# Z2000T /Z8000T Vector Control Frequency Inverter for Synchronous Motor

# Parameter List

Z2000T/Z8000T is special frequency inverter for 3-phase AC permanent magnet synchronous motor with open and closed loop control mode.

# 1. Technical Specification

| Item | Specification | |
|---|---|---|
| Max. Frequency | 0 ~ 600Hz | |
| Carrier Frequency | 0.5KHz ~ 16KHz | |
| Input frequency resolution | Digital setting：0.01Hz<br>Analog setting：max. Frequency X 0.025% | |
| Control Mode | Sensorless flux vector control（SVC）<br>Closed loop vector control（FVC） | |
| Startup torque | 2.0Hz/100%（SVC） | 0Hz/200%(FVC) |
| Speed range | 1:50(SVC) | 1:1000(SVC) |
| Speed stability | ±0.5%（SVC） | ±0.02%（FVC） |
| Overload capacity | 60s for 150% of rated current,3s for 180% of rated current. | |

# 1. Parameter List：

| Function Code | Name | Setting range | Factory setting | modify |
|---|---|---|---|---|
| Group P0:　　Basic Parameters | | | | |
| P0.00 | G/P type display | 1：G type（constant torque load）<br>2：P type (variable torque load e.g. Fan & pump） | Depends on application | ● |
| P0.01 | Control mode | 0：open loop without PG card<br>1：closed loop with PG card | 0 | ★ |

| | | selection | | | |
|---|---|---|---|---|---|
| P0.02 | Command channel selection | 0： operation panel control（LED off）<br>1： terminal control（LED on）<br>2： communication control（LED spark） | 0 | ☆ | |
| P0.03 | Main frequency source X selection | 0： Digital Setting（P0.08preset frequency，can modify by UP/DOWN，power-off without memory function）<br>1： Digital Setting（P0.08preset frequency，can modify by UP/DOWN，power-off with memory function）<br>2： FIV<br>3： FIC<br>4： Reserved<br>5： PULSE setting（X5）<br>6： Multistage instruction<br>7： PLC<br>8： PID<br>9： Communication given | 0 | ★ | |
| P0.04 | Auxiliary frequency selection | Same as P0.03（Main frequency source X selection） | 0 | ★ | |
| P0.05 | Auxiliary frequency source superposition Y range selection | 0： relative to the maximum frequency<br>1： relative to the main frequency source X | 0 | ☆ | |
| P0.06 | Auxiliary frequency source superposition Y setting range | 0%～150% | 100% | ☆ | |
| P0.07 | Frequency source setting range | Unit's digit：frequency source<br>0： main frequency source X<br>1： X and Y operation （operation relationship determined by ten's digit)<br>2： switchover between X and Y<br>3： switchover between X and "X and Y" "operation "<br>4： switchover between Y and " X and Y" "operation"<br>0： X＋Y<br>1： X－Y<br>2: Maximum of X and Y<br>3： Minimum of X and Y | 00 | ☆ | |
| P0.08 | Frequency preset | 0.00Hz～max. frequency（P0.10） | 50.00Hz | ☆ | |
| P0.09 | Rotation direction | 0： same direction<br>1： reverse direction | 0 | ☆ | |

| P0.10 | Maximum frequency | 5.00Hz～600.00Hz | 50.00Hz | ★ |
|---|---|---|---|---|
| P0.11 | Upper limit frequency source | 0：P0.12 setting<br>1：FIV<br>2：FIC<br>3：reserved<br>4：PULSE Setting<br>5：Communication Setting | 0 | ★ |
| P0.12 | Upper limit frequency | Frequency lower limitP0.14～Maximum frequency P0.10 | 50.00Hz | ☆ |
| P0.13 | Upper limit frequency offset | 0.00Hz～Maximum frequency P0.10 | 0.00Hz | ☆ |
| P0.14 | Frequency lower limit | 0.00Hz～Upper limit frequencyP0.12 | 0.00Hz | ☆ |
| P0.15 | Carrier frequency | 0.5kHz～16.0kHz | Model depended | ☆ |
| P0.16 | Carrier frequency adjustment with temperature | 0：No<br>1：Yes | 1 | ☆ |
| P0.17 | Acceleration time 1 | 0.00s～65000s | Model depended | ☆ |
| P0.18 | Deceleration time1 | 0.00s～65000s | Model depended | ☆ |
| P0.19 | Acceleration/ deceleration time unit | 0：1s<br>1：0.1s<br>2：0.01s | 1 | ★ |
| P0.21 | Frequency offset of auxiliary frequency source for X and Y operation | 0.00Hz～maximum frequency P0.10 | 0.00Hz | ☆ |
| P0.22 | Frequency reference | 2：0.01Hz | 2 | ★ |
| P0.23 | Retentive of digital setting frequency upon power | 0：no memory   1：memory | 0 | ☆ |
| P0.25 | Acceleration/Deceleration time base frequency | 0：maximum frequency（P0.10）<br>1：set frequency<br>2：100Hz | 0 | ★ |
| P0.26 | Base frequency for UP/DOWN modification during running | 0：running frequency   1：set frequency | 0 | ★ |
| P0.27 | Binding command source to frequency source | Unit's digit: Binding operation panel command to frequency source<br>0: No binding<br>1: Frequency source by digital setting<br>2: FIV | 0000 | ☆ |

| | | 3：FIC<br>4： Reserved<br>5：PULSE setting（X5）<br>6：Muli-reference<br>7：Simple PLC<br>8：PID<br>9: communication setting<br>Ten's digit：binding terminal command to frequency source (0~9, same as unit's digit)<br>hundred's digit: Binding communication command to frequency source (0~9, same as unit's digit)<br>Thousand's digit: Binding auto-running command to frequency source (0~9, same as unit's digit) | | |
|---|---|---|---|---|
| Group P1: | Motor parameters | | | |
| P1.00 | Motor type selection | Permanent magnet synchronous motor | 2 | ★ |
| P1.01 | Rated motor power | 0.1kW～1000.0kW | Model depended | ★ |
| P1.02 | Rated motor voltage | 1V～2000V | Model depended | ★ |
| P1.03 | Rated motor current | 0.1A～6553.5A | Model depended | ★ |
| P1.04 | Rated Motor frequency | 0.01Hz～Maximum frequency | Model depended | ★ |
| P1.05 | Rated motor rotational speed | 1rpm～65535rpm | Model depended | ★ |
| P1.16 | Stator resistance (synchronous motor) | 0.001Ω～65.535Ω<br>（VFD capacity <=55kW）<br>0.0001Ω～6.5535Ω<br>（VFD capacity>55kW） | Auto-tuning | ★ |
| P1.17 | Shaft D inductance (synchronous motor) | 0.01mH～655.35mH<br>（VFD capacity<=55kW）<br>0.001mH～65.535mH<br>（VFD capacity>55kW） | Auto-tuning | ★ |
| P1.18 | Shaft Q inductance (synchronous motor) | 0.01mH～655.35mH<br>（VFD capacity<=55kW）<br>0.001mH～65.535mH<br>（VFD capacity>55kW） | Auto-tuning | ★ |
| P1.20 | Back EMF | 0.0V～6553.5V | Auto-tuning | ★ |

| P1.27 | Encoder pulses per revolution | 1～65535 | 1024 | ★ |
|---|---|---|---|---|
| | | (synchronous motor) | | |

| | | | | |
|---|---|---|---|---|
| P1.27 | Encoder pulses per revolution | 1～65535 | 1024 | ★ |
| P1.28 | Encoder type | 0：ABZ Incremental encoder<br>1：UVW Incremental encoder<br>2: Resoler<br>3: SIN/COS encoder<br>4：Wire-saving UVW encoder | 0 | ★ |
| P1.30 | ABZ Incremental encoder AB phase sequence | 0：forward<br>1：reverse | 0 | ★ |
| P1.31 | Encoder mounting angle | 0.0～359.9° | 0.0° | ★ |
| P1.32 | UVW encoder UVW phase sequence | 0：forward<br>1：reverse | 0 | ★ |
| P1.33 | UVW encoder angle offset | 0.0～359.9° | 0.0° | ★ |
| P1.34 | No. Of pole pairs of resolver | 1～65535 | 1 | ★ |
| P1.36 | Encoder wire-break fault detection time | 0.0：No action<br>0.1s～10.0s | 0.0 | ★ |
| P1.37 | Auto-tuning selection | 0：No auto-tuning<br>11：SVC Synchronous motor static auto-tuning<br>　（FVC Synchronous motor no-load auto-tuning）<br>12：SVC Synchronous motor fully auto-tuning<br>　（FVC Synchronous motor with-load auto-tuning） | 0 | ★ |
| Group P2: Vector Control Parameters | | | | |
| P2.00 | Speed loop proportional gain 1 | 1～100 | 10 | ☆ |
| P2.01 | Speed loop integral time1 | 0.01s～10.00s | 0.50s | ☆ |
| P2.02 | Switchover frequency 1 | 0.00～P2.05 | 5.00Hz | ☆ |
| P2.03 | Speed loop proportional gain2 | 1～100 | 10 | ☆ |
| P2.04 | Speed loop integral time2 | 0.01s～10.00s | 1.00s | ☆ |
| P2.05 | Switchover frequency2 | P2.02～maximum frequency | 10.00Hz | ☆ |

| P2.06 | Vector control slip gain | 50%～200% | 100% | ☆ |
|-------|---------------------------|-----------|------|---|
| P2.07 | SVC time constant of speed loop filter (open loop) | 0～31s | 28 | ☆ |
| P2.08 | Vector control over-excitation gain | 0～200 | 64 | |
| P2.09 | Torque upper limit source in speed control mode | 0：P2.10<br>1：FIV<br>2：FIC<br>3：Reserved<br>4：PULSE setting<br>5：Communication setting<br>6：MIN（FIV,FIC）<br>7：MAX（FIV,FIC） | 0 | ☆ |
| P2.10 | Digital setting of torque upper limit in speed control mode | 0.0%～200.0% | 150.0% | ☆ |
| P2.13 | Excitation adjustment proportional gain | 0～60000 | 2000 | ☆ |
| P2.14 | Excitation adjustment integral gain | 0～60000 | 1300 | ☆ |
| P2.15 | Torque adjustment proportional gain | 0～60000 | 2000 | ☆ |
| P2.16 | Torque adjustment integral gain | 0～60000 | 1300 | ☆ |
| P2.17 | Speed loop integral property | Bits: Integral separation<br>0：Invalid<br>1：valid | 0 | ☆ |
| P2.18 | Field weakening mode of synchronous motor | 0: No field weakening<br>1: automatic adjustment<br>2: direct calculation | 1 | ☆ |
| P2.19 | Field weakening depth of synchronous motor | 0～50 | 10 | ☆ |
| P2.20 | Maximum field weakening | 1%～300% | 50% | ☆ |
| P2.21 | Field weakening automatic adjustment gain | 10%～500% | 100% | ☆ |
| P2.22 | Field weakening integral | 2～10 | 2 | ☆ |
| P2.23 | Synchronous motor output voltage saturation margin | 0%~100% | 1% | ☆ |
| P2.24 | The initial position | 50%~120% | 80% | ☆ |

| | | detection current synchronous motor | | | |
|---|---|---|---|---|---|
| P2.25 | Synchronous motor initial position angle detection | 0（detected each running）, 1（no detection）, 2（detect for the first running after power on） | 0 | ☆ | |
| P2.26 | Zero speed servo loop | 0（off）, 1（on） | 0 | ☆ | |
| P2.27 | Salient pole synchronous motor rate adjustment gain | 50~500 | 100 | ☆ | |
| P2.28 | Maximum torque current ratio control | 0（off）, （on ) | 0 | ☆ | |
| P2.29 | Factory setting | | Reversed | ☆ | |
| P2.30 | Kp current loop tuning adjustment | 1~100 | 6 | ☆ | |
| P2.31 | Ki current loop tuning adjustment | 1~100 | 6 | ☆ | |
| P2.32 | Z signal correction | 0（off）, 1（on ) | 1 | ☆ | |
| P2.33 | Factory setting | | Reversed | ☆ | |
| P2.34 | Factory setting | | Reversed | ☆ | |
| P2.35 | Factory setting | | Reversed | ☆ | |
| P2.36 | No-load current (synchronous motor) | 0~80% | 30% | ☆ | |
| P2.37 | Start carrier frequency | 1KHz~P0.15 | 4.0KHz | ☆ | |
| P2.38 | SVC low frequency break | 0（no action）, 1（break when stop） | 0 | ☆ | |
| P2.39 | SVC frequency of low-frequency braking effect | 0~10.00Hz | 2.00Hz | ☆ | |
| P2.40 | SVC low-frequency braking step frequency change | 0.0005~1.0000Hz | 0.0010Hz | ☆ | |
| P2.41 | SVC low-frequency braking current | 0~80% | 50% | | |
| P2.42 | SVC speed tracing | 0（off）, 1（on） | 0 | | |
| P2.43 | Zero servo enable | 0（off）, 1（on） | 0 | | |
| P2.44 | Switch frequency | 0．00~P2.02 | 0.30Hz | | |
| P2.45 | Zero speed servo loop proportional gain | 1~100 | 10 | | |
| P2.46 | Zero speed servo loop integral time | 0.01s~10.00s | 0.50s | | |
| P2.47 | Stop ban reversal | 0（off ）, 1（on） （prevent the reversal when the motor decelerates to 0 HZ） | 0 | | |

| | | 0.0°~10.0° | | |
|---|---|---|---|---|
| P2.48 | Stop angle | （increase the value when it is reverse under the factory setting） | 0.8° | |

| Group P4: Terminals | | | | |
|---|---|---|---|---|
| P4.00 | X1 function selection | 0：no function | 1 | ★ |
| P4.01 | X2 function selection | 1：FWD | 4 | ★ |
| P4.02 | X3 function selection | 2：REV | 9 | ★ |
| P4.03 | X4 function selection | 3：three-line running control | 12 | ★ |
| P4.04 | X5 function selection | 4FWD JOG | 13 | ★ |
| P4.05 | X6 function selection | 5：REVJOG | 0 | ★ |
| P4.06 | X7 function selection | 6：UP | 0 | ★ |
| P4.07 | X8 function selection | 7：DOWN | 0 | ★ |
| | | 8：Coast to stop | | |
| | | 9：RESET | | |
| | | 10：Run pause | | |
| | | 11：Normally open (no) input of external fault | | |
| | | 12：Multi-reference terminal 1 | | |
| | | 13：Multi-reference terminal 2 | | |
| | | 14：Multi-reference terminal 3 | | |
| | | 15：Multi-reference terminal 4 | | |
| | | 16：terminal 1 for acc/dec time selection | | |
| | | 17：terminal 2 for acc/dec time selection | | |
| | | 18：Frequency source switchover | | |
| | | 19：UP/DOWNsetting clear (terminal, operation panel） | | |
| | | 20：Command source switchover terminal | | |
| | | 21：Acc. /Dec. | | |
| | | 22：PID pause | | |
| | | 23：PLC status reset | | |
| | | 24：Swing pause | | |
| | | 25：Counter input | | |
| | | 26：Counter reset | | |
| | | 27：Length count input | | |
| | | 28：Length reset | | |
| | | 29：Torque control prohibited | | |
| | | 30：PULSE input （Enabled only for X5） | | |
| | | 31: Reserved | | |
| | | 32：Immediate DC braking | | |

| | | 33：Normally closed (NC) input of external fault<br>34：Frequency modification forbidden<br>35：Reverse PID action direction<br>36：External Stop Terminal 1<br>37：Command source switchover terminal2<br>38：PID integral pause<br>39：switchover between main frequency source X and preset frequency<br>40：switchover between auxiliary frequency Y and preset frequency<br>41~42：Reserved<br>43：PID parameter swithover<br>44~45: Reserved<br>46：Speed control/ torque control switchover<br>47：Emergency stop<br>48: External Stop terminal 2<br>49：Deceleration DC Braking<br>50：Clear the current running time<br>51-59: Reserved | | |
|---|---|---|---|---|
| P4.10 | Switch filter time | 0.000s～1.000s | 0.010s | ☆ |
| P4.11 | Terminal command mode | 0：two-line control 1<br>1：two-line control 2<br>2：three-line control 1<br>3：three-line control 2 | 0 | ★ |
| P4.12 | UP/DOWN Change rate | 0.001Hz/s～65.535Hz/s | 1.00Hz/s | ☆ |
| **Group P5: Output terminals** | | | | |
| P5.00 | YO terminal output mode | 0：Pulse output（YOP）<br>1：switch signal output（YOR） | 0 | ☆ |
| P5.01 | YOR function selection | 0：No output<br>1：AC drive running | 0 | ☆ |
| P5.02 | control board relay function selection（T/A-T/B-T/C） | 2：Fault output（stop）<br>3：Frequency-level detection FDT 1 output | 2 | ☆ |
| P5.03 | Encoder relay output function selection（P/A-P/B-P/C） | 4：Frequency reached<br>5：Zero-speed running (no output at stop) | 0 | ☆ |
| P5.04 | YO1output function selection （encoder） | 6：Motor overload pre-warning<br>7：Ac drive overload pre-warning | 1 | ☆ |

| | | 8：Set count value reached | | |
|---|---|---|---|---|
| | | 9：Designated count value reached | | |
| | | 10：Length reached | | |
| | | 11：PLC cycle complete | | |
| | | 12：Accumulative running time reached | | |
| | | 13：Frequency limited | | |
| | | 14：Torque limited | | |
| | | 15：Ready for Run | | |
| | | 16：FIV>FIC | | |
| | | 17：Frequency upper limit reached | | |
| | | 18：Frequency lower limit reached（relate to running） | | |
| | | 19：Under voltage state output | | |
| | | 20：Communication setting | | |
| | | 21：Position finished（reserved） | | |
| | | 22：Position closed（reserved） | | |
| | | 23：Zero-speed running 2 (having output at stop) | | |
| P5.05 | YO2 output function selection | 24：Accumulative power-on time reached | 4 | ☆ |
| | | 25：Frequency level detection FDT2 output | | |
| | | 26：Frequency 1 reached | | |
| | | 27：Frequency 2 reached | | |
| | | 28：Current 1 reached | | |
| | | 29：Current 2 reached | | |
| | | 30：timing reached | | |
| | | 31：FIV input limit exceeded | | |
| | | 32：Load becoming 0 | | |
| | | 33：Reverse running | | |
| | | 34：Zero current state | | |
| | | 35：Module temperature reached | | |
| | | 36：output current limit exceeded | | |
| | | 37：Frequency lower limit reached(having output at stop) | | |
| | | 38：Alarm output | | |
| | | 39：Motor over-temperature pre-alarm | | |
| | | 40：The running time reached | | |
| P5.06 | YOP output function selection | 0：Running frequency<br>1：Setting frequency | 0 | ☆ |
| P5.07 | FOVoutput function selection | 2：Output current<br>3：Output torque | 0 | ☆ |
| P5.08 | FOCoutput function | 4：Output power | 1 | ☆ |

| | | 5：Output voltage<br>6：PULSE input<br>（100.% corresponds 100.0kHz）<br>7：FIV<br>8：FIC<br>9：Reserved<br>10：Length<br>11：The count value<br>12: Communication setting<br>13：Motor speed<br>14：Output current（100% corresponds 1000A）<br>15: Output voltage（100% correspond 1000V）<br>16: Reserved | | |
|---|---|---|---|---|
| | selection | | | |
| P5.09 | YOP output maximum frequency | 0.01kHz～100.00kHz | 50.00kHz | ☆ |
| P5.10 | FOVoffset coeffcient | -100.0%～+100.0% | 0.0% | ☆ |
| P5.11 | FOV gain | -10.00～+10.00 | 1.00 | ☆ |
| P5.12 | FOC offset coeffcient | -100.0%～+100.0% | 0.0% | ☆ |
| P5.13 | FOC gain | -10.00～+10.00 | 1.00 | ☆ |
| P5.18 | RA-RB-RC output delay time | 0.0s～3600.0s | 0.0s | ☆ |
| P5.19 | YA-YB-YC output delay time | 0.0s～3600.0s | 0.0s | ☆ |
| P5.20 | YO1 output delay time | 0.0s～3600.0s | 0.0s | ☆ |
| P5.21 | YO2 output delay time | 0.0s～3600.0s | 0.0s | ☆ |
| P5.22 | DO output terminal valid state selection | 0：Positive logic<br>1：Negative logic<br>Unit's digit：YOR<br>Ten's digit：RA-RB-RC<br>Hundred's digit：YA-YB-YC<br>Thousand's digit：YO1<br>Ten thousand's digit：YO2 | 00000 | ☆ |
| P5.23 | Factory setting | | 0 | ☆ |
| Group P6: Start / Stop Control | | | | |
| P6.00 | Start mode | 0：Direct start<br>1：Rotational speed tracing restart | 0 | ☆ |
| P6.01 | Rotational speed tracing mode | 0：From frequency at stop<br>1：From zero speed<br>2：From maximum frequency | 0 | ★ |
| P6.02 | Rotational speed | 1～100 | 20 | ☆ |

| | | tracing speed | | | |
|---|---|---|---|---|---|
| P6.03 | Startup frequency | 0.00Hz～10.00Hz | 0.00Hz | ☆ |
| P6.04 | Startup frequency holding time | 0.0s～100.0s | 0.0s | ★ |
| P6.05 | Startup DC braking current/pre-excited current | 0%～100% | 0% | ★ |
| P6.06 | Startup DC braking time/ pre-excited time | 0.0s～100.0s | 0.0s | ★ |
| P6.07 | Acc. /Dec. mode | 0：Linear acceleration /deceleration<br>1：S-curve acceleration /deceleration A<br>2：S-curve acceleration /deceleration B | 0 | ★ |
| P6.08 | Time proportion of S-curve start segment | 0.0%～（100.0%-P6.09） | 30.0% | ★ |
| P6.09 | Time proportion of S-curve end segment | 0.0%～（100.0%-P6.08） | 30.0% | ★ |
| P6.10 | Stop mode | 0：Dec. To stop　1：coast to stop | 0 | ☆ |
| P6.11 | Initial frequency of stop DC braking | 0.00Hz～Maximum frequency | 0.00Hz | ☆ |
| P6.12 | Waitting time of stop DC braking | 0.0s～100.0s | 0.0s | ☆ |
| P6.13 | Stop DC braking current | 0%～100% | 0% | ☆ |
| P6.14 | Stop DC braking time | 0.0s～100.0s | 0.0s | ☆ |
| P6.15 | Brake use ratio | 0%～100% | 100% | ☆ |
| Group P7:Operation panel and Display | | | | |
| P7.00 | Factory parameter | | reserved | |
| P7.01 | JOG Function parameter | 0：invalid<br>1：Switch from keypad command and remote operation .Refer to the switch of command resource,it means the switch of current command resource and keypad control (local operation) . If the current command resource is keypad control ,then this button function invalid .<br>2：FWD/REV switch　Through the JOG button to switch the direction of frequency command . This function is valid only when the command | 0 | ★ |

| | | | | |
|---|---|---|---|---|
| | | recourse is operation panel command .<br>3：FJOG Through keypad JOG button to realize FJOG(JOG-FWD)<br>4：RJOG Through keypad JOG button to realize RJOG(JOG-REV) | | |
| P7.02 | STOP/RESET button function | 0：Only under keypad operation mode, the stop function is valid by STOP/RES .<br>1：Under any operation mode ,the stop function is valid by STOP/RES. | 1 | ☆ |
| P7.03 | LED display running parameter 1 | 0000～FFFF<br>Bit00: Running frequency 1（Hz）<br>Bit01: Set frequency（Hz）<br>Bit02: Bus voltage（V）<br>Bit03: Output voltage （V）<br>Bit04: Output current（A）<br>Bit05: Output power（kW）<br>Bit06: Output torque（%）<br>Bit07:X Input status<br>Bit08:Y Output status<br>Bit09: FIV voltage（V）<br>Bit10: FIC voltage（V）<br>Bit11: Reserved<br>Bit12: Count value<br>Bit13: Length value<br>Bit14: Load speed display<br>Bit15: PID setting | 1F | ☆ |
| P7.04 | LED display running parameter 2 | 0000～FFFF<br>Bit00：PID Feedback<br>Bit01：PLC stage<br>Bit02：PULSE setting frequency（kHz）<br>Bit03：Running frequency 2（Hz）<br>Bit04：Remaining running time<br>Bit05：FIV voltage before correction（V）<br>Bit06：FIC voltage before correction（V）<br>Bit07：Reserved<br>Bit08：Linear speed<br>Bit09：Current power-on time（Hour）<br>Bit10：Current running time（Min）<br>Bit11：PULSE setting frequency（Hz） | 0 | ☆ |

| | | Bit12：Communication setting value<br>Bit13：Speed feedback from encoder<br>（Hz）<br>Bit14：Main frequency X display （Hz）<br>Bit15：Auxiliary frequency Y display<br>（Hz） | | |
|---|---|---|---|---|
| P7.05 | LED display stop parameters | 0000～FFFF<br>Bit00: Set frequency（Hz）<br>Bit01: Bus voltage （V）<br>Bit02: X Input status<br>Bit03: YO Output status<br>Bit04: FIV voltage （V）<br>Bit05: FIC voltage（V）<br>Bit06: Reserved<br>Bit07: Count value<br>Bit08: Length value<br>Bit09: PLC Stage<br>Bit10: Load speed<br>Bit11: PID Set<br>Bit12：PULSE setting　frequency<br>（kHz） | 33 | ☆ |
| P7.06 | Load speed display coeffcient | 0.0001～6.5000 | 1.0000 | ☆ |
| P7.07 | Heatsink temperature of inverter module | 0.0℃～100.0℃ | - | ● |
| P7.08 | Factory parameters | | Reserved | |
| Group P8 : Auxiliary Functions | | | | |
| P8.00 | JOG running frequency | 0.00Hz～maximum frequency | 2.00Hz | ☆ |
| P8.01 | JOG acceleration time | 0.0s～6500.0s | 20.0s | ☆ |
| P8.02 | JOG deceleration time | 0.0s～6500.0s | 20.0s | ☆ |
| P8.03 | Acceleration time 2 | 0.0s～6500.0s | Model confirmation | ☆ |
| P8.04 | Deceleration time 2 | 0.0s～6500.0s | Model confirmation | ☆ |
| P8.05 | Acceleration time3 | 0.0s～6500.0s | Model confirmation | ☆ |
| P8.06 | Acceleration time3 | 0.0s～6500.0s | Model confirmation | ☆ |
| P8.07 | Acceleration time 4 | 0.0s～6500.0s | Model confirmation | ☆ |
| P8.08 | Acceleration time4 | 0.0s～6500.0s | Model confirmation | ☆ |

| P8.09 | Jump frequency 1 | 0.00Hz～maximum frequency | 0.00Hz | ☆ |
|---|---|---|---|---|
| P8.10 | Jump frequency 2 | 0.00Hz～maximum frequency | 0.00Hz | ☆ |
| P8.11 | Frequency jump amplitude | 0.00Hz～maximum frequency | 0.00Hz | ☆ |
| P8.12 | FWD/REV rotation dead-zone time | 0.0s～3000.0s | 0.0s | ☆ |
| P8.13 | REV control | 0：Enabled　1：Disabled | 0 | ☆ |
| P8.14 | Running mode　when set frequency lower than frequency lower limit | 0：Run at frequency lower limit<br>1：Stop<br>2：Run at zero speed | 0 | ☆ |
| P8.15 | Drop control | 0.00Hz～10.00Hz | 0.00Hz | ☆ |
| P8.16 | Accumulative power-on time threshold | 0h～65000h | 0h | ☆ |
| P8.17 | Accumulative running time threshold | 0h～65000h | 0h | ☆ |
| P8.18 | Start up protection | 0：NO　1：YES | 0 | ☆ |
| P8.19 | Frequency detection value （FDT1） | 0.00Hz～maximum frequency | 50.00Hz | ☆ |
| P8.20 | Frequency detection hysteresis（FDT1） | 0.0%～100.0%（FDT1 level） | 5.0% | ☆ |
| P8.21 | Detection range of frequency reached | 0.0%～100.0%（maximum frequency） | 0.0% | ☆ |
| P8.22 | Jump frequency during acceleration/deceleration | 0：Disabled 1：Enable | 0 | ☆ |
| P8.25 | Frequency switch over point between acceleration time 1 and acceleration time 2 | 0.00Hz～maximum frequency | 0.00Hz | ☆ |
| P8.26 | Frequency switch over point between deceleration time 1 and deceleration time 2 | 0.00Hz～maximum frequency | 0.00Hz | ☆ |
| P8.27 | Terminal JOG preferred | 0：Disabled 1：Enable | 0 | ☆ |
| P8.28 | Frequency detection value （FDT2） | 0.00Hz～maximum frequency | 50.00Hz | ☆ |
| P8.29 | Frequency detection hysteresis（FDT2） | 0.0%～100.0%（FDT2 level ） | 5.0% | ☆ |

| P8.30 | Any frequency reaching detection value 1 | 0.00Hz～maximum frequency | 50.00Hz | ☆ |
|---|---|---|---|---|
| P8.31 | Any frequency reaching detection amplitude 1 | 0.0%～100.0%（maximum frequency） | 0.0% | ☆ |
| P8.32 | Any frequency reaching detection value 2 | 0.00Hz～maximum frequency | 50.00Hz | ☆ |
| P8.33 | Any frequency reaching detection amplitude 2 | 0.0%～100.0%（maximum frequency） | 0.0% | ☆ |
| P8.34 | Zero current detection delay time | 0.0%～300.0%<br>100.0% accordingly motor rated current | 5.0% | ☆ |
| P8.35 | Zero current detection delay time | 0.01s～600.00s | 0.10s | ☆ |
| P8.36 | Output over current threshold | 0.0%（no detection ）<br>0.1%～300.0%（motor rated current ） | 200.0% | ☆ |
| P8.37 | Output over current detection delay time | 0.00s～600.00s | 0.00s | ☆ |
| P8.38 | Any current reaching 1 | 0.0%～300.0%（motor rated current） | 100.0% | ☆ |
| P8.39 | Any current reaching 1 amplitude | 0.0%～300.0%（motor rated current） | 0.0% | ☆ |
| P8.40 | Any current reaching 2 | 0.0%～300.0%（motor rated current） | 100.0% | ☆ |
| P8.41 | Any current reaching 2 amplitude | 0.0%～300.0%（motor rated current） | 0.0% | ☆ |
| P8.42 | Timing function | 0：Disabled 1：Enable | 0 | ☆ |
| P8.43 | Timing running time option | 0：P8.44 set<br>1：FIV<br>2：FIC<br>3：Reserved<br>100% of analog input corresponds to the value of P8.44 | 0 | ☆ |
| P8.44 | Timing duration | 0.0Min～6500.0Min | 0.0Min | ☆ |
| P8.45 | FIV input voltage lower limit | 0.00V～P8.46 | 3.10V | ☆ |
| P8.46 | FIV input voltage upper limit | P8.45～11.00V | 6.80V | ☆ |
| P8.47 | Module temperature threshold | 0℃～100℃ | 75℃ | ☆ |
| P8.48 | Cooling fan control | 0：Fan working during running<br>1：Fan working continuously | 0 | ☆ |
| P8.49 | Wake up frequency | Dormant frequency （P8.51）～ | | ☆ |

| | | maximum frequency （P0.12） | 0.00Hz | |
|---|---|---|---|---|
| P8.50 | Wake up delay time | 0.0s～6500.0s | 0.0s | ☆ |
| P8.51 | Dormant frequency | 0.00Hz～wake up frequency （P8.49） | 0.00Hz | ☆ |
| P8.52 | Dormant delay time | 0.0s～6500.0s | 0.0s | ☆ |
| P8.53 | Current running time reached | 0.0Min～6500.0Min | 0.0Min | ☆ |
| P8.55 | Factory parameter | 0～200% | 100% | ☆ |
| P8.56 | Factory parameter | 0～1 | 0 | ☆ |
| Group P9 : Fault and Protection | | | | |
| P9.00 | Motor overload protection selection | 0：Disabled  1：Enabled | 1 | ☆ |
| P9.01 | Motor overload protection gain | 0.20～10.00 | 1.00 | ☆ |
| P9.02 | Motor overload warning coeffcient | 50%～100% | 80% | ☆ |
| P9.03 | Over voltage stall gain | 0～100 | 50 | ☆ |
| P9.04 | Over voltage stall protective voltage | 120%～150% | 130% | ☆ |
| P9.05 | Over current stall gain | 0～100 | 20 | ☆ |
| P9.06 | Over current stall protective current | 100%～200% | 150% | ☆ |
| P9.07 | Short-circuit to ground upon power-on | 0：Disabled  1：Enabled | 1 | ☆ |
| P9.09 | Fault auto reset times | 0～20 | 0 | ☆ |
| P9.10 | YO action during fault auto reset | 0：Not act<br>1：Act | 0 | ☆ |
| P9.11 | Time interval of fault auto reset | 0.1s～100.0s | 1.0s | ☆ |
| P9.12 | Input lost phase protection option | 0：Disabled  1：Enabled | 1 | ☆ |
| P9.13 | Output lost phase protection option | 0：Disabled  1：Enabled | 1 | ☆ |
| P9.14 | 1st fault type | 0：No fault<br>1：Reserved<br>2：Over current during acceleration<br>3：Over current during deceleration<br>4：Over current at constant speed<br>5：Over voltage during acceleration<br>6：Over voltage during deceleration<br>7：Over voltage at constant speed<br>8：Buffer resistance overload<br>9：Under voltage | — | ● |

| | | 10：Inverter overload<br>11：Motor overload<br>12：Input lost phase | | |
|---|---|---|---|---|
| P9.15 | 2<sup>nd</sup> fault type | 13：Output lost phase<br>14：Module overheat<br>15：External equipment fault<br>16：Communication fault<br>17：Contactor fault<br>18：Current detection fault<br>19：Motor auto-tuning fault<br>20：Encoder/PG card fault<br>21：EEPROM read-write fault<br>22：Inverter hardware fault | — | ● |
| P9.16 | 3<sup>rd</sup> （latest）fault type | 23：Motor short-circuit to ground<br>24：Reserved<br>25：Reserved<br>26：Running time reached<br>27: User-defined fault 1<br>28: User-defined fault2<br>29: Accumulative running time reached<br>30：Load becoming 0<br>31：PID feedback lost during running<br>40：With-wave current limit overtime<br>41：Switch motor when running<br>42: Big deviation at speed<br>43：Motor over speed<br>45：Motor over heat<br>51：The initial position fault | — | ● |
| P9.17 | Frequency upon 3<sup>rd</sup> （latest）fault | — | — | ● |
| P9.18 | Current upon 3<sup>rd</sup> （latest）fault | — | — | ● |
| P9.19 | Bus voltage upon 3<sup>rd</sup> （latest）fault | — | — | ● |
| P9.20 | Input terminal status upon 3<sup>rd</sup> （latest）fault | — | — | ● |
| P9.21 | Output terminal status upon 3<sup>rd</sup> （latest）fault | — | — | ● |
| P9.22 | Inverter status upon 3<sup>rd</sup> （latest）fault | — | — | ● |
| P9.23 | Power-on time upon 3<sup>rd</sup> （latest）fault | — | — | ● |
| P9.24 | Running time upon 3<sup>rd</sup> | — | — | ● |

| | | （latest）fault | | — | |
|---|---|---|---|---|---|
| P9.27 | Frequency upon 2nd fault | — | | — | ● |
| P9.28 | Current upon 2nd fault | — | | — | ● |
| P9.29 | Bus voltage upon 2nd fault | — | | — | ● |
| P9.30 | Input terminal status upon 2nd fault | — | | — | ● |
| P9.31 | Output terminal status upon 2nd fault | — | | — | ● |
| P9.32 | Inverter status upon 2nd fault | — | | — | ● |
| P9.33 | Power-on time upon 2nd fault | — | | — | ● |
| P9.34 | Running time upon 2nd fault | — | | — | ● |
| P9.37 | Frequency upon 1st fault | — | | — | ● |
| P9.38 | Current upon 1st fault | — | | — | ● |
| P9.39 | Bus voltage upon 1st fault | — | | — | ● |
| P9.40 | Input terminal status upon 1st fault | — | | — | ● |
| P9.41 | Output terminal status upon 1st fault | — | | — | ● |
| P9.42 | Inverter status upon 1st fault | — | | — | ● |
| P9.43 | Power-on time upon 1st fault | — | | — | ● |
| P9.44 | Running time upon 1st fault | — | | — | ● |
| P9.47 | Fault protection action selection 1 | Unit's digit ：motor overload（11）<br>0：Coast to stop<br>1：Stop according to the stop mode<br>2：Continue to run<br>Ten's digit ：Input lost phase（12）<br>Hundred's digit：output lost phase（13）<br>Thousand's digit：External equipment fault （15）<br>Ten thousand's digit：Communication fault （16） | | 00000 | ☆ |
| P9.48 | Fault protection action selection 2 | Unit's digit：Encoder /PG card fault （20） | | 00000 | ☆ |

| | | 0：Coast to stop<br>Ten's digit：function code read-write fault（21）<br>0：Coast to stop<br>1：Stop according to the stop mode<br>Hundred's digit：reserved<br>Thousand's digit：motor overheat（25）<br>Ten thousand's digit：running time reached（26） | | |
|---|---|---|---|---|
| P9.49 | Fault protection action selection 3 | Unit's digit：user-defined fault 1（27）<br>0：Coast to stop<br>1：Stop according to the stop mode<br>2：Continue to run<br>Ten's digit：user-defined fault 2（28）<br>0：Coast to stop<br>1：Stop according to the stop mode<br>2：Continue to run<br>Hundred's digit：Accumulative power-on time reached （29）<br>0：Coast to stop<br>1：Stop according to the stop mode<br>2：Continue to run<br>Thousand's digit：Load becoming 0（30）<br>0：Coast to stop<br>1：Deceleration to stop<br>2：Continue to run at 7% of rated motor frequency and resume to the set frequency if the load recovers<br>Ten thousand's digit：PID feedback loss of running （31）<br>0：Coast to stop<br>1：Stop according to the stop mode<br>2：Continue to run | 00000 | ☆ |
| P9.50 | Fault protection | Unit's digit ：Big deviation of | 00000 | ☆ |

| | | | | |
|---|---|---|---|---|
| | action selection 4 | speed（42） 0：Coast to stop 1：Stop according to the stop mode 2：Continue to run Ten's digit ：motor over speed （43） Hundred's digit：Initial position fault（51） | | ☆ |
| P9.54 | Frequency selection for continuing to run | 0：Current running frequency 1：Set frequency 2：Frequency upper limit 3：Frequency lower limit 4：Back up frequency upon abnormality | 0 | ☆ |
| P9.55 | Back up frequency upon abnormality | 60.0%～100.0%（100.0% accordingly maximum frequency P0.12） | 100.0% | ☆ |
| P9.56 | Reserved | | | ☆ |
| P9.57 | Reserved | | | ☆ |
| P9.58 | Reserved | | | ☆ |
| P9.59 | Action selection at instantaneous power failure | 0：Invalid 1：Decelerate 2：Decelerate to stop | 0 | ☆ |
| P9.60 | Reserved | P9.62～100.0% | 9.0% | ☆ |
| P9.61 | Voltage rally judging time at instantaneous power failure | 0.00s～100.00s | 0.50s | ☆ |
| P9.62 | Action judging voltage at instantaneous power failure | 60.0%～100.0%（standard bus voltage ） | 80.0% | ☆ |
| P9.63 | Protection upon load becoming 0 | 0：Disabled 1：Enabled | 0 | ☆ |
| P9.64 | Detection level of load becoming 0 | 0.0～100.0％ | 10.0% | ☆ |
| P9.65 | Detection time of load becoming 0 | 0.0～60.0s | 1.0s | ☆ |
| P9.67 | Detection value of over-speed | 0~20Hz | 15 | ☆ |
| P9.68 | Detection time of over-speed | 0.0s～6.0s | 0.01s | ☆ |
| P9.69 | Detection value of | 0.0％～50.0％（maximum） | 20.0% | ☆ |

| | big speed deviation | | | |
|---|---|---|---|---|
| P9.70 | Detection time of big speed deviation | 0.0s～60.0s | 5.0s | ☆ |
| P9.71 | UVW encoder fault | 0（ OFF ）, 1（ON ） | 1 | |
| P9.72 | Fault protection action selection 5 | Unit's digit：Identify fault of initial position angle（51）<br>0：Continue to run<br>1：Coast to stop<br>Ten's digit ： On load tuning fault（19）<br>0：Continue to run<br>1：Coast to stop | 11 | |

| Group PA　PID Function | | | | |
|---|---|---|---|---|
| PA.00 | PID setting source | 0：PA.01setting<br>1：FIV<br>2：FIC<br>3：Reserved<br>4：PULSE setting（X5）<br>5：Communication setting<br>6：Multi-reference | 0 | ☆ |
| PA.01 | PID digital setting | 0.0%～100.0% | 50.0% | ☆ |
| PA.02 | PID feedback source | 0：FIV<br>1：FIC<br>2：Reserved<br>3：FIV-FIC<br>4：PULSE setting（X5）<br>5：Communication setting<br>6：FIV+FIC<br>7：MAX（|FIV|, |FIC|）<br>8：MIN（|FIV|, |FIC|） | 0 | ☆ |
| PA.03 | PID action direction | 0：Forward action<br>1：Reverse action | 0 | ☆ |
| PA.04 | PID setting feedback range | 0～65535 | 1000 | ☆ |
| PA.05 | Proportional gain Kp1 | 0.0～100.0 | 20.0 | ☆ |
| PA.06 | Integral timeTi1 | 0.01s～10.00s | 2.00s | ☆ |
| PA.07 | Differential time Td1 | 0.000s～10.000s | 0.000s | ☆ |
| PA.08 | Cut-off frequency of PID reverse rotation | 0.00～maximum frequency | 2.00Hz | ☆ |
| PA.09 | PID deviation limit | 0.0%～100.0% | 0.0% | ☆ |

| PA.10 | PID differential limit | 0.00%～100.00% | 0.10% | ☆ |
|---|---|---|---|---|
| PA.11 | PID setting change time | 0.00～650.00s | 0.00s | ☆ |
| PA.12 | PID feedback filter time | 0.00～60.00s | 0.00s | ☆ |
| PA.13 | PID output feedback filter time | 0.00～60.00s | 0.00s | ☆ |
| PA.14 | Reserved | - | - | ☆ |
| PA.15 | Proportional gain KP1 | 0.0～100.0 | 20.0 | ☆ |
| PA.16 | Integral time Ti2 | 0.01s～10.00s | 2.00s | ☆ |
| PA.17 | Differential time Td2 | 0.000s～10.000s | 0.000s | ☆ |
| PA.18 | PID parameter switch over condition | 0：No switch over<br>1：Switch over via X<br>2： Automatic switch over based on deviation | 0 | ☆ |
| PA.19 | PID parameter switch over deviation 1 | 0.0%～PA.20 | 20.0% | ☆ |
| PA.20 | PID parameter switch over deviation 2 | PA.19～100.0% | 80.0% | ☆ |
| PA.21 | PID initial value | 0.0%～100.0% | 0.0% | ☆ |
| PA.22 | PID initial value holding time | 0.00～650.00s | 0.00s | ☆ |
| PA.23 | Maximum deviation between two PID outputs in forward | 0.00%～100.00% | 1.00% | ☆ |
| PA.24 | Maximum deviation between two PID outputs in reverse | 0.00%～100.00% | 1.00% | ☆ |
| PA.25 | PID integral property | Unit's digit：Integral separated<br>0：Invalid<br>1：Valid<br>Ten's digit：Whether to stop integral operation when the output reaches<br>0：Continue integral operation<br>1：Stop integral operation | 00 | ☆ |
| PA.26 | Detection value of PID feedback loss | 0.0%：No judging feedback loss<br>0.1%～100.0％ | 0.0% | ☆ |
| PA.27 | Detection time of PID feedback loss | 0.0s～20.0s | 0.0s | ☆ |

| PA.28 | PID operation at stop | 0：No PID operation at stop<br>1：PID operation at stop | 0 | ☆ |
|---|---|---|---|---|
| Group PB Swing Frequency, Fixed Length and Count | | | | |
| PB.00 | Swing frequency setting mode | 0：Relative to the central frequency<br>1：Relative to the maximum frequency | 0 | ☆ |
| PB.01 | Swing frequency amplitude | 0.0%～100.0% | 0.0% | ☆ |
| PB.02 | Jump frequency amplitude | 0.0%～50.0% | 0.0% | ☆ |
| PB.03 | Swing frequency cycle | 0.1s～3000.0s | 10.0s | ☆ |
| PB.04 | Triangular wave rising time coefficient | 0.1%～100.0% | 50.0% | ☆ |
| PB.05 | Set length | 0m～65535m | 1000m | ☆ |
| PB.06 | Actual length | 0m～65535m | 0m | ☆ |
| PB.07 | Number of pulses per meter | 0.1～6553.5 | 100.0 | ☆ |
| PB.08 | Set count value | 1～65535 | 1000 | ☆ |
| PB.09 | Designated count value | 1～65535 | 1000 | ☆ |
| Group PC Multi-Reference and Simple PLC Function | | | | |
| PC.00 | Multi-reference 0 | -100.0%～100.0% | 0.0% | ☆ |
| PC.01 | Multi-reference 1 | -100.0%～100.0% | 0.0% | ☆ |
| PC.02 | Multi-reference 2 | -100.0%～100.0% | 0.0% | ☆ |
| PC.03 | Multi-reference 3 | -100.0%～100.0% | 0.0% | ☆ |
| PC.04 | Multi-reference 4 | -100.0%～100.0% | 0.0% | ☆ |
| PC.05 | Multi-reference 5 | -100.0%～100.0% | 0.0% | ☆ |
| PC.06 | Multi-reference 6 | -100.0%～100.0% | 0.0% | ☆ |
| PC.07 | Multi-reference 7 | -100.0%～100.0% | 0.0% | ☆ |
| PC.08 | Multi-reference 8 | -100.0%～100.0% | 0.0% | ☆ |
| PC.09 | Multi-reference 9 | -100.0%～100.0% | 0.0% | ☆ |
| PC.10 | Multi-reference 10 | -100.0%～100.0% | 0.0% | ☆ |
| PC.11 | Multi-reference 11 | -100.0%～100.0% | 0.0% | ☆ |
| PC.12 | Multi-reference 12 | -100.0%～100.0% | 0.0% | ☆ |
| PC.13 | Multi-reference 13 | -100.0%～100.0% | 0.0% | ☆ |
| PC.14 | Multi-reference 14 | -100.0%～100.0% | 0.0% | ☆ |
| PC.15 | Multi-reference 15 | -100.0%～100.0% | 0.0% | ☆ |
| PC.16 | Simple PLC | 0：Stop after the AC drive runs | 0 | ☆ |

| | running function | one cycle<br>1：Keep final values after the AC drive runs one cycle<br>2：Repeat after the AC drive runs one cycle | | ☆ |
|---|---|---|---|---|
| PC.17 | Simple PLC retentive selection | Unit's digit: Retentive upon power failure<br>0：No<br>1：Yes<br>Ten's digit： Retentive upon stop<br>0：No<br>1：Yes | 00 | ☆ |
| PC.20 | Running time of simple PLC reference 1 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.21 | Acceleration/deceleration time of simple PLC reference 1 | 0～3 | 0 | ☆ |
| PC.22 | Running time of simple PLC reference 2 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.23 | Acceleration/deceleration time of simple PLC reference 2 | 0～3 | 0 | ☆ |
| PC.24 | Running time of simple PLC reference 3 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.25 | Acceleration/deceleration time of simple PLC reference 3 | 0～3 | 0 | ☆ |
| PC.26 | Running time of simple PLC reference 4 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.27 | Acceleration/deceleration time of simple PLC reference 4 | 0～3 | 0 | ☆ |
| PC.28 | Running time of simple PLC reference 5 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.29 | Acceleration/decele | 0～3 | 0 | ☆ |

| | | | | |
|---|---|---|---|---|
| | ration time of simple PLC reference 5 | | | |
| PC.30 | Running time of simple PLC reference 6 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.31 | Acceleration/deceleration time of simple PLC reference 6 | 0～3 | 0 | ☆ |
| PC.32 | Running time of simple PLC reference 7 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.33 | Acceleration/deceleration time of simple PLC reference 7 | 0～3 | 0 | ☆ |
| PC.34 | Running time of simple PLC reference 8 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.35 | Acceleration/deceleration time of simple PLC reference 8 | 0～3 | 0 | ☆ |
| PC.36 | Running time of simple PLC reference 9 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.37 | Acceleration/deceleration time of simple PLC reference 9 | 0～3 | 0 | ☆ |
| PC.38 | Running time of simple PLC reference 10 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.39 | Acceleration/deceleration time of simple PLC reference 10 | 0～3 | 0 | ☆ |
| PC.40 | Running time of simple PLC reference 11 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.41 | Acceleration/deceleration time of simple PLC | 0～3 | 0 | ☆ |

| | | | | |
|---|---|---|---|---|
| | reference 11 | | | |
| PC.42 | Running time of simple PLC reference 12 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.43 | Acceleration/deceleration time of simple PLC reference 12 | 0～3 | 0 | ☆ |
| PC.44 | Running time of simple PLC reference 13 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.45 | Acceleration/deceleration time of simple PLC reference 13 | 0～3 | 0 | ☆ |
| PC.46 | Running time of simple PLC reference 14 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.47 | Acceleration/deceleration time of simple PLC reference 14 | 0～3 | 0 | ☆ |
| PC.48 | Running time of simple PLC reference 15 | 0.0s（h）～6500.0s（h） | 0.0s（h） | ☆ |
| PC.49 | Acceleration/deceleration time of simple PLC reference 15 | 0～3 | 0 | ☆ |
| PC.50 | Time unit of simple PLC | 0：s（秒）<br>1：h（小时） | 0 | ☆ |
| PC.51 | Reference 0 source | 0：set by PC.00<br>1：FIV<br>2：FIC<br>3：Reserved<br>4：PULSE setting<br>5：PID<br>6：Set by present frequency（P0.10），modified via terminal UP/DOWN | 0 | ☆ |
| Group PD Communication parameters | | | | |
| PD.00 | Baud rate | Units' digit：MODBUS | | |

| | | 0：300BPS<br>1：600BPS<br>2：1200BPS<br>3：2400BPS<br>4：4800BPS<br>5：9600BPS<br>6：19200BPS<br>7：38400BPS<br>8：57600BPS<br>9：115200BPS | 0005 | ☆ |
|---|---|---|---|---|
| PD.01 | The data format | 0：The factory value（8-N-2）<br>1：Even-parity（8-E-1）<br>2：Odd parity（8-O-1）<br>3：8-N-1 | 0 | ☆ |
| PD.02 | The machine address | 1～247，0 is the broadcast address | 1 | ☆ |
| PD.03 | Response latency | 0ms～20ms | 2 | ☆ |
| PD.04 | Communication timeout | 0.0（invalid），0.1s～60.0s | 0.0 | ☆ |
| PD.05 | Communication protocol selection | Unit's digit：MODBUS<br>0：Non standard MODBUS protocol<br>1：The standard MODBUS protocol | 00 | ☆ |
| PD.06 | Read the current resolution | 0：0.01A<br>1：0.1A | 1 | ☆ |
| Group PP    User-Defined Function Codes | | | | |
| PP.00 | User password | 0～65535 | 0 | ☆ |
| PP.01 | Restore default settings | 0：No operation<br>01：Restore factory settings except motor parameters | 0 | ★ |
| Group L5 Control Optimization parameters | | | | |
| L5.00 | DPWM switch over frequency upper limit | 0.00Hz～100.00Hz | 12.00Hz | ☆ |
| L5.01 | PWM modulation mode | 0：Asynchronous modulation<br>1：Synchronous modulation | 0 | ☆ |
| L5.02 | Dead compensation way | 0：No compensation<br>1：compensation mode 1 | 1 | ☆ |

| | | 2：compensation mode 2 | | ☆ |
|---|---|---|---|---|
| L5.03 | Random PWM depth | 0：Random PWM invalid<br>1～10：PWM carrier frequency random depth | 0 | ☆ |
| L5.04 | Fast current limiting open | 0：Not open<br>1：Open | 1 | ☆ |
| L5.05 | Current detection compensation | 0～100 | 5 | ☆ |
| L5.06 | Under voltage setting | 60.0%～140.0% | 100.0% | ☆ |
| L5.07 | No PG optimization mode selection | 0：No optimization<br>1：optimization 1<br>2：optimization 2 | 1 | ☆ |
| L5.08 | Dead time adjustment | 100%～200% | 150% | ☆ |
| L5.09 | Over voltage point set | 200.0V～2500.0V | | |
| Group L6    FIV/FIC Curve setting | | | | |
| L6.00 | FI curve 4 minimum input | -10.00V～C6.02 | 0.00V | ☆ |
| L6.01 | Corresponding setting of FI curves 4 minimum input | -100.0%～+100.0% | 0.0% | ☆ |
| L6.02 | FI curve 4 inflexion 1 input | C6.00～C6.04 | 3.00V | ☆ |
| L6.03 | Corresponding setting of FI curve 4 inflexion 1 input | -100.0%～+100.0% | 30.0% | ☆ |
| L6.04 | FI curve 4 inflexion 2 input | L6.02～L6.06 | 6.00V | ☆ |
| L6.05 | Corresponding setting of FI curve 4 inflexion 2 input | -100.0%～+100.0% | 60.0% | ☆ |
| L6.06 | FI curve 4 maximum input | L6.06～+10.00V | 10.00V | ☆ |
| L6.07 | Corresponding setting of FI curve 4 maximum input | -100.0%～+100.0% | 100.0% | ☆ |
| L6.08 | FI curve 5 minimum input | -10.00V～L6.10 | -10.00V | ☆ |
| L6.09 | Corresponding | -100.0%～+100.0% | -100.0% | ☆ |

| | | setting of FI curve 5 minimum input | | | |
|---|---|---|---|---|---|
| L6.10 | FI curve 5 inflexion 1 input | L6.08～L6.12 | -3.00V | ☆ |
| L6.11 | Corresponding setting of FI curve 5 inflexion 1 input | -100.0%～+100.0% | -30.0% | ☆ |
| L6.12 | FI curve 5 inflexion 2 input | L6.10～L6.14 | 3.00V | ☆ |
| L6.13 | Corresponding setting of FI curve 5 inflexion 2 input | -100.0%～+100.0% | 30.0% | ☆ |
| L6.14 | FI curve 5 maximum input | L6.12～+10.00V | 10.00V | ☆ |
| L6.15 | Corresponding setting of FI curve 5 maximum input | -100.0%～+100.0% | 100.0% | ☆ |
| L6.24 | Jump point of FIV input corresponding setting | -100.0%～100.0% | 0.0% | ☆ |
| L6.25 | Jump amplitude of FIV input corresponding setting | 0.0%～100.0% | 0.5% | ☆ |
| L6.26 | Jump point of FIC input corresponding setting | -100.0%～100.0% | 0.0% | ☆ |
| L6.27 | Jump amplitude of FIC input corresponding setting | 0.0%～100.0% | 0.5% | ☆ |
| L6.28 | Reserved | | | |
| L6.29 | Reserved | | | |
| Group LC    FIFO Correction | | | | |
| LC.00 | FIV measured voltage 1 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.01 | FIV displayed voltage 1 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.02 | FIV measured voltage 2 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.03 | FIV displayed | -10.00V～10.00V | Factory-cor | ☆ |

| | | | | |
|---|---|---|---|---|
| | voltage 2 | | rected | |
| LC.04 | FIC measured voltage 1 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.05 | FIC displayed voltage 1 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.06 | FIC measured voltage 2 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.07 | FIC displayed voltage 2 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.08 | Reserved | | | |
| LC.09 | Reserved | | | |
| LC.10 | Reserved | | | |
| LC.11 | Reserved | | | |
| LC.12 | FOV target voltage 1 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.13 | FOV measured voltage 1 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.14 | FOV target voltage 2 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.15 | FOV measured voltage 2 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.16 | FOC target voltage 1 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.17 | FOC measured voltage 1 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.18 | FOC target voltage 2 | -10.00V～10.00V | Factory-corrected | ☆ |
| LC.19 | FOC measured voltage 2 | -10.00V～10.00V | Factory-corrected | ☆ |


| Group D0: Monitoring Parameter | | |
|---|---|---|
| Function Code | Parameter name | Unit |
| D0.00 | Running frequency （Hz） | 0.01Hz |
| D0.01 | Set frequency（Hz） | 0.01Hz |
| D0.02 | Bus voltage（V） | 0.1V |
| D0.03 | Output voltage（V） | 1V |
| D0.04 | Output current（A） | 0.01A |
| D0.05 | Output power（kW） | 0.1kW |
| D0.06 | Output torque（%） | 0.1% |
| D0.07 | X input state | 1 |

| D0.08 | Y output state | 1 |
|---|---|---|
| D0.09 | FIV voltage（V） | 0.01V |
| D0.10 | FIC voltage（V） | 0.01V |
| D0.11 | Reserved | |
| D0.12 | Count value | 1 |
| D0.13 | Length | 1 |
| D0.14 | Load speed | 1 |
| D0.15 | PID setting | 1 |
| D0.16 | PID feedback | 1 |
| D0.17 | PLC stage | 1 |
| D0.18 | Pulse input frequency（Hz） | 0.01kHz |
| D0.19 | Feedback speed（Unit0.1Hz） | 0.1Hz |
| D0.20 | Remaining running time | 0.1Min |
| D0.21 | FIV voltage before correction | 0.001V |
| D0.22 | FIC voltage before correction | 0.001V |
| D0.23 | Reserved | |
| D0.24 | Linear speed | 1m/Min |
| D0.25 | On the current time | 1Min |
| D0.26 | The current running time | 0.1Min |
| D0.27 | Pulse input frequency | 1Hz |
| D0.28 | Communication setting value | 0.01% |
| D0.29 | The encoder feedback speed | 0.01Hz |
| D0.30 | Main frequency X | 0.01Hz |
| D0.31 | Auxiliary frequency Y | 0.01Hz |
| D0.32 | View any memory address values | 1 |
| D0.33 | Synchro rotor position | 0.1° |
| D0.34 | The motor temperature value | 1℃ |
| D0.35 | Target torque（%） | 0.1% |
| D0.36 | Resolver position | 1 |
| D0.37 | Power factor angle | 0.1° |
| D0.38 | ABZ position | 1 |
| D0.39 | Target voltage upon V/F separation | 1V |
| D0.40 | Output voltage upon V/F separation | 1V |
| D0.41 | X input state display | 1 |
| D0.42 | Y input state display | 1 |
| D0.43 | X Function stage display 1（Function01-Function40） | 1 |
| D0.44 | X Function stage display 2（Function41-Function80） | 1 |
| D0.59 | Set frequency（%） | 0.01% |
| D0.60 | Running frequency（%） | 0.01% |
| D0.61 | Frequency inverter stage | 1 |

| The fault code table | | |
|---|---|---|
| Function code | Name | Remark |
| OC | Inverter unit protection | |
| OC1 | Over current during acceleration | |
| OC2 | Over current during deceleration | |
| OC3 | Over current at constant speed | |
| OU1 | Over voltage during acceleration | |
| OU2 | Over voltage during deceleration | |
| OU3 | Over voltage at constant speed | |
| POFF | Control power supply fault | |
| LU | Lack of voltage | |
| OL2 | AC drive overload | |
| OL1 | Motor overload | |
| LI | Power input phase loss | |
| LO | Power output phase loss | |
| OH | Module overheat | |
| EF | External equipment fault | |
| CE | Communication fault | |
| IE | Current detection fault | |
| TE | Motor auto-tuning fault | |
| EEP | EEPROM read-write fault | |
| OUOC | AC drive hardware fault | |
| GND | Short circuit to ground fault | |
| END1 | Accumulative running time reached | |
| END2 | Accumulative power-on time reached | |
| LOAD | Load becoming 0 | |
| PIDE | PID feedback loss during running fault | |
| CBC | Pulse-by-pulse current limit fault | |
| ESP | Too large speed deviation fault | |
| oSP | Motor over-speed fault | |
| PG | PG Card fault | |

If PP-00 is set to a non-zero number, parameter protection is enabled. You must enter the correct user password to enter the menu. To cancel the password protection function, enter with password and set PP.00 to 0. Parameters menu the user customizes are not protected by password. Group P and Group L are the the basic function parameters, Group D is to monitor the function parameters.

The symbols in the function code table are described as follows:

"☆"：The parameter can be modified when the AC drive is in the either stop or running state.

"★": The parameter cannot be modified when the AC drive is in the running state.

"●"：The parameter is the actually measured value and cannot be modified.

"*"：The parameter is factory parameter and can be set only by the manufacturer. Users are not allowed.