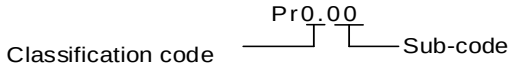
Parameters list - RS

Parameters list



Valid mode:
P: Valid in position control mode
S: Valid in velocity control mode
T: Valid in torque control mode
PR: Valid in PR control mode

Activation:
"O" – Restart driver for parameter changes to be valid
"—" – Valid immediately
"△" – Valid when axis stops
"●"- Valid after re-enabling

[Class 0] Basic settings

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
Pr0.00	Model-following bandwidth	1	△	O	—	—	16bit	R/W	0x0001
Pr0.01	Control Mode Settings	0	O	O	O	O	16bit	R/W	0x0003
Pr0.02	Real time Auto Gain Adjusting	0x1	—	O	O	O	16bit	R/W	0x0005
Pr0.03	Real time auto stiffness adjusting	11	—	O	O	O	16bit	R/W	0x0007
Pr0.04	Inertia ratio	250	—	O	O	O	16bit	R/W	0x0009
Pr0.05	Command pulse input selection	0	O	O	—	—	16bit	R/W	0x000B
Pr0.06	Command pulse polarity inversion	0	O	O	—	—	16bit	R/W	0x000D
Pr0.07	Command pulse input mode	3	O	O	—	—	16bit	R/W	0x000F
Pr0.08	1st command pulse count per revolution	10000	O	O	—	—	32bit	R/W	0x0010 0x0011
Pr0.09	1st command frequency divider/multiplier numerator	1	O	O	—	—	32bit	R/W	0x0012 0x0013
Pr0.10	1st command frequency divider/multiplier denominator	1	O	O	—	—	32bit	R/W	0x0014 0x0015
Pr0.11	Encoder output pulse count per revolution	2500	O	O	O	O	16bit	R/W	0x0017
Pr0.12	Pulse output logic inversion	0	O	O	O	O	16bit	R/W	0x0019
Pr0.13	1st Torque Limit	350	—	O	O	O	16bit	R/W	0x001B
Pr0.14	Excessive position deviation	30	—	O	—	—	16bit	R/W	0x001D
Pr0.15	Absolute Encoder settings	0	O	O	O	O	16bit	R/W	0x001F

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
Pr0.16	Regenerative resistance	100	—	O	O	O	16bit	R/W	0x0021
Pr0.17	Regenerative resistor power rating	50	—	O	O	O	16bit	R/W	0x0023
Pr0.22	PR and P/S/T switching	0	—	O	O	O	16bit	R/W	0x002D
Pr0.25	Auxiliary function	0	—	O	O	O	16bit	R/W	0x0033
Pr0.26	Simulated I/O	0	—	O	O	O	16bit	R/W	0x0035
Pr0.30	Encoder feedback mode	0	—	O	O	O	16bit	R/W	0x0037
Pr0.31	External encoder type	0	O	O	O	O	16bit	R/W	0x0039
Pr0.32	External encoder direction	0	O	O	O	O	16bit	R/W	0x003B
Pr0.33	Excessive hybrid deviation	16000	O	O			16bit	R/W	0x0043
Pr0.34	Clear excess hybrid control deviation	0	O	O			16bit	R/W	0x0045
Pr0.35	External encoder frequency divider numerator	0	O	O	O	O	16bit	R/W	0x0047
Pr0.36	External encoder frequency divider denominator	10000	O	O	O	O	16bit	R/W	0x0049
Pr0.37	External encoder feedback pulse count per revolution	0	O	O	O	O	16bit	R/W	0x004B
Pr0.38	Z-signal pulse input source	0	—	O	O	O	16bit	R/W	0x004D
Pr0.40	Mapping parameter 1	0x0	—	O	O	O	32bit	R/W *	0x0050 0x0051
Pr0.41	Mapping parameter 2	0x0	—	O	O	O	32bit	R/W *	0x0052 0x0053
Pr0.42	Mapping parameter 3	0x0	—	O	O	O	32bit	R/W *	0x0054 0x0055
Pr0.43	Mapping parameter 4	0x0	—	O	O	O	32bit	R/W *	0x0056 0x0057
Pr0.44	Mapping parameter 5	0x0	—	O	O	O	32bit	R/W *	0x0058 0x0059
Pr0.45	Mapping parameter 6	0x0	—	O	O	O	32bit	R/W *	0x005A 0x005b
Pr0.46	Mapping parameter 7	0x0	—	O	O	O	32bit	R/W *	0x005C 0x005d
Pr0.47	Mapping parameter 8	0x0	—	O	O	O	32bit	R/W *	0x005E 0x005F
Pr0.50	Mapping parameter 1 indicator	0x0049 0049	—	O	O	O	32bit	R/W	0x0064 0x0065
Pr0.51	Mapping parameter 2 indicator	0x0049 0049	—	O	O	O	32bit	R/W	0x0066 0x0067
Pr0.52	Mapping parameter 3 indicator	0x0049 0049	—	O	O	O	32bit	R/W	0x0068 0x0069
Pr0.53	Mapping parameter 4 indicator	0x0049 0049	—	O	O	O	32bit	R/W	0x006A 0x006B

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
Pr0.54	Mapping parameter 5 indicator	0x0049 0049	—	O	O	O	32bit	R/W	0x006C 0x006D
Pr0.55	Mapping parameter 6 indicator	0x0049 0049	—	O	O	O	32bit	R/W	0x006E 0x007F
Pr0.56	Mapping parameter 7 indicator	0x0049 0049	—	O	O	O	32bit	R/W	0x0070 0x0071
Pr0.57	Mapping parameter 8 indicator	0x0049 0049	—	O	O	O	32bit	R/W	0x0072 0x0073

[Class 1] Gain adjustment

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
Pr1.00	1st position loop gain	320	—	O	—	—	16bit	R/W	0x0101
Pr1.01	1st velocity loop gain	180	—	O	O	O	16bit	R/W	0x0103
Pr1.02	1st Integral Time Constant of Velocity Loop	310	—	O	O	O	16bit	R/W	0x0105
Pr1.03	1st velocity detection filter	15	—	O	O	O	16bit	R/W	0x0107
Pr1.04	1st Torque Filter Time Constant	126	—	O	O	O	16bit	R/W	0x0109
Pr1.05	2nd Position Loop Gain	380	—	O	—	—	16bit	R/W	0x010B
Pr1.06	2nd velocity loop gain	180	—	O	O	O	16bit	R/W	0x010D
Pr1.07	2nd Integral Time Constant of Velocity Loop	10000	—	O	O	O	16bit	R/W	0x010F
Pr1.08	2nd velocity detection filter	15	—	O	O	O	16bit	R/W	0x0111
Pr1.09	2nd Torque Filter Time Constant	126	—	O	O	O	16bit	R/W	0x0113
Pr1.10	Velocity feed forward gain	300	—	O	—	—	16bit	R/W	0x0115
Pr1.11	Velocity feed forward filter time constant	50	—	O	—	—	16bit	R/W	0x0117
Pr1.12	Torque feed forward gain	0	—	O	O	—	16bit	R/W	0x0119
Pr1.13	Torque feed forward filter time constant	0	—	O	O	—	16bit	R/W	0x011B
Pr1.15	Position control gain switching mode	0	—	O	—	—	16bit	R/W	0x011F
Pr1.17	Position control gain switching level	50	—	O	—	—	16bit	R/W	0x0123
Pr1.18	Hysteresis at position control switching	33	—	O	—	—	16bit	R/W	0x0125
Pr1.19	Position control switching time	33	—	O	—	—	16bit	R/W	0x0127
Pr1.35	Position command pulse filter time	8	O	O	—	—	16bit	R/W	0x0147
Pr1.36	External ABZ encoder filter time	3	O	O	—	—	16bit	R/W	0x0149
Pr1.39	Special function register 2	0	—	O	O	O	16bit	R/W	0x014F

[Class 2] Vibration Suppression

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
Pr2.00	Adaptive filtering mode settings	0	—	O	O	—	16bit	R/W	0x0201
Pr2.01	1st notch frequency	4000	—	O	O	O	16bit	R/W	0x0203
Pr2.02	1st notch width	4	—	O	O	O	16bit	R/W	0x0205
Pr2.03	1st notch depth	0	—	O	O	O	16bit	R/W	0x0207
Pr2.04	2nd notch frequency	4000	—	O	O	O	16bit	R/W	0x0209
Pr2.05	2nd notch width	4	—	O	O	O	16bit	R/W	0x020B
Pr2.06	2nd notch depth	0	—	O	O	O	16bit	R/W	0x020D
Pr2.07	3rd notch frequency	4000	—	O	O	O	16bit	R/W	0x020F
Pr2.08	3rd notch width	4	—	O	O	O	16bit	R/W	0x0211
Pr2.09	3rd notch depth	0	—	O	O	O	16bit	R/W	0x0213
Pr2.14	1st damping frequency	0	—	O	—	—	16bit	R/W	0x021D
Pr2.16	2nd damping frequency	0	—	O	—	—	16bit	R/W	0x0221
Pr2.22	Position command smoothing filter	0	△	O	—	—	16bit	R/W	0x022D
Pr2.23	Position command FIR filter	0	△	O	—	—	16bit	R/W	0x022F
Pr2.48	Adjustment mode	0	—	O	O	O	16bit	R/W	0x0261
Pr2.50	MFC type	0	•	O	—	—	16bit	R/W	0x0265
Pr2.51	Velocity feedforward compensation coefficient	0	—	O	—	—	16bit	R/W	0x0267
Pr2.52	Torque feedforward compensation coefficient	0	—	O	O	—	16bit	R/W	0x0269
Pr2.53	Dynamic friction compensation coefficient	0	—	O	O	O	16bit	R/W	0x026B
Pr2.54	Overshoot time coefficient	0	—	O	O	O	16bit	R/W	0x026D
Pr2.55	Overshoot suppression gain	0	—	O	O	O	16bit	R/W	0x026F

[Class 3] Velocity / Torque Control

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
Pr3.00	Velocity internal/external switching	1	—	—	O	—	16bit	R/W	0x0301
Pr3.01	Velocity command rotational direction selection	0	—	—	O	—	16bit	R/W	0x0303
Pr3.02	Velocity command input gain	500	—	—	O	O	16bit	R/W	0x0305
Pr3.03	Velocity command input inversion	0	—	—	O	—	16bit	R/W	0x0307
Pr3.04	1st speed of velocity setting	0	—	—	O	—	16bit	R/W	0x0309
Pr3.05	2nd speed of velocity setting	0	—	—	O	—	16bit	R/W	0x030B
Pr3.06	3rd speed of velocity setting	0	—	—	O	—	16bit	R/W	0x030D
Pr3.07	4th speed of velocity setting	0	—	—	O	—	16bit	R/W	0x030F
Pr3.08	5th speed of velocity setting	0	—	—	O	—	16bit	R/W	0x0311
Pr3.09	6th speed of velocity setting	0	—	—	O	—	16bit	R/W	0x0313
Pr3.10	7th speed of velocity setting	0	—	—	O	—	16bit	R/W	0x0315
Pr3.11	8th speed of velocity setting	0	—	—	O	—	16bit	R/W	0x0317
Pr3.12	Acceleration time settings	100	—	—	O	—	16bit	R/W	0x0319
Pr3.13	Deceleration time settings	100	—	—	O	—	16bit	R/W	0x031B
Pr3.14	Sigmoid acceleration/deceleration	0	O	—	O	—	16bit	R/W	0x031D

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
	settings								
Pr3.15	Zero speed clamp function selection	0	—	—	O	—	16bit	R/W	0x031F
Pr3.16	Zero speed clamp level	30	—	—	O	—	16bit	R/W	0x0321
Pr3.17	Torque internal/external switching	0	—	—	—	O	16bit	R/W	0x0323
Pr3.18	Torque command direction selection	0	—	—	—	O	16bit	R/W	0x0325
Pr3.19	Torque command input gain	30	—	—	—	O	16bit	R/W	0x0327
Pr3.20	Torque command input inversion	0	—	—	—	O	16bit	R/W	0x0329
Pr3.21	Velocity limit in torque mode	0	—	—	—	O	16bit	R/W	0x032B
Pr3.22	Torque command	0	—	O	O	O	16bit	R/W	0x032D
Pr3.23	Zero speed delay time in velocity mode	0	—	—	O	—	16bit	R/W	0x032F
Pr3.24	Maximum motor rotational speed	0	—	O	O	O	16bit	R/W	0x0331
Pr3.29	Analog 1 clamping voltage	0	—	—	—	O	16bit	R/W	0x033B
Pr3.30	Analog 3 clamping voltage	0	—	—	—	O	16bit	R/W	0x033D
Pr3.32~ Pr3.73	Position comparison 1~42 target value	0	—	O	O	O	32bit	R/W	0x0340 ~ 0x0393
Pr3.74	Position comparison 1 and 2 attribute value	0	—	O	O	O	32bit	R/W	0x0394 0x0395
Pr3.75	Position comparison 3 and 4 attribute value	0	—	O	O	O	16bit	R/W	0x0396 0x0397
Pr3.76~ Pr3.94	Position comparison x and y attribute value	0	—	O	O	O	16bit	R/W	0x0398 ~0x03BD

[Class 4] I/O Monitoring Settings

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
Pr4.00	Input selection DI1	0x3	—	O	O	O	16bit	R/W	0x0401
Pr4.01	Input selection DI2	0x1	—	O	O	O	16bit	R/W	0x0403
Pr4.02	Input selection DI3	0x2	—	O	O	O	16bit	R/W	0x0405
Pr4.03	Input selection DI4	0x6	—	O	O	O	16bit	R/W	0x0407
Pr4.04	Input selection DI5	0xC	—	O	O	O	16bit	R/W	0x0409
Pr4.05	Input selection DI6	0x7	—	O	O	O	16bit	R/W	0x040B
Pr4.06	Input selection DI7	0x4	—	O	O	O	16bit	R/W	0x040D
Pr4.07	Input selection DI8	0x5	—	O	O	O	16bit	R/W	0x040F
Pr4.08	Input selection DI9	0x8	—	O	O	O	16bit	R/W	0x0411
Pr4.09	Input selection DI10	0x0	—	O	O	O	16bit	R/W	0x0413
Pr4.10	Output selection DO1	0x3	—	O	O	O	16bit	R/W	0x0415
Pr4.11	Output selection DO2	0x2	—	O	O	O	16bit	R/W	0x0417
Pr4.12	Output selection DO3	0x1	—	O	O	O	16bit	R/W	0x0419
Pr4.13	Output selection DO4	0x4	—	O	O	O	16bit	R/W	0x041B
Pr4.14	Output selection DO5	0x7	—	O	O	O	16bit	R/W	0x041D
Pr4.15	Output selection DO6	0x6	—	O	O	O	16bit	R/W	0x041F
Pr4.22	Analog input 1(AI-1) Zero drift settings	0	—	—	O	O	16bit	R/W	0x042D

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
Pr4.23	Analog input 1(AI-1) filter	0	—	—	O	O	16bit	R/W	0x042F
Pr4.24	Analog input 1(AI-1) overvoltage settings	0	—	—	O	O	16bit	R/W	0x0431
Pr4.25	Analog input 2(AI-2) Zero drift settings	0	—	—	O	O	16bit	R/W	0x0439
Pr4.26	Analog input 2(AI-2) filter	0	—	—	O	O	16bit	R/W	0x043B
Pr4.27	Analog input 2(AI-2) overvoltage settings	0	—	—	—	O	16bit	R/W	0x043D
Pr4.28	Analog input 3(AI-3) Zero drift settings	20	—	O	—	—	16bit	R/W	0x043F
Pr4.29	Analog input 3(AI-3) filter	1	—	O	—	—	16bit	R/W	0x0441
Pr4.30	Analog input 3(AI-3) overvoltage settings	0	—	O	—	—	16bit	R/W	0x0443
Pr4.31	Positioning complete range	50	—	O	O	O	16bit	R/W	0x0445
Pr4.32	Positioning complete output setting	50	—	—	O	—	16bit	R/W	0x0447
Pr4.33	INP positioning delay time	1000	—	—	O	—	16bit	R/W	0x0449
Pr4.34	Zero speed	150	—	O	O	O	16bit	R/W	0x044B
Pr4.35	Velocity coincidence range	0	—	O	O	O	16bit	R/W	0x044D
Pr4.36	Arrival velocity	30	—	O	O	O	16bit	R/W	0x044F
Pr4.43	Emergency stop function	0	—	O	O	O	16bit	R/W	0x0457
Pr4.64	AO1 output	0	—	O	O	O	16bit	R/W	0x0481
Pr4.65	AO1 signal	0x4	—	O	O	O	16bit	R/W	0x0483
Pr4.66	AO1 amplification	100	—	O	O	O	16bit	R/W	0x0485
Pr4.67	AO1 communication settings	0	—	O	O	O	16bit	R/W	0x0487
Pr4.68	AO1 offset	0	—	O	O	O	16bit	R/W	0x0489
Pr4.69	AO2 output	0	—	O	O	O	16bit	R/W	0x048B
Pr4.70	AO2 signal	0x1	—	O	O	O	16bit	R/W	0x048D
Pr4.71	AO2 amplification	100	—	O	O	O	16bit	R/W	0x048F
Pr4.72	AO2 communication settings	0	—	O	O	O	16bit	R/W	0x0491
Pr4.73	AO2 offset	0	—	O	O	O	16bit	R/W	0x0493
Pr4.74	Warning indicator light 1 signal	1	—	O	O	O	16bit	R/W	0x0495
Pr4.75	Warning indicator light 2 signal	2	—	O	O	O	16bit	R/W	0x0497
Pr4.76	Warning indicator light 3 signal	3	—	O	O	O	16bit	R/W	0x0499
Pr4.77	Warning indicator light 4 signal	4	—	O	O	O	16bit	R/W	0x049B
Pr4.78	Warning indicator light 5 signal	5	—	O	O	O	16bit	R/W	0x049D

[Class 5] Extension settings

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
Pr5.00	2nd pulse count per revolution	10000	**O**	**O**	**—**	**—**	32bit	R/W	0x0500 0x0501
Pr5.01	2nd Command frequency divider/multiplier numerator	1	**O**	**O**	**—**	**—**	32bit	R/W	0x0502 0x0503
Pr5.02	2nd Command frequency divider/multiplier denominator	1	**O**	**O**	**—**	**—**	32bit	R/W	0x0504 0x0505
Pr5.04	Driver prohibition input settings	0	**—**	**O**	**O**	**O**	16bit	R/W	0x0509
Pr5.06	Servo-off mode	0	**—**	**O**	**O**	**O**	16bit	R/W	0x050D
Pr5.08	DC bus voltage undervoltage	50	**—**	**O**	**O**	**O**	16bit	R/W	0x0513
Pr5.09	Main power-off detection time	0	**O**	**O**	**O**	**O**	16bit	R/W	0x0515
Pr5.10	Servo-off due to alarm mode	0	**—**	**O**	**O**	**O**	16bit	R/W	0x0517
Pr5.11	Servo braking torque setting	0	**—**	**O**	**O**	**O**	16bit	R/W	0x0519
Pr5.12	Overload level setting	0	**—**	**O**	**O**	**O**	16bit	R/W	0x051B
Pr5.15	I/O digital filter	0	**O**	**O**	**O**	**O**	16bit	R/W	0x051F
Pr5.17	Counter clearing input mode	3	**—**	**O**	**—**	**—**	16bit	R/W	0x0523
Pr5.20	Position unit settings	1	**—**	**O**	**—**	**—**	16bit	R/W	0x0529
Pr5.21	Torque limit selection	0	**—**	**O**	**O**	**O**	16bit	R/W	0x052B
Pr5.22	2nd torque limit	300	**—**	**O**	**O**	**O**	16bit	R/W	0x052D
Pr5.23	Positive torque warning threshold	0	**—**	**O**	**O**	**O**	16bit	R/W	0x052F
Pr5.24	Negative torque warning threshold	0	**—**	**O**	**O**	**O**	16bit	R/W	0x0531
Pr5.28	LED initial status	1	**—**	**O**	**O**	**O**	16bit	R/W	0x0539
Pr5.29	RS485 communication mode	0x5	**—**	**O**	**O**	**O**	16bit	R/W	0x053B
Pr5.30	RS485 communication Baud rate	4	**—**	**O**	**O**	**O**	16bit	R/W	0x053D
Pr5.31	RS485 axis address	1	**—**	**O**	**O**	**O**	16bit	R/W	0x053F
Pr5.32	Max. command pulse input frequency	0	**—**	**O**	**—**	**—**	16bit	R/W	0x0541
Pr5.35	Front panel lock setting	0	**—**	**O**	**O**	**O**	16bit	R/W	0x0547
Pr5.37	Torque saturation alarm detection time	500	—	O	O	O	16bit	R/W	0x0549
Pr5.42	Frequency divider output – Z-signal polarity	0	O	O	O	O	16bit	R/W	0x0555
Pr5.43	Frequency divider output – Z-signal width	0	O	O	O	O	16bit	R/W	0x0557
Pr5.44	Frequency divider output source	0	O	O	O	O	16bit	R/W	0x0559
Pr5.45	External encoder overspeed feedback threshold	0	O	O	O	O	16bit	R/W	0x055D
Pr5.70	Enable position comparison	0	—	O	—	—	16bit	R/W	0x058D
Pr5.71	Position comparison mode	0	—	O	—	—	16bit	R/W	0x058F
Pr5.72	Position comparison pulse output bandwidth	0	—	O	—	—	16bit	R/W	0x0591
Pr5.73	Position comparison output delay offset	0	—	O	—	—	16bit	R/W	0x0593
Pr5.74	Position comparison starting point	1	—	O	—	—	16bit	R/W	0x0595
Pr5.75	Position comparison end point	2	—	O	—	—	16bit	R/W	0x0597
Pr5.76	No. of cycles for N cycle comparison	1	—	O	—	—	16bit	R/W	0x0599
Pr5.77	Position comparison – Set current position as origin	1	—	O	—	—	16bit	R/W	0x059B
Pr5.78	Position comparison - offset to origin	1	—	O	—	—	16bit	R/W	0x059D

[Class 6] Other Settings

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
Pr6.01	Encoder zero position compensation	0	O	O	O	O	16bit	R/W	0x0603
Pr6.03	JOG trial run torque command	350	—	—	—	O	16bit	R/W	0x0607
Pr6.04	JOG trial run velocity command	30	—	O	O	O	16bit	R/W	0x0609
Pr6.05	Position 3rd gain valid time	0	—	O	—	—	16bit	R/W	0x060B
Pr6.06	Position 3rd gain scale factor	100	—	O	—	—	16bit	R/W	0x060D
Pr6.07	Torque command additional value	0	—	O	O	O	16bit	R/W	0x060F
Pr6.08	Positive direction torque compensation value	0	—	O	O	O	16bit	R/W	0x0611
Pr6.09	Negative direction torque compensation value	0	—	O	O	O	16bit	R/W	0x0613
Pr6.11	Current response settings	100	—	O	O	O	16bit	R/W	0x0617
Pr6.14	Max. time to stop after disabling	500	—	O	O	O	16bit	R/W	0x061D
Pr6.20	Trial run distance	10	—	O	—	—	16bit	R/W	0x0629
Pr6.21	Trial run waiting time	300	—	O	—	—	16bit	R/W	0x062B
Pr6.22	No. of trial run cycles	5	—	O	—	—	16bit	R/W	0x062D
Pr6.25	Trial run acceleration	200	—	O	O	—	16bit	R/W	0x0633
Pr6.28	Observer gain	0	—	O	O	O	16bit	R/W	0x0639
Pr6.29	Observer filter	0	—	O	O	O	16bit	R/W	0x063B
Pr6.56	Blocked rotor alarm torque threshold	300	—	O	O	O	16bit	R/W	0x0671
Pr6.57	Blocked rotor alarm delay time	400	—	O	O	O	16bit	R/W	0x0673
Pr6.63	Absolute multiturn data upper limit	0	O	O	O	O	16bit	R/W	0x067F

[Class B] Status Parameters

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
PrB.00	Software version 1（DSP）	/	—	O	O	O	16bit	R	0x0B00
PrB.01	Software version 2（CPLD）	/	—	O	O	O	16bit	R	0x0B01
PrB.02	Software version 3（Others）	/	—	O	O	O	16bit	R	0x0B02
PrB.03	Current alarm	/	—	O	O	O	16bit	R	0x0B03
PrB.04	Motor not rotating cause	/	—	O	O	O	16bit	R	0x0B04
PrB.05	Driver operation status	/	—	O	O	O	16bit	R	0x0B05
PrB.06	Motor speed（Before filter）	/	—	O	O	O	16bit	R	0x0B06
PrB.07	Motor torque	/	—	O	O	O	16bit	R	0x0B07
PrB.08	Motor current	/	—	O	O	O	16bit	R	0x0B08
PrB.09	Motor speed（After filter）	/	—	O	O	O	16bit	R	0x0B09
PrB.10	DC bus voltage	/	—	O	O	O	16bit	R	0x0B0A
PrB.11	Driver temperature	/	—	O	O	O	16bit	R	0x0B0B
PrB.12	External analog 1	/	—	O	O	O	16bit	R	0x0B0C
PrB.13	External analog 2	/	—	O	O	O	16bit	R	0x0B0D
PrB.14	External analog 3	/	—	O	O	O	16bit	R	0x0B0E
PrB.15	Motor overload rate	/	—	O	O	O	16bit	R	0x0B0F
PrB.16	Vent overload rate	/	—	O	O	O	16bit	R	0x0B10
PrB.17	Physical I/O input status	/	—	O	O	O	16bit	R	0x0B11
PrB.18	Physical I/O output status	/	—	O	O	O	16bit	R	0x0B12
PrB.20	Command position (Command unit)	/	—	O	O	O	32bit	R	0x0B14 0x0B15
PrB.21	Motor position (Command unit)	/	—	O	-	-	32bit	R	0x0B16

Code	Label	Default	Activation	Valid mode			Communication mode		
				P	S	T	Byte	Op.	485 Addr.
									0x0B17
PrB.22	Position deviation (Command unit)	/	—	O	O	O	32bit	R	0x0B18 0x0B19
PrB.23	Command position (Encoder unit)	/	—	O	O	O	32bit	R	0x0B1A 0x0B1B
PrB.24	Motor position (Encoder unit)	/	—	O	-	-	32bit	R	0x0B1C 0x0B1D
PrB.25	Position deviation (Encoder unit)	/	—	O	O	O	32bit	R	0x0B1E 0x0B1F
PrB.26	Rotational encoder position feedback	/	—	O	-	-	32bit	R	0x0B20 0x0B21

[Class 8] Pr-Control Parameters

Code	Label	Default	Activation	Valid mode			Communication mode		
				PR	S	T	Byte	Op.	485 Addr.
Pr8.00	PR Control	0	—	O	—	—	16bit	R/W	0x6000
Pr8.01	Path count	16	—	O	—	—	16bit	R/W	0x6001
Pr8.02	Control Operation		—	O	—	—	16bit	R/W	0x6002
Pr8.06	Software positive limit H	0		O			16bit	R/W	0x6006
Pr8.07	Software positive limit (L)	0	—	O	—	—	16bit	R/W	0x6007
Pr8.08	Software negative limit H	0	—	O	—	—	16bit	R/W	0x6008
Pr8.09	Software negative limit (L)	0	—	O	—	—	16bit	R/W	0x6009
Pr8.10	Homing mode	0	—	O	—	—	16bit	R/W	0x600A
Pr8.11	Zero position H	0	—	O	—	—	16bit	R/W	0x600B
Pr8.12	Zero position (L)	0	—	O	—	—	16bit	R/W	0x600C
Pr8.13	Home position off set H	0	—	O	—	—	16bit	R/W	0x600D
Pr8.14	Home position off set (L)	0		O	—	—	16bit	R/W	0x600E
Pr8.15	High homing velocity	200	—	O	—	—	16bit	R/W	0x600F
Pr8.16	Low homing velocity	50	—	O	—	—	16bit	R/W	0x6010
Pr8.17	Homing acceleration	100	—	O	—	—	16bit	R/W	0x6011
Pr8.18	Homing deceleration	100	—	O	—	—	16bit	R/W	0x6012
Pr8.19	Homing torque holding time	100	—	O	—	—	16bit	R/W	0x6013
Pr8.20	Homing torque	100	—	O	—	—	16bit	R/W	0x6014
Pr8.21	Homing overtravel alarm range	0	—	O	—	—	16bit	R/W	0x6015
Pr8.22	Emergency stop at limit deceleration	10	—	O	—	—	16bit	R/W	0x6016
Pr8.23	STP emergency stop deceleration	50	—	O	—	—	16bit	R/W	0x6017
Pr8.24	I/O combination trigger mode	0	—	O	—	—	16bit	R/W	0x601A
Pr8.25	I/O commbination filter	5	—	O	—	—	16bit	R/W	0x601B
Pr8.26	S-code current output value	0	—	O	—	—	16bit	R/W	0x601C
Pr8.27	PR warning	0	—	O	—	—	16bit	R/W	0x601D
Pr8.39	JOG velocity	100	—	O	—	—	16bit	R/W	0x6027
Pr8.40	JOG acceleration	100	—	O	—	—	16bit	R/W	0x6028
Pr8.41	JOG deceleration	100	—	O	—	—	16bit	R/W	0x6029
Pr8.42	Command position H	0	—	O	—	—	16bit	R/W	0x602A
Pr8.43	Command position（L）	0	—	O	—	—	16bit	R/W	0x602B
Pr8.44	Motor position H	0	—	O	—	—	16bit	R/W	0x602C
Pr8.45	Motor position（L）	0	—	O	—	—	16bit	R/W	0x602D
Pr8.46	Input I/O status	0	—	O	—	—	16bit	R/W	0x602E

Code	Label	Default	Activation	Valid mode			Communication mode		
				PR	S	T	Byte	Op.	485 Addr.
Pr8.47	Output I/O status	0	—	O	—	—	16bit	R/W	0x602F
Pr8.48	Path 0 S-code	0	—	O	—	—	16bit	R/W	0x6030
Pr8.49	Path 1 S-code	0	—	O	—	—	16bit	R/W	0x6031
Pr8.50	Path 2 S-code	0	—	O	—	—	16bit	R/W	0x6032
Pr8.51	Path 3 S-code	0	—	O	—	—	16bit	R/W	0x6033
Pr8.52	Path 4 S-code	0	—	O	—	—	16bit	R/W	0x6034
Pr8.53	Path 5 S-code	0	—	O	—	—	16bit	R/W	0x6035
Pr8.54	Path 6 S-code	0	—	O	—	—	16bit	R/W	0x6036
Pr8.55	Path 7 S-code	0	—	O	—	—	16bit	R/W	0x6037
Pr8.56	Path 8 S-code	0	—	O	—	—	16bit	R/W	0x6038
Pr8.57	Path 9 S-code	0	—	O	—	—	16bit	R/W	0x6039
Pr8.58	Path 10 S-code	0	—	O	—	—	16bit	R/W	0x603A
Pr8.59	Path 11 S-code	0	—	O	—	—	16bit	R/W	0x603B
Pr8.60	Path 12 S-code	0	—	O	—	—	16bit	R/W	0x603C
Pr8.61	Path 13 S-code	0	—	O	—	—	16bit	R/W	0x603D
Pr8.62	Path 14 S-code	0	—	O	—	—	16bit	R/W	0x603E
Pr8.63	Path 15 S-code	0	—	O	—	—	16bit	R/W	0x603F

[Class 9] Pr-Control Path Parameters

Code	Label	Default	Activation	Valid mode			Communication mode		
				PR	S	T	Byte	Op.	485 Addr.
Pr9.00	PR0 mode	0	—	O	—	—	16bit	R/W	0x6200
Pr9.01	PR0 position H	0	—	O	—	—	16bit	R/W	0x6201
Pr9.02	PR0 position(L)	0	—	O	—	—	16bit	R/W	0x6202
Pr9.03	PR0 velocity	60		O	—	—	16bit	R/W	0x6203
Pr9.04	PR0 acceleration time	100	—	O	—	—	16bit	R/W	0x6204
Pr9.05	PR0 deceleration time	100	—	O	—	—	16bit	R/W	0x6205
Pr9.06	PR0 pause time	0	—	O	—	—	16bit	R/W	0x6206
Pr9.07	PR0 special parameter	0	—	O	—	—	16bit	R/W	0x6207
Pr9.08	PR1 mode	0	—	O	—	—	16bit	R/W	0x6208
Pr9.09	PR1 position H	0	—	O	—	—	16bit	R/W	0x6209
Pr9.10	PR1 position(L)	0	—	O	—	—	16bit	R/W	0x620A
Pr9.11	PR1 velocity	60	—	O	—	—	16bit	R/W	0x620B
Pr9.12	PR1 acceleration time	100	—	O	—	—	16bit	R/W	0x620C
Pr9.13	PR1 deceleration time	100	—	O	—	—	16bit	R/W	0x620D
Pr9.14	PR1 pause time	0	—	O	—	—	16bit	R/W	0x620E
Pr9.15	PR1 special parameter	0	—	O	—	—	16bit	R/W	0x620F
Pr9.16	PR2 mode	0	—	O	—	—	16bit	R/W	0x6210
Pr9.17	PR2 position H	0	—	O	—	—	16bit	R/W	0x6211
Pr9.18	PR2 position(L)	0	—	O	—	—	16bit	R/W	0x6212
Pr9.19	PR2 velocity	60		O	—	—	16bit	R/W	0x6213
Pr9.20	PR2 acceleration time	100	—	O	—	—	16bit	R/W	0x6214
Pr9.21	PR2 deceleration time	100	—	O	—	—	16bit	R/W	0x6215
Pr9.22	PR2 pause time	0	—	O	—	—	16bit	R/W	0x6216
Pr9.23	PR2 special parameter	0	—	O	—	—	16bit	R/W	0x6217
Pr9.24	PR3 mode	0	—	O	—	—	16bit	R/W	0x6218
Pr9.25	PR3 position H	0	—	O	—	—	16bit	R/W	0x6219

Code	Label	Default	Activation	Valid mode			Communication mode		
				PR	S	T	Byte	Op.	485 Addr.
Pr9.26	PR3 position(L)	0	—	O	—	—	16bit	R/W	0x621A
Pr9.27	PR3 velocity	60	—	O	—	—	16bit	R/W	0x621B
Pr9.28	PR3 acceleration time	100	—	O	—	—	16bit	R/W	0x621C
Pr9.29	PR3 deceleration time	100	—	O	—	—	16bit	R/W	0x621D
Pr9.30	PR3 pause time	0	—	O	—	—	16bit	R/W	0x621E
Pr9.31	PR3 special parameter	0	—	O	—	—	16bit	R/W	0x621F
Pr9.32	PR4 mode	0	—	O	—	—	16bit	R/W	0x6220
Pr9.33	PR4 position H	0	—	O	—	—	16bit	R/W	0x6221
Pr9.34	PR4 position(L)	0	—	O	—	—	16bit	R/W	0x6222
Pr9.35	PR4 velocity	60		O	—	—	16bit	R/W	0x6223
Pr9.36	PR4 acceleration time	100	—	O	—	—	16bit	R/W	0x6224
Pr9.37	PR4 deceleration time	100	—	O	—	—	16bit	R/W	0x6225
Pr9.38	PR4 pause time	0	—	O	—	—	16bit	R/W	0x6226
Pr9.39	PR4 special parameter	0	—	O	—	—	16bit	R/W	0x6227
Pr9.40	PR5 mode	0	—	O	—	—	16bit	R/W	0x6228
Pr9.41	PR5 position H	0	—	O	—	—	16bit	R/W	0x6229
Pr9.42	PR5 position(L)	0	—	O	—	—	16bit	R/W	0x622A
Pr9.43	PR5 velocity	60	—	O	—	—	16bit	R/W	0x622B
Pr9.44	PR5 acceleration time	100	—	O	—	—	16bit	R/W	0x622C
Pr9.45	PR5 deceleration time	100	—	O	—	—	16bit	R/W	0x622D
Pr9.46	PR5 pause time	0	—	O	—	—	16bit	R/W	0x622E
Pr9.47	PR5 special parameter	0	—	O	—	—	16bit	R	0x622F
Pr9.48	PR6 mode	0	—	O	—	—	16bit	R/W	0x6230
Pr9.49	PR6 position H	0	—	O	—	—	16bit	R/W	0x6231
Pr9.50	PR6 position(L)	0	—	O	—	—	16bit	R/W	0x6232
Pr9.51	PR6 velocity	60		O	—	—	16bit	R/W	0x6233
Pr9.52	PR6 acceleration time	100	—	O	—	—	16bit	R/W	0x6234
Pr9.53	PR6 deceleration time	100	—	O	—	—	16bit	R/W	0x6235
Pr9.54	PR6 pause time	0	—	O	—	—	16bit	R/W	0x6236
Pr9.55	PR6 special parameter	0	—	O	—	—	16bit	R/W	0x6237
Pr9.56	PR7 mode	0	—	O	—	—	16bit	R/W	0x6238
Pr9.57	PR7 position H	0	—	O	—	—	16bit	R/W	0x6239
Pr9.58	PR7 position(L)	0	—	O	—	—	16bit	R/W	0x623A
Pr9.59	PR7 velocity	60	—	O	—	—	16bit	R/W	0x623B
Pr9.60	PR7 acceleration time	100	—	O	—	—	16bit	R/W	0x623C
Pr9.61	PR7 deceleration time	100	—	O	—	—	16bit	R/W	0x623D
Pr9.62	PR7 pause time	0	—	O	—	—	16bit	R/W	0x623E
Pr9.63	PR7 special parameter	0	—	O	—	—	16bit	R/W	0x623F
Pr9.64	PR8 mode	0	—	O	—	—	16bit	R/W	0x6240
Pr9.65	PR8 position H	0	—	O	—	—	16bit	R/W	0x6241
Pr9.66	PR8 position(L)	0	—	O	—	—	16bit	R/W	0x6242
Pr9.67	PR8 velocity	60		O	—	—	16bit	R/W	0x6243
Pr9.68	PR8 acceleration time	100	—	O	—	—	16bit	R/W	0x6244
Pr9.69	PR8 deceleration time	100	—	O	—	—	16bit	R/W	0x6245
Pr9.70	PR8 pause time	0	—	O	—	—	16bit	R/W	0x6246
Pr9.71	PR8 special parameter	0	—	O	—	—	16bit	R/W	0x6247
Pr9.72	PR9 mode	0	—	O	—	—	16bit	R/W	0x6248
Pr9.73	PR9 position H	0	—	O	—	—	16bit	R/W	0x6249

Code	Label	Default	Activation	Valid mode			Communication mode		
				PR	S	T	Byte	Op.	485 Addr.
Pr9.74	PR9 position(L)	0	—	O	—	—	16bit	R/W	0x624A
Pr9.75	PR9 velocity	60	—	O	—	—	16bit	R/W	0x624B
Pr9.76	PR9 acceleration time	100	—	O	—	—	16bit	R/W	0x624C
Pr9.77	PR9 deceleration time	100	—	O	—	—	16bit	R/W	0x624D
Pr9.78	PR9 pause time	0	—	O	—	—	16bit	R/W	0x624E
Pr9.79	PR9 special parameter	0	—	O	—	—	16bit	R/W	0x624F
Pr9.80	PR10 mode	0	—	O	—	—	16bit	R/W	0x6250
Pr9.81	PR10 position H	0	—	O	—	—	16bit	R/W	0x6251
Pr9.82	PR10 position(L)	0	—	O	—	—	16bit	R/W	0x6252
Pr9.83	PR10 velocity	60		O	—	—	16bit	R/W	0x6253
Pr9.84	PR10 acceleration time	100	—	O	—	—	16bit	R/W	0x6254
Pr9.85	PR10 deceleration time	100	—	O	—	—	16bit	R/W	0x6255
Pr9.86	PR10 pause time	0	—	O	—	—	16bit	R/W	0x6256
Pr9.87	PR10 special parameter	0	—	O	—	—	16bit	R/W	0x6257
Pr9.88	PR11 mode	0	—	O	—	—	16bit	R/W	0x6258
Pr9.89	PR11 position H	0	—	O	—	—	16bit	R/W	0x6259
Pr9.90	PR11 position(L)	0	—	O	—	—	16bit	R/W	0x625A
Pr9.91	PR11 velocity	60	—	O	—	—	16bit	R/W	0x625B
Pr9.92	PR11 acceleration time	100	—	O	—	—	16bit	R/W	0x625C
Pr9.93	PR11 deceleration time	100	—	O	—	—	16bit	R/W	0x625D
Pr9.94	PR11 pause time	0	—	O	—	—	16bit	R/W	0x625E
Pr9.95	PR11 special parameter	0	—	O	—	—	16bit	R/W	0x625F
Pr9.96	PR12 mode	0	—	O	—	—	16bit	R/W	0x6260
Pr9.97	PR12 position H	0	—	O	—	—	16bit	R/W	0x6261
Pr9.98	PR12 position(L)	0	—	O	—	—	16bit	R/W	0x6262
Pr9.99	PR12 velocity	60		O	—	—	16bit	R/W	0x6263
Pr9.100	PR12 acceleration time	100	—	O	—	—	16bit	R/W	0x6264
Pr9.101	PR12 deceleration time	100	—	O	—	—	16bit	R/W	0x6265
Pr9.102	PR12 pause time	0	—	O	—	—	16bit	R/W	0x6266
Pr9.103	PR12 special parameter	0	—	O	—	—	16bit	R/W	0x6267
Pr9.104	PR13 mode	0	—	O	—	—	16bit	R/W	0x6268
Pr9.105	PR13 position H	0	—	O	—	—	16bit	R/W	0x6269
Pr9.106	PR13 position(L)	0	—	O	—	—	16bit	R/W	0x626A
Pr9.107	PR13 velocity	60	—	O	—	—	16bit	R/W	0x626B
Pr9.108	PR13 acceleration time	100	—	O	—	—	16bit	R/W	0x626C
Pr9.109	PR13 deceleration time	100	—	O	—	—	16bit	R/W	0x626D
Pr9.110	PR13 pause time	0	—	O	—	—	16bit	R/W	0x626E
Pr9.111	PR13 special parameter	0	—	O	—	—	16bit	R/W	0x626F
Pr9.112	PR14 mode	0	—	O	—	—	16bit	R/W	0x6270
Pr9.113	PR14 position H	0	—	O	—	—	16bit	R/W	0x6271
Pr9.114	PR14 position(L)	0	—	O	—	—	16bit	R/W	0x6272
Pr9.115	PR14 velocity	60		O	—	—	16bit	R/W	0x6273
Pr9.116	PR14 acceleration time	100	—	O	—	—	16bit	R/W	0x6274
Pr9.117	PR14 deceleration time	100	—	O	—	—	16bit	R/W	0x6275
Pr9.118	PR14 pause time	0	—	O	—	—	16bit	R/W	0x6276
Pr9.119	PR14 special parameter	0	—	O	—	—	16bit	R/W	0x6277
Pr9.120	PR15 mode	0	—	O	—	—	16bit	R/W	0x6278
Pr9.121	PR15 position H	0	—	O	—	—	16bit	R/W	0x6279

Code	Label	Default	Activation	Valid mode			Communication mode		
				PR	S	T	Byte	Op.	485 Addr.
Pr9.122	PR15 position(L)	0	—	O	—	—	16bit	R/W	0x627A
Pr9.123	PR15 velocity	60	—	O	—	—	16bit	R/W	0x627B
Pr9.124	PR15 acceleration time	100	—	O	—	—	16bit	R/W	0x627C
Pr9.125	PR15 deceleration time	100	—	O	—	—	16bit	R/W	0x627D
Pr9.126	PR15 pause time	0	—	O	—	—	16bit	R/W	0x627E
Pr9.127	PR15 special parameter	0	—	O	—	—	16bit	R/W	0x627F

Parameters description

[Class 0] Basic Settings

Pr0.00	Label	Model-following/Zero tracking control			Valid mode(s)	P		
	Range	0-2000	Unit	0.1Hz	Default	1		
	Byte length	16bit	Attribute	R/W	485 address	0x0001		
	Valid	At stop						

Model-following bandwidth, also known as model-following control (MFC), is used to control the position loop to improve the responsiveness to commands, speed up positioning time and reduce following error. The effect is obvious especially in low and medium mechanical stiffness.

Value	Description
0	Disable model following/zero tracking control
1	Set bandwidth automatically
2~9	Reserved
10~2000	Manually set control bandwidth. 30~100 recommended for belt application

Pr0.01*	Label	Control Mode Settings			Valid mode(s)	P	S	T
	Range	0~10	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0003		
	Valid	After restart						

Value	Description	
	1st mode	2nd mode
【0】	Position	—
1	Velocity	—
2	Torque	—
3	Position	Velocity
4	Position	Torque
5	Velocity	Torque
6	PR internal ommand control	Position Pr0.22=1
		Velocity Pr0.22=1
		Torque Pr0.22=2
7~10	Reserved	

◆When 3, 4, 5, 6 combination hybrid mode, 1st and 2nd mode can be chosen accordingly with control mode switching input (C-MODE).
C-MODE: Invalid, select 1st mode.
C-MODE: Valid, select 2st mode.
Please allow some time in between mode switching commands.
◆Please set Pr0.01 = 6 to switch to other modes from PR mod, then set 2nd mode using Pr0.22.

C-MODE is defaulted to Normally Open

Pr0.02	Label	Real time Auto Gain Adjusting			Valid mode(s)	P	S	T
	Range	0x0~0xFFF	Unit	—	Default	0x1		
	Byte length	16bit	Attribute	R/W	485 address	0x0005		
	Valid	Immediate						

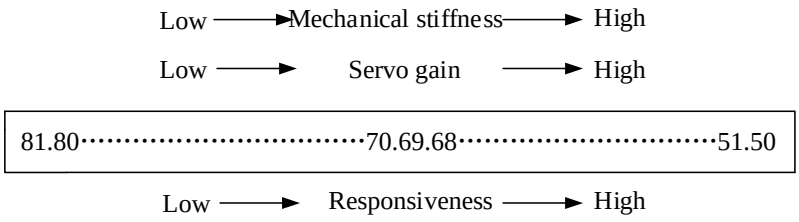
Data bits	Category	Settings	Application
0x00_	Motion setting mode	Used to set motion setting mode, which can be selected according to the motion characteristics or setting requirements. Generally, it is recommended to select mode 1 with good generality when there is no special requirement, mode 2 when rapid positioning is needed If mode 1 and mode 2 cannot meet the requirements, please choose mode 0.	
		0:Manual	Pr0.03 invalid. Gain value must be adjusted manually and accordingly.
		1:Standard	Pr0.03 valid. Quick gain adjusting can be achieved by changing Pr0.03 stiffness value. Gain switching is not used in this mode, suitable for applications with requirements for stability.
		2:Positioning	Pr0.03 valid. Quick gain adjusting can be achieved by changing Pr0.03 stiffness value. This mode is suitable for applications requiring quick positioning. Not recommended for load mounted vertical to ground, or please compensate for the load using Pr6.07

0x0_0	Load type setting	Used to select the load type, choose according to load-inertia ratio and mechanical structure.	
		0: Rigid structure	This mode prioritizes system responsiveness. Use this mode when there is a relatively rigid structure with low load inertia. Typical application including directly connected high-precision gearbox, lead screw, gears, etc.
		1:High inertia	For applications with higher load inertia (10 times or above), gain settings take into account both machine stability and responsiveness. Not recommended to set stiffness above 15 for high load inertia.
		2: Flexible structure	This mode prioritizes system stability. Use this mode when there is low rigidity structure with high load inertia. Typical applications included belts and chains.
0x_00	reserved		

The setting type combination is a hexadecimal standard, as follows:

Setting type combination	Application type
0X000	Rigid structure + Manual
0X001	Rigid structure +Standard
0X002	Rigid structure +Positioning
0X010	High inertia + Manual
0X011	High inertia + Standard
0X012	High inertia + Positioning
0X020	Flexible structure + Manual
0X021	Flexible structure +Standard
0X022	Flexible structure +Positioning

Pr0.03	Label	Real time auto stiffness adjusting			Valid mode(s)	P	S	T
	Range	0 ~ 31	Unit	—	Default	11		
	Byte length	16bit	Attribute	R/W	485 address	0x0007		
	Valid	Immediate						



Lower values ensure better system responsiveness and mechanical stiffness but machine vibration might occur, please set accordingly. Recommend to set to around 15 with motor with high inertia.

Pr0.04	Label	Inertia ratio			Valid mode(s)	P	S	T
	Range	0~20000	Unit	%	Default	250		
	Byte length	16bit	Attribute	R/W	485 address	0x0009		
	Valid	Immediate						

Pr0.04=(load inertia/motor rotational inertia)×100%

Set inertia ratio according to actual load inertia. When both are uniform, actual motor velocity loop responsiveness and gain settings will be consistent. If inertia ratio is greater than actual value, velocity loop gain settings will be higher and vice versa.
For motor with high inertia, Pr0.04 can be left unfilled but optimal setting of Pr0.04 could improve system performance

Pr0.05	Label	Command pulse input selection			Valid mode(s)	P		
	Range	0~1	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x000B		
	Valid	After restart						

Value	Description
【0】	Pulse input low speed channel (200/500kHz pulse input)
1	Pulse input high speed channel (4MHz pulse input)

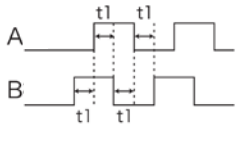
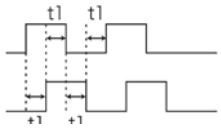
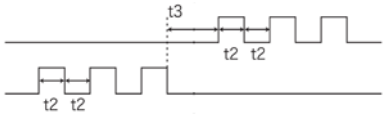
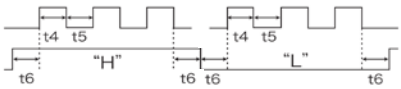
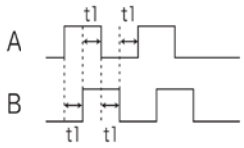
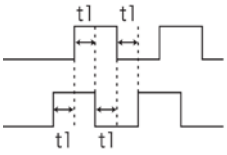
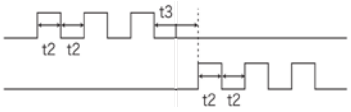
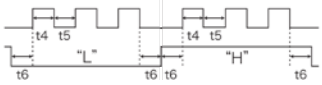
Both channels cannot be used at the same time.

Pr0.06	Label	Command pulse polarity inversion			Valid mode(s)	P		
	Range	0~1	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x000D		
	Valid	After restart						

Pr0.06 and Pr0.07 set command pulse input inversion and mode correspondingly.

Pr0.07	Label	Command pulse input mode			Valid mode(s)	P		
	Range	0~3	Unit	—	Default	3		
	Byte length	16bit	Attribute	R/W	485 address	0x000F		
	Valid	After restart						

Command pulse input

Command Polarity inversion (Pr0.06)	Command pulse input mode settings (Pr0.07)	Command Pulse Mode	Positive signal	Negative signal
【0】	0 *or* 2	90°phase difference 2 phase pulse（Phase A+ Phase B）		
	1	CW pulse sequence ＋ CCW pulse sequence		
	【3】	Pulse sequence ＋ Directional symbol		
1	0 *or* 2	90°phase difference 2 phase pulse（Phase A＋Phase B）		
	1	CW pulse sequence ＋ CCW pulse sequence		
	□3	Pulse sequence ＋ Directional symbol		

Command pulse input signal max. frequency and min. duration needed

Command pulse input interface		Max. Frequency	Min. duration needed（μ□s）					
			t1	t2	t3	t4	t5	t6
Pulse sequence interface	Differential drive	500 kHz	2	1	1	1	1	1
	Open collector	200 kHz	5	2.5	2.5	2.5	2.5	2.5
	High speed differential drive	4Mhz	0.25	0.125	0.125	0.125	0.125	0.125

Please set >0.1μs for the duration between rising and falling edge of command pulse input signal.
1 revolution with 2500 pulses 2-phase pulse input when Pr0.07=0 or 2, Pr0.08 = 10000;
1 revolution with 10000 pulses 1-phase pulse input when Pr0.07=1 or 3, Pr0.08 = 10000

Pr0.08	Label	1st command pulse count per revolution			Valid mode(s)	P	S	T
	Range	0-67100864	Unit	PULSE	Default	10000		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x0010 L: 0x0011		
	Valid	After restart						

Control will affected if value set is too low. Err1b1 might occur if value < 500.
(1) Pr0.08 valid when ≠ 0: Motor revolution = input pulse count / [Pr0.08 value]
(2) Pr0.08 invalid when = 0: Pr0.09 and Pr0.10 valid.

Pr0.09	Label	1st command frequency divider/multiplier numerator			Valid mode(s)	P		
	Range	1~2147483647	Unit	—	Default	1		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x0012 L: 0x0013		
	Valid	After restart						

Valid when Pr0.08 = 0, please refer to description in Pr0.10.

Pr0.10	Label	1st command frequency divider/multiplier denominator			Valid mode(s)	P		
	Range	1~2147483647	Unit	—	Default	1		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x0014 L: 0x0015		
	Valid	After restart						

1. Settings：
(1)Driver command pulse input count : X
(2)Encoder pulse count after frequency divider/multiplier: Y
(3)Encoder pulse count per revolution: Z
(4)Motor revolution: W
2. Calculation：
（1）X, Y
Y = X * Pr0.09 / Pr0.10
Please keep the value of Pr0.09 and Pr0.10 to be smaller than 2^{24} (16777216).
（2）Z
Motor with 23-bit motor： Z= 2^{23} = 8388608
（3）Y, Z, W
W = Y / Z
Performance cannot be guaranteed if frequency divider/multiplier ratio is set to extreme values. Err1b1 might occur if W < 500.

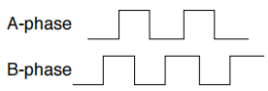
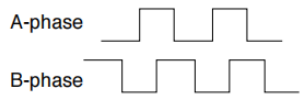
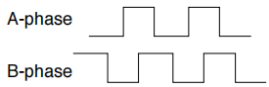
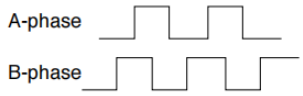
Pr0.11	Label	Encoder output pulse count per revolution			Valid mode(s)	P	S	T
	Range	1~32767	Unit	P/r	Default	2500		
	Byte length	16bit	Attribute	R/W	485 address	0x0017		
	Valid	After restart						

If Pr0.11 = 1000, encoder differential output signal per revolution = 4000 pulses

Pr0.12	Label	Pulse output logic inversion			Valid mode(s)	P	S	T
	Range	0~1	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0019		
	Valid	After restart						

To set phase B logic and output source from encoder pulse output. To inverse B-Phase pulse logic and change the relation between Phase A and Phase B

Pulse output logic inversion

Pr0.12	Phase B logic	CCW direction	CW direction
[0]	Not inverted		
[1]	Inverted		

Pr0.13	Label	1st torque limit			Valid mode(s)	P	S	T
	Range	0~500	Unit	%	Default	350		
	Byte length	16bit	Attribute	R/W	485 address	0x001B		
	Valid	Immediate						

1st torque limit is set according to ratio percentage of motor rated current. Do not exceed max driver output current.

Please refer to Pr5.21 on how to set torque limit.

Pr0.14	Label	Excessive position deviation			Valid mode(s)	P		
	Range	0~310	Unit	0.1rev	Default	30		
	Byte length	16bit	Attribute	R/W	485 address	0x001D		
	Valid	Immediate						

Please set threshold value for position deviation accordingly. Default factory setting = 30, Er180 will be triggered if positive deviation is in excess of 3 revolutions.

Pr0.15	Label	Absolute encoder settings			Valid mode(s)	P	S	T
	Range	0~15	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x001F		
	Valid	After restart						

Value	Mode	Description
【0】	Incremental	Doesn't retain position data on power off. Unlimited travel distance.
1	Multiturn absolute linear	Retrain position data on power off. For applications with fixed travel distance and no multiturn data overflow.
2	Multiturn absolute rotary	Retrain position data on power off. Actual data feedback in between 0-(Pr6.63+1). Unlimited travel distance.
3	Single turn absolute	Used when travel distance is within 1 revolution of the encoder. Data overflow will trigger alarm.
5	Multi turn absolute	Clear multiturn alarm and activate multiturn absolute function. Will switch to multiturn mode once alarm cleared, if remains at 5 after 3s, please solve according to Er153.
9		Clear multiturn position, reset multiturn alarm and activate multiturn absolute function. Will switch to multiturn mode once alarm cleared, if remains at 9 after 3s, please solve according to Er153. Please disable axis before setting to 9 and home the axis before using.
Others		Do not use!

Pr0.16	Label	Regenerative resistance			Valid mode(s)	P	S	T
	Range	25~500	Unit	Ohm	Default	100		
	Byte length	16bit	Attribute	R/W	485 address	0x0021		
	Valid	Immediate						

To set resistance value of regenerative resistor
Pr0.16 and Pr0.17set value determine alarm threshold of Er120.
If set value > actual regenerative resistance, Er120 occurrence might be delayed.

Pr0.17	Label	Regenerative resistor power rating			Valid mode(s)	P	S	T
	Range	20~5000	Unit	W	Default	50		
	Byte length	16bit	Attribute	R/W	485 address	0x0023		
	Valid	Immediate						

To set power rating of regenerative resistor. Please refer to table below

Model	Internal resistance(Ω)	Internal resistor power rating(W)
EL8-RS400F	100	50
EL8-RS750F	50	75
EL8-RS1000F	50	75

Pr0.16 and Pr0.17 determines the threshold value of Er120. Please set accordingly or it might trigger false alarm or damage to servo drive.
Note: If external regenerative resistor is used, please set according to its labeled power rating.

Pr0.22	Label	PR and P/S/T switching			Valid mode(s)	P	S	T
	Range	0~2	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x002D		
	Valid	Immediate						

When Pr0.01 = 6(PR Mode), 2nd mode can be set on Pr0.22

Pr0.01	Pr0.22	Control mode
6	【0】	PR / Position
	1	PR / Velocity
	2	PR / Torque

Pr0.25	Label	Auxiliary function			Valid mode(s)	P	S	T
	Range	0~0xFFFF	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0033		
	Valid	Immediate						

Parameter	Auxiliary function
0x1111	Reset current alarm
0x1122	Reset record alarm
0x2211	Save parameter to EEPROM (not including PR)
0x2212	Save PR parameters
0x2222	Initialize parameter (not including motor parameters)
0x2233	All parameters restore to default
0x3322	Analog 2 self-learning zero point
0x3333	Analog 3 self-learning zero point
0X4001	JOG_P（once every 50ms）
0X4002	JOG_N（once every 50ms）
0x4411	Encoder auto correction to zero
0x6666	Software reset

Only for RS485 communication, please write corresponding parameters into Pr0.25
Do not use JOG_P and JOG_N in PR mode

Pr0.26	Label	Simulated I/O			Valid mode(s)	P	S	T
	Range	0~0xFFFF	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0035		
	Valid	Immediate						

Bit	Input
0	DI1
1	DI2
2	DI3
3	DI4
4	DI5
5	DI6
6	DI7
7	DI8
8	DI9
9	DI10

Only for RS485 communication. Simulated I/O is different from physical I/O which means inversion of current I/O status

Pr0.30	Label	Encoder feedback mode			Valid mode(s)	P	S	T
	Range	0~1	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0037		
	Valid	Immediate						

To set encoder feedback source

Value	Description
【0】	Feedback from motor（Internal）encoder
1	Use under full closed loop control, external encoder feedback

Pr0.31	Label	External encoder type			有效模式	P	S	T
	Range	0~3	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0039		
	Valid	After restart						

Value	Description
【0】	ABZ encoder
1~3	*Reserved for future upgrades.*

Pr0.32	Label	External encoder direction			Valid mode(s)	P	S	T
	Range	0~1	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x003B		
	Valid	After restart						

Value	Description
【0】	Default direction
1	Inversed direction

Pr0.33	Label	Excessive hybrid deviation			Valid mode(s)	P		
	Range	0~134217728	Unit	Command unit	Default	16000		
	Byte length	16bit	Attribute	R/W	485 address	0x0043		
	Valid	After restart						

To set the excessive hybrid deviation threshold value, please set accordingly. Use in full closed loop control. Factory default: 16000. Er180 might occur if position deviation during hybrid control exceeds 16000 pulse counts.
Er191 might occur if Pr0.33 set value is too low.

Pr0.34	Label	Clear excess hybrid control deviation			Valid mode(s)	P		
	Range	0~100	Unit	R	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0045		
	Valid	After restart						

To set condition to clear position deviation under hybrid control mode (Full closed loop)

Value	Description
【0】	OFF
1~100	Revolution count to clear hybrid control deviation

Pr0.35	Label	External encoder frequency divider numerator			Valid mode(s)	P	S	T
	Range	0~2^{23}	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0047		
	Valid	After restart						

To set frequency divider numerator for external encoder.

Pr0.36	Label	External encoder frequency divider denominator			Valid mode(s)	P	S	T
	Range	1~2^{23}	Unit	-	Default	10000		
	Byte length	16bit	Attribute	R/W	485 address	0x0049		
	Valid	After restart						

To set frequency divider denominator for external encoder. When Pr0.37 = 0, External encoder feedback pulse count per revolution = Pr0.36.

Pr0.37	Label	External encoder feedback pulse count per revolution			Valid mode(s)	P	S	T
	Range	0~2147483648	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x004B		
	Valid	After restart						

Value	Pulse count
【0】	Pr0.36
1~2^{31}	Pr0.37

Pr0.38	Label	Z-signal pulse input source			Valid mode(s)	P	S	T
	Range	0~3	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x004D		
	Valid	Immediate						

Value	Bit 1 (Probe Z-signal)	Bit 0 (Homing Z-Signal)
【0】	Motor Z-signal	Motor Z-signal
1	Motor Z-signal	External encoder Z-signal
2	External encoder Z-signal	Motor Z-signal
3	External encoder Z-signal	External encoder Z-signal

Pr0.40 (Only for RS485)	**Label**	Mapping parameter 1			**Valid mode(s)**	**P**	**S**	**T**
	Range		**Unit**		**Default**	0		
	Byte length	32bit	**Attribute**		**485 address**	H： 0x0050		
	Valid					L： 0x0051		
	For user to set parameters unrelated by RS485 address quickly. Mapping parameter ID to be written is set on Pr0.50 by RS485. Data saved in Pr0.40 is parameter designated by Pr0.50. Please refer to Pr0.57 for parameter settings. *Note: Range, unit and attribute of Pr0.40 is determined by Pr0.50 designated parameter.*							
Pr0.41 (Only for RS485)	**Label**	Mapping parameter 2			**Valid mode(s)**	**P**	**S**	**T**
	Range		**Unit**		**Default**	0		
	Byte length	32bit	**Attribute**		**485 address**	H: 0x0052		
	Valid					L: 0x0053		
	Please refer to Pr0.40 for parameter description and Pr0.57 for parameter settings. *Note: Range, unit and attribute of Pr0.41 is determined by Pr0.51 designated parameter.*							
Pr0.42 (Only for RS485)	**Label**	Mapping parameter 3			**Valid mode(s)**	**P**	**S**	**T**
	Range		**Unit**		**Default**	0		
	Byte length	32bit	**Attribute**		**485 address**	H: 0x0054		
	Valid					L： 0x0055		
	Please refer to Pr0.40 for parameter description and Pr0.57 for parameter settings. *Note: Range, unit and attribute of Pr0.42 is determined by Pr0.52 designated parameter.*							
Pr0.43 (Only for RS485)	**Label**	Mapping parameter 4			**Valid mode(s)**	**P**	**S**	**T**
	Range		**Unit**		**Default**	0		
	Byte length	32bit	**Attribute**		**485 address**	H： 0x0056		
	Valid					L： 0x0057		
	Please refer to Pr0.40 for parameter description and Pr0.57 for parameter settings. *Note: Range, unit and attribute of Pr0.43 is determined by Pr0.53 designated parameter.*							
Pr0.44 (Only for RS485)	**Label**	Mapping parameter 5			**Valid mode(s)**	**P**	**S**	**T**
	Range		**Unit**		**Default**	0		
	Byte length	32bit	**Attribute**		**485 address**	H： 0x0058		
	Valid					L： 0x0059		
	Please refer to Pr0.40 for parameter description and Pr0.57 for parameter settings. *Note: Range, unit and attribute of Pr0.44 is determined by Pr0.54 designated parameter.*							
Pr0.45 (Only for RS485)	**Label**	Mapping parameter 6			**Valid mode(s)**	**P**	**S**	**T**
	Range		**Unit**		**Default**	0		
	Byte length	32bit	**Attribute**		**485 address**	H： 0x005A		
	Valid					L： 0x005B		
	Please refer to Pr0.40 for parameter description and Pr0.57 for parameter settings. *Note: Range, unit and attribute of Pr0.45 is determined by Pr0.55 designated parameter.*							
Pr0.46 (Only for RS485)	**Label**	Mapping parameter 7			**Valid mode(s)**	**P**	**S**	**T**
	Range		**Unit**		**Default**	0		
	Byte length	32bit	**Attribute**		**485 address**	H： 0x005C		
	Valid					L： 0x005D		
	Please refer to Pr0.40 for parameter description and Pr0.57 for parameter settings. *Note: Range, unit and attribute of Pr0.46 is determined by Pr0.56 designated parameter.*							

Pr0.47 (Only for RS485)	Label	Mapping parameter 8			Valid mode(s)	P	S	T
	Range		Unit		Default	0		
	Byte length	32bit	Attribute		485 address	H： 0x005E		
	Valid					L： 0x005F		
	Please refer to Pr0.40 for parameter description and Pr0.57 for parameter settings. *Note: Range, unit and attribute of Pr0.47 is determined by Pr0.57 designated parameter.*							

Pr0.50 (Only for RS485)	Label	Mapping parameter 1 indicator			Valid mode(s)	P	S	T
	Range	0~0xFFFFFFFF	Unit		Default	0x00490049		
	Byte length	32bit	Attribute	R/W	485 address	H： 0x0064		
	Valid	Immediate				L： 0x0065		
Pr0.51 (Only for RS485)	Label	Mapping parameter 2 indicator			Valid mode(s)	P	S	T
	Range	0~0xFFFFFFFF	Unit		Default	0x00490049		
	Byte length	32bit	Attribute	R/W	485 address	H： 0x0066		
	Valid	Immediate				L： 0x0067		
Pr0.52 (Only for RS485)	Label	Mapping parameter 3 indicator			Valid mode(s)	P	S	T
	Range	0~0xFFFFFFFF	Unit		Default	0x00490049		
	Byte length	32bit	Attribute	R/W	485 address	H： 0x0068		
	Valid	Immediate				L： 0x0069		
Pr0.53 (Only for RS485)	Label	Mapping parameter 4 indicator			Valid mode(s)	P	S	T
	Range	0~0xFFFFFFFF	Unit		Default	0x00490049		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x006A		
	Valid	Immediate				L: 0x006B		
Pr0.54 (Only for RS485)	Label	Mapping parameter 5 indicator			Valid mode(s)	P	S	T
	Range	0~0xFFFFFFFF	Unit		Default	0x00490049		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x006C		
	Valid	Immediate				L: 0x006D		
Pr0.55 (Only for RS485)	Label	Mapping parameter 6 indicator			Valid mode(s)	P	S	T
	Range	0~0xFFFFFFFF	Unit		Default	0x00490049		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x006E		
	Valid	Immediate				L: 0x006F		
Pr0.56 (Only for RS485)	Label	Mapping parameter 7 indicator			Valid mode(s)	P	S	T
	Range	0~0xFFFFFFFF	Unit		Default	0x00490049		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x0070		
	Valid	Immediate				L: 0x0071		

Pr0.57 (Only for RS485)	Label	Mapping parameter 8 indicator			Valid mode(s)	P	S	T
	Range	0~0xFFFFFFFF	Unit		Default	0x00490049		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x0072		
	Valid	Immediate				L: 0x0073		

Set parameter to 0xABCDWXYZ
High bit parameter position(PH) and low bit parameter position(PL)settings format：
0xABCD & 0xWXYZ

4-bit value	Definition	4-bit value	Definition
CD	Parameter bias decimal	YZ	Parameter bias decimal
B	Parameter type hexadecimal	X	Parameter type hexadecimal
A	Unused	W	Unused

Description of corresponding parameter using Mapping Parameter 1 as example:
Mapping content is 32-bit wide, able to map 2 16-bit or 1 32-bit parameters：

Pr0.50 content as below：
(Mapping parameter 1 indicator：Pr0.50；Mapping parameter 1: Pr0.40)
Pr0.40 high bit corresponds to Pr0.50 high bit indicator (PH) value;
Pr0.40 low bit corresponds to Pr0.50 low bit indicator (PL) value;

1. When Pr0.50 PH≠PL, indicates that Pr0.40 contains 2 16-bit mapped values.
If Pr0.50=0x06200101; PH=0x0620,PL=0x0101; write 0x0005 0064 into Pr0.40; write 0x0005 into Pr6.20, write 0x0064 into Pr1.01;

2. When Pr0.50 PH=PL，indicates that Pr0.40 contains 1 32-bit mapped value.
If Pr0.50=0x01150115; PH=0x0115,PL=0x0115; write 0x00000001into Pr0.40; write 0x00000001 into Pr1.15;

Note: When a 32-bit address parameter is mapped, please write same address into high and low bit as shown above.

[Class 1] Gain adjustments

Pr1.00	Label	1st position loop gain			Valid mode(s)	P		
	Range	0～30000	Unit	0.1/s	Default	320		
	Byte length	16bit	Attribute	R/W	485 address	0x0101		
	Valid	Immediate						

Higher position loop gain value improves the responsiveness of the servo driver and lessens the positioning time.
Position loop gain value shouldn't exceed responsiveness of the mechanical system and take in consideration velocity loop gain, if not it might cause vibration, mechanical noise and overtravel.
As velocity loop gain is based on position loop gain, please set both values accordingly.
Recommended range: 1.2≤Pr1.00/Pr1.01≤1.8

Pr1.01	Label	1st velocity loop gain			Valid mode(s)	P	S	T
	Range	1～32767	Unit	0.1Hz	Default	180		
	Byte length	16bit	Attribute	R/W	485 address	0x0103		
	Valid	Immediate						

To determine the responsiveness of the velocity loop. If inertia ratio of Pr0.04 is uniform with actual inertia ratio, velocity loop responsiveness = Pr1.01.
To increase position loop gain and improve responsiveness of the whole system, velocity loop gain must be set at higher value. Please notice that if the velocity loop gain is too high, it might cause vibration.

Pr1.02	Label	1st Integral Time Constant of Velocity Loop			Valid mode(s)	P	S	T
	Range	1～10000	Unit	0.1ms	Default	310		
	Byte length	16bit	Attribute	R/W	485 address	0x0105		
	Valid	Immediate						

The lower the set value, the closer the lag error at stop to 0 but might cause vibration. If the value set is overly large, overshoot, delay of positioning time duration and lowered responsiveness might occur.
Set 10000 to deactivate Pr1.02.

Pr1.03	Label	1st velocity detection filter			Valid mode(s)	P	S	T
	Range	0～31	Unit	—	Default	15		
	Byte length	16bit	Attribute	R/W	485 address	0x0107		
	Valid	Immediate						

This filter is a low pass filter. It blocks high frequencies which cause system instability from velocity feedback data. The higher the set value, lower frequencies will be blocked and velocity responsiveness will also be lowered. Pr1.03 needs to match velocity loop gain. Please refer to the following table.

Value	Velocity Detection Filter Cut-off Frequency(Hz)	Value	Velocity Detection Filter Cut-off Frequency(Hz)
0	2500	16	750
1	2250	17	700
2	2100	18	650
3	2000	19	600
4	1800	20	550
5	1600	21	500
6	1500	22	450
7	1400	23	400
8	1300	24	350
9	1200	25	300
10	1100	26	250
11	1000	27	200
12	950	28	175
13	900	29	150
14	850	30	125
【15】	800	31	100

Pr1.04	Label	1st Torque Filter Time Constant			Valid mode(s)	P	S	T
	Range	0～2500	Unit	0.01ms	Default	126		
	Byte length	16bit	Attribute	R/W	485 address	0x0109		
	Valid	Immediate						
	To set torque command low-pass filter, add a filter delay time constant to torque command and filter out the high frequencies in the command. Often used to reduce or eliminate some noise or vibration during motor operation, but it will reduce the responsiveness of current loop, resulting in undermining velocity loop and position loop control. Pr1.04 needs to match velocity loop gain. Recommended range: 1,000,000/(2π×Pr1.04) ≥Pr1.01×4 For example: Velocity loop gain Pr1.01=180(0.1Hz) which is 18Hz. Time constant of torque filter should be Pr1.01≤221(0.01ms) If mechanical vibration is due to servo driver, adjusting Pr1.04 might eliminate the vibration. The smaller the value, the better the responsiveness but also subjected to machine conditions. If the value is too large, it might lower the responsiveness of current loop. With higher Pr1.01 value settings and no resonance, reduce Pr1.04 value; With lower Pr1.01 value settings, increase Pr1.04 value to lower motor noise.							

Pr1.05	Label	2nd Position Loop Gain			Valid mode(s)	P		
	Range	0～30000	Unit	0.1/s	Default	380		
	Byte length	16bit	Attribute	R/W	485 address	0x010B		
	Valid	Immediate						
Pr1.06	Label	2nd velocity loop gain			Valid mode(s)	P	S	T
	Range	1～32767	Unit	0.1Hz	Default	180		
	Byte length	16bit	Attribute	R/W	485 address	0x010D		
	Valid	Immediate						
Pr1.07	Label	2nd Integral Time Constant of Velocity Loop			Valid mode(s)	P	S	T
	Range	1～10000	Unit	0.1ms	Default	10000		
	Byte length	16bit	Attribute	R/W	485 address	0x010F		
	Valid	Immediate						
Pr1.08	Label	2nd velocity detection filter			Valid mode(s)	P	S	T
	Range	0～31	Unit	—	Default	15		
	Byte length	16bit	Attribute	R/W	485 address	0x0111		
	Valid	Immediate						
Pr1.09	Label	2nd Torque Filter Time Constant			Valid mode(s)	P	S	T
	Range	0~2500	Unit	0.01ms	Default	126		
	Byte length	16bit	Attribute	R/W	485 address	0x0113		
	Valid	Immediate						
	Position loop, velocity loop, velocity detection filter, torque command filter each have 2 pairs of gain or time constant (1st and 2nd).							

Pr1.10	Label	Velocity feed forward gain			Valid mode(s)	P		
	Range	0~1000	Unit	0.10%	Default	300		
	Byte length	16bit	Attribute	R/W	485 address	0x0115		
	Valid	Immediate						
	Used for decreasing following error caused by low responsiveness of velocity loop. Might cause overshoot or increase in noise if set value is too high.							

Pr1.11	Label	Velocity feed forward filter time constant			Valid mode(s)	P		
	Range	0~6400	Unit	0.01ms	Default	50		
	Byte length	16bit	Attribute	R/W	485 address	0x0117		
	Valid	Immediate						

Set velocity feed forward low pass filter to eliminate high or abnormal frequencies in velocity feed forward command. Often used when position command with low resolution or high electronic gear ration to smoothen velocity feed forward.
Position deviation under constant velocity can be lowered with higher velocity feed forward gain. Please to refer to the equation below.
Reduce Pr1.11 value to suppress velocity overshoot during deceleration; Increase Pr1.11 value to suppress noise or vibration due to long driver control cycle or position command uneven pulse frequency.

<Application>
Set Pr1.11 = 50（0.5ms）, improve feedforward effect by gradually increase Pr1.10. The equation below can be used to determine the position deviation due to velocity feedforward gain under constant velocity.

Position deviation[Uint]= $\frac{Set\ velocity[\frac{Uint}{s}]}{Position\ loop\ gain[Hz]} x \frac{100 - Velocity\ feed\ foward\ gain[\%]}{100}$

Pr1.12	Label	Torque feed forward gain			Valid mode(s)	P	S	
	Range	0~1000	Unit	0.1%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0119		
	Valid	Immediate						

Before using torque feed forward, please set correct inertia ratio Pr0.04. By increasing torque feed forward gain, position deviation on constant acceleration/deceleration can be reduced to close to 0. Under ideal condition and trapezoidal speed profile, position deviation of the whole motion can be reduced to close to 0. In reality, perturbation torque will always exist, hence position deviation can never be 0.

Pr1.13	Label	Torque feed forward filter time constant			Valid mode(s)	P	S	
	Range	0~6400	Unit	0.01ms	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x011B		
	Valid	Immediate						

Low pass filter to eliminate abnormal or high frequencies in torque feed forward command. Usually used when encoder has lower resolution or precision.
Noise reduces if torque feed forward filter time constant is set higher but position deviation will increase at acceleration varied points.
<Application>
- Set Pr1.13 = 50ms, please increase torque forward gain gradually to enable torque feedforward.
- By increasing Pr1.13, noise will reduce but position deviation will become larger.

Pr1.15	Label	Position control gain switching mode			Valid mode(s)	P		
	Range	0～10	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x011F		
	Valid	Immediate						

In position control, set the conditions for gain switching to be valid.

Value	Condition	Gain switching condition
【0】	1st gain fixed	Fixed on using 1st gain(Pr1.00-Pr1.04)
1	2nd gain fixed	Fixed on using 2nd gain (Pr1.05-Pr1.09)
2	Gain switching input valid	· Gain switching input （GAIN）invalid: 1st gain. · Gain switching input （GAIN）valid: 2nd gain. **Default: 1st gain*
3	High command torque	Switch to 2nd gain when set torque command absolute value larger than (level + hysteresis)[%] Switch to 1st gain when set torque command absolute value smaller than (level + hysteresis)[%]
4-9	Reserved	Reserved
10	Pending position command +actual velocity	Valid for position control. Switch to 2nd gain if position command ≠ 0 Switch to 1st gain if positional command = 0 throughout the duration of delay time and absolute value of actual velocity remains smaller than (level - hysteresis) (r/min)

*** Above 'level' and 'hysteresis' are in correspondence to Pr1.17 Position control gain switching level and Pr1.18 Hysteresis at position control switching.*

Pr1.17	Label	Position control gain switching level			Valid mode(s)	P		
	Range	0~20000	Unit	Mode dependent	Default	50		
	Byte length	16bit	Attribute	R/W	485 address	0x0123		
	Valid	Immediate						

Set threshold value for gain switching to occur.
Unit is mode dependent.

Switching condition	Unit
Position	Encoder pulse count
Velocity	RPM
Torque	%

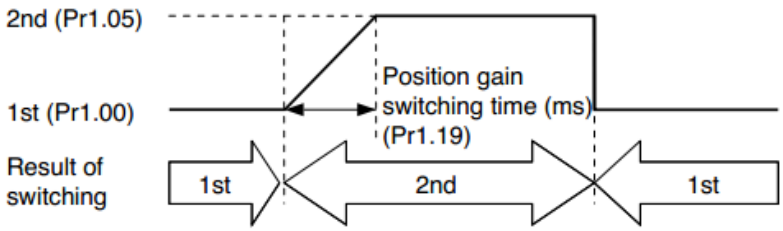
Please set level ⩾ hysteresis

Pr1.18	Label	Hysteresis at position control switching			Valid mode(s)	P		
	Range	0~20000	Unit	Mode dependent	Default	33		
	Byte length	16bit	Attribute	R/W	485 address	0x0125		
	Valid	Immediate						

To eliminate the instability of gain switching. Used in combination with Pr1.17 using the same unit.
If level< hysteresis, drive will set internally hysteresis = level.

Pr1.19	Label	Position control switching time			Valid mode(s)	P		
	Range	0~10000	Unit	0.1ms	Default	33		
	Byte length	16bit	Attribute	R/W	485 address	0x0127		
	Valid	Immediate						

During position control, if 1st and 2nd gain difference is too large, to ease torque changes and vibration due to rapid changes in position loop gain, set suitable Pr1.19 value
For example: 1st (pr1.00) <-> 2nd (Pr1.05)



Pr1.35	Label	Position command pulse filter time			Valid mode(s)	P		
	Range	0~200	Unit	0.01us	Default	8		
	Byte length	16bit	Attribute	R/W	485 address	0x0147		
	Valid	After restart						

To filter position setting pulse, getting rid of narrow pulse frequency with interference. Low-speed pulse input unit: 0.05us; High-speed pulse input unit: 0.01us.
If set value is overly large, it will affect the receiving of high frequency command pulse and wth high delay time.
Pr1.35 formula：

$$\text{Filter frequency} = \frac{1}{2 \times \text{Pr1.35} \times 0.05\text{us}} \times 1000000\text{Hz}$$

Example：Pr1.35=100, pulse frequency > 100KHz will be filtered;

Pr1.35	Filter frequency	Pr1.35	Filter frequency
0	*Null*	100	100kHz(500KHz)
8	1.25MHz(6.25MHz)	125	80kHz(400KHz)
10	1MHz（5MHz）	160	62.5kHz(312KHz)
20	500kHz(2.5MHz)	200	50kHz(250KHz)
50	200kHz(1MHz)		
80	125kHz(625KHz)		

Pr1.36	Label	External ABZ encoder filter time			Valid mode(s)	P full closed loop
	Range	0~300	Unit	0.01us	Default	3
	Byte length	16bit	Attribute	R/W	485 address	0x0149
	Valid	After restart				
To set filter time for external ABZ encoder						

Pr1.39	Label	Special function register 2			Valid mode(s)	P	T	S
	Range	0~0xFFFF	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x014F		
	Valid	Immediate						

Value	Description
【0】	Reserved
1	=1, activate full closed loop during trial run
2	=1, hybrid position deviation clearing

[Class 2] Vibration suppression

Pr2.00	Label	Adaptive filtering mode settings			Valid mode(s)	P	S	
	Range	0~4	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0201		
	Valid	Immediate						

Value	Description	
0	Adaptive filter: invalid	Parameters related to 3rd notch filter remain unchanged
1	Adaptive filter: 1 filter valid for once.	1 adaptive filter becomes valid. 3rd notch filter related parameters updated accordingly. Pr2.00 switches automatically to 0 once updated.
2	Adaptive filter: 1 filter remains valid	1 adaptive filter becomes valid. 3rd notch filter related parameters will keep updating accordingly.
3-4	Reserved	-

Pr2.01	Label	1st notch frequency			Valid mode(s)	P	S	T
	Range	50~4000	Unit	Hz	Default	4000		
	Byte length	16bit	Attribute	R/W	485 address	0x0203		
	Valid	Immediate						
Set center frequency of 1st torque command notch filter. Set Pr2.01 to 4000 to deactivate notch filter								
Pr2.02	Label	1st notch width			Valid mode(s)	P	S	T
	Range	0~20	Unit	—	Default	4		
	Byte length	16bit	Attribute	R/W	485 address	0x0205		
	Valid	Immediate						
Set notch bandwidth for 1st resonant notch filter. Under normal circumstances, please use factory default settings. If resonance is under control, in combination with Pr2.01 and Pr2.03, Pr2.02 can be reduced to improve current loop responsiveness which allows higher mechanical stiffness settings								
Pr2.03	Label	1st notch depth			Valid mode(s)	P	S	T
	Range	0~99	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0207		
	Valid	Immediate						
Set notch depth for 1st resonant notch filter. Under normal circumstances, please use factory default settings. If resonance is under control, in combination with Pr2.01 and Pr2.02, Pr2.03 can be reduced to improve current loop responsiveness which allows higher mechanical stiffness settings								

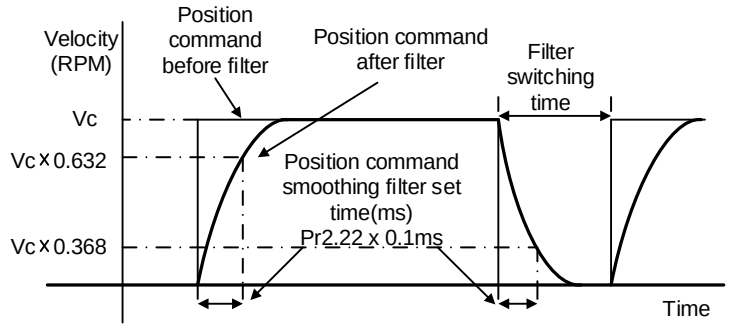
Pr2.04	Label	2nd notch frequency			Valid mode(s)	P	S	T
	Range	50~4000	Unit	Hz	Default	4000		
	Byte length	16bit	Attribute	R/W	485 address	0x0209		
	Valid	Immediate						
Set center frequency of 2nd torque command notch filter. Set Pr2.04 to 4000 to deactivate notch filter								
Pr2.05	Label	2nd notch width			Valid mode(s)	P	S	T
	Range	0~20	Unit	—	Default	4		
	Byte length	16bit	Attribute	R/W	485 address	0x020B		
	Valid	Immediate						
Set notch bandwidth for 2nd resonant notch filter. Under normal circumstances, please use factory default settings. If resonance is under control, in combination with Pr2.04 and Pr2.06, Pr2.05 can be reduced to improve current loop responsiveness which allows higher mechanical stiffness settings.								
Pr2.06	Label	2nd notch depth			Valid mode(s)	P	S	T
	Range	0~99	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x020D		
	Valid	Immediate						
Set notch depth for 1st resonant notch filter. When Pr2.06 value is higher, notch depth becomes shallow, phase lag reduces. Under normal circumstances, please use factory default settings. If resonance is under control, in combination with Pr2.04 and Pr2.05, Pr2.06 can be reduced to improve current loop responsiveness which allows higher mechanical stiffness settings.								

Pr2.07	Label	3rd notch frequency			Valid mode(s)	P	S	T
	Range	50~4000	Unit	Hz	Default	4000		
	Byte length	16bit	Attribute	R/W	485 address	0x020F		
	Valid	Immediate						
Set center frequency of 3rd torque command notch filter. Set Pr2.07 to 4000 to deactivate notch filter								
Pr2.08	Label	3rd notch width			Valid mode(s)	P	S	T
	Range	0~20	Unit	—	Default	4		
	Byte length	16bit	Attribute	R/W	485 address	0x0211		
	Valid	Immediate						
Set notch depth for 3rd resonant notch filter. When Pr2.06 value is higher, notch depth becomes shallow, phase lag reduces. Under normal circumstances, please use factory default settings. If resonance is under control, in combination with Pr2.04 and Pr2.05, Pr2.06 can be reduced to improve current loop responsiveness which allows higher mechanical stiffness settings.								
Pr2.09	Label	3rd notch depth			Valid mode(s)	P	S	T
	Range	0~99	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0213		
	Valid	Immediate						
Set notch depth for 3rd resonant notch filter. When Pr2.06 value is higher, notch depth becomes shallow, phase lag reduces. Under normal circumstances, please use factory default settings. If resonance is under control, in combination with Pr2.04 and Pr2.05, Pr2.06 can be reduced to improve current loop responsiveness which allows higher mechanical stiffness settings.								

Pr2.14	Label	1st damping frequency			Valid mode(s)	P		
	Range	0/10~2000	Unit	0.1Hz	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x021D		
	Valid	Immediate						
Set Pr2.16 to 0 to deactivate this parameter. To suppress wobble at load end. Often used when wobble of flexible structure due to high deceleration upon stopping. Especially effective for wobble with frequencies under 100Hz. Set Pr2.15 to wobble frequency (wobble frequency can be determined using tracing function of Motion Studio)								
Pr2.16	Label	2nd damping frequency			Valid mode(s)	P		
	Range	0/10~2000	Unit	0.1Hz	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0221		
	Valid	Immediate						
Set Pr2.16 to 0 to deactivate this parameter. To suppress wobble at load end. Often used when wobble of flexible structure due to high deceleration upon stopping. Especially effective for wobble with frequencies under 100Hz. Set Pr2.16 to wobble frequency (wobble frequency can be determined using tracing function of Motion Studio)								

Pr2.22	Label	Position command smoothing filter			Valid mode(s)	P		
	Range	0~32767	Unit	0.1ms	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x022D		
	Valid	At stop						

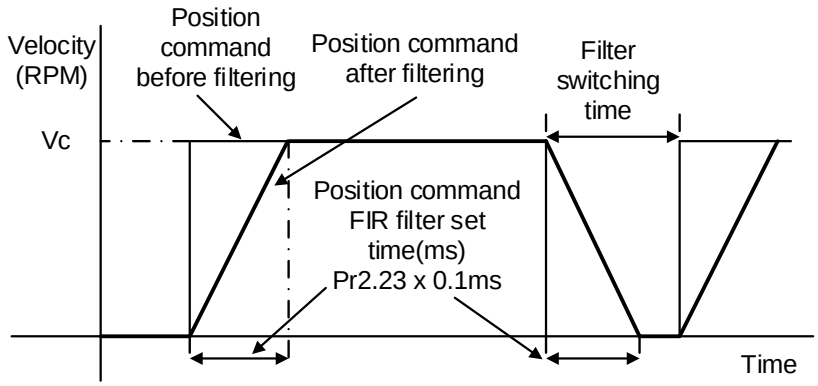
To set time constant of 1 time delay filter of position command.
To set time constant of 1 time delay filter, according to target velocity Vc square wave command as show below.



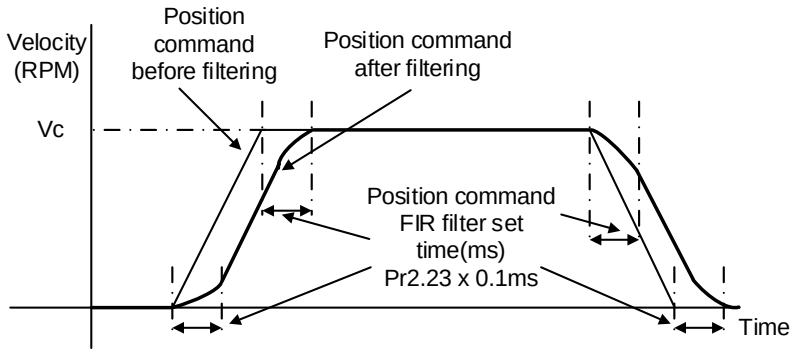
Usually applied when there is rather sharp acceleration which might cause motor overshoot or undershoot. To smoothen command signal, reduces impact to machines and eliminate vibration. If Pr2.22 is set too high, overall time will be lengthened.

Pr2.23	Label	Position command FIR filter			Valid mode(s)	P		
	Range	0~2500	Unit	0.1ms	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x022F		
	Valid	At stop						

As shown below, when target velocity Vc square wave command reaches Vc, it becomes trapezoidal wave after filtering.



As shown below, when target velocity Vc trapezoidal command reaches Vc, it becomes S wave after filtering.



Usually applied when there is rather sharp acceleration which might cause motor overshoot or undershoot. To smoothen command signal, reduces impact to machines and eliminate vibration. If Pr2.23 is set too high, overall time will be lengthened.

Note: Please wait for command to stop and after filter idle time to modify Pr2.23.
Filter switching time = (Pr2.23 set value x 0.1ms + 0.25ms)

Pr2.48	Label	Adjustment mode			Valid mode(s)	P	S	T
	Range	0~1	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0261		
	Valid	Immediate						

Value	Description
【0】	Turn off automatic adjustments
1	Activate automatic adjustments, real time inertia measuring and vibration suppression. Inertia measuring deactivated after reaching 4 times in 5 minutes, triggering conditions: changes in mechanical stiffness.

Pr2.50	Label	MFC type			Valid mode(s)	P		
	Range	0~3	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0265		
	Valid	Re-enable						

Value	Description
【0】	Model following control
1	Zero tracking control
2	*3 inertia (future upgrade)*
3	*Path following (future upgrade)*

Pr2.51	Label	Velocity feedforward compensation coefficient			Valid mode(s)	P		
	Range	-10000~10000	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0267		
	Valid	Immediate						
To compensate for velocity feedforward								

Pr2.52	Label	Torque feedforward compensation coefficient			Valid mode(s)	P	S	
	Range	-10000~10000	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0269		
	Valid	Immediate						
To compensate for torque feedforward								

Pr2.53	Label	Dynamic friction compensation coefficient			Valid mode(s)	P	S	T
	Range	0~1000	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x026B		
	Valid	Immediate						
To set ratio of rated torque/rated rotational speed, to compensate for dynamic friction during motion and have better control over acceleration/deceleration. Dynamic friction coefficient $= \left\lvert \frac{\text{Torque(Rotational speed 1)} - \text{Torque(Rotational speed 2)}}{\text{Rotational speed 1} - \text{Rotational speed 2}} * \text{rated rotational speed} \right\rvert$ st Pr2.53 to reduce the deviation to 0.								

Pr2.54	Label	Overshoot time coefficient			Valid mode(s)	P	S	T
	Range	0~10000	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x026D		
	Valid	Immediate						
To set overshoot time coefficient								

Pr2.55	Label	Overshoot suppression gain			Valid mode(s)	P	S	T
	Range	0~10000	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x026F		
	Valid	Immediate						
Suppression improves with larger set value but might affect the performance of MFC. Please use with caution for any value above 100.								

[Class 3] Velocity/Torque control

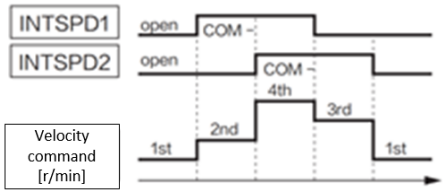
Pr3.00						
Label	Velocity internal/external switching			**Valid mode(s)**		**S**
Range	0~3	**Unit**	—	**Default**	1	
Byte length	16bit	**Attribute**	R/W	**485 address**	0x0301	
Valid	Immediate					

Connect to the right DI to control internal command velocity settings.

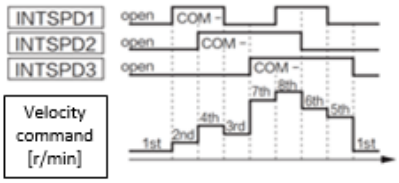
Value	Velocity settings
0	Analog - Velocity command（SPR）
【1】	Internal velocity settings 1st – 4th speed（Pr3.04～Pr3.07）
2	Internal velocity settings 1st – 3rd speed（Pr3.04～P3.06）、Analog velocity command（SPR）
3	Internal velocity settings 1st – 8th speed（Pr3.00～Pr3.11）

Value	Internal command velocity 1（INTSPD□1）	Internal command velocity 2（INTSPD2）	Internal command velocity 3（INTSPD3）	Velocity command
1	OFF	OFF	No effect	1st speed
	ON	OFF		2nd speed
	OFF	ON		3rd speed
	ON	ON		4th speed
2	OFF	OFF	No effect	1st speed
	ON	OFF		2nd speed
	OFF	ON		3rd speed
	ON	ON		Simulated speed
3	Similar to Pr3.00=1		OFF	1st – 4th speed
	OFF	OFF	ON	5th speed
	ON	OFF	ON	6th speed
	OFF	ON	ON	7th speed
	ON	ON	ON	8th speed

Please change internal command velocity as per diagram below as unexpected axis movement might occurs if 2 command velocities are changed at the same time.



Pr3.00=1 / 2



Pr3.00=3

Pr3.01	Label	Velocity command rotational direction selection			Valid mode(s)		S	
	Range	0~1	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0303		
	Valid	Immediate						

To set positive/negative direction of velocity command

Value	Velocity settings（Analog or internal velocity）	Velocity command sign selection（VC-□SIGN□）	Velocity command direction
【0】	＋	No effect	Positive
	－	No effect	Negative
1	No effect	OFF	Positive
	No effect	□ON	Negative

Pr3.02	Label	Velocity command input gain			Valid mode(s)		S	
	Range	10~2000	Unit	(r/min)/V	Default	500		
	Byte length	16bit	Attribute	R/W	485 address	0x0305		
	Valid	Immediate						

To set gain changes from voltage added onto analog velocity command (SPR) to motor command velocity

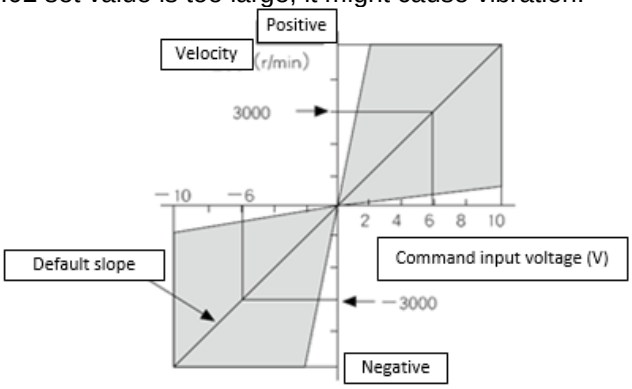
Pr3.02 sets command input voltage and rotational speed slope.

Factory default:

Pr3.02=500(r/min)/V.

Hence 6V input: 3000 r/min

1. Do not supply more than ±10V power for analog velocity command (SPR).
2. If Pr3.02 set value is too large, it might cause vibration.



Pr3.03	Label	Velocity command input inversion			Valid mode(s)	S
	Range	0~1	Unit	—	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x0307
	Valid	Immediate				

To set voltage polarity of analog velocity command.
Only valid when Pr3.01 = 0. When Pr3.01 = 1, rotational direction is only related to VC-SIGN.

Value	Motor rotational direction	
【0】	Not inversed	「Positive voltage」→「Positive direction」 「Negative voltage」→「Negative direction」
1	Inversed	「Positive voltage」→「Positive direction」 「Negative voltage」→「Negative direction」

If there is an external position sensor with different polarity from Pr3.03, motor might undergo abnormal motion.

Pr3.04	Label	1st speed of velocity setting			Valid mode(s)	S
	Range	-10000~10000	Unit	r/min	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x0309
	Valid	Immediate				
Pr3.05	Label	2nd speed of velocity setting			Valid mode(s)	S
	Range	-10000~10000	Unit	r/min	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x030B
	Valid	Immediate				
Pr3.06	Label	3rd speed of velocity setting			Valid mode(s)	S
	Range	-10000~10000	Unit	r/min	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x030D
	Valid	Immediate				
Pr3.07	Label	4th speed of velocity setting			Valid mode(s)	S
	Range	-10000~10000	Unit	r/min	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x030F
	Valid	Immediate				
Pr3.08	Label	5th speed of velocity setting			Valid mode(s)	S
	Range	-10000~10000	Unit	r/min	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x0311
	Valid	Immediate				
Pr3.09	Label	6th speed of velocity setting			Valid mode(s)	S
	Range	-10000~10000	Unit	r/min	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x0313
	Valid	Immediate				
Pr3.10	Label	7th speed of velocity setting			Valid mode(s)	S
	Range	-10000~10000	Unit	r/min	Default	
	Byte length	16bit	Attribute	R/W	485 address	0x0315
	Valid	Immediate				
Pr3.11	Label	8th speed of velocity setting			Valid mode(s)	S
	Range	-10000~10000	Unit	r/min	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x0317
	Valid	Immediate				

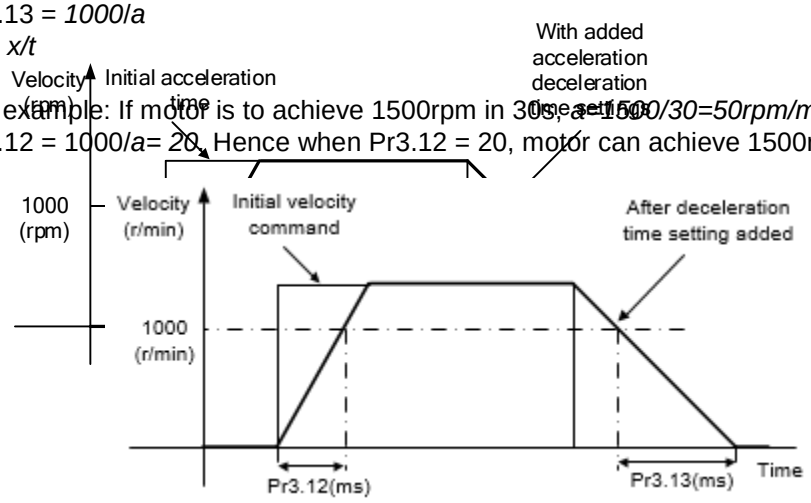
To set internal velocity command 1^{st} -8^{th} speed

Pr3.12	**Label**	Acceleration time settings			**Valid mode(s)**	**S**
	Range	0~10000	**Unit**	ms/ (1000rpm)	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0319
	Valid	Immediate				
Pr3.13	**Label**	Deceleration time settings			**Valid mode(s)**	**S**
	Range	0~10000	**Unit**	ms/ (1000rpm)	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x031B
	Valid	Immediate				

Set max acceleration/deceleration for velocity command.

If target velocity = *x* [rpm], max acceleration = *a* [unit: rpm/ms], acceleration time = *t* [ms]
Pr3.12 = *1000/a*
Pr3.13 = *1000/a*
a = x/t

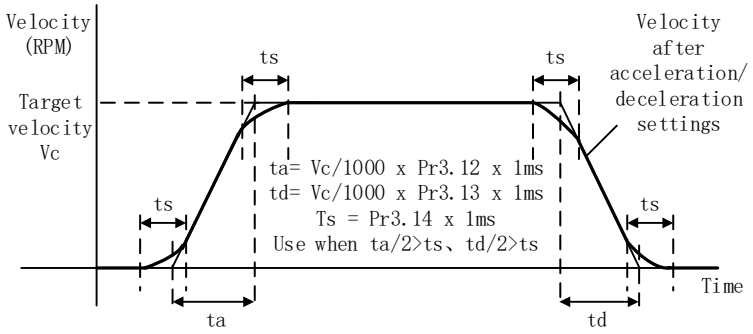
For example: If motor is to achieve 1500rpm in 30s, *a=1500/30=50rpm/ms*
Pr3.12 = 1000/*a*= 20. Hence when Pr3.12 = 20, motor can achieve 1500rpm in 30s.



Usually used when there is rapid acceleration or trapezoidal wave velocity command due to many different internal speed segments under velocity control mode which causes instable while motor in motion.
Under velocity control mode, 6083 and 6084 is limited by Pr3.12 and Pr3.13 correspondingly.

Pr3.14	Label	Sigmoid acceleration/deceleration settings			Valid mode(s)	S
	Range	0~1000	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x031D
	Valid	After restart				

To set sigmoid acceleration and deceleration turning point in accordance to Pr3.12 and Pr3.13.



Pr3.15	Label	Zero speed clamp function selection			Valid mode(s)	S
	Range	0~3	Unit	—	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x031F
	Valid	Immediate				

Value	Zero speed clamp function
0	Invalid: zero speed clamp deactivated
1	Velocity command is forced to 0 when the zero speed clamp (ZEROSPD) input signal is valid.
2	Velocity command is forced to 0 when actual velocity is lower than Pr3.16.
3	Includes conditions from 1 and 2

Pr3.16	Label	Zero speed clamp level			Valid mode(s)	S
	Range	10~2000	Unit	r/min	Default	30
	Byte length	16bit	Attribute	R/W	485 address	0x0321
	Valid	Immediate				

Valid when Pr3.15 = 2/3, velocity command is forced to 0 when actual velocity is lower than Pr3.16 and after static time set in Pr3.23.

Pr3.17	Label	Torque internal/external switching			Valid mode(s)	T
	Range	0~3	Unit		Default	0
	Byte length	16bit	Attribute	R/W	485 address	0x0323
	Valid	Immediate				

Value	Torque command input	Velocity limit input
【0】	Analog input 3(AI 3)	Pr3.21 set value
1	Analog input 3(AI 3)	Analog input 1(AI 1)
2	Pr3.22 set value	Pr3.21 set value

Pr3.18	Label	Torque command direction selection			Valid mode(s)			T
	Range	0~1	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0325		
	Valid	Immediate						

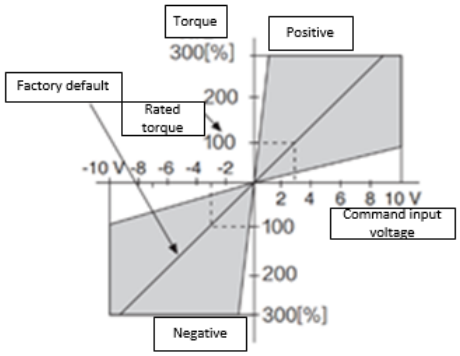
To set torque command positive/negative direction

Value	Direction settings
【0】	TC-SIGN ON/OFF has no effect on torque direction Torque command input「Positive」→Positive direction、 「Negative」→Negative direction
1	Use TC-SIGN ON/OFF status for torque direction OFF: *Positive direction* ON: *Negative direction*

Pr3.19	Label	Torque command input gain			Valid mode(s)			T
	Range	10~100	Unit	0.1V/100%	Default	30		
	Byte length	16bit	Attribute	R/W	485 address	0x0327		
	Valid	Immediate						

To set gain changes from voltage added onto analog torque command (TRQR) to torque command (%)

·Unit: （0.1V/100%）。
·Set input voltage required for rated output torque.
·Default = 30，which is 3V/100%



Pr3.20	Label	Torque command input inversion			Valid mode(s)			T
	Range	0~1	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0329		
	Valid	Immediate						

To set voltage polarity of analog torque command.
Only valid when Pr3.18 = 0.

Value	Motor torque direction	
【0】	Not inversed	「Positive voltage」→「Positive direction」 「Negative voltage」→「Negative direction」
1	Inversed	「Positive voltage」→「Positive direction」 「Negative voltage」→「Negative direction」

Pr3.21	Label	Velocity limit in torque mode			Valid mode(s)			T
	Range	0~10000	Unit	r/min	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x032B		
	Valid	Immediate						
To set velocity limit in torque control mode. Only valid when Pr3.17 = 0 / 2.								

Pr3.22	Label	Torque command			Valid mode(s)			T
	Range	0~300	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x032D		
	Valid	Immediate						
	To set torque limit in torque control mode. Only valid when Pr3.17 = 2. Please refer to Pr3.17.							

Pr3.23	Label	Zero speed delay time in velocity mode			Valid mode(s)		S	
	Range	0~2000	Unit	ms	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x032F		
	Valid	Immediate						
	To set the time interval between axis reaches zero speed level and the moment it totally stops. Used when axis crawls under velocity mode. Set 0 to deactivate this parameter.							

Pr3.24	Label	Maximum motor rotational speed			Valid mode(s)	P	S	T
	Range	0~10000	Unit	r/min	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0331		
	Valid	Immediate						
	To set maximum motor rotational speed but not higher than motor rated speed If Pr3.24 = 0, maximum motor rotational speed = max. speed in motor parameter.							

Pr3.29	Label	Analog 1 clamping voltage			Valid mode(s)			T
	Range	0~20000	Unit	mv	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x033B		
	Valid	Immediate						
	Only valid when Pr3.17 = 1. When Pr3.17=1, velocity is set to 0 if analog 1 voltage is below Pr3.29 set value.							
Pr3.30	Label	Analog 3 clamping voltage			Valid mode(s)			T
	Range	0~20000	Unit	mv	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x033D		
	Valid	Immediate						
	Only valid when Pr3.17 = 1 / 0. When Pr3.17=1 / 0, velocity is set to 0 if analog 1 voltage is below Pr3.30 set value.							

Pr3.32~ Pr3.73	Label	Position comparison 1~42 target value			Valid mode(s)	P	S	T
	Range	$-2^{31} \sim 2^{31}$	Unit	-	Default	0		
	Byte length	32bit	Attribute	R/W	485 address	0x0340~0x0393		
	Valid	Immediate	Example：Pr3.32 H: 0x0340 L: 0x341 Pr3.33 H: 0x0342 L: 0x343					
	When target position (value) is reached, position comparison output will be depended on the position comparison attribute value set.							

Pr3.74	Label	Position comparison 1 and 2 attribute value			Valid mode(s)	P	S	T
	Range	$-2^{31} \sim 2^{31}-1$	Unit	-	Default	0		
	Byte length	32bit	Attribute	R/W	485 address	H:0x0394		
	Valid	Immediate				L:0x0395		

To set attribute value for position comparison 1 and 2

Bit	Position comparison 1
0	Positive crossing comparison. 0=OFF,1=ON
1	Negative crossing comparison. 0=OFF,1=ON
2~5	Reserved
6	Output property settings： =0：Pulse mode =1：Flipping mode
7	DO1
8	DO2
9	DO3
10~12	Reserved
13	Frequency divider Phase A output
14	Frequency divider Phase B output
15	Frequency divider Phase Z output

Bit	Position comparison 2
16	Positive traversal comparison. 0=OFF,1=ON
17	Negative traversal comparison. 0=OFF,1=ON
18~21	Reserved
22	Output property settings： =0：Pulse mode =1：Flipping mode
23	DO1
24	DO2
25	DO3
26~28	Reserved
29	Frequency divider Phase A output
30	Frequency divider Phase B output
31	Frequency divider Phase Z output

Pr3.75	Label	Position comparison 3 and 4 attribute value			Valid mode(s)	P	S	T
	Range	$-2^{31} \sim 2^{31}-1$	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	H:0x0396		
	Valid	Immediate				L:0x0397		

To set attribute value for position comparison 3 and 4
Bit 0~15: Position comparison 3; Bit 16~31: Position comparison 4
Please refer to Pr3.74

Pr3.76~ Pr3.94	Label	Position comparison x and y attribute value			Valid mode(s)	P	S	T
	Range	$-2^{31} \sim 2^{31}-1$	Unit	-	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0398~0x03BD		
	Valid	Immediate						

To set attribute value for position comparison x and y
x,y = (3,4), (5,6)……..(41,42)
Bit 0~15: Position comparison x; Bit 16~31: Position comparison y
Please refer to Pr3.74

[Class 4] I/O Monitoring Settings

Pr4.00	Label	Input selection DI1			Valid mode(s)	P	S	T
	Range	0x00~0xFF	Unit	—	Default	0x2		
	Byte length	16bit	Attribute	R/W	485 address	0x0401		
	Valid	Immediate						

Please refer to the table below to set DI signals and table on the right for corresponding pin and parameters

Signal	Symbol	Value	
		NO	NC
Invalid	—	0	-
Positive limit switch	POT	1	81
Negative limit switch	NOT	2	82
Servo enabled	SRV-ON	3	83
Clear alarm	A-CLR	4	-
Control mode switching	C-MODE	5	85
Gain switching	GAIN	6	86
Clear deviation count	CL	7	-
Command pulse prohibited	INH	8	88
Torque limit switching	TL-SEL	9	89
Command frequency divider/multiplier switching	DIV1	C	8C
Internal command velocity 1	INTSPD1	E	8E
Internal command velocity 2	INTSPD2	F	8F
Internal command velocity 3	INTSPD3	10	90
Zero speed clamp	ZEROSPD	11	91
Velocity command sign	VC-SIGN	12	92
Torque command sign	TC-SIGN	13	93
Forced alarm	E-STOP	14	94
Vibration suppression 1	VS-SEL1	0A	8A
Vibration suppression 2	VS-SEL2	0B	8B

CN1 PIN	Input	Parameters
8	DI1	Pr4.00
9	DI2	Pr4.01
26	DI3	Pr4.02
27	DI4	Pr4.03
28	DI5	Pr4.04
29	DI6	Pr4.05
30	DI7	Pr4.06
31	DI8	Pr4.07
32	DI9	Pr4.08
33	DI10	Pr4.09

Please don't set anything other than listed in table above.
Normally open (NO) : Valid when input = ON
Normally close (NC): Valid when input = OFF
Er210 might occur if same function is allocated to different channels at the same time

Servo enabled（SRV-ON）has to be allocated to enabled servo drive.

Inputs related to Pr-mode:

Signal	Symbol	Value	
		NO	NC
Trigger command	CTRG	20	A0
Home	HOME	21	A1
Forced stop	STP	22	A2

Signal	Symbol	Value	
		NO	NC
Positive JOG	PJOG	23	A3
Negative JOG	NJOG	24	A4
Positive limit	PL	25	A5
Negative limit	NL	26	A6
Origin	ORG	27	A7
Path address 0	ADD0	28	A8
Path address 1	ADD1	29	A9
Path address 2	ADD2	2A	AA
Path address 3	ADD3	2B	AB

Note: CTRG, HOME are edge triggered, please make sure electronic bits last 1ms or above.

Pr4.01	**Label**	Input selection DI2			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x1		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0403		
	Valid	Immediate						
Pr4.02	**Label**	Input selection DI3			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x0		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0405		
	Valid	Immediate						
Pr4.03	**Label**	Input selection DI4			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x6		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0407		
	Valid	Immediate						
Pr4.04	**Label**	Input selection DI5			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0xC		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0409		
	Valid	Immediate						
Pr4.05	**Label**	Input selection DI6			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x3		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x040B		
	Valid	Immediate						

Pr4.06	**Label**	Input selection DI7			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x7		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x040D		
	Valid	Immediate						
Pr4.07	**Label**	Input selection DI8			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x4		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x040F		
	Valid	Immediate						
Pr4.08	**Label**	Input selection DI9			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x5		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0411		
	Valid	Immediate						
Pr4.09	**Label**	Input selection DI10			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x8		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0411		
	Valid	Immediate						

·DI2~DI10allocation is the same as DI1. Please refer to Pr4.00.

Pr4.10	**Label**	Output selection DO1			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x3		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0415		
	Valid	Immediate						

Please allocate DO as per table below. ALARM logic is the opposite of others

Value		**Signal**	**Symbol**
NO	**NC**		
00	80	Invalid	—
01	81	Alarm	ALARM
02	82	Servo-Ready	SRDY
03	83	External brake released	BRK-OFF
04	84	Positioning completed	INP
05	85	At-speed	AT-SPPED
06	86	Torque limit signal	TLC
07	87	Zero speed clamp detection	ZSP
08	88	Velocity coincidence	V-COIN
12	92	Servo Status	SRV-ST
15	95	Positive limit valid	POT-OUT
16	96	Negative limit valid	NOT-OUT
0B	8B	Position command ON/OFF	P-CMD
0F	8F	Velocity command ON/OFF	V-CMD
0D	8D	Velocity limit signal	V-LIMIT
14	94	Position comparison	CMP-OUT

CN1 PIN	**Output**	**Parameters**
11	DO1+	Pr4.10
10	DO1-	
35	DO2+	Pr4.11
34	DO2-	
37	DO3+	Pr4.12
36	DO3-	
39	DO4+	Pr4.13
38	DO4-	
12	DO5	Pr4.14
40	DO6	Pr4.15

Same signal can be assigned to multiple different outputs.

Normally open(NO)：Active low

Normally close(NC)：Active high

Err212 might occur if output is allocated to signals other than listed in the table above.

Outputs related to PR-mode

Signal	Symbol	Value	
		NO	NC
Command completed	CMD-OK	20	A0
Path completed	PR-OK	21	A1
Homing done	HOME-OK	22	A2

Note: CMD-OK indicates PR command is sent by axis might not yet be in position. PR-OK indicates axis is in place.

Pr4.11	**Label**	Output selection DO2			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x2		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0417		
	Valid	Immediate						
Pr4.12	**Label**	Output selection DO3			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x1		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0419		
	Valid	Immediate						
Pr4.13	**Label**	Output selection DO4			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x4		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x041B		
	Valid	Immediate						
Pr4.14	**Label**	Output selection DO5			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x7		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x041D		
	Valid	Immediate						
Pr4.15	**Label**	Output selection DO6			**Valid mode(s)**	**P**	**S**	**T**
	Range	0x0~0xFF	**Unit**	—	**Default**	0x6		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x041F		
	Valid	Immediate						

DO2-DO6 is allocated by the same method as per DO1. Please refer to Pr4.10.

Pr4.22	**Label**	Analog input 1(AI-1) Zero drift settings			**Valid mode(s)**		**S**
	Range	-1860~1860	**Unit**	5.37mv	**Default**	0	
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x042D	
	Valid	Immediate					
	To set zero drift compensation value on analog input 1 voltage for zero drift correction.						
Pr4.23	**Label**	Analog input 1(AI-1) filter			**Valid mode(s)**		**S**
	Range	0~6400	**Unit**	0.01ms	**Default**	0	
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x042F	
	Valid	Immediate					
	To set a delay filter time coefficient for AI1 input voltage. When filter time takes effect, input voltage will be smoothen.						
Pr4.24	**Label**	Analog input 1(AI-1) overvoltage settings			**Valid mode(s)**		**S**
	Range	0~100	**Unit**	0.1V	**Default**	0	
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0431	
	Valid	Immediate					
	Pr4.24 is invalid when set to 0. Er270 might occur when the input voltage of AI1 is higher than the voltage after zero drift correction.						

Pr4.28	**Label**	Analog input 3(AI-3) Zero drift settings			**Valid mode(s)**		**T**
	Range	-1860~1860	**Unit**	5.37mv	**Default**	0	
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0439	
	Valid	Immediate					
	To set zero drift compensation value on analog input 3 voltage for zero drift correction.						
Pr4.29	**Label**	Analog input 3(AI-3) filter			有效模式		**T**
	Range	0~6400	**Unit**	0.01ms	**Default**	0	
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x043B	
	Valid	Immediate					
	To set a delay filter time coefficient for AI3 input voltage. When filter time takes effect, input voltage will be smoothen.						
Pr4.30	**Label**	Analog input 3(AI-3) overvoltage settings			**Valid mode(s)**		**T**
	Range	0~100	**Unit**	0.1V	**Default**	0	
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x043D	
	Valid	Immediate					
	Pr4.30 is invalid when set to 0. Er270 might occur when the input voltage of AI3 is higher than the voltage after zero drift correction.						

Pr4.31	Label	Positioning complete range			Valid mode(s)	P		
	Range	0～10000	Unit	Pr5.21 set unit	Default	20		
	Byte length	16bit	Attribute	R/W	485 address	0x043F		
	Valid	Immediate						

To set position deviation range of INP1 positioning completed output signal. INP1 output signal will be valid once position is complete within the range of deviation set.
Default unit: 0.00001rev. Can be set on Pr5.21 as command unit (pulse) or encoder unit (pulse)

Pr4.32	Label	Positioning complete output setting			Valid mode(s)	P		
	Range	0~4	Unit	—	Default	1		
	Byte length	16bit	Attribute	R/W	485 address	0x0441		
	Valid	Immediate						

To set conditions for INP1 output signal to be valid

Value	Positioning completed signal
0	Signal valid when the position deviation is smaller than Pr4.31
1	Signal valid when there is no position command and position deviation is smaller than Pr4.31
2	Signal valid when there is no position command, zero-speed clamp detection (ZSP) signal is ON and the positional deviation is smaller than Pr4.31
3	Signal valid when there is no position command and position deviation is smaller than Pr4.31. Signal ON when within the time set in Pr4.33 otherwise OFF.
4	When there is no command, position detection starts after the delay time set in Pr4.33. Signal valid when there is no position command and positional deviation is smaller than Pr4.31.

Pr4.33	Label	INP positioning delay time			Valid mode(s)	P		
	Range	0~15000	Unit	1ms	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0443		
	Valid	Immediate						

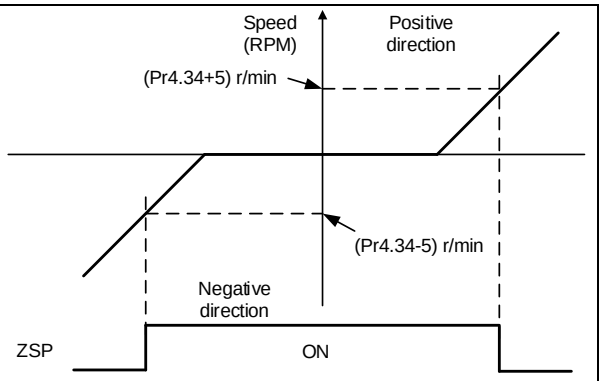
Valid when Pr4.32 = 3.

Set value	Positioning completed signal
0	Indefinite delay time, signal ON until next position command
1-15000	OFF within the time set; ON after time set. Switch OFF after receiving next position command.

Pr4.34	Label	Zero speed			Valid mode(s)	P	S	T
	Range	1~2000	Unit	r/min	Default	50		
	Byte length	16bit	Attribute	R/W	485 address	0x0445		
	Valid	Immediate						

To set threshold value for zero speed clamp detection.
Zero speed clamp detection (ZSP) output signal valid when motor speed goes under the value set in Pr4.34

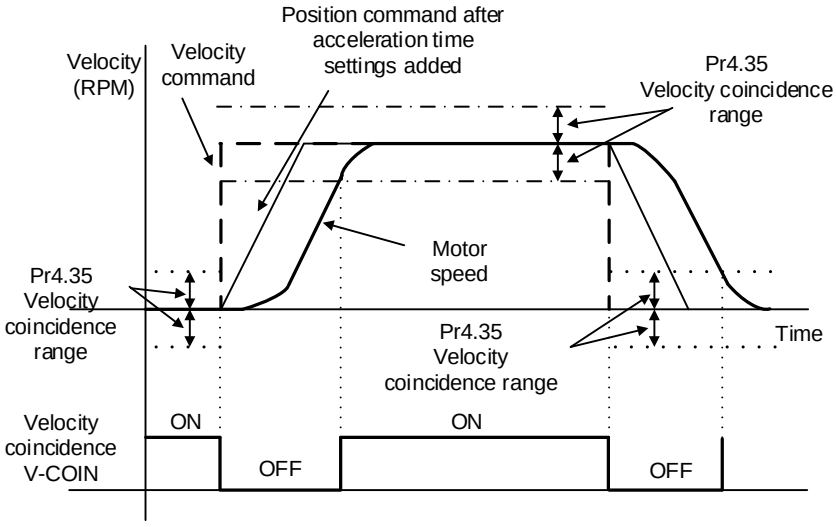
- Disregard the direction of rotation, valid for both directions.
- Hysteresis of 5RPM. Please refer to diagram on the right side.



Pr4.35	Label	Velocity coincidence range			Valid mode(s)		S	
	Range	10~2000	Unit	r/min	Default	50		
	Byte length	16bit	Attribute	R/W	485 address	0x0447		
	Valid	Immediate						

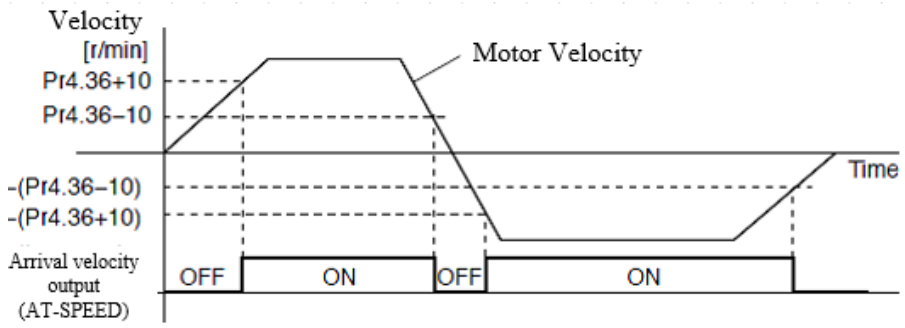
If the difference between velocity command and motor actual speed is below Pr4.35, Velocity coincidence (V-COIN) output signal valid.

Due to 10RPM hysteresis:
Velocity coincidence output OFF -> ON timing (Pr4.35 -10) r/min
Velocity coincidence output ON -> OFF timing (Pr4.35 +10) r/min



Pr4.36	Label	Arrival velocity			Valid mode(s)	S
	Range	10~2000	Unit	r/min	Default	1000
	Byte length	16bit	Attribute	R/W	485 address	0x0449
	Valid	Immediate				

When motor velocity > Pr4.36, AT-speed output signal is valid.
Detection using 10RPM hysteresis.

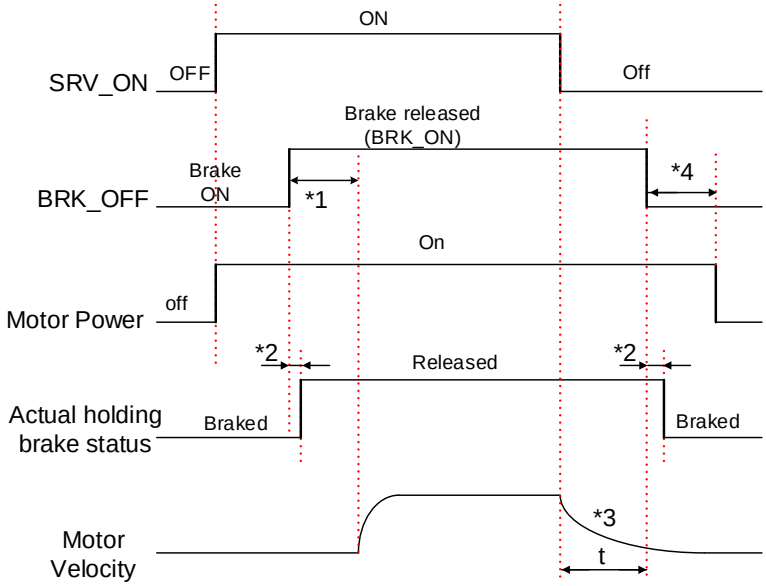


Pr4.37	Label	Motor power-off delay time			Valid mode(s)	P	S	T
	Range	0~3000	Unit	1ms	Default	150		
	Byte length	16bit	Attribute	R/W	485 address	0x044B		
	Valid	Immediate						

To set delay time for holding brake to be activated after motor power off to prevent axis from sliding.
When Pr5.06 = 0, SRV-ON signal is off, holding brake is activated (delay time is determined by Pr4.39 or Pr6.14). Motor powered-off once delay time set in Pr4.37 is due.

Pr4.38	Label	Holding brake release time			Valid mode(s)	P	S	T
	Range	0~3000	Unit	1ms	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x044D		
	Valid	Immediate						

To set delay time for holding brake to be released after motor power on. Motor will remain at current position and input command is masked to allow holding brake to be fully released before motor is set in motion.



*1: Delay time set in Pr4.38
*2: Delay time from the moment BRK_OFF signal is given until actual holding brake is released or BRK_ON signal is given until actual holding brake is activated. It is dependent on the holding brake of the motor.
*3: Deceleration time is determined by Pr6.14 or if motor speed goes below Pr4.39, whichever comes first. BRK_OFF given after deceleration time.
*4: Pr4.37 set time value.

Delay time from the moment SRV_ON is given until BRK_OFF switch to BRK_ON, is less than 500ms.

Pr4.39								
	Label	Holding brake activation speed			**Valid mode(s)**	**P**	**S**	**T**
	Range	30~3000	**Unit**	r/min	**Default**	30		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x044F		
	Valid	Immediate						

To set the activation speed for which holding brake will be activated.

When SRV-OFF signal is given, motor decelerates, after it reaches below Pr4.39 and Pr6.14 is not yet reached, BRK_OFF is given.
BRK_OFF signal is determined by Pr6.14 or if motor speed goes below Pr4.39, whichever comes first.

Application:
1. After disabling axis, Pr6.14 has been reached but motor speed is still above Pr4.39, BRK_OFF signal given.
2. After disabling axis, Pr6.14 has not been reached but motor speed is below Pr4.39, BRK_OFF signal given.

Deceleration max duration: 2s. Servo disabled after 2s.

Pr4.43								
	Label	Emergency stop function			**Valid mode(s)**	**P**	**S**	**T**
	Range	0~1	**Unit**	—	**Default**	0		
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0457		
	Valid	Immediate						

Value	Description.
【0】	Emergency stop is valid, servo driver will be forced to STOP and Err570 occurs.
1	Emergency stop is invalid, servo driver will not be forced to STOP. Servo can be enabled once E-STOP signal is cleared.

Pr4.64	Label	AO1 output			Valid mode(s)	P	S	T
	Range	0~10	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0481		
	Valid	Immediate						

Value	Description
【0】	Negative/Positive value: -10~10V
1	Absolute value output: 0~10V
Other	Reserved

Pr4.65	Label	AO1 signal			Valid mode(s)	P	S	T
	Range	0x0~0x7FFFFFFF	Unit	—	Default	0x4		
	Byte length	16bit	Attribute	R/W	485 address	0x0483		
	Valid	Immediate						

Bit 0 – 15: AO signal source; Bit 16 – 31: DO extension channel

Bit0~Bit15	Signal source
0x0	-
0x1	Motor rotational speed（V/krpm）
0x2	Position command velocity（V/krpm）
0x3	Internal position command velocity（V/krpm）
0x4	Torque command（0.03V/0.01）
0x5	Position command deviation（mV/Command unit）
0x6	Position command deviation（mV/Encoder unit）
0x7	Analog 1（V/V）
0x8	Analog 2（V/V）
0x9	Analog 3（V/V）
0xA	Extension DO（0V/5V）
0xB	As per Pr4.67

Bit 16 – 31: Only available when AO signal source = 0xA

Bit16~Bit31	Channel
01h	Alarm output
02h	Servo ready
03h	External brake released
04h	Positioning completed
…	Please refer to Pr4.10 for other signal channels

Pr4.66	Label	AO1 amplification			Valid mode(s)	P	S	T
	Range	-10000~10000	Unit	0.01	Default	100		
	Byte length	16bit	Attribute	R/W	485 address	0x0485		
	Valid	Immediate						

To set the amplification of AO1, actual voltage output = amplification x theoretical voltage

Pr4.67	Label	AO1 communication settings			Valid mode(s)	P	S	T
	Range	-10000~10000	Unit	mV	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0487		
	Valid	Immediate						

Available when AO1 = 0xB

Pr4.68	Label	AO1 offset			Valid mode(s)	P	S	T
	Range	-10000~10000	Unit	mV	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0489		
	Valid	Immediate						

To set AO1 offset value.

Pr4.69	Label	AO2 output			Valid mode(s)	P	S	T
	Range	0~10	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x048B		
	Valid	Immediate						

Value	Description
【0】	Negative/Positive value: -10~10V
1	Absolute value output: 0~10V
Other	Reserved

Pr4.70	Label	AO2 signal			Valid mode(s)	P	S	T
	Range	0x0~0xFFFF	Unit	—	Default	0x1		
	Byte length	16bit	Attribute	R/W	485 address	0x048D		
	Valid	Immediate						

Bit 0 – 15: AO signal source; Bit 16 – 31: DO extension channel

Bit0~Bit15	Signal source
0x0	-
0x1	Motor rotational speed（V/krpm）
0x2	Position command velocity（V/krpm）
0x3	Internal position command velocity（V/krpm）
0x4	Torque command（0.03V/0.01）
0x5	Position command deviation（mV/Command unit）
0x6	Position command deviation（mV/Encoder unit）
0x7	Analog 1（V/V）
0x8	Analog 2（V/V）
0x9	Analog 3（V/V）
0xA	Extension DO（0V/5V）
0xB	As per Pr4.72

Bit 16 – 31: Only available when AO signal source = 0xA

Bit16~Bit31	Channel
01h	Alarm output
02h	Servo ready
03h	External brake released
04h	Positioning completed
…	Please refer to Pr4.10 for other signal channels

Pr4.71	Label	AO2 amplification			Valid mode(s)	P	S	T
	Range	-10000~10000	Unit	0.01	Default	100		
	Byte length	16bit	Attribute	R/W	485 address	0x048F		
	Valid	Immediate						

To set the amplification of AO2, actual voltage output = amplification x theoretical voltage.

Pr4.72	Label	AO2 communication settings			Valid mode(s)	P	S	T
	Range	-10000~10000	Unit	mV	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0491		
	Valid	Immediate						

Available when AO1 = 0xB

Pr4.73	Label	AO2 offset			Valid mode(s)	P	S	T
	Range	-10000~10000	Unit	mV	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0493		
	Valid	Immediate						

To set AO2 offset value.

Pr4.74	Label	Warning indicator light 1 signal			Valid mode(s)	P	S	T
	Range	0~100	Unit	-	Default	1		
	Byte length	16bit	Attribute	R/W	485 address	0x0495		
	Valid	Immediate						

To select warning signal for warning indicator light 1

Value	Signal
【0】	None
1	Negative limit
2	Battery low voltage
3	Overload
4	Torque limit
5	Positive limit
other	*Reserved*

During normal operation, warning indicator light will be lighted in a cycle.

Pr4.75	Label	Warning indicator light 2 signal			Valid mode(s)	P	S	T
	Range	0~100	Unit	-	Default	2		
	Byte length	16bit	Attribute	R/W	485 address	0x0497		
	Valid	Immediate						

To select warning signal for warning indicator light 2, as per table in Pr4.74

Pr4.76	Label	Warning indicator light 3 signal			Valid mode(s)	P	S	T
	Range	0~100	Unit	-	Default	3		
	Byte length	16bit	Attribute	R/W	485 address	0x0499		
	Valid	Immediate						

To select warning signal for warning indicator light 3, as per table in Pr4.74

Pr4.77	Label	Warning indicator light 4 signal			Valid mode(s)	P	S	T
	Range	0~100	Unit	-	Default	4		
	Byte length	16bit	Attribute	R/W	485 address	0x049B		
	Valid	Immediate						

To select warning signal for warning indicator light 4, as per table in Pr4.74

Pr4.78	Label	Warning indicator light 5 signal			Valid mode(s)	P	S	T
	Range	0~100	Unit	-	Default	5		
	Byte length	16bit	Attribute	R/W	485 address	0x049D		
	Valid	Immediate						

To select warning signal for warning indicator light 5, as per table in Pr4.74

[Class 5] Extension Settings

Pr5.00	Label	2nd pulse count per revolution			Valid mode(s)	P		
	Range	0-67108864	Unit	PULSE	Default	10000		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x0500 L: 0x0501		
	Valid	After restart						

Switch between Pr0.08 and Pr5.00 with DI signal DIV1.
When switch to Pr5.00:
（1）Pr5.00 valid when ≠ 0:
Motor revolution = Input pulse count / [Pr5.00 set value]
（2）Pr5.00 invalid when = 0:
Actual position pulse count is according to Pr5.01 and Pr5.02.
Switching with DIV1 signal only valid when servo drive is re-enabled.

Pr5.01	Label	2nd Command frequency divider/multiplier numerator			Valid mode(s)	P		
	Range	1~1073741824	Unit	—	Default	1		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x0502 L: 0x0503		
	Valid	After restart						
	To set command pulse input frequency division and multiplication numerator							
Pr5.02	Label	2nd Command frequency divider/multiplier denominator			Valid mode(s)	P		
	Range	1~1073741824	Unit	—	Default	1		
	Byte length	32bit	Attribute	R/W	485 address	H: 0x0504 L: 0x0505		
	Valid	After restart						
	To set command pulse input frequency division and multiplication denominator. Please refer to Pr0.09 and Pr0.10. Switch using DIV1 signal.							

Pr5.04	Label	Driver prohibition input settings			Valid mode(s)	P	S	T
	Range	0/1/2	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0509		
	Valid	Immediate						

To set driver prohibition input (POT/NOT)

Value	Description
0	POT → Positive direction drive prohibited NOT → Negative direction drive prohibited
1	POT and NOT invalid
2	Any single sided input from POT or NOT might cause Er260

Pr5.06	Label	Servo-off mode			Valid mode(s)	P	S	T
	Range	0~1	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x050D		
	Valid	Immediate						

To set servo driver disable mode and status.

Value	Description	
	Mode	*Status*
0	Servo braking	Dynamic braking
1	Free stopping	Dynamic braking
2	Dynamic braking	Dynamic braking
3	Servo braking	Free-run
4	Free stopping	Free-run
5	Dynamic braking	Free-run

Servo braking: Stop servo axis quickly using braking torque
Pr5.06 only effective for stopping under normal circumstances. For stopping on alarm occurrence but refer to Pr5.10

Pr5.09	Label	Main power-off detection time			Valid mode(s)	P	S	T
	Range	50~200	Unit	ms	Default	50		
	Byte length	16bit	Attribute	R/W	485 address	0x0513		
	Valid	Immediate						
To set delay time for detection of main power-off or low voltage supply.								

Pr5.10	Label	Servo-off due to alarm mode			Valid mode(s)	P	S	T
	Range	0~2	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0515		
	Valid	After restart						

To set servo driver disable mode and status if alarm is triggered.
Alarm type 2:

Value	Explanation	
	Mode	*Status*
0	Servo braking	Dynamic braking
1	Free stopping	Dynamic braking
2	Dynamic braking	Dynamic braking
3	Servo braking	Free-run
4	Free stopping	Free-run
5	Dynamic braking	Free-run

Alarm type 1:

Value	Explanation	
	Mode	*Status*
0	Dynamic braking	Dynamic braking
1		
2		
3	Servo braking	Free-run
4	Free stopping	Free-run
5	Dynamic braking	Free-run

Pr5.11	Label	Servo braking torque setting			Valid mode(s)	P	S	T
	Range	0~500	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0517		
	Valid	Immediate						

To set torque limit for servo braking mode.
If Pr5.11 = 0, use torque limit as under normal situation.
Please note that if Pr5.11 set value is too low, emergency stop will take longer.

Pr5.12	Label	Overload level setting			有效模式	P	S	T
	Range	0~115	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0519		
	Valid	Immediate						

• When set to 0, overload level = 100%.
• Set to 0 under regular usage. Lowering overload level will cause motor to overload in shorter time.
• Er100 occurs when driver output current higher than motor rated current (overload)
Er101 occurs when driver output current lower than motor rated current

Pr5.13	Label	Overspeed level settings			Valid mode(s)	P	S	T
	Range	0~10000	Unit	r/min	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x051B		
	Valid	Immediate						

If motor speed exceeds Pr5.13, Er1A0 might occur.
When Pr5.13 = 0, overspeed level = max. motor speed x 1.2

Pr5.15	Label	I/O digital filter			Valid mode(s)	P	S	T
	Range	0~255	Unit	0.1ms	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x051F		
	Valid	After restart						

Digital filtering of I/O input. Overly large value set will cause control delay.

Pr5.17	Label	Counter clearing input mode			Valid mode(s)	P		
	Range	0~4	Unit	—	Default	3		
	Byte length	16bit	Attribute	R/W	485 address	0x0523		
	Valid	Immediate						

To set the clearing conditions for deviation counter clearing input signal.

Value	Condition
0/2/4	Invalid
1	Always clear
3	Clear only once (Rising edge trigger)

Pr5.20	Label	Position unit settings			Valid mode(s)	P		
	Range	0~2	Unit	—	Default	1		
	Byte length	16bit	Attribute	R/W	485 address	0x0529		
	Valid	Immediate						

Set unit for position related parameters

Value	Unit
0	Encoder unit
1	Command unit
2	0.0001rev

Command unit: Pulse from host (Affected by electronic gear ratio)
Encoder unit: Pulse from encoder (Related to encoder resolution)
Pr5.20 can only be modified when axis is disabled as it will clear position data

Pr5.21	Label	Torque limit selection			Valid mode(s)	P	S	T
	Range	0~6	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x052B		
	Valid	Immediate						

Value		Limit
【0】		1st torque limit Pr0.13
1		2nd torque limitPr5.22
2	TL-SEL OFF	Pr0.13
	TL-SEL ON	Pr5.22
3~4		Reserved
5		Pr0.13 →Positive torque limit Pr5.22 →Negative torque limit

Pr5.22	Label	2nd torque limit			Valid mode(s)	P	S	T
	Range	0~500	Unit	%	Default	300		
	Byte length	16bit	Attribute	R/W	485 address	0x052D		
	Valid	Immediate						

Pr5.22 is limited by max. torque set in motor parameter.

Pr5.23	Label	Positive torque warning threshold			Valid mode(s)	P	S	T
	Range	0~300	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x052F		
	Valid	Immediate						

Default = 0, which is 95%. Other values only valid when Pr5.21 = 5.
If actual torque higher than threshold, TLC torque limit signal will be valid.

Pr5.24	Label	Negative torque warning threshold			Valid mode(s)	P	S	T
	Range	0~300	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0531		
	Valid	Immediate						

Default = 0, which is 95%. Other values only valid when Pr5.21 = 5.
If actual torque higher than threshold, TLC torque limit signal will be valid.

Pr5.28	Label	LED initial status			Valid mode(s)	P	S	T
	Range	0~35	Unit	—	Default	1		
	Byte length	16bit	Attribute	R/W	485 address	0x0539		
	Valid	Immediate						

To set content display on front panel of the servo driver at servo driver power on.

Value	Display	Value	Display	Value	Display
0	Position command deviation	12	Error cause and history record	24	Encoder position deviation
【1】	Motor speed	13	Alarm code	25	Internal usage
2	Position command velocity	14	Regenerative load rate	26	Internal usage
3	Velocity control command	15	Overload rate	27	Voltage across PN
4	Actual feedback torque	16	Inertia ratio	28	Software version
5	Feedback pulse sum	17	No rotation cause	29	Internal usage
6	Command pulse sum	18	No. of changes in I/O signals	30	No. of encoder communication error
7	Maximum torque during motion	19	Internal usage	31	Accumulated uptime
8	Position command frequency	20	Absolute encoder data	32	Internal usage
9	Control mode	21	Encoder single turn data	33	Driver temperature
10	I/O signal status	22	Encoder multi turn data	34	Servo status
11	Analog input	23	485 receive frame	35	Internal usage

Pr5.29	Label	RS485 communication mode			Valid mode(s)	P	S	T
	Range	0~255	Unit	—	Default	5		
	Byte length	16bit	Attribute	R/W	485 address	0x053B		
	Valid	After restart						

Value	Bit	Checksum	Stop
0	8	Even	2
1	8	Odd	2
2	8	Even	1
3	8	Odd	1
4	8	Null	1
【5】	8	Null	2

Pr5.30	Label	RS485 communication Baud rate			Valid mode(s)	P	S	T
	Range	0~15	Unit	—	Default	4		
	Byte length	16bit	Attribute	R/W	485 address	0x053D		
	Valid	After restart						

Value	Baud rate
0	2400bps
1	4800bps
2	9600bps
3	19200bps

Value	Baud rate
【4】	38400bps
5	57600bps
6	115200bps

Baud rate tolerance: 2400～38400bps±0.5%, 57600～115200bps±2%

Pr5.31	Label	RS485 axis address			Valid mode(s)	P	S	T
	Range	0~127	Unit	—	Default	1		
	Byte length	16bit	Attribute	R/W	485 address	0x053F		
	Valid	After restart						

When controller is connected to multiple axis and controller needs to identify the axis, Pr5.31 can be used to set the axis ID/address.
Please set to a max of 31 if the communication is between RS232 and RS485

Pr5.32	Label	Max. command pulse input frequency			Valid mode(s)	P		
	Range	0~8000	Unit	kHz	Default	4100		
	Byte length	16bit	Attribute	R/W	485 address	0x0541		
	Valid	Immediate						

Please set the max. frequency required for command pulse input. Er1B0 will occur, if command pulse input frequency exceeds Pr5.32.

Pr5.35	Label	Front panel lock setting			Valid mode(s)	P	S	T
	Range	0~1	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0547		
	Valid	Immediate						

Value	Description
【0】	Front panel not lock
1	Only parameter modification through front panel is locked

Pr5.37	Label	Torque saturation alarm detection time			Valid mode(s)	P	S	T
	Range	0~5000	Unit	ms	Default	500		
	Byte length	16bit	Attribute	R/W	485 address	0x0549		
	Valid	Immediate						

To set the delay time for detection of torque over limit under torque homing mode.
Under homing mode, when torque exceeds limit and the time set in Pr5.37, TLC output signal will be valid.

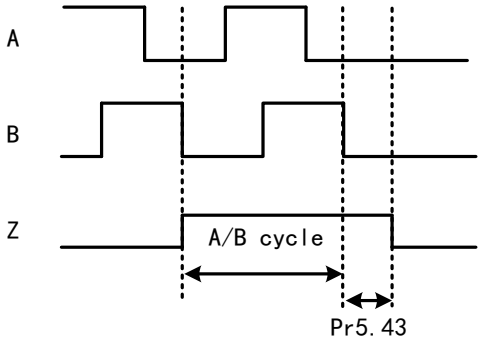
Pr5.42	Label	Frequency divider output – Z-signal polarity			Valid mode(s)	P	S	T
	Range	0~7	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0555		
	Valid	Disabled						

Bit	Polarity	Description
Bit0	0 = Positive 1 = Negative	Z polarity setting of frequency divider output and position comparison
Bit1	0 = Positive 1 = Negative	Only valid in position comparison. Polarity setting when phase A frequency divider as position comparison output
Bit2	0 = Positive	Only valid in position comparison. Polarity setting when phase B frequency divider as position comparison output

Pr5.43	Label	Frequency divider output – Z-signal width			Valid mode(s)	P	S	T
	Range	0~500	Unit	μs	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0557		
	Valid	After restart						

Value	Description
【0】	Z bandwidth equivalent to 1 cycle of A/B
1~500	Delay setting on top of A/B cycle width

When Pr5.43 = 0, width of frequency divider output Z-signal is equivalent to width of 1 cycle of A/B, value set in Pr5.43 + A/B cycle width = delay setting.



Pr5.44	Label	Frequency divider output source			Valid mode(s)	P	S	T
	Range	0~4	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0559		
	Valid	After restart						

Value	Description
【0】	Position feedback of encoder #1(motor encoder)
1	Position feedback of encoder #2(external encoder)
2	Reserved
3	Pulse input command position synchronous output; position comparison not available in this mode
4	Frequency divider output prohibited

Pr5.46	Label	Vent overload level			Valid mode(s)	P	S	T
	Range	0~115	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x055D		
	Valid	After restart						

Value	Description
【0】	Default level: 80%
1~115	Set vent overload level accordingly

Pr5.70	Label	Enable position comparison			Valid mode(s)	P		
	Range	0~1	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x058D		
	Valid	Immediate						

Value	Description
【0】	Disable
1	Enable （Rising edge）

Pr5.71	Label	Position comparison mode			Valid mode(s)	P		
	Range	0~2	Unit	—	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x058F		
	Valid	Immediate						

Value	Description
【0】	Single comparison
1	N cycles comparison
2	Cycle comparison

Detailed explanations is available in Chapter 6 Application under Position Comparison section

Pr5.72	Label	Position comparison pulse output bandwidth			Valid mode(s)	P		
	Range	1~4095	Unit	0.1ms	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0591		
	Valid	Immediate						

To set output signal pulse width of position comparison.

Pr5.73	**Label**	Position comparison output delay offset				**Valid mode(s)**	**P**	
	Range	-10000~10000	**Unit**	0.1μs		**Default**	0	
	Byte length	16bit	**Attribute**	R/W		**485 address**	0x0593	
	Valid	Immediate						
	To set delay time compensation for delay due to DO/ frequency divider							
Pr5.74	**Label**	Position comparison starting point				**Valid mode(s)**	**P**	
	Range	1~42	**Unit**	-		**Default**	1	
	Byte length	16bit	**Attribute**	R/W		**485 address**	0x0595	
	Valid	Immediate						
	To set the starting point of position comparison.							
Pr5.75	**Label**	Position comparison end point				**Valid mode(s)**	**P**	
	Range	1~42	**Unit**	-		**Default**	2	
	Byte length	16bit	**Attribute**	R/W		**485 address**	0x0597	
	Valid	Immediate						
	To set the end point of position comparison.							
Pr5.76	**Label**	No. of cycles for *N* cycle comparison				**Valid mode(s)**	**P**	
	Range	1~50000	**Unit**	-		**Default**	1	
	Byte length	16bit	**Attribute**	R/W		**485 address**	0x0599	
	Valid	Immediate						
	To set the number of cycles for *N* cycles comparison in position comparison.							
Pr5.77	**Label**	Position comparison – Set current position as origin				**Valid mode(s)**	**P**	
	Range	1~50000	**Unit**	-		**Default**	1	
	Byte length	16bit	**Attribute**	R/W		**485 address**	0x059B	
	Valid	Immediate						
	Set origin for position comparison, set current position as origin at rising edge.							
	Value	**Description**						
	【0】	Disable						
	1	Enable （Rising edge）						
Pr5.78	**Label**	Position comparison - offset to origin				**Valid mode(s)**	**P**	
	Range	1~50000	**Unit**	-		**Default**	1	
	Byte length	16bit	**Attribute**	R/W		**485 address**	0x059D	
	Valid	Immediate						
	To set offset value of position in comparison to origin set in Pr5.77							

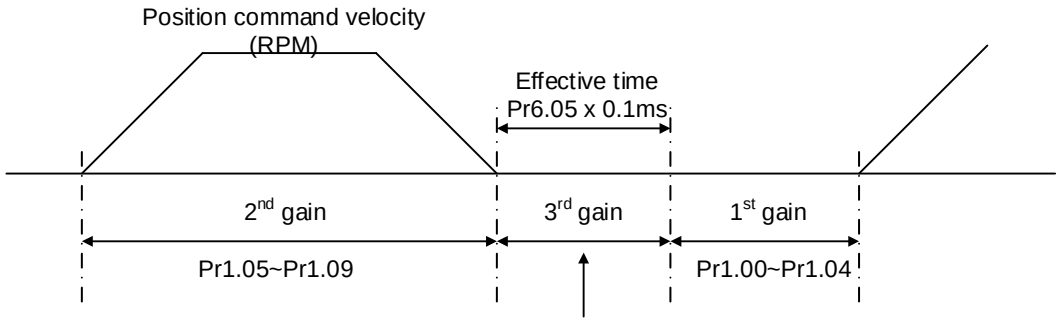
[Class 6] Other settings

Pr6.01	**Label**	Encoder zero position compensation				**Valid mode(s)**	**P**	**S**	**T**
	Range	0~360	**Unit**	Electrical angel		**Default**	0	
	Byte length	16bit	**Attribute**	R/W		**485 address**	0x0603	
	Valid	Power-off						
	Zero position compensation for encoder zero drift to avoid abnormality due to zero drift.							

Pr6.03	Label	JOG trial run torque command			Valid mode(s)			T
	Range	0~350	Unit	%	Default	350		
	Byte length	16bit	Attribute	R/W	485 address	0x0607		
	Valid	Immediate						
To set torque for JOG trial run command.								
Pr6.04	Label	JOG trial run velocity command			Valid mode(s)	P	S	T
	Range	0~10000	Unit	r/min	Default	30		
	Byte length	16bit	Attribute	R/W	485 address	0x0609		
	Valid	Immediate						
To set velocity for JOG trial run command.								

Pr6.05	Label	Position 3rd gain valid time			Valid mode(s)	P		
	Range	0~10000	Unit	0.1ms	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x060B		
	Valid	Immediate						
To set time for 3rd gain to be valid Only available in position mode When not in use, set Pr6.05=0, Pr6.06=100								
Pr6.06	Label	Position 3rd gain scale factor			Valid mode(s)	P		
	Range	50~1000	Unit	100%	Default	100		
	Byte length	16bit	Attribute	R/W	485 address	0x060D		
	Valid	Immediate						

Set up the 3rd gain by multiplying factor of the 1st gain



Position loop gain = Pr1.00 x Pr6.06/100
Velocity loop gain = Pr1.01 x Pr6.06/100
Velocity loop integral time constant，Velocity detection filter，
Torque filter time constant still uses 1st gain

Above diagram is illustrated using Pr1.15 = 7.
3rd gain= 1st gain * Pr6.06/100
Only effective under position control mode. 3rd gain valid when Pr6.05 ≠ 0. Set 3rd gain value in Pr6.06. When 2nd gain switches to 1st gain, it will go through 3rd, switching time is set in Pr1.19.

Pr6.07	Label	Torque command additional value			Valid mode(s)	P	S	T
	Range	-100~100	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x060F		
	Valid	Immediate						
	To set torque forward feed additional value of vertical axis. Applicable for loaded vertical axis, compensate constant torque. Application: When load move along vertical axis, pick any point from the whole motion and stop the load at that particular point with motor enabled but not rotating. Record output torque value from d04, use that value as torque command additional value (compensation value)							

Pr6.08	Label	Positive direction torque compensation value			Valid mode(s)	P	S	T
	Range	-100~100	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0611		
	Valid	Immediate						
Pr6.09	Label	Negative direction torque compensation value			Valid mode(s)	P	S	T
	Range	-100~100	Unit	%	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x0613		
	Valid	Immediate						

To reduce the effect of mechanical friction in the movement(s) of the axis. Compensation values can be set according to needs for both rotational directions.

Applications:
1. When motor is at constant speed, d04 will deliver torque values.
Torque value in positive direction = T1;
Torque value in negative direction = T2

Pr6.08/Pr6.09 = $T_f = \frac{|T1 - T2|}{2}$

Positive/Negative compensation corresponds to actual position feedback.
Positive torque compensation value = +(Pr6.08=+T_f)
Negative torque compensation value = -(Pr6.08=+T_f)
Pr6.08 =x, Pr6.09=y; friction compensation value = |x-y|/2

Pr6.11	Label	Current response settings			Valid mode(s)	P	S	T
	Range	50~100	Unit	%	Default	100		
	Byte length	16bit	Attribute	R/W	485 address	0x0617		
	Valid	Immediate						
	To set driver current loop related effective value ratio.							

Pr6.14	Label	Max. time to stop after disabling			Valid mode(s)	P	S	T
	Range	0~1000	Unit	ms	Default	500		
	Byte length	16bit	Attribute	R/W	485 address	0x061D		
	Valid	Immediate						

To set the max. time allowed for the axis to stop on emergency stop or normal axis disabling. After disabling axis, if motor speed is still higher than Pr4.39 but the time set in Pr6.14 is reached, BRK_ON given and holding brake activated.
BRK_ON given time is determined by Pr6.14 or when motor speed goes below Pr4.39, whichever comes first.

Applications:
1. After disabling axis, if motor speed is still higher than Pr4.39 but the time set in Pr6.14 is reached, BRK_ON given and holding brake activated.
2. After disabling axis, if motor speed is already lower than Pr4.39 but the time set in Pr6.14 is not yet reached, BRK_ON given and holding brake activated.

Dynamic brake will be provide the braking function if the function is activated for motors without holding brake.

Pr6.20	Label	Trial run distance			Valid mode(s)	P		
	Range	0~1200	Unit	0.1rev	Default	10		
	Byte length	16bit	Attribute	R/W	485 address	0x0629		
	Valid	Immediate						

JOG (Position control) : Distance travel of each motion.

Pr6.21	Label	Trial run waiting time			Valid mode(s)	P		
	Range	0~10000	Unit	ms	Default	300		
	Byte length	16bit	Attribute	R/W	485 address	0x062B		
	Valid	Immediate						

JOG (Position control) : Waiting time interval after each motion cycle

Pr6.22	Label	No. of trial run cycles			Valid mode(s)	P		
	Range	0~10000	Unit	—	Default	5		
	Byte length	16bit	Attribute	R/W	485 address	0x062D		
	Valid	Immediate						

JOG (Position control) : No. of cycles
When Pr6.22, trial run goes into endless cycles.

Pr6.25	Label	Trial run acceleration			Valid mode(s)	P	S	
	Range	0~10000	Unit	ms	Default	200		
	Byte length	16bit	Attribute	R/W	485 address	0x0633		
	Valid	Immediate						

To set the acceleration/deceleration time for JOG command between 0 rpm to 1000 rpm

Pr6.28	Label	Observer gain			Valid mode(s)	P	S
	Range	0~32767	Unit	%	Default	0	
	Byte length	16bit	Attribute	R/W	485 address	0x0639	
	Valid	Immediate					
0：Default stable gain 1：OFF x：(unit：%) Manual, related to motor, load and encoder							
Pr6.29	**Label**	Observer filter			**Valid mode(s)**	**P**	**S**
	Range	0~32767	**Unit**	μs	**Default**	0	
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x063B	
	Valid	Immediate					
0：Default stable observer filter 1：OFF x：(unit：μs) Manual, related to motor, load and encoder							

Pr6.56	Label	Blocked rotor alarm torque threshold			Valid mode(s)	P	S
	Range	0~300	Unit	%	Default	300	
	Byte length	16bit	Attribute	R/W	485 address	0x0671	
	Valid	Immediate					
To set the torque threshold of blocked rotor to trigger alarm. (Alarm triggered if torque output% larger than threshold value & under 10rpm) If Pr6.56 = 0, blocked rotor alarm deactivated. If motor speed is 10rpm or above, Er102 won't be triggered.							
Pr6.57	**Label**	Blocked rotor alarm delay time			**Valid mode(s)**	**P**	**S**
	Range	1~10000	**Unit**	ms	**Default**	400	
	Byte length	16bit	**Attribute**	R/W	**485 address**	0x0673	
	Valid	Immediate					

To set delay time for blocked rotor alarm. Err102 won't be triggered if time doesn't exceed set time in Pr6.57.
Blocked rotor alarm is activated by default, alarm torque threshold = 300%, delay time = 400ms; speed threshold = 10rpm;

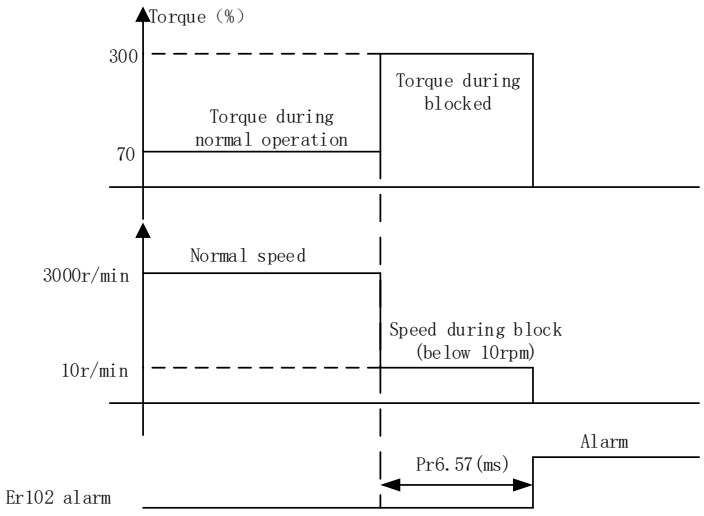


Diagram shows blocked rotor with speed under 10rpm

If the rotor is blocked but with speed over 10rpm, Er102 would not be triggered but Er100 might occur.

Pr6.63	Label	Absolute multiturn data upper limit			Valid mode(s)	P	S	T
	Range	0~32766	Unit	rev	Default	0		
	Byte length	16bit	Attribute	R/W	485 address	0x067F		
	Valid	After restart						
	Use Pr0.15 = 2 in rotational mode, Feedback position cycles between 0 and (Pr6.63+1) x encoder resolution. Absolute multiturn data will be set to 0 if reaches upper limit.							

[Class 7] Factory settings

**Please take precaution when modifying Class 7 parameters. Might cause driver errors*

Pr7.15	Label	Motor model			Valid mode(s)	P	S	T
	Range	0x0~0x7FFF	Unit	—	Default	0x200		
	Byte length	16bit	Attribute	R/W	485 address	0x071F		
	Valid	After restart						

Value	Description
0x100	Read from EEPROM
[0x200]	Read from Encoder

When Pr7.15 = 0x200(2xx):

Parameter	Label
Pr7.00	Current loop gain
Pr7.01	Current loop integral time
Pr7.05	No. of motor pole pairs
Pr7.06	Motor phase resistance
Pr7.07	Motor D/Q induction
Pr7.08	Motor back EMF coefficient
Pr7.09	Motor torque coefficient
Pr7.10	Motor rated rotational speed
Pr7.11	Motor max. rotational speed
Pr7.12	Motor rated current
Pr7.13	Motor rotor inertia
Pr7.14	Driver power rating
Pr7.16	Encoder
Pr7.17	Motor max. current
Pr7.18	Encoder index angle compensation

Pr7.16	Label	Encoder			Valid mode(s)	P	S	T
	Range	0x0~0x200	Unit	—	Default	编码器决定		
	Byte length	16bit	Attribute	R/W	485 address	0x0721		
	Valid	After restart						

To select encoder type. Typically, encoder specifications are automatically read.

Value	Description
0x0	17-bit encoder
0x7	23-bit encoder

Pr7.54	Label	External grating ruler precision			Valid mode(s)	P	S	T
	Range	1~1000000	Unit	nm	Default	100		
	Byte length	16bit	Attribute	R/W	485 address	0x076D		
	Valid	After restart						
	To select external grating ruler precision							

[Class B] Status Parameters

PrB.00	Label	Software version 1（DSP）			Valid mode(s)	P	S	T
	Range	/	Unit	/	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B00		
	Show DSP software version info.							

PrB.01	Label	Software version 2（CPLD）			Valid mode(s)	P	S	T
	Range	/	Unit	/	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B01		
	Show software version info.							

PrB.02	Label	Software version 3（Others）			Valid mode(s)	P	S	T
	Range	/	Unit	/	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B02		
	Show software version info.							

PrB.03	Label	Current alarm			Valid mode(s)	P	S	T
	Range	/	Unit	/	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B03		
	Show current alarm							

PrB.04	Label	Motor not rotating cause			Valid mode(s)	P	S	T
	Range	/	Unit	/	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B04		
	Show cause of motor not rotating							

PrB.05	Label	Driver operation status			Valid mode(s)	P	S	T
	Range	/	Unit	/	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B05		

Bit	Status	Description
0	RDY	Servo is ready
1	RUN	Servo is running
2	ERR	Driver error
3	HOME_OK	Homing completed
4	INP	In position
5	AT-SPEED	Velocity reached
6~15		Reserved

PrB.06	Label	Motor speed (Before filter)			Valid mode(s)	P	S	T
	Range	/	Unit	rpm	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B06		
	Motor actual speed							

PrB.07	Label	Motor torque			Valid mode(s)	P	S	T
	Range	/	Unit	%	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B07		
	The percentage of motor actual torque and rated torque							

PrB.08	Label	Motor current			Valid mode(s)	P	S	T
	Range	/	Unit	0.01A	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B08		
	Motor actual current							

PrB.09	Label	Motor speed (After filter)			Valid mode(s)	P	S	T
	Range	/	Unit	rpm	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B09		
	Motor speed after motor actual speed filtering							

PrB.10	Label	DC bus voltage			Valid mode(s)	P	S	T
	Range	/	Unit	V	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B0A		
	Driver DC bus actual voltage							

PrB.11	Label	Driver temperature			Valid mode(s)	P	S	T
	Range	/	Unit	°C	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B0B		
	Actual driver temperature							

PrB.12	Label	External analog 1			Valid mode(s)	P	S	T
	Range	/	Unit	0.01V	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B0C		
	Driver analog input 1							

PrB.13	Label	External analog 2			Valid mode(s)	P	S	T
	Range	/	Unit	0.01V	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B0D		
	Driver analog input 2							

PrB.14	Label	External analog 3			Valid mode(s)	P	S	T
	Range	/	Unit	0.01V	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B0E		
	Driver analog input 3							

PrB.15	Label	Motor overload rate			Valid mode(s)	P	S	T
	Range	/	Unit	%	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B0F		
	Motor overload rate							

PrB.16	Label	Vent overload rate			Valid mode(s)	P	S	T
	Range	/	Unit	%	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B10		
	Vent overload rate							

PrB.17	Label	Physical I/O input status			Valid mode(s)	P	S	T
	Range	/	Unit	/	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B04		
	Driver physical I/O input bit0 corresponds to DI1, bit1 to DI2 and so on; Bitn=1, DIn+1 high level signal input; Bitn=0, DIn+1 low level signal input							

PrB.18	Label	Cause of motor not rotating			Valid mode(s)	P	S	T
	Range	/	Unit	/	Default	/		
	Byte length	16bit	Attribute	R	485 address	0x0B04		
	Driver physical I/O output bit0 corresponds to DO1, bit1 to DO2 and so on; Bitn=1, DOn+1 high level signal output; Bitn=0 indicates DOn+1 low level signal output							

PrB.20	Label	Command position (Command unit)			Valid mode(s)	P		
	Range	/	Unit	P	Default	/		
	Byte length	32bit	Attribute	R	485 address	H: 0x0B14 L: 0x0B15		
	Driver receives command pulse count. Driver command unit: 10000 pulses/rev, Encoder unit: 8388608 pulses/rev. If driver receives 8388608 pulses, 10000P will be shown.							

PrB.21	Label	Motor position (Command unit)			Valid mode(s)	P		
	Range	/	Unit	P	Default	/		
	Byte length	32bit	Attribute	R	485 address	H: 0x0B16 L: 0x0B17		
	Motor position feedback. Driver command unit: 10000 pulses/rev, Encoder unit: 8388608 pulses/rev. If driver receives 8388608 pulses, 10000P will be shown.							

PrB.22	Label	Position deviation (Command unit)			Valid mode(s)	P		
	Range	/	Unit	P	Default	/		
	Byte length	32bit	Attribute	R	485 address	H: 0x0B18 L: 0x0B19		
	Shows position deviation. Please refer to PrB.20.							

PrB.23	Label	Command position (Encoder unit)			Valid mode(s)	P		
	Range	/	Unit	P	Default	/		
	Byte length	32bit	Attribute	R	485 address	H: 0x0B1A L: 0x0B1B		
	Driver receives command pulse count. Driver command unit: 10000 pulses/rev, Encoder unit: 8388608 pulses/rev. If driver receives 10000 pulses, 8388608 pulses will be shown.							

PrB.24	Label	Motor position (Encoder unit)			Valid mode(s)	P		
	Range	/	Unit	P	Default	/		
	Byte length	32bit	Attribute	R	485 address	H: 0x0B1C L: 0x0B1D		
	Driver receives motor encoder feedback pulses							

PrB.25	Label	Position deviation (Encoder unit)			Valid mode(s)	P		
	Range	/	Unit	P	Default	/		
	Byte length	32bit	Attribute	R	485 address	H: 0x0B1E L: 0x0B1F		
	Shows position deviation. Please refer to PrB.23.							

PrB.26	Label	Rotational encoder position feedback (Command unit)			Valid mode(s)	P		
	Range	/	Unit	P	Default	/		
	Byte length	32bit	Attribute	R	485 address	H: 0x0B20 L: 0x0B21		
	Motor position under rotary mode. Please refer to PrB.21							

[Class 8] PR control parameters

Pr8.00	Label	PR Control			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6000

It is recommended to modify PR control parameters using Motion Studio.

Bit	3	2	1	0
Description	=1, absolute value memory =0, absolute value with no memory	=1, reset upon power on =0, no reset upon power on	=1, software position limit valid =0, software position limit not valid	=0, CTRG rising edge trigger =1, double edges trigger

If parameter modifications are done through the front panel or parameters list, please keep in mind that PR control parameters byte are decimal system.
For example: If Bit 3, 2, 1, 0 are to be set to 1 (1111). Conversion using decimal system, 1111 = 15, Pr8.00 is to be set to 15.

Pr8.01	Label	Path count			Valid mode(s)	PR
	Range	16	Unit	/	Default	16
	Byte length	16bit	Attribute	R	485 address	0X6001

Fixed on 16 paths

Pr8.02	Label	Control Operation			Valid mode(s)	PR
	Range	0x0 ~ 0xFFFF	Unit	/	Default	0x0
	Byte length	16bit	Attribute	R/W	485 address	0X6002

Attributes of Pr8.02 functions are divided into Read/Write. P refers to positioning motion of *N* path. Please refer to the following table.

Attribute	Address	Description
Write	0x01P	*N* path positioning
Write	0x020	Reset
Write	0x021	Manually set currently position as 0 (Origin)
Write	0x040	Emergency stop
Read	0x000P	Positioning completed. Ready to receive new data
Read	0x01P, 0x020, 0x040	Yet to respond to command
Read	0x10P	Path motion undergoing
Read	0x200	Command completed. Waiting for positioning

Pr8.06	Label	Software positive limit H			Valid mode(s)	PR
	Range	0~ 65535	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6006

High bit of software positive limit；(Only valid using 485 communication)

Pr8.07	Label	Software positive limit (L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X6007
	To set software positive limit position (32 bit base) Using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr8.06 When software positive limit = 994817, 0x000F2E01(Hexadecimal) high16bit = 0x000F, hence Pr8.05 reading = 0x000F, controller = 15. R/W of high/low bit data is similar when using 485 communication.					

Pr8.08	Label	Software negative limit H			Valid mode(s)	PR
	Range	0~ 0x65535	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6008
	High bit of software negative limit；(Only valid using 485 communication)					

Pr8.09	Label	Software negative limit (L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X6009
	To set software positive limit position. Using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr8.08.					

Pr8.10	Label	Homing mode			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X600A

To set homing method in PR mode. It is recommended to modify PR control parameters using Motion Studio.

Bit	8（Z-signal homing）	2-7（Homing mode）	1（Specific position after homing）	0（Homing direction）
Description	=1, homing with Z-signal =0, homing without Z-signal	=0 Limit homing =1 Origin homing =2 Single turn Z homing =3 Torque homing =8 Immediate homing	=1, Yes =0, No	=1, Forward =0, Reverse

Pr8.11	Label	Zero position H			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X600B
	High bit of zero position；(Only valid using 485 communication)					

Pr8.12	Label	Zero position (L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	p	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X600C
	To set zero position. Using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr8.11.					

Pr8.13	**Label**	Home position offset H			**Valid mode(s)**	**PR**
	Range	0 ~ 65535	**Unit**	/	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X600D
	High bit of home position offset；(Only valid using 485 communication)					
Pr8.14	**Label**	Home position offset (L)			**Valid mode(s)**	**PR**
	Range	-2147483648~ 2147483647	**Unit**	p	**Default**	0
	Byte length	32bit	**Attribute**	R/W	**485 address**	0X600E
	To set home position offset. Using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr8.13.					
Pr8.15	**Label**	High homing velocity			**Valid mode(s)**	**PR**
	Range	1 ~ 6000	**Unit**	rpm	**Default**	200
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X600F
	To set high homing velocity in PR mode.					
Pr8.16	**Label**	Low homing velocity			**Valid mode(s)**	**PR**
	Range	1 ~ 6000	**Unit**	rpm	**Default**	50
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6010
	To set low homing velocity in PR mode.					
Pr8.17	**Label**	Homing acceleration			**Valid mode(s)**	**PR**
	Range	1 ~ 32767	**Unit**	ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6011
	To set homing acceleration time in PR mode, time needed for 0rpm to accelerate to 1000rpm					
Pr8.18	**Label**	Homing deceleration			**Valid mode(s)**	**PR**
	Range	1 ~ 32767	**Unit**	ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6012
	To set homing deceleration time in PR mode, time needed for 1000rpm to decelerate to 0rpm					
Pr8.19	**Label**	Homing torque holding time			**Valid mode(s)**	**PR**
	Range	0 ~ 65535	**Unit**	ms	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6013
	To set homing torque holding time					
Pr8.20	**Label**	Homing torque			**Valid mode(s)**	**PR**
	Range	0 ~ 65535	**Unit**	%	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6014
	To set homing torque					

Pr8.21	**Label**	Homing overtravel alarm range			**Valid mode(s)**	**PR**
	Range	0 ~ 65535	**Unit**	0.1r	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6015
	To set homing overtravel alarm threshold.					

Pr8.22	**Label**	Emergency stop at limit deceleration			**Valid mode(s)**	**PR**
	Range	1 ~ 32767	**Unit**	ms/Krpm	**Default**	10
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6016
	To set position limit emergency stop deceleration.					

Pr8.23	Label	STP emergency stop deceleration			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	50
	Byte length	16bit	Attribute	R/W	485 address	0X6017
	To set STP emergency stop deceleration.					

Pr8.26	Label	I/O combination trigger mode			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X601A

Value	Description
【0】	Disable I/O combination trigger mode. Uses I/O CTRG signal edge trigger.
1	Enable I/O combination trigger. Valid when HOME-OK signal is valid.
2	Enable I/O combination trigger. HOME-OK signal not required.

IO combination trigger select path using ADD0~ADD3. Trigger mode is set in Pr8.26.

ADD3	ADD2	ADD1	ADD0	Path selection
OFF	OFF	OFF	OFF	Path 0 (Non-action)
OFF	OFF	OFF	ON	Path1
OFF	OFF	ON	OFF	Path2
OFF	OFF	ON	ON	Path3
OFF	ON	OFF	OFF	Path4
OFF	ON	OFF	ON	Path5
OFF	ON	ON	OFF	Path6
OFF	ON	ON	ON	Path7
ON	OFF	OFF	OFF	Path8
ON	OFF	OFF	ON	Path9
ON	OFF	ON	OFF	Path10
ON	OFF	ON	ON	Path11
ON	ON	OFF	OFF	Path12
ON	ON	OFF	ON	Path13
ON	ON	ON	OFF	Path14
ON	ON	ON	ON	Path15

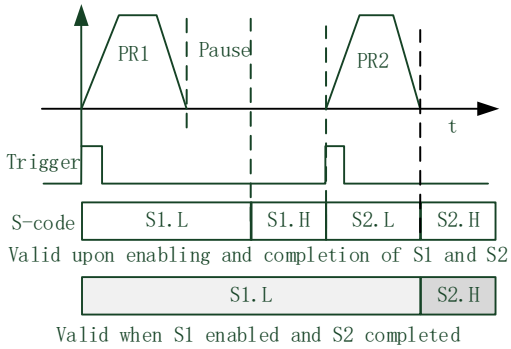
Pr8.27	Label	I/O combination filter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	ms	Default	5
	Byte length	16bit	Attribute	R/W	485 address	0X601B
	To set I/O combination filter time.					

Pr8.28	Label	S-code current output value			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X601C

S-code（Status code）is the S-code of currently operating PR positioning data.
Every PR path has a S-code setting.

S-code	Sx.H		Sx.L	
Bit	15	8-14	7	0-6
Description	S-code valid when completed. 0: Invalid, retain previous value 1: Valid	S-code upon completion	S-code valid upon activation 0: Invalid 1: Valid	S-code upon activation

Sequence diagram



S-code bit	bit0/8	bit1/9	bit2/10	bit3/11	bit4/12	bit5/13	Bit6/14
SDx	SD0	SD1	SD2	SD3	SD4	SD5	SD6

Pr8.29	Label	PR warning			Valid mode(s)	PR
	Range	0x0~0x20F	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X601D

Address	Warning
0	Reset new command automatically
0x100	Position limit error during homing
0x101	Emergency stop. Homing not completed
0x102	Homing overtravel alarm
0x20x	Position limit error on Path *N*

Pr8.39	Label	JOG velocity			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	rpm	Default	100
	Byte length	16bit	Attribute	R	485 address	0X6027
Set JOG velocity in PR mode.						
Pr8.40	Label	JOG acceleration			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R	485 address	0X6028
Set JOG acceleration in PR mode.						

Pr8.41	Label	JOG deceleration			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R	485 address	0X6029
	Set JOG deceleration in PR mode.					

Pr8.42	Label	Command position H			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	
	Byte length	16bit	Attribute	R	485 address	0X602A
	High bit of command position；(Only valid using 485 communication)					
Pr8.43	Label	Command position（L）			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	p	Default	
	Byte length	32bit	Attribute	R	485 address	0X602B
	To set PR-motion command position. Using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr8.42.					
Pr8.44	Label	Motor position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	/	Default	
	Byte length	16bit	Attribute	R	485 address	0X602C
	High bit of command position；(Only valid using 485 communication)					
Pr8.45	Label	Motor position（L）			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	p	Default	
	Byte length	32bit	Attribute	R	485 address	0X602D
	Using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr8.44.					

Pr8.46	Label	Input I/O status			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	
	Byte length	16bit	Attribute	R	485 address	0X602E
	Input I/O status, displays in decimal system. Convert to binary system to determine which bit is valid.					
Pr8.47	Label	Output I/O status			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	
	Byte length	16bit	Attribute	R	485 address	0X602F
	Output I/O status, displays in decimal system. Convert to binary system to determine which bit is valid.					

Pr8.48	Label	Path 0 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6030
	Please refer to Pr8.28 for S-code setting.					

Pr8.49	Label	Path 1 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6031
	Please refer to Pr8.28 for S-code setting.					

Pr8.50	Label	Path 2 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6032
	Please refer to Pr8.28 for S-code setting.					

Pr8.51	Label	Path 3 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6033
	Please refer to Pr8.28 for S-code setting.					

Pr8.52	Label	Path 4 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6034
	Please refer to Pr8.28 for S-code setting.					

Pr8.53	Label	Path 5 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6035
	Please refer to Pr8.28 for S-code setting.					

Pr8.54	Label	Path 6 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6036
	Please refer to Pr8.28 for S-code setting.					

Pr8.55	Label	Path 7 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6037
	Please refer to Pr8.28 for S-code setting.					

Pr8.56	Label	Path 8 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6038
	Please refer to Pr8.28 for S-code setting.					

Pr8.57	Label	Path 9 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6039
	Please refer to Pr8.28 for S-code setting.					

Pr8.58	Label	Path 10 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X603A
	Please refer to Pr8.28 for S-code setting.					

Pr8.59	Label	Path 11 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X603B
	Please refer to Pr8.28 for S-code setting.					

Pr8.60	Label	Path 12 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X603C
	Please refer to Pr8.28 for S-code setting.					

Pr8.61	Label	Path 13 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X603D
	Please refer to Pr8.28 for S-code setting.					

Pr8.62	Label	Path 14 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X603E
	Please refer to Pr8.28 for S-code setting.					

Pr8.63	Label	Path 15 S-code			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X603F
	Please refer to Pr8.28 for S-code setting.					

[Class 9] PR control path parameters

It is more convenient to set Class 9 parameters on Motion Studio

Pr9.00	Label	PR0 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6200

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.01	Label	PR0 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6201
	High bit of Path 0 position；(Only valid using 485 communication)					

Pr9.02	Label	PR0 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X6202
	For Path 0 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.02.					

Pr9.03	**Label**	PR0 velocity				**Valid mode(s)**	**PR**
	Range	-10000～10000	**Unit**		rpm	**Default**	60
	Byte length	16bit	**Attribute**		R/W	**485 address**	0X6203
	To set PR path 0 velocity.						
Pr9.04	**Label**	PR0 acceleration time				**Valid mode(s)**	**PR**
	Range	1 ~ 32767	**Unit**		ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**		R/W	**485 address**	0X6204
	To set PR path 0 acceleration time, time needed for 0rpm to accelerate to 1000rpm						
Pr9.05	**Label**	PR0 deceleration time				**Valid mode(s)**	**PR**
	Range	1 ~32767	**Unit**		ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**		R/W	**485 address**	0X6205
	To set PR path 0 deceleration time, time needed for 1000rpm to decelerate to 0rpm						
Pr9.06	**Label**	PR0 pause time				**Valid mode(s)**	**PR**
	Range	0 ~ 32767	**Unit**		ms	**Default**	0
	Byte length	16bit	**Attribute**		R/W	**485 address**	0X6206
	To set pause time for PR path 0 from completion to next path						
Pr9.07	**Label**	PR0 special parameter				**Valid mode(s)**	**PR**
	Range	0 ~ 65535	**Unit**		/	**Default**	0
	Byte length	16bit	**Attribute**		R	**485 address**	0X6207
	Reserved						

Pr9.08	**Label**	PR1 mode				**Valid mode(s)**	**PR**
	Range	0x0~0xFFFF	**Unit**		/	**Default**	0
	Byte length	16bit	**Attribute**		R/W	**485 address**	0X6208

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.09	**Label**	PR1 position H				**Valid mode(s)**	**PR**
	Range	0~ 0xFFFF	**Unit**		Pulse	**Default**	0
	Byte length	16bit	**Attribute**		R/W	**485 address**	0X6209
	High bit of Path 1 position；(Only valid using 485 communication)						
Pr9.10	**Label**	PR1 position(L)				**Valid mode(s)**	**PR**
	Range	-2147483648~ 2147483647	**Unit**		Pulse	**Default**	0
	Byte length	32bit	**Attribute**		R/W	**485 address**	0X620A
	For Path position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.09.						
Pr9.11	**Label**	PR1 velocity				**Valid mode(s)**	**PR**
	Range	-10000～10000	**Unit**		rpm	**Default**	60
	Byte length	16bit	**Attribute**		R/W	**485 address**	0X620B
	To set PR path 1 velocity.						

Pr9.12	Label	PR1 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X620C
To set PR path 1 acceleration time, time needed for 0rpm to accelerate to 1000rpm						
Pr9.13	Label	PR1 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X620D
To set PR path 1 deceleration time, time needed for 1000rpm to decelerate to 0rpm						
Pr9.14	Label	PR1 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X620E
To set pause time for PR path 2 from completion to next path						
Pr9.15	Label	PR1 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X620F
Reserved						

Pr9.16	Label	PR2 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6210

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.17	Label	PR2 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6211
High bit of Path 2 position；(Only valid using 485 communication)						

Pr9.18	Label	PR2 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X6212
For Path 2 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.17.						

Pr9.19	Label	PR2 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X6213
To set PR path 2 velocity.						

Pr9.20	**Label**	PR2 acceleration time			**Valid mode(s)**	**PR**
	Range	1 ~ 32767	**Unit**	ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6214
	To set PR path 2 acceleration time, time needed for 0rpm to accelerate to 1000rpm					
Pr9.21	**Label**	PR2 deceleration time			**Valid mode(s)**	**PR**
	Range	1 ~32767	**Unit**	ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6215
	To set PR path 2 deceleration time, time needed for 1000rpm to decelerate to 0rpm					
Pr9.22	**Label**	PR2 pause time			**Valid mode(s)**	**PR**
	Range	0 ~ 32767	**Unit**	ms	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6216
	To set pause time for PR path 2 from completion to next path					
Pr9.23	**Label**	PR2 special parameter			**Valid mode(s)**	**PR**
	Range	0 ~ 65535	**Unit**	/	**Default**	0
	Byte length	16bit	**Attribute**	R	**485 address**	0X6217
	Reserved					

Pr9.24	**Label**	PR3 mode			**Valid mode(s)**	**PR**
	Range	0x0~0xFFFF	**Unit**	/	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6218

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.25	**Label**	PR3 position H			**Valid mode(s)**	**PR**
	Range	0~ 0xFFFF	**Unit**	Pulse	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6219
	High bit of Path 3 position；(Only valid using 485 communication)					
Pr9.26	**Label**	PR3 position(L)			**Valid mode(s)**	**PR**
	Range	-2147483648~ 2147483647	**Unit**	Pulse	**Default**	0
	Byte length	32bit	**Attribute**	R/W	**485 address**	0X621A
	For Path 3 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.25.					
Pr9.27	**Label**	PR3 velocity			**Valid mode(s)**	**PR**
	Range	-10000～10000	**Unit**	rpm	**Default**	60
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X621B
	To set PR path 3 velocity.					
Pr9.28	**Label**	PR3 acceleration time			**Valid mode(s)**	**PR**
	Range	1 ~ 32767	**Unit**	ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X621C
	To set PR path 3 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.29	**Label**	PR3 deceleration time			**Valid mode(s)**	**PR**
	Range	1 ~32767	**Unit**	ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X621D
	To set PR path 0 deceleration time, time needed for 1000rpm to decelerate to 0rpm					
Pr9.30	**Label**	PR3 pause time			**Valid mode(s)**	**PR**
	Range	0 ~ 32767	**Unit**	ms	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X621E
	To set pause time for PR path 3 from completion to next path					
Pr9.31	**Label**	PR3 special parameter			**Valid mode(s)**	**PR**
	Range	0 ~ 65535	**Unit**	/	**Default**	0
	Byte length	16bit	**Attribute**	R	**485 address**	0X621F
	Reserved					

Pr9.32	**Label**	PR4 mode			**Valid mode(s)**	**PR**
	Range	0x0~0xFFFF	**Unit**	/	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6220

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.33	**Label**	PR4 position H			**Valid mode(s)**	**PR**
	Range	0~ 0xFFFF	**Unit**	Pulse	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6221
	High bit of Path 0 position；(Only valid using 485 communication)					
Pr9.34	**Label**	PR4 position(L)			**Valid mode(s)**	**PR**
	Range	-2147483648~ 2147483647	**Unit**	Pulse	**Default**	0
	Byte length	32bit	**Attribute**	R/W	**485 address**	0X6222
	For Path 4 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.33.					
Pr9.35	**Label**	PR4 velocity			**Valid mode(s)**	**PR**
	Range	-10000～10000	**Unit**	rpm	**Default**	60
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6223
	To set PR path 4 velocity.					
Pr9.36	**Label**	PR0 acceleration time			**Valid mode(s)**	**PR**
	Range	1 ~ 32767	**Unit**	ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6224
	To set PR path 4 acceleration time, time needed for 0rpm to accelerate to 1000rpm					
Pr9.37	**Label**	PR4deceleration time			**Valid mode(s)**	**PR**
	Range	1 ~32767	**Unit**	ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6225
	To set PR path 4 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.38	**Label**	PR4 pause time			**Valid mode(s)**	**PR**
	Range	0 ~ 32767	**Unit**	ms	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6226
	To set pause time for PR path 4 from completion to next path					
Pr9.39	**Label**	PR4 special parameter			**Valid mode(s)**	**PR**
	Range	0 ~ 65535	**Unit**	/	**Default**	0
	Byte length	16bit	**Attribute**	R	**485 address**	0X6227
	Reserved					

Pr9.40	**Label**	PR5 mode			**Valid mode(s)**	**PR**
	Range	0x0~0xFFFF	**Unit**	/	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6228

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.41	**Label**	PR5 position H			**Valid mode(s)**	**PR**
	Range	0~ 0xFFFF	**Unit**	Pulse	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X6229
	High bit of Path 5 position；(Only valid using 485 communication)					
Pr9.42	**Label**	PR5 position(L)			**Valid mode(s)**	**PR**
	Range	-2147483648~ 2147483647	**Unit**	Pulse	**Default**	0
	Byte length	32bit	**Attribute**	R/W	**485 address**	0X622A
	For Path 0 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.41.					
Pr9.43	**Label**	PR5 velocity			**Valid mode(s)**	**PR**
	Range	-10000～10000	**Unit**	rpm	**Default**	60
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X622B
	To set PR path 5 velocity.					
Pr9.44	**Label**	PR5 acceleration time			**Valid mode(s)**	**PR**
	Range	1 ~ 32767	**Unit**	ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X622C
	To set PR path 5 acceleration time, time needed for 0rpm to accelerate to 1000rpm					
Pr9.45	**Label**	PR5 deceleration time			**Valid mode(s)**	**PR**
	Range	1 ~32767	**Unit**	ms/Krpm	**Default**	100
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X622D
	To set PR path 5 deceleration time, time needed for 1000rpm to decelerate to 0rpm					
Pr9.46	**Label**	PR5 pause time			**Valid mode(s)**	**PR**
	Range	0 ~ 32767	**Unit**	ms	**Default**	0
	Byte length	16bit	**Attribute**	R/W	**485 address**	0X622E
	To set pause time for PR path 5 from completion to next path					

Pr9.47	Label	PR5 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X622F
	Reserved					

Pr9.48	Label	PR6 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6230

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.49	Label	PR6 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6231
	High bit of Path 6 position；(Only valid using 485 communication)					

Pr9.50	Label	PR6 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X6232
	For Path 6 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.49.					

Pr9.51	Label	PR6 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X6233
	To set PR path 6 velocity.					

Pr9.52	Label	PR6 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X6234
	To set PR path 6 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.53	Label	PR6 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X6235
	To set PR path 6 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.54	Label	PR6 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6236
	To set pause time for PR path 6 from completion to next path					

Pr9.55	Label	PR6 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6237
	Reserved					

Pr9.56	Label	PR7 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6238

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.57	Label	PR7 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6239
	High bit of Path 7 position；(Only valid using 485 communication)					

Pr9.58	Label	PR7 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X623A
	For Path 7 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.57.					

Pr9.59	Label	PR7 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X623B
	To set PR path 7 velocity.					

Pr9.60	Label	PR7 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X623C
	To set PR path 7 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.61	Label	PR0 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X623D
	To set PR path 0 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.62	Label	PR7 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X623E
	To set pause time for PR path 7 from completion to next path					

Pr9.63	Label	PR7 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X623F
	Reserved					

Pr9.64	Label	PR8 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6240

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.65	Label	PR8 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6241
	High bit of Path 0 position；(Only valid using 485 communication)					

Pr9.66	Label	PR8 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X6242
	For Path 8 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.65.					

Pr9.67	Label	PR8 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X6243
	To set PR path 8 velocity.					

Pr9.68	Label	PR8 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X6244
	To set PR path 8 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.69	Label	PR8 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X6245
	To set PR path 8 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.70	Label	PR8 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6246
	To set pause time for PR path 8 from completion to next path					

Pr9.71	Label	PR8 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6247
	Reserved					

Pr9.72	Label	PR9 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6248

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.73	Label	PR9 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6249
	High bit of Path 9 position；(Only valid using 485 communication)					

Pr9.74	Label	PR9 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X624A
	For Path 9 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.73.					

Pr9.75	Label	PR0 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X624B
	To set PR path 0 velocity.					

Pr9.76	Label	PR9 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X624C
	To set PR path 9 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.77	Label	PR9 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X624D
	To set PR path 9 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.78	Label	PR9 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X624E
	To set pause time for PR path 9 from completion to next path					

Pr9.79	Label	PR9 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X624F
	Reserved					

Pr9.80	Label	PR10 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6250

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.81	Label	PR10 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6251
	High bit of Path10 position；(Only valid using 485 communication)					

Pr9.82	Label	PR10 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X6252
	For Path 10 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.81.					

Pr9.83	Label	PR10 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X6253
	To set PR path 10 velocity.					

Pr9.84	Label	PR10 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X6254
	To set PR path 10 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.85	Label	PR10 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X6255
	To set PR path 10 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.86	Label	PR10 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6256
	To set pause time for PR path 10 from completion to next path					

Pr9.87	Label	PR10 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6257
	Reserved					

Pr9.88	Label	PR11 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6258

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.89	Label	PR11 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6259
	High bit of Path 11 position；(Only valid using 485 communication)					

Pr9.90	Label	PR11 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X625A
	For Path 11 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.89.					

Pr9.91	Label	PR11 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X625B
	To set PR path 11 velocity.					

Pr9.92	Label	PR11 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X625C
	To set PR path 11 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.93	Label	PR11 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X625D
	To set PR path 11 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.94	Label	PR11 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X625E
	To set pause time for PR path 11 from completion to next path					

Pr9.95	Label	PR11 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X625F
	Reserved					

Pr9.96	Label	PR12 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6260

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.97	Label	PR12 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6261
	High bit of Path 12 position；(Only valid using 485 communication)					

Pr9.98	Label	PR12 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X6262
	For Path 12 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.97.					

Pr9.99	Label	PR12 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X6263
	To set PR path 12 velocity.					

Pr9.100	Label	PR12 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X6264
	To set PR path 12 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.101	Label	PR12 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X6265
	To set PR path 12 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.102	Label	PR12 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6266
	To set pause time for PR path 12 from completion to next path					

Pr9.103	Label	PR12 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6267
	Reserved					

Pr9.104	Label	PR13 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6268

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.105	Label	PR13 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6269
	High bit of Path 13 position；(Only valid using 485 communication)					

Pr9.106	Label	PR13 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X626A
	For Path 13 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.105.					

Pr9.107	Label	PR13 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X626B
	To set PR path 13 velocity.					

Pr9.108	Label	PR13 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X626C
	To set PR path 13 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.109	Label	PR13 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X626D
	To set PR path 13 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.110	Label	PR13 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X626E
	To set pause time for PR path 13 from completion to next path					

Pr9.111	Label	PR13 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X626F
	Reserved					

Pr9.112	Label	PR14 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6270

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.113	Label	PR14 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6271
	High bit of Path 14 position；(Only valid using 485 communication)					

Pr9.114	Label	PR14 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X6272
	For Path 14 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.113.					

Pr9.115	Label	PR14 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X6273
	To set PR path 14 velocity.					

Pr9.116	Label	PR14 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X6274
	To set PR path 14 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.117	Label	PR14 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X6275
	To set PR path 14 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.118	Label	PR14 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6276
	To set pause time for PR path 14 from completion to next path					

Pr9.119	Label	PR14 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X6277
	Reserved					

Pr9.120	Label	PR15 mode			Valid mode(s)	PR
	Range	0x0~0xFFFF	Unit	/	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6278

Bit	14	8-13	6-7	5	4	0-3
Definition	0: No skip, indicates with END 1: Skip. Skip to SJ or CJ	0-15: Skip to correspond path	0: absolute 1: correspond command 2: correspond motor	0: No overlap, indicates with SJ 1 Overlap, indicated with CJ	0: Can be plugged in 1: Can't be plugged in, indicates using !	0: null 1: Positioning 2: Velocity motion 3: Homing 4: Emergency stop Indicates using P/V/H/S

Pr9.121	Label	PR15 position H			Valid mode(s)	PR
	Range	0~ 0xFFFF	Unit	Pulse	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X6279
	High bit of Path 15 position；(Only valid using 485 communication)					

Pr9.122	Label	PR15 position(L)			Valid mode(s)	PR
	Range	-2147483648~ 2147483647	Unit	Pulse	Default	0
	Byte length	32bit	Attribute	R/W	485 address	0X627A
	For Path 15 position, using 485 communication, only able to R/W low 16 bit. R/W high 16 bit needs to be realized through Pr9.121.					

Pr9.123	Label	PR15 velocity			Valid mode(s)	PR
	Range	-10000～10000	Unit	rpm	Default	60
	Byte length	16bit	Attribute	R/W	485 address	0X627B
	To set PR path 15 velocity.					

Pr9.124	Label	PR15 acceleration time			Valid mode(s)	PR
	Range	1 ~ 32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X627C
	To set PR path 15 acceleration time, time needed for 0rpm to accelerate to 1000rpm					

Pr9.125	Label	PR15 deceleration time			Valid mode(s)	PR
	Range	1 ~32767	Unit	ms/Krpm	Default	100
	Byte length	16bit	Attribute	R/W	485 address	0X627D
	To set PR path 15 deceleration time, time needed for 1000rpm to decelerate to 0rpm					

Pr9.126	Label	PR15 pause time			Valid mode(s)	PR
	Range	0 ~ 32767	Unit	ms	Default	0
	Byte length	16bit	Attribute	R/W	485 address	0X627E
	To set pause time for PR path 15 from completion to next path					

Pr9.127	Label	PR15 special parameter			Valid mode(s)	PR
	Range	0 ~ 65535	Unit	/	Default	0
	Byte length	16bit	Attribute	R	485 address	0X627F
	Reserved					