

4.2 Parameter List

4.2.1 Parameter list

For simple variable-speed operation of the inverter, the initial setting of the parameters may be used as they are. Set the necessary parameters to meet the load and operational specifications. Parameter setting, change and check can be made from the operation panel (FR-DU07).

REMARKS

- ⊙ indicates simple mode parameters. (initially set to extended mode)
- The shaded parameters in the table allow its setting to be changed during operation even if "0" (initial value) is set in *Pr.77 Parameter write selection*.
- Refer to the appendix 4 (page 448) for instruction codes for communication and availability of parameter clear, all clear, and parameter copy of each parameter.

Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
Basic functions	⊙ 0	Torque boost	0 to 30%	0.1%	6/4/3/2/1% *1	143	
	⊙ 1	Maximum frequency	0 to 120Hz	0.01Hz	120/60Hz *2	156	
	⊙ 2	Minimum frequency	0 to 120Hz	0.01Hz	0Hz	156	
	⊙ 3	Base frequency	0 to 400Hz	0.01Hz	60Hz	158	
	⊙ 4	Multi-speed setting (high speed)	0 to 400Hz	0.01Hz	60Hz	165	
	⊙ 5	Multi-speed setting (middle speed)	0 to 400Hz	0.01Hz	30Hz	165	
	⊙ 6	Multi-speed setting (low speed)	0 to 400Hz	0.01Hz	10Hz	165	
	⊙ 7	Acceleration time	0 to 3600/360s	0.1/0.01s	5/15s *3	172	
	⊙ 8	Deceleration time	0 to 3600/360s	0.1/0.01s	5/15s *3	172	
	⊙ 9	Electronic thermal O/L relay	0 to 500/0 to 3600A *2	0.01/0.1A *2	Inverter rated output current	181	
DC injection brake	10	DC injection brake operation frequency	0 to 120Hz, 9999	0.01Hz	3Hz	199	
	11	DC injection brake operation time	0 to 10s, 8888	0.1s	0.5s	199	
	12	DC injection brake operation voltage	0 to 30%	0.1%	4/2/1%*3	199	
—	13	Starting frequency	0 to 60Hz	0.01Hz	0.5Hz	174	
—	14	Load pattern selection	0 to 5	1	0	160	
Jog operation	15	Jog frequency	0 to 400Hz	0.01Hz	5Hz	167	
	16	Jog acceleration/deceleration time	0 to 3600/360s	0.1/0.01s	0.5s	167	
—	17	MRS input selection	0, 2, 4	1	0	230	
—	18	High speed maximum frequency	120 to 400Hz	0.01Hz	120/60Hz *2	156	
—	19	Base frequency voltage	0 to 1000V, 8888, 9999	0.1V	9999	158	
Acceleration/ deceleration times	20	Acceleration/deceleration reference frequency	1 to 400Hz	0.01Hz	60Hz	172	
	21	Acceleration/deceleration time increments	0, 1	1	0	172	
Stall prevention	22	Stall prevention operation level (torque limit level)	0 to 400%	0.1%	150%	149	
	23	Stall prevention operation level compensation factor at double speed	0 to 200%, 9999	0.1%	9999	149	
Multi-speed setting	24 to 27	Multi-speed setting (4 speed to 7 speed)	0 to 400Hz, 9999	0.01Hz	9999	165	
—	28	Multi-speed input compensation selection	0, 1	1	0	169	
—	29	Acceleration/deceleration pattern selection	0 to 5	1	0	175	
—	30	Regenerative function selection	0, 1, 2, 10, 11, 12, 20, 21	1	0	203	
Frequency jump	31	Frequency jump 1A	0 to 400Hz, 9999	0.01Hz	9999	157	
	32	Frequency jump 1B	0 to 400Hz, 9999	0.01Hz	9999	157	
	33	Frequency jump 2A	0 to 400Hz, 9999	0.01Hz	9999	157	
	34	Frequency jump 2B	0 to 400Hz, 9999	0.01Hz	9999	157	
	35	Frequency jump 3A	0 to 400Hz, 9999	0.01Hz	9999	157	
	36	Frequency jump 3B	0 to 400Hz, 9999	0.01Hz	9999	157	
—	37	Speed display	0, 1 to 9998	1	0	246	



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
Frequency detection	41	Up-to-frequency sensitivity	0 to 100%	0.1%	10%	241	
	42	Output frequency detection	0 to 400Hz	0.01Hz	6Hz	241	
	43	Output frequency detection for reverse rotation	0 to 400Hz, 9999	0.01Hz	9999	241	
Second functions	44	Second acceleration/deceleration time	0 to 3600/360s	0.1/0.01s	5s	172	
	45	Second deceleration time	0 to 3600/360s, 9999	0.1/0.01s	9999	172	
	46	Second torque boost	0 to 30%, 9999	0.1%	9999	143	
	47	Second V/F (base frequency)	0 to 400Hz, 9999	0.01Hz	9999	158	
	48	Second stall prevention operation current	0 to 220%	0.1%	150%	149	
	49	Second stall prevention operation frequency	0 to 400Hz, 9999	0.01Hz	0Hz	149	
	50	Second output frequency detection	0 to 400Hz	0.01Hz	30Hz	241	
	51	Second electronic thermal O/L relay	0 to 500A, 9999/ 0 to 3600A, 9999 ^{∗2}	0.01/0.1A ^{∗2}	9999	181	
Monitor functions	52	DU/PU main display data selection	0, 5 to 14, 17 to 20, 22 to 25, 32 to 35, 50 to 57, 100	1	0	248	
	54	FM terminal function selection	1 to 3, 5 to 14, 17, 18, 21, 24, 32 to 34, 50, 52, 53, 70	1	1	248	
	55	Frequency monitoring reference	0 to 400Hz	0.01Hz	60Hz	254	
	56	Current monitoring reference	0 to 500/0 to 3600A ^{∗2}	0.01/0.1A ^{∗2}	Inverter rated output current	254	
Automatic restart	57	Restart coasting time	0, 0.1 to 5s, 9999/ 0, 0.1 to 30s, 9999 ^{∗2}	0.1s	9999	260	
	58	Restart cushion time	0 to 60s	0.1s	1s	260	
—	59	Remote function selection	0, 1, 2, 3	1	0	169	
—	60	Energy saving control selection	0, 4	1	0	273	
Automatic acceleration/ deceleration	61	Reference current	0 to 500A, 9999/ 0 to 3600A, 9999 ^{∗2}	0.01A/0.1A ^{∗2}	9999	162, 178	
	62	Reference value at acceleration	0 to 220%, 9999	0.1%	9999	178	
	63	Reference value at deceleration	0 to 220%, 9999	0.1%	9999	178	
	64	Starting frequency for elevator mode	0 to 10Hz, 9999	0.01Hz	9999	162	
—	65	Retry selection	0 to 5	1	0	268	
—	66	Stall prevention operation reduction starting frequency	0 to 400Hz	0.01Hz	60Hz	149	
Retry	67	Number of retries at alarm occurrence	0 to 10, 101 to 110	1	0	268	
	68	Retry waiting time	0 to 10s	0.1s	1s	268	
	69	Retry count display erase	0	1	0	268	
—	70	Special regenerative brake duty	0 to 30%/0 to 10% ^{∗2}	0.1%	0%	203	
—	71	Applied motor	0 to 8, 13 to 18, 20, 23, 24, 30, 33, 34, 40, 43, 44, 50, 53, 54	1	0	145, 184	
—	72	PWM frequency selection	0 to 15/0 to 6, 25 ^{∗2}	1	2	279	
—	73	Analog input selection	0 to 7, 10 to 17	1	1	285	
—	74	Input filter time constant	0 to 8	1	1	287	
—	75	Reset selection/disconnected PU detection/PU stop selection	0 to 3, 14 to 17, 100 to 103, 114 to 117	1	14	300	
—	76	Alarm code output selection	0, 1, 2	1	0	270	
—	77	Parameter write selection	0, 1, 2	1	0	303	
—	78	Reverse rotation prevention selection	0, 1, 2	1	0	304	



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
—	Ⓒ 79	Operation mode selection	0, 1, 2, 3, 4, 6, 7	1	0	306	
Motor constants	80	Motor capacity	0.4 to 55kW, 9999/ 0 to 3600kW, 9999 *2	0.01/0.1kW *2	9999	145, 186	
	81	Number of motor poles	2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 9999	1	9999	145, 186	
	82	Motor excitation current	0 to 500A, 9999/ 0 to 3600A, 9999 *2	0.01/0.1A *2	9999	186	
	83	Motor rated voltage	0 to 1000V	0.1V	200/400V	186	
	84	Rated motor frequency	10 to 120Hz	0.01Hz	60Hz	186	
	89	Speed control gain (magnetic flux vector)	0 to 200%	0.1%	9999	145	
	90	Motor constant (R1)	0 to 50Ω, 9999/ 0 to 400mΩ, 9999 *2	0.001Ω/ 0.01mΩ *2	9999	186	
	91	Motor constant (R2)	0 to 50Ω, 9999/ 0 to 400mΩ, 9999 *2	0.001Ω/ 0.01mΩ *2	9999	186	
	92	Motor constant (L1)	0 to 50Ω (0 to 1000mH), 9999/ 0 to 3600mΩ (0 to 400mH), 9999 *2	0.001Ω (0.1mH)/ 0.01mΩ(0.01mH) *2	9999	186	
	93	Motor constant (L2)	0 to 50Ω (0 to 1000mH), 9999/ 0 to 3600mΩ (0 to 400mH), 9999 *2	0.001Ω (0.1mH)/ 0.01mΩ(0.01mH) *2	9999	186	
	94	Motor constant (X)	0 to 500Ω (0 to 100%), 9999/ 0 to 100Ω (0 to 100%), 9999 *2	0.01Ω (0.1%)/ 0.01Ω (0.01%) *2	9999	186	
	95	Online auto tuning selection	0 to 2	1	0	196	
	96	Auto tuning setting/status	0, 1, 101	1	0	186	
	Adjustable 5 points V/F	100	V/F1(first frequency)	0 to 400Hz, 9999	0.01Hz	9999	164
101		V/F1(first frequency voltage)	0 to 1,000V	0.1V	0V	164	
102		V/F2(second frequency)	0 to 400Hz, 9999	0.01Hz	9999	164	
103		V/F2(second frequency voltage)	0 to 1,000V	0.1V	0V	164	
104		V/F3(third frequency)	0 to 400Hz, 9999	0.01Hz	9999	164	
105		V/F3(third frequency voltage)	0 to 1,000V	0.1V	0V	164	
106		V/F4(fourth frequency)	0 to 400Hz, 9999	0.01Hz	9999	164	
107		V/F4(fourth frequency voltage)	0 to 1,000V	0.1V	0V	164	
108		V/F5(fifth frequency)	0 to 400Hz, 9999	0.01Hz	9999	164	
109	V/F5(fifth frequency voltage)	0 to 1,000V	0.1V	0V	164		
Third functions	110	Third acceleration/deceleration time	0 to 3600/360s, 9999	0.1/0.01s	9999	172	
	111	Third deceleration time	0 to 3600/360s, 9999	0.1/0.01s	9999	172	
	112	Third torque boost	0 to 30%, 9999	0.1%	9999	143	
	113	Third V/F (base frequency)	0 to 400Hz, 9999	0.01Hz	9999	158	
	114	Third stall prevention operation current	0 to 220%	0.1%	150%	149	
	115	Thrid stall prevention operation frequency	0 to 400Hz	0.01Hz	0	149	
	116	Thrid output frequency detection	0 to 400Hz	0.01Hz	60Hz	241	
PU connector communication	117	PU communication station number	0 to 31	1	0	325	
	118	PU communication speed	48, 96, 192, 384	1	192	325	
	119	PU communication stop bit length	0, 1, 10, 11	1	1	325	
	120	PU communication parity check	0, 1, 2	1	2	325	
	121	Number of PU communication retries	0 to 10, 9999	1	1	325	
	122	PU communication check time interval	0, 0.1 to 999.8s, 9999	0.1s	9999	325	
	123	PU communication waiting time setting	0 to 150ms, 9999	1	9999	325	
	124	PU communication CR/LF presence/absence selection	0, 1, 2	1	1	325	
—	Ⓒ 125	Terminal 2 frequency setting gain frequency	0 to 400Hz	0.01Hz	60Hz	288	
—	Ⓒ 126	Terminal 4 frequency setting gain frequency	0 to 400Hz	0.01Hz	60Hz	288	



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
PID operation	127	PID control automatic switchover frequency	0 to 400Hz, 9999	0.01Hz	9999	354	
	128	PID action selection	10, 11, 20, 21, 50, 51, 60, 61	1	10	354	
	129	PID proportional band	0.1 to 1000%, 9999	0.1%	100%	354	
	130	PID integral time	0.1 to 3600s, 9999	0.1s	1s	354	
	131	PID upper limit	0 to 100%, 9999	0.1%	9999	354	
	132	PID lower limit	0 to 100%, 9999	0.1%	9999	354	
	133	PID action set point	0 to 100%, 9999	0.01%	9999	354	
	134	PID differential time	0.01 to 10.00s, 9999	0.01s	9999	354	
Commercial power supply-inverter switchover	135	Commercial power-supply switchover sequence output terminal selection	0, 1	1	0	362	
	136	MC switchover interlock time	0 to 100s	0.1s	1s	362	
	137	Start waiting time	0 to 100s	0.1s	0.5s	362	
	138	Commercial power-supply operation switchover selection at an alarm	0, 1	1	0	362	
	139	Automatic switchover frequency between inverter and commercial power-supply operation	0 to 60Hz, 9999	0.01Hz	9999	362	
Backlash measures	140	Backlash acceleration stopping frequency	0 to 400Hz	0.01Hz	1Hz	175	
	141	Backlash acceleration stopping time	0 to 360s	0.1s	0.5s	175	
	142	Backlash deceleration stopping frequency	0 to 400Hz	0.01Hz	1Hz	175	
	143	Backlash deceleration stopping time	0 to 360s	0.1s	0.5s	175	
—	144	Speed setting switchover	0, 2, 4, 6, 8, 10, 102, 104, 106, 108, 110	1	4	246	
PU	145	PU display language selection	0 to 7	1	1	385	
Current detection	148	Stall prevention level at 0V input	0 to 220%	0.1%	150%	149	
	149	Stall prevention level at 10V input	0 to 220%	0.1%	200%	149	
	150	Output current detection level	0 to 220%	0.1%	150%	243	
	151	Output current detection signal delay time	0 to 10s	0.1s	0s	243	
	152	Zero current detection level	0 to 220%	0.1%	5%	243	
	153	Zero current detection time	0 to 1s	0.01s	0.5s	243	
—	154	Voltage reduction selection during stall prevention operation	0, 1	1	1	149	
—	155	RT signal function validity condition selection	0, 10	1	0	231	
—	156	Stall prevention operation selection	0 to 31, 100, 101	1	0	149	
—	157	OL signal output timer	0 to 25s, 9999	0.1s	0s	149	
—	158	AM terminal function selection	1 to 3, 5 to 14, 17, 18, 21, 24, 32 to 34, 50, 52, 53, 70	1	1	248	
—	159	Automatic switchover ON range between commercial power-supply and inverter operation	0 to 10Hz, 9999	0.01Hz	9999	362	
—	Ⓒ 160	User group read selection	0, 1, 9999	1	0	304	
—	161	Frequency setting/key lock operation selection	0, 1, 10, 11	1	0	385	
Automatic restart functions	162	Automatic restart after instantaneous power failure selection	0, 1, 2, 10, 11, 12	1	0	260	
	163	First cushion time for restart	0 to 20s	0.1s	0s	260	
	164	First cushion voltage for restart	0 to 100%	0.1%	0%	260	
	165	Stall prevention operation level for restart	0 to 220%	0.1%	150%	260	



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting	
Current detection	166	Output current detection signal retention time	0 to 10s, 9999	0.1s	0.1s	243		
	167	Output current detection operation selection	0, 1	1	0	243		
—	168	Parameter for manufacturer setting. Do not set.						
—	169							
Cumulative monitor clear	170	Watt-hour meter clear	0, 10, 9999	1	9999	248		
	171	Operation hour meter clear	0, 9999	1	9999	248		
User group	172	User group registered display/batch clear	9999, (0 to 16)	1	0	304		
	173	User group registration	0 to 999, 9999	1	9999	304		
	174	User group clear	0 to 999, 9999	1	9999	304		
input terminal function assignment	178	STF terminal function selection	0 to 20, 22 to 28, 42 to 44, 50, 60, 62, 64 to 71, 9999	1	60	227		
	179	STR terminal function selection	0 to 20, 22 to 28, 42 to 44, 50, 61, 62, 64 to 71, 9999	1	61	227		
	180	RL terminal function selection	0 to 20, 22 to 28, 42 to 44, 50, 62, 64 to 71, 9999	1	0	227		
	181	RM terminal function selection		1	1	227		
	182	RH terminal function selection		1	2	227		
	183	RT terminal function selection		1	3	227		
	184	AU terminal function selection	0 to 20, 22 to 28, 42 to 44, 50, 62 to 71, 9999	1	4	227		
	185	JOG terminal function selection	0 to 20, 22 to 28, 42 to 44, 50, 62, 64 to 71, 9999	1	5	227		
	186	CS terminal function selection		1	6	227		
	187	MRS terminal function selection		1	24	227		
	188	STOP terminal function selection		1	25	227		
189	RES terminal function selection	1		62	227			
Output terminal function assignment	190	RUN terminal function selection	0 to 8, 10 to 20, 25 to 28, 30 to 36, 39, 41 to 47, 64, 70, 84, 85, 90 to 99, 100 to 108, 110 to 116, 120, 125 to 128, 130 to 136, 139, 141 to 147, 164, 170, 184, 185, 190 to 199, 9999	1	0	234		
	191	SU terminal function selection		1	1	234		
	192	IPF terminal function selection		1	2	234		
	193	OL terminal function selection		1	3	234		
	194	FU terminal function selection		1	4	234		
	195	ABC1 terminal function selection	0 to 8, 10 to 20, 25 to 28, 30 to 36, 39, 41 to 47, 64, 70, 84, 85, 90, 91, 94 to 99, 100 to 108, 110 to 116, 120, 125 to 128, 130 to 136, 139, 141 to 147, 164, 170, 184, 185, 190, 191, 194 to 199, 9999	1	99	234		
	196	ABC2 terminal function selection	1	9999	234			
Multi-speed setting	232 to 239	Multi-speed setting (8 speed to 15 speed)	0 to 400Hz, 9999	0.01Hz	9999	234		
—	240	Soft-PWM operation selection	0, 1	1	1	165		
—	241	Analog input display unit switchover	0, 1	1	0	279		
—	242	Terminal 1 added compensation amount (terminal 2)	0 to 100%	0.1%	100%	288		
—	243	Terminal 1 added compensation amount (terminal 4)	0 to 100%	0.1%	75%	285		



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting	
—	244	Cooling fan operation selection	0, 1	1	1	285		
Slip compensation	245	Rated slip	0 to 50%, 9999	0.01%	9999	148		
	246	Slip compensation time constant	0.01 to 10s	0.01s	0.5s	148		
	247	Constant-power region slip compensation selection	0, 9999	1	9999	148		
—	250	Stop selection	0 to 100s, 1000 to 1100s 8888, 9999	0.1s	9999	209		
—	251	Output phase failure protection selection	0, 1	1	1	271		
Frequency compensation function	252	Override bias	0 to 200%	0.1%	50%	285		
	253	Override gain	0 to 200%	0.1%	150%	285		
Life check	255	Life alarm status display	(0 to 15)	1	0	379		
	256	Inrush current limit circuit life display	(0 to 100%)	1%	100%	379		
	257	Control circuit capacitor life display	(0 to 100%)	1%	100%	379		
	258	Main circuit capacitor life display	(0 to 100%)	1%	100%	379		
	259	Main circuit capacitor life measuring	0, 1	1	0	379		
—	260	PWM frequency automatic switchover	0.1	1	1	279		
Power failure stop	261	Power failure stop selection	0, 1, 2, 11, 12	1	0	265		
	262	Subtracted frequency at deceleration start	0 to 20Hz	0.01Hz	3Hz	265		
	263	Subtraction starting frequency	0 to 120Hz, 9999	0.01Hz	60Hz	265		
	264	Power-failure deceleration time 1	0 to 3600/360s	0.1/0.01s	5s	265		
	265	Power-failure deceleration time 2	0 to 3600s/360s, 9999	0.1/0.01s	9999	265		
	266	Power failure deceleration time switchover frequency	0 to 400Hz	0.01Hz	60Hz	265		
—	267	Terminal 4 input selection	0, 1, 2	1	0	282		
—	268	Monitor decimal digits selection	0,1, 9999	1	9999	248		
—	269	Parameter for manufacturer setting. Do not set.						
—	270	Stop-on contact/load torque high-speed frequency control selection	0, 1, 2, 3	1	0	210, 367		
Load torque high speed frequency control	271	High-speed setting maximum current	0 to 220%	0.1%	50%	367		
	272	Middle-speed setting minimum current	0 to 220%	0.1%	100%	367		
	273	Current averaging range	0 to 400Hz, 9999	0.01Hz	9999	367		
	274	Current averaging filter time constant	1 to 4000	1	16	367		
Stop-on contact control	275	Stop-on contact excitation current low-speed multiplying factor	0 to 1000%, 9999	0.1%	9999	210		
	276	PWM carrier frequency at stop-on contact	0 to 9, 9999/ 0 to 4, 9999 *2	1	9999	210		

Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
Brake sequence function	278	Brake opening frequency	0 to 30Hz	0.01Hz	3Hz	213	
	279	Brake opening current	0 to 220%	0.1%	130%	213	
	280	Brake opening current detection time	0 to 2s	0.1s	0.3s	213	
	281	Brake operation time at start	0 to 5s	0.1s	0.3s	213	
	282	Brake operation frequency	0 to 30Hz	0.01Hz	6Hz	213	
	283	Brake operation time at stop	0 to 5s	0.1s	0.3s	213	
	284	Deceleration detection function selection	0, 1	1	0	213	
	285	Overspeed detection frequency (Speed deviation excess detection frequency)	0 to 30Hz, 9999	0.01Hz	9999	116, 213	
Droop control	286	Droop gain	0 to 100%	0.1%	0%	369	
	287	Droop filter time constant	0 to 1s	0.01s	0.3s	369	
	288	Droop function activation selection	0, 1, 2, 10, 11	1	0	369	
—	291	Pulse train I/O selection	0, 1, 10, 11, 20, 21, 100	1	0	254, 371	
—	292	Automatic acceleration/deceleration	0, 1, 3, 5 to 8, 11	1	0	162, 178, 213	
—	293	Acceleration/deceleration separate selection	0 to 2	1	0	178	
—	294	UV avoidance voltage gain	0 to 200%	0.1%	100%	265	
—	299	Rotation direction detection selection at restarting	0, 1, 9999	1	0	260	
RS-485 communication	331	RS-485 communication station number	0 to 31(0 to 247)	1	0	325	
	332	RS-485 communication speed	3, 6, 12, 24, 48, 96, 192, 384	1	96	325	
	333	RS-485 communication stop bit length	0, 1, 10, 11	1	1	325	
	334	RS-485 communication parity check selection	0, 1, 2	1	2	325	
	335	RS-485 communication retry count	0 to 10, 9999	1	1	325	
	336	RS-485 communication check time interval	0 to 999.8s, 9999	0.1s	0s	325	
	337	RS-485 communication waiting time setting	0 to 150ms, 9999	1	9999	325	
	338	Communication operation command source	0, 1	1	0	315	
	339	Communication speed command source	0, 1, 2	1	0	315	
	340	Communication startup mode selection	0, 1, 2, 10, 12	1	0	314	
	341	RS-485 communication CR/LF selection	0, 1, 2	1	1	325	
	342	Communication EEPROM write selection	0, 1	1	0	326	
	343	Communication error count	—	1	0	338	



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
Orientation control	350 *6	Stop position command selection	0, 1, 9999	1	9999	216	
	351 *6	Orientation speed	0 to 30Hz	0.01Hz	2Hz	216	
	352 *6	Creep speed	0 to 10Hz	0.01Hz	0.5Hz	216	
	353 *6	Creep switchover position	0 to 16383	1	511	216	
	354 *6	Position loop switchover position	0 to 8191	1	96	216	
	355 *6	DC injection brake start position	0 to 255	1	5	216	
	356 *6	Internal stop position command	0 to 16383	1	0	216	
	357 *6	In-position zone	0 to 255	1	5	216	
	358 *6	Servo torque selection	0 to 13	1	1	216	
	359 *6	Encoder rotation direction	0, 1	1	1	216	
	360 *6	16 bit data selection	0 to 127	1	0	216	
	361 *6	Position shift	0 to 16383	1	0	216	
	362 *6	Orientation position loop gain	0.1 to 100	0.1	1	216	
	363 *6	Completion signal output delay time	0 to 5s	0.1s	0.5s	216	
	364 *6	Encoder stop check time	0 to 5s	0.1s	0.5s	216	
	365 *6	Orientation limit	0 to 60s, 9999	1s	9999	216	
	366 *6	Recheck time	0 to 5s, 9999	0.1s	9999	216	
	367 *6	Speed feedback range	0 to 400Hz, 9999	0.01Hz	9999	374	
	368 *6	Feedback gain	0 to 100	0.1	1	374	
		369 *6	Number of encoder pulses	0 to 4096	1	1024	216, 374
	374	Overspeed detection level	0 to 400Hz	0.01Hz	140Hz	271	
	376 *6	Encoder signal loss detection enable/disable selection	0, 1	1	0	271	
S-pattern acceleration/deceleration C	380	Acceleration S-pattern 1	0 to 50%	1%	0	175	
	381	Deceleration S-pattern 1	0 to 50%	1%	0	175	
	382	Acceleration S-pattern 2	0 to 50%	1%	0	175	
	383	Deceleration S-pattern 2	0 to 50%	1%	0	175	
Pulse train input	384	Input pulse division scaling factor	0 to 250	1	0	371	
	385	Frequency for zero input pulse	0 to 400Hz	0.01Hz	0	371	
	386	Frequency for maximum input pulse	0 to 400Hz	0.01Hz	60Hz	371	
Orientation control	393 *6	Orientation selection	0, 1, 2	1	0	216	
	396 *6	Orientation speed gain (P term)	0 to 1000	1	60	216	
	397 *6	Orientation speed integral time	0 to 20s	0.001s	0.333s	216	
	398 *6	Orientation speed gain (D term)	0 to 100	0.1	1	216	
	399 *6	Orientation deceleration ratio	0 to 1000	1	20	216	
PLC function	414	PLC function operation selection	0, 1	1	0	352	
	415	Inverter operation lock mode setting	0, 1	1	0	352	
	416	Pre-scale function selection	0 to 5	1	0	352	
	417	Pre-scale setting value	0 to 32767	1	1	352	



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
Position control	419 *6	Position command source selection	0, 2	1	0	131, 134	
	420 *6	Command pulse scaling factor numerator	0 to 32767	1	1	136	
	421 *6	Command pulse scaling factor denominator	0 to 32767	1	1	136	
	422 *6	Position loop gain	0 to 150sec ⁻¹	1sec ⁻¹	25sec ⁻¹	138	
	423 *6	Position feed forward gain	0 to 100%	1%	0	138	
	424 *6	Position command acceleration/ deceleration time constant	0 to 50s	0.001s	0s	136	
	425 *6	Position feed forward command filter	0 to 5s	0.001s	0s	138	
	426 *6	In-position width	0 to 32767pulse	1	100	137	
	427 *6	Excessive level error	0 to 400, 9999	1	40	137	
	428 *6	Command pulse selection	0 to 5	1	0	134	
	429 *6	Clear signal selection	0, 1	1	1	134	
430 *6	Pulse monitor selection	0 to 5, 9999	1	9999	134		
Second motor constants	450	Second applied motor	0 to 8, 13 to 18, 20, 23, 24, 30, 33, 34, 40, 43, 44, 50, 53, 54, 9999	1	9999	184	
	451	Second motor control method selection	10, 11, 12, 20, 9999	1	9999	145	
	453	Second motor capacity	0.4 to 55kW, 9999/ 0 to 3600kW, 9999 *2	0.01kW/0.1kW *2	9999	145	
	454	Number of second motor poles	2, 4, 6, 8, 10, 9999	1	9999	145	
	455	Second motor excitation current	0 to 500A, 9999/ 0 to 3600A, 9999 *2	0.01/0.1A *2	9999	186	
	456	Rated second motor voltage	0 to 1000V	0.1V	200/400V	186	
	457	Rated second motor frequency	10 to 120Hz	0.01Hz	60Hz	186	
	458	Second motor constant (R1)	0 to 50Ω, 9999/ 0 to 400mΩ, 9999 *2	0.001Ω/ 0.01mΩ *2	9999	186	
	459	Second motor constant (R2)	0 to 50Ω, 9999/ 0 to 400mΩ, 9999 *2	0.001Ω/ 0.01mΩ *2	9999	186	
	460	Second motor constant (L1)	0 to 50Ω (0 to 1000mH), 9999/ 0 to 3600mΩ (0 to 400mH), 9999 *2	0.001Ω (0.1mH)/ 0.01mΩ(0.01mH) *2	9999	186	
	461	Second motor constant (L2)	0 to 50Ω (0 to 1000mH), 9999/ 0 to 3600mΩ (0 to 400mH), 9999 *2	0.001Ω (0.1mH)/ 0.01mΩ(0.01mH) *2	9999	186	
	462	Second motor constant (X)	0 to 500Ω (0 to 100%), 9999/ 0 to 100Ω (0 to 100%), 9999 *2	0.01Ω (0.1%)/ 0.01Ω (0.01%) *2	9999	186	
	463	Second motor auto tuning setting/ status	0, 1, 101	1	0	186	



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
Conditional position feed function	464 *6	Digital position control sudden stop deceleration time	0 to 360.0s	0.1s	0	131	
	465 *6	First position feed amount lower 4 digits	0 to 9999	1	0	131	
	466 *6	First position feed amount upper 4 digits	0 to 9999	1	0	131	
	467 *6	Second position feed amount lower 4 digits	0 to 9999	1	0	131	
	468 *6	Second position feed amount upper 4 digits	0 to 9999	1	0	131	
	469 *6	Third position feed amount lower 4 digits	0 to 9999	1	0	131	
	470 *6	Third position feed amount upper 4 digits	0 to 9999	1	0	131	
	471 *6	Fourth position feed amount lower 4 digits	0 to 9999	1	0	131	
	472 *6	Fourth position feed amount upper 4 digits	0 to 9999	1	0	131	
	473 *6	Fifth position feed amount lower 4 digits	0 to 9999	1	0	131	
	474 *6	Fifth position feed amount upper 4 digits	0 to 9999	1	0	131	
	475 *6	Sixth position feed amount lower 4 digits	0 to 9999	1	0	131	
	476 *6	Sixth position feed amount upper 4 digits	0 to 9999	1	0	131	
	477 *6	Seventh position feed amount lower 4 digits	0 to 9999	1	0	131	
	478 *6	Seventh position feed amount upper 4 digits	0 to 9999	1	0	131	
	479 *6	Eighth position feed amount lower 4 digits	0 to 9999	1	0	131	
	480 *6	Eighth position feed amount upper 4 digits	0 to 9999	1	0	131	
	481 *6	Ninth position feed amount lower 4 digits	0 to 9999	1	0	131	
	482 *6	Ninth position feed amount upper 4 digits	0 to 9999	1	0	131	
	483 *6	Tenth position feed amount lower 4 digits	0 to 9999	1	0	131	
484 *6	Tenth position feed amount upper 4 digits	0 to 9999	1	0	131		
485 *6	Eleventh position feed amount lower 4 digits	0 to 9999	1	0	131		
486 *6	Eleventh position feed amount upper 4 digits	0 to 9999	1	0	131		
487 *6	Twelfth position feed amount lower 4 digits	0 to 9999	1	0	131		
488 *6	Twelfth position feed amount upper 4 digits	0 to 9999	1	0	131		
489 *6	Thirteenth position feed amount lower 4 digits	0 to 9999	1	0	131		
490 *6	Thirteenth position feed amount upper 4 digits	0 to 9999	1	0	131		
491 *6	Fourteenth position feed amount lower 4 digits	0 to 9999	1	0	131		
492 *6	Fourteenth position feed amount upper 4 digits	0 to 9999	1	0	131		
493 *6	Fifteenth position feed amount lower 4 digits	0 to 9999	1	0	131		
494 *6	Fifteenth position feed amount upper 4 digits	0 to 9999	1	0	131		
Remote output	495	Remote output selection	0, 1, 10, 11	1	0	245	
	496	Remote output data 1	0 to 4095	1	0	245	
	497	Remote output data 2	0 to 4095	1	0	245	
Maintenance	503	Maintenance timer	0 (1 to 9998)	1	0	381	
	504	Maintenance timer alarm output set time	0 to 9998, 9999	1	9999	381	
—	505	Speed setting reference	1 to 120Hz	0.01Hz	60Hz	246	
PLC function	506	Parameter 1 for user	0 to 65535	1	0	352	
	507	Parameter 2 for user	0 to 65535	1	0	352	
	508	Parameter 3 for user	0 to 65535	1	0	352	
	509	Parameter 4 for user	0 to 65535	1	0	352	
	510	Parameter 5 for user	0 to 65535	1	0	352	
	511	Parameter 6 for user	0 to 65535	1	0	352	
	512	Parameter 7 for user	0 to 65535	1	0	352	
	513	Parameter 8 for user	0 to 65535	1	0	352	
	514	Parameter 9 for user	0 to 65535	1	0	352	
	515	Parameter 10 for user	0 to 65535	1	0	352	



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
S-pattern acceleration/ deceleration D	516	S-pattern time at a start of acceleration	0.1 to 2.5s	0.1s	0.1s	175	
	517	S-pattern time at a completion of acceleration	0.1 to 2.5s	0.1s	0.1s	175	
	518	S-pattern time at a start of deceleration	0.1 to 2.5s	0.1s	0.1s	175	
	519	S-pattern time at a completion of deceleration	0.1 to 2.5s	0.1s	0.1s	175	
—	539	Modbus-RTU communication check time interval	0 to 999.8s, 9999	0.1s	9999	338	
USB	547	USB communication station number	0 to 31	1	0	353	
	548	USB communication check time interval	0 to 999.8s, 9999	0.1s	9999	353	
Communication	549	Protocol selection	0, 1	1	1	338	
	550	NET mode operation command source selection	0, 1, 9999	1	9999	315	
	551	PU mode operation command source selection	1, 2, 3	1	2	315	
Current average value monitor	555	Current average time	0.1 to 1.0s	0.1s	1s	382	
	556	Data output mask time	0.0 to 20.0s	0.1s	0s	382	
	557	Current average value monitor signal output reference current	0 to 500/0 to 3600A *2	0.01/0.1A *2	Rated inverter current	382	
—	563	Energization time carrying-over times	(0 to 65535)	1	0	382	
—	564	Operating time carrying-over times	(0 to 65535)	1	0	382	
Second motor constants	569	Second motor speed control gain	0 to 200%	0.1%	100%	145	
Multiple rating	570	Multiple rating setting	0 to 3	1	2	154	
—	571	Holding time at a start	0.0 to 10.0s, 9999	0.1s	9999	174	
—	573	4mA input check selection	1, 9999	1	9999	298	
—	574	Second motor online auto tuning	0, 1	1	0	196	
PID control	575	Output interruption detection time	0 to 3600s, 9999	0.1s	1s	354	
	576	Output interruption detection level	0 to 400Hz	0.01Hz	0Hz	354	
	577	Output interruption cancel level	900 to 1100%	0.1%	1000%	354	
—	611	Acceleration time at a restart	0 to 3600s, 9999	0.1s	5/15s *2	260	
—	665	Regeneration avoidance frequency gain	0 to 200%	0.1%	100	376	
—	684	Tuning data unit switchover	0, 1	1	0	186	
—	800	Control method selection	0 to 5, 9 to 12, 20	1	20	92, 145	
—	802 *6	Pre-excitation selection	0, 1	1	0	199	
Torque command	803	Constant power range torque characteristic selection	0, 1	1	0	99, 122	
	804	Torque command source selection	0, 1, 3 to 6	1	0	122	
	805	Torque command value (RAM)	600 to 1400%	1%	1000%	122	
	806	Torque command value (RAM,EEPROM)	600 to 1400%	1%	1000%	122	
Speed limit	807	Speed limit selection	0, 1, 2	1	0	124	
	808	Forward rotation speed limit	0 to 120Hz	0.01Hz	60Hz	124	
	809	Reverse rotation speed limit	0 to 120Hz, 9999	0.01Hz	9999	124	



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
Torque limit	810	Torque limit input method selection	0, 1	1	0	99	
	811	Set resolution switchover	0, 1, 10, 11	1	0	99, 246	
	812	Torque limit level (regeneration)	0 to 400%, 9999	0.1%	9999	99	
	813	Torque limit level (3rd quadrant)	0 to 400%, 9999	0.1%	9999	99	
	814	Torque limit level (4th quadrant)	0 to 400%, 9999	0.1%	9999	99	
	815	Torque limit level 2	0 to 400%, 9999	0.1%	9999	99	
	816	Torque limit level during acceleration	0 to 400%, 9999	0.1%	9999	99	
Easy gain tuning	817	Torque limit level during deceleration	0 to 400%, 9999	0.1%	9999	99	
	818	Easy gain tuning response level setting	1 to 15	1	2	104	
Adjustment function	819	Easy gain tuning selection	0 to 2	1	0	104	
	820	Speed control P gain 1	0 to 1000%	1%	60%	104	
	821	Speed control integral time 1	0 to 20s	0.001s	0.333s	104	
	822	Speed setting filter 1	0 to 5s, 9999	0.001s	9999	287	
	823 *6	Speed detection filter 1	0 to 0.1s	0.001s	0.001s	141	
	824	Torque control P gain 1	0 to 200%	1%	100%	127	
	825	Torque control integral time 1	0 to 500ms	0.1ms	5ms	127	
	826	Torque setting filter 1	0 to 5s, 9999	0.001s	9999	287	
	827	Torque detection filter 1	0 to 0.1s	0.001s	0s	141	
	828	Model speed control gain	0 to 1000%	1%	60%	111	
	830	Speed control P gain 2	0 to 1000%, 9999	1%	9999	104	
	831	Speed control integral time 2	0 to 20s, 9999	0.001s	9999	104	
	832	Speed setting filter 2	0 to 5s, 9999	0.001s	9999	287	
	833 *6	Speed detection filter 2	0 to 0.1s	0.001s	0.001s	141	
	834	Torque control P gain 2	0 to 200%, 9999	1%	9999	127	
	835	Torque control integral time 2	0 to 500ms, 9999	0.1ms	9999	127	
Torque bias	836	Torque setting filter 2	0 to 5s, 9999	0.001s	9999	287	
	837	Torque detection filter 2	0 to 0.1s, 9999	0.001s	9999	141	
	840 *6	Torque bias selection	0 to 3, 9999	1	9999	113	
	841 *6	Torque bias 1	600 to 1400%, 9999	1%	9999	113	
	842 *6	Torque bias 2	600 to 1400%, 9999	1%	9999	113	
	843 *6	Torque bias 3	600 to 1400%, 9999	1%	9999	113	
	844 *6	Torque bias filter	0 to 5s, 9999	0.001s	9999	113	
	845 *6	Torque bias operation time	0 to 5s, 9999	0.01s	9999	113	
Additional function	846 *6	Torque bias balance compensation	0 to 10V, 9999	0.1V	9999	113	
	847 *6	Fall-time torque bias terminal 1 bias	0 to 400%, 9999	1%	9999	113	
	848 *6	Fall-time torque bias terminal 1 gain	0 to 400%, 9999	1%	9999	113	
	849	Analog input offset adjustment	0 to 200%	0.1%	100%	287	
	850	Brake operation selection	0, 1	1	0	199	
	853	Speed deviation time	0 to 100s	0.1s	1s	116	
	854	Excitation ratio	0 to 100%	1%	100%	199	
	858	Terminal 4 function assignment	0, 1, 4, 9999	1	0	281	
	859	Torque current	0 to 500A, 9999/ 0 to 3600A, 9999 *2	0.01A/0.1A *2	9999	186	
	860	Second motor torque current	0 to 500A, 9999/ 0 to 3600A, 9999 *2	0.01A/0.1A *2	9999	186	
	862	Notch filter time constant	0 to 60	1	0	117	
Indication function	863	Notch filter depth	0, 1, 2, 3	1	0	117	
	864	Torque detection	0 to 400%	0.1%	150%	244	
	865	Low speed detection	0 to 400Hz	0.01Hz	1.5Hz	241	
	866	Torque monitoring reference	0 to 400%	0.1%	150%	254	
	—	867	AM output filter	0 to 5s	0.01s	0.01s	254



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
—	868	Terminal 1 function assignment	0 to 6, 9999	1	0	281	
Protective Functions	872	Input phase failure protection selection	0, 1	1	0	271	
	873	Speed limit	0 to 120Hz	0.01Hz	20Hz	116	
	874	OLT level setting	0 to 200%	0.1%	150%	99	
	875	Fault definition	0, 1	1	0	272	
Control system functions	877	Speed feed forward control/model adaptive speed control selection	0, 1, 2	1	0	111	
	878	Speed feed forward filter	0 to 1s	0.01s	0s	111	
	879	Speed feed forward torque limit	0 to 400%	0.1%	150%	111	
	880	Load inertia ratio	0 to 200 times	0.1	7	104, 111	
	881	Speed feed forward gain	0 to 1000%	1%	0%	111	
Regeneration avoidance function	882	Regeneration avoidance operation selection	0, 1, 2	1	0	376	
	883	Regeneration avoidance operation level	300 to 800V	0.1V	380/760VDC ^{*5}	376	
	884	Regeneration avoidance at deceleration detection sensitivity	0 to 5	1	0	376	
	886	Regeneration avoidance voltage gain	0 to 200%	0.1%	100%	376	
Free parameters	888	Free parameter 1	0 to 9999	1	9999	384	
	889	Free parameter 2	0 to 9999	1	9999	384	
Energy saving monitor	891	Cumulative power monitor digit shifted times	0 to 4, 9999	1	9999	274	
	892	Load factor	30 to 150%	0.1%	100%	274	
	893	Energy saving monitor reference (motor capacity)	0.1 to 55/0 to 3600kW ^{*2}	0.01/ 0.1kW ^{*2}	Inverter rated capacity	274	
	894	Control selection during commercial power-supply operation	0, 1, 2, 3	1	0	274	
	895	Power saving rate reference value	0, 1, 9999	1	9999	274	
	896	Power unit cost	0 to 500, 9999	0.01	9999	274	
	897	Power saving monitor average time	0,1 to 1000h, 9999	1	9999	274	
	898	Power saving cumulative monitor clear	0, 1, 10, 9999	1	9999	274	
	899	Operation time rate (estimated value)	0 to 100%, 9999	0.1%	9999	274	



Function	Parameter	Name	Setting Range	Minimum Setting Increments	Initial Value	Refer to Page	Customer Setting
Calibration parameters	C0 (900)	FM terminal calibration	—	—	—	257	
	C1 (901)	AM terminal calibration	—	—	—	257	
	C2 (902)	Terminal 2 frequency setting bias frequency	0 to 400Hz	0.01Hz	0Hz	288	
	C3 (902)	Terminal 2 frequency setting bias	0 to 300%	0.1%	0%	288	
	125 (903)	Terminal 2 frequency setting gain frequency	0 to 400Hz	0.01Hz	60Hz	288	
	C4 (903)	Terminal 2 frequency setting gain	0 to 300%	0.1%	100%	288	
	C5 (904)	Terminal 4 frequency setting bias frequency	0 to 400Hz	0.01Hz	0Hz	288	
	C6 (904)	Terminal 4 frequency setting bias	0 to 300%	0.1%	20%	288	
	126 (905)	Terminal 4 frequency setting gain frequency	0 to 400Hz	0.01Hz	60Hz	288	
	C7 (905)	Terminal 4 frequency setting gain	0 to 300%	0.1%	100%	288	
Calibration parameters	C12 (917)	Terminal 1 bias frequency (speed)	0 to 400Hz	0.01Hz	0Hz	288	
	C13 (917)	Terminal 1 bias (speed)	0 to 300%	0.1%	0%	288	
	C14 (918)	Terminal 1 gain frequency (speed)	0 to 400Hz	0.01Hz	60Hz	288	
	C15 (918)	Terminal 1 gain (speed)	0 to 300%	0.1%	100%	288	
	C16 (919)	Terminal 1 bias command (torque/magnetic flux)	0 to 400%	0.1%	0%	293	
	C17 (919)	Terminal 1 bias (torque/magnetic flux)	0 to 300%	0.1%	0%	293	
	C18 (920)	Terminal 1 gain command (torque/magnetic flux)	0 to 400%	0.1%	100%	293	
	C19 (920)	Terminal 1 gain (torque/magnetic flux)	0 to 300%	0.1%	100%	293	
	C38 (932)	Terminal 4 bias command (torque/magnetic flux)	0 to 400%	0.1%	0%	293	
	C39 (932)	Terminal 4 bias (torque/magnetic flux)	0 to 300%	0.1%	20%	293	
	C40 (933)	Terminal 4 gain command (torque/magnetic flux)	0 to 400%	0.1%	100%	293	
	C41 (933)	Terminal 4 gain (torque/magnetic flux)	0 to 300%	0.1%	100%	293	
	—	989	Parameter copy alarm release	10/100	1	10/100 *2	390
PU	990	PU buzzer control	0, 1	1	1	387	
	991	PU contrast adjustment	0 to 63	1	58	387	
Clear parameters	Pr. CL	Parameter clear	0, 1	1	0	388	
	ALLC	All parameter clear	0, 1	1	0	389	
	Er.CL	Alarm history clear	0, 1	1	0	393	
	PCPY	Parameter copy	0, 1, 2, 3	1	0	390	

*1 Differ according to capacities.

6%: FR-A720-00030, 00050 (FR-A740-00015, 00025)
 4%: FR-A720-00080 to 00175 (FR-A740-00040 to 00090)
 3%: FR-A720-00240, 00330(FR-A740-00120, 00170)
 2%: FR-A720-00460 to 02150(FR-A740-00230 to 01100)
 1%: FR-A720-02880(FR-A740-01440) or more

*2 Differ according to capacities. (FR-A720-02150(FR-A740-01100) or less/FR-A720-02880(FR-A740-01440) or more)

*3 Differ according to capacities. (FR-A720-00330(FR-A740-00170) or less/FR-A720-00460(FR-A740-00230) or more)

*4 Differ according to capacities. (FR-A720-00330(FR-A740-00170) or less/FR-A720-00460 to 02150(FR-A740-00230 to 01100)/FR-A720-02880(FR-A740-01440) or more)

*5 Differs according to the voltage class. (200V class/400V class)

*6 Setting can be made only when the FR-A7AP is mounted.