

Toshiba VF-NC3

Snabbstart - Programmering och idrifttagning



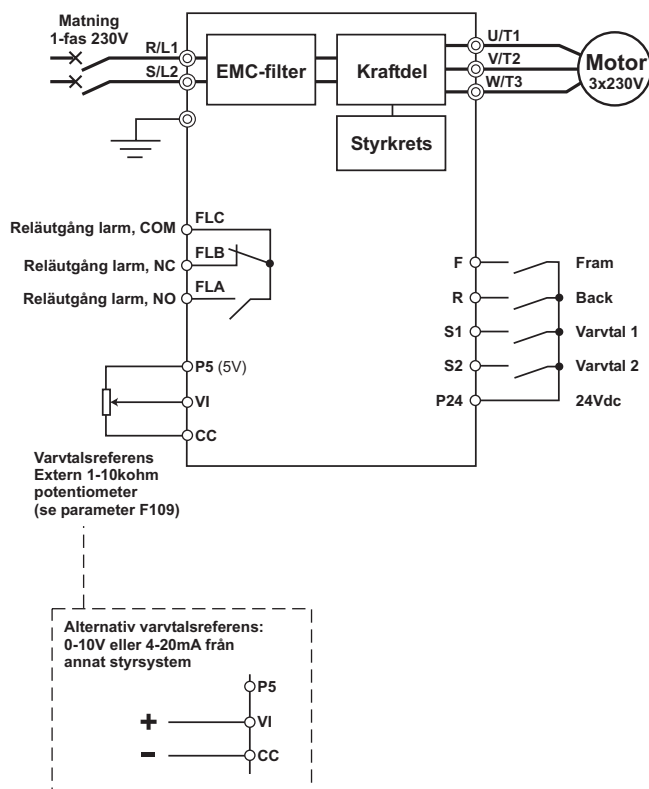
1. Grundinställning

Första gången VF-NC3 ansluts till nätet visar displayen de grundinställningar som kan väljas. Vrid till alternativet "EU" för att välja PNP-logik för digitalingångarna, dvs att de aktiveras genom att kopplas till 24V (positiv logik).

Om du av misstag väljer ett av de andra alternativen, återställ omriktaren genom att sätta parameter TYP till 13 (se punkt 6 under Programmering) och börja om.



2. Kopplingschema (positiv logik)



3. Programmering



1. Tryck på MODE så att lysdioden PRG tänds och parameter "AUH" visas i displayen.
2. Vrid till parameter "Cnod"
3. Tryck på ratten, välj startmetod genom att vrida ratten till:
0 - Extern manöver in på plint F och R
1 - RUN/STOP-knapparna på fronten av VF-NC3
Tryck på ratten för att bekräfta.
4. Vrid till parameter "Fnod"
5. Tryck på ratten och välj varvtalsreferens:
0 - Extern referens eller potentiometer till plint VI
1 - Inställning: Ratt 1(Tryck på ratten för att spara)
2 - Inställning: Ratt 2(Sparar även vid strömavbrott)
För fler inställningar, se manual.
Tryck på ratten för att bekräfta.
6. Justera på samma sätt vid behov övriga parametrar. Här är en sammanställning av de som vanligtvis kan behöva ändras.

ACC Accelerationstid (0,1...3000s) till parameter FH
DEC Retardationstid (0,1...3000s)
FH Skalning av maxfrekvens (30...200Hz)
UL Maxfrekvens (0,5Hz...FH)
LL Minfrekvens (0,0Hz...UL)
UB Momentboost (0,0...30,0%)
THR Motorskydd (10...100% av VF-NC3 märkström)
SR1 Fast varvtal valt med plint S1
SR2 Fast varvtal valt med plint S2
TYP Sätt till 13 för att återställa till fabriksinställning

Parametrar med nummer F100-F800 nås genom att trycka vrida tills F1- -, F2- -... visas, därefter tryck på ratten Vrid sedan till önskad parameter.

F109 Funktion analogingång VI:
0 - Spänning (0 -10V)
1 - Ström (4 -20mA)
2 - Logisk ingång
3 - Spänning (0 -5V) potentiometer.

F203 Skalning av referensspänning VI (0...100%)
F204 Frekvens vid max referens (Hz)
F701 Val av enhet: 0=% 1=A/V

För övriga parametrar se manual.

TOSVERT™ VF-nC3 Parameter List

- Setting information

* Please fill it in if necessary.

Item	Content	Item	Content
Setting date / person		Customer	
Application		Application model	
Motor manufacturer / model		Motor rated capacity	
Inverter model / quantity	VFnc3	Inverter serial number	
Optional devices		Peripheral devices	
Control terminal	F, R, S1, S2, CC, P5, VI, FM, P24, OUT, NO, FLA, FLB, FLC		
Main terminal / switch	R/L1, S/L2, T/L3, U/T1, V/T2, W/T3, E/G, PA/+, PC/-		

Note) Please mark the terminal symbol that you connect.

Basic parameters

• User parameters

Title	Function	Adjustment range	Default setting	note
<i>F C</i>	Operation frequency of operation panel	<i>L L</i> - <i>U L</i>	0.0	

• Four navigation functions

Title	Function	Adjustment range	Default setting	note
<i>R U H</i>	History function	Displays parameters in groups of five in the reverse order to that in which their settings were changed. * (Possible to edit)	-	
<i>R U F</i>	Guidance function	0: - 1: - 2: Preset speed guidance 3: Analog signal operation guidance 4: Motor 1/2 switching operation guidance 5: Motor constant setting guidance	0	
<i>R U 1</i>	Automatic acceleration/ deceleration	0: Disabled (manual setting) 1: Automatic 2: Automatic (only at acceleration)	0	
<i>R U 2</i>	Torque boost setting macro function	0: Disabled 1: Automatic torque boost + auto-tuning 2: Vector control + auto-tuning 3: Energy saving + auto-tuning	0	

• Basic parameters

Title	Function	Adjustment range	Default setting	note
<i>C M M d</i>	Command mode selection	0: Terminal board 1: Panel keypad (including remote keypad) 2: RS485 communication	1	
<i>F M M d</i>	Frequency setting mode selection	0: Terminal board VI 1: Setting dial 1 (press in center to save) 2: Setting dial 2 (save even if power is off) 3: RS485 communication 4: - 5: UP/DOWN from external logic input	2	
<i>F M S L</i>	Meter selection	0: Output frequency 1: Output current 2: Frequency reference 3: Input voltage (DC detection) 4: Output voltage (command value) 5 to 11: - 12: Frequency setting value (after compensation) 13: VI input value 14: - 15: Fixed output 1 (output current 100% equivalent) 16: Fixed output 2 (output current 50% equivalent) 17: Fixed output 3 (Other than the output current) 18: RS-485 communications data 19: For adjustments (<i>F n</i> set value is displayed.) 20 to 22: -	0	

Title	Function	Adjustment range	Default setting	note																																				
<i>F n</i>	Meter adjustment gain	-	-																																					
<i>F r</i>	Forward/reverse run selection (Panel keypad)	0: Forward run 1: Reverse run 2: Forward run (F/R switching on remote keypad) 3: Reverse run (F/R switching on remote keypad)	0																																					
<i>A C C</i>	Acceleration time 1	0.0-3000	10.0																																					
<i>d E C</i>	Deceleration time 1	0.0-3000	10.0																																					
<i>F H</i>	Maximum frequency	30.0-400.0		Depends upon the setup menu settings																																				
<i>U L</i>	Upper limit frequency	0.5- <i>F H</i>		Depends upon the setup menu settings																																				
<i>L L</i>	Lower limit frequency	0.0- <i>U L</i>	0.0																																					
<i>u L</i>	Base frequency 1	20.0-400.0		Depends upon the setup menu settings																																				
<i>u L u</i>	Base frequency voltage 1	50-330		Depends upon the setup menu settings																																				
<i>P t</i>	V/F control mode selection	0: V/F constant 1: Variable torque 2: Automatic torque boost control 3: Vector control 4: Energy-saving	0																																					
<i>u b</i>	Torque boost value 1	0.0-30.0		depending on the capacity																																				
<i>t H r</i>	Motor electronic-thermal protection level 1	10-100	100																																					
<i>U L n</i>	Electronic-thermal protection characteristic selection	<table border="1"> <thead> <tr> <th>Setting</th> <th>Stand and motor</th> <th>Overload protection</th> <th>OL stall</th> </tr> </thead> <tbody> <tr><td>0</td><td></td><td>valid</td><td>invalid</td></tr> <tr><td>1</td><td></td><td>valid</td><td>valid</td></tr> <tr><td>2</td><td></td><td>invalid</td><td>invalid</td></tr> <tr><td>3</td><td></td><td>invalid</td><td>valid</td></tr> <tr><td>4</td><td></td><td>valid</td><td>invalid</td></tr> <tr><td>5</td><td></td><td>valid</td><td>valid</td></tr> <tr><td>6</td><td>V/F motor</td><td>invalid</td><td>invalid</td></tr> <tr><td>7</td><td></td><td>invalid</td><td>valid</td></tr> </tbody> </table>	Setting	Stand and motor	Overload protection	OL stall	0		valid	invalid	1		valid	valid	2		invalid	invalid	3		invalid	valid	4		valid	invalid	5		valid	valid	6	V/F motor	invalid	invalid	7		invalid	valid	0	
Setting	Stand and motor	Overload protection	OL stall																																					
0		valid	invalid																																					
1		valid	valid																																					
2		invalid	invalid																																					
3		invalid	valid																																					
4		valid	invalid																																					
5		valid	valid																																					
6	V/F motor	invalid	invalid																																					
7		invalid	valid																																					
<i>S r 1</i>	Preset-speed frequency 1	<i>L L</i> - <i>U L</i>	0.0																																					
<i>S r 2</i>	Preset-speed frequency 2	<i>L L</i> - <i>U L</i>	0.0																																					
<i>S r 3</i>	Preset-speed frequency 3	<i>L L</i> - <i>U L</i>	0.0																																					
<i>S r 4</i>	Preset-speed frequency 4	<i>L L</i> - <i>U L</i>	0.0																																					
<i>S r 5</i>	Preset-speed frequency 5	<i>L L</i> - <i>U L</i>	0.0																																					
<i>S r 6</i>	Preset-speed frequency 6	<i>L L</i> - <i>U L</i>	0.0																																					
<i>S r 7</i>	Preset-speed frequency 7	<i>L L</i> - <i>U L</i>	0.0																																					

Title	Function	Adjustment range	Default setting	note
εYP	Default setting	0: - 1: 50Hz default setting 2: 60Hz default setting 3: Default setting 1 (Initialization) 4: Trip record clear 5: Cumulative operation time clear 6: Initialization of type information 7: Save user setting parameters 8: Load user setting parameters 9: Cumulative fan operation time record clears 10 to 12: - 13: Default setting 2 (Complete initialization)	0	
5εε	Checking the region setting	0: Start setup menu 1: Japan (read only) 2: North America (read only) 3: Asia (read only) 4: Europe (read only)	Depends upon the setup menu settings	
P5EL	Registered parameters display selection	0: Standard setting mode at power on 1: Easy setting mode at power on 2: Easy setting mode only	0	
F1--	Extended parameter starting at 100	-	-	
F2--	Extended parameter starting at 200	-	-	
F3--	Extended parameter starting at 300	-	-	
F4--	Extended parameter starting at 400	-	-	
F5--	Extended parameter starting at 500	-	-	
F6--	Extended parameter starting at 600	-	-	
F7--	Extended parameter starting at 700	-	-	
F8--	Extended parameter starting at 800	-	-	
GrU	Automatic edit function	-	-	

Title	Function	Adjustment range	Default setting	note
F172	Torque boost value 2	0.0-30.0	Parameter values vary depending on the capacity.	
F173	Motor electronic-thermal protection level 2	10-100	100	
F185	Stall prevention level 2	10-199, 200 (disabled)	150	

●Frequency parameters

Title	Function	Adjustment range	Default setting	note
F201	VI Setting of input point 1	0-100	0	
F202	Frequency of VI input point 1	0.0-400.0	0.0	
F203	Setting of VI input point 2	0-100	100	
F204	Frequency of VI input point 2	0.0-400.0	Depends upon the setup menu settings	
F209	Analog input filter	4-1000	64	
F240	Starting frequency setting	0.1-10.0	0.5	
F241	Operation starting frequency	0.0-FH	0.0	
F242	Operation starting frequency hysteresis	0.0-FH	0.0	
F249	Factory specific coefficient 2A	-	-	
F250	DC braking starting frequency	0.0-FH	0.0	
F251	DC braking current	0-100	50	
F252	DC braking time	0.0-25.5	1.0	
F256	Time limit for lower-limit frequency operation	0: Disabled 0.1-600.0	0.0	
F264	External logic input - UP response time	0.0-10.0	0.1	
F265	External logic input - UP frequency steps	0.0-FH	0.1	
F266	External logic input -DOWN response time	0.0-10.0	0.1	
F267	External logic input -DOWN frequency steps	0.0-FH	0.1	
F268	Initial value of UP/DOWN frequency	LL - UL	0.0	
F269	Change of the initial value of UP/DOWN frequency	0: Not changed 1: Setting of F268 changed when power is turned off	1	
F270	Jump frequency	0.0-FH	0.0	
F271	Jumping width	0.0-30.0	0.0	
F287	Preset-speed frequency 8	LL - UL	0.0	
F288	Preset-speed frequency 9	LL - UL	0.0	
F289	Preset-speed frequency 10	LL - UL	0.0	
F290	Preset-speed frequency 11	LL - UL	0.0	
F291	Preset-speed frequency 12	LL - UL	0.0	
F292	Preset-speed frequency 13	LL - UL	0.0	
F293	Preset-speed frequency 14	LL - UL	0.0	
F294	Preset-speed frequency 15	LL - UL	0.0	

●Operation mode parameters

Title	Function	Adjustment range	Default setting	note
F300	PWM carrier frequency	2 -16	12	
F301	Auto-restart control selection	0: Disabled 1: At auto-restart after momentary stop 2: At ST terminal off and on 3: 1+2 4: At start-up	0	
F302	Regenerative power ride-through control (Deceleration stop)	0: Disabled 1: Automatic setting 2: Slowdown stop	0	
F303	Retry selection (number of times)	0: Disabled 1-10	0	
F305	Over voltage limit operation (Slowdown stop mode selection)	0: Enabled 1: Disabled 2: Enabled (Quick deceleration control) 3: Enabled (Dynamic quick deceleration control)	Depends upon the setup menu settings	
F307	Supply voltage correction (output voltage limitation)	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	Depends upon the setup menu settings	
F311	Reverse-run prohibition	0: Forward/reverse run permitted 1: Reverse run prohibited 2: Forward run prohibited	0	
F312	Random mode	0: Disabled 1: Automatic setting	0	
F316	Carrier frequency control mode selection	0: Carrier frequency without reduction 1: Carrier frequency with automatic reduction	1	
F359	PID control waiting time	0-2400	0	
F360	PID control	0: Disabled, 1: Enabled	0	
F362	Proportional gain	0.01-100.0	0.30	
F363	Integral gain	0.01-100.0	0.20	

Extended parameters

●Input/output parameters1

Title	Function	Adjustment range	Default setting	note
F100	Low-speed signal output Frequency	0.0-FH	0.0	
F101	Speed reach setting frequency	0.0-FH	0.0	
F102	Speed reach detection band	0.0-FH	2.5	
F105	Priority selection (Both F and R are ON)	0: Reverse 1: Slowdown Stop	1	
F108	Always active function selection 1	0-123	0 (No function)	
F109	Analog/logic input Selection (VI terminal)	0: Voltage signal input (0-10V) 1: Current signal input (4-20mA) 2: Logic input 3: Voltage signal input (0-5V)	0	
F110	Always active function selection 2	0-123	6 (ST)	
F111	Input terminal selection 1A (F)	0-201	2 (F)	
F112	Input terminal selection 2A (R)	0-201	4 (R)	
F113	Input terminal selection 3A (S1)	0-201	10 (SS1)	
F114	Input terminal selection 4A (S2)	0-201	12 (SS2)	
F115	Input terminal selection 5 (VI)	8-55	14 (SS3)	
F127	Sink/source switching	0: Sink, 100: Source 1-99, 101-255: invalid	Depends upon the setup menu settings	
F130	Output terminal selection 1A (OUT)	0-255	4 (LOW)	
F132	Output terminal selection 2 (FL)	0-255	10 (FL)	
F137	Output terminal selection 1B (OUT)	0-255	255 (always ON)	
F139	Output terminal logic selection (OUT)	0: F130 and F137 1: F130 or F137	0	
F144	Factory specific coefficient 1A	-	-	
F151	Input terminal selection 1B (F)	0-201	0	
F152	Input terminal selection 2B (R)	0-201	0	
F153	Input terminal selection 3B (S1)	0-201	0	
F154	Input terminal selection 4B (S2)	0-201	0	
F155	Input terminal selection 1C (F)	0-201	0	
F156	Input terminal selection 2C (R)	0-201	0	
F170	Base frequency 2	20.0-400.0	Depends upon the setup menu settings	
F171	Base frequency voltage 2	50-330	Depends upon the setup menu settings	

Title	Function	Adjustment range	Default setting	note
F366	Differential gain	0.00-2.5	0.00	
F380	PID forward/reverse characteristics selection	0: Forward 1: Reverse	0	
F391	Auto-stop hysteresis in case of lower-limit frequency continuous operation	0.0-1.1	0.2	

•Torque boost parameters 1

Title	Function	Adjustment range	Default setting	note
F400	Auto-tuning	0:Auto-tuning disabled 1:Initialization of F402 (reset to 0) 2:Auto-tuning executed (after execution:0)	0	
F401	Slip frequency gain	0-150	50	
F402	Automatic torque boost value	0.0-30.0	depending on the capacity	
F405	Motor rated capacity	0.01-5.50	depending on the capacity	
F412	Motor specific coefficient 1	-	-	
F415	Motor rated current	0.1-30.0	depending on the capacity	
F416	Motor no-load current	10-90	depending on the capacity	
F417	Rated motor speed	100-32000	Depends upon the setup menu settings	
F458	Motor specific coefficient 2	-	-	
F459	Load inertia moment ratio	0.1-100.0	1.0	
F460	Motor specific coefficient 3	-	-	
F461	Motor specific coefficient 4	-	-	
F462	Motor specific coefficient 5	-	-	
F467	Motor specific coefficient 6	-	-	

•Input/output parameters 2

Title	Function	Adjustment range	Default setting	note
F470	VI input bias	0-255	128	
F471	VI input gain	0-255	128	

•Torque boost parameters 2

Title	Function	Adjustment range	Default setting	note
F480	Motor specific coefficient 7	-	-	
F485	Motor specific coefficient 8	-	-	
F495	Motor specific coefficient 9	-	-	

•Acceleration/deceleration time parameters

Title	Function	Adjustment range	Default setting	note
F500	Acceleration time 2	0.0-3000	10.0	
F501	Deceleration time 2	0.0-3000	10.0	
F502	Acceleration/deceleration 1 pattern	0: Linear 1: S-pattern 1	0	
F503	Acceleration/deceleration 2 pattern	2: S-pattern 2	0	
F505	Acceleration/deceleration 1 and 2 switching frequency	0.0 (disabled) 0.1-1.1	0.0	

•Protection parameters

Title	Function	Adjustment range	Default setting	note
F601	Stall prevention level 1	10-199, 200 (disabled)	150	
F602	Inverter trip retention selection	0: Cleared with power off 1: Retained with power off	0	
F603	Emergency stop selection	0: Coast stop 1: Slowdown stop 2: Emergency DC braking	0	
F605	Output phase failure detection selection	0: Disabled 1: At start-up (only one time after power on) 2: At start-up (each time)	0	
F607	Motor 150% overload detection time	10-2400	300	
F608	Input phase failure detection selection	0: Disabled, 1: Enabled	1	
F609	Small current detection hysteresis	1-20	10	
F610	Small current trip/alarm selection	0: Alarm only 1: Tripping	0	
F611	Small current detection current	0-150	0	
F612	Small current detection time	0-255	0	
F613	Detection of output short-circuit at start-up	0: Each time (standard pulse) 1: Only one time after power on(standard pulse) 2: Each time (short pulse) 3: Only one time after power on(short pulse)	0	
F615	Over-torque trip/alarm selection	0: Alarm only 1: Tripping	0	

Title	Function	Adjustment range	Default setting	note
F616	Over-torque detection level	0 (disabled) 1-200	150	
F618	Over-torque detection time	0.0-10.0	0.5	
F619	Over-torque detection hysteresis	0-100	10	
F620	Cooling fan ON/OFF control	0: ON/OFF control 1: Always ON	0	
F621	Cumulative operation time alarm setting	0.0-999.9	610	
F627	Undervoltage trip/alarm selection	0: Alarm only (detection level below 64%) 1: Tripping (detection level below 64%) 2: Alarm only (detection level 50% or below, AC reactor required)	0	
F631	Factory specific coefficient 6A	-	-	
F632	Electronic thermal memory	0: Disabled 1: Enabled	0	
F633	VI analog input break detection level	0: Disabled, 1-100	0	
F634	Annual average ambient Temperature (parts replacement alarms)	1: -10 to +10°C 2: 11-20°C 3: 21-30°C 4: 31-40°C 5: 41-50°C 6: 51-60°C	3	

•Output parameters

Title	Function	Adjustment range	Default setting	note
F659	Logic output/pulse train output selection (OUT-NO)	0: Logic output 1: Pulse train output	0	
F676	Pulse train output function selection (OUT-NO)	0:Output frequency 1:Output current 2:Frequency reference 3:Input voltage (DC detection) 4:Output voltage (command value) 5-11: - 12:Frequency setting value (after compensation) 13:VI input value 14:- 15:Fixed output 1 (output current 100% equivalent) 16:Fixed output 2 (output current 50% equivalent) 17:Fixed output 3 (Other than the output current) 18:Communication data 19 to 22: -	0	
F677	Maximum numbers of pulse train	0.50-1.60	0.80	
F678	Factory specific coefficient 6B	-	-	
F681	Analog output signal selection	0: Meter option (0 to 1mA) 1: Current (0 to 20mA) output 2: Voltage (0 to 10 V) output	0	
F684	Factory specific coefficient 6C	-	-	
F691	Inclination characteristic of analog output	0: Negative inclination (downward slope) 1: Positive inclination (upward slope)	1	
F692	Analog output bias	-1.0—+100.0	0	
F693	Factory specific coefficient 6D	-	-	

•Operation panel parameters

Title	Function	Adjustment range	Default setting	note
F 700	Parameter write protection selection	0: Permitted 1: Panel and extension panel inhibited 2: 1 + RS-485 communications inhibited	0	
F 701	Current/voltage unit selection	0: % 1: A (ampere)/V (volt)	0	
F 702	Free unit display scale	0.00: Disabled (display of frequency) 0.01-200.0	0.00	
F 707	Free step (1-step rotation of setting dial)	0.00: Disabled 0.01-FH	0.00	
F 710	Initial panel display selection	0: Operation frequency (Hz/free unit) 1: Output current (%/A) 2: Frequency setting value (Hz/free unit) 3 to 17: - 18: Arbitrary display according to communications	0	
F 711	Status monitor 1	0: Operation frequency (Hz/free unit) 1: Output current (%/A) 2: Frequency setting value (Hz/free unit) 3: Input voltage (DC detection) (%/V) 4: Output voltage (command value) (%/V) 5: Input power (kW) 6: Output power (kW) 7: Torque (%) 8: Torque current (%/A) 9 to 11: - 12: Frequency setting value (after compensation) 13 to 22: - 23: PID feedback value (Hz/free unit) 24 to 26: - 27: Drive load factor (%)	2	
F 712	Status monitor 2		1	
F 713	Status monitor 3		3	
F 714	Status monitor 4		4	
F 715	Status monitor 5		27	
F 716	Status monitor 6		0	
F 720	Initial remote keypad display selection	0: Operation frequency (Hz/free unit) 1: Output current (%/A) 2: Frequency setting value (Hz/free unit) 3 to 17: - 18: Arbitrary display according to communications	0	
F 730	Panel frequency setting prohibition (FL)	0: Permitted 1: Prohibited	0	
F 732	Local/remote operation prohibition for remote keypad	0: Permitted 1: Prohibited	1	
F 733	Panel operation prohibition (RUN/STOP keys)	0: Permitted 1: Prohibited	0	
F 734	Prohibition of panel emergency stop operation	0: Permitted 1: Prohibited	0	
F 735	Prohibition of panel reset operation	0: Permitted 1: Prohibited	0	
F 736	CRD/FRD change prohibition during operation	0: Permitted 1: Prohibited	1	
F 738	Password setting (F 700)	0: No password set 1-9998 9999: Password set	0	
F 739	Password examination	0: No password set 1-9998 9999: Password set	0	
F 746	Factory specific coefficient 7A	-	-	
F 751	Easy setting mode parameter 1	0-999 (Set by communications number)	3	
F 752	Easy setting mode parameter 2		4	
F 753	Easy setting mode parameter 3		9	
F 754	Easy setting mode parameter 4		10	
F 755	Easy setting mode parameter 5		600	
F 756	Easy setting mode parameter 6		6	
F 757	Easy setting mode parameter 7		999	
F 758	Easy setting mode parameter 8		999	
F 759	Easy setting mode parameter 9		999	
F 760	Easy setting mode parameter 10		999	
F 761	Easy setting mode parameter 11		999	
F 762	Easy setting mode parameter 12		999	
F 763	Easy setting mode parameter 13		999	
F 764	Easy setting mode parameter 14		999	
F 765	Easy setting mode parameter 15		999	
F 766	Easy setting mode parameter 16		999	
F 767	Easy setting mode parameter 17		999	
F 768	Easy setting mode parameter 18		999	
F 769	Easy setting mode parameter 19		999	
F 770	Easy setting mode parameter 20		999	
F 771	Easy setting mode parameter 21		999	
F 772	Easy setting mode parameter 22		999	

Title	Function	Adjustment range	Default setting	note
F 773	Easy setting mode parameter 23	0-999 (Set by communications)	999	
F 774	Easy setting mode parameter 24		50	
F 799	Factory specific coefficient 7B	-	-	

•Communication parameters

Title	Function	Adjustment range	Default setting	note
F 800	Baud rate	3: 9600bps 4: 19200bps 5: 38400bps	4	
F 801	Parity	0: NON (No parity) 1: EVEN (Even parity) 2: ODD (Odd parity)	1	
F 802	Inverter number	0-247	0	
F 803	Communication time-out time	0-0: Disabled, 0.1-100.0	0.0	
F 804	Communication time-out action	0: Alarm only 1: Trip (Coast stop) 2: Trip (Slowdown stop)	0	
F 808	Communication time-out detection condition	0: Always 1: When CRD or FRD communications is selected 2: 1 + during operation	1	
F 829	Selection of communication protocol	0: Toshiba inverter protocol 1: Modbus RTU protocol	0	
F 870	Block write data 1	0: No selection 1: Command information 2: - 3: Frequency setting 4: Output data on the terminal board 5: Analog output for communications	0	
F 871	Block write data 2		0	
F 875	Block read data 1	0: No selection 1: Status information 2: Output frequency 3: Output current 4: Output voltage 5: Alarm information 6: PID feedback value 7: Input terminal board monitor 8: Output terminal board monitor 9: V1 terminal block monitor	0	
F 876	Block read data 2		0	
F 877	Block read data 3		0	
F 878	Block read data 4		0	
F 879	Block read data 5		0	
F 880	Free notes	0-65535	0	

●Input Terminal Function

Function No.	Function
0,1	No function
2	Forward run command
3	Inversion of forward run command
4	Reverse run command
5	Inversion of reverse run command
6	Standby
7	Inversion of standby
8	Reset command
9	Inversion of reset command
10	Preset-speed command 1
11	Inversion of preset-speed command 1
12	Preset-speed command 2
13	Inversion of preset-speed command 2
14	Preset-speed command 3
15	Inversion of preset-speed command 3
16	Preset-speed command 4
17	Inversion of preset-speed command 4
18	Jog run mode
19	Inversion of jog run mode
20	Emergency stop by external signal
21	Inversion of emergency stop by external signal
22	DC braking command
23	Inversion of DC braking command
24	2nd acceleration/deceleration
25	Inversion of 2nd acceleration/deceleration
28	2nd V/F control mode switching
29	Inversion of 2nd V/F control switching
32	2nd stall prevention level
33	Inversion of 2nd stall prevention level
36	PID control prohibition
37	Inversion of PID control prohibition
48	Forced local from communication
49	Inversion of forced local from communication
50	Operation hold (hold of 3-wire operation)
51	Inversion of operation hold (hold of 3-wire operation)
52	PID integral/differential clear
53	Inversion of PID integral/differential clear
54	PID characteristics switching
55	Inversion of PID characteristics switching
88	Frequency UP from external logic input
89	Inversion of frequency UP from external logic input
90	Frequency DOWN from external logic input
91	Inversion of frequency DOWN from external logic input
92	Clear frequency UP/DOWN from external logic input
93	Inversion of clear frequency UP/DOWN from external logic input
96	Coast stop command
97	Inversion of coast stop command
106	Frequency setting mode terminal board V1
107	Inversion of frequency setting mode terminal board V1 block
108	Command mode terminal board
109	Inversion of command mode terminal board
110	Parameter editing permission
111	Inversion of parameter editing permission
122	Forced deceleration command
123	Inversion of forced deceleration command
200	Parameter editing prohibition
201	Inversion of parameter editing prohibition

●Output Terminal Function

Function No.	Function
0	Frequency lower limit
1	Inversion of frequency lower limit
2	Frequency upper limit
3	Inversion of frequency upper limit
4	Low-speed detection signal
5	Inversion of low-speed detection signal
6	Output frequency attainment signal (acceleration/deceleration completed)
7	Inversion of output frequency attainment signal (inversion of acceleration/deceleration completed)
8	Set frequency attainment signal
9	Inversion of set frequency attainment signal
10	Fault signal (trip output)
11	Inversion of fault signal (inversion of trip output)
14	Over-current pre-alarm
15	Inversion of over-current pre-alarm
16	Overload detection pre-alarm
17	Inversion overload pre-alarm
20	Overheat pre-alarm
21	Inversion of overheat pre-alarm
22	Overvoltage pre-alarm
23	Inversion of overvoltage pre-alarm
24	Power circuit undervoltage detection
25	Inversion of power circuit undervoltage detection
26	Small current detection
27	Inversion of small current detection
28	Over-torque detection
29	Inversion of over-torque detection
40	Run
41	Inversion of run/stop
56	Cumulative operation time alarm
57	Inversion of cumulative operation time alarm
60	Forward/reverse run
61	Inversion of forward/reverse run
78	RS485 communication error
79	Inversion of RS485 communication error
92	Assigned data output
93	Inversion of assigned data output
128	Parts replacement alarm
129	Inversion of parts replacement alarm
146	Fault signal (output also at a retry)
147	Inversion of fault signal (output also at a retry)
254	Always OFF
255	Always ON

•Default settings by inverter rating

Inverter type	Torque boost value	Automatic torque boost value	Motor rated capacity	Motor rated current	Motor no-load current
	$\omega b / F 172$ (%)	$F 402$ (%)	$F 405$ (kW)	$F 415$ (A)	$F 416$ (%)
VFNC3S-1001P	6.0	10.3	0.10	0.6	75
VFNC3S-1002P	6.0	8.3	0.20	1.2	70
VFNC3S-1004P	6.0	6.2	0.40	2.0	65
VFNC3S-1007P	6.0	5.8	0.75	3.4	60
VFNC3S-2001PL	6.0	10.3	0.10	0.6	75
VFNC3S-2002PL	6.0	8.3	0.20	1.2	70
VFNC3S-2004PL	6.0	6.2	0.40	2.0	65
VFNC3S-2007PL	6.0	5.8	0.75	3.4	60
VFNC3S-2015PL	6.0	4.3	1.50	6.2	55
VFNC3S-2022PL	5.0	4.1	2.20	8.9	52
VFNC3-2001P	6.0	10.3	0.10	0.6	75
VFNC3-2002P	6.0	8.3	0.20	1.2	70
VFNC3-2004P	6.0	6.2	0.40	2.0	65
VFNC3-2007P	6.0	5.8	0.75	3.4	60
VFNC3-2015P	6.0	4.3	1.50	6.2	55
VFNC3-2022P	5.0	4.1	2.20	8.9	52
VFNC3-2037P	5.0	3.4	4.00	14.8	48

• Default settings by setup menu

Setting	Main regions	Max. frequency	Frequency	Base frequency voltage	Sink/source switching	Supply voltage correction (output voltage limitation)	Motor rated speed
		$F H$ (Hz)	$\omega L / \omega L / F 170 / F 204$ (Hz)	$\omega L \omega / F 171$ (V)	$F 127$	$F 307$	$F 417$ (min^{-1})
$J P$	Japan	80.0	60.0	200	0 (Sink)	3	1710
$U S A$	North America	60.0	60.0	230	0 (Sink)	2	1710
$R S I A$	Asia	50.0	50.0	230	0 (Sink)	2	1410
$E U$	Europe	50.0	50.0	230	100 (Source)	2	1410