

APD-VS[Standard Type]Manual

4.2 Program Menu Summary

Menu consists of 9 menu groups, and function of each menu is as below.

Comm. Code	Name of Menu Group	Function
Pd-001 ~ Pd-020	Status Menu	Indicate operation status information of Each Servo.
PA-101 ~ PA-120	Alarm Menu	Save & Indicate records of Alarm that is Happened before.
PE-201 ~ PE-220	System Menu	Save information of system construction
PE-301 ~ PE-320	Control Menu	Save set variables that are related to control.
PE-401 ~ PE-420	Analog Menu	Save set variables that are related to analog I/O.
PE-501 ~ PE-520	InOut Menu	Save set variables that are related to I/O connection.
PE-601 ~ PE-620	Speed Operation Menu	Stores set variables that is related to Speed operation
PE-701 ~ PE-720	Pulse Operation Menu	Save set variables that are related to position pulse operation
PC-801 ~ PC-820	Command Menu	Execute operation handling

From the below menu table, the abbreviation for each mode means ;

P : Used at Position control mode

S : Used at Speed control mode

T : Used at Torque control mode

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1) Operation State Indicating Menu (Refer to chapter 4.3)

MENU			UNIT	INI	Description	App Mode
Comm. Code	CODE	NAME	MIN	MAX		
0	Pd-001	Current State	-	-	Indicates current operation status. (Normal : nor , Alarm : Alarm No.)	PST
			-	-		
1	Pd-002	Current Speed	r/min	0.0	Indicates current speed.	PST
			-9999.9	9999.9		
2	Pd-003	Command Speed	r/min	0.0	Indicates current command speed.	ST
			-9999.9	9999.9		
3	Pd-004	Current Pulse	-	0	Indicates cumulative value of position command Pulse that are input from external device.	P
			-99999	99999		
4	Pd-005	Feedback Pulse	-	0	Indicates feedback pulse when controlling position.	PST
			-99999	99999		
5	Pd-006	Pulse Error	-	0	Indicates remained position pulse that is to be operated.	P
			0	99999		
6	Pd-007	E-Gear N0	-	1000	Indicates numerator 0 of electronic gear ratio.	P
			1	99999		
7	Pd-008	Command Torque	[%]	0	Indicates current command torque at torque limit operation.	T
			-999.99	999.99		
8	Pd-009	Torque Limit	[%]	300	Indicates torque limit setting value.	PST
			0	300		
9	Pd-010	Current Load	[%]	0	Indicates current load ratio compared to rated.	PST
			-99999	99999		
10	Pd-011	Average Load	[%]	0	Indicates the average load ratio for 5 seconds Compared to rated.	PST
			0	99999		
11	Pd-012	Maximum Load	[%]	0	Indicates instantaneous max. load ratio compared to rated.	PST
			-99999	99999		
12	Pd-013	DC Link Voltage	Volt	0.0	Indicates DC Link voltage of current main power.	PST
			0.0	999.9		
13	Pd-014	CN1connection state I/O SET	-	-	Indicates contactsCN1 I/O status.	PST
			-	-		
14	Pd-015	Input EXT SET	-	-	Indicates input status that is handled forcibly by external(Handy Loader, PC) (refer to PC-808)	PST
			-	-		
15	Pd-016	I/O State	-	-	Indicates I/O status that is perceived last (It is perceived and indicated when A contact:ON, B contact:OFF)	PST
			-	-		
16	Pd-017	Input Logic Set	-	-	Menu that is related to communication.	PST
			-	-		
17	Pd-018	Input Logic Save	-	-		
			-	-		
18	Pd-019	Alarm bit	-	-		
			-	-		
19	Pd-020	Software Version	-	-	Indicates the Software Version.	PST
			-	-		

※ Communication code is to be used for selecting the menu when using TOUCH or PC Communication.

Chapter4 Detailed Explanation of Program Menu

2) Alarm state indicating Menu

MENU			UNIT	INI	Description	App Mode
Comm. Code	CODE	NAME	MIN	MAX		
Alarm history 01 ~ 20			-	-	Indicates Alarm state that happened before	PST
20	PA-101	Alarm History01	-	-		
~ 39	~ PA-120	~ Alarm History20				

Alarm code and details

CODE	Menu title	Cause	Checking Items
Nor-oF	Normal svoff	Servo OFF Normal condition	-
Nor-on	Normal svon	Servo ON Normal condition	-
L1.01	L1.01	RS232Comm.error, Control circuit operation error	Replace the drive
AL-01	Emergency Stop	EMG input contact turned OFF	Check external DC24V power supply
AL-02	Power Fail	Main power shut off during Servo ON status	Check the wiring of main power supply
AL-03	Line Fail	Motor and encoder miswriting	Check set values and CN2 wiring, U,V,W wiring, Changing the Motor
AL-04	Motor Output	Error of Output (U.V.W) open phase	Check U,V,W wiring and IPM module damage
AL-05	Encoder Pulse	No. of encoder pulse set error	Check set value[PE-204] and CN2 wiring.
AL-06	Following Error	Position pulse following error	Check the [PE-502] position command pulse set value, wiring and Limit contact, gain set value
AL-07	Not Used	Not Used	-
AL-08	Over Current	Over current	Check the output terminal wiring motor, phrase resistance encoder set value, wiring, Replace drive
AL-09	Over Load	Over load	Check Load condition, Brake operating condition, wiring, motor · encoder set value.
AL-10	Over Voltage	Over voltage	Check input voltage, wiring of braking resistance, damage of braking resistance, excessive regenerative operation
AL-11	Over Speed	Over speed, Input power when a Motor take free-run	Check encoder set value, encoder wiring, gain set
AL-12	Not Used	Not used	-
AL-13	Not Used	Not used	-
AL-14	ABS Data Error	Absolute encoder data error	Check the initial reset [PC-811], Encoder overflow
AL-15	ABS Battery Error	Absolute encoder battery error	Check the initial reset [PC-811] and if battery is discharged
AL-16	ABS Multi Error	Absolute encoder multi-rotation data transmission error	Check the initial reset [PC-811]
AL-17	ABS Read Fail	Absolute encoder reading error	Check encoder
AL-18	Not Used	Not used	-
AL-19	Not Used	Not used	-
AL-20	Flash Erase Fail	Deleting error of flash ROM data	Replace drive
AL-21	Flash Write Fail	Writing error of flash ROM data	Replace drive
AL-22	Data Init Error	Error of data initialization	Replace drive
AL-23	EPWR	Hardware error	[PE-203] set error
Err1	Error1	Input of parameters, which cannot be changed, is attempted during Servo ON	Turn OFF the servo and change the set value
Err2	Error2	Input of data which is out of set range	Input values within the set range
Err3	Error3	Change the menu which is locked by [PC-810](Menu Data Lock)	Change the menu [PC-810] with unlock condition

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3.1) System variables setting menu (Refer to chapter 4.4.1)

Menus marked with "*" cannot be corrected during Servo-On

MENU			UNIT	INI	Description	App Mode
Comm Code	CODE	NAME	MIN	MAX		
40	*PE-201	Motor ID	-	-	Sets Motor ID (Refer 4.4.1), When setting motor ID: Be set automatically from [PE-210] to [PE-217]	PST
			0	99		
41	*PE-202	RS232 Comm. speed	[bps]	0	Sets RS232 communication speed of CN3 (Applicable after re-power on) 0=9600[bps], 1=19200[bps] 2=38400[bps], 3=57600[bps]	PST
		Baud Rate	0	3		
42	*PE-203	Encoder Type	-	0	Sets applied encoder type (0 : A phase lead, 1 : B phase lead, 6 : Absolute encoder)	PST
			0	9		
43	*PE-204	Encoder Pulse	P/r	3000	Sets the number of encoder pulse.	PST
			1	99999		
44	PE-205	CCW TRQ Limit	[%]	300	Sets torque limit value at CCW.	PST
			0	300		
45	PE-206	CW TRQ Limit	[%]	300	Sets torque limit value at CW.	PST
			0	300		
46	*PE-207	System ID	-	0	Sets drive ID on communication	PST
			0	99		
47	*PE-208	System Group ID	-	0	Sets drive group ID on communication	PST
			0	99		
48	PE-209	Start Menu No.	-	2	Sets the operation status display menu with [Pd-001]~[Pd-020] at power on.	PST
			1	20		
49	*PE-210	Inertia	gf.cm.s ²	ID	Sets inertia of motor. (Modification is possible when [PE-201] is "0")	PST
			0.01	999.99		
50	*PE-211	Trq Con	kgf.cm/A	ID	Sets torque constant of motor (Modification is possible then [PE-201] is "0")	PST
			0.01	999.99		
51	*PE-212	Phase Ls	mH	ID	Sets phase inductance of motor (Modification is possible when [PE-201] is "0")	PST
			0.001	99.999		
52	*PE-213	Phase Rs	ohm	ID	Sets phase resistance of motor (Modification is possible when [PE-201] is "0")	PST
			0.001	99.999		
53	*PE-214	Rated Is	A	ID	Sets rated current of motor (Modification is possible when [PE-201] is "0" .)	PST
			0.01	999.99		
54	*PE-215	Max Speed	r/min	ID	Sets max.speed of motor (Modification is possible when [PE-201] is "0")	PST
			0.0	9999.9		
55	*PE-216	Rated Speed	r/min	ID	Sets rated speed of motor (Modification is possible when [PE-201] is "0")	PST
			0.0	9999.9		
56	*PE-217	Pole Number	-	8	Sets pole number of motor (Modification is possible when [PE-201] is "0")	PST
			2	98		
57	PE-218	Not Used	-	-		
			-	-		
58	PE-219	Not Used	-	-		
			-	-		
59	PE-220	Not Used	-	-		
			-	-		

※ Communcation code is to be used for selecting the menu when using TOUCH or PC Communication.

Chapter4 Detailed Explanation of Program Menu

3.2) System variables setting menu (for Special Large Capacity : APD-VS220,VS300,VS370)

Menus marked with “**” cannot be corrected during Servo-On

MENU			UNIT	INI	Description	App Mode
Comm Code	CODE	NAME	MIN	MAX		
40	*PE-201	Motor ID	-	-	Sets Motor ID (Refer 4.4.1), When setting motor ID: Be set automatically from [PE-210] to [PE-218]	PST
			0	99		
41	*PE-202	RS232 Comm. speed	[bps]	0	Sets RS232 communication speed of CN3 0=9600[bps], 1=19200[bps] 2=38400[bps],3=57600[bps]	PST
		Baud Rate	0	1		
42	*PE-203	Encoder Type	-	0	Sets applied encoder type (0 : A phase lead, 1 : B phase lead, 6 : Absolute encoder)	PST
			0	9		
43	*PE-204	Encoder Pulse	[p/r]	3000	Sets the number of encoder pulse.	PST
			1	99999		
44	PE-205	CCW TRQ Limit	[%]	300	Sets torque limit value at CCW.	PST
			0	300		
45	PE-206	CW TRQ Limit	[%]	300	Sets torque limit value at CW.	PST
			0	300		
46	*PE-207	System ID	-	0	Sets drive ID on communication	PST
			0	99		
47	*PE-208	System Group ID	-	0	Sets drive group ID on communication	PST
			0	99		
48	PE-209	Start Menu No.	-	2	Sets the operation status display menu with [Pd-001]~[Pd-020] at power on.	PST
			1	20		
49	*PE-210	Inertia	gf.cm.s ²	ID	Sets inertia of motor. (Modification is possible when [PE-201] is “0”)	PST
			0.1	9999.9		
50	*PE-211	Trq Con	kgf.cm/A	ID	Sets torque constant of motor (Modification is possible then [PE-201] is “0”)	PST
			0.001	99.999		
51	*PE-212	Q-axis Inductance	mH	ID	Sets Q-axis inductance of motor (Modification is possible when [PE-201] is “0”)	PST
			0.001	99.999		
52	*PE-213	D-axis Inductance	mH	ID	Sets D-axis inductance of motor (Modification is possible when [PE-201] is “0”)	PST
			0.001	99.999		
53	*PE-214	Phase Rs	mΩ	ID	Sets phase resistance of motor (Modification is possible when [PE-201] is “0”)	PST
			0.001	99.999		
54	*PE-215	Rated Is	A	ID	Sets rated current of motor (Modification is possible when [PE-201] is “0” .)	PST
			0.01	999.99		
55	*PE-216	Max Speed	r/min	ID	Sets max.speed of motor (Modification is possible when [PE-201] is “0”)	PST
			0.0	9999.9		
56	*PE-217	Rated Speed	r/min	ID	Sets rated speed of motor (Modification is possible when [PE-201] is “0”)	PST
			0.0	9999.9		
57	PE-218	Pole Number	-	8	Sets pole number of motor (Modification is possible when [PE-201] is “0”)	PST
			2	98		
58	PE-219	lbs Offset Save	A	0	Sets current offset of motor (Modification is possible when [PE-201] is “0”)	PST
			-99.999	99.999		
59	PE-220	lcs Offset Save	A	0	Sets current offset of motor (Modification is possible when [PE-201] is “0”)	PST
			-99.999	99.999		

※ Communcation code is to be used for selecting the menu when using TOUCH or PC Communication.

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Motor type and ID

Model	ID	Watt	Remark
SAR3A	1	30	
SAR5A	2	50	
SA01A	3	100	
SB01A	11	100	
SB02A	12	200	
SB04A	13	400	
SB03A	14	250	Customized type
HB02A	15	200	Hollow Shaft
HB04A	16	400	Hollow Shaft
SC04A	21	400	
SC06A	22	600	
SC08A	23	800	
SC10A	24	1000	
SC03D	25	300	
SC05D	26	450	
SC06D	27	550	
SC07D	28	650	
SC01M	29		
SC02M	30		
SC03M	31		
SC04M	32		
HC06H	33	600	Only S/T
SC05A	34	450	Only S/S
SC05H	35	500	Only S/S
SC08A	36	750	Only S/S
HB01A	37	100	Hollow Shaft
HC10A	38	1000	Hollow Shaft
HE30A	39	3000	Hollow Shaft
HB03H	40	250	Only Semiconductor
HC03H	41	250	Only Semiconductor
HC03HC6	42	300	Only Semiconductor
SE15D	50	1500	Special type
SC20B	51	2000	Special type

Motor type and ID

Model	ID	Watt	Remark
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Model	ID	Watt	Remark
SE09A	61	900	
SE15A	62	1500	
SE22A	63	2200	
SE30A	64	3000	
SE06D	65	600	
SE11D	66	1100	
SE16D	67	1600	
SE22D	68	2200	
SE03M	69	300	
SE06M	70	600	
SE09M	71	900	
SE12M	72	1200	
SE05G	73	450	
SE09G	74	850	
SE13G	75	1300	
SE17G	76	1700	
HE09A	77	900	Hollow Shaft
HE15A	78	1500	Hollow Shaft
SE11M	79	1050	Customized type
SE07D	80	650	Customized type
SF30A	81	3000	
SF50A	82	5000	
SF22D	85	2200	
SF35D	86	3500	
SF55D	87	5500	
SF75D	88	7500	
SF12M	89	1200	
SF20M	90	2000	
SF30M	91	3000	
SF44M	92	4400	
SF20G	93	1800	
SF30G	94	2900	
SF44G	95	4400	
SF60G	96	6000	
HC05H	99	500	Customized type

Model	ID	Watt	Remark
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4) Control Variables Setting Menu (Refer to chapter 4.4.2)

Menus marked with “*” cannot be corrected during Servo-ON

MENU			UNIT		Description	Appl. Mode
Comm Code	CODE	NAME	MIN	MAX		
60	PE-301	Inertia Ratio		2.0	Sets inertia ratio of load (Refer to chapter 4.4.2)	PST
			1.0	500.0		
61	PE-302	Position P Gain1	1/s	50	Sets position control proportional gain 1	P
			0	500		
62	PE-303	Position P Gain2	1/s	50	Sets position control proportional gain 2	P
			0	500		
63	PE-304	P Feedforward	[%]	0	Sets position feed-forward control ratio	P
			0	100		
64	PE-305	P FF FLT TC	msec	0	Sets the time-constant of position feed-forward control filter	P
			0	10000		
65	PE-306	P CMD FLT TC	msec	0	Sets the time-constant of position command filter	P
			0	10000		
66	PE-307	Speed P Gain1	rad/s		Sets speed proportional gain 1 (APD-VSR5~04:500, VS05~10:300, VS15~75:200)	PST
			0	5000		
67	PE-308	ZSPD Gain Rate	[%]	50.0	Sets zero speed gain rate which will be applied for the speed lower than that of [PE-313].	PS
			1.0	100.0		
68	PE-309	Speed I TC1	msec		Sets speed integral time constant 1 (APD-VSR5~04:20, VS05~10:30, VS15~75:50)	PST
			1	10000		
69	PE-310	Speed I TC2	msec		Sets speed integral time constant 2 (APD-VSR5~04:20, VS05~10:30, VS15~75:50)	PST
			1	10000		
70	PE-311	Speed IN FT	msec	0.0	Sets speed command filter	S
			0.0	100.0		
71	*PE-312	Speed FB FT	msec	0.5	Sets speed feed-back filter	PS
			0.0	100.0		
72	PE-313	Zero Speed Gain	r/min	0.0	Sets the speed range of zero speed gain	PST
			0.0	100.0		
73	PE-314	TORQ. CMD FLT	msec	0.0	Sets torque command filter	PST
			0.0	1000.0		
74	PE-315	DE-Resonance	-	0	Sets avoid resonance driving operation (0 : no operation, 1 : operation)	PST
			0	1		
75	PE-316	Notch Frequency	Hz	300	Sets avoid resonance driving frequency	PST
			0	1000		
76	PE-317	Notch Bandwidth	-	100	Sets avoid resonance band width	PST
			0	1000		
77	PE-318	Overload offset	-	1.1	Set the time of Overload characteristics (User is requested not to change it)	PST
			1.0	3.0		
78	PE-319	Speed P Control	r/min	100.0	Sets the changed speed at PI-P control ('PCON' input)(P control is operated at less than set speed)	PST
			0.0	9999.9		
79	PE-320	Zero Speed Lock	-	1	Automatically switch from speed control to position control at 'STOP' input or command 0 voltage at [PE-403](SCLamp Mode)=1,(0:not used, 1:operation)	PST
			0	1		

※ Communication code is to be used for selecting the menu when using TOUCH or PC Communication.

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5) Analog I/O variables setting menu (Refer to chapter 4.4.3)

Menus marked with “*” cannot be corrected during Servo-On

MENU			UNIT	INI	Description	App Mode
Comm Code	CODE	NAME	MIN	MAX		
80	*PE-401	Analog Speed	r/min	2000.0	Sets analog speed command at 10[V] -Max values is max speed of motor(Refer 4.4.3)	ST
			0.0	max		
81	PE-402	Speed Offset	mV	0.0	Sets the offset of speed command	S
			-1000.0	1000.0		
82	PE-403	SCLamp Mode	-	0	Sets zero speed clamp operation	S
			0	1		
83	PE-404	SCLamp Volt	mV	0.0	Sets zero speed clamp operating voltage	S
			0.0	2000.0		
84	*PE-405	Speed Override	-	0	Sets speed override operation (0 : Not used, 1 : Override operation)	S
			0	1		
85	*PE-406	Analog Torque	[%]	100	Sets analog torque command at 10[V]	PST
			0	300		
86	PE-407	Torque Offset	mV	0.0	Sets the offset of torque command	T
			-1000.0	1000.0		
87	PE-408	TCLamp Mode	-	0	Sets zero torque clamp operation	T
			0	1		
88	PE-409	TCLamp Volt	mV	0.0	Sets zero torque clamp operation voltage	T
			-1000.0	1000.0		
89	PE-410	Monitor Type1	-	1	Sets type of analog output1 for monitoring	PST
			0	10		
90	PE-411	Monitor Mode1	-	0	Sets mode of analog output1 for monitoring (0:mark direction sorting, 1:mark absolute value without direction sort)	PST
			0	1		
91	PE-412	Monitor Scale1	-	1.0	Sets scale of analog output1 for monitoring	PST
			0.1	9999.0		
92	PE-413	Monitor Offset1	mV	0.0	Sets offset of analog output1 for monitoring	PST
			-100.0	100.0		
93	PE-414	Monitor Type2	-	3	Sets type of analog output2 for monitoring	PST
			0	10		
94	PE-415	Monitor Mode2	-	0	Sets mode of analog output2 for monitoring (0:mark direction sorting, 1:mark absolute value without direction sort)	PST
			0	1		
95	PE-416	Monitor Scale2	-	1.0	Sets scale of analog output2 for monitoring	PST
			0.1	9999.0		
96	PE-417	Monitor Offset2	mV	0.0	Sets offset of analog output2 for monitoring	PST
			-100.0	100.0		
97	PE-418	Not Used	-	-		
			-	-		
98	PE-419	Not Used	-	-		
			-	-		
99	PE-420	Not Used	-	-		
			-	-		

※ Communication code is to be used for selecting the menu when using TOUCH or PC Communication.

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6) I/O Contacts Variables Setting Menu (Refer to chapter 4.4.4)

MENU			UNIT	INI	Description	App Mode
Comm Code	CODE	NAME	MIN	MAX		
100	PE-501	Inposition	Pulse	100	Sets the output range of position operation completed signal (Refer to chapter 4.4.4)	P
			0	99999		
101	PE-502	Follow Error	Pulse	90000	Sets the output range of position operation follow error signal	P
			0	999999		
102	PE-503	0 Speed RNG	r/min	10.0	Sets the output range of zero speed signal	PST
			0.0	9999.9		
103	PE-504	Inspeed	r/min	100.0	Sets the output range of speed reaching signal	S
			0.0	9999.9		
104	PE-505	Brake SPD	r/min	50.0	Sets the output speed of break operating signal	PST
			0.0	9999.9		
105	PE-506	Brake Time	msec	10	Sets the output delay time of break operating signal	PST
			0	10000		
106	PE-507	PowerFail Mode	-	0	Sets operation reset mode of main power error [0 : less than VS041(reset by hand), 1 : more than VS05(automatic reset)]	PST
			0	1		
107	PE-508	DB Control	-	1	Sets generating brake control operation 0:SVOFFat stop,less than [PE-503](zerospeed):Free-run 1:SVOFF at stop, generating brake function is always operated	PST
			0	1		
108	PE-509	Pulse Clear Mode	-	2	Sets position pulse clear operating mode 0 : Edge operating 1 : Level operation(response instantly) 2 : Level operation(filter operating)	P
			0	2		
109	PE-510	Pulse Out Rate	-	1	Sets divide ratio of encoder signal output -Divide ratio : 1,2,3.....16	PST
			1	16		
110	PE-511	Not Used	-	-		
			-	-		
111	PE-512	ESTOP Reset	-	1	Automatically Cancel after ESTOP operation (0 : Reset by manual, 1 : Automatic reset)	PST
			0	1		
112	PE-513	Not Used	-	-		
			-	-		
113	PE-514	Dir Select Mode	-	0	0: DIR→Switching direction, STOP→stop 1: DIR→CW operation, STOP→CCW operation	S
			0	1		
114	PE-515	Output Logic	-	30	Sets Logic of output contacts. (30=ZSPD output, 26=TGON signal output)	PST
			0	63		
115	PE-516	PWM off Delay	msec	0	Sets the delayed time(PWM-off) when command SV-off	PST
			10	1000		
116~ 117	PE-517~ PE-518	Not Used	-	-		
			-	-		
118	PE-519	Not Used	[%]	50.0	Set zero speed gain ratio that are to be applied to the speed range that is below the value which were set in PE-313.	
			1.0	100.0		
119	PE-520	Not Used	-	0	Set Gain1, Gain 2 switching mode. 0: Use Gain1 only.	

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			0	3	<p>1: Input contact. When Gain2 is OFF, use Gain1. When Gain 2 is ON, use Gain2.</p> <p>2: If speed command[PE-503] is higher than zero speed, Gain 1 is to be switched to Gain 2.</p> <p>3: If Position pulse error[PE-501] gets bigger than inpos value, Switching Gain1→Gain2.</p>	
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7) Speed operation variables setting menu(Refer to chapter 4.4.5)

Menus marked with "*" cannot be corrected during Servo-On

MENU			UNIT	INI	Description	Appl. Mode
Comm Code	CODE	NAME	MIN	MAX		
120	*PE-601	Operation Mode	-	1	Sets operation mode (Refer to chapter 4.4.5) 0 : torque control mode 1 : speed control mode 2 : position control mode 3 : speed/position control mode ('MODE' contact=OFF: position mode) 4 : speed/torque control mode ('MODE' contact=OFF: torque mode) 5 : position/torque control mode ('MODE' contact=OFF: torque mode) (Surely set '0' for [PE-320] when using the operation mode 3 & 4)	PST
			0	5		
121	PE-602	Speed Command1	r/min	10.0	Be selected as per the status of speed command input contact [SPD1][SPD2][SPD3] [X]: OFF, [O]: ON	ST
			-Max	+Max		
122	PE-603	Speed Command2	r/min	200.0	[X][X][X] : Analog speed command [O][X][X] : Internal speed command 1 [X][O][X] : Internal speed command 2 [O][O][X] : Internal speed command 3 [X][X][O] : Internal speed command 4 [O][X][O] : Internal speed command 5 [X][O][O] : Internal speed command 6 [O][O][O] : Internal speed command 7	ST
			-Max	+Max		
123	PE-604	Speed Command3	r/min	500.0	* Used as Speed limit when Torque control	ST
			-Max	+Max		
124	PE-605	Speed Command4	r/min	1000.0		S
			-Max	+Max		
125	PE-606	Speed Command5	r/min	1500.0		S
			-Max	+Max		
126	PE-607	Speed Command6	r/min	2000.0		S
			-Max	+Max		
127	PE-608	Speed Command7	r/min	3000.0		S
			-Max	+Max		
128	PE-609	Accel Time	msec	0	Sets the accelerating time	S
			0	100000		
129	PE-610	Decel Time	msec	0	Sets the decelerating time	S
			0	100000		
130	*PE-611	S Type Control	-	0	Sets S shape control on speed control (0 : Linear Accel/Decel , 1 : S shape Accel/Decel)	S
			0	1		
131	PE-612	Test Run Speed0	r/min	100.0	Sets speed 0 at continuous test operation	PST
			-Max	+Max		
132	PE-613	Test Run Speed1	r/min	-500.0	Sets speed 1 at continuous test operation	PST
			-Max	+Max		
133	PE-614	Test Run Speed2	r/min	1000.0	Sets speed 2 at continuous test operation	PST
			-Max	+Max		
134	PE-615	Test Run Speed3	r/min	-2000.0	Sets speed 3 at continuous test operation	PST
			-Max	+Max		
135	PE-616	Test Run Time0	sec	5	Sets time 0 at continuous test operation	PST
			1	50000		

※ Communication mode is to be used for selecting the menu when using TOUCH or PC Communication.

Chapter4 Detailed Explanation of Program Menu

MENU			UNIT	INI	Description	App Mode
Comm Code	CODE	NAME	MIN	MAX		
136	PE-617	Test Run Time1	sec	5	Sets time 1 at continuous test operation	PST
			1	50000		
137	PE-618	Test Run Time2	sec	5	Sets time 2 at continuous test operation	PST
			1	50000		
138	PE-619	Test Run Time3	sec	5	Sets time 3 at continuous test operation	PST
			1	50000		
139	PE-620	Not Used	-	-		
			-	-		

※ Communication mode is to be used for selecting the menu when using TOUCH or PC Communication.

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8) Position operation variables setting menu (Refer to chapter 4.4.6)

Menu marked with "*" cannot be corrected during Servo-ON

MENU			UNIT	INI	Description	App Mode
Comm Code	CODE	NAME	MIN	MAX		
140	*PE-701	Pulse Logic	-	1	Sets the input pulse logic of position operation (Refer to chapter 4.4.6)	P
			0	5		
141	*PE-702	Electric Gear N0	-	1000	Sets numerator 0 or electronic gear ratio	P
			1	99999		
142	*PE-703	Electric Gear D0	-	1000	Sets denominator 0 or electronic gear ratio	P
			1	99999		
143	*PE-704	Electric Gear N1	-	1000	Sets numerator 1 or electronic gear ratio	P
			1	99999		
144	*PE-705	Electric Gear D1	-	2000	Sets denominator 1 or electronic gear ratio	P
			1	99999		
145	*PE-706	Electric Gear N2	-	1000	Sets numerator 2 or electronic gear ratio	P
			1	99999		
146	*PE-707	Electric Gear D2	-	3000	Sets denominator 2 or electronic gear ratio	P
			1	99999		
147	*PE-708	Electric Gear N3	-	1000	Sets numerator 3 or electronic gear ratio	P
			1	99999		
148	*PE-709	Electric Gear D3	-	4000	Sets denominator 3 or electronic gear ratio	P
			1	99999		
149	*PE-710	Backlash	Pulse	0	Sets backlash compensation in position operation (Standard : 4 interpolation pulse)	P
			0	10000		
150	PE-711	E-Gear Mode	-	0	0:electronic gear ratio 0~3 selecting 1:Offset value override function to numerator 0 of electronic gear ratio (data up/down function)	P
			0	1		
151	PE-712	E-Gear offset	-	0	Directly setting numerator 0 of offset value on menu of EGEAR1 contact ON→increase, EGEAR2 contact ON→decrease	P
			-99999	99999		
152	PE-713	Position Pulse Direction Pulse Dir	-	0	Switch the direction by pulse in position operation 0 : Operating in the direction of command 1 : Operating in the counter direction of command	P
			0	1		
153	PE-714	Not Used	-	-		
			-	-		
154	PE-715	Not Used	-	-		
			-	-		
155	PE-716	Not Used	-	-		
			-	-		
156	PE-717	Not Used	-	-		
			-	-		
157	PE-718	Not Used	-	-		
			-	-		
158	PE-719	ABS Multi Turn	-	-	Absolute encoder's Multi Turn Data. Menu display is not possible as this is for Communication only.	
			-	-		
159	PE-720	ABS Single Turn	-	-	Absolute encoder's Single Turn Data. Menu display is not possible as this is for communication only.	
			-	-		

※ Communication code is to be used for selecting the menu when using TOUCH or PC communication.

Chapter4 Detailed Explanation of Program Menu

9) Operation handling menu (Refer to chapter 5)

Menu marked with "*" cannot be corrected during Servo-ON

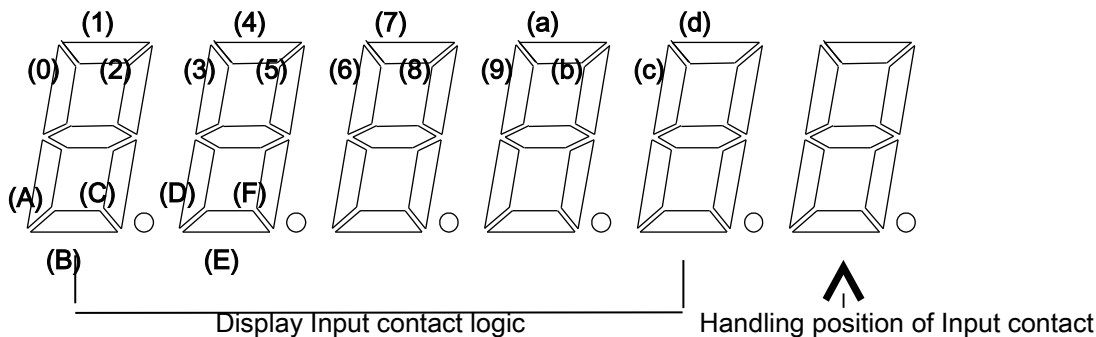
MENU			UNIT	INI	Description
Comm Code	CODE	NAME	MIN	MAX	
160	PC-801	Alarm Reset	-	-	Reset current alarm (Refer to chapter 5)
161	PC-802	Alarm His Clear	-	-	Clear alarm history
162	PC-803	Manual Test Run	-	-	Execute test operation by hand [Left] : forward rotating [Right] : reverse rotating [Up] : test operation speed changing ([PE-602]~[PE-608]) [Enter] : End Operating is not related to input status of CN1
163	PC-804	Auto Test Run	-	-	Continuous operation by speed and time that are set on menu, press [Enter] for end Operating is not related to input status of CN1
164	PC-805	Gain Tune Run	-	1	Sets automatic tuning operation of load inertia. 0: no auto tuning operation 1: auto tuning within 1~5 of inertia range 2: auto tuning within 5~10 of inertia range 3: auto tuning within 10~25 of inertia range 4: auto tuning within 25~50 of inertia range 5: auto tuning within 50~100 of inertia range (Procedure) ①sets the range with[Left], [Right] key ②execute forward/reverse operation about 10 times at 1000[r/min] ③Press [Enter] key, then auto tuning result is saved at [PE-301], [PE-307], [PE-309], and set as "0" automatically
165	PC-806	Z POS Search	-	-	Press [Enter] key, then motor rotate as forward Direction, and search for Z phase of encoder for stop
166	PC-807	IN Logic Set	-	-	After setting the input contact number(0~d) with [Left], [Right] key, press [Up]key, then the status of input contact is changed. Segment "Off" : Normal – A contact Segment "On" : Normal – B contact
167	PC-808	EXT Input Set	-	-	After setting the input contact number (0~d) with [Left], [Right] key, press [Up] key, then input contact is "ON" forcibly. Segment "Off" : Switch status of CN1 Segment "On" : Make "On" forcibly. All contacts are OFF at power off
168	*PC-809	Menu data Init	-	-	Press [Enter] key, then data of menu are changed to initial value automatically But, system menu data of [PE-201]~[PE-220] is not changed (It will be applied when the Power is supplied again.)
169	PC-810	Menu data Lock	-	-	Press [Enter] key, then Lock/unlock functions of menu data is operated as toggle. If data is changed at menu Lock status, then "Err3" would be displayed

※ Communication code is to be used for selecting the menu when using TOUCH or PC communication.

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MENU			UNIT	INI	Description
Comm Code	CODE	NAME	MIN	MAX	
170	PC-811	ABS Encoder set	-	-	Press [Enter] key at using absolute encoder, then reset absolute encoder for 5 seconds.
			-	-	
171	PC-812	Current Offset	-	-	Compensates current offset of Hall-CT [Left] key : display current offset value of U phase [Right] key : display current offset value of W phase [Up] key : save existing current offset value In case of downloading servo soft, surely turn power ON/OFF 3~5 times, after that press[Up] Key and save current offset value.
			-	-	
172 ~ 173	PC-813 ~ PC-814	Not Used	- -	- -	
174	PC-815	Peak Load	% -9999	0 9999	Display instantaneous max. load ratio for the rated. [Right] Key : Display forward direction instantaneous max.load ratio. [Left] Key : Display reverse direction instantaneous max.load ratio. [Up] Key : Reset instantaneous max. load ratio
175	PC-816	Following position pulse 펄스 Feedback Pulse	Pulse 9.9.9.9.9.9	0 999999	Display the amount of encoder pulse that motor is rotated. [Up] Key : Reset encoder pulse amount
176 ~ 179	PC-817 - PC-820	Not Used	- -	- -	

※ Communication code is to be used for selecting the menu when using TOUCH or PC communication.



[Input contact : upper]

(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
SVON	SPD1/ EGEAR1	SPD2/ EGEAR2	SPD3/ MODE	DIR	PCON	CCWLIM	CWLIM	TLIMIT	EMG
(a)	(b)	(c)	(d)						
STOP	ALMRST	GAIN2	PCLEAR						

[Output contact : lower]

(A)	(B)	(C)	(D)	(E)	(F)
BRAKE	INSPD/INPOS	ZSPD	READY	TLOUT	ALARM