OPERATION MANUAL

AC Servo Drive

FDA6000COP [OPERATION UNIT]

Ver 1.0 (Soft. Ver. 8.00 ~)

FDA6000C Series

Servo Drive

OTIS - **LG**

1.

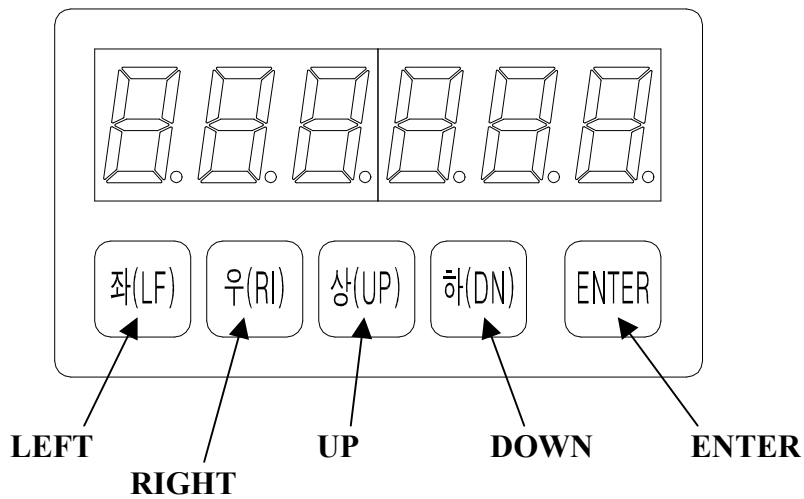## 1.1

OPERATION UNIT   FDA6000COP

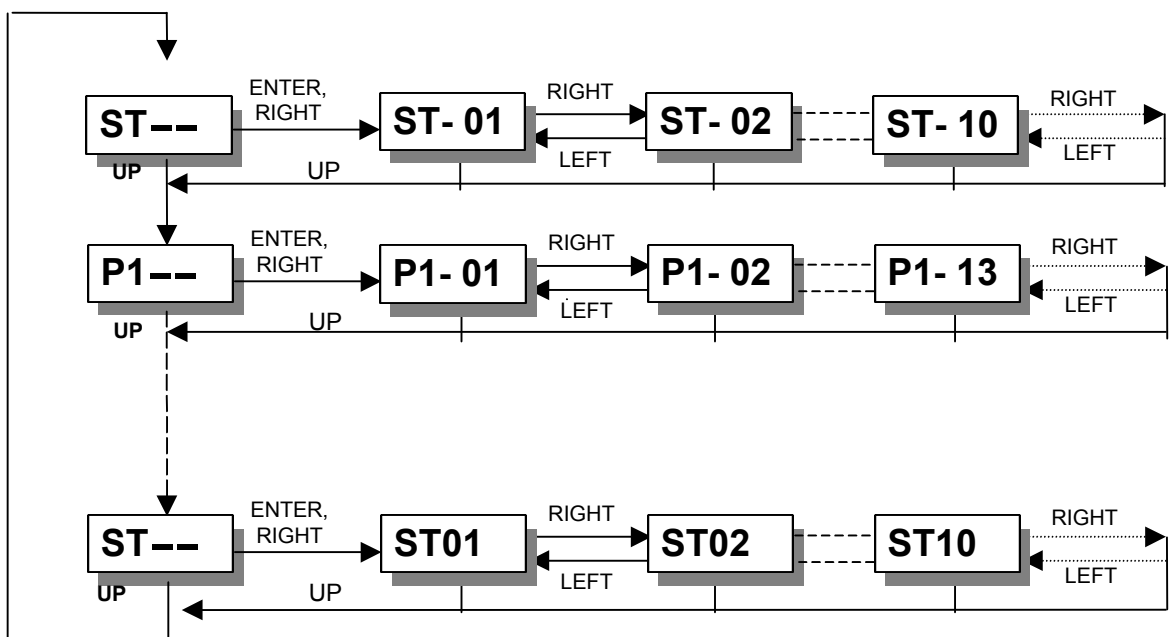.   UNIT   ,

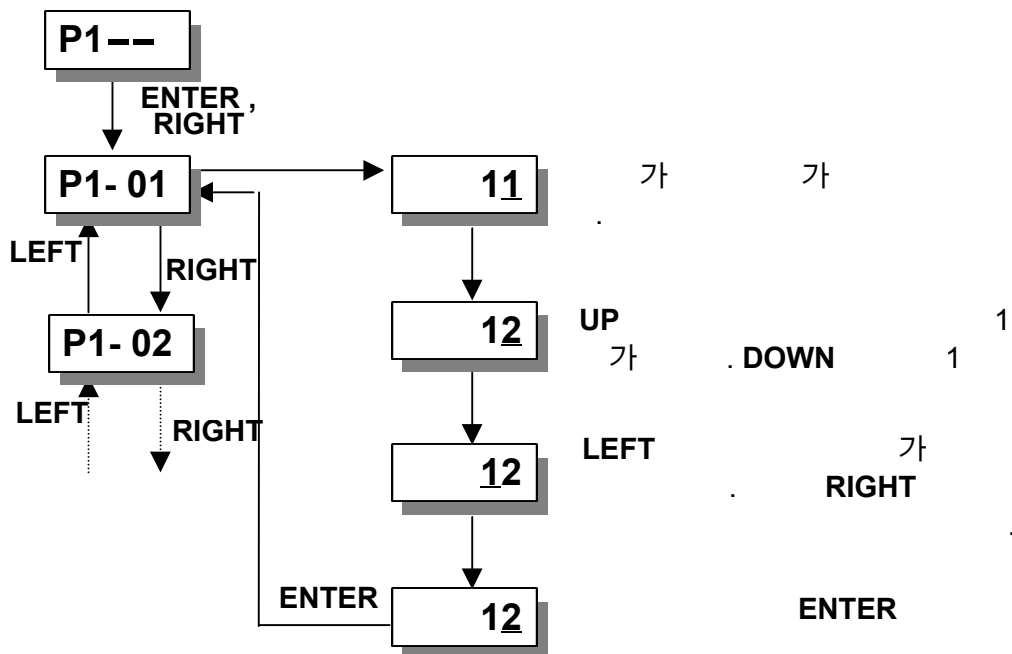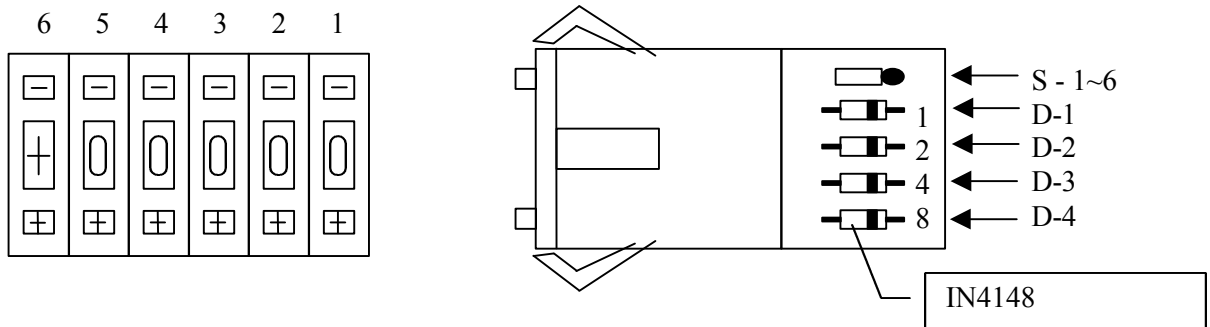FDA6000COP   ,   ,   ,

.

1.1.1

LEFT   **UP**   **DOWN**   **ENTER**

        RIGHT

1.1.2

1.1.3

·

> ENTER :   /

> LEFT , RIGHT :   ,

> UP , DOWN :

) Motor ID

```
┌──────────┐
│  P1−−    │
└──────────┘
     │  ENTER ,
     ▼    RIGHT
┌──────────┐        ┌──────────┐
│  P1- 01  │◄──────►│   1 1    │
└──────────┘        └──────────┘          .
  ▲     │                 │
LEFT  RIGHT               ▼
  │     │            ┌──────────┐
┌──────────┐         │   1 2    │  UP                              1
│  P1- 02  │         └──────────┘    . DOWN              1
└──────────┘              │
  ▲     │                 ▼
LEFT  RIGHT          ┌──────────┐
  ┊     ┊            │   1 2    │  LEFT
  ┊     ▼            └──────────┘             .        RIGHT
                          │                                    .
           ENTER          ▼
                     ┌──────────┐
                     │   1 2    │              ENTER
                     └──────────┘
```

1.2 Position

OPERATION UNIT

.   SET
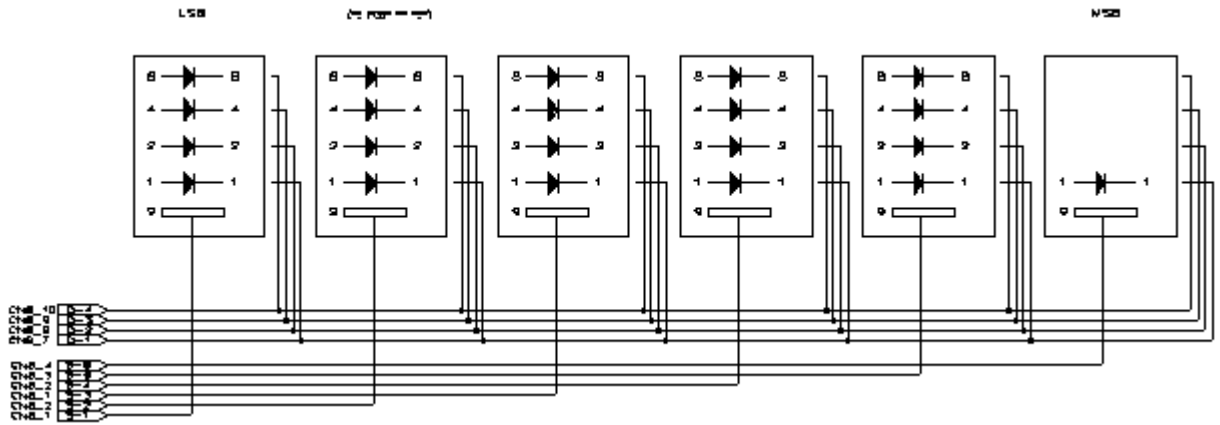
.

1.2.1

5   .

1)

		S - 1~6	
1		D-1	
2		D-2	
4		D-3	
8		D-4	

IN4148

2)   CONNECTOR   **[CN8]** (Connector : Molex 5264-10A, Pin : 5263PDTL)

1

10
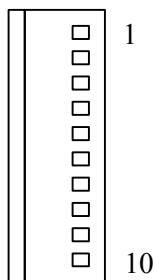
3)

Connector	1	2	3	4	5	6	7	8	9	10
Digit Switch	S-1	S-2	S-3	S-4	S-5	S-6	D1	D2	D3	D4

4)

1.2.2 SET [CN4]


```
1 ──o──o──
2
```
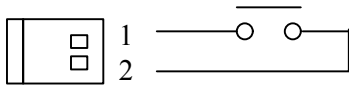
1.2.3 OP Unit

Connector   15Pin Serial Connector(   )   Pin   ,
          1: 1   .

	Shield(F. G)	GND	VCC	GND	RX/TX	TX/RX	+12V
OP	1	2	3	4	13	14	15
DRIVER	1	2	3	4	13	14	15

1.3

OPERATION UNIT   ,   ,

    ..

1.3.1   **(Status Window:ST--)**

St-01	USER
St-02	USER
St-03	USER
St-04	[r/min]
St-05	[%]
St-06	[%]
St-07	
St-08	
St-09	
St-10	

1.3.2

        1.3.1   .

              P2-27(   )   ,   OFF

                               .   2

  .

1.3.3

1)　　　　　　(FDA6000COP)
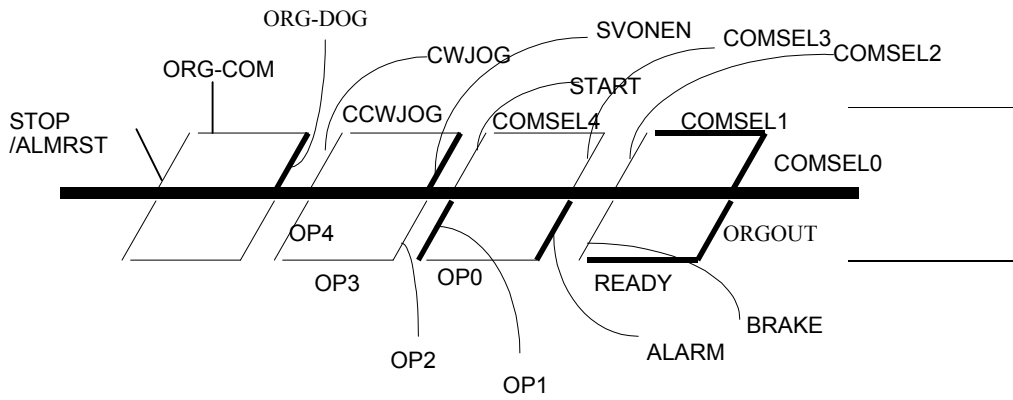
COMSEL0		ORGOUT		
COMSEL1		RDY	No Alarm,	
COMSEL 2	Position CMD	BRAKE	Brake	
COMSEL 3		ALARM	No alarm	
COMSEL 4 /MPGEN		OP0/ INPOS		0
START	JOB	OP1		1
SVONEN		OP2		2
CCWJOG	CCW	OP3		3
CWJOG	CW	OP4		4
CCWLIM	CCW			
CWLIM	CW			
ORG-DOG	Dog			
ORGCOM	ORIGIN　　　　Disable			
ALIMRST	Disable			

2.

(1)　　　　(Status Window : St--)

St-01	CMD Position		USER	-99999~99999	0
St-02	Current Position		USER	-99999~99999	0
St-03	Position Error		USER	-99999~99999	0
St-04	Motor Speed[r/min]		r/min	-9999.9~9999.9	0
St-05	Limit Speed[r/min]		r/min	-9999.9~9999.9	0
St-06	Torque Limit[%]		%	0 ~ 999	0
St-07	Load Rate[%]		%	-99999 ~ 99999	0
St-08	Max Load Rate[%]		%	-99999 ~ 99999	0
St-09	Program Version				
St-10	I/O Status				

(2)　　　　　　　　(Motor Parameters : P1--)

* P1-01	Motor ID	ID		0 ~ 99	0
* P1-02	JM [gfcms2]		gf-cm-sec^2	0.01 ~ 999.99	
* P1-03	KT [kgfcm/A]		kgf-cm/A	0.01 ~ 999.99	
* P1-04	Ls(Phase)[mH]		mH	0.01 ~ 999.99	
* P1-05	Rs(Phase)[ohm]		Ohm	0.01 ~ 999.99	
* P1-06	Is(Rated)[Arms]		A (rms)	0.01 ~ 999.99	
* P1-07	SPD(Max)[r/min]		r/min	0.1 ~ 9999.9	
* P1-08	SPD(Rated)[r/min]		r/min	0.1 ~ 9999.9	
* P1-09	Pole Number			2 ~ 98	8
* P1-10	Power Amp Type			0 ~ 20	
* P1-11	Encoder Type			0 ~ 9	0
* P1-12	Encoder PLS[PPR]		PPR	1 ~ 10000	2000
P1-13	Parameter Lock			0 ~ 1	0

(　　!) *　　　　　　　　　- (Servo-ON)　　　　　　.

(3)   (Control Mode : P2--)

P2-01	PC P Gain		rad/sec	0 ~ 500	50
P2-02	SC LOOP Gain		rad/sec	0 ~ 5000	(1)
P2-03	SC I TC [msec]		msec	1 ~ 10000	(2)
P2-04	TRQ LMT(+) [%]		%	0 ~ 300	300
P2-05	TRQ LMT(-) [%]		%	0 ~ 300	300
P2-06	Pulse Out Rate			1 ~ 16	1
P2-07	Current Offset			0, 1	0
P2-08	Brake SPD[r/min]		r/min	0.0 ~ 9999.9	50.0
P2-09	Brake Time[ms]		msec	0 ~ 10000	10
P2-10	Monitor1 Select	1		0 ~ 3	0
P2-11	Monitor1 ABS	1		0,1	0
P2-12	Monitor1 Scale	1		1 ~ 20	1
P2-13	Monitor1 offset	1	%	-100 ~ 100	0
P2-14	Monitor2 Select	2		0 ~ 3	1
P2-15	Monitor2 ABS	2		0,1	0
P2-16	Monitor2 Scale	2		1 ~ 20	1
P2-17	Monitor2 offset	2	%	-100 ~ 100	0
P2-18	Resonant FRQ[Hz]		Hz	0 ~ 1000	300
P2-19	Resonant BW[Hz]		Hz	0 ~ 1000	100
P2-20	De-Resonant ENB			0,1	0
P2-21	Inertia Ratio			1.0 ~ 500.0	1.0
P2-22	Autotune Range			0 ~ 9	0
P2-23	Autotune ON/OFF	ON/OFF		ON/OFF	OFF
*P2-24	Parameter Init			Currt/Dflt	Currt
*P2-25	Powerfail Mode			0,1	(3)
P2-26	DB Control			0,1	1
P2-27	Display Select			1~11	1
P2-28	Zero SPD VIB RJT		r/min	0.0~100.0	0.0
P2-29	Conform ON/OFF	ON/OFF		ON/OFF	ON

(1)   SC LOOP Gain   : FDA6001C~04C: 500   FDA6005C~75C : 200
(2)   SC I TC   : FDA6001C~04C: 20   FDA6005C~75C : 50

(3)   Power fail Mode   : FDA6001C~04C: 0   FDA6005C~75C : 1

(!) *   - (Servo-ON)   .

(4)   (Speed Mode : P3--)

P3-01	GroupSPD0 [r/min]	0	r/min	0 ~ 9999.9	100
P3-02	Group SPD1 [r/min]	1	r/min	0 ~ 9999.9	500
P3-03	Group SPD2 [r/min]	2	r/min	0 ~ 9999.9	1000
P3-04	Group SPD3 [r/min]	3	r/min	0 ~ 9999.9	1500
P3-05	Group ACC0	0	msec	0 ~ 10000	10
P3-06	Group ACC1	1	msec	0 ~ 10000	20
P3-07	Group ACC2	2	msec	0 ~ 10000	30
P3-08	Group ACC3	3	msec	0 ~ 10000	40
P3-09	Origin ACC	/Jog	msec	0 ~ 10000	10
P3-10	Group DEC0	0	msec	0 ~ 10000	10
P3-11	Group DEC1	1	msec	0 ~ 10000	20
P3-12	Group DEC2	2	msec	0 ~ 10000	30
P3-13	Group DEC3	3	msec	0 ~ 10000	40
P3-14	Origin DEC	/Jog	msec	0 ~ 10000	10
* P3-15	FDELAY[100usec]		msec	0.0 ~ 100.0	0
* P3-16	10V Speed[r/min]	10V	r/min	0 ~ 9999.9	0
P3-17	Zero Clamp Mode			0 ~ 2	0
P3-18	Clamp VOLT[mV]		mV	-1000 ~ 1000	0

(!) *   - (Servo-ON)   .

(5)   (Position Mode : P4--)

P4-01	Feedforward[%]		%	0 ~ 100	0
P4-02	In Position		USER	99.999~0.001	0.1
P4-03	Following Error		USER	-99999~99999	90000
* P4-04	Pulse Logic			0 ~ 5	0
P4-05	FF FLT TC[ms]		msec	0 ~ 10000	0
P4-06	S-Type TC[ms]		msec	0 ~ 10000	0

(!) *   - (Servo-ON)   .

(6)   (POS Command Mode : P5--)

P5-01	Position CMD0	0	USER	-99999~99999	10
P5-02	Position CMD1	1	USER	-99999~99999	20
P5-03	Position CMD2	2	USER	-99999~99999	30
P5-04	Position CMD3	3	USER	-99999~99999	40
P5-05	Position CMD4	4	USER	-99999~99999	50
P5-06	Position CMD5	5	USER	-99999~99999	60
P5-07	Position CMD6	6	USER	-99999~99999	70
P5-08	Position CMD7	7	USER	-99999~99999	80
P5-09	Position CMD8	8	USER	-99999~99999	90
P5-10	Position CMD9	9	USER	-99999~99999	100
P5-11	Position CMD10	10	USER	-99999~99999	110
P5-12	Position CMD11	11	USER	-99999~99999	120
P5-13	Position CMD12	12	USER	-99999~99999	130
P5-14	Position CMD13	13	USER	-99999~99999	140
P5-15	Position CMD14	14	USER	-99999~99999	150
P5-16	Position CMD15	15	USER	-99999~99999	160
P5-17	Position CMD16	16	USER	-99999~99999	170
P5-18	Position CMD17	17	USER	-99999~99999	180
P5-19	Position CMD18	18	USER	-99999~99999	190
P5-20	Position CMD19	19	USER	-99999~99999	200
P5-21	Position CMD20	20	USER	-99999~99999	210
P5-22	Position CMD21	21	USER	-99999~99999	220
P5-23	Position CMD22	22	USER	-99999~99999	230
P5-24	Position CMD23	23	USER	-99999~99999	240
P5-25	Position CMD24	24	USER	-99999~99999	250
P5-26	Position CMD25	25	USER	-99999~99999	260
P5-27	Position CMD26	26	USER	-99999~99999	270
P5-28	Position CMD27	27	USER	-99999~99999	280
P5-29	Position CMD28	28	USER	-99999~99999	290
P5-30	Position CMD29	29	USER	-99999~99999	300
P5-31	Position CMD30	30	USER	-99999~99999	310
P5-32	Position CMD31	31	USER	-99999~99999	320

(!) *   -   (Servo-ON)   .

(7)   /   (Jog/Origin Mode : P6--)

P6-01	Origin SPD0[r/min]		0	r/min	0.0 ~ 9999.9	50
P6-02	Origin SPD1[r/min]		1	r/min	0.0 ~ 9999.9	10
P6-03	Origin Torque[%]	Damper Origin		%	0.0 ~ 300	50
P6-04	Origin Offset			USER	-9999.9 ~ 9999.9	0
P6-05	Jog Speed0[r/min]		0	r/min	0.0 ~ 9999.9	100
P6-06	Jog Speed1[r/min]		1	r/min	0.0 ~ 9999.9	200
P6-07	INC Jog Value0	INC Jog	0	USER	0.0 ~ 99999.9	50
P6-08	INC Jog Value1	INC Jog	1	USER	0.0 ~ 99999.9	100

(!) *   -   (Servo-ON)   .

(8)   (Mechanical Mode : P7--)

*P7-01	Move Motor		USER	1 ~ 10000	1
*P7-02	Move Mechanical		USER	1 ~ 10000	100
*P7-03	Move Polarity			0 ~ 1	1
*P7-04	Turret Cycle		USER	0 ~ 10000	0
*P7-05	MPG Move[REV]		REV	1 ~ 10000	1
*P7-06	MPG Pulse[PLS]	MPG Pulse	PLS	1 ~ 100000	100
*P7-07	Angle Division	JOG	USER	0 ~ 1000	0

(!) *   -   (Servo-ON)   .

*P8-01	RUN_MODE			0 ~ 7	1
P8-02	STOP_TIME		msec	0 ~ 100000	100
*P8-03	LIM_SEL	Limit<->Jog<->Lim,Jog		0 ~ 2	0
*P8-04	Soft Lim Enable	Soft Limit		0~1	0
P8-05	Soft CCWLim	Soft CCWLim		-99999~99999	99999
P8-06	Soft CWLim	Soft CWLim		-99999~99999	-99999
*P8-07	Dog Select			0~1	0
*P8-08	AUTO_ORG	Origin		0 ~ 1	0
*P8-09	ORG_RULE			0 ~ 24	2
*P8-10	MPG_SEL	MPG		0 ~ 1	0
*P8-11	ABS_ORG_SET			0 ~ 1	0
*P8-12	IN POSITION TYPE			0 ~ 1	1
*P8-13	STOP SELECT	STOP		0~2	0
P8-14	Ias Offset	Offset		-99.999 ~ 99.999	
P8-15	Ics Offset	Offset		-99.999 ~ 99.999	
P8-16	Command ABS DATA	DATA		-100000 ~ 100000	
P8-17	Current ABS DATA	DATA		-100000 ~ 100000	
P8-18	ABS Counter2	ABS Encoder Data		-99999~99999	
P8-19	ABS Counter1	ABS Encoder Data		-99999~99999	
P8-20	ABS Counter0	ABS Encoder Data		-99999~99999	

(!) *   - (Servo-ON)   .

12

(10)   (Alarm Status : ALS--)

ALS01	Alarm Display				
ALS02	Alarm Reset				
ALS03	Alarm History				
ALS04	Alarm Reset All				

(11)   (Jog Status)

Position CMD Mode   Enter Key   Jog   Setting   .

	JOG State0	Loader Jog 0		-9999.9 ~ 9999.9	
	JOG State1	Loader Jog 1		-9999.9 ~ 9999.9	
	IJOG State0	Loader I_Jog 0		-99999.9 ~ 9999.9	
	IJOG State1	Loader I_Jog 1		-99999.9 ~ 99999.9	