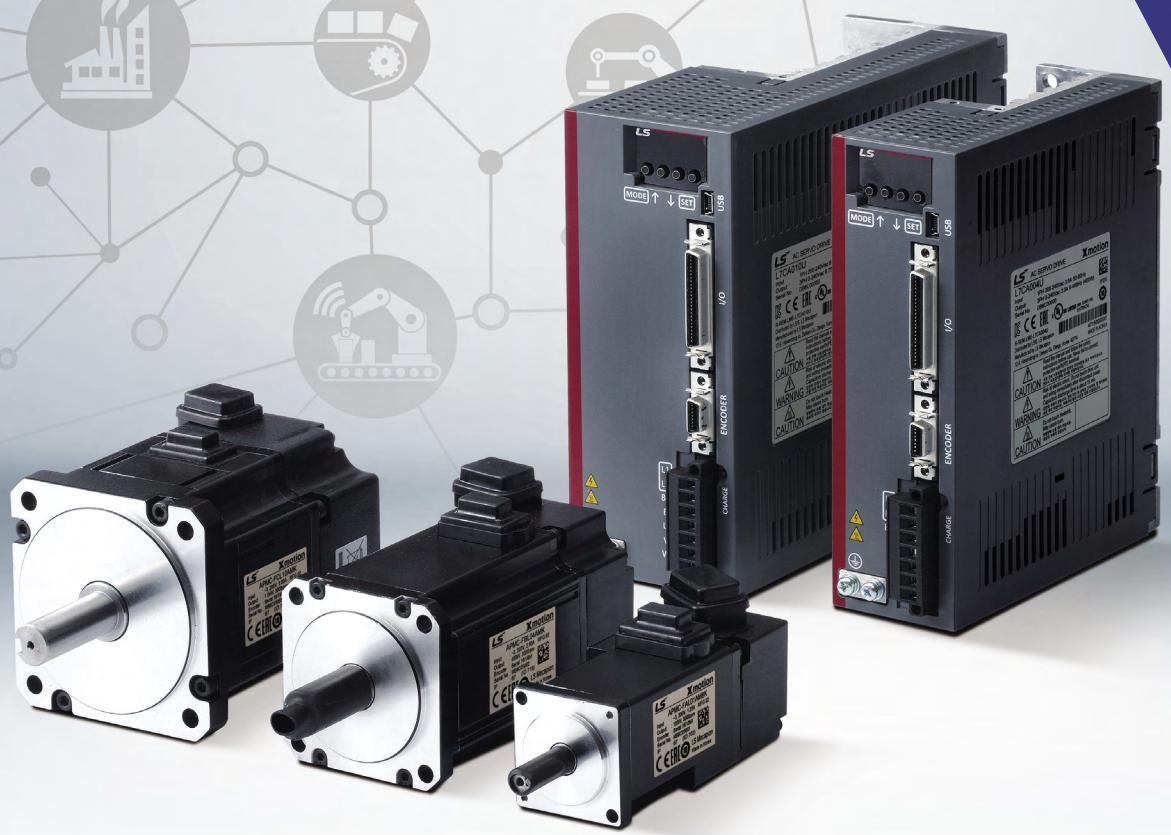
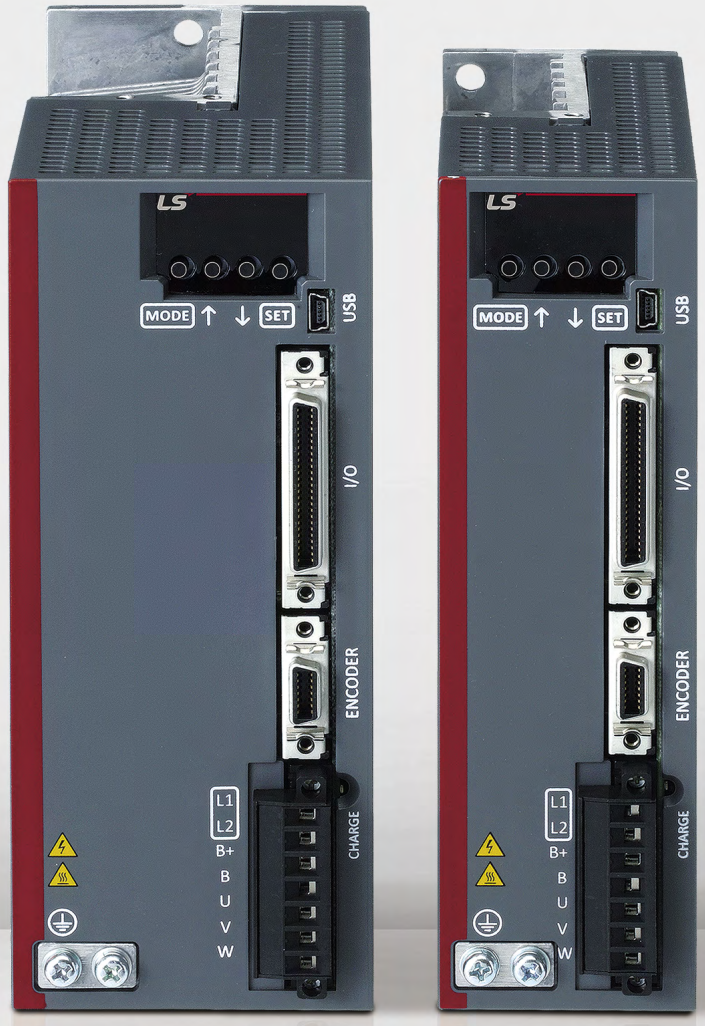
L7C Servo Drive & Motor

Xmotion



Beyond technology, the revolution of Industry 4.0! Achieve automation innovation with LSIS L7C Servo Drive

Compact size considering productivity improvement and system efficiency, various built-in functions, complete the innovation of automation at a competitive price.



L7C Servo Drive

Control power/Main po

- Unification of power for inte power board
- 0.1 ~ 1kW Drive line-up for support

Optimal system imple competitive cost ratio

- Unused FPGA due to optim

Maintain compatibility

- Compatibility with existing

Maintain and improve

- Maintain current control cy control cycle (5kHz)
- Added operation mode(inde memory(1MB, L7P specific

ower unification
egrated control board and

single phase AC220V

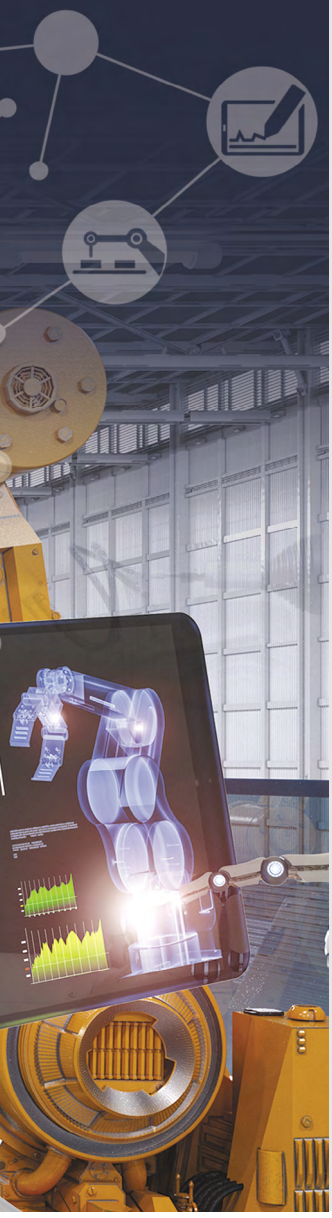
mentation with

ization of MCU usage

L7S I/O pin map

L7S specification
rcle (10kHz), speed/position

exing mode) and improved
ation)



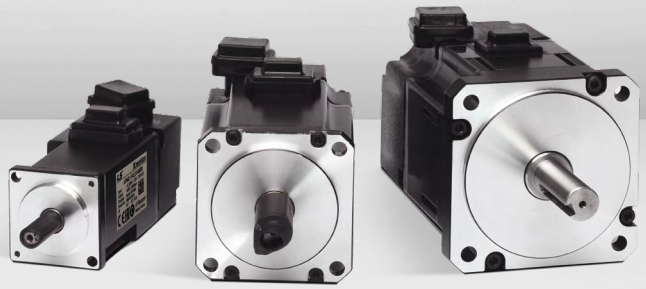
Specification (L7C Servo Drive)

Item		L7CA001U	L7CA002U	L7CA004U	L7CA008U	L7CA010U
Input power		Single phase AC200 ~ 230[V] (-15~+10%), 50~60[Hz]				
Rated current[A]		1.4	1.7	3.0	5.2	6.75
Peak current[A]		4.2	5.1	9.0	15.6	20.25
Encoder type		Quadrature (Incremental), Biss-B, Biss-C (Absolute, Incremental)				
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°C]				
	Accel/Decel time	Straight or S-curve acceleration/deceleration (0-10,000[ms], possible to be set by one[ms] unit)				
	Input frequency	1[Mpps], line driver / 200[kpps], open collector				
	Input pulse type	Symbol + Pulse series, CW+CCW, A/B Phase				
RS-422	Specification	ANSI/TIA/EIA-422 standard specifications				
	Protocol	MODBUS-RTU				
	Synchro method	Asynchronous				
	Power consumption	100[mA]				
	Transmission speed	9,600/19,200/38,400/57,600bps				
	Distance	Maximum 200[m]				
	Terminating resistance	Connecting the outside connector (CN1 7Pin, 28Pin connection), Built-in 120Ω				
Digital In/Output	Digital input	Input voltage range : DC12V ~ DC24V Total 10 input channels (allocable) Total 34 function's input can be used selectively for assignment. (*SV_ON, *SPD/LVSF1, *SPD2/LVSF2, *SPD3, *A-RST, *JDIR, *POT, *NOT, *EMG, *STOP, START, REGT, HOME, HSTART, ISEL0, ISEL1, ISEL2, ISEL3, ISEL4, ISEL5, PCON, GAIN2, P_CL, N_CL, MODE, PAUSE, ABSRQ, JSTART, PCLR, AOVR, INHIBIT, EGEAR1, EGEAR2, ABS_RESET) * Basic allocation signal				
	Digital output	Service rating : DC24V ±10%, 120mA 5 of 10 input channels are allocable, 3 channels are fixed with AL00, AL01, AL02 Total 19 function's input can be used selectively for assignment. (*ALARM, *READY, *ZSPD, *BREAK, *INPOS1, ORG, EOS, TGON, TLMT, VLMT, INSPD, WARN, INPOS2, IOUT0, IOUT1, IOUT2, IOUT3, IOUT4, IOUT5) * Basic allocation signal				
Analog Input		2 Channel Analog speed input (Command/Overide) ±10V Analog torque input (Command/Limit) ±10V				
USB communication	Function	Firmware download, parameter setting, tuning, secondary function, parameter copy				
	Connect	PC				
	Communication standard	USB 2.0 full speed (Applies standard)				
Internel function	Dynamic braking	Standard built-in brake (Activated when the servo alarm goes off or when the servo is off),				
	Regenerative braking	Both default built-in and external installation possible				
	Display function	7 segments (5DIGIT)				
	Additional function	Gain tuning, alarm history, JOG operation, origin search				
	Protection function	Excessive current/voltage/overload/overheating/speed, excessive current limit, low voltage, encoder/position following/current sensing fail				
Environment	Operating temperature / Storage temperature	0~50℃/-20 ~ 65℃				
	Operating humidity / Storage humidity	Below80[%]RH / Below 90[%]RH(Avoid dew-condensation)				
	Environment	Indoor, avoid corrosive, inflammable gas or liquid, and electrically conductive dust.				

FUTURING SMART ENERGY

We open up a brighter future through efficient and convenient energy solutions.

High resolution of magnetic sensing method Magnetic Absolute Serial Encoder



Magnetic Absolute Serial Encoder Built-in Motor

High speed serial communication

- Position data output by high-speed serial communication
- High compatibility maintenance by using the same communication method as existing products

High resolution position data output

- High resolution of magnetic sensing method
- Position data output of 17 bits (131,072 counts) per revolution
- Position data per revolution is always displayed in absolute position

High environmental protection

- High resistance to outside substances such as oil and dust
- High durability against external vibration and shock
- Motor shaft disk protection

Built-in auto gain tuning function

- Auto gain tuning in response to external environment
- Always keep optimal signal condition

Specification (Magnetic Absolute Serial Encoder Built-in Motor)

Servo motor (APM-□□□□YK)		FALR5A	FAL01A	FAL015A	FBL01A	FBL02A	FBL04A	FCL04A	FCL06A	FCL08A	FCL10A	FCL03D	FCL05D	FCL06D	FCL07D
Applicable Drive		L7□A001		L7□A002	L7□A001	L7□A002	L7□A004		L7□A008		L7□A010	L7□A004	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	1.73	0.95	1.45	2.6	2.58	3.81	5.02	5.85	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]	3,000										2,000			
Max. speed	[r/min]	5,000										3,000			
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				30 Times of Motor Inertia							
Rated power rate	[kW/s]	10.55	23.78	35.34	11.09	27.6	27.07	30.6	40.66	45.09	62.08	38.73	51.47	54.56	59.03
Speed/Position detector	Standard	Serial single-Turn built-In type (17bit)													
Specifications & features	Structure	Fully closed self cooling IP67													
	Rated time	Continuous													
	Ambient temp	Operating: 0~40[℃] Storage: -10~60[℃]													
	Ambient humidity	90[%]RH below [Avoid dew-condension]													
	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

* Brake is not applicable for FAL015A

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