



LS Electric AC Servo Systems

Drive Software

Drive CM Configuration Software

Drive CM is an optional free downloadable configuration software package for LS Electric servo drives. A PC may be directly connected to the servo drive via any standard USB-A to USB mini-B cable (SV2-PGM-USB15 or SV2-PGM-USB30 recommended).

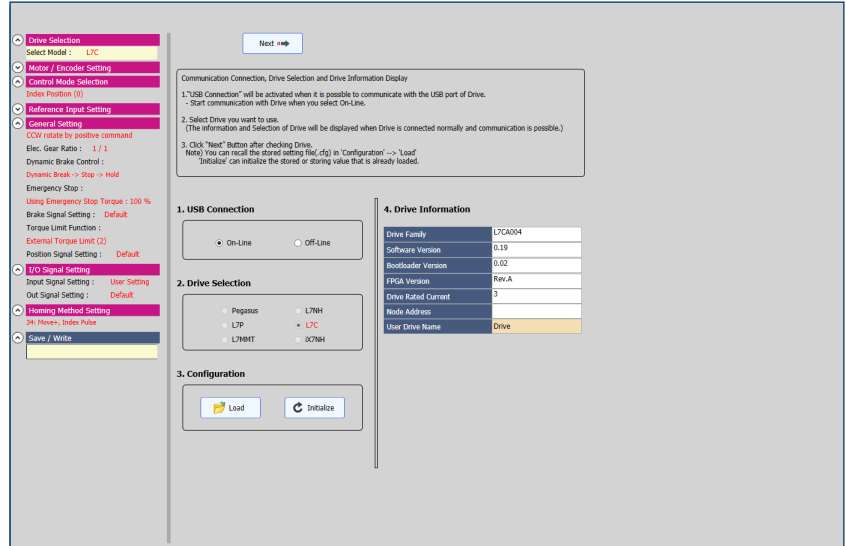
Features

- Easy-to-use setup wizard guides you through the most common setup functions.
- Digital I/O / Jog Control allows the user to operate the servo system from the PC. This allows the servo to perform some basic motion and check the I/O during startup.
- Parameter Object editor for setting up all drive parameters.
- Tune and check the servo response in real-time using the scope feature.
- Upload and download the drive configuration. Save the drive configuration as a file for backup or future use.
- Edit the drive configuration.
- View all drive faults.
- View drive variable trends in real-time.
- (L7P/L7C series only) Set up 64 internal Indexes (point-to-point moves) that can be triggered by digital inputs or serial communications. Indexes can repeat and can initiate another Index when one move completes.

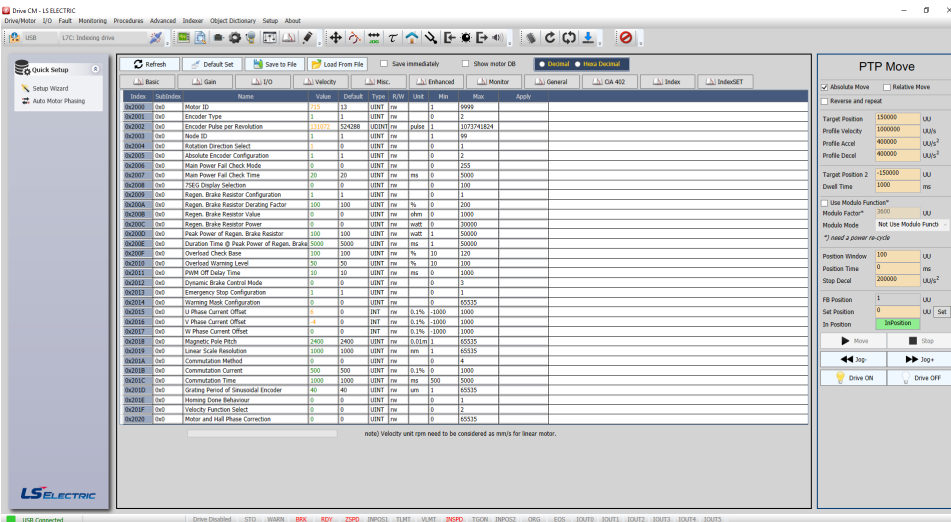
Download

Download the Drive CM software from AutomationDirect's LS Electric support page:

<https://support.automationdirect.com/products/lselectric.html>



Setup Wizard Screen



Drive CM Software Interface

Parameter Object Editor

The Drive CM configuration tool logically organizes all servo drive object parameters for viewing and editing using the Object Dictionary screen. Each parameter has a factory default that usually allows the servo to run "out-of-the-box".

The parameters can be easily changed with available setting ranges displayed. Tuning modes and parameters can also be changed using Drive CM. After the parameters have been defined, the complete setup can be stored and archived. Drive configurations can be uploaded, edited, saved, and downloaded as often as necessary.

Using the Drive CM software you can also configure and commission your drive without having to be connected to the master controller.



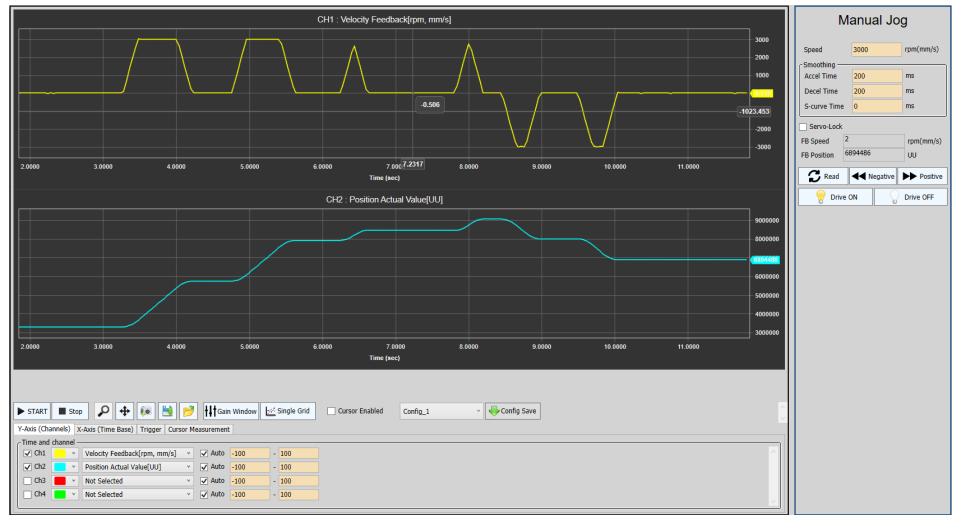
LS Electric AC Servo Systems

Drive Software, continued

Digital I/O, Jog Control, and Scope

The Digital I/O / Jog Control screen allows the user to operate the servo system from the PC. This is a great aid during start-up to allow the servo to perform some basic motion and to check the I/O.

Drive CM also includes a powerful scope function that allows the user to have as many as four channels of data displayed simultaneously. Each channel has a drop-down table to select the data to be displayed. The scope has the ability to save traces to a file and load those traces for offline review/analysis. This function is a valuable tool for tuning LS Electric servo drives.



Jog Control / Scope Screen

Item	Value	Unit or Descriptions
Motor Direction	Reverse	
Motor Direction*	<input type="checkbox"/> Reverse	
Electrical Brake Mode	Select EGAR 1-4	Use Electric Gear 1-4
Electric Gear Offset	0	
Electric Gear Number*	EGEA1	EGEA2 EGEA3 EGEA4
Electric Gear Designator*	1	1 1 1 1
Peak Off Delay Time	10	ms
Dynamic Brake Control Mode	Hold after stopping the motor using the dynamic brake	
Brake Output Speed	100	rpm, mm/s
Brake Output Delay Time	100	ms
Emergency Stop		
Emergency Stop Configuration	Mode 1	Decelerates to stop using the emergency stop torque (0x2113)
Emergency Stop Torque	1000	0.1%
Torque Limit Selection	External limits	Limits the torque using external positive/negative torque limit values according to the moving direction: Forward / 0x2111 Backward / 0x2112
Ext. Positive Torque Limit Value	3000	0.1%
Ext. Negative Torque Limit Value	3000	0.1%
Positive Torque Limit Value	3000	0.1%
Negative Torque Limit Value	3000	0.1%
Maximum Torque	3000	0.1%
Basic Configuration		
Control Mode	Indexer	
Coordinate Select*	Linear axis	
Module Factor*	3000	UU
Base Rate*	57600	pps
Pulse Input Logic*	Phase A + Positive Stop	
Pulse Input Filter*	1.5x20ms	ms
PLCK Mode	Enabled in edge	
Encoder Output*	10000	pulses/rev. or pulse/pitch
Encoder Output Mode*	Line Drive only	
Start Index Number	0	0-43
Index Buffer Mode	Single buffer set	

General Setup Screen

No.	Message	Comment
1	[3]Encoder cable open	Newest alarm
2	[3]Encoder cable open	
3	[3]Encoder cable open	
4	[3]Encoder cable open	
5	[3]Encoder cable open	
6	[00]No error	
7	[00]No error	
8	[00]No error	
9	[00]No error	
10	[00]No error	
11	[00]No error	
12	[00]No error	
13	[00]No error	
14	[00]No error	
15	[00]No error	
16	[00]No error	Oldest alarm

Alarm History Screen

Index	Index 0	Index 1	Index 2	Index 3
Index Type	Absolute	Relative	Relative	Relative
Distance [μJ]	0	131072	524288	100000
Velocity [μJ/s]	100000	100000	100000	100000
Acceleration [μJ/s ²]	1000000	1000000	1000000	1000000
Registration Distance [μJ]	100000	100000	100000	100000
Registration Velocity [μJ/s]	1000000	1000000	1000000	1000000
Repeat Count	1	1	1	1
Dwell Time [ms]	0	200	200	200
Next Index	1	2	1	2
Action	Next Index	Next Index	Stop	Next Index

Indexer Setting Screen (L7P/L7C series only)

Index	SubIndex	Name	Value	Default	Type	R/W	Unit	Min	Max	Apply
0x2000	0x0	Motor ID*	715	13	UINT	rw	watt	1	9999	
0x2001	0x0	Encoder Type*	4	2	UINT	rw		0	99	
0x2002	0x0	Encoder Pulse per Revolution*	524288	524288	LDUINT	rw	pulse	0	1073741824	
0x2003	0x0	Node ID*	59	0	UINT	rw	0	0	65535	
0x2004	0x0	Rotation Direction Select*	0	0	UINT	rw	0	0	1	
0x2005	0x0	Absolute Encoder Configuration*	1	1	UINT	rw	0	0	2	
0x2006	0x0	Main Power Fail Check Mode	0	0	UINT	rw	watt	0	255	
0x2007	0x0	Main Power Fail Check Time	40	40	UINT	rw	ms	0	5000	
0x2008	0x0	T/SG Overlay Selection	0	0	UINT	rw	%	0	100	
0x2009	0x0	Regen. Brake Resistor Configuration	0	0	UINT	rw	ohm	0	1	
0x200A	0x0	Regen. Brake Resistor Derating Factor	100	100	UINT	rw	%	0	200	
0x200B	0x0	Regen. Brake Resistor Value	100	100	UINT	rw	ohm	0	1000	
0x200C	0x0	Regen. Brake Resistor Power	50	0	UINT	rw	watt	0	30000	
0x200D	0x0	Peak Power of Regen. Brake Resistor	100	100	UINT	rw	watt	1	50000	
0x200E	0x0	Duration Time @ Peak Power of Regen. Brake	5000	5000	UINT	rw	ms	1	50000	
0x200F	0x0	Overload Check Selection	100	100	UINT	rw	%	0	120	
0x2010	0x0	Overload Warning Level	50	50	UINT	rw	%	10	100	
0x2011	0x0	PWM Off Delay Time	10	10	UINT	rw	ms	0	1000	
0x2012	0x0	Dynamic Brake Control Mode	0	0	UINT	rw	0	3		
0x2013	0x0	Emergency Stop Configuration	1	1	UINT	rw	0	1		
0x2014	0x0	Warning Mask Configuration	0	0	UINT	rw	0	65535		
0x2015	0x0	U Phase Current Offset	0	0	INT	rw	0.1%	-1000	1000	
0x2016	0x0	V Phase Current Offset	0	0	INT	rw	0.1%	-1000	1000	
0x2017	0x0	W Phase Current Offset	0	0	INT	rw	0.1%	-1000	1000	
0x2018	0x0	Magnetic Pole Pitch*	2400	2400	UINT	rw	0.01m	1	65535	
0x2019	0x0	Linear Scale Resolution*	1000	1000	UINT	rw	mm	1	65535	
0x201A	0x0	Commutation Method*	0	0	UINT	rw	0	4		
0x201B	0x0	Commutation Current	500	500	UINT	rw	0.1%	0	1000	

Object Dictionary Screen