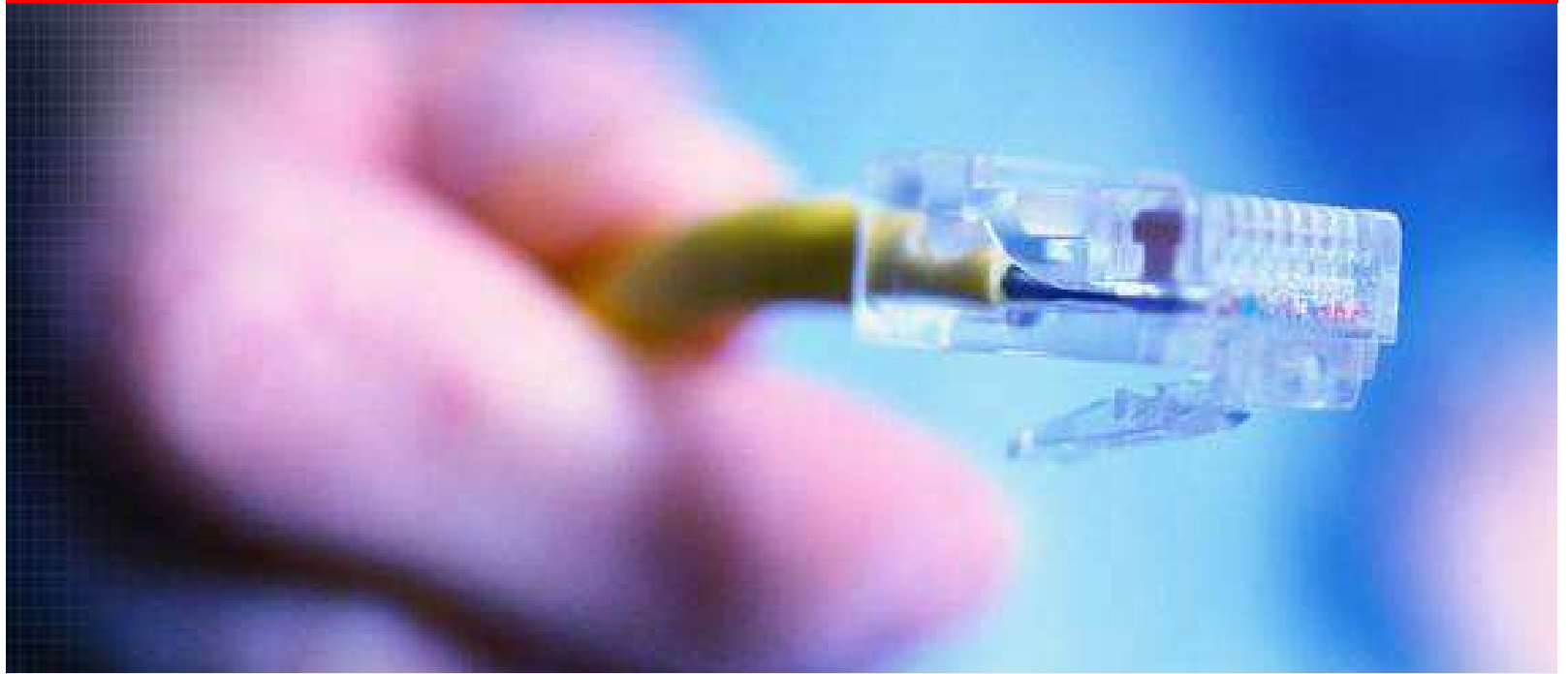
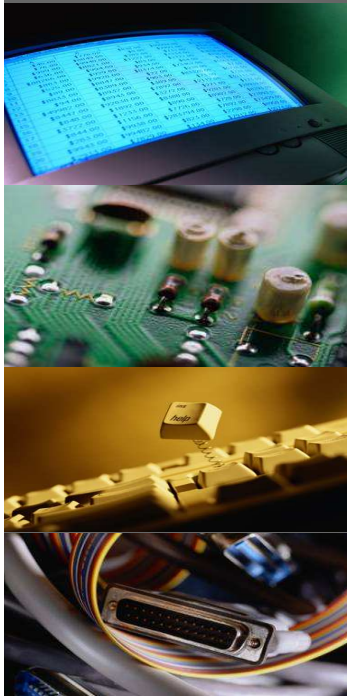


Guide Book for L7P (Example)

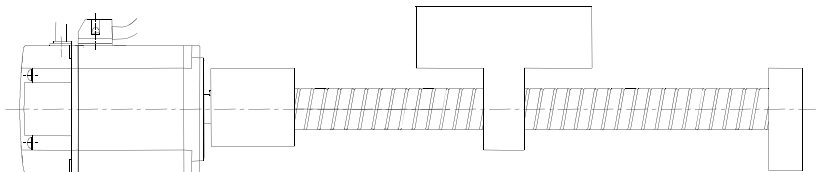


24.July,2015

LS Mecapion

1. Motor model name : APM-FB04AMK
2. Drive model name : L7PA004U
- ◆ Application : 1) Linear Coordinate type 2) Reduction gear ratio : 5:1 3) Ball Screw Pitch : 5mm
- 4) Operation mode :

- First step : Distance (0 -> 20mm), Velocity (200rpm), Acceleration (100ms)
Deceleration (100ms), Dwell time (200ms)
- Second step : Distance (20 -> 60mm), Velocity (300rpm), Acceleration (100ms)
Deceleration (100ms), Dwell time (200ms)
- Third step : Distance (60 -> 0mm), Velocity (600rpm), Acceleration (100ms)
Deceleration (100ms), Dwell time (200ms)
- First step



Distance per motor rotation

$$\Delta S = \text{Ball screw pitch} \times \text{Reduction gear ratio}$$

Application (Linear Coordinate)

Example

1. Motor ID [0x2000] : 713
2. Encoder type [0x2001] : 4
3. Encoder pulse number [0x2002] : 524288
4. Control mode [0x3000] : 0
5. Coordinate Select [0x3001] : 0
6. Gear Ratio [0x6091]
0x1 [Motor revolutions] : 524288
0x2 [Shaft revolutions] : **1000** (5000/5)
7. Set index parameters

Note1) $16667(\text{Velocity}) = 5000(\text{shaft revolution}) \times 200(\text{rpm}) / 60(\text{S})$

Note2) $100\text{ms}(\text{Acc/Dec}) = 16667[\text{UU/s}] / 166670[\text{UU/s}^2]$

	Index 0	Index 1	Index 2
Index Type	<input type="text" value="Absolute"/>	<input type="text" value="Absolute"/>	<input type="text" value="Absolute"/>
Distance [UU]	<input type="text" value="20000"/>	<input type="text" value="60000"/>	<input type="text" value="0"/>
Velocity [UU/s]	<input type="text" value="16667"/>	<input type="text" value="25000"/>	<input type="text" value="50000"/>
Acceleration [UU/s ²]	<input type="text" value="166670"/>	<input type="text" value="250000"/>	<input type="text" value="500000"/>
Deceleration [UU/s ²]	<input type="text" value="166670"/>	<input type="text" value="250000"/>	<input type="text" value="500000"/>
Registration Distance [UU]	<input type="text" value="100000"/>	<input type="text" value="100000"/>	<input type="text" value="100000"/>
Registration Velocity [UU/s]	<input type="text" value="1000000"/>	<input type="text" value="1000000"/>	<input type="text" value="1000000"/>
Repeat Count	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
Dwell Time [ms]	<input type="text" value="200"/>	<input type="text" value="200"/>	<input type="text" value="200"/>
Next Index	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="0"/>
Action	<input type="text" value="Next Index"/>	<input type="text" value="Next Index"/>	<input type="text" value="Next Index"/>
	<input type="button" value="Copy"/> <input type="button" value="Paste"/>	<input type="button" value="Copy"/> <input type="button" value="Paste"/>	<input type="button" value="Copy"/> <input type="button" value="Paste"/>

Application (Linear Coordinate)

Example

1) Homing : Digital Input, Servo On_On -> HSTART_On

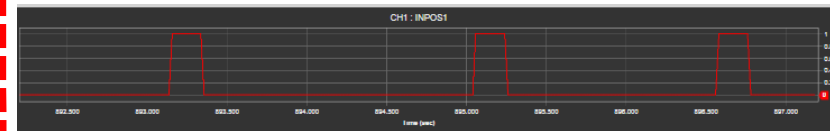
Digital Output, When Homing is completed, ORG_On
INPOS1_ON, ORG_ON, EOS_ON

Digital Input		
Input 1	High SV_ON	1
Input 2	High POT	0
Input 3	High NOT	0
Input 4	High A_RST	0
Input 5	High START	0
Input 6	High STOP	0
Input 7	High REGT	0
Input 8	High EMG	0
Input 9	High HOME	0
Input 10	High HSTART	1
Input 11	High ISEL0	0
Input 12	High ISEL1	0
Input 13	High SPD3	0
Input 14	High ISEL3	0
Input 15	High ISEL4	0
Input 16	High ISEL5	0

Digital Output		
<input type="checkbox"/> Enable forced output		
Output 1	High ALARM	OFF
Output 2	High READY	OFF
Output 3	High BRAKE	OFF
Output 4	High INPOS1	OFF
Output 5	High ORG	OFF
Output 6	High EOS	OFF
Output 7	High TGON	OFF
Output 8	High TLMT	OFF

3) Digital Output, INPOS1_ON : When command position is reached, INPOS1 is on

Digital Output		
<input type="checkbox"/> Enable forced output		
Output 1	High ALARM	OFF
Output 2	High READY	OFF
Output 3	High BRAKE	OFF
Output 4	High INPOS1	OFF
Output 5	High ORG	OFF
Output 6	High EOS	OFF
Output 7	High TGON	OFF
Output 8	High TLMT	OFF



2) Digital Input, Start_On

Digital Output, TGON_ON : When Motor speed is faster than the set[0x2405]value, TGON is on

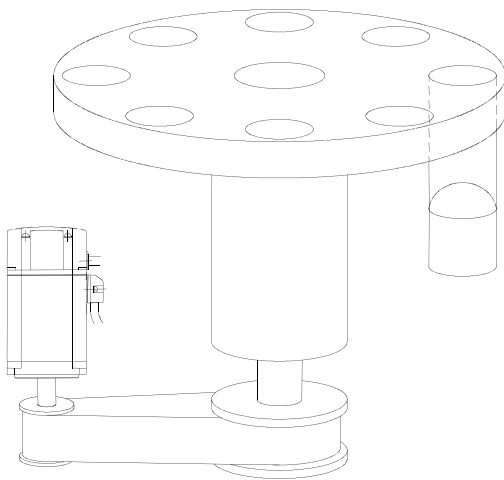
Digital Input		
Input 1	High SV_ON	1
Input 2	High POT	0
Input 3	High NOT	0
Input 4	High A_RST	0
Input 5	High START	1
Input 6	High STOP	0
Input 7	High REGT	0
Input 8	High EMG	0
Input 9	High HOME	0
Input 10	High HSTART	0
Input 11	High ISEL0	0
Input 12	High ISEL1	0
Input 13	High SPD3	0
Input 14	High ISEL3	0
Input 15	High ISEL4	0
Input 16	High ISEL5	0

Digital Output		
<input type="checkbox"/> Enable forced output		
Output 1	High ALARM	OFF
Output 2	High READY	OFF
Output 3	High BRAKE	OFF
Output 4	High INPOS1	OFF
Output 5	High ORG	OFF
Output 6	High EOS	OFF
Output 7	High TGON	OFF
Output 8	High TLMT	OFF

4) Digital Output, EOS_ON : This signal is displayed when index operation is complete.

Digital Output		
<input type="checkbox"/> Enable forced output		
Output 1	High ALARM	OFF
Output 2	High READY	OFF
Output 3	High BRAKE	OFF
Output 4	High INPOS1	OFF
Output 5	High ORG	OFF
Output 6	High EOS	OFF
Output 7	High TGON	OFF
Output 8	High TLMT	OFF

1. Motor model name : APM-FB04AMK
2. Drive model name : L7PA004U
- ◆ Application : 1) Rotary Coordinate type 2) Reduction gear ratio : 5:1 3) Transferring per rotation : 3600
4) Operation mode : Transferring per 45 degree by endless loop
Velocity (1000rpm), Acceleration (100ms), Deceleration (100ms),
Dwell time (200ms)



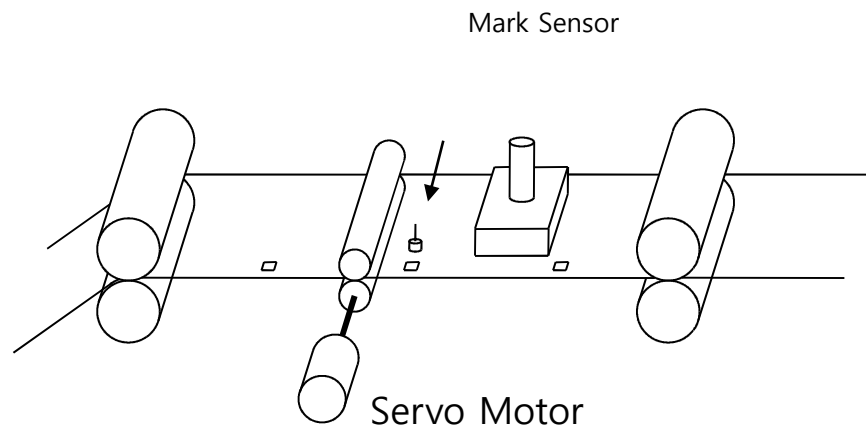
Application (Rotary Coordinate)

Example

1. Motor ID [0x2000] : 713
2. Encoder type [0x2001] : 4
3. Encoder pulse number [0x2002] : 524288
4. Control mode [0x3000] : 0
5. Coordinate Select [0x3001] : 1
6. Gear Ratio [0x6091]
0x1 [Motor revolutions] : 524288
0x2 [Shaft revolutions] : 450 (3600/8)
7. Set index parameters

	Index 0
Index Type	Rotary Relative
Distance [UU]	450
Velocity [UU/s]	60000
Acceleration [UU/s ²]	600000
Deceleration [UU/s ²]	600000
Registration Distance [UU]	100000
Registration Velocity [UU/s]	1000000
Repeat Count	1
Dwell Time [ms]	200
Next Index	0
Action	Next Index
	<input type="button" value="Copy"/> <input type="button" value="Paste"/>

1. Motor model name : APM-FB04AMK
2. Drive model name : L7PA004U
- ◆ Application : 1) Linear Coordinate type 2) Reduction gear ratio : 5:1
- 3) Operation mode : After sensor is on, it is operated according to registration parameter. And then it stops.



■ Application (Registration Absolute)

Example

1. Motor ID [0x2000] : 713
2. Encoder type [0x2001] : 4
3. Encoder pulse number [0x2002] : 524288
4. Control mode [0x3000] : 0
5. Coordinate Select [0x3001] : 0
6. Gear Ratio [0x6091]
0x1 [Motor revolutions] : 524288
0x2 [Shaft revolutions] : 1000
7. Set index parameters

	Index 0
Index Type	Registration Relative
Distance [UU]	900000000
Velocity [UU/s]	50000
Acceleration [UU/s ²]	500000
Deceleration [UU/s ²]	500000
Registration Distance [UU]	5000
Registration Velocity [UU/s]	5000
Repeat Count	1
Dwell Time [ms]	200
Next Index	0
Action	Stop
	<input type="button" value="Copy"/> <input type="button" value="Paste"/>

■ Revision history

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