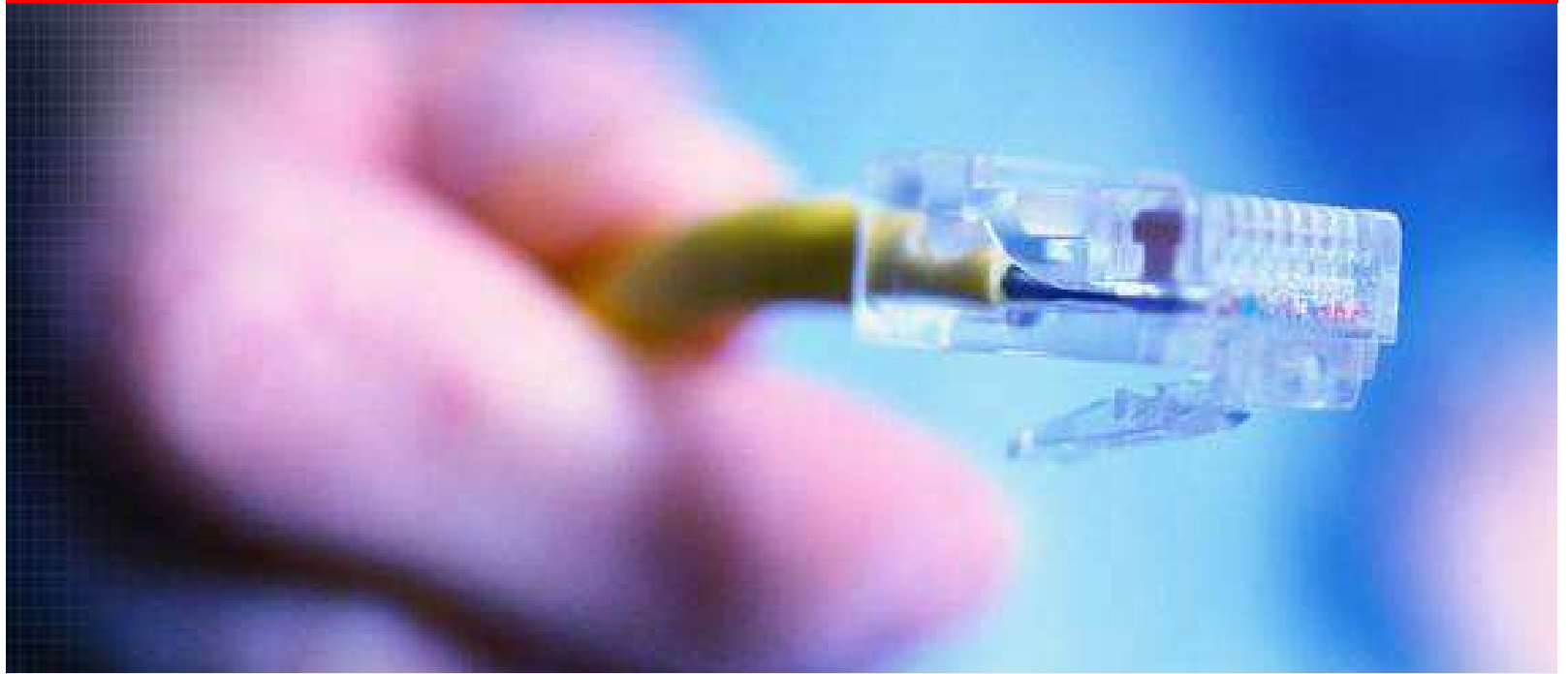
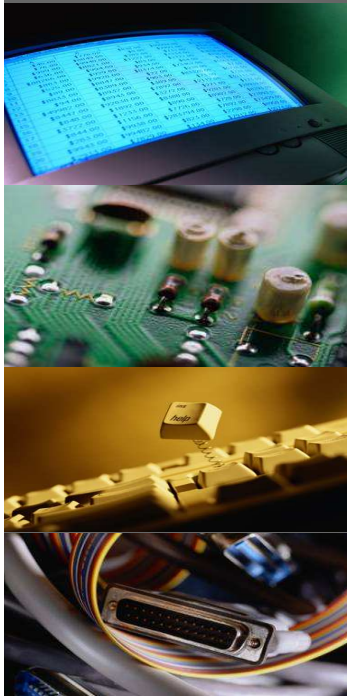


# Guide Book for L7P (Basic Parameter set)



24.July,2015  
LS Mecapion

(Notice)

- ▶ In the case of wrong parameter set, Motor will rotate in high speed or vibrate. And, it causes burning of Motor

**Motor ID [0x2000]**

1. then motor constant can be automatically set
2. ID is displayed on Motor Label

**Encoder Type [0x2001]**

Setting Value	Encoder Type
0	Quadrature(Incremental, A lead B)
1	Quadrature(Incremental, B lead A)
2	BiSS Serial(Single turn only)
3	Biss Serial Absolute(Multi turn 12bit)
4	Biss Serial Absolute(Multi turn 16bit)
5	Biss Serial Absolute(Multi turn 20bit)
6	Biss Serial Absolute(Multi turn 24bit)
7	Sinusoidal(1Vpp)
8	Analog Hall
9	Sinusoidal to Biss coming soon
10	Reserved
11	Tamagawa Serial(Signle turn only)
12	Tamagawa Serial Absolute(Multi turn 16bit)
13	EnDat 2.2

### Encoder Pulse [0x2002]

1. Set Encoder Pulse Number
2. Encoder Pulse Number is displayed on Motor Label

(Notice) Serial type : Set the Pulse number 524288 ( $=2^{19}$ )  
Incremental type : Encoder pulse number X 4

(Note 1) Set Pulse Logic Parameter in Servo-off

(Note 2) Make sure to check Encoder type because encoder type is different with L7S drive

## Basic Parameter set

## Parameter Editing

Use Manual JOG in Drive CM to check Servo if there is problem or not. To change Servo direction, Set the parameter in 0x2004

**Note1) Procedure of Servo single operation test.**

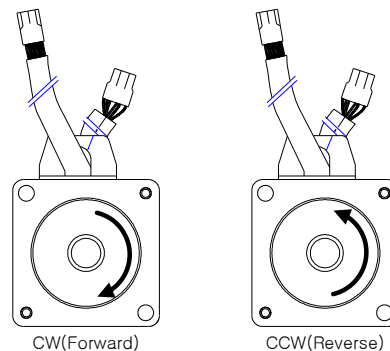
**Note2) The default value is 500rpm. But you need to set appropriate velocity value to protect the mechanism**

The screenshot displays the LS Mecapion Drive CM software interface. The main window is titled "Drive CM - LS Mecapion" and features a menu bar with options: Drive/Motor, I/O, Fault, Monitoring, Procedures, Advanced, Indexer, Object Dictionary, Setup, and About. A toolbar with various icons is located below the menu bar. On the left, a "Node Browser" panel shows a tree structure with "USB", "Ethernet", and "RS-422" under "Linear Motor". The central area contains two large plots for monitoring. On the right, a "Manual Jog" panel is visible, showing parameters for Speed (100 rpm), Smoothing (Accel Time: 200 ms, Decel Time: 200 ms, S-curve Time: 100 ms), and Servo-Lock. A red dashed circle highlights the "Manual Jog" button in the toolbar. A red arrow points from this button to a smaller inset window showing the "Manual Jog" menu. This menu lists options: Program Jog, Manual Jog, Auto-Tuning, PTP Move, Homing, Touch Probe, Motor/Hall Phase Correction, and Misc. Functions. Another red arrow points from the "Manual Jog" menu to a detailed view of the "Manual Jog" panel, which includes a "Major Parameter" section for Speed (100 rpm), a "Smoothing" section for Accel Time (200 ms), Decel Time (200 ms), and S-curve Time (100 ms), and a "Servo-Lock" section for FB Speed (rpm) and FB Position (UU). The panel also includes "Read", "Negative", "Positive", "Drive ON", and "Drive OFF" buttons.

0x2004	Rotation Direction Select						ALL
Variable Format	Setting Range	Default Value	Unit	Accessability	PDOAllocation	Change Property	Store
UINT	0 to 1	0	-	RW	No	Power Resupply	Yes

Sets the motor's rotation direction. If the direction is changed from the user's standpoint at the final mechanical unit, the direction can be changed through this setting.

Set Value	Descriptions
0	Positive command turns the motor counter clockwise. In this case, the position feedback value increases
1	Positive command turns the motor clockwise. In this case, the position feedback value decreases.



## Indexing Position Operation (Parameter set)

0x3000	Control Mode						ALL
Variable Format	Setting Range	Default Value	Unit	Accessability	communication address	Change Property	Store
UINT	0 to 9	0	-	RW		Servo Off	Yes

Set Value	Setting Details
0	Index position operation mode
1	Pulse input position operation mode
2	Velocity operation mode
3	Torque operation mode
4	Pulse input position operation mode & Index position operation mode
5	Pulse input position operation mode & Velocity operation mode
6	Pulse input position operation mode & Torque operation mode
7	Velocity operation mode & Torque operation mode
8	Index position operation mode & Velocity operation mode
9	Index position operation mode & Torque operation mode

Sets the coordinate to use for the drive's indexing position control [0x3001]

Set Value	Setting Details
0	Use Linear Coordinate
1	Use Rotary Coordinate

Index Type, there are restriction depending on the selected coordinate system setting. Rotating coordinate system is only possible using Rotary Index Type

## Indexing Position Operation (Parameter set)

0x3008	Start Index Number(0~63)						ALL
Variable Format	Setting Range	Default Value	Unit	Accessi bility	PDOAllo cation	Change Property	Store
UINT	0 to 63	0	-	RW	No	At all times	Yes

Sets the number(0~63) to operate when starting indexing position  
In the case of the setting value is 64, index number is determined by ISEL0~ISEL5

0x3009	Index Buffer Mode						ALL
Variable Format	Setting Range	Default Value	Unit	Accessi bility	PDOAllo cation	Change Property	Store
UINT	0 to 1	0	-	RW	No	At all times	Yes

Set how many times memory count START (operation) signals during operating indexing position.

Set Value	Setting Details
0	Double buffer set (it can remember second times)
1	Single buffer set (it can remember one time)

## Basic Parameter set

## Parameter Editing

### Gear Ratio

- Motor revolution : Encoder revolution
- Shaft revolution : Load Movement Per rotation

Index	Sub Index	Name	Variable Format	Accessibility	PDO Allotment	Unit
0x6091	1	Motor revolutions	DUINT	RW	No	-
0x6091	2	Shaft revolutions	DUINT	RW	No	-

### Homing

Index	Sub Index	Name	Variable Format	Accessibility	PDO	Unit
0x607C	-	Home Offset	DINT	RW	No	UU
0x6098	-	Homing Method	SINT	RW	No	-
0x6099	1	Speed during search for switch	UINT	RW	No	UU/s
0x6099	2	Speed during search for zero	UINT	RW	No	UU/s
0x609A	-	Homing Acceleration	UDINT	RW	No	UU/s <sup>2</sup>



## ■ Revision history

<b><i>Number</i></b>	<b><i>Date issued</i></b>	<b><i>Revised content</i></b>	<b><i>Version Number</i></b>	<b><i>Notes</i></b>
1				