4	876,6	128,6	350,8	584,6	876,9	128,61	1,753,80		
Rated Current	[A]	2,73	4,56	6,18	10,67	11,01	12,96	16,58	30,6	11,28	13,1	15,52	27,26	38		
Max. Current	[A]	8,19	13,68	18,54	32,01	33,03	38,88	49,74	91,8	33,84	39,3	46,56	81,78	102		
Rated Speed	[r/min]	1000														
Max. Speed	[r/min]	2000				1700				2000			1700		2000	
Inertia	[kg·m ² ×10 ⁻⁴]	5,66	10,18	14,62	19,04	27,96	46,56	73,85	106,7	41,13	71,53	117,72	149,4	291,36		
	[gf·cm ² ×s ²]	5,77	10,39	14,92	19,43	28,53	47,51	75,36	108,9	41,97	72,99	120,12	152,45	297,31		
Allowable Load Inertia Ratio		10 times of motor inertia				5 times of motor inertia										
Rated Power Rate	[kW/s]	14,49	32,22	50,48	68,91	46,94	78,27	111,04	165,38	31,91	51	69,7	118,14	112,65		
Speed/Position Detector	Standard(Note1)	Serial Type 19 [bit]														
	Option	X														
Specifications & Features	Structure	Fully closed · Self cooling IP65 (Note1)														
	Rated Time	Continuous														
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]														
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)														
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.														
Weight	E/V	Elevation/vibration 49[m/s ²](5G)														
	[kg]	5	6,7	8,5	10,1	12,5	17,4	25,2	33,8	15,4	20,2	28	33,5	66,2		

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



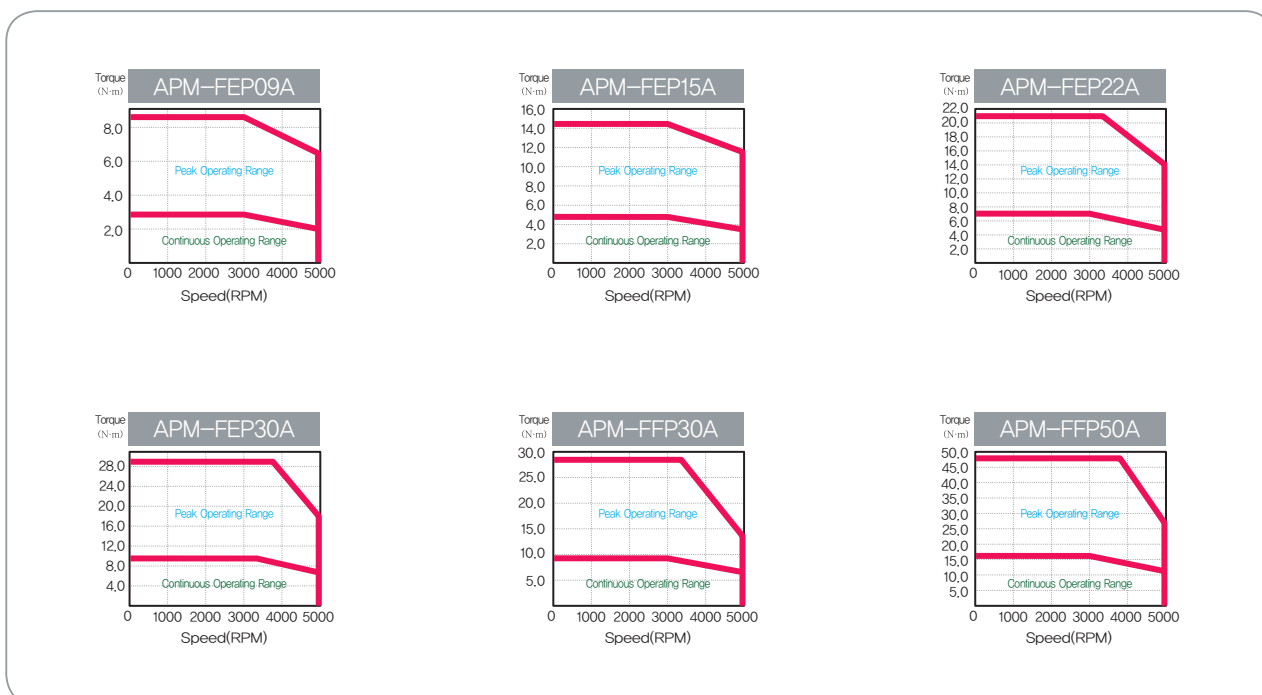
F Series Motor Characteristics (400V)

Motor Specifications [Rated 3000r/min]

Servo Motor (APM-□□□□□)	FEP09A	FEP15A	FEP22A	FEP30A	FFP30A	FFP50A	
Applicable Drive	L7□B010□	L7□B020□	L7□B035□		L7□B050□		
Flange Size(□)	□130				□180		
Rated Output	[kW]	0.9	1.5	2.2	3.0	5.0	
Rated Torque	[N · m]	2.86	4.77	7.0	9.55	15.92	
	[kgf · cm]	29.23	48.72	71.46	97.44	162.4	
Max. Instantaneous	[N · m]	8.59	14.32	21.01	28.65	39.79	
	[kgf · cm]	87.7	146.16	214.37	292.33	406.01	
Rated Current	[A]	3.47	6.68	9.12	9.94	16.07	
Max. Current	[A]	10.4	20.03	27.35	29.81	48.22	
Rated Speed	[r/min]	3000					
Max. Speed	[r/min]	5000					
Inertia	[kg · m ² × 10 ⁻⁴]	5.659	10.179	14.619	19.04	27.96	46.56
	[gf · cm × s ²]	5.774	10.387	14.917	19.429	28.531	47.51
Allowable Load Inertia Ratio		10 times of motor inertia			5 times of motor inertia		
Rated Power Rate	[kW/s]	14.5	22.4	33.55	47.89	32.61	54.4
Speed/Position Detector	Standard(Note1)	Serial Type 19 [bit]					
	Option	X					
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)					
	Rated Time	Continuous					
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]					
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)					
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.					
Weight	E/V	Elevation/vibration 49[m/s ²](5G)					
	[kg]	5.5	7.54	9.68	11.78	12.4	17.7

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



L7 SERIES SYSTEM

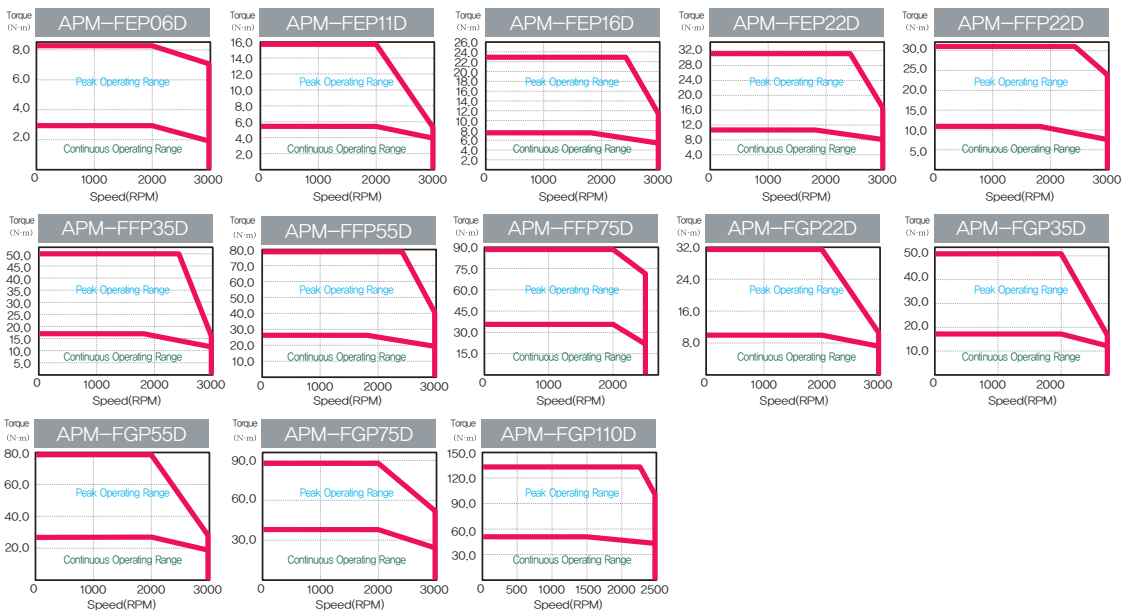
F Series Motor Characteristics (400V)

Motor Specifications [Rated 2000r/min]

Servo Motor (APM-□□□□)	FEP06D	FEP11D	FEP16D	FEP22D	FFP22D	FFP35D	FFP55D	FFP75D	FGP22D	FGP35D	FGP55D	FGP75D	FGP110D	
Applicable Drive	L7□B010□		L7□B020□			L7□B035□	L7□B050□	L7□B075□	L7□B020□	L7□B035□	L7□B050□	L7□B075□	L7□B150□	
Flange Size(□)	□130				□180				□220					
Rated Output	[kW]	0,6	1,1	1,6	2,2	2,2	3,5	5,5	7,5	2,2	3,5	5,5	7,5	11
Rated Torque	[N·m]	2,86	5,25	7,64	10,5	10,5	16,71	26,26	35,81	10,5	16,71	26,26	35,81	52,52
	[kgf·cm]	29,23	53,59	77,95	107,19	107,19	170,52	267,96	365,41	107,19	170,52	267,96	365,41	535,93
Max. Instantaneous	[N·m]	8,59	15,76	22,92	31,51	31,51	50,13	65,65	89,52	31,51	50,13	78,78	89,52	131,30
	[kgf·cm]	87,7	160,78	233,86	321,56	321,56	511,57	669,91	913,52	321,56	511,57	803,89	913,52	1339,82
Rated Current	[A]	3,28	3,4	4,97	6,80	6,93	9,09	14,70	18,97	7,12	8,73	16,04	19,10	27,41
Max. Current	[A]	9,83	10,19	14,92	20,4	20,8	27,26	44,1	47,42	21,35	26,2	48,11	47,76	67,33
Rated Speed	[r/min]	2000												
Max. Speed	[r/min]	3000						2500	3000	2700	3000	2500		
Inertia	[kg·m ² ×10 ⁻⁴]	5,659	10,179	14,619	19,04	27,96	46,56	73,85	106,73	41,13	71,53	117,72	149,4	291,36
	[gf·cm ² ×s ²]	5,774	10,387	14,917	19,429	28,531	47,51	75,357	108,908	41,67	72,99	120,12	152,45	297,31
Allowable Load Inertia Ratio		10 times of motor inertia					5 times of motor inertia							
Rated Power Rate	[kW/s]	14,5	27,1	39,92	57,95	39,46	59,98	93,38	120,15	26,83	39,04	58,58	85,83	94,65
Speed/Position Detector	Standard(Note1)	Serial Type 19 [bit]												
	Option	X												
Specifications & Features	Structure	Fully closed · Self cooling IP65 (Note1)												
	Rated Time	Continuous												
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]												
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)												
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.												
Weight	E/V	Elevation/vibration 49[m/s ²](5G)												
	[kg]	5,5	7,54	9,68	11,78	12,4	17,7	26,3	35,6	16,95	21,95	30,8	37,52	66,2

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



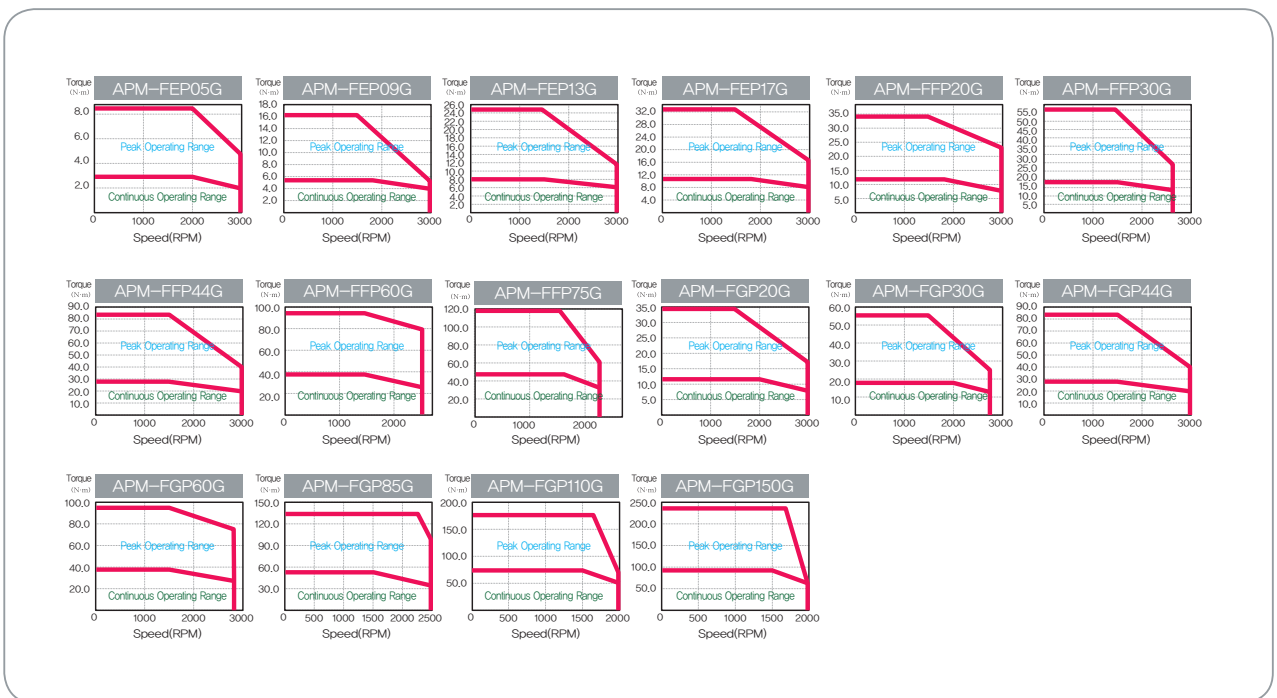
F Series Motor Characteristics (400V)

Motor Specifications [Rated 1500r/min]

Servo Motor (APM-□□□□□)	FEP05G	FEP09G	FEP13G	FEP17G	FFP20G	FFP30G	FFP44G	FFP60G	FFP75G	FGP20G	FGP30G	FGP44G	FGP60G	FGP85G	FGP110G	FGP150G	
Applicable Drive	L7□B010□		L7□B020□			L7□B035□	L7□B050□	L7□B075□		L7□B020□	L7□B035□	L7□B050□	L7□B075□	L7□B150□			
Flange Size(□)	□130						□180				□220						
Rated Output	[kW]	0.45	0.85	1.3	1.7	1.8	2.9	4.4	6	7.5	1.8	2.9	4.4	6	8.5	11	15
Rated Torque	[N · m]	2.86	5.41	8.28	10.82	11.46	18.46	28.01	38.2	47.75	11.46	18.46	28.01	38.2	54.11	70.03	95.49
	[kgf · cm]	29.23	55.22	84.45	110.43	116.93	188.39	285.83	389.77	487.21	116.93	188.39	285.83	389.77	552.17	714.57	974.42
Max. Instantaneous	[N · m]	8.59	16.23	24.83	32.47	34.38	55.39	84.03	95.49	119.37	34.38	55.39	84.03	95.49	135.28	175.07	238.73
	[kgf · cm]	87.7	166.65	253.35	331.3	350.79	565.16	857.49	974.42	1,218.02	350.79	565.16	857.49	974.42	1,380.43	1,786.43	2,436.05
Rated Current	[A]	3.28	3.50	5.39	7.01	7.56	10.04	15.68	20.23	20.01	7.76	9.65	17.11	20.38	28.24	28.28	35.71
Max. Current	[A]	9.83	10.5	16.16	21.02	22.69	30.12	47.04	50.58	50.03	23.29	28.95	51.32	50.95	69.37	68.83	87.7
Rated Speed	[r/min]	1500															
Max. Speed	[r/min]	3000				2700	3000	2500	2200	3000	2700	3000	2500		2000		
Inertia	[kg · m ² × 10 ⁻⁴]	5.659	10.179	14.619	19.04	27.96	46.56	73.85	106.73	131.29	51.42	80.35	132.41	172.91	291.36	51.42	424.5
	[gf · cm × s ²]	5.774	10.387	14.917	19.429	28.531	47.51	75.357	108.908	133.969	52.47	81.99	135.11	176.44	297.31	52.47	433.2
Allowable Load Inertia Ratio		10 times of motor inertia						5 times of motor inertia									
Rated Power Rate	[kW/s]	14.5	28.77	46.85	61.52	46.96	73.21	106.25	136.7	173.64	25.53	45.39	61.97	102.08	100.5	168.3	214.8
Speed/Position Detector	Standard(Note1)	Serial Type 19 [bit]															
	Option	X															
Specifications & Features	Structure	Fully closed · Self cooling IP65 Note1)															
	Rated Time	Continuous															
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]															
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)															
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.															
Weight	E/V	Elevation/vibration 49[m/s ²](5G)															
	[kg]	5.5	7.54	9.68	11.78	12.4	17.7	26.3	35.6	39.4	16.95	21.95	30.8	37.52	66.2	66.3	92.2

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics



L7/S Series
L7/N Series
L7/NH Series
L7/P Series
S Series
F Series
MDM Series
Options
PEGASUS Series

L7 SERIES SYSTEM

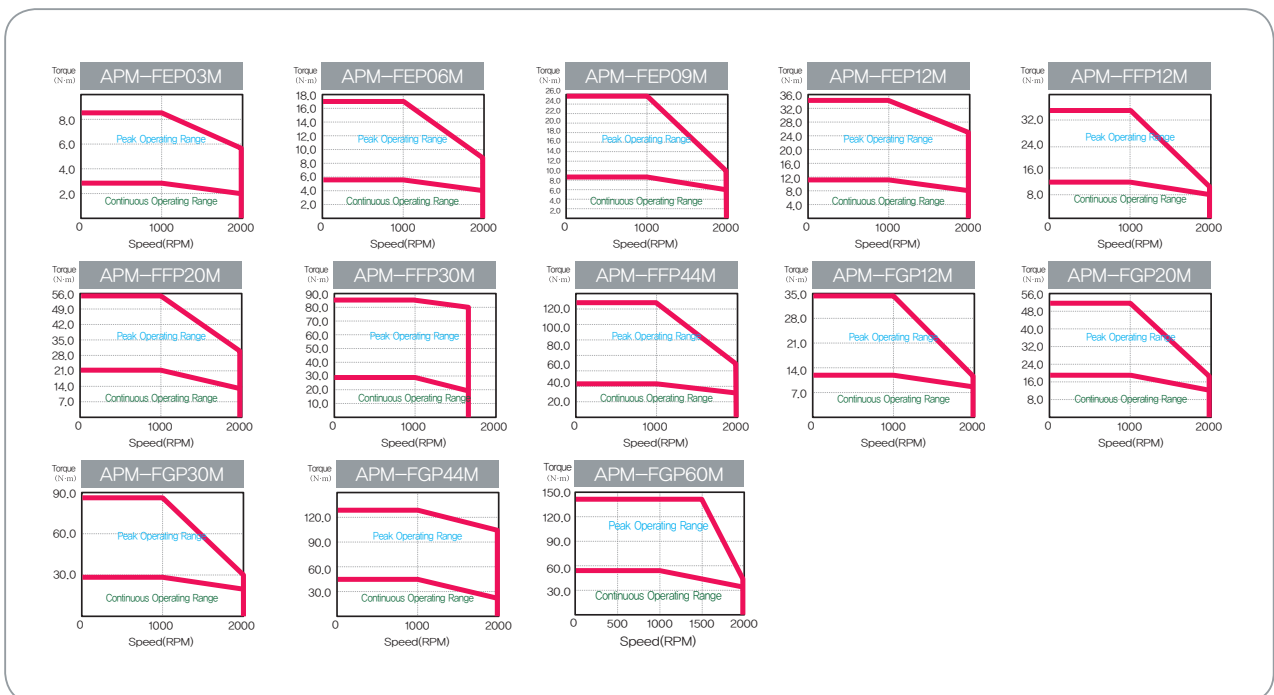
F Series Motor Characteristics (400V)

Motor Specifications [Rated 1000r/min]

Servo Motor (APM-□□□□)	FEP03M	FEP06M	FEP09M	FEP12M	FFP12M	FFP20M	FFP30M	FFP44M	FGP12M	FGP20M	FGP30M	FGP44M	FGP60M	
Applicable Drive	L7□B010□			L7□B020□			L7□B050□		L7□B020□		L7□B050□		L7□B150	
Flange Size(□)	□130				□180				□220					
Rated Output	[kW]	0,3	0,6	0,9	1,2	1,2	2	3	4,4	1,2	2	3	4,4	6
Rated Torque	[N · m]	2,86	5,73	8,59	11,46	11,46	19,1	28,65	42,02	11,46	19,1	28,65	42,02	57,3
	[kgf · cm]	29,23	58,47	87,7	116,93	116,93	194,88	292,33	428,74	116,93	194,88	292,33	428,74	584,65
Max. Instantaneous	[N · m]	8,59	17,19	25,78	34,38	34,38	57,3	85,94	126,05	34,38	57,3	85,94	126,05	143,24
	[kgf · cm]	87,7	175,4	263,09	350,79	350,79	584,65	876,98	1286,23	350,79	584,65	876,98	1,071,86	1,461,63
Rated Current	[A]	3,28	3,28	3,33	4,87	4,83	7,94	11,9	16,69	4,75	7,88	11,74	17,39	23,58
Max. Current	[A]	9,83	9,83	9,99	14,6	14,5	23,83	35,7	50,08	14,24	23,64	35,22	52,18	57,92
Rated Speed	[r/min]	1000												
Max. Speed	[r/min]	2000					1700			2000				
Inertia	[kg · m ² × 10 ⁻⁴]	5,659	10,179	14,619	19,04	27,96	46,56	73,85	106,73	51,42	80,35	132,41	172,91	291,36
	[gf · cm × s ²]	5,774	10,387	14,917	19,429	28,531	47,51	75,357	108,908	52,47	81,99	135,11	176,44	297,31
Allowable Load Inertia Ratio		10 times of motor inertia					5 times of motor inertia							
Rated Power Rate	[kW/s]	14,5	32,25	50,53	68,97	46,96	78,38	111,13	165,41	25,53	45,39	61,97	102,08	112,64
Speed/Position Detector	Standard(Note1)	Serial Type 19 [bit]												
	Option	X												
Specifications & Features	Structure	Fully closed · Self cooling IP65 (Note1)												
	Rated Time	Continuous												
	Ambient Temp	Operating : 0 ~ 40[°C] Storage : -10 ~ 60[°C]												
	Ambient Humidity	90[%]RH Below (avoid dew-condensation)												
	Atmosphere	Avoid direct sunlight, no corrosive gas, inflammable gas, oil mist, or dust.												
Weight	[kg]	Elevation/vibration 49[m/s ²](5G)												
		5,5	7,54	9,68	11,78	12,4	17,7	26,3	35,6	16,95	21,95	30,8	37,52	66,2

Note1) Except for axis penetration, when you attach reducer to the motor, we don't guarantee IP for reducer. If you bend over specification designated in cable standard, it is difficult to guarantee IP marked. It can be satisfied protection grade when you use private cable only.

Speed-Torque Characteristics

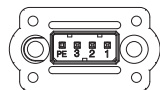


External Dimensions of Servo Motor

FAL Series

Plug Specifications

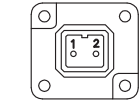
[Power]



Pin No.	Color	Signal
1	Red	U
2	White	V
3	Black	W
PE	Green	Ground

(Power Connector Pin Table)

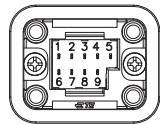
[Brake]



Pin No.	Signal
1	BK+
2	BK-

(Brake Connector Pin Table)

[Encoder]



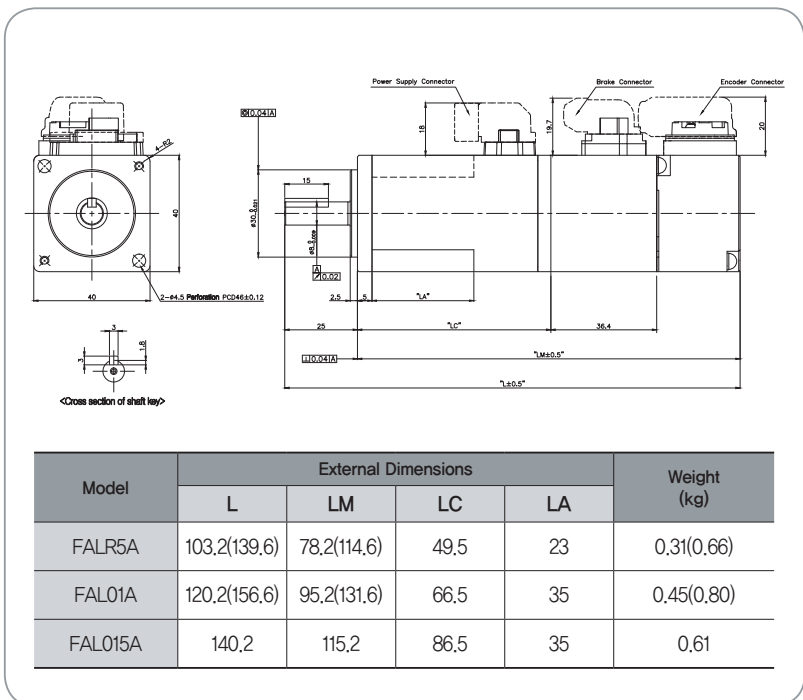
Multi Turn (M)	
Pin No.	Signal
1	MA
2	SLO
3	GND_B
4	0V
5	SHIELD
6	MA
7	SLO
8	VDD_B
9	+5V

(Encoder Connector Pin Table)

Note1) Use DC[24V] for brake input power supply.

Note2) The () is for brake-attached type.

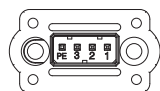
Note3) For external dimensions for oil-sealed type. Please kindly contact us separately.



FBL Series

Plug Specifications

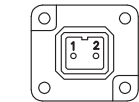
[Power]



Pin No.	Color	Signal
1	Red	U
2	White	V
3	Black	W
PE	Green	Ground

(Power Connector Pin Table)

[Brake]



Pin No.	Signal
1	BK+
2	BK-

(Brake Connector Pin Table)

[Encoder]



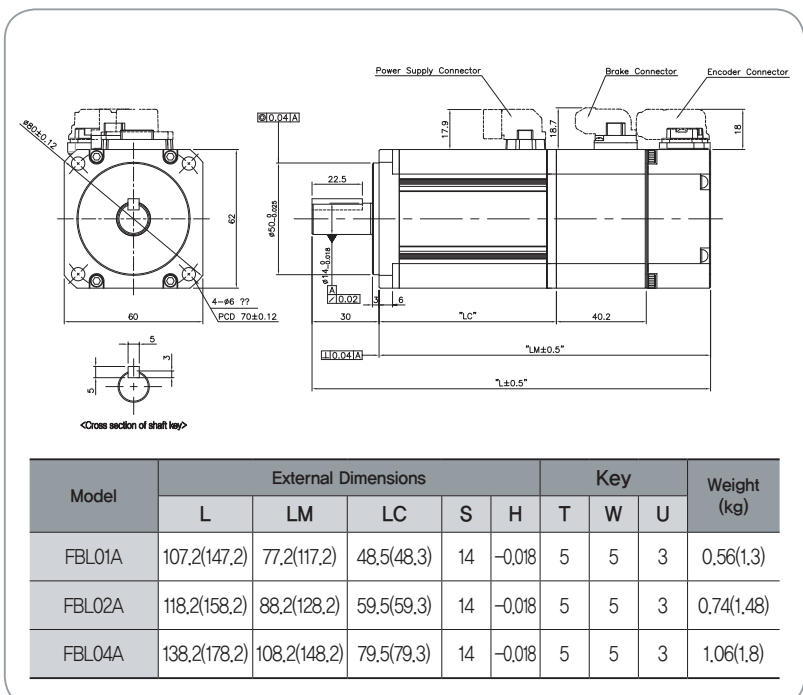
Multi Turn (M)	
Pin No.	Signal
1	MA
2	SLO
3	GND_B
4	0V
5	SHIELD
6	MA
7	SLO
8	VDD_B
9	+5V

(Encoder Connector Pin Table)

Note1) Use DC[24V] for brake input power supply.

Note2) The () is for brake-attached type.

Note3) For external dimensions for oil-sealed type. Please kindly contact us separately.



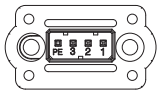
L7 SERIES SYSTEM

External Dimensions of Servo Motor

FCL Series

Plug Specifications

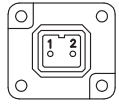
[Power]



Pin No.	Color	Signal
1	Red	U
2	White	V
3	Black	W
PE	Green	Ground

(Power Connector Pin Table)

[Brake]



Pin No.	Signal
1	BK+
2	BK-

(Brake Connector Pin Table)

[Encoder]



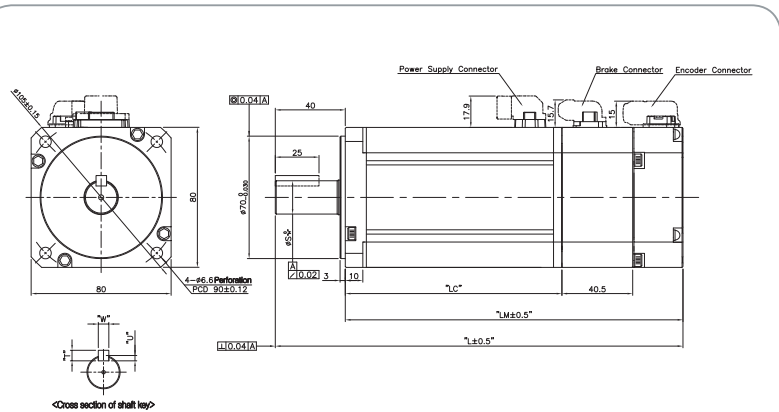
Multi Turn (M)	
Pin No.	Signal
1	MA
2	SLO
3	GND_B
4	0V
5	SHIELD
6	MA
7	SLO
8	VDD_B
9	+5V

(Encoder Connector Pin Table)

Note1) Use DC[24V] for brake input power supply.

Note2) The () is for brake-attached type.

Note3) For external dimensions for oil-sealed type. Please kindly contact us separately.

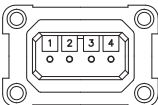


Model	External Dimensions							Weight (kg)	
	L	LM	LC	S	H	T	W		U
FCL04A,FCL03D	138.7(179.5)	98.7(139.5)	70(69.8)	14	-0.018	5	5	3	1.52(2.32)/1.26(2.06)
FCL06A,FCL05D	156.7(197.5)	116.7(157.5)	88(87.8)	19	-0.021	6	6	3.5	2.14(2.94)/2.12(2.92)
FCL08A,FCL06D	174.7(215.5)	134.7(175.5)	106(105.8)	19	-0.021	6	6	3.5	2.68(3.48)/2.66(3.46)
FCL10A,FCL07D	192.7(233.5)	152.7(193.5)	124(123.8)	19	-0.021	6	6	3.5	3.30(4.10)/2.78(3.58)

FB Series

Plug Specifications

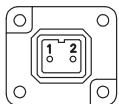
[Power]



Pin No.	Color	Signal
1	Black	W
2	White	V
3	Red	U
4	Green	Ground

(Power Connector Pin Table)

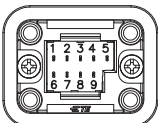
[Brake]



Pin No.	Signal
1	BK+
2	BK-

(Brake Connector Pin Table)

[Encoder]



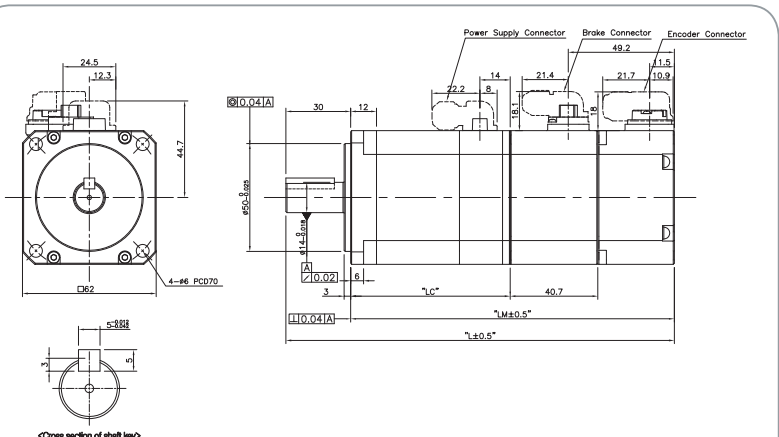
Multi Turn (M)	
Pin No.	Signal
1	MA
2	SLO
3	GND_B
4	0V
5	SHIELD
6	MA
7	SLO
8	VDD_B
9	+5V

(Encoder Connector Pin Table)

Note1) Use DC[24V] for brake input power supply.

Note2) The () is for brake-attached type.

Note3) For external dimensions for oil-sealed type. Please kindly contact us separately.



Model	External Dimensions			Weight (kg)
	L	LM	LC	
FB01A	109(149.2)	79(119.2)	43.5(43)	0.72(1.3)
FB02A	120(160.2)	90(130.2)	54.5(54)	0.94(1.49)
FB04A	140(180.2)	110(150.2)	74.5(74)	1.32(1.87)


L7 SERIES SYSTEM

External Dimensions of Servo Motor

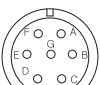
FF, FFP Series

Plug Specifications

[Power]




Spec.
: MS3102A22-22P
(Standard)



Spec.
: MS3102A24-10P
(Brake-attached type)

[Encoder]

2)Serial type



Spec.
: MS3102A20-29P

Pin No.	Signal	Pin No.	Signal
A	U		
B	V		
C	W		
D	Ground		

Pin No.	Signal	Pin No.	Signal
A	U	D	Ground
B	V	E	BK+
C	W	F	BK-

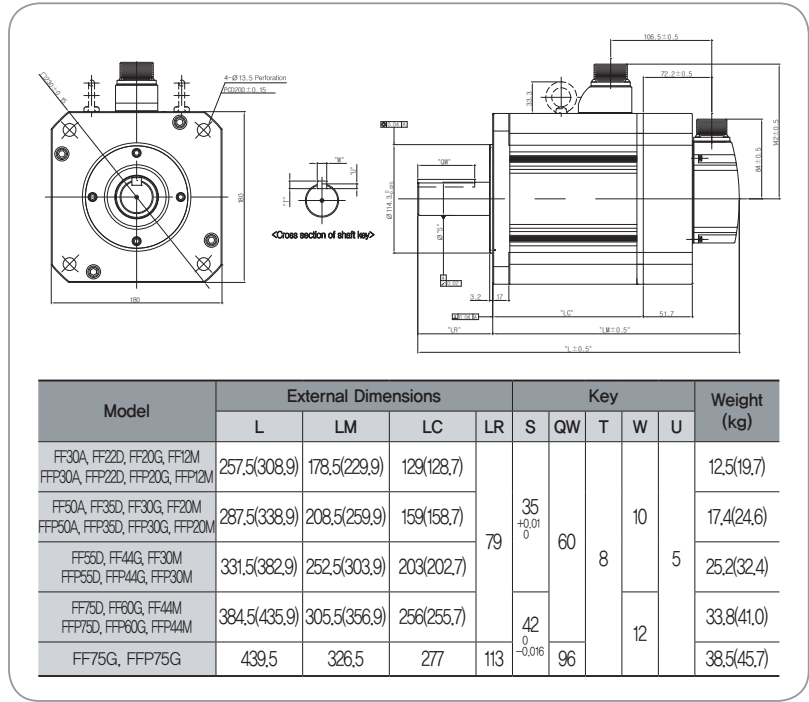
Pin No.	Signal	Pin No.	Signal
A	MA	M	-
B	MA	N	-
C	SLO	P	-
D	SLO	R	-
E	VOD_B	H	+5V
F	GND_B	G	0V
K	-	J	SHIELD
L	-		

(Single Turn Encoder Connector Pin Table)

Pin No.	Signal	Pin No.	Signal
A	MA	M	-
B	MA	N	-
C	SLO	P	-
D	SLO	R	-
E	VOD_B	H	+5V
F	GND_B	G	0V
K	-	J	SHIELD
L	-		

(Multi Turn Encoder Connector Pin Table)

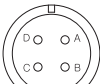
- Note1)** FF30M or above models have eye bolts.
Note2) Use DC[24V] for brake input power supply.
Note3) The () is for brake-attached type.
Note4) Use MS3102A32-17 for FF75G Power connector.



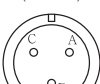
FG, FGP Series

Plug Specifications

[Power]



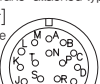
Spec.
: MS3102A22-22P
(Standard)



Spec.
: MS3102A14-7P
(Brake-attached type)

[Encoder]

2)Serial type



Spec.
: MS3102A20-29P

Pin No.	Signal	Pin No.	Signal
A	U		
B	V		
C	W		
D	Ground		

Pin No.	Signal	Pin No.	Signal
A	BK+		
B	BK+		
C	NC		

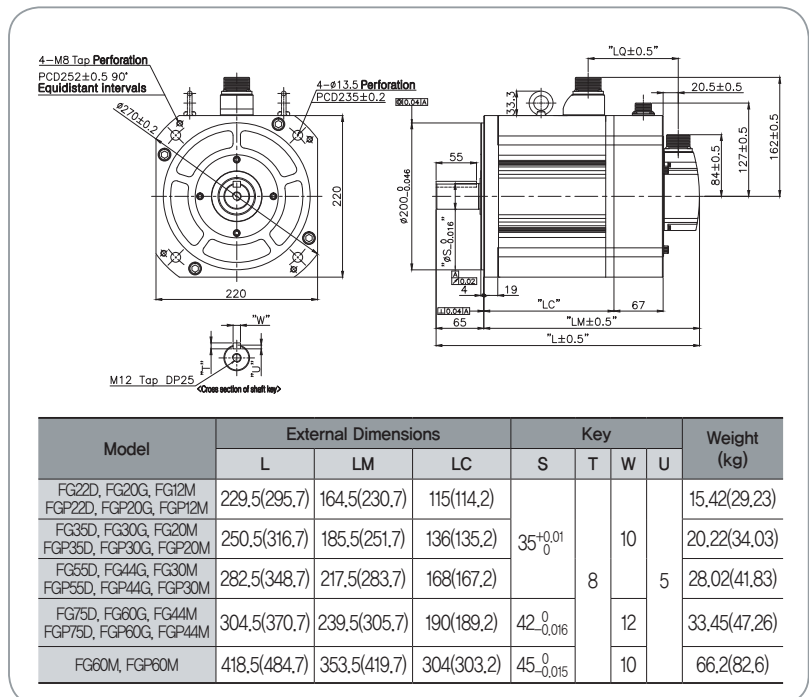
Pin No.	Signal	Pin No.	Signal
A	MA	M	-
B	MA	N	-
C	SLO	P	-
D	SLO	R	-
E	-	H	+5V
F	-	G	0V
K	-	J	SHIELD
L	-		

(Single Turn Encoder Connector Pin Table)

Pin No.	Signal	Pin No.	Signal
A	MA	M	-
B	MA	N	-
C	SLO	P	-
D	SLO	R	-
E	VOD_B	H	+5V
F	GND_B	G	0V
K	-	J	SHIELD
L	-		

(Multi Turn Encoder Connector Pin Table)

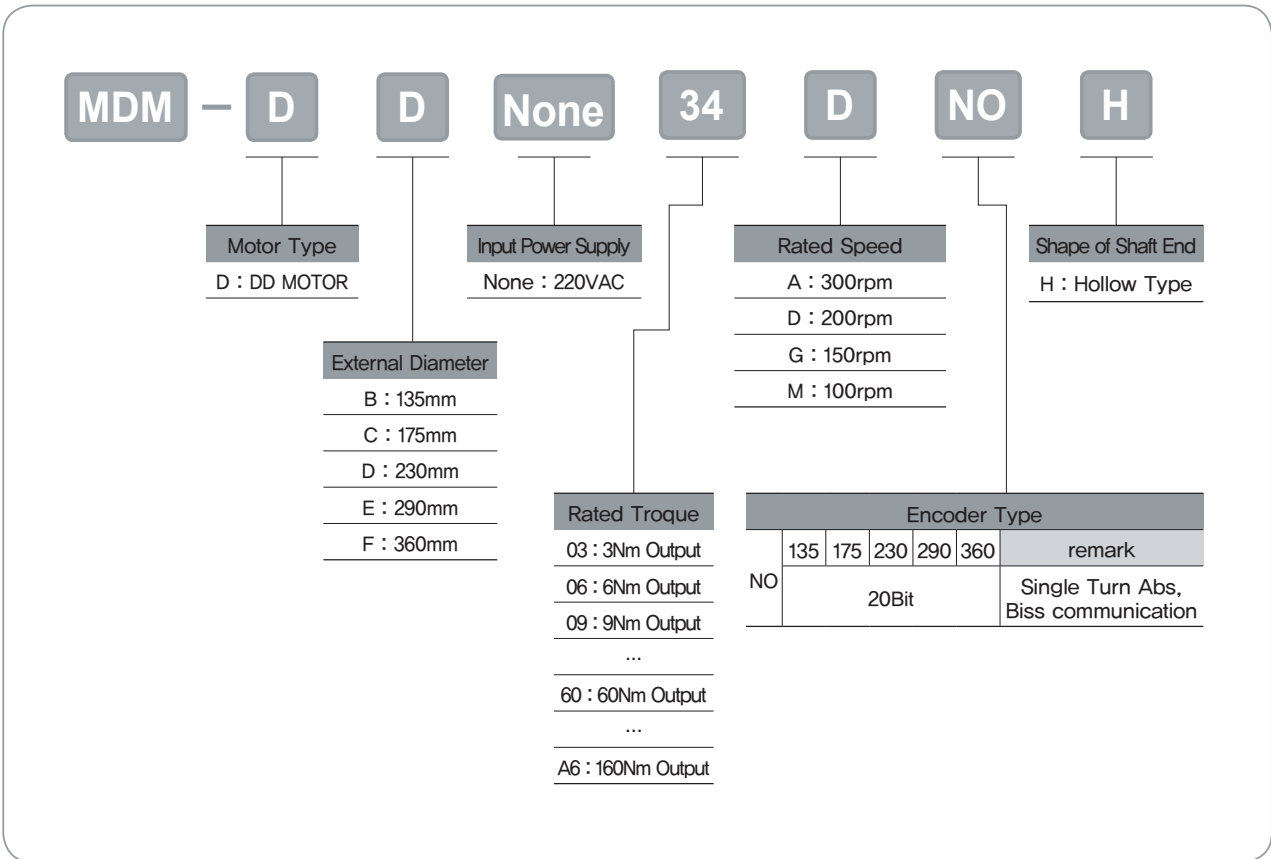
- Note1)** In case of SG, use DC[90V] for brake input power supply.
Note2) The () is for brake-attached type.



Direct-Drive motor



Direct-Drive Designation



- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

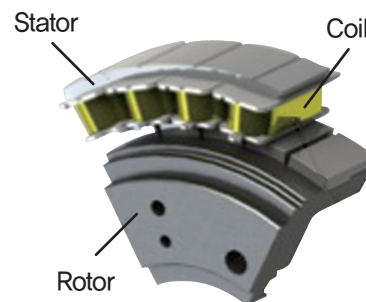
L7 SERIES SYSTEM

Features of Mecapion Direct-Drive Motor

- Using the own technologies to produce motors, drives and encoders domestically

- Optimized for low-speed, high-torque and high-precision operation

- Providing Power connection for the connection of DC-Link Terminal
- Compact Size and Easy Wring (Compared with 3 phase AC Reactor)
- Providing Connection for DC Input (PI, N)



- Reduced cogging torque and optimized torque design

- Optimal ratio of the permanent magnet and coil / slot selected through electromagnetic analysis
- Using multiple permanent magnets to reduce torque ripple and to maximize torque
- Using a permanent magnet of high-energy rare earth elements (Nd-Fe-B)

- Using the high-performance rotary optical encoder that adopts the Biss protocol

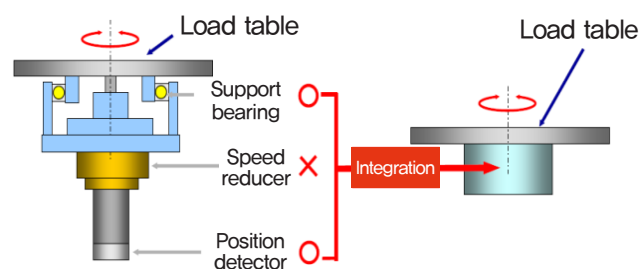
- Resolution of 1,048,576 CPR (Single turn Absolute)
- Using our own encoder technology to reduce the cost and shorten the delivery time

- Compatible with our L7 Series AC Servo Drive (3phase AC 220V)

- Both standard I/O type (serial communication supported) and network type (EtherCAT) applicable

- Direct Drive Structure

- No backlash impact
- High-precision operation and shortened installation time
- Smooth rotary motion
- Reduced noise



[Speed Reducer + Servo Motor]

[DD Motor]

- Hollow type that is efficient for wiring and piping

- A wide range of products






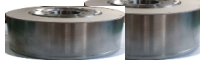

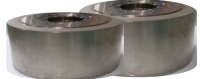
- Rated output: 63W-25kW
- Rated torque: 3.0N.m-160N.m (the instantaneous maximum torque should be 3 times the rated torque)
- Rated speed: 150RPM-200RPM
- Frame diameter: 135mm,175mm,230mm,290mm, and 360mm (13 models)

DD Motor Specifications

Ratings and Specifications

- Insulation class : Class B
- Protection class: IP 40
- Cooling type : Fully enclosed self-cooling
- Vibration class : V15
- Insulation resistance : 500 VDC, 10[MΩ] or higher
- Insulation internal voltage: 1800 VAC, 1 second
- Operating voltage: 200 VAC
- Operating temperature : 0 – 40[°C] / Storage temperature: -10~60[°C]
- Ambient humidity : 20 – 80% RH (no condensation)
- Installation location : Place with no toxic substances, such as corrosive and combustible gasses, cutting oil, metal dust, grease or direct sunlight

Line-up Table

Maximum Torque[Nm]		9	18	27	36	54	66	102	120	180	330	480
Rated speed 200[rpm]	Maximum speed 500[rpm]	Φ135	DB03D DB06D DB09D 									
		Φ175		DC06D 		DC12D 						
		Φ230			DD12D 							
	Maximum speed 400[rpm]	Φ175				DC18D 						
		Φ230					DD22D DD34D 					
		Φ290							DE40D DE60D 			
Rated speed 150[rpm]	Maximum speed 250[rpm]	Φ360								DFA1D DFA6D 		

L7S Series
 L7N Series
 L7NH Series
 L7P Series
 S Series
 F Series
 MDM Series
 Options
 PEGASUS Series

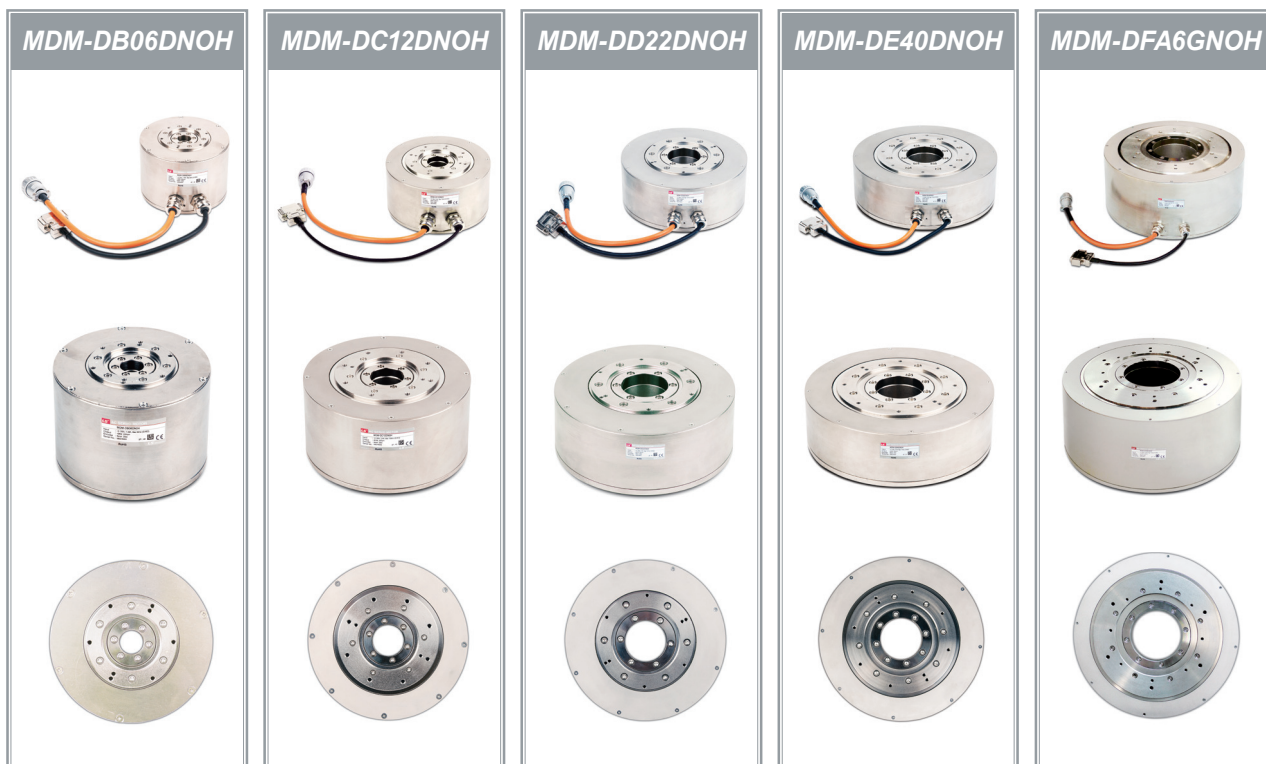
L7 SERIES SYSTEM

Motor Designation

Applicable drive to motor

Rated Speed (RPM)	Maximum Speed (RPM)	External Diameter of Motor(Φ)	Applicable Motor	Applicable Drive	encoder type
200	500	Φ135	DB03D	L7□A001□	20 bit single turn serial encoder (Biss/Absolute)
		Φ135	DB06D	L7□A002□	
		Φ135	DB09D	L7□A004□	
	500	Φ175	DC06D	L7□A002□	
		Φ175	DC12D	L7□A004□	
	400	Φ175	DC18D	L7□A008□	
	500	Φ230	DD12D	L7□A004□	
	400	Φ230	DD22D	L7□A008□	
	400	Φ230	DD34D	L7□A010□	
	300	Φ290	DE40D	L7□A010□	
300	Φ290	DE60D	L7□A020□		
150	250	Φ360	DFA1G	L7□A020□	
		Φ360	DFA6G	L7□A035□	

Appearances of Motor

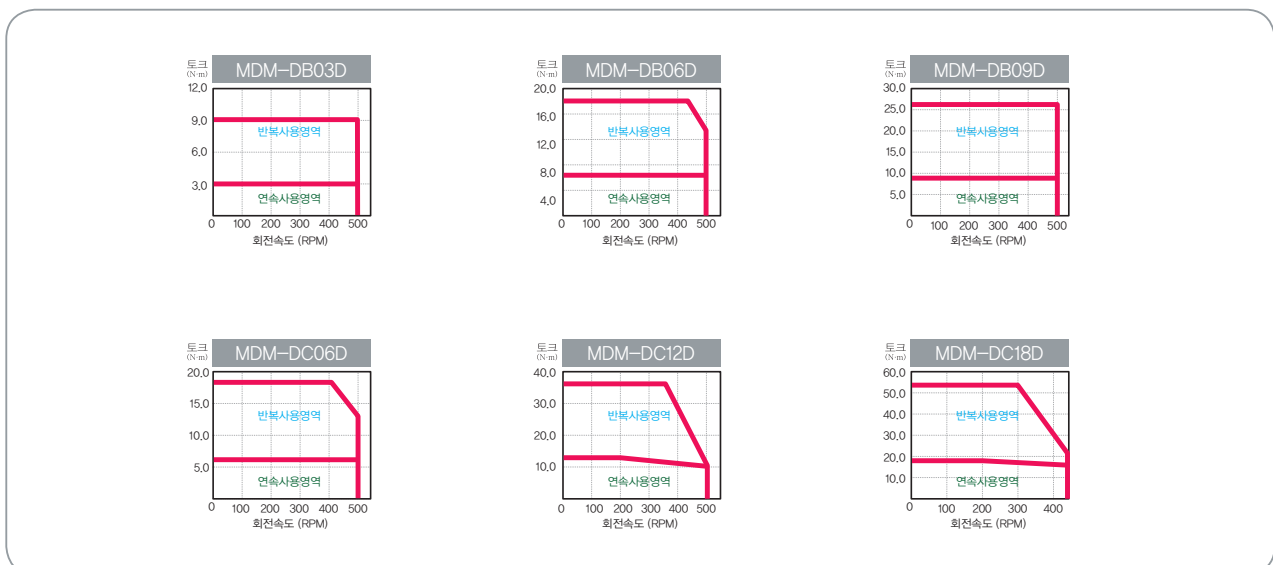


Features of Direct Drive Motor

Motor Designation		MDM-DB□□D□H			MDM-DC□□D□H		
		03	06	09	06	12	18
Applicable Drive (L7□-A□□□□)		L7□A001□	L7□A002□	L7□A004□	L7□A002□	L7□A004□	L7□A008□
Flange Size	mm	Φ135			Φ175		
Rated Output	W	63	126	188	126	251	377
Rated Torque	N-m	3	6	9	6	12	18
Max Torque	N-m	9	18	27	18	36	54
Rated Current	Arms	1.12	1.46	2.63	1.48	2.41	3.0
Max Current	Arms	3.36	4.38	7.89	4.44	7.23	9.0
Rated Speed	rpm	200			200		
Max Speed	rpm	500	500	500	500	500	400
Constant of Torque	N-m/Arms	2.76	4.25	3.57	4.18	5.13	6.12
Inertia	kg-m ² ×10 ⁻⁴	5.74	8.67	11.5	27.32	38.9	50.48
Rated Power Rate	kW/s	15.68	42.35	70.43	13.18	52.71	118.59
Angular acceleration	rad/s ²	191.2	141.6	127.7	455.03	323.9	280.3
positioning accuracy	arc-sec	±15					
positioning repeatability	arc-sec	±1.3					
Axial run-out	mm	0.015					
Radial run-out	mm	0.03					
Allowable Thrust Load	N	1500			3300		
Max. Instantaneous	N-m	40			70		
Encoder Type		20-bit single turn serial encoder (Biss/Absolute)					
Weight (Approx.)	kg	6.3	7.2	9.2	8.7	10.6	12.6
Working Environment	Ambient Temp	operating : 0~40[°C] / storage : -20~60[°C]					
	Ambient Humidity	20~80[%] RH(avoid dew-condensation)					
	Atmosphere	Avoid direct sunlight, No corrosive gas, Inflammable gas, Oil mist, or Dust					

* In case of allowable load inertia ratio, please apply within 30 times of rotator inertia

Speed-Torque Characteristics



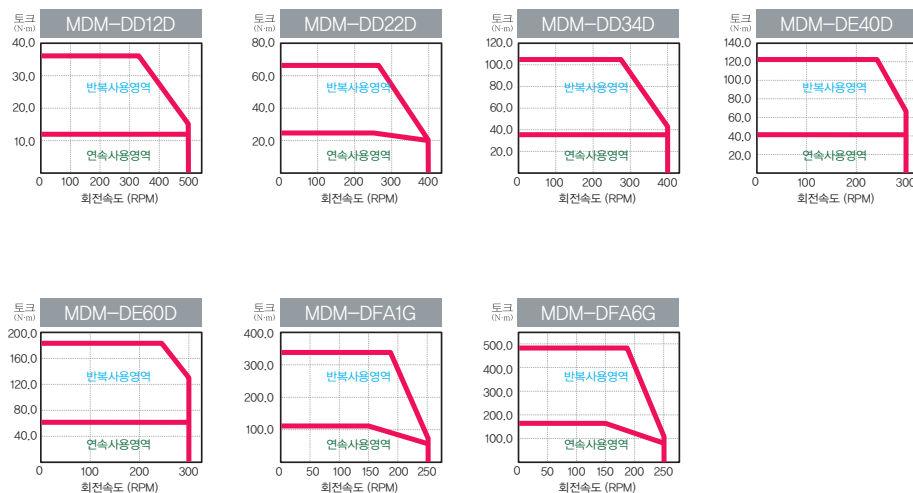
L7 SERIES SYSTEM

Features of Direct Drive Motor

Motor Designation		MDM-DD□□D□H			MDM-DE□□□D□H		MDM-DF□□□G□H	
		12	22	34	40	60	A1	A6
Applicable Drive (L7□-A□□□□)		L7□A004□	L7□A008□	L7□A010□	L7□A010□	L7□A020□	L7□A020□	L7□A035□
Flange Size	mm	Φ230			Φ290		Φ360	
Rated Output	W	251	461	712	838	1,257	1,728	2,513
Rated Torque	N-m	12	22	34	40	60	110	160
Max Torque	N-m	36	66	102	120	180	330	480
Rated Current	Arms	2.58	3.33	5.72	5.3	8.33	9.48	14.6
Max Current	Arms	7.74	9.99	17.16	15.9	24.99	28.44	43.8
Rated Speed	rpm	200			200		150	
Max Speed	rpm	500	400	400	300	300	250	250
Constant of Torque	N-m/Arms	4.8	6.81	6.13	7.77	7.42	11.95	11.29
Inertia	kg-m ² ×10 ⁻⁴	54.14	68.15	82.16	311.55	371.71	1410.2	1763.4
Rated Power Rate	kW/s	26.6	71.02	140.7	51.36	96.68	85.9	145.4
Angular acceleration	rad/s ²	450.9	309.6	241.5	778.35	619.1	1281.13	1101.4
positioning accuracy	arc-sec	±15						
positioning repeatability	arc-sec	±1.3						
Axial run-out	mm	0.015						
Radial run-out	mm	0.03						
Allowable Thrust Load	N	4000			11000		15000	
Max. Instantaneous	N-m	93			250		350	
Encoder Type		20-bit single turn serial encoder (Biss/Absolute)						
Weight (Approx.)	kg	17.3	19.6	21.9	28.2	35	54	70.3
Working Environment	Ambient Temp	operating : 0~40[°C] / storage : -20~60[°C]						
	Ambient Humidity	20~80[%] RH(avoid dew-condensation)						
	Atmosphere	Avoid direct sunlight, No corrosive gas, Inflammable gas, Oil mist, or Dust						

* In case of allowable load inertia ratio, please apply within 30 times of rotator inertia

Speed-Torque Characteristics



External Dimensions of Direct-Drive Rotary Motor

MDM-DB03D, MDM-DB06D, MDM-DB09D

NIC-24-4-PM

Signal	Line color	PIN NO.
U	Red	A
V	White	B
W	Black	C
FG	Green	D

POWER CONNECTOR

D-Sub Connector (15pin)

D.D SERVO ENCODER CABLE			
No.	Encoder Signal	No.	Encoder Signal
1	MA	9	+5V
2	SLO	10	-
3	-	11	-
4	0V	12	-
5	Shield	13	-
6	MA	14	-
7	SLO	15	-
8	-	-	-

ENCODER CONNECTOR

MDM-DC06D, MDM-DC12D, MDM-DC18D

NIC-24-4-PM

Signal	Line color	PIN NO.
U	Red	A
V	White	B
W	Black	C
FG	Green	D

POWER CONNECTOR

D-sub Connector (15pin)

D.D SERVO ENCODER CABLE			
No.	Encoder Signal	No.	Encoder Signal
1	MA	9	+5V
2	SLO	10	-
3	-	11	-
4	0V	12	-
5	Shield	13	-
6	MA	14	-
7	SLO	15	-
8	-	-	-

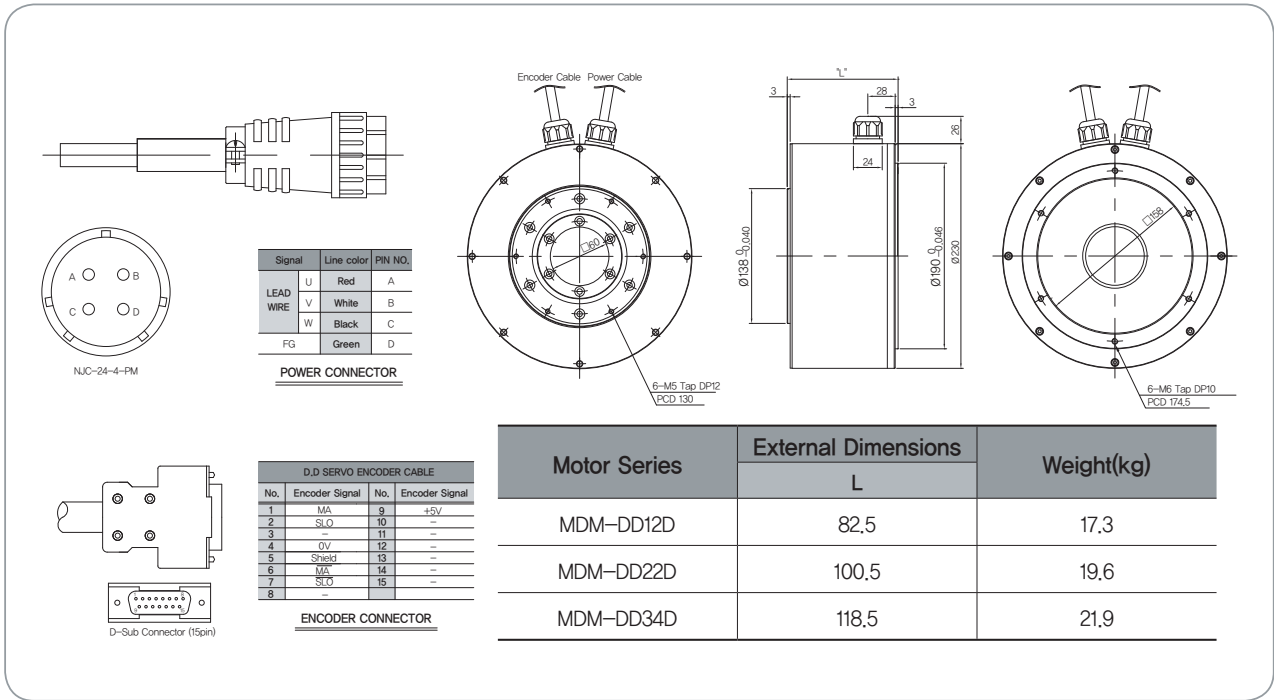
ENCODER CONNECTOR

- L7/S Series
- L7/N Series
- L7/NH Series
- L7/P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

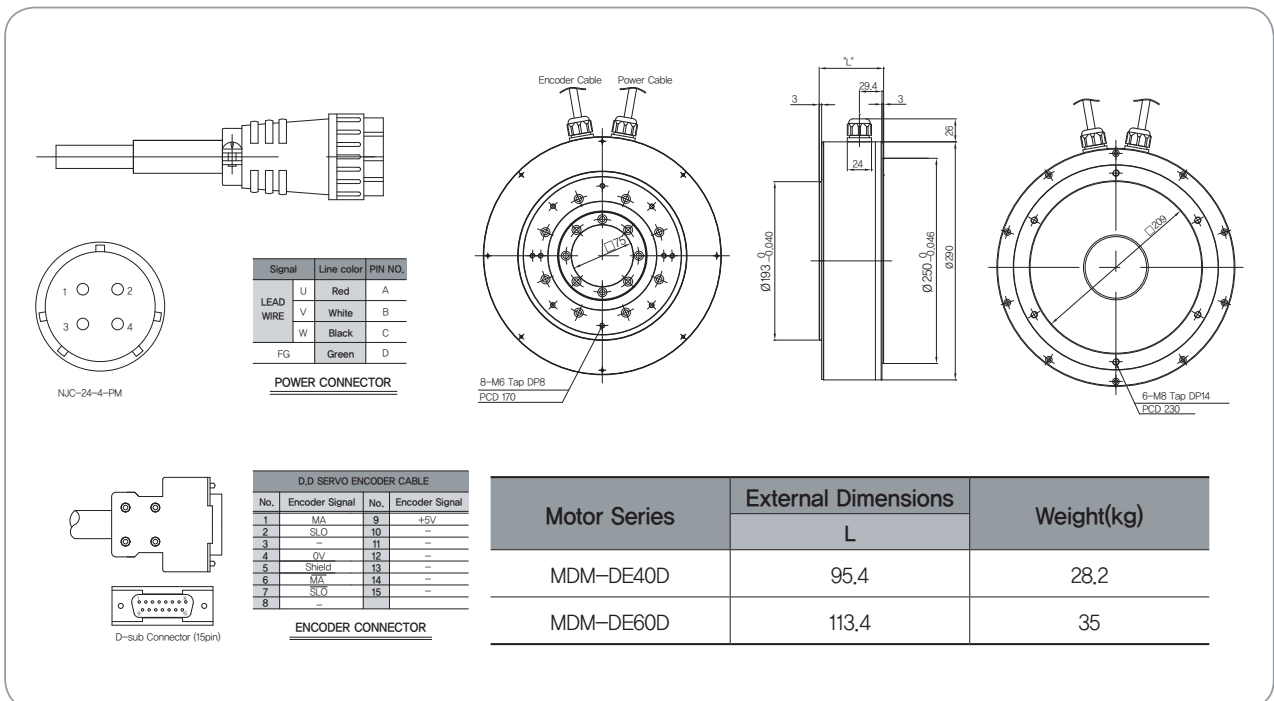
L7 SERIES SYSTEM

External Dimensions of Direct-Drive Rotary Motor

MDM-DD12D, MDM-DD22D, MDM-DD34D

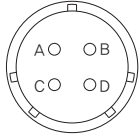


MDM-DE40D, MDM-DE60D



External Dimensions of Direct-Drive Rotary Motor

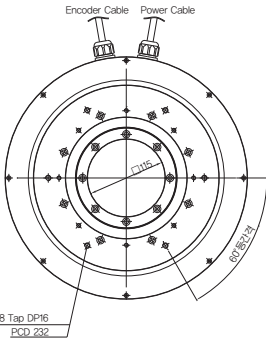
MDM-DFA1G, MDM-DFA6G



제조사: Nanaboshi Electronic
NJC-24-4-PM

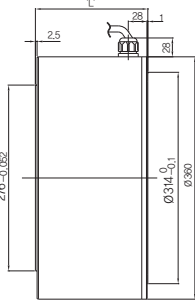
Signal	Line color	PIN NO.
U	Red	A
V	White	B
W	Black	C
FG	Green	D

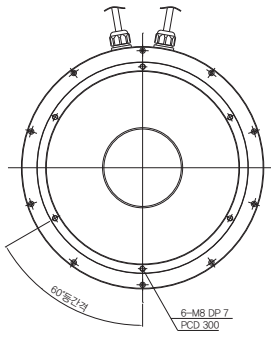
POWER CONNECTOR



Encoder Cable Power Cable

6-M8 Tap DP16
PCD 232





D,D SERVO ENCODER CABLE			
No.	Encoder Signal	No.	Encoder Signal
1	MA	9	+5V
2	SLO	10	--
3	--	11	--
4	0V	12	--
5	Shield	13	--
6	MA	14	--
7	SLO	15	--
8	--	--	--

ENCODER CONNECTOR

Motor Series	External Dimensions		Weight(kg)
	L		
MDM-DFA1G	131		54
MDM-DFA6G	167		70.3

- L7/S Series
- L7/N Series
- L7/NH Series
- L7/P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

■ Options

Servo motor options

- Signal cable _93
- Power cable _96

Servo drive options

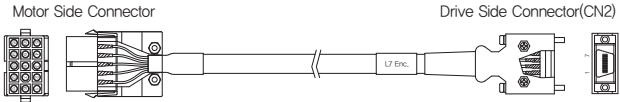
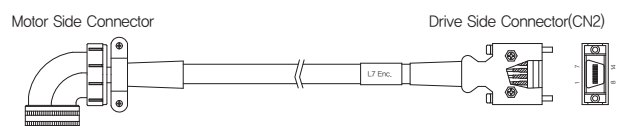
- Signal cable _105
- Connector _106

Other options

- Braking resistance _107

Servo Motor Option

Signal Cable [Incremental]

Type	Product Type	Model Name ^(Note1)	Applicable Drive	Applicable Motor	Specifications																																																																								
For Signal	Parallel Encoder Cable (Small Capacity)	APCS-E□□□AS	L7SA□□□A L7NHA□□□U L7PA□□□U	All Models of APM-SA APM-SB APM-SC APM-HB SERIES	 <table border="1" data-bbox="861 705 1077 907"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>A</td><td>9</td><td>V</td></tr> <tr><td>2</td><td>Ā</td><td>10</td><td>V̄</td></tr> <tr><td>3</td><td>B</td><td>11</td><td>W</td></tr> <tr><td>4</td><td>B̄</td><td>12</td><td>W̄</td></tr> <tr><td>5</td><td>Z</td><td>13</td><td>+5V</td></tr> <tr><td>6</td><td>Z̄</td><td>14</td><td>0V</td></tr> <tr><td>7</td><td>U</td><td>15</td><td>SHIELD</td></tr> <tr><td>8</td><td>Ū</td><td></td><td></td></tr> </tbody> </table> <table border="1" data-bbox="1093 705 1316 907"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>W</td><td>8</td><td>Z</td></tr> <tr><td>2</td><td>W̄</td><td>9</td><td>Z̄</td></tr> <tr><td>3</td><td>V</td><td>10</td><td>B̄</td></tr> <tr><td>4</td><td>V̄</td><td>11</td><td>B</td></tr> <tr><td>5</td><td>U</td><td>12</td><td>Ā</td></tr> <tr><td>6</td><td>Ū</td><td>13</td><td>A</td></tr> <tr><td>7</td><td>OV</td><td>14</td><td>+5V</td></tr> <tr><td></td><td>PLATE</td><td></td><td>SHIELD</td></tr> </tbody> </table> <p>(Motor Side Connector) (Driver Side Connector)</p> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Cap Spec.(15 Position) : 172163-1(AMP) Socket Spec. : 170361-1(AMP) Driver Side Connector(CN2) <ol style="list-style-type: none"> Case Spec. : 10314-52A0-008(3M) or SM-14J(Suntone) Connector Spec. : 10114-3000VE(3M) or SM-14J(Suntone) Cable Spec. : 7P×0.2SQ or 7P×AWG24 	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	A	9	V	2	Ā	10	V̄	3	B	11	W	4	B̄	12	W̄	5	Z	13	+5V	6	Z̄	14	0V	7	U	15	SHIELD	8	Ū			PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	W	8	Z	2	W̄	9	Z̄	3	V	10	B̄	4	V̄	11	B	5	U	12	Ā	6	Ū	13	A	7	OV	14	+5V		PLATE		SHIELD
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Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

Cable Length(m)	3	5	10	20
General Cable(N)	N03	N05	N10	N20
Robotic Cable(F)	F03	F05	F10	F20

L7S Series
L7N Series
L7NH Series
L7P Series
S Series
F Series
MDM Series
Options
PEGASUS Series

L7 SERIES SYSTEM

Servo Motor Option

Signal Cable [Serial]

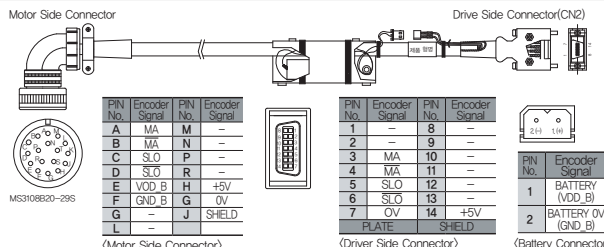
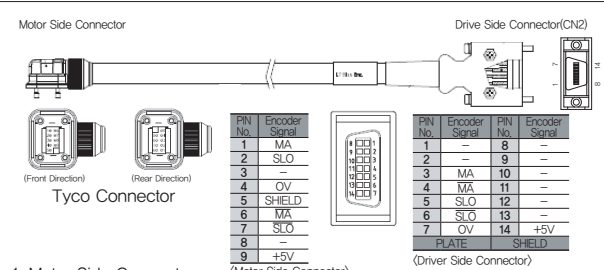
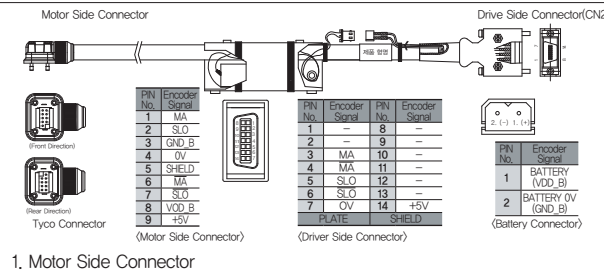
Type	Product Type	Model Name ^(Note1)	Applicable Drive	Applicable Motor	Specifications																																																																												
For Signal	S Series Motor S-turn Encoder Cable (Small Capacity)	APCS- E□□□CS	L7SA□□□B L7NA□□□B L7NH□□□U L7PA□□□U	All Models of APM-SA APM-SB APM-SC SERIES	<p>1. Motor Side Connector a. Cap Spec.(9 Position) : 172161-1(AMP) b. Socket Spec. : 170361-1(AMP)</p> <p>2. Drive Side Connector(CN2) a. Case Spec. : 10314-52A0-008(3M) or SM-14J(Suntone) b. Connector Spec. : 10114-3000VE(3M) or SM-14J(Suntone)</p> <p>3. Cable Spec. : 3P×0.2SQ or 3P×24AWG</p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>MA</td><td>1</td><td>MA</td></tr> <tr><td>2</td><td>MA</td><td>2</td><td>MA</td></tr> <tr><td>3</td><td>SLO</td><td>3</td><td>SLO</td></tr> <tr><td>4</td><td>SLO</td><td>4</td><td>MA</td></tr> <tr><td>5</td><td>—</td><td>5</td><td>SLO</td></tr> <tr><td>6</td><td>—</td><td>6</td><td>SLO</td></tr> <tr><td>7</td><td>+5V</td><td>7</td><td>OV</td></tr> <tr><td>8</td><td>OV</td><td>8</td><td>OV</td></tr> <tr><td>9</td><td>SHIELD</td><td>9</td><td>SHIELD</td></tr> </tbody> </table>	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	MA	1	MA	2	MA	2	MA	3	SLO	3	SLO	4	SLO	4	MA	5	—	5	SLO	6	—	6	SLO	7	+5V	7	OV	8	OV	8	OV	9	SHIELD	9	SHIELD																																				
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9	SHIELD	9	SHIELD																																																																														
For Signal	S Series Motor M-turn Encoder Cable (Small Capacity)	APCS- E□□□CS1	L7SA□□□B L7NA□□□B L7NH□□□U L7PA□□□U	All Models of APM-SA APM-SB APM-SC SERIES	<p>1. Motor Side Connector a. CAP Spec.(9 Position) : 172161-1(AMP) b. Socket Spec. : 170361-1(AMP)</p> <p>2. Drive Side Connector(CN2) a. Case Spec. : 10314-52A0-008(3M) or SM-14J(Suntone)† b. Connector Spec. : 10114-3000VE(3M) or SM-14J(Suntone)†</p> <p>3. Cable Spec. : 4P×0.2SQ or 4P×24AWG</p> <p>4. Battery Connector Spec. : 5267-02A(MOLEX)</p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>MA</td><td>1</td><td>8</td></tr> <tr><td>2</td><td>MA</td><td>2</td><td>9</td></tr> <tr><td>3</td><td>SL</td><td>3</td><td>MA</td></tr> <tr><td>4</td><td>SL</td><td>4</td><td>MA</td></tr> <tr><td>5</td><td>VDD_B</td><td>5</td><td>SLO</td></tr> <tr><td>6</td><td>GND_B</td><td>6</td><td>SLO</td></tr> <tr><td>7</td><td>+5V</td><td>7</td><td>OV</td></tr> <tr><td>8</td><td>OV</td><td>8</td><td>OV</td></tr> <tr><td>9</td><td>SHIELD</td><td>9</td><td>SHIELD</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>BATTERY (VDD_B)</td></tr> <tr><td>2</td><td>BATTERY OV (GND_B)</td></tr> </tbody> </table>	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	MA	1	8	2	MA	2	9	3	SL	3	MA	4	SL	4	MA	5	VDD_B	5	SLO	6	GND_B	6	SLO	7	+5V	7	OV	8	OV	8	OV	9	SHIELD	9	SHIELD	PIN No.	Encoder Signal	1	BATTERY (VDD_B)	2	BATTERY OV (GND_B)																														
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For Signal	S/F Series Motor S-turn Encoder Cable (Middle Capacity)	APCS- E□□□DS	L7S□□□□B L7NA□□□B L7NH□□□□U L7PA□□□□U	All Models of APM-SE, FE, SEP, FEP APM-SF, FF SFP, FFP APM-SG, FG SGP, FGP APM-LF APM-LG SERIES	<p>1. Motor Side Connector(MS : Military Standard) a. Plug Spec. : MS3108B20-29S</p> <p>2. Drive Side Connector(CN2) a. Case Spec. : 10314-52A0-008(3M) or SM-14J(Suntone) b. Connector Spec. : 10114-3000VE(3M) or SM-14J(Suntone)</p> <p>3. Cable Spec. : 3P×0.2SQ or 3P×24AWG</p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>A</td><td>MA</td><td>M</td><td>—</td></tr> <tr><td>B</td><td>MA</td><td>N</td><td>—</td></tr> <tr><td>C</td><td>SLO</td><td>P</td><td>—</td></tr> <tr><td>D</td><td>SLO</td><td>R</td><td>—</td></tr> <tr><td>E</td><td>—</td><td>H</td><td>+5V</td></tr> <tr><td>F</td><td>—</td><td>G</td><td>OV</td></tr> <tr><td>K</td><td>—</td><td>J</td><td>SHIELD</td></tr> <tr><td>L</td><td>—</td><td>—</td><td>—</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Encoder Signal</th> <th>PIN No.</th> <th>Encoder Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>MA</td><td>1</td><td>8</td></tr> <tr><td>2</td><td>MA</td><td>2</td><td>9</td></tr> <tr><td>3</td><td>MA</td><td>3</td><td>MA</td></tr> <tr><td>4</td><td>MA</td><td>4</td><td>MA</td></tr> <tr><td>5</td><td>SLO</td><td>5</td><td>SLO</td></tr> <tr><td>6</td><td>SLO</td><td>6</td><td>SLO</td></tr> <tr><td>7</td><td>OV</td><td>7</td><td>OV</td></tr> <tr><td>8</td><td>OV</td><td>8</td><td>OV</td></tr> <tr><td>9</td><td>SHIELD</td><td>9</td><td>SHIELD</td></tr> </tbody> </table>	PIN No.	Encoder Signal	PIN No.	Encoder Signal	A	MA	M	—	B	MA	N	—	C	SLO	P	—	D	SLO	R	—	E	—	H	+5V	F	—	G	OV	K	—	J	SHIELD	L	—	—	—	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	MA	1	8	2	MA	2	9	3	MA	3	MA	4	MA	4	MA	5	SLO	5	SLO	6	SLO	6	SLO	7	OV	7	OV	8	OV	8	OV	9	SHIELD	9	SHIELD
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1	MA	1	8																																																																														
2	MA	2	9																																																																														
3	MA	3	MA																																																																														
4	MA	4	MA																																																																														
5	SLO	5	SLO																																																																														
6	SLO	6	SLO																																																																														
7	OV	7	OV																																																																														
8	OV	8	OV																																																																														
9	SHIELD	9	SHIELD																																																																														

Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

Cable Length(m)	3	5	10	20
General Cable(N)	N03	N05	N10	N20
Robotic Cable(F)	F03	F05	F10	F20

Servo Motor Option

Signal Cable [Serial]

Type	Product Type	Model Name ^(Note1)	Applicable Drive	Applicable Motor	Specifications																																																																														
For Signal	S/F Series Motor M-turn Encoder Cable (Middle Capacity)	APCS- E□□□DS1	L7S□□□□B L7NA□□□□B L7NH□□□□□ L7PA□□□□□	All Models of APM-SE, FE SEP, FEP APM-SF, FF SFP, FFP APM- SG, FG, SGP, FGP APM-LF APM-LG SERIES	 <p>Motor Side Connector (MS: Military Standard) MS3108B20-29S</p> <table border="1"> <tr><th>PIN No.</th><th>Encoder Signal</th><th>PIN No.</th><th>Encoder Signal</th></tr> <tr><td>A</td><td>MA</td><td>M</td><td>-</td></tr> <tr><td>B</td><td>MA</td><td>N</td><td>-</td></tr> <tr><td>C</td><td>SLO</td><td>P</td><td>-</td></tr> <tr><td>D</td><td>SLO</td><td>R</td><td>-</td></tr> <tr><td>E</td><td>VOD B</td><td>H</td><td>+5V</td></tr> <tr><td>F</td><td>GND B</td><td>G</td><td>0V</td></tr> <tr><td>G</td><td>-</td><td>J</td><td>SHIELD</td></tr> <tr><td>L</td><td>-</td><td>-</td><td>-</td></tr> </table> <p>(Motor Side Connector)</p> <table border="1"> <tr><th>PIN No.</th><th>Encoder Signal</th><th>PIN No.</th><th>Encoder Signal</th></tr> <tr><td>1</td><td>-</td><td>8</td><td>-</td></tr> <tr><td>2</td><td>-</td><td>9</td><td>-</td></tr> <tr><td>3</td><td>MA</td><td>10</td><td>-</td></tr> <tr><td>4</td><td>MA</td><td>11</td><td>-</td></tr> <tr><td>5</td><td>SLO</td><td>12</td><td>-</td></tr> <tr><td>6</td><td>SLO</td><td>13</td><td>-</td></tr> <tr><td>7</td><td>0V</td><td>14</td><td>+5V</td></tr> <tr><td>PLATE</td><td>-</td><td>SHIELD</td><td>-</td></tr> </table> <p>(Driver Side Connector)</p> <table border="1"> <tr><th>PIN No.</th><th>Encoder Signal</th></tr> <tr><td>1</td><td>BATTERY (VDD_B)</td></tr> <tr><td>2</td><td>BATTERY 0V (GND_B)</td></tr> </table> <p>(Battery Connector)</p> <ol style="list-style-type: none"> Motor Side Connector (MS: Military Standard) <ol style="list-style-type: none"> Plug Spec.: MS3108B20-29S Drive Side Connector (CN2) <ol style="list-style-type: none"> Case Spec.: 10314-52A0-008(3M) or SM-14J(Suntone) Connector Spec.: 10114-3000VE(3M) or SM-14J(Suntone) Cable Spec.: 4P×0.2SQ or 4P×24AWG Battery Connector Spec.: 5267-02A(MOLEX) 	PIN No.	Encoder Signal	PIN No.	Encoder Signal	A	MA	M	-	B	MA	N	-	C	SLO	P	-	D	SLO	R	-	E	VOD B	H	+5V	F	GND B	G	0V	G	-	J	SHIELD	L	-	-	-	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	-	8	-	2	-	9	-	3	MA	10	-	4	MA	11	-	5	SLO	12	-	6	SLO	13	-	7	0V	14	+5V	PLATE	-	SHIELD	-	PIN No.	Encoder Signal	1	BATTERY (VDD_B)	2	BATTERY 0V (GND_B)
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For Signal	F Series Motor S-turn Encoder Cable (Small Capacity)	APCS- E□□□ES-□	L7SA□□□□B L7NA□□□□B L7NHA□□□□□ L7PA□□□□□	All Models of APM-FAL APM-FB, FBL APM-FC, FCL SERIES	 <p>Motor Side Connector (Tyco Connector)</p> <table border="1"> <tr><th>PIN No.</th><th>Encoder Signal</th></tr> <tr><td>1</td><td>MA</td></tr> <tr><td>2</td><td>SLO</td></tr> <tr><td>3</td><td>-</td></tr> <tr><td>4</td><td>0V</td></tr> <tr><td>5</td><td>SHIELD</td></tr> <tr><td>6</td><td>MA</td></tr> <tr><td>7</td><td>SLO</td></tr> <tr><td>8</td><td>-</td></tr> <tr><td>9</td><td>+5V</td></tr> </table> <p>(Motor Side Connector)</p> <table border="1"> <tr><th>PIN No.</th><th>Encoder Signal</th><th>PIN No.</th><th>Encoder Signal</th></tr> <tr><td>1</td><td>-</td><td>8</td><td>-</td></tr> <tr><td>2</td><td>-</td><td>9</td><td>-</td></tr> <tr><td>3</td><td>MA</td><td>10</td><td>-</td></tr> <tr><td>4</td><td>MA</td><td>11</td><td>-</td></tr> <tr><td>5</td><td>SLO</td><td>12</td><td>-</td></tr> <tr><td>6</td><td>SLO</td><td>13</td><td>-</td></tr> <tr><td>7</td><td>0V</td><td>14</td><td>+5V</td></tr> <tr><td>PLATE</td><td>-</td><td>SHIELD</td><td>-</td></tr> </table> <p>(Driver Side Connector)</p> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Cap Spec.: 2201825-1(Tyco) Socket Spec.: 2174065-4(Tyco) Drive Side Connector (CN2) <ol style="list-style-type: none"> Case Spec.: 10314-52A0-008(3M) or SM-14J(Suntone) Connector Spec.: 10114-3000VE(3M) or SM-14J(Suntone) Cable Spec.: 3P×0.2SQ or 3P×24AWG 	PIN No.	Encoder Signal	1	MA	2	SLO	3	-	4	0V	5	SHIELD	6	MA	7	SLO	8	-	9	+5V	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	-	8	-	2	-	9	-	3	MA	10	-	4	MA	11	-	5	SLO	12	-	6	SLO	13	-	7	0V	14	+5V	PLATE	-	SHIELD	-																						
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For Signal	F Series Motor M-turn Encoder Cable (Small Capacity)	APCS- E□□□ES1-□	L7SA□□□□B L7NA□□□□B L7NHA□□□□□ L7PA□□□□□	All Models of APM-FAL APM-FB, FBL APM-FC, FCL SERIES	 <p>Motor Side Connector (Tyco Connector)</p> <table border="1"> <tr><th>PIN No.</th><th>Encoder Signal</th></tr> <tr><td>1</td><td>MA</td></tr> <tr><td>2</td><td>SLO</td></tr> <tr><td>3</td><td>GND B</td></tr> <tr><td>4</td><td>0V</td></tr> <tr><td>5</td><td>SHIELD</td></tr> <tr><td>6</td><td>MA</td></tr> <tr><td>7</td><td>SLO</td></tr> <tr><td>8</td><td>VOD B</td></tr> <tr><td>9</td><td>+5V</td></tr> </table> <p>(Motor Side Connector)</p> <table border="1"> <tr><th>PIN No.</th><th>Encoder Signal</th><th>PIN No.</th><th>Encoder Signal</th></tr> <tr><td>1</td><td>-</td><td>8</td><td>-</td></tr> <tr><td>2</td><td>-</td><td>9</td><td>-</td></tr> <tr><td>3</td><td>MA</td><td>10</td><td>-</td></tr> <tr><td>4</td><td>MA</td><td>11</td><td>-</td></tr> <tr><td>5</td><td>SLO</td><td>12</td><td>-</td></tr> <tr><td>6</td><td>SLO</td><td>13</td><td>-</td></tr> <tr><td>7</td><td>0V</td><td>14</td><td>+5V</td></tr> <tr><td>PLATE</td><td>-</td><td>SHIELD</td><td>-</td></tr> </table> <p>(Driver Side Connector)</p> <table border="1"> <tr><th>PIN No.</th><th>Encoder Signal</th></tr> <tr><td>1</td><td>BATTERY (VDD_B)</td></tr> <tr><td>2</td><td>BATTERY 0V (GND_B)</td></tr> </table> <p>(Battery Connector)</p> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Cap Spec.: 2201825-1(Tyco) Socket Spec.: 2174065-4(Tyco) Drive Side Connector (CN2) <ol style="list-style-type: none"> Case Spec.: 10314-52A0-008(3M) or SM-14J(Suntone) Connector Spec.: 10114-3000VE(3M) or SM-14J(Suntone) Cable Spec.: 4P×0.2SQ or 4P×24AWG Battery Connector Spec.: 5267-02A(MOLEX) 	PIN No.	Encoder Signal	1	MA	2	SLO	3	GND B	4	0V	5	SHIELD	6	MA	7	SLO	8	VOD B	9	+5V	PIN No.	Encoder Signal	PIN No.	Encoder Signal	1	-	8	-	2	-	9	-	3	MA	10	-	4	MA	11	-	5	SLO	12	-	6	SLO	13	-	7	0V	14	+5V	PLATE	-	SHIELD	-	PIN No.	Encoder Signal	1	BATTERY (VDD_B)	2	BATTERY 0V (GND_B)																
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Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

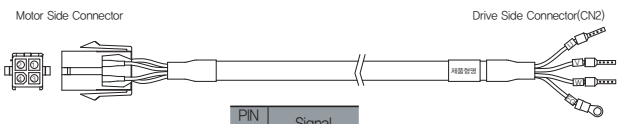
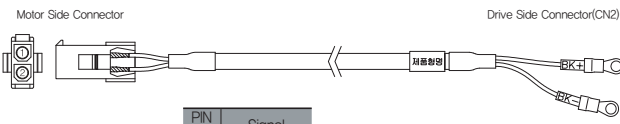
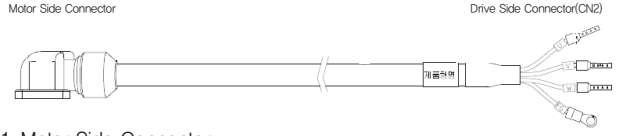
Note2) In case of □ marked product, the connector can draw in a direction of Front(load) / Rear(half load).
(Front Type: No mark, Rear Type: -R)

Cable Length(m)	3	5	10	20
General Cable(N)	N03	N05	N10	N20
Robotic Cable(F)	F03	F05	F10	F20

L7 SERIES SYSTEM

Servo Motor Option

Power Cable [200V]

Type	Product Type	Model Name ^(Note1)	Applicable Drive	Applicable Motor	Specifications										
For Power	S Series Power Cable (Small Capacity)	APCS- P□□□GS	L7SA□□□A L7NHA□□□U L7PA□□□U	All Models of APM-SA APM-SB APM-SC APM-HB SERIES	 <table border="1" data-bbox="1005 672 1141 784"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>U</td> </tr> <tr> <td>2</td> <td>V</td> </tr> <tr> <td>3</td> <td>W</td> </tr> <tr> <td>4</td> <td>Ground</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Cap Spec.(4 Position) : 172159-1(AMP) Socket Spec. : 170362-1(AMP) Drive Side Connector(U, V, W, FG) <ol style="list-style-type: none"> U, V, W Pin Spec. : 1512 FG Pin Spec. : 1.54x4(Ring Terminal) Cable Spec. : 4C×0.75SQ or 4C×18AWG 	PIN No.	Signal	1	U	2	V	3	W	4	Ground
					PIN No.	Signal									
					1	U									
2	V														
3	W														
4	Ground														
For Power	S Series Brake Cable (Small Capacity)	APCS- P□□□KB	L7SA□□□A L7NHA□□□U L7PA□□□U	All Models of APM-SA APM-SB APM-SC APM-HB SERIES	 <table border="1" data-bbox="957 1108 1093 1187"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BK+</td> </tr> <tr> <td>2</td> <td>BK-</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Cap Spec.(2 Position) : 172157-1(AMP) Socket Spec. : 170362-1(AMP) Drive Side Connector <ol style="list-style-type: none"> Connecting terminal Spec. : 1.5x3(Ring Terminal) Cable Spec. : 2C×0.75SQ or 2C×18AWG 	PIN No.	Signal	1	BK+	2	BK-				
					PIN No.	Signal									
					1	BK+									
2	BK-														
For Power	F Series Power Cable (Small Capacity)	APCS- P□□□FS-□	L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	All Models of APM-FB APM-FC SERIES	 <table border="1" data-bbox="1276 1568 1412 1691"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>W</td> </tr> <tr> <td>2</td> <td>V</td> </tr> <tr> <td>3</td> <td>U</td> </tr> <tr> <td>4</td> <td>Ground</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Plug Spec. : KN5FT04SJ1(JAE) Socket Spec. : ST-KN-S-C1B-3500(JAE) Drive Side Connector(U, V, W, FG) <ol style="list-style-type: none"> U, V, W Pin Spec. : 1512 FG Pin Spec. : 1.5×4(Ring Terminal) Cable Spec. : 4C×0.75SQ or 4C×18AWG 	PIN No.	Signal	1	W	2	V	3	U	4	Ground
					PIN No.	Signal									
					1	W									
2	V														
3	U														
4	Ground														

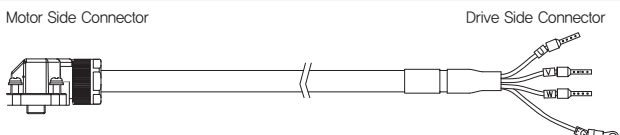
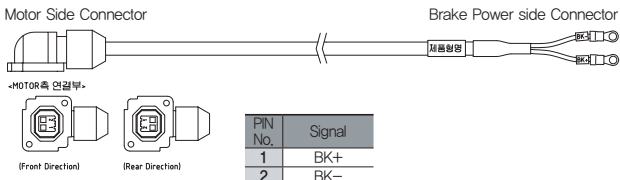
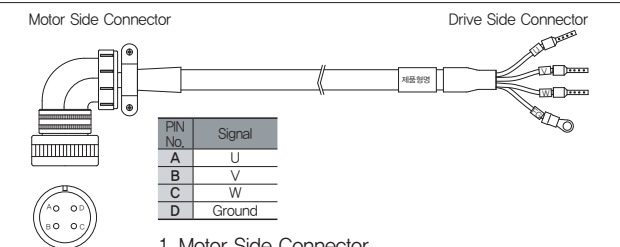
Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

Note2) In case of □ marked product, the connector can draw in a direction of Front(load) / Rear(half load).
(Front Type : No mark, Rear Type : -R)

Cable Length(m)	3	5	10	20
General Cable(N)	N03	N05	N10	N20
Robotic Cable(F)	F03	F05	F10	F20

Servo Motor Option

Power Cable [200V]

Type	Product Type	Model Name ^(Note1)	Applicable Drive	Applicable Motor	Specifications										
For Power	L Series Power Cable (Small Capacity)	APCS-P□□□LS-□	L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	All Models of APMC-FAL APMC-FBL APMC-FCL SERIES	<p>Motor Side Connector</p>  <p>Drive Side Connector</p> <p>1. Motor Side Connector a. Plug Spec. : SM-JN8FT04(Suntone) b. Socket Spec. : SMS-201(Suntone)</p> <p>2. Drive Side Connector (U,V,W,FG) a. U, V, W Pin Spec. : 1512(Ferrule) b. FG Pin Spec. : 1.5x4 (Ring Terminal)</p> <p>3. Cable Spec. : 4Cx0.75SQ or 4Cx18AWG</p> <p>4. In case of FAL products, Please install Power Cable first before connecting Encoder Cable.</p> <p>(Front Direction) (Rear Direction)</p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>U</td> </tr> <tr> <td>2</td> <td>V</td> </tr> <tr> <td>3</td> <td>W</td> </tr> <tr> <td>FG</td> <td>Ground</td> </tr> </tbody> </table>	PIN No.	Signal	1	U	2	V	3	W	FG	Ground
					PIN No.	Signal									
					1	U									
2	V														
3	W														
FG	Ground														
For Power	Brake Cable for Flat Motor (Small Capacity)	APCS-B□□□GS-□	L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	All Models of APM-FAL APM-FB, FBL APM-FC, FCL SERIES	<p>Motor Side Connector</p>  <p>Brake Power side Connector</p> <p>1. Motor Side Connector a. Plug Spec. : KN5FT02SJ1 b. Socket Spec. : ST-KN-S-C1B-3500</p> <p>2. Drive Side Connector a. Connecting terminal Spec. : 1.5x3(Ring Terminal)</p> <p>3. Cable Spec. : 2Cx0.75SQ or 2Cx18AWG</p> <p>(Front Direction) (Rear Direction)</p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BK+</td> </tr> <tr> <td>2</td> <td>BK-</td> </tr> </tbody> </table>	PIN No.	Signal	1	BK+	2	BK-				
					PIN No.	Signal									
					1	BK+									
2	BK-														
For Power	Power Cable (Middle Capacity)	APCS-P□□□HS	L7SA□□□A L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	All Models of APM-SE APM-FE APM-HE SERIES	<p>Motor Side Connector</p>  <p>Drive Side Connector</p> <p>1. Motor Side Connector a. Plug Spec. : MS3108B20-4S(MS)</p> <p>2. Drive Side Connector a. U, V, W Pin Spec. : 2512 b. FG Pin Spec. : 2.5x4(Ring Terminal)</p> <p>3. Cable Spec. : 4Cx2.5SQ or 4Cx14AWG</p> <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>U</td> </tr> <tr> <td>B</td> <td>V</td> </tr> <tr> <td>C</td> <td>W</td> </tr> <tr> <td>D</td> <td>Ground</td> </tr> </tbody> </table>	PIN No.	Signal	A	U	B	V	C	W	D	Ground
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C	W														
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Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

Note2) In case of □ marked product, the connector can draw in a direction of Front(load) / Rear(half load). (Front Type : No mark, Rear Type : -R)

Cable Length(m)	3	5	10	20
General Cable(N)	N03	N05	N10	N20
Robotic Cable(F)	F03	F05	F10	F20

L7S Series

L7N Series

L7NH Series

L7P Series

S Series

F Series

MDM Series

Options

PEGASUS Series

L7 SERIES SYSTEM

Servo Motor Option

Power Cable [200V]

Type	Product Type	Model Name ^(Note1)	Applicable Drive	Applicable Motor	Specifications
For Power	Power Cable (Brake Type)	APCS-P□□□NB	L7SA□□□A L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	All Models of APM-SE APM-FE SERIES	<p>1. Motor Side Connector a. Plug Spec. : MS3108B20-15S(MS)</p> <p>2. Drive Side Connector a. U, V, W Pin Spec. : 2012 b. Cable Spec. : 4C×2.5SQ or 4C×14AWG c. FG Pin Spec. : 2.5×4(Ring Terminal)</p> <p>3. Brake Power side Connector a. BK Pin Spec. : 1.5×3(Ring Terminal) b. Cable Spec. : 2C×0.75SQ or 2C×18AWG</p>
For Power	Power Cable (Middle Capacity)	APCS-P□□□IS	L7SA□□□A L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	APM-SF30A SF22D, LF35D SF20G, LF30G SF12M, SF20M LF30M, SG22D LG35D, SG20G LG30G, SG12M SG20M, LG30M FF30A, FF22D FF35D, FF20G FF30G, FF12M FF20M, FF30M FG22D, FG35D FG20G, FG30G FG12M, FG20M FG30M	<p>1. Motor Side Connector a. Plug Spec. : MS3108B22-22S(MSA†)</p> <p>2. Drive Side Connector a. U, V, W Pin Spec. : 2512 b. FG Pin Spec. : 2.5×4(Ring Terminal)</p> <p>3. Cable Spec. : 4C×2.5SQ or 4C14AWG</p>
For Power	Power Cable (Brake Type)	APCS-P□□□PB	L7SA□□□A L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	APM-SF30A SF22D, LF35D SF20G, LF30G SF12M, SF20M LF30M, FF30A FF22D, FF35D FF20G, FF30G FF12M, FF20M FF30M	<p>1. Motor Side Connector a. PLUG Spec. : MS3108B24-10S(MS)</p> <p>2. Drive Side Connector a. U, V, W Pin Spec. : 2512 b. Cable Spec. : 4C×2.5SQ or 4C×2.5AWG c. FG Pin Spec. : 2.5×4(Ring Terminal)</p> <p>3. Brake Power side Connector a. BK Pin Spec. : 1.5×3(Ring Terminal) b. Cable Spec. : 2C×0.75S or 2C×18AWG</p>

Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

Cable Length(m)	3	5	10	20
General Cable(N)	N03	N05	N10	N20
Robotic Cable(F)	F03	F05	F10	F20

Servo Motor Option

Power Cable [200V]

Type	Product Type	Model Name ^(Note1)	Applicable Drive	Applicable Motor	Specifications										
For Power	Power Cable (Middle Capacity)	APCS-P□□□JS	L7SA□□□A L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	APM-SF50A SF55D, SF75D SF44G, SF60G SF44M, SG55D SG75D, SG44G SG60G, SG44M FF50A, FF55D FF75D, FF44G FF60G, FF44M FG55D, FG75D FG44G, FG60G FG44M	<p>Motor Side Connector</p> <p>Drive Side Connector</p> <table border="1"> <thead> <tr> <th>Pin No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>U</td> </tr> <tr> <td>B</td> <td>V</td> </tr> <tr> <td>C</td> <td>W</td> </tr> <tr> <td>D</td> <td>Ground</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Plug Spec. : MS3108B22-22S(MS) Drive Side Connector <ol style="list-style-type: none"> Connecting terminal Spec. : 6×5(Ring Terminal) Cable Spec. : 4C×6SQ or 4C×10AWG 	Pin No.	Signal	A	U	B	V	C	W	D	Ground
Pin No.	Signal														
A	U														
B	V														
C	W														
D	Ground														
For Power	Power Cable (Brake Type)	APCS-P□□□LB	L7SA□□□A L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	APM-SF50A SF55D, SF75D SF44G, SF60G SF44M, FF50A FF50D, FF75D FF44G, FF60G FF40M	<p>Motor Side Connector</p> <p>Drive Side Connector</p> <p>Brake Power side Connector</p> <table border="1"> <thead> <tr> <th>Pin No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>U</td> </tr> <tr> <td>B</td> <td>V</td> </tr> <tr> <td>C</td> <td>W</td> </tr> <tr> <td>D</td> <td>Ground</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Plug Spec. : MS3108A24-10S(MS) Drive Side Connector <ol style="list-style-type: none"> Connecting terminal Spec. : 6×5(Ring Terminal) 4C×6SQ or 4C×10AWG Brake Power side Connector <ol style="list-style-type: none"> Connecting terminal Spec. : 1,25×3(Ring Terminal) Cable Spec. : 2C×0.75SQ or 2C×8AWG 	Pin No.	Signal	A	U	B	V	C	W	D	Ground
Pin No.	Signal														
A	U														
B	V														
C	W														
D	Ground														
For Power	Power Cable (Middle Capacity)	APCS-P□□□MS	L7SA□□□A L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	APM-SG60M SF75G, FF75G	<p>Motor Side Connector</p> <p>Drive Side Connector</p> <table border="1"> <thead> <tr> <th>Pin No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>U</td> </tr> <tr> <td>B</td> <td>V</td> </tr> <tr> <td>C</td> <td>W</td> </tr> <tr> <td>D</td> <td>Ground</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Plug Spec. : MS3108B32-17S(MS) Drive Side Connector <ol style="list-style-type: none"> Connecting terminal Spec. : 10×8(Ring Terminal) Cable Spec. : 4C×10SQ or 4C×8AWG 	Pin No.	Signal	A	U	B	V	C	W	D	Ground
Pin No.	Signal														
A	U														
B	V														
C	W														
D	Ground														
For Power	Brake Cable	APCS-P□□□SB	L7SA□□□A L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	All Models of APM-SG APM-LG APM-FG SERIES	<p>Motor Side Connector</p> <p>Brake Power side Connector</p> <table border="1"> <thead> <tr> <th>Pin No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>BK+</td> </tr> <tr> <td>B</td> <td>BK-</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Plug Spec. : MS3108B 14S-7S(MS) Drive Side Connector <ol style="list-style-type: none"> Connecting terminal Spec. : 1.5×3(Ring Terminal) Cable Spec. : 2C×0.75SQ or 2C×19AWG 	Pin No.	Signal	A	BK+	B	BK-				
Pin No.	Signal														
A	BK+														
B	BK-														

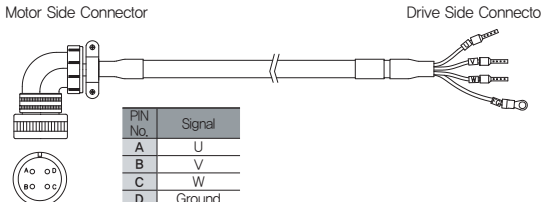
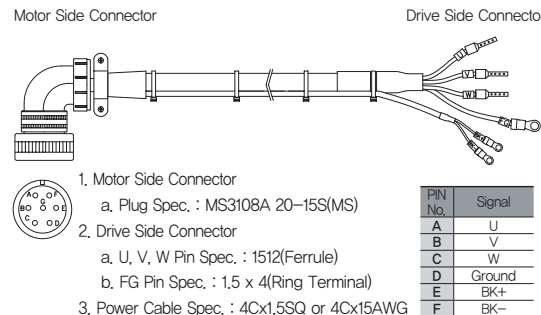
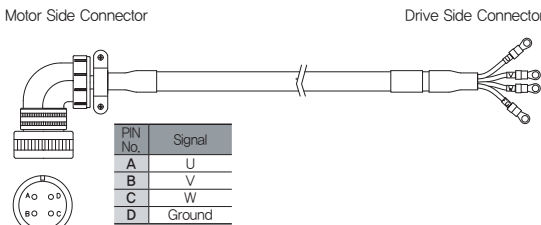
Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

Cable Length(m)	3	5	10	20
General Cable(N)	N03	N05	N10	N20
Robotic Cable(F)	F03	F05	F10	F20

L7 SERIES SYSTEM

Servo Motor Option

Power Cable [400V]

Type	Product Type	Model Name ^{Note1)}	Applicable Drive	Applicable Motor	Specifications
For Power	Power Cable	APCF-P□□□HS	L7SB□□□B L7NHB□□□U	All Models of APM-SEP APM-FEP SERIES	 <p>1. Motor Side Connector a. Plug Spec. : MS3108A 20-4S(MS)</p> <p>2. Drive Side Connector (U,V,W,FG) a. U, V, W Pin Spec. : 1512(Ferrule) b. FG Pin Spec. : 1.5x4(Ring Terminal)</p> <p>3. Cable Spec. : 4Cx1.5SQ or 4Cx15AWG</p>
For Power	Power Cable (Brake Type)	APCF-P□□□NB	L7SB□□□B L7NHB□□□U	All Models of APM-SEP APM-FEP SERIES	 <p>1. Motor Side Connector a. Plug Spec. : MS3108A 20-15S(MS)</p> <p>2. Drive Side Connector a. U, V, W Pin Spec. : 1512(Ferrule) b. FG Pin Spec. : 1.5 x 4(Ring Terminal)</p> <p>3. Power Cable Spec. : 4Cx1.5SQ or 4Cx15AWG</p> <p>4. Brake Power side Connector a. Connecting terminal Spec. : 1.5 x 3(Ring Terminal)</p> <p>5. Brake Cable Spec. : 2Cx0.75SQ or 2Cx19AWG</p>
For Power	Power Cable	APCF-P□□□IS	L7SB□□□B L7NHB□□□U	APM-[S/F]FP30A [S/F]FP22D, [S/F]FP35D [S/F]FP20G, FFP30G [S/F]FP12M, [S/F]FP20M [S/F]GP22D, [S/F]GP35D [S/F]GP20G, FGP30G [S/F]GP12M, [S/F]GP20M	 <p>1. Motor Side Connector a. Plug Spec. : MS3108A 22-22S(MS)</p> <p>2. Drive Side Connector (U,V,W,FG) a. U, V, W Pin Spec. : 2512(Ferrule) b. FG Pin Spec. : 2.5x4 (Ring Terminal)</p> <p>3. Cable Spec. : 4Cx2.5SQ or 4Cx14AWG</p>

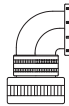
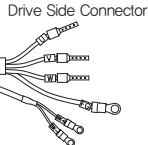
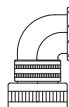
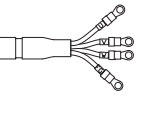
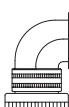
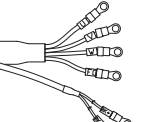
Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

Note2) In case of 400V products, you can use Robotic Cable only.

Cable Length(m)	3	5	10	20
Robotic Cable(F)	F03	F05	F10	F20

Servo Motor Option

Power Cable [400V]

Type	Product Type	Model Name ^(Note1)	Applicable Drive	Applicable Motor	Specifications														
For Power	Power Cable (Brake Type)	APCF-P□□□PB	L7SB□□□B L7NHB□□□U	APM-[S/F]FP30A [S/F]FP22D, [S/F]FP35D [S/F]FP20G, FFP30G [S/F]FP12M, [S/F]FP20M [S/F]GP22D, [S/F]GP35D [S/F]GP20G, FGP30G [S/F]GP12M, [S/F]GP20M	<p>Motor Side Connector</p>  <p>Drive Side Connector</p>  <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>U</td> </tr> <tr> <td>B</td> <td>V</td> </tr> <tr> <td>C</td> <td>W</td> </tr> <tr> <td>D</td> <td>Ground</td> </tr> <tr> <td>E</td> <td>BK+</td> </tr> <tr> <td>F</td> <td>BK-</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Plug Spec. : MS3108A 24-10S(MS) Drive Side Connector <ol style="list-style-type: none"> U, V, W Pin Spec. : 2512(Ferrule) FG Pin Spec. : 2.5 x 4(Ring Terminal) Power Cable Spec. : 4Cx2.5SQ or 4Cx14AWG Brake Power side Connector <ol style="list-style-type: none"> Connecting terminal Spec. : 1.5 x 3(Ring Terminal) Brake Cable Spec. : 2Cx0.75SQ or 2Cx19AWG 	PIN No.	Signal	A	U	B	V	C	W	D	Ground	E	BK+	F	BK-
					PIN No.	Signal													
					A	U													
B	V																		
C	W																		
D	Ground																		
E	BK+																		
F	BK-																		
For Power	Power Cable (Middle Capacity)	APCF-P□□□JS	L7SB□□□B L7NHB□□□U	APM-[S/F]FP50A [S/F]FP55D, [S/F]FP75D SFP30G, [S/F]FP44G [S/F]FP60G, [S/F]FP30M [S/F]FP44M, [S/F]GP55D [S/F]GP75D, SGP30G [S/F]GP44G, [S/F]GP60G [S/F]GP30M, [S/F]GP44M	<p>Motor Side Connector</p>  <p>Drive Side Connector</p>  <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>U</td> </tr> <tr> <td>B</td> <td>V</td> </tr> <tr> <td>C</td> <td>W</td> </tr> <tr> <td>D</td> <td>Ground</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Plug Spec. : MS3108A 22-22S(MS) Drive Side Connector (U,V,W,FG) <ol style="list-style-type: none"> U, V, W Pin Spec. : 4.0x 5(Ring Terminal) Cable Spec. : 4Cx4.0SQ or 4Cx11AWG 	PIN No.	Signal	A	U	B	V	C	W	D	Ground				
					PIN No.	Signal													
A	U																		
B	V																		
C	W																		
D	Ground																		
For Power	Power Cable (Brake Type)	APCF-P□□□LB	L7SB□□□B L7NHB□□□U	APM-[S/F]FP50A [S/F]FP55D, [S/F]FP75D SFP30G, [S/F]FP44G [S/F]FP60G, [S/F]FP30M [S/F]FP44M	<p>Motor Side Connector</p>  <p>Drive Side Connector</p>  <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>U</td> </tr> <tr> <td>B</td> <td>V</td> </tr> <tr> <td>C</td> <td>W</td> </tr> <tr> <td>D</td> <td>Ground</td> </tr> <tr> <td>E</td> <td>BK+</td> </tr> <tr> <td>F</td> <td>BK-</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Plug Spec. : MS3108A 24-10S(MS) Drive Side Connector <ol style="list-style-type: none"> U, V, W Pin Spec. : 4.0x5(Ring Terminal) Power Cable Spec. : 4Cx4.0SQ or 4Cx11AWG Brake Power side Connector <ol style="list-style-type: none"> Connecting terminal Spec. : 1.5 x 3(Ring Terminal) Brake Cable Spec. : 2Cx0.75SQ or 2Cx19AWG 	PIN No.	Signal	A	U	B	V	C	W	D	Ground	E	BK+	F	BK-
PIN No.	Signal																		
A	U																		
B	V																		
C	W																		
D	Ground																		
E	BK+																		
F	BK-																		

Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

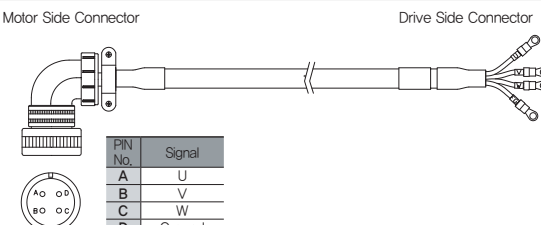
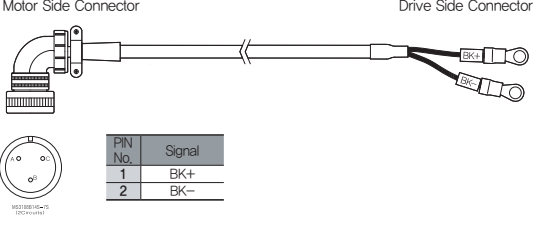
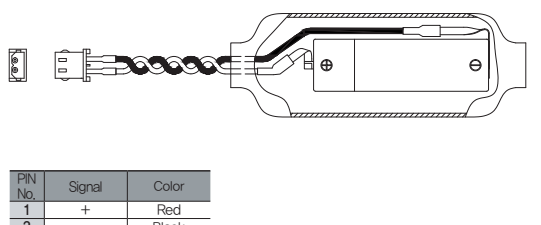
Note2) In case of 400V products, you can use Robotic Cable only.

Cable Length(m)	3	5	10	20
Robotic Cable(F)	F03	F05	F10	F20

L7 SERIES SYSTEM

Servo Motor Option

Power Cable [400V]

Type	Product Type	Model Name ^{Note1)}	Applicable Drive	Applicable Motor	Specifications										
For Power	Power Cable (Middle Capacity)	APCF- P□□□MS	L7SB□□□B L7NHB□□□U	APM-[S/F]FP75G [S/F]GP110D, [S/F]GP85G [S/F]GP110G, [S/FGP150G [S/F]GP60M	<p>Motor Side Connector</p>  <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>U</td> </tr> <tr> <td>B</td> <td>V</td> </tr> <tr> <td>C</td> <td>W</td> </tr> <tr> <td>D</td> <td>Ground</td> </tr> </tbody> </table> <p>1. Motor Side Connector a. PLUG Spec. : MS3108A 32-17S(MS)</p> <p>2. Drive Side Connector(U,V,W,FG) a. U, V, W Pin Spec. : 10x5(Ring Terminal)</p> <p>3. Cable Spec. : 4Cx10SQ or 4Cx7AWG</p>	PIN No.	Signal	A	U	B	V	C	W	D	Ground
					PIN No.	Signal									
A	U														
B	V														
C	W														
D	Ground														
For Power	Brake Cable (same with 200V)	APCS- P□□□SB	L7SB□□□B L7NHB□□□U	All Models of APM-SGP APM-FGP SERIES	<p>Motor Side Connector</p>  <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BK+</td> </tr> <tr> <td>2</td> <td>BK-</td> </tr> </tbody> </table> <p>1. Motor Side Connector a. Plug Spec. : MS3108B 14-7S(MS)</p> <p>2. Brake Power side Connector a. Connecting terminal Spec. : 1.5x3(Ring Terminal)</p> <p>3. Cable Spec. : 2Cx0.75SQ or 2Cx19AWG</p>	PIN No.	Signal	1	BK+	2	BK-				
					PIN No.	Signal									
1	BK+														
2	BK-														
Bat- tery For Encoder	Battery Ass'y	APCS- BATT36	All L7 Drives for M-turn	All Model of APM-F Series	 <table border="1"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> <th>Color</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+</td> <td>Red</td> </tr> <tr> <td>2</td> <td>-</td> <td>Black</td> </tr> </tbody> </table> <p>1. PLUG Spec. : 5264-02 (Molex) 2. PLUG Pin Spec. : 5263PBT (Molex) 3. Battery Spec. : ER6V/3.6V, 2000mAh (TOSHIBA)</p>	PIN No.	Signal	Color	1	+	Red	2	-	Black	
PIN No.	Signal	Color													
1	+	Red													
2	-	Black													

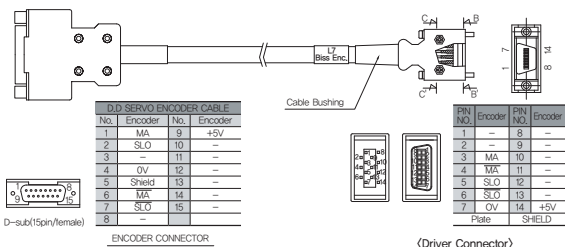
Note1) □□□ of Model Name indicates the kind and length of cable, And the declaration is as below.

Note2) In case of 400V products, you can use Robotic Cable only.

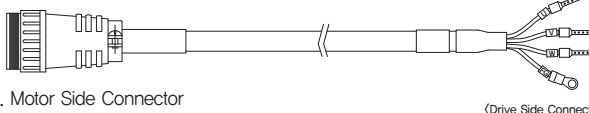
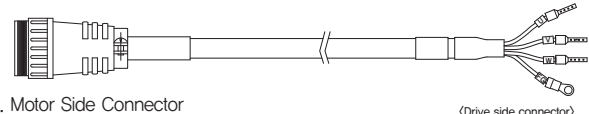
Cable Length(m)	3	5	10	20
Robotic Cable(F)	F03	F05	F10	F20

Servo Motor Option

DDMotor Signal Cable

Type	Product type	Model Name(Note1)	Applicable Motor	Specifications	Specifications																																																																								
For Signal	L7 Encoder Cable	APCS-E□□ZS	L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	All models of DD motor	 <p>D.D. SERVO ENCODER CABLE</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Encoder</th> <th>No.</th> <th>Encoder</th> </tr> </thead> <tbody> <tr><td>1</td><td>MA</td><td>9</td><td>+5V</td></tr> <tr><td>2</td><td>SLO</td><td>10</td><td>--</td></tr> <tr><td>3</td><td>--</td><td>11</td><td>--</td></tr> <tr><td>4</td><td>OV</td><td>12</td><td>--</td></tr> <tr><td>5</td><td>Shield</td><td>13</td><td>--</td></tr> <tr><td>6</td><td>MA</td><td>14</td><td>--</td></tr> <tr><td>7</td><td>SLO</td><td>15</td><td>--</td></tr> <tr><td>8</td><td>--</td><td>--</td><td>--</td></tr> </tbody> </table> <p>ENCODER CONNECTOR (Motor Connector)</p> <p>Encoder Cable Connector (Biss Serial Encoder)</p> <p>DRIVER CONNECTOR (Driver Connector)</p> <table border="1"> <thead> <tr> <th>Pin No.</th> <th>Encoder</th> <th>Pin No.</th> <th>Encoder</th> </tr> </thead> <tbody> <tr><td>1</td><td>--</td><td>8</td><td>--</td></tr> <tr><td>2</td><td>--</td><td>9</td><td>--</td></tr> <tr><td>3</td><td>MA</td><td>10</td><td>--</td></tr> <tr><td>4</td><td>MA</td><td>11</td><td>--</td></tr> <tr><td>5</td><td>SLO</td><td>12</td><td>--</td></tr> <tr><td>6</td><td>SLO</td><td>13</td><td>--</td></tr> <tr><td>7</td><td>OV</td><td>14</td><td>+5V</td></tr> <tr><td>Plate</td><td>SHIELD</td><td></td><td></td></tr> </tbody> </table> <ol style="list-style-type: none"> Motor Side Connector <ol style="list-style-type: none"> Connector(D-SUB) : DA-15PF-N(Female connector) Connector CASE(D-SUB) : SK-15H-1A Drive Side Connector <ol style="list-style-type: none"> CASE Spec. : 10314-52A0-008(3M) Connector Spec. : 10114-3000VE(3M) Cable Spec. : 3P×0.2SQ 	No.	Encoder	No.	Encoder	1	MA	9	+5V	2	SLO	10	--	3	--	11	--	4	OV	12	--	5	Shield	13	--	6	MA	14	--	7	SLO	15	--	8	--	--	--	Pin No.	Encoder	Pin No.	Encoder	1	--	8	--	2	--	9	--	3	MA	10	--	4	MA	11	--	5	SLO	12	--	6	SLO	13	--	7	OV	14	+5V	Plate	SHIELD		
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DDMotor Power Cable

Type	Product type	Model Name(Note1)	Applicable Motor	Specifications	Specifications																				
For Signal	L7 Power Cable	APCS-P□□□YS	L7SA□□□B L7NA□□□B L7NHA□□□U L7PA□□□U	DB03D DB06D DB09D DC06D DC12D DC18D DD12D DD22D DD34D DE40D DE60D	 <ol style="list-style-type: none"> Motor Side Connector Drive Side Connector <ol style="list-style-type: none"> U, V, W Pin PG Pin Spec. : UA-F2012(Seoil) FG Spec. : 1.5×4 Cable Spec. : 4C×1.5SQ, LAPP Cable(P/N : 00257001) <p>Motor side connector: Nambu Electronics NUC-24-4-ADF(Female)</p> <table border="1"> <thead> <tr> <th>Item</th> <th>Lead Wire Signal</th> <th>Pin No.</th> <th>Line color</th> </tr> </thead> <tbody> <tr><td>Motor</td><td>U</td><td>1</td><td>Red</td></tr> <tr><td></td><td>V</td><td>2</td><td>White</td></tr> <tr><td></td><td>W</td><td>3</td><td>Black</td></tr> <tr><td></td><td>Ground</td><td>4</td><td>Green</td></tr> </tbody> </table>	Item	Lead Wire Signal	Pin No.	Line color	Motor	U	1	Red		V	2	White		W	3	Black		Ground	4	Green
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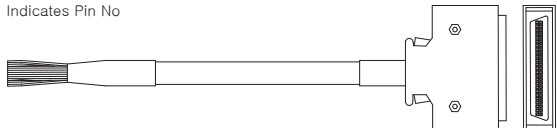
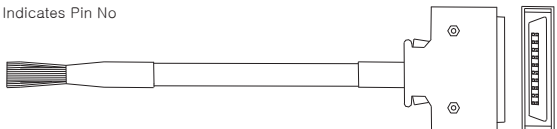

Note1) □□□ of Model Name indicates the kind and length of cable. And the declaration is as below.

Cable Length(m)	3	5	10	20
Robotic Cable(F)	F03	F05	F10	F20
General Cable(N)	N03	N05	N10	N20

L7 SERIES SYSTEM

Servo Motor Option

Signal Cable

Type	Product type	Model Name(Notel)	Applicable Motor	Specifications																																																																																																												
For Signal	CN1 Cable	APC-CN1□□A	L7S SERIES L7P SERIES	<p>[Upper Controller] [Drive Connection Side CN1]</p> <p>Indicates Pin No</p>  <ol style="list-style-type: none"> 1. Drive Side Connection(CN1) <ol style="list-style-type: none"> a. Case Spec. : 10350-52A0-008(3M) b. Connector Spec. : 10150-3000VE(3M) c. Cable Spec. : 20276-SB 25P(AWG28) 																																																																																																												
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For Signal	CN1 Cable	APCS-CN1□□A	L7N SERIES L7NH SERIES	<p>[Upper Controller] [Drive Connection Side CN1]</p> <p>Indicates Pin No</p>  <ol style="list-style-type: none"> 1. Drive Side Connection(CN1) <ol style="list-style-type: none"> a. Case Spec. : 10320-52A0-008(3M) b. Connector Spec. : 10120-3000VE(3M) c. Cable Spec. : ROW-SB0.1C×20C(AWG28) 																																																																																																												
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For Power	Communication Cable	APCS-CN5L7U	All Models of L7 SERIES	<p>[PC - USB Port] [Servo Drive - CN5]</p>  <ol style="list-style-type: none"> 1. PC Side Connector : USB A Plug 2. Drive Side Connector(CN5) : Mini USB 5P Plug 3. Electric Requirements Spec : Double Shielded, Twisted Pair, EMI-filter attached type (Ex. : KU-AMB518, SANWA) 4. Only 1.8m length of cable is available to use 																																																																																																												

Note1) □□ of Model Name indicates the kind and length of cable And the designation is as below.

Cable Length(m)	1	2	3	5
General Cable(N)	01	02	03	05

CN1 cable : 1m, 2m, 3m and 5m are available.

Servo Drive Option

Signal Cable / Connector

Type	Product Type	Model Name ^(Note1)	Applicable Drive	Specifications																																																																																																													
T/B	CN1 T/B	APC- VSCN1T -□□	L7S SERIES	<p>1. Extended CN1 T/B for VS/L7S 2. Available Cable Length : 0.5[m], 1[m], 1.5[m], 2[m], 3[m]</p>																																																																																																													
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T/B	CN1 T/B	APCS- L7NCN1T -□□	L7N SERIES	<p>1. Extended CN1 T/B for L7N 2. Available Cable Length : 0.5[m], 1[m], 1.5[m], 2[m]</p>																																																																																																													
	<p>(Pin No. Display)</p> <table border="1"> <thead> <tr> <th>NO</th> <th>Signal</th> <th>NO</th> <th>Signal</th> <th>NO</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BRAKE+</td> <td>6</td> <td>24V</td> <td>11</td> <td>HOME</td> </tr> <tr> <td>2</td> <td>BRAKE-</td> <td>7</td> <td>CWL</td> <td>12</td> <td>ALMRST</td> </tr> <tr> <td>3</td> <td>ALARM+</td> <td>8</td> <td>CCWL</td> <td>13</td> <td>D11</td> </tr> <tr> <td>4</td> <td>ALARM-</td> <td>9</td> <td>PROBE1</td> <td>14</td> <td>D12</td> </tr> <tr> <td>5</td> <td>Spare Pin</td> <td>10</td> <td>PROBE2</td> <td>15</td> <td>Spare Pin</td> </tr> </tbody> </table>				NO	Signal	NO	Signal	NO	Signal	1	BRAKE+	6	24V	11	HOME	2	BRAKE-	7	CWL	12	ALMRST	3	ALARM+	8	CCWL	13	D11	4	ALARM-	9	PROBE1	14	D12	5	Spare Pin	10	PROBE2	15	Spare Pin																																																																									
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4	ALARM-	9	PROBE1	14	D12																																																																																																												
5	Spare Pin	10	PROBE2	15	Spare Pin																																																																																																												
CN	CN1 Connector	APC- CN1NNA	L7S SERIES	<p>1. Case Spec. : 10350-52A0-008(3M) 2. Connector Spec. : 10150-3000VE(3M)</p>																																																																																																													

Note1) □□ of Model Name indicates the kind and length of cable. And the declaration is as below.

*APC-VSCN1T

Cable Length(m)	0.5	1	1.5	2	3
Declaration	None	01	015	02	03

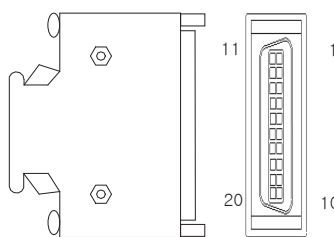
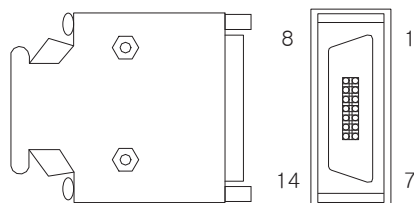
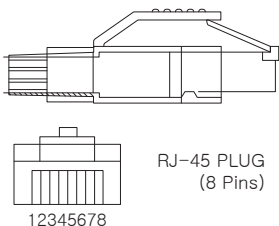
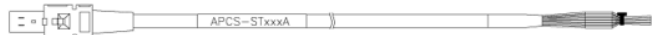
*APCS-L7NCN1T

Cable Length(m)	0.5	1	1.5	2
Declaration	None	01	015	02

L7 SERIES SYSTEM

Servo Drive Option

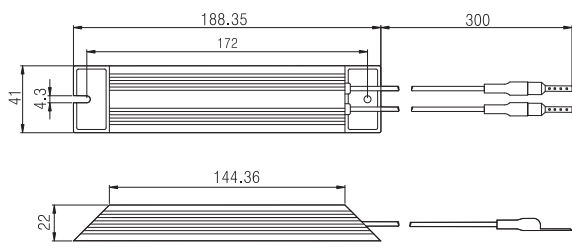
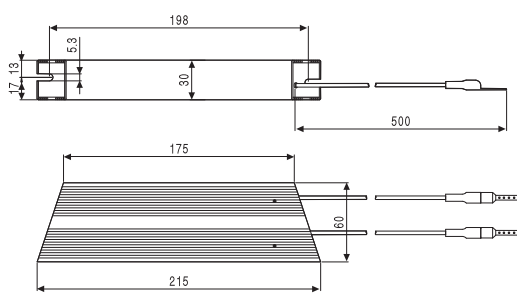
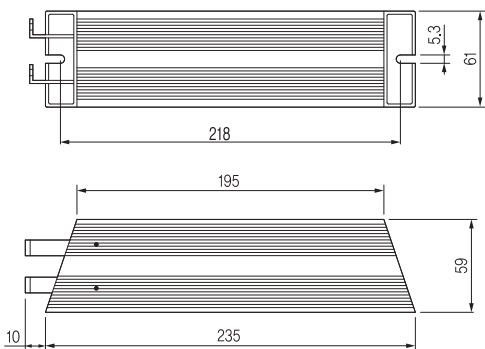
Connector

Type	Product Type	Model Name	Applicable Drive	Specifications																														
CN	CN1 Connector	APC- CN2NNA	L7NA□□□□B L7NH□□□□□U	 <p>1. Case Spec. : 10320-52A0-008(3M) 2. Connector Spec. : 10120-3000VE(3M)</p>																														
CN	CN2 Connector	APC- CN3NNA	All Models of L7 SERIES	 <p>1. Case Spec. : 10314-52A0-008(3M) 2. Connector Spec. : 10114-3000VE(3M)</p>																														
CN	CN3 CN4 EtherCAT Connector	APCS- CN4NNA	L7NA□□□□B L7NH□□□□□U	 <p>RJ-45 PLUG (8 Pins) 12345678</p> <table border="1" data-bbox="1109 1355 1364 1556"> <thead> <tr> <th>PIN No.</th> <th>Signal</th> <th>Color</th> </tr> </thead> <tbody> <tr><td>1</td><td>TX/RX0 Plus</td><td>White/Orange</td></tr> <tr><td>2</td><td>TX/RX0 Minus</td><td>Orange</td></tr> <tr><td>3</td><td>TX/RX1 Plus</td><td>White/Orange</td></tr> <tr><td>4</td><td>TX/RX2 Plus</td><td>Blue</td></tr> <tr><td>5</td><td>TX/RX2 Minus</td><td>White/Blue</td></tr> <tr><td>6</td><td>TX/RX1 Minus</td><td>Green</td></tr> <tr><td>7</td><td>TX/RX3 Plus</td><td>White/Brown</td></tr> <tr><td>8</td><td>TX/RX3 Minus</td><td>Brown</td></tr> <tr><td colspan="2">Plate</td><td>SHILDE</td></tr> </tbody> </table> <p>Note) EtherCAT use only 4wires(1, 2, 3, 6)</p>	PIN No.	Signal	Color	1	TX/RX0 Plus	White/Orange	2	TX/RX0 Minus	Orange	3	TX/RX1 Plus	White/Orange	4	TX/RX2 Plus	Blue	5	TX/RX2 Minus	White/Blue	6	TX/RX1 Minus	Green	7	TX/RX3 Plus	White/Brown	8	TX/RX3 Minus	Brown	Plate		SHILDE
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6	TX/RX1 Minus	Green																																
7	TX/RX3 Plus	White/Brown																																
8	TX/RX3 Minus	Brown																																
Plate		SHILDE																																
CN	STO Cable	APCS- STO□□□A	L7NA□□□□B L7NH□□□□□U	 <p>APCS-STxxxxA</p> <table border="1" data-bbox="933 1747 1157 1904"> <thead> <tr> <th>PIN No.</th> <th>IO Signal</th> <th>Color</th> </tr> </thead> <tbody> <tr><td>1</td><td>NC</td><td>-</td></tr> <tr><td>2</td><td>NC</td><td>-</td></tr> <tr><td>3</td><td>HWB1 Minus</td><td>Orange</td></tr> <tr><td>4</td><td>HWB1 Plus</td><td>Orange</td></tr> <tr><td>5</td><td>HWB2 Minus</td><td>Yellow</td></tr> <tr><td>6</td><td>HWB2 Plus</td><td>Yellow</td></tr> <tr><td>7</td><td>EDM Plus</td><td>White</td></tr> <tr><td>8</td><td>EDM Minus</td><td>White</td></tr> </tbody> </table> <p>1. Cable Length Only 0.3[m], 1[m], 3[m] of Cable is available to use. 2. Connector Model Name : APCS-STO00A * Caution During assembly of connector, It can be broken easily without guaranty of LS Mecapion.</p>	PIN No.	IO Signal	Color	1	NC	-	2	NC	-	3	HWB1 Minus	Orange	4	HWB1 Plus	Orange	5	HWB2 Minus	Yellow	6	HWB2 Plus	Yellow	7	EDM Plus	White	8	EDM Minus	White			
PIN No.	IO Signal	Color																																
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5	HWB2 Minus	Yellow																																
6	HWB2 Plus	Yellow																																
7	EDM Plus	White																																
8	EDM Minus	White																																

Other Options

200V Braking Resistor

* Option braking resistors are selectable items for user's need.

Type	Product Type	Model Name ^(Note1)	Applicable Drive	Specifications
Resistor	Braking Resistor	APCS-140R50	L7□A001□ L7□A002□ L7□A004□	 <p>IRH 140W 50ohm</p>
Resistor	Braking Resistor	APCS-300R30	L7□A008□ L7□A010□	 <p>IRV 300W 30ohm</p>
Resistor	Braking Resistor	APC-600R30	L7□A020□ L7□A035□	 <p>IRV 600S 30ohm IRV 600S 28ohm</p> <p>* L7□A020□ - 2pcs (Parallel Connection) * L7□A050□ - 4pcs (Parallel Connection)</p> <p>L7□A035□ - 3pcs (Parallel Connection)</p> <p>Note) IRV 600S 30ohm and 600S 28ohm have the same external dimensions.</p>
		APC-600R28	L7□A050□ (4P)	

Note1) L7 Series 100W~7.5kW has the internal basic braking resistor. If the machine requires short deceleration time frequently, refer to table above and apply the appropriate braking resistor.

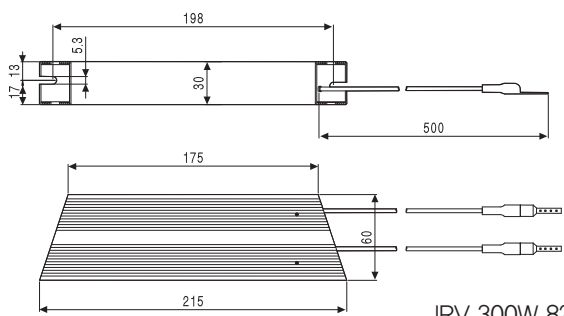
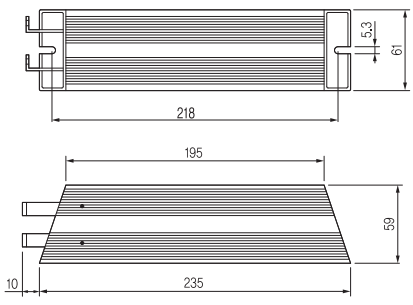
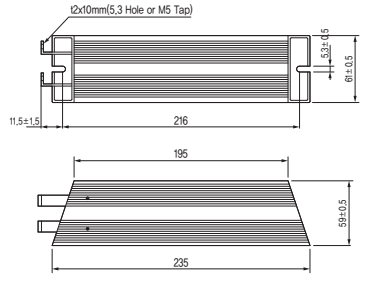
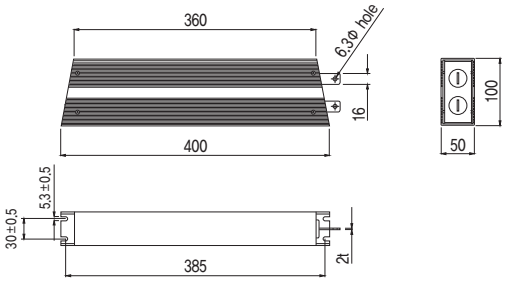
- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

Other Options

400V Braking Resistor

* Option braking resistors are selectable items for user's need.

Type	Product Type	Model Name ^(Note1)	Applicable Drive	Specifications
Resistor	Braking Resistor	APCS-300R82	L7□B010□	 <p>IRV 300W 82ohm</p>
Resistor	Braking Resistor	APCS-600R140	L7□B020□ L7□B035□	 <p>IRV 600W 140ohm</p>
Resistor	Braking Resistor	APCS-600R75	L7□B075□	 <p>IRV 600W 75ohm (3PCS Parallel connection)</p>
Resistor	Braking Resistor	APC-2000R13R4	L7□B150□	 <p>IRM 2000W 13.4ohm</p>

Note1) L7 Series 100W~7.5kW has the internal basic braking resistor. If the machine requires short deceleration time frequently, refer to table above and apply the appropriate braking resistor.

L7S Series
L7N Series
L7NH Series
L7P Series
S Series
F Series
MDM Series
Options
PEGASUS Series

Servo Drive Option

Noise Filter

Type	Product Type	Model Name	Applicable Drive	Specifications	
Resistor	Noise Filter	APCS-TB6-B010LBEI	L7□A 001□ L7□A 002□ L7□A 004□ L7□A 008□ L7□A 010□ L7□B 010□		
		APCS-TB6-B020NBDC	L7□B 020□ L7□B 035□		
		APCS-TB6-B030NBDC	L7□A 020□ L7□A 035□ L7□B 050□		
		APCS-TB6-B040AS	L7□A 050□ L7□B 075□		
		APCS-TB6-B060LAS	L7□B 150□		

- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

Contents

■ Integrated Servo System

PEGASUS Series

Integrated Servo System (EtherCAT)

- Servo Drive Designation _110
- Product Feature _112
- External Dimensions _114



L7S Series

L7N Series

L7NH Series

L7P Series

S Series

F Series

MDM Series

Options

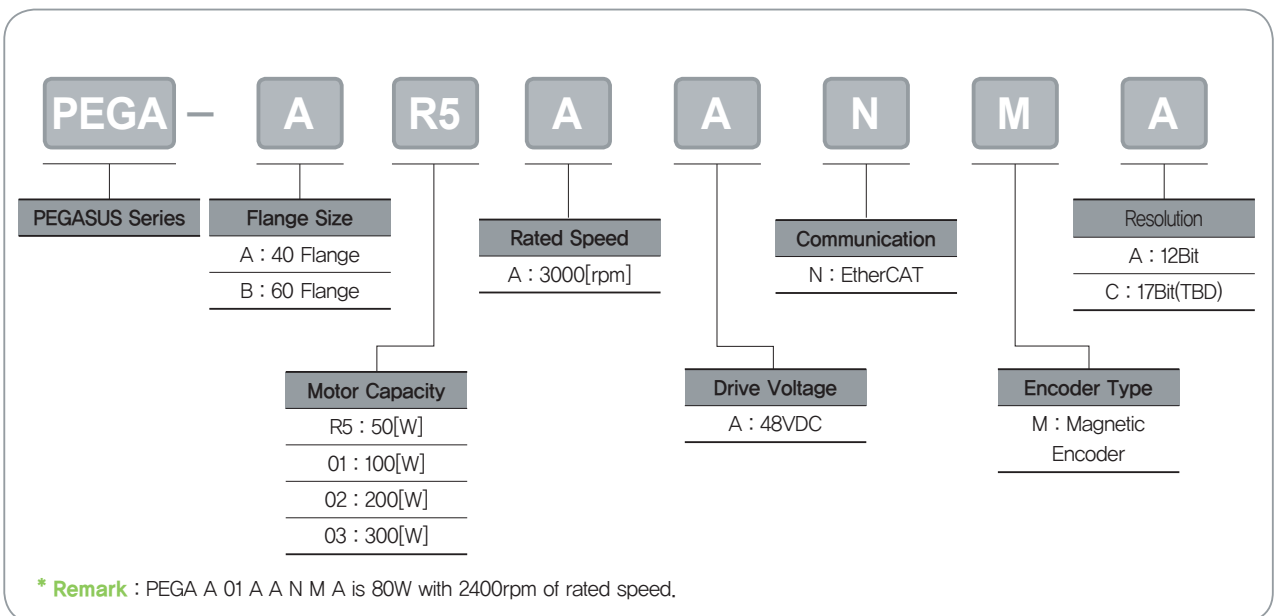
PEGASUS Series

Integrated Servo System (EtherCAT)

PEGASUS Series



Servo Drive Designation



- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

L7 SERIES SYSTEM

PEGASUS Series

Characteristic

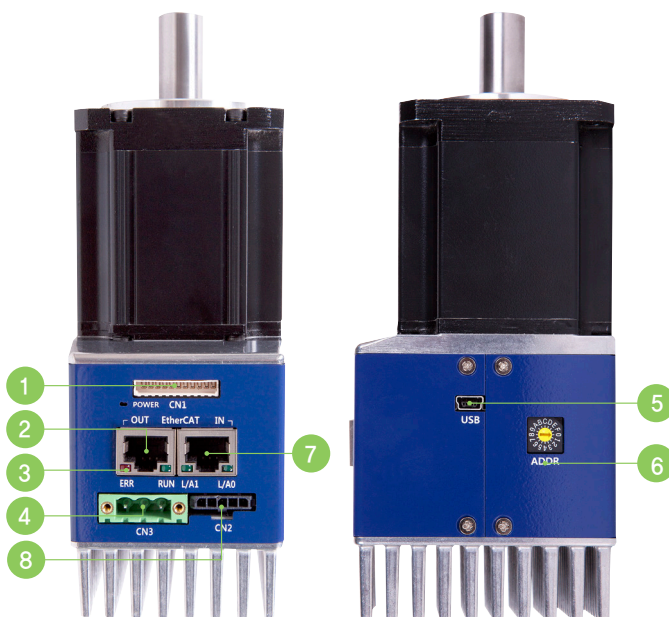
● Enhanced efficiency integrated servo system

- Cost effective from installation by integrated system of motor, encoder cable and drive
- Maximization for useful space when installed at limited and small space
- High effectiveness for application of multi axis because there is no limitation for space of installation

● Real-time control through EtherCAT

- High speed, Real-time capability and Synchronization mechanism
- Improved EtherCAT communication speed
- Supporting CoE, EoE and FoE

Identifying the Part of PEGASUS Series



1 Input / Output Signal Connector (CN1)

- This Connector is for Sequence Input / Output Signals

2 EtherCAT Communication Output Port (OUT)

3 Status LED

- It Indicates the current state of Ether CAT Communication

4 Power Connector (CN3)

5 USB Connector (CN5, Mini B type)

- This Connector is to Communicate With a PC

6 Node Address Setting Switch

- This Switch is to set the node address of the drive
You can set the node addresses from 0 to 15

7 EtherCAT Communication Input Port (IN)

8 Safety Connector (CN2)

- This Connector connects Safety Devices

Specifications of PEGASUS Series

Rated Values of Servo Drive

Rated values for servo drive	□40 50W	□40 100W	□60 100W	□60 200W	□60 300W
Continuous output current [Arms]	1.77	2.38	3.62	5	6.8
Maximum output current [Arms]	3.54	3.57	7.24	10	13.6
Input voltage	DC 48V ~ DC 60V				

Basic Specifications

Category		Details	
Use conditions	Control method	PWM controlled sine wave current driving method	
	Operating temperature / storage temperature	0~+40[°C] / -20~ +60[°C]	
	Operating humidity / storage humidity	Below 80% RH / Below 90% RH (no freeze or condensation)	
	Vibration-/impact-resistance	TBD	
	Degree of protection / degree of pollution	TBD	
	Altitude	1000 m or lower	
	Other	To be free from electrostatic noise, strong electrolysis, or radiation.	
Performance	Speed variation	Load variation	At 0 to 100% load: ±3% (at rated speed)
		Voltage variation	Rated voltage ± 10%: 0% (at rated speed)
		Temperature variation	25°C: ± 0.1% or less (at rated speed)
Input/output signal	Input signal	Input voltage range: DC 12 V – DC 30 V The 4-channel input signal can be assigned to 12 functions: POT, NOT, HOME, STOP, PCON, GAIN2, PCL, NCL, PROBE1, PROB2, EMG, and ARST.	
	Output signal	Rated voltage and current: DC 24 V ± 10%, 120 [mA] The 2-channel output signal can be assigned to 11 functions: BRAKE, ALARM, RDY, ZSPD, INPOS1, TLMT, VLMT, INSPD, WARN, TGON, and INPOS2.	
Analog Monitor		Number of channels: 1 Output voltage range: ±4V Angular resolution: 12 bits Stabilization time: 15 us	
USB communication	Connecting device	PC or USB storage medium	
	Communication standard	Conform to the USB 2.0 Full Speed Standard.	
	Function	Firmware download, parameter setting, adjustment, auxiliary functions, and parameter copy function.	
Dynamic brake (three-phase short-circuit)		Activates when servo alarm, servo OFF, or Emergency stop (POT, NOT and EMG) is input.	
Protection functions		Overcurrent, overload, current limit, overheat, overvoltage, undervoltage, overspeed, encoder error, position follow error, etc.	
Auxiliary functions		Gain adjustment, alarm history, JOG drive, programmed JOG drive, etc.	
Safety functions	Input	STO1 and STO2	
	Compatible standard	TBD	

L7 SERIES SYSTEM

Specifications of PEGASUS Series

EtherCAT Communication Specification

Category		Details
Communication standard	FoE	Firmware download
	EoE	Parameter setting, adjustment, auxiliary functions, and parameter copy through UDP.
	CoE	IEC 61158 Type12, IEC 61800-7 CiA 402 drive profile
Physical layer		100BASE-TX (IEEE802.3)
Connector		RJ45 x 2
Distance		Within 100 m between nodes
DC (Distributed Clock)		Sync by DC mode
LED Display		L/A0(Link/Act IN) L/A1(Link/Act OUT) RUN ERR
Cia402 drive Profile		Supports CSP, CSV, CST, PP, PV, PT, and HM Modes.

Motor Specificaion

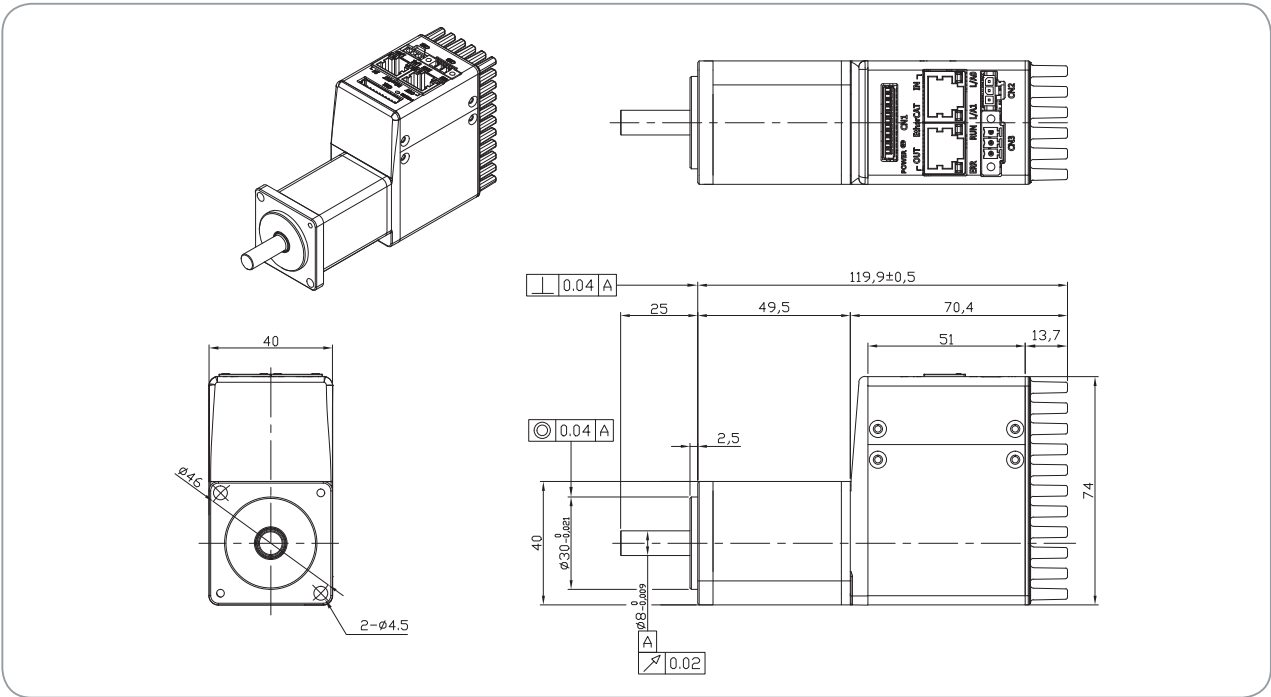
Model	Unit	SAR5A-8	SA01A-8	SB01A-6	SB02A-9	SB03A-9
Frame Size	[mm]	40	40	60	60	60
Rated Power	[W]	50	80	100	200	300
Rated Torque	[N m]	0.16	0.32	0.32	0.64	0.95
	[Kgf cm]	1.62	3.25	3.25	6.5	9.74
Rated Speed	[rpm]	3,000	2,400	3,000	3,000	3,000
Inertia	[gf cm s ²]	0.02	0.0435	0.114	0.186	0.328
	[Kg m ² x 10 ⁻⁴]	0.02	0.0426	0.116	0.182	0.321
Rated Voltage	[Vdc]	Input Power : 48VDC				
Encoder Type	-	Magnetic Encoder (12bit)				

Note1) SA01A-8 can be operated at 3000rpm(100w) with 60Vdc of input power(instead of 48Vdc)

External Dimensions of PEGASUS Series

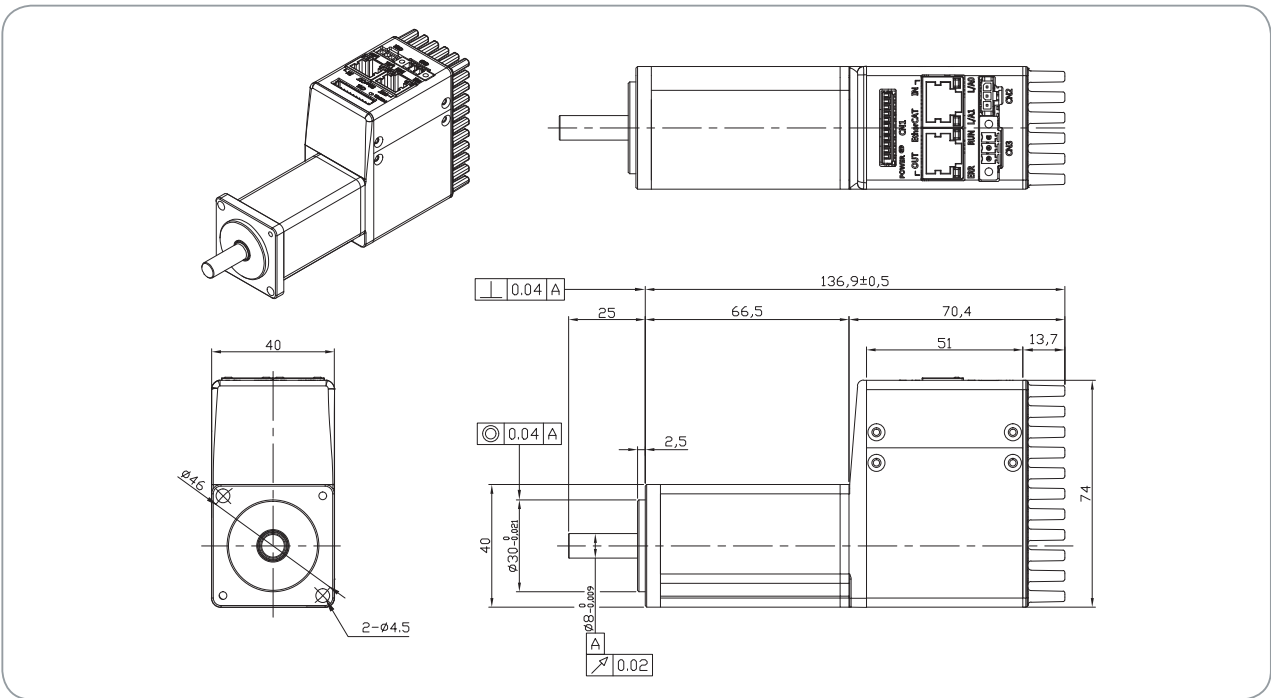
■ PEGA-AR5A

*Unit [mm]



■ PEGA-A01A

*Unit [mm]



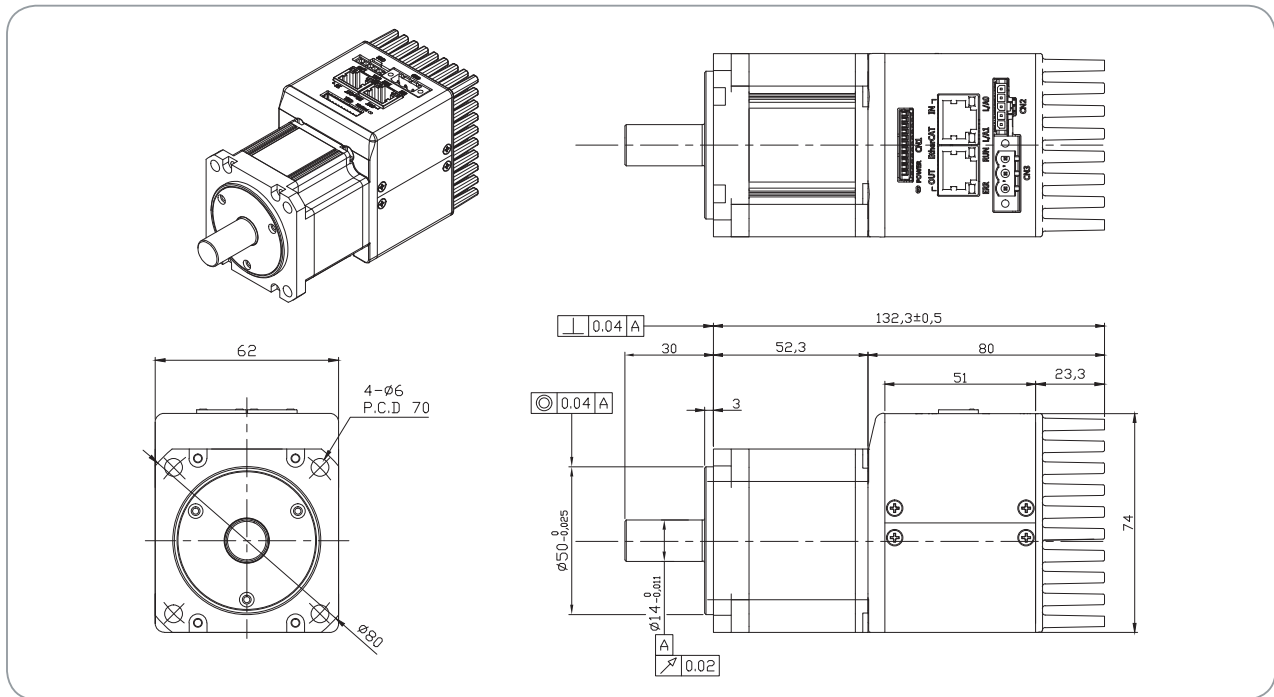
- L7S Series
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- Options
- PEGASUS Series

L7 SERIES SYSTEM

External Dimensions of PEGASUS Series

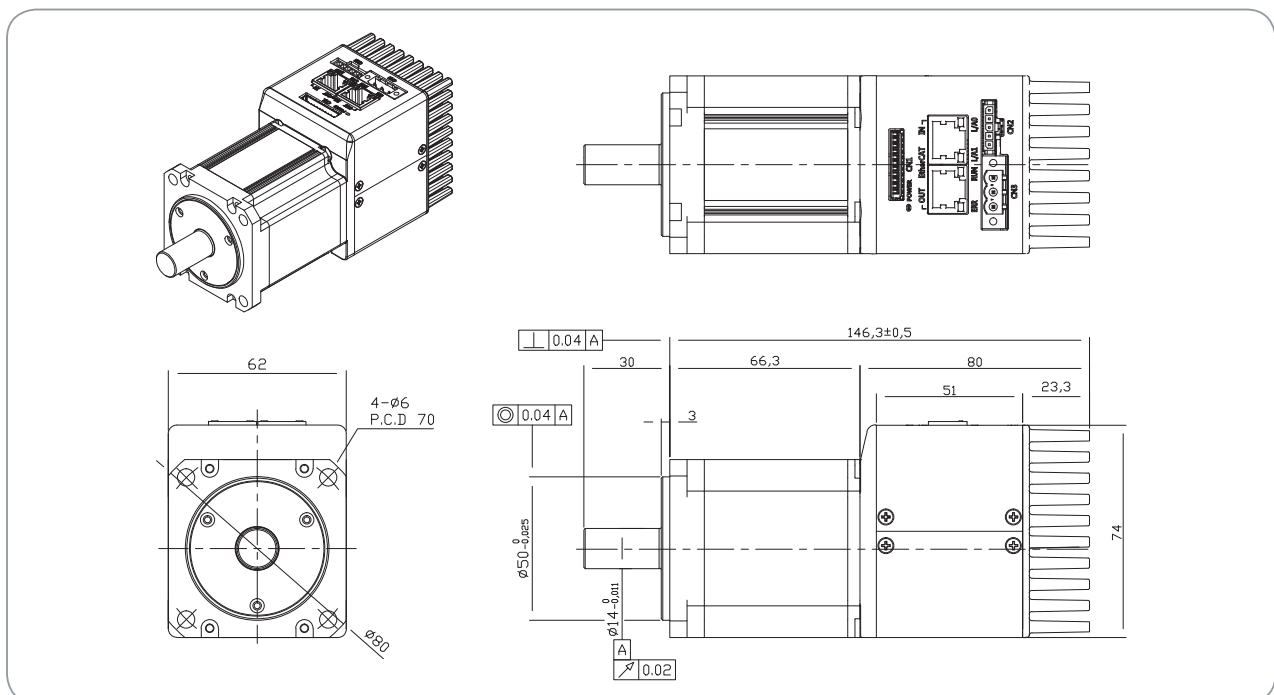
■ PEGA-B01A

*Unit [mm]



■ PEGA-B02A

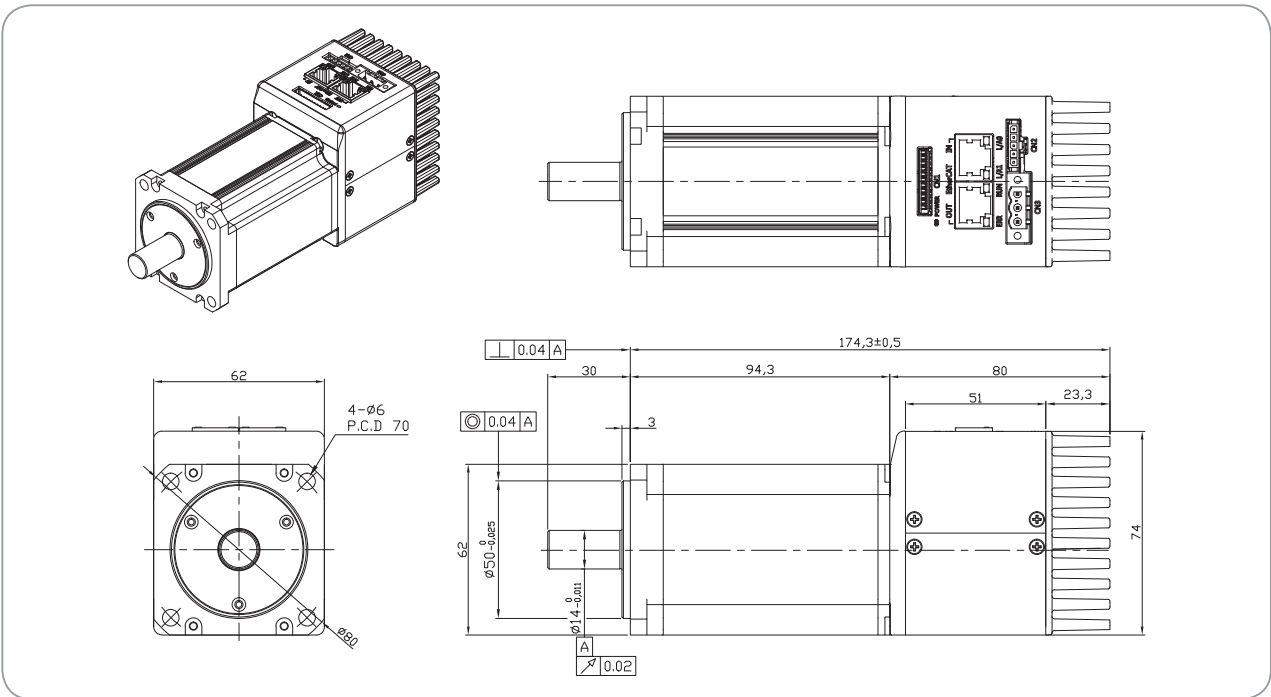
*Unit [mm]



External Dimensions of PEGASUS Series

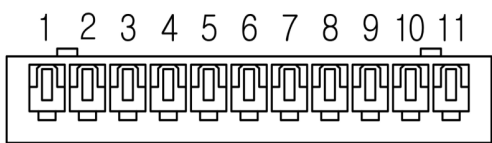
PEGA-B03A

*Unit [mm]



Accessory Kit

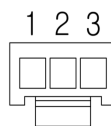
CN1 : I/O Connector



51004-1100 (MOLEX)

Pin Number	Direction	Name	Signals	Descriptions
1	VCC	+24V	+24V INPUT	+24V Vcc Input
2	Input	POT	Positive Over-Travel	Limit Sensor Input
3	Input	NOT	Negative Over-Travel	
4	Input	HOME	Home Sensor	Home Sensor Input for Homing
5	Input	STOP	Stop Input	Stop Command Input
6	Output	BRAKE+	BRAKE	Output Brake Control Signal
7	Output	BRAKE-		
8	Output	ALARM+	Alarm Output	Servo Alarm Output
9	Output	ALARM-		
10	Output	MONITOR1	Analog Monitor	Analog Monitor Output(0V~5V)
11	GND	AGND	AGND(0V)	Analog Signal Ground

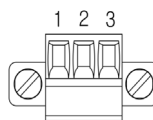
CN2 : Safe Torque Off Connector



43645-3 (MOLEX)

Pin Number	Name	Descriptions
1	HWBB1	Safe Torque Off(STO) input signals
2	HWBB2	
3	COMMON	DC 24V GND

CN3 : Power Connector



MC_1.5-3-STF-3.5 (PHOENIX CONTACT)

Pin Number	Name	Descriptions
1	FG	Frame Ground
2	N(DC 0V)	DC 0V GND
3	VCC(DC 48V)	DC 48V input

- L7S Series
- L7N Series
- L7NH Series
- L7P Series
- S Series
- F Series
- MDM Series
- Options
- PEGASUS Series

MEMO

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www.lsmecapion.com



Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact qualified service technician when you need maintenance.
Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.



Realtech

www.realtechotomasyon.com.tr

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