

HIGENs FDA7000

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Oct. 05, 2005
Chang-won, Korea

1.

(StE --)

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StE-01	Display Select	-	100~ 1330	1203	/ /
ON , . 1,2 3,4					

	P01	P02	P03	P04	P05	P06	P07	P08	P09	JOG	ALS	StE
1,2	01	02	03	04	05	06	07	08	09	10	11	12

StE-02	Command Speed	rpm	-9999.9 ~ 9999.9	-	
StE-03	Motor Speed	rpm	-9999.9 ~ 9999.9	-	/ /
StE-04	CCW Speed Limit	rpm	0.0 ~ 9999.9	P02-05	/ /

1.

(StE --)

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StE-05	CW Speed Limit	rpm	-9999.9 ~ 0.0	P02-06	/ /
StE-06	Command Pulse	pulse	-99999 ~ 99999	-	
StE-07	Feedback Pulse	pulse	-99999 ~ 99999	-	
StE-08	Error Pulse	pulse	-99999 ~ 99999	-	
StE-09	Command Torque	%	-300.0 ~ 300.0	-	
StE-10	Load Rate	%	-300.0 ~ 300.0	-	/ /
StE-11	Max Load Rate	%	-300.0 ~ 300.0	-	/ /

1.

(StE --)

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StE-12	CCW TRQ LMT	%	0.0 ~ 300.0	P02-03	/ /
StE-13	CW TRQ LMT	%	-300.0 ~ 0.0	P02-04	/ /
StE-14	Inertia Ratio	-	0.0 ~ 50.0	2.0	/ /
StE-15	MULTI Turns	pulse	0 ~ 99999	-	/ /
StE-16	Single Turn 1	pulse	0 ~ 999999	-	/ /

* 1 (17bit)

- 1 : 2¹⁷ "0" ~ "131072"

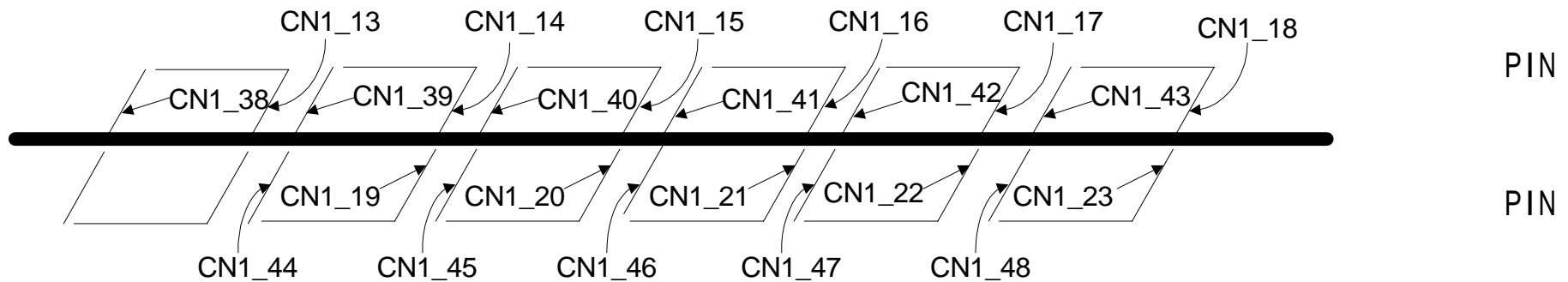
- : 2¹⁶ "0" ~ "65536"

1. (StE --)

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StE-17	I/O Status	-	0 ~ 999999	-	/ /
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StE-18	PROG Version	-	0.0 ~ 99.99	-	/ /
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2.

(P01 --)

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P01-01 *	Motor ID ID	-	GEN - 00 ~ 99	()	/ /
P01-02	Inertia	gfc ^m ^2	0.01 ~ 999.99		/ /
P01-03	TRQ Constant	kgfcm/A	0.1 ~ 999.99		/ /
P01-04	Phase Inductance	mH	0.001 ~ 99.999		/ /
P01-05	Phase Resistance		0.01 ~ 99.999		/ /
P01-06	Rated Current	A(rms)	0.01 ~ 999.99		/ /
P01-07	Rated Speed	rpm	0.0 ~ 9999.0		/ /

2.

(P01 --)

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P01-08	MAX Speed	rpm	0.0 ~ 9999.0		/ /
P01-09	Rated TRQ	kgfcm	0.0 ~ 9999.0		/ /
P01-10	Pole Number		2 ~ 98		/ /
P01-11 *	Drive ID ID	-	0 ~ 45		/ /
P01-12 *	Encoder ID ID	-	Enc - 0 ~ R	Enc - A	/ /
P01-13 *	Encoder Pulse	ppr	1 ~ 32768	2000	/ /
P01-14	Pulse Out Rate	pulse	1 ~ 32768	2000	/ /

2.

(P01 --)

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P01-15 *	COM Baud Rate	-	0 ~ 3	0	/ /
P01-16 *	Serial Select	-	0 ~ 2	0	/ /
P01-17 *	Serial I/O I/O	-	0 ~ 2	0	/ /
P01-18 *	Serial ID ID	-	0 ~ 31	0	/ /
P01-19	Parameter Lock Lock	-	ON/OFF	OFF	/ /
P01-20 *	Absolute Origin	-	ON/OFF	OFF	/ /

* 17bit

Multi -Turns data(StE -15)

ON

OFF

3.

(P02 --)

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P02-01 *	Control Mode	-	0 ~ 5	1	/ /
P02-02	Mode Change Time	ms	100.0 ~ 10000.0	500.0	/ /
P02-03	CCW TRQ LMT	%	0.0 ~ 300.0	300.0	/ /
P02-04	CW TRQ LMT	%	-300.0 ~ 0.0	-300.0	/ /
P02-05	CCW Speed Limit	rpm	0.0 ~ 6000.0	()	
P02-06	CW Speed Limit	rpm	-6000.0 ~ 0.0	-()	
P02-07	Brake Speed	rpm	0.0 ~ 9999.9	50.0	/ /

3.

(P02 --)

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P02-08	Brake Time	ms	0.0 ~ 10000.0	50.0	/ /
P02-09	DB Mode	-	0 ~ 3	2	/ /

0	가
1	- ,
2	-
3	,

3.

(P02 --)

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P02-10	Notch Filter1 1	-	0 ~ 2	0	/ /
P02-11	NF Frequency1 1	Hz	50.0 ~ 2000.0	300.0	/ /
P02-12	NF Bandwidth1 1	%	10.0 ~ 99.9	95.0	/ /
P02-13	Notch Filter2 2	-	0 ~ 1	0	/ /
P02-14	NF Frequency2 2	Hz	50.0 ~ 2000.0	500.0	/ /
P02-15	NF Bandwidth2 2	%	10.0 ~ 99.9	95.0	/ /

P02 -10 “2” (2 → 1).

3.

(P02 --)

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P02-16	TRQ Filter TC	ms	0.0 ~ 1000.0	()	/ /
P02-17	Auto Tuning	-	0 ~ 1	0	/ /
P02-18	System Response	-	1 ~ 19	()	/ /

P02-18 ()	P05-05 (1)	P05-06 (2)	P03-05 (1)	P03-06 (1)	P03-07 (2)	P03-08 (2)	P02-16 ()
1	2.0	5.0	2.0	200.0	5.0	120.0	4.5
2	5.0	10.0	5.0	120.0	10.0	80.0	3.5
3	10.0	15.0	10.0	80.0	15.0	60.0	3.0
4	15.0	20.0	15.0	60.0	20.0	45.0	2.5
5	20.0	25.0	20.0	45.0	25.0	40.0	2.0

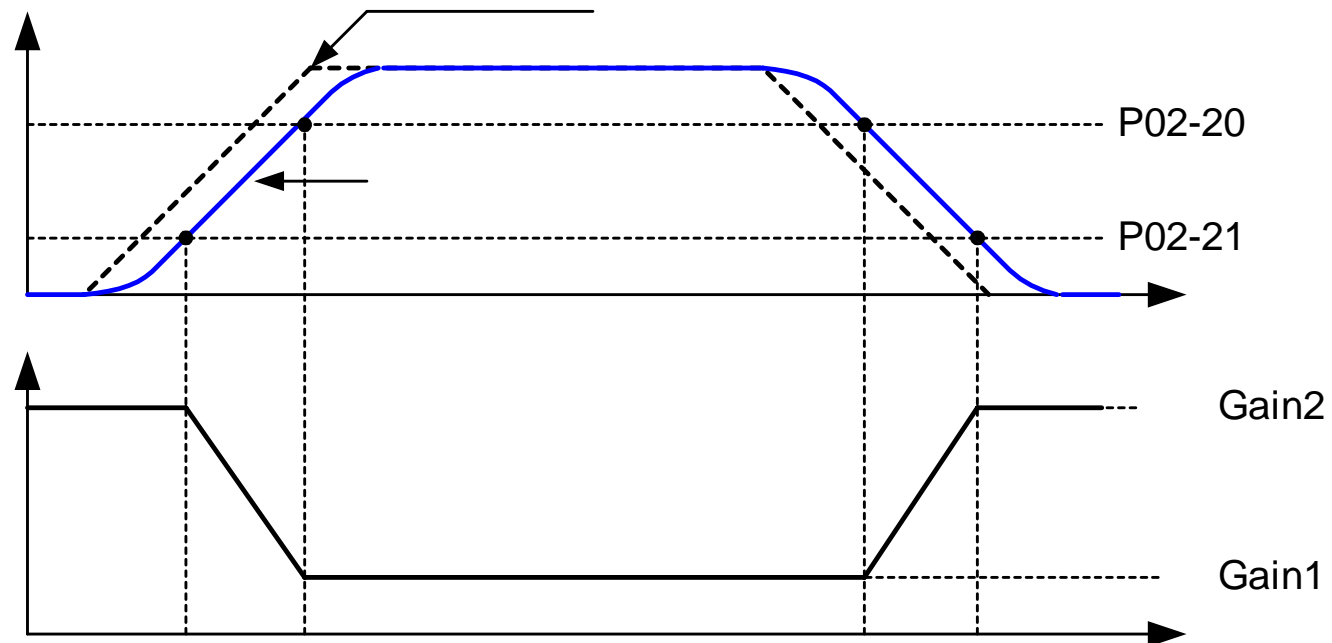
3.

(P02 --)

BRINGING SOLUTIONS TOGETHER



P02-19	Inertia Ratio	-	1.0 ~ 50.0	2.0	/ /
P02-20	Gain ADJ Speed1 1	rpm	100.0 ~ 5000.0	800.0	/ /
P02-21	Gain ADJ Speed2 2	rpm	10.0 ~ 500.0	100.0	/ /



3.

(P02 --)

BRINGING SOLUTIONS TOGETHER



P02-22	Gain ADJ TRQ1 1	%	50.0 ~ 300.0	150.0	/ /
P02-23	Gain ADJ TRQ2 2	%	0.0 ~ 300.0	50.0	/ /
P02-24	Contact Gain TC	ms	0.0 ~ 10000.0	100.0	/ /
P02-25	Temporary Stop	-	ON / OFF	OFF	/ /
P02-26	Emergency Stop	-	ON / OFF	OFF	/ /
P02-27	Ripple COMPEN	-	ON / OFF	OFF	/ /
P02-28 *	Parameter INIT	-	ON / OFF	OFF	/ /
P02-29	Direction Select	-	ON / OFF	OFF	/ /

4.

(P03 --)

BRINGING SOLUTIONS TOGETHER



P03-01 *	Speed Gain Mode	-	1 ~ 5	1	
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1		1		(P03-05, P03-06).
2		2		(P03-07, P03-08).
3	P03-06)	2(P03-07, P03-08)	(P02-20, P02-21) 가	1(P03-05, .
4	P03-06)	2(P03-07, P03-08)	(P02-22, P02-23) 가	1(P03-05, .
5		2(P03-07, P03-08)		1(P03-05, P03-06)

4.

(P03 --)

BRINGING SOLUTIONS TOGETHER



P03-02	PI-IP Control % PI-IP	%	0.0 ~ 100.0	100.0	
P03-03	Friction COMPEN	%	0.0 ~ 100.0	0.0	/
P03-04	Load COMPEN	%	0.0 ~ 100.0	0.0	/
P03-05	SC Loop Gain1 1	Hz	0.0 ~ 1000.0	()	/
P03-06	SC TC1 1	ms	0.0 ~ 10000.0	()	/
P03-07	SC Loop Gain2 2	Hz	0.0 ~ 1000.0	()	/
P03-08	SC TC2 2	ms	0.0 ~ 10000.0	()	/

4.

(P03 --)

BRINGING SOLUTIONS TOGETHER



P03-09	Analog CMD TC	ms	0.0 ~ 2000.0	0.0	
P03-10	ACCEL Time 가	ms	0.0 ~ 90000.0	0.0	
P03-11	DECEL Time	ms	0.0 ~ 90000.0	0.0	
P03-12 *	S-Mode TC S-	ms	0.0 ~ 9000.0	0.0	
P03-13	In Speed Range	rpm	0.0 ~ 9999.9	10.0	
P03-14	Zero Speed Range	rpm	0.0 ~ 9999.9	10.0	
P03-15 *	+ 10[V] RPM + 10[V]	rpm	0.0 ~ 9999.9	()	
P03-16 *	-10[V] RPM - 10[V]	rpm	-9999.9 ~ 0.0	-()	/ /

4.

(P03 --)

BRINGING SOLUTIONS TOGETHER



P03-17	Auto Offset Offset	-	ON / OFF	OFF	
P03-18	Manual Offset Offset	mV	-1000.0 ~ 1000.0	0.0	
P03-19 *	Override ENB Override	-	ON / OFF	OFF	
P03-20	Clamp Mode Clamp	-	0 ~ 2	0	
P03-21	Clamp Voltage Clamp	mV	-1000.0 ~ 1000.0	0.0	
P03-22 *	F/Back TC F/Back	ms	0.0 ~ 2000.0	0.0	
P03-23	Zero SPD VIB REJ	rpm	0.0 ~ 1000.0	0.1	/ /
P03-24 *	Feedforward TRQ	-	0 ~ 2	0	/

5.

/

(P04 --)

BRINGING SOLUTIONS TOGETHER



P04-01	Speed1	1	rpm	-9999.9 ~ 9999.9	10.0	/
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P04-07	Speed7	7	rpm	-9999.9 ~ 9999.9	3000.0	/
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P04-08	Torque1	1	%	-300.0 ~ 300.0	0.0	
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P04-14	Torque7	7	%	-300.0 ~ 300.0	120.0	
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6.

(P05 --)

BRINGING SOLUTIONS TOGETHER



P05-01 *	POS Gain Mode	-	1 ~ 5	1	
P05-02 *	POS Pulse Type	-	0 ~ 5	1	
P05-03	Speed Mode	-	ON / OFF	OFF	/
P05-04	Feedforward	%	0.0 ~ 100.0	0.0	
P05-05	PC P Gain1 1	Hz	0.0 ~ 500.0	()	
P05-06	PC P Gain2 2	Hz	0.0 ~ 500.0	()	
P05-07	PI-P Pulse ERR PI-P	pulse	0 ~ 99999	0	
P05-08	In Position	pulse	0 ~ 99999	100	

6.

(P05 --)

BRINGING SOLUTIONS TOGETHER



P05-09	Follow ERR	pulse	0 ~ 99999	30000	
P05-10	POS CMD TC	ms	0.0 ~ 2000.0	0.0	
P05-11	FF TC	ms	0.0 ~ 2000.0	0.0	
P05-12 *	ELCTR Gear NUM1 1	-	1 ~ 99999	1	
P05-13 *	ELCTR Gear DEN1 1	-	1 ~ 99999	1	
P05-14 *	ELCTR Gear NUM2 2	-	1 ~ 99999	1	
P05-15 *	ELCTR Gear DEN2 2	-	1 ~ 99999	2	
P05-16 *	ELCTR Gear NUM3 3	-	1 ~ 99999	1	

6.

(P05 --)

BRINGING SOLUTIONS TOGETHER



P05-17 *	ELCTR Gear DEN3 3	-	1 ~ 99999	4	
P05-18 *	ELCTR Gear NUM4 4	-	1 ~ 99999	1	
P05-19 *	ELCTR Gear DEN4 4	-	1 ~ 99999	8	
P05-20	Bias SPD COMPEN	rpm	-1000.0 ~ 1000.0	0.0	
P05-21	Bias Pulse Band	pulse	0 ~ 500	10	
P05-22	Backlash Pulse	pulse	0 ~ 99999	0	

7.

(P06 --)

BRINGING SOLUTIONS TOGETHER



P06-01 *	Analog TRQ TC	ms	0.0 ~ 2000.0	0.0	
P06-02	TRQ ACCEL Time 가	ms	0.0 ~ 9000.0	0.0	
P06-03	TRQ DECEL Time	ms	0.0 ~ 9000.0	0.0	
P06-04 *	TRQ S-Mode S-	ms	0.0 ~ 2000.0	0.0	
P06-05	In TRQ Range	%	0.0 ~ 100.0	10.0	/
P06-06	Stop TRQ Range	%	0.0 ~ 100.0	10.0	/
P06-07	10[V] TRQ 10[V]	%	0.0 ~ 300.0	100.0	/
P06-08	Auto Offset Offset	-	ON / OFF	OFF	/

8.

(P07 --)

BRINGING SOLUTIONS TOGETHER



P07-01 *	CN1_18	1	-	0 ~ 30	1	/ /
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P07-12 *	CN1_38	12	-	0 ~ 20	19	/ /
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1	SVONEN	14	CWLIM/NTQLIM
2	TYPE	15	STOP
3	DIR	16	ESTOP
4	PI/P	17	PLSINH
5	GATRS	18	PLSCLR
6	TRQ1	19	ALMRST
7	TRQ2	20	ABSREQ
8	TRQ3	25	SETUP1
9	SPD1/GEAR1	26	SETUP2
10	SPD2/GEAR2	27	SETUP3
11	SPD3	28	SETUP4
12	SPDLIM/TLIM	29	SETUP5
13	CCWLIM/PTQLIM	30	SETUP6

9.

(P08 --)

BRINGING SOLUTIONS TOGETHER



P08-01 *	CN1_23	1	-	0 ~ 30	0	/ /
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P08-10 *	CN1_44	10	-	0 ~ 18	17	/ /
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1	SVONOFF	13	NCWRUN
2	TYPEOUT	14	ALARM
3	BRAKE	15	A_CODE0
4	ZTRQ	16	A_CODE1
5	ZSPD	17	A_CODE2
6	INSPD/INPOS	18	A_CODE3
7	RDY	25	SETUP1
8	PPIOUT	26	SETUP2
9	SPDOUT/TRQOUT	27	SETUP3
10	PCWOUT/PTQOUT	28	SETUP4
11	NCWOUT/NTQOUT	29	SETUP5
12	PCWRUN	30	SETUP6

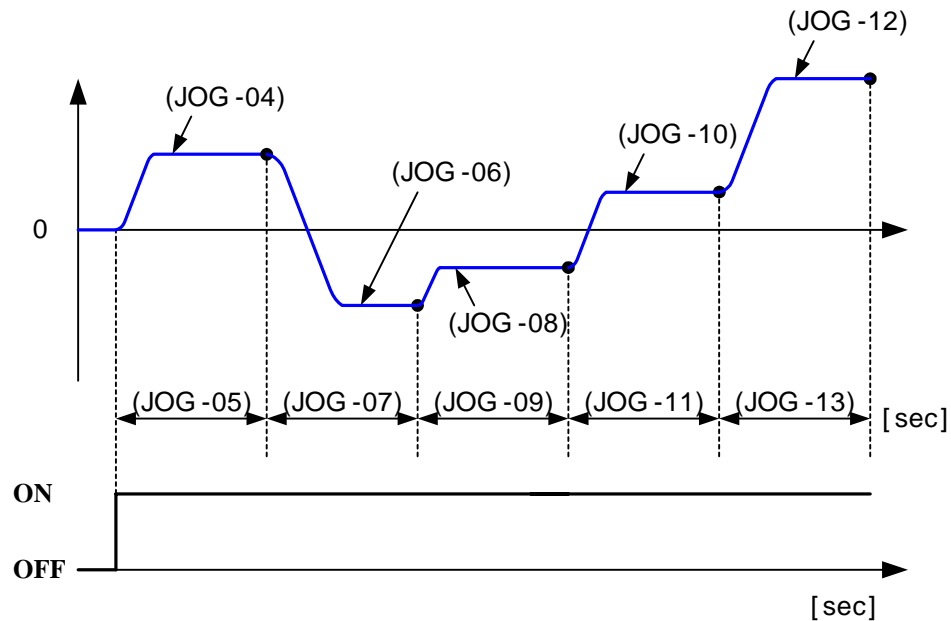
10.

(JOG --)

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JOG-01	Key Jog Mode	-	ON / OFF	OFF	/ /
JOG-02	Key Jog Speed	rpm	-9999.9 ~ 9999.9	100.0	/ /
JOG-03	Auto Jog Mode	-	0 ~ 2	0	/ /



0	
1	-
2	-

11.

(ALS --)

BRINGING SOLUTIONS TOGETHER



ALS-01	Current Alarm	-	-	nor	/ /
ALS-02	Alarm Reset	-	ON/OFF	OFF	/ /
ALS-03 ~ ALS-12	Alarm History1 1 ~ Alarm History10 10	-	0 ~ 32	0	/ /
ALS-13	History Reset	-	ON/OFF	OFF	/ /

			A_CODE0	A_CODE1	A_CODE2	A_CODE3
-	Normal		0	0	0	0
00	EMER STOP		1	0	0	0
01	OVER CURNT		0	1	0	0
02	OVER VOLT		1	1	0	0

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13	ERASE FAIL		0	1	1	1
14	WRITE FAIL		1	1	1	1



Thank You !

Servo以技術立國