ES103 Series Features Supplement

This manual is to be used in conjunction with the "ES100 Series Inverter User Manual". This manual only describes the parts related to high frequency machine control. For other basic functions, please refer to "ES100 Series Inverter User Manual".

ES103 series technical specifications

Function description		Specification index
power input	Rated input voltage	single phase 220V ±20% triple phase 220V ±20% triple phase 380V ±20%
	Rated input frequency	50 ~ 60Hz (±5%)
power output	Rated Output Voltage	No higher than input voltage
	Rated output current	Rated output current of inverter
	Overload capacity	150% rated current 1 minute, 180% rated current 10 seconds
Control functions	Control mode	V/F control, vector control
	Maximum frequency	3000.0Hz
	Frequency resolution	Digital given：0.1Hz Analog given: maximum frequency x 0.1%
	Speed-regulating range	1：100
	Steady stabilizing precision	1%
	Torque boost	Automatic torque boost, fixed torque boost, random torque boost
	Acceleration and deceleration curves	Straight line, S curve
	Acceleration and deceleration time	0.01S ~ 600.00S
	Automatic voltage regulation	When the grid voltage fluctuates, the function can automatically maintain constant output voltage
	Over current, over voltage stall	Automatic control on current and voltage during operation to prevent frequent trip due to over-current or over-voltage
	DC braking	Dc braking frequency: 0.1hz ~600.0hz Braking time: 0.00s ~ 30.00s Braking action current value: 0.00% ~ 150.00%
Peripheral interface	External power	10V/10mA 24V/150mA
	Digital input	6-CH digital programmable input terminals
	Digital output	1-CH programmable Y terminal output, 1-CH programmable relay output
	Analog input	AI1：0 ~ 10V Voltage input AI2:0 ~ 10V/0 ~ 20mA input
	Analog output	AO: 0 ~ 10V output
	485communication	Modbus Support standard Modbus communication protocol
Keypad	LED display	5-digit nixie tube display
	Keys	8 operation keys
Protection	Fault protection	Input phase loss, output phase loss, over current protection, over voltage protection, under voltage protection, overheating protection, overload protection, etc
Environment	Installation site	Indoor, not direct sunlight, no dust, corrosive gas, flammable gas, oil mist, water vapor, water dripping Or salt etc.
	Altitude	Less than 1000m
	Ambient environment	-10℃ ~ +40℃
	Humidity	Less than 95%RH, no condensation
	Vibration	Less than 0.6 g
	Storage temperature	-20℃ ~ +60℃
	Protection grade	IP20
	Installation way	Wall-mounted

ES103 Series Function Code Table

P00 group. The basic parameters

Function Code	Name	Setting Range	Unit	Factory default	Property
P00.08	Main digital frequency	0.0~Maximum frequency	Hz	0.0	●
P00.09	Auxiliary digital frequency	0.0~Maximum frequency	Hz	0.0	●
P00.13	Carrier frequency	2.000~12.000	KHz	4.000	●
P00.14	Maximum frequency	20.0~3000.0	Hz	50.0	○

P00.15	Upper limiting frequency	Lower limiting frequency~Maximum frequency	Hz	50.0	○
P00.16	Lower limiting frequency	0.0~Upper limiting frequency	Hz	0.0	○

P01 group :Start/stop control

Function Code	Name	Setting Range	Unit	Factory default	Property
P01.05	Stop DC braking frequency	0.1~600.0	Hz	2.0	○

P02 group :Motor parameter

Function Code	Name	Setting Range	Unit	Factory default	Property
P02.03	Motor rated power	20.0~3000.0	Hz	XX.X	○

P03 group :V/F control

Function Code	Name	Setting Range	Unit	Factory default	Property
P03.01	Reference frequency	20.0~3000.0	Hz	50.0	○

P05 group: Input terminal control

Function Code	Name	Setting Range	Unit	Factory default	Property
P05.06	FDT Upper bound	0.0~ Maximum frequency	Hz	30.0	○
P05.07	FDT Lower bound	0.0~Maximum frequency	Hz	30.0	○
P05.08	FAR Frequency arrival	0.0~200.0	Hz	5.0	●

P06 group. Auxiliary parameters

Function Code	Name	Setting Range	Unit	Factory default	Property
P06.00	Jog digital frequency	0.0~ Maximum frequency	Hz	30.0	○
P06.05	1 Multi-segment speed	0.0~Maximum frequency	Hz	30.0	○
P06.06	2 Multi-segment speed	0.0~Maximum frequency	Hz	5.0	●
P06.07	3 Multi-segment speed	0.0~Maximum frequency	Hz	5.0	●
P06.08	4 Multi-segment speed	0.0~Maximum frequency	Hz	5.0	●
P06.09	5 Multi-segment speed	0.0~Maximum frequency	Hz	5.0	●
P06.10	6 Multi-segment speed	0.0~Maximum frequency	Hz	5.0	●
P06.11	7 Multi-segment speed	0.0~Maximum frequency	Hz	5.0	●

P11 group. Control parameters

Function Code	Name	Setting Range	Unit	Factory default	Property
P11.02	Carrier upper limiting	2.000~12.000	KHz	6.000	●
P11.03	Carrier lower limiting	2.000~12.000	KHz	2.000	●

P13 group. Monitoring parameters

Function Code	Name	Setting Range	Unit	Factory default	Property
P13.00	Input frequency	0.0~Maximum frequency	Hz		×
P13.01	Output frequency (before compensation)	0.0~Upper limiting frequency	Hz		×
P13.02	Output frequency (after compensation)	0.0~Lower limiting frequency	Hz		×

P14 group. Fault parameters

Function Code	Name	Setting Range	Unit	Factory default	Property
P14.03	Output frequency during the first recent failure	0.0~3000.0	Hz	0.0	×