

TOSVERT VF-FS1

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Parameter List  
for CPU version 114/115/116/117

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## VFFS1 Parameter List for CPU version 114/115/116/117

Setting Date	
Customer	
End user	
Application	
Application No/Serial No	
Inverter's Type-Form	
Quantity	
Inverter's Serial No	
Motor's capacity	

If user's setting value is same as shipping value, entry column is blank.

**-Terminal stand use state**

	Terminal Name	Use state
Main terminal block	PA/+	
	PC/-	
	R/L1	
	S/L2	
	T/L3	
	U/T1	
	V/T2	
	W/T3	
	E/G	
Control terminal block	FLA	
	FLB	
	FLC	
	RY	
	RC	
	CC	
	VIA	
	VIB	
	PP	
	FM	
	F	
	R	
	RES	
	CC	
	PLC	
P24		
Setting of slide switch	VIA	V / I
	FM	V / I
	SW4	SOURCE / PLC / SINK

**1 User parameters**

Title	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>FL</i>	Operation frequency of operation panel	Hz	0.1/0.01	<i>LL-UL</i>	0.0		3.2

**2 Basic parameters**

- Four automatic functions or basic parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>RUF</i>	-	Wizard function	-	-	The wizard function refers to the special function of calling up ten frequently used parameters.	-		4.2.4 6.20.7
<i>RUH</i>	-	History function	-	-	Displays parameters in groups of five in the reverse order to that in which their settings were changed. * (Possible to edit)	-		4.2.5
<i>RU1</i>	0000	Automatic acceleration/ deceleration	-	-	0: Disabled (manual) 1: Automatic 2: Automatic (only at acceleration)	0		5.1.1
<i>RU4</i>	0040	Parameter setting macro function	-	-	0: Disabled 1: Coast stop 2: 3-wire operation 3: External input UP/DOWN setting 4: 4-20 mA current input operation	0		5.2
<i>ENDd</i>	0003	Command mode selection	-	-	0: Terminal board 1: Operation panel 2: RS485 communication	0		5.3 7.2
<i>FNDd</i>	0004	Frequency setting mode selection 1	-	-	1: VIA 2: VIB 3: Operation panel 4: RS485 communication 5: UP/DOWN from external contact	1		5.3 6.5.1 7.1

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F<sub>n</sub>L</i>	0005	Meter selection	-	-	0: Output frequency 1: Output current 2: Set frequency 3: DC voltage 4: Output voltage command value 5: Input power 6: Output power 7: Torque 8: Torque current 9: Motor cumulative load factor 10: Inverter cumulative load factor 11: -(do not select) 12: Frequency setting value (after PID) 13: VIA Input value 14: VIB Input value 15: Fixed output 1 (Output current: 100%) 16: Fixed output 2 (Output current: 50%) 17: Fixed output 3 (Supposition output at <i>F<sub>n</sub>L</i> = 17) 18: RS485 communication data 19: For adjustments ( <i>F<sub>n</sub></i> set value is displayed)	0		5.4
<i>F<sub>n</sub></i>	0006	Meter adjustment	-	-	-	-		
<i>L<sub>Y</sub>P</i>	0007	Default setting	-	-	0: - 1: 50Hz default setting 2: 60Hz default setting 3: Default setting (Initialization) 4: Trip record clear 5: Cumulative operation time clear 6: Initialization of type information 7: Save user-setting parameters 8: Call user-defined parameters 9: Cumulative fan operation time record clear	0		4.2.7 4.2.8 5.5
<i>F<sub>r</sub></i>	0008	Forward/reverse run selection (Operation panel operation)	-	-	0: Forward run 1: Reverse run 2: Forward run (F/R switching possible) 3: Reverse run (F/R switching possible)	0		5.6

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference																															
<i>ACC</i>	0009	Acceleration time 1	s	0.1/0.1	0.0-3200	*1		5.1.2																															
<i>DEC</i>	0010	Deceleration time 1	s	0.1/0.1	0.0-3200	*1																																	
<i>FH</i>	0011	Maximum frequency	Hz	0.1/0.01	30.0-200.0	80.0		5.7																															
<i>UL</i>	0012	Upper limit frequency	Hz	0.1/0.01	0.5- <i>FH</i>	50.0 (WP) 60.0 (WN)		5.8																															
<i>LL</i>	0013	Lower limit frequency	Hz	0.1/0.01	0.0- <i>UL</i>	0.0																																	
<i>UL</i>	0014	Base frequency 1	Hz	0.1/0.01	25-200.0	50.0 (WP) 60.0 (WN)		5.9																															
<i>ULV</i>	0409	Base frequency voltage 1	V	1/0.1	50-330 (200V class) 50-660 (400V class)	*2		5.9 6.12.5																															
<i>Pt</i>	0015	V/F control mode selection			0: V/F constant 1: Variable torque 2: Automatic torque boost control 3: Vector control 4: Energy-saving 5: -(do not select) 6: PM motor control	1		5.10																															
<i>ub</i>	0016	Torque boost 1	%	0.1/0.1	0.0-30.0	*1		5.11																															
<i>THR</i>	0600	Motor electronic-thermal protection level 1	% (A)	1/1	10-100	100		5.12 6.17.1																															
<i>OLN</i>	0017	Electronic-thermal protection characteristic selection *3	-	-	<table border="1"> <thead> <tr> <th>Setting</th> <th>Motor type</th> <th>Overload protection</th> <th>OL stall</th> </tr> </thead> <tbody> <tr> <td>0</td> <td rowspan="3">Standard motor</td> <td>on</td> <td>off</td> </tr> <tr> <td>1</td> <td>on</td> <td>on</td> </tr> <tr> <td>2</td> <td>off</td> <td>off</td> </tr> <tr> <td>3</td> <td rowspan="4">VF motor</td> <td>off</td> <td>on</td> </tr> <tr> <td>4</td> <td>on</td> <td>off</td> </tr> <tr> <td>5</td> <td>on</td> <td>on</td> </tr> <tr> <td>6</td> <td>off</td> <td>off</td> </tr> <tr> <td>7</td> <td></td> <td>off</td> <td>on</td> </tr> </tbody> </table>	Setting	Motor type	Overload protection	OL stall	0	Standard motor	on	off	1	on	on	2	off	off	3	VF motor	off	on	4	on	off	5	on	on	6	off	off	7		off	on	0		5.12
Setting	Motor type	Overload protection	OL stall																																				
0	Standard motor	on	off																																				
1		on	on																																				
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3	VF motor	off	on																																				
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7		off	on																																				

\*1 : Default values vary depending on the capacity. See the table of the last page

\*2 : Inverter with a model number ending with  
 -WN : 230 (200V class), 460 (400V class)  
 -WP : 230 (200V class), 400 (400V class)

\*3 : on : valid, off : invalid

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
Fr 1	0018	Preset-speed operation frequency 1	Hz	0.1/0.01	LL-UL	15.0		5.13
Fr 2	0019	Preset-speed operation frequency 2	Hz	0.1/0.01	LL-UL	20.0		
Fr 3	0020	Preset-speed operation frequency 3	Hz	0.1/0.01	LL-UL	25.0		
Fr 4	0021	Preset-speed operation frequency 4	Hz	0.1/0.01	LL-UL	30.0		
Fr 5	0022	Preset-speed operation frequency 5	Hz	0.1/0.01	LL-UL	35.0		
Fr 6	0023	Preset-speed operation frequency 6	Hz	0.1/0.01	LL-UL	40.0		
Fr 7	0024	Preset-speed operation frequency 7	Hz	0.1/0.01	LL-UL	45.0		
F---	-	Extended parameters	-	-	-	-	-	4.2.2
Gr.U	-	Automatic edit function	-	-	-	-	-	4.2.3

**3 Extended parameters**

• Input/output parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F 100</i>	0100	Low-speed signal output frequency	Hz	0.1/0.01	0.0- <i>FH</i>	0.0		6.1.1
<i>F 101</i>	0101	Speed reach setting frequency	Hz	0.1/0.01	0.0- <i>FH</i>	0.0		6.1.3
<i>F 102</i>	0102	Speed reach detection band	Hz	0.1/0.01	0.0- <i>FH</i>	2.5		6.1.2
<i>F 108</i>	0108	Always-active function selection 1	-	-	0-71(No function)	0		6.3.1
<i>F 109</i>	0109	Analog/contact input function selection (VIA terminal)	-	-	0: VIA - analog input 1: VIA - contact input (Sink) 2: VIA - contact input (Source)	0		6.2.1
<i>F 110</i>	0110	Always-active function selection 2	-	-	0-71 (ST)	1		6.3.1
<i>F 111</i>	0111	Input terminal selection 1 (F)	-	-	0-71 (F)	2		6.3.2
<i>F 112</i>	0112	Input terminal selection 2 (R)	-	-	0-71 (R)	3		
<i>F 113</i>	0113	Input terminal selection 3 (RES)	-	-	0-71 (RES)	10		
<i>F 118</i>	0118	Input terminal selection 8 (VIA)	-	-	0-71 (SS1)	6		
<i>F 130</i>	0130	Output terminal selection 1A (RY-RC)	-	-	0-255 (LOW)	4		6.3.3
<i>F 132</i>	0132	Output terminal selection3 (FL)	-	-	0-255 (FL)	10		
<i>F 137</i>	0137	Output terminal selection 1B (RY-RC)	-	-	0-255 (always ON)	255		6.3.4
<i>F 139</i>	0139	Output terminal logic selection (RY-RC)	-	-	0: <i>F 130</i> and <i>F 137</i> 1: <i>F 130</i> or <i>F 137</i>	0		
<i>F 167</i>	0167	Frequency command agreement detection range	Hz	0.1/0.01	0.0- <i>FH</i>	2.5		6.3.5

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F170</i>	0170	Base frequency 2	Hz	0.1/0.01	25.0-200.0	50.0 (WP) 60.0 (WN)		6.4.1
<i>F171</i>	0170	Base frequency voltage 2	V	1/0.1	50-330 (200V class) 50-660 (400V class)	* 2		
<i>F172</i>	0172	Torque boost 2	%	0.1/0.1	0.0-30.0	* 1		
<i>F173</i>	0173	Motor electronic-thermal protection level 2	% (A)	1/1	10-100	100		5.12 6.4.1
<i>F185</i>	0185	Stall prevention level 2	% (A)	1/1	10-110	110		6.4.1 6.17.2

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-WP : 230 (200V class), 400 (400V class)

• Frequency parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F200</i>	0200	Frequency priority selection	-	-	0: <i>F<sub>170d</sub></i> (Switchable to <i>F<sub>207</sub></i> by terminal input) 1: <i>F<sub>170d</sub></i> (Switchable to <i>F<sub>207</sub></i> at less than 1.0Hz of designated frequency)	0		6.5.1 7.1
<i>F201</i>	0201	VIA input point 1 setting	%	1/1	0-100	0		6.5.2
<i>F202</i>	0202	VIA input point 1 frequency	Hz	0.1/0.01	0.0-200.0	0.0		
<i>F203</i>	0203	VIA input point 2 setting	%	1/1	0-100	100		
<i>F204</i>	0204	VIA input point 2 frequency	Hz	0.1/0.01	0.0-200.0	50.0 (WP) 60.0 (WN)		
<i>F207</i>	0207	Frequency setting mode selection 2	-	-	1: VIA 2: VIB 3: Operation panel 4: RS485 communication 5: UP/DOWN from external contact	2		6.3.5 6.5.1 7.1



Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F210</i>	0210	VIB input point 1 setting	%	1/1	0-100	0		6.5.2
<i>F211</i>	0211	VIB input point 1 frequency	Hz	0.1/0.01	0.0-200.0	0.0		
<i>F212</i>	0212	VIB input point 2 setting	%	1/1	0-100	100		
<i>F213</i>	0213	VIB input point 2 frequency	Hz	0.1/0.01	0.0-200.0	50.0 (WP) 60.0 (WN)		
<i>F240</i>	0240	Starting frequency setting	Hz	0.1/0.01	0.5-10.0	0.5		6.6.1
<i>F241</i>	0241	Operation starting frequency	Hz	0.1/0.01	0.0- <i>FH</i>	0.0		6.6.2
<i>F242</i>	0242	Operation starting frequency hysteresis	Hz	0.1/0.01	0.0- <i>FH</i>	0.0		
<i>F250</i>	0250	DC braking starting frequency	Hz	0.1/0.01	0.0- <i>FH</i>	0.0		6.7.1
<i>F251</i>	0251	DC braking current	% (A)	1/1	0-100	50		
<i>F252</i>	0252	DC braking time	s	0.1/0.1	0.0-20.0	1.0		
<i>F256</i>	0256	Auto-stop in case of lower-limit frequency continuous operation time	s	0.1/0.1	0: Disabled 0.1-600.0	0.0		6.8
<i>F264</i>	0264	External contact input-UP response time	s	0.1/0.1	0.0-10.0	0.1		6.5.3
<i>F265</i>	0265	External Contact input-UP frequency steps	Hz	0.1/0.01	0.0- <i>FH</i>	0.1		
<i>F266</i>	0266	External contact input-DOWN response time	s	0.1/0.1	0.0-10.0	0.1		

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F267</i>	0267	External contact input-DOWN frequency steps	Hz	0.1/0.01	0.0- <i>FH</i>	0.1		6.5.3
<i>F268</i>	0268	Initial UP/DOWN frequency	Hz	0.1/0.01	<i>LL - UL</i>	0.0		
<i>F269</i>	0269	Change of the initial UP/DOWN frequency	-	-	0: Not changed 1: Setting of <i>F268</i> changed when power is turned off	1		
<i>F270</i>	0270	Jump frequency 1	Hz	0.1/0.01	0.0- <i>FH</i>	0.0		6.9
<i>F271</i>	0271	Jumping width 1	Hz	0.1/0.01	0.0-30.0	0.0		
<i>F272</i>	0272	Jump frequency 2	Hz	0.1/0.01	0.0- <i>FH</i>	0.0		
<i>F273</i>	0273	Jumping width 2	Hz	0.1/0.01	0.0-30.0	0.0		
<i>F274</i>	0274	Jump frequency 3	Hz	0.1/0.01	0.0- <i>FH</i>	0.0		
<i>F275</i>	0275	Jumping width 3	Hz	0.1/0.01	0.0-30.0	0.0		
<i>F294</i>	0294	Forced fire-speed setting frequency	Hz	0.1/0.01	<i>LL-UL</i>	50.0		
<i>F295</i>	0295	Bumpless operation selection	-	-	0:Disabled 1:Enabled	1		6.10

• Operation mode parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
F300	0300	PWM carrier frequency	kHz	0.1/0.1	6.0 - 16.0	* 1		6.11
F301	0301	Auto-restart control selection	-	-	0: Disabled 1: At auto-restart after momentary stop 2: When turning ST-CC or off 3: At auto-restart or when turning ST-CC on or off 4: At start-up	0		6.12.1
F302	0302	Instantaneous Power failure coast stop selection	-	-	0: Disabled 1: -(do not select) 2: coast stop	0		6.12.2
F303	0303	Retry selection (number of times)	Times	1/1	0: Disabled 1-10	0		6.12.3
F305	0305	Over voltage limit operation (Slowdown stop mode selection)	-	-	0: Enabled 1: Disabled 2: Enabled (Quick deceleration) 3: Enabled (Dynamic quick deceleration)	2		6.12.4
F307	0307	Supply voltage correction (limitation of output voltage)	-	-	0: Supply voltage uncorrected, output voltage limited 1: Supply voltage corrected, output voltage limited 2: Supply voltage uncorrected, output voltage unlimited 3: Supply voltage corrected, output voltage unlimited	3		6.12.5
F311	0311	Reverse-run prohibition	-	-	0: Forward/reverse run permitted 1: Reverse run prohibited 2: Forward run prohibited	0		6.12.6
F312	0312	Random mode	-	-	0: Disabled 1: Automatic setting	0		6.11

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Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F316</i>	0316	Carrier frequency control mode selection	-	-	0:Carrier frequency not reduced automatically 1:Carrier frequency reduced automatically 2:Carrier frequency not reduced automatically Support for 400V models 3:Carrier frequency reduced automatically support for 400V models	1		6.11
<i>F320</i>	0320	Droop gain	%	1/1	0-100	0		6.13
<i>F323</i>	0323	Droop insensitive torque band	%	1/1	0-100	10		
<i>F359</i>	0359	PID control waiting time	s	1/1	0-2400	0		6.14
<i>F360</i>	0360	PID control	-	-	0: Disabled 1: Enabled (Feedback: VIA) 2: Enabled (Feedback: VIB)	0		
<i>F362</i>	0362	Proportional gain	-	0.01/0.01	0.01-100.0	0.30		
<i>F363</i>	0363	Integral gain	-	0.01/0.01	0.01-100.0	0.20		
<i>F366</i>	0366	Differential gain	-	0.01/0.01	0.00-2.55	0.00		

• Torque boost parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F400</i>	0400	Auto-tuning	-	-	0: Auto-tuning disabled 1: Application individual settings of <i>F402</i> (after execution:0) 2: Auto-tuning enabled (after execution:0)	0		5.10 6.15.1
<i>F401</i>	0401	Slip frequency gain	%	1/1	0-150	50		
<i>F402</i>	0402	Automatic torque boost value	%	0.1/0.1	0.0-30.0	* 1		
<i>F415</i>	0415	Motor rated current	A	0.1/0.1	0.1-200.0	* 1		
<i>F416</i>	0416	Motor no-load current	%	1/1	10-100	* 1		
<i>F417</i>	0417	Motor rated speed	min <sup>-1</sup>	1/1	100-15000	* 1		
<i>F418</i>	0418	Speed control response coefficient	-	1/1	1-150	40		
<i>F419</i>	0419	Speed control stability coefficient	-	1/1	1-100	20		

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• Input/output parameters2

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F470</i>	0470	VIA input bias	-	1/1	0-255	128		6.5.4
<i>F471</i>	0471	VIA input gain	-	1/1	0-255	148		
<i>F472</i>	0472	VIB input bias	-	1/1	0-255	128		
<i>F473</i>	0473	VIB input gain	-	1/1	0-255	148		

• Torque boost parameters2

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
F480	0480	Exciting current coefficient	%	1/1	100-130	100		5.10 6.15.2
F481	0481	Power supply compensation filter	-	1/1	0-9999	0		6.17.16
F482	0482	Inhibitor filter	-	1/1	0-9999	442		
F483	0483	Inhibitor gain	-	0.1/0.1	0.0-300.0	100.0		
F484	0484	Power supply adjustment gain*2	%	0.1/0.1	0.0:Disable 0.1-2.0	0.0		-
F485	0485	Stall prevention control coefficient 1	-	1/1	10-250	100		5.10 6.15.2
F492	0492	Stall prevention control coefficient 2	-	1/1	50-150	100		
F494	0494	Motor adjustment coefficient	-	1/1	0-200	* 1		
F495	0495	Maximum voltage adjustment coefficient	%	1/1	90-120	104		
F496	0496	Waveform switching adjustment coefficient	kHz	0.1/0.1	0.1-14.0	14.0		

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\*2 : This parameter function is added in V114/115

• Acceleration/deceleration time parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
F500	0500	Acceleration time 2	s	0.1/0.1	0.0-3200	* 1		6.16
F501	0501	Deceleration time 2	s	0.1/0.1	0.0-3200	* 1		
F502	0502	Acceleration/deceleration 1 pattern	-	-	0: Linear 1: S-pattern 1 2: S-pattern 2	0		
F503	0503	Acceleration/deceleration 2 pattern	-	-		0		
F504	0504	Selecting an acceleration/deceleration pattern	-	-	1: Acceleration/deceleration 1 2: Acceleration/deceleration 2	1		
F505	0505	Acceleration/deceleration 1 and 2 switching frequency	Hz	0.1/0.01	0.0- <del>UL</del>	0.0		
F506	0506	S-pattern lower-limit adjustment amount	%	1/1	0-50	10		
F507	0507	S-pattern upper-limit adjustment amount	%	1/1	0-50	10		

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• Protection parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
F601	0601	Stall prevention level 1	% (A)	1/1	10-110	110		6.17.2
F602	0602	Inverter trip retention selection	-	-	0: Canceled with the power off 1: Still retained with the power off	0		6.17.3
F603	0603	Emergency stop selection	-	-	0: Coast stop 1: Slowdown stop 2: Emergency DC braking	0		6.17.4
F604	0604	Emergency DC braking time	s	0.1/0.1	0.0-20.0	1.0		
F605	0605	Output phase failure detection mode selection	-	-	0: Disabled 1: At start-up (only one time after power is turned on) 2: At start-up (each time) 3: During operation 4: At start-up + during operation 5: Detection of cutoff on output side	0		6.17.5
F607	0607	Motor 150%-overload time limit	s	1/1	10-2400	300		6.17.1
F608	0608	Input phase failure detection mode selection	-	-	0: Disabled 1: Enabled	1		6.17.6
F609	0609	Small current detection current hysteresis	%	1/1	1-20	10		6.17.7
F610	0610	Small current trip/alarm selection	-	-	0: Alarm only 1: Tripping	0		
F611	0611	Small current detection current	% (A)	1/1	0-100	0		
F612	0612	Small current detection time	s	1/1	0-255	0		
F613	0613	Detection of output short-circuit during start-up	-	-	0: Each time (standard pulse) 1: Only one time after power is turned on (standard pulse) 2: Each time (short-time pulse) 3: Only one time after power is turned on (short-time pulse)	0		



Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
F615	0615	Over-torque trip/alarm selection	-	-	0: Alarm only 1: Tripping	0		6.17.9
F616	0616	Over-torque detection level	%	1/1	0-200	130		
F618	0618	Over-torque detection time	s	0.1/0.1	0.0-10.0	0.5		
F619	0619	Over-torque detection level hysteresis	%	1/1	0-100	10		
F621	0621	Cumulative operation time alarm setting	100 hours	0.1/0.1 (=10hours)	0.0-999.9	610.0		6.17.10
F626	0626	Over-voltage limit operation level	%	1/1	100-150	140		6.12.4
F627	0627	Under-voltage trip/alarm selection	-	-	0: Alarm only (detection level below 60%) 1: Tripping (detection level below 60%) 2: Alarm only (detection level below 50%, input reactor necessary)	0		6.17.12
F632	0632	Thermal memory selection	-	-	0:Deselect 1:Enabled	0		6.17.1
F633	0633	Trip at VIA low level input mode	%	1/1	0: Disabled, 1-100	0		6.17.13
F634	0634	Annual average ambient temperature (For parts replacement alarms)	-	-	1: -10 to +10 degree C 2: 11-20 degree C 3: 21-30 degree C 4: 31-40 degree C 5: 41-50 degree C 6: 51-60 degree C	3		6.17.14
F645	0645	PTC thermal selection	-	-	1:Disabled 2:Enabled(trip mode) 3:Enabled(alarm mode)	0		6.17.15
F646	0646	PTC detection Resistor value	ohm	1/1	100-9999	3000		
F650	0650	Forced fire-speed control selection	-	-	0:Disabled 1:Enabled	0		6.18

\*1 : Default values vary depending on the capacity. See the table of last page.

• Output parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F691</i>	0691	Inclination characteristic of analog output	-	-	0: Negative inclination (downward slope) 1: Positive inclination (upward slope)	1		6.19.1
<i>F692</i>	0692	Bias of analog output	%	1/1	0 - 100	0		

• Operation panel parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F700</i>	0700	Prohibition of parameter change	-	-	0: Permitted 1: Prohibited	0		6.20.1
<i>F701</i>	0701	Current/voltage display mode	-	-	0:% 1:A (ampere)/V (volt)	0		6.20.2
<i>F702</i>	0702	Frequency free unit magnification	Times	0.01/0.01	0.00: Free unit display disabled (display of frequency) 0.01-200.0	0.00		6.20.3
<i>F705</i>	0705	Inclination characteristic of free unit display	-	-	0: Negative inclination (downward slope) 1: Positive inclination (upward slope)	1		
<i>F706</i>	0706	Bias of free unit display	Hz	0.01/0.01	0.00- <i>FH</i>	0.00		6.20.4
<i>F707</i>	0707	Free step 1 (pressing a panel key once)	Hz	0.01/0.01	0.00: Disabled 0.01- <i>FH</i>	0.00		
<i>F708</i>	0708	Free step 2 (panel display)	-	1/1	0: Disabled 1-255	0		
<i>F710</i>	0710	Standard monitor display selection	-	-	0: Operation frequency (Hz/free unit/step) 1: Frequency command (Hz/free unit/step) 2: Output current (%/A) 3: Inverter rated current (A) 4: Inverter load factor (%) 5: Output power (kW) 6: Frequency command after PID control (Hz/free unit/step) 7: Optional item specified from an external control unit 8: Output speed 9: Communication counter 10: Normal state communication counter	0		6.20.5

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
F721	0721	Selection of operation panel stop pattern	-	-	0: Slowdown stop 1: Coast stop	0		6.20.6
F730	0730	Prohibition of frequency setting on the operation panel (FL)	-	-	0: Permitted 1: Prohibited	0		6.20.1
F732	0732	Prohibition of panel local/remote operation (LOC/REM key)	-	-	0: Permitted 1: Prohibited	0		
F733	0733	Prohibition of Panel operation (RUN/STOP keys)	-	-	0: Permitted 1: Prohibited	0		
F734	0734	Prohibition of panel emergency stop operation	-	-	0: Permitted 1: Prohibited	0		
F735	0735	Prohibition of panel reset operation	-	-	0: Permitted 1: Prohibited	0		
F738	0738	Head of parameter display selection	-	-	0:AUF 1:AUH	0		6.20.7
F748	0748	Integral output power retention selection	-	-	0: Disabled 1: Enabled	1		6.20.8
F749	0749	Display unit Selection for Integral output power	-	-	0: 1=1kWh 1: 0.1=1kWh 2: 0.01=1kWh 3: 0.001=1kWh	*1		

\*1 : Default values vary depending on the capacity. See the table of last page.

• Communication parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>FB00</i>	0800	Communication rate	-	-	0: 9600bps 1: 19200bps	1		6.21
<i>FB01</i>	0801	Parity	-	-	0: NON (No parity) 1: EVEN (Even parity) 2: ODD (Odd parity)	1		
<i>FB02</i>	0802	Inverter number	-	1/1	0-247	0		
<i>FB03</i>	0803	Communication error trip time	s	1/1	0: Disabled 1-100	0		
<i>FB05</i>	0805	Communication waiting time	s	0.01/0.01	0.00: Regular communication 0.01-2.00	0.00		
<i>FB06</i>	0806	Setting of master and slave for communication between inverters	-	-	0: Slave (0 Hz command issued in case the master inverter fails) 1: Slave (Operation continued in case the master inverter fails) 2: Slave (Emergency stop tripping in case the master inverter fails) 3: Master (transmission of frequency commands) 4: Master (transmission of output frequency signals)	0		
<i>FB11</i>	0811	Communication command point 1 setting	%	1/1	0-100	0		6.5.2 6.21
<i>FB12</i>	0812	Communication command point 1 frequency	Hz	0.1/0.01	0.0-200.0	0.0		
<i>FB13</i>	0813	Communication command point 2 setting	%	1/1	0-100	100		
<i>FB14</i>	0814	Communication command point 2 frequency	Hz	0.1/0.01	0.0-200.0	50.0 (WP) 60.0 (WN)		
<i>FB29</i>	0829	Selection of communication protocol	-	-	0: Toshiba inverter protocol 1: Modbus RTU protocol 2: Metasys N2 protocol 3: APOGEE FLN protocol 4: BAC-net protocol	0		

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>FB51</i>	0851	Operation at communication error by disconnection	-	-	0: Inverter stop, communication, command frequency mode open (by <i>CrFd, FOnD</i> ) 1: None (continued operation) 2: Deceleration stop 3: Coast stop 4: Communication error ( <i>ErrS</i> trip) or Network error ( <i>ErrB</i> trip)	4		6.21
<i>FB56</i>	0856	Number of motor poles for communication	-	-	1: 2 poles 2: 4 poles 3: 6 poles 4: 8 poles 5: 10 poles 6: 12 poles 7: 14 poles 8: 16 poles	2		
<i>FB70</i>	0870	Block write data 1	-	-	0: No selection 1: Command 1	0		
<i>FB71</i>	0871	Block write data 2	-	-	2: Command 2 3: Frequency command 4: Output data on the terminal board 5: Analog output for communications 6: Motor speed command	0		
<i>FB75</i>	0875	Block read data 1	-	-	0: No selection 1: Status information	0		
<i>FB76</i>	0876	Block read data 2	-	-	2: Output frequency 3: Output current	0		
<i>FB77</i>	0877	Block read data 3	-	-	4: Output voltage 5: Alarm information	0		
<i>FB78</i>	0878	Block read data 4	-	-	6: PID feedback value 7: Input terminal board monitor	0		
<i>FB79</i>	0879	Block read data 5	-	-	8: Output terminal board monitor 9: VIA terminal board monitor 10: VIB terminal board monitor 11: Output motor speed monitor	0		
<i>FB80</i>	0880	Free notes	-	1/1	0-65535	0		

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F890</i>	0890	Parameter for option 1	-	1/1	0-65535	0		6.22
<i>F891</i>	0891	Parameter for option 2	-	1/1	0-65535	0		
<i>F892</i>	0892	Parameter for option 3	-	1/1	0-65535	0		
<i>F893</i>	0893	Parameter for option 4	-	1/1	0-65535	0		
<i>F894</i>	0894	Parameter for option 5	-	1/1	0-65535	0		
<i>F895</i>	0895	Parameter for option 6	-	1/1	0-65535	0		
<i>F896</i>	0896	Parameter for option 7	-	1/1	0-65535	0		
<i>F897</i>	0897	Parameter for option 8	-	1/1	0-65535	0		
<i>F898</i>	0898	Parameter for option 9	-	1/1	0-65535	0		
<i>F899</i>	0899	Parameter for option 10	-	1/1	0-65535	0		

• PM motor parameters

Title	Communication No.	Function	Unit	Minimum setting unit Panel/Communication	Adjustment range	Default setting	User setting	Reference
<i>F910</i>	0910	Step-out detection current level	% (A)	1/1	10-150	100		6.23
<i>F911</i>	0911	Step-out detection time	s	0.1/0.1	0.0: No detection 0.1-25.0	0.0		
<i>F912</i>	0912	High-speed torque adjustment coefficient	-	0.01/0.01	0.00-650.0	0.00		

-Default settings by inverter rating

Inverter type	Acceleration Deceleration time	Torque boost value 1/2	PWM carrier frequency	Automatic torque boost value	Motor rated current	Motor no-load current	Motor rated speed		Motor adjustment coefficient	Display unit selection for integral output power
	<i>ACC.DEC</i> <i>F500</i> <i>F501</i>	<i>ub1</i> <i>F172</i> (%)	<i>F300</i> (kHz)	<i>F402</i> (%)	<i>F415</i> (A)	<i>F416</i> (%)	<i>F417</i> (min <sup>-1</sup> ) WN/ŁYP:2 WP/ŁYP:1		<i>F494</i>	<i>F749</i>
VFFS1-2004PM	10.0	6.0	12.0	6.2	2.0	65	1680	1400	90	0
VFFS1-2007PM	10.0	6.0	12.0	5.8	3.4	60	1690	1408	80	0
VFFS1-2015PM	10.0	6.0	12.0	4.3	6.2	55	1690	1408	70	0
VFFS1-2022PM	10.0	5.0	12.0	4.1	8.9	52	1680	1400	70	0
VFFS1-2037PM	10.0	5.0	12.0	3.4	14.8	48	1690	1408	70	1
VFFS1-2055PM	10.0	4.0	12.0	3.0	21.0	46	1730	1441	70	1
VFFS1-2075PM	10.0	3.0	12.0	2.5	28.2	43	1730	1441	70	1
VFFS1-2110PM	10.0	2.0	12.0	2.3	40.6	41	1730	1441	60	1
VFFS1-2150PM	10.0	2.0	12.0	2.0	54.6	38	1730	1441	50	1
VFFS1-2185PM	30.0	2.0	8.0	2.0	68.0	36	1750	1458	50	1
VFFS1-2220PM	30.0	2.0	8.0	1.8	80.0	34	1750	1458	50	1
VFFS1-2300PM	30.0	2.0	8.0	1.8	108.0	32	1745	1454	50	1
VFFS1-4004PL	10.0	6.0	12.0	6.2	1.0	65	1680	1400	90	0
VFFS1-4007PL	10.0	6.0	12.0	5.8	1.7	60	1690	1408	80	0
VFFS1-4015PL	10.0	6.0	12.0	4.3	3.1	55	1690	1408	70	0
VFFS1-4022PL	10.0	5.0	12.0	4.1	4.5	52	1680	1400	70	0
VFFS1-4037PL	10.0	5.0	12.0	3.4	7.4	48	1690	1408	70	1
VFFS1-4055PL	10.0	4.0	12.0	2.6	10.5	46	1730	1441	70	1
VFFS1-4075PL	10.0	3.0	12.0	2.3	14.1	43	1730	1441	70	1
VFFS1-4110PL	10.0	2.0	12.0	2.2	20.3	41	1730	1441	60	1
VFFS1-4150PL	10.0	2.0	12.0	1.9	27.3	38	1730	1441	50	1
VFFS1-4185PL	30.0	2.0	8.0	1.9	34.0	36	1750	1458	50	1
VFFS1-4220PL	30.0	2.0	8.0	1.8	40.0	34	1750	1458	50	1
VFFS1-4300PL	30.0	2.0	8.0	1.8	54.0	32	1745	1454	50	1
VFFS1-4370PL	30.0	2.0	8.0	1.8	67.0	27	1750	1458	50	2
VFFS1-4450PL	30.0	2.0	8.0	1.7	80.0	26	1750	1458	50	2
VFFS1-4550PL	30.0	2.0	8.0	1.6	98.0	24	1755	1462	40	2
VFFS1-4750PL	30.0	2.0	8.0	1.5	129.0	28	1775	1479	40	2