

0 Load inertia/Load mass

Min:	0	LoadJ_or_M	Dec
Max:	200000		
Initial:	0		
Unit:	1/1000kgm ² or 1/1000kg		

Specifies the load inertia or load mass mounted on the motor. If the auto-tuning operation is executed, the measured value is set automatically.

1 Servo stiffness setup

Min:	-3	ServoRigid	Dec
Max:	13		
Initial:	3		
Unit:			

This parameter is used for servo tuning. Specifies the servo stiffness (The larger the number selected, the servo stiffness of the motor increases, however, this also increases the possibility for the motor to begin to vibrate (or go unstable)).

-3:	Velocity control bandwidth 10Hz	Position control bandwidth 5Hz
-2:	Velocity control bandwidth 12Hz	Position control bandwidth 6Hz
-1:	Velocity control bandwidth 15Hz	Position control bandwidth 8Hz
-0:	Velocity control bandwidth 20Hz	Position control bandwidth 9Hz
1:	Velocity control bandwidth 30Hz	Position control bandwidth 14Hz
2:	Velocity control bandwidth 40Hz	Position control bandwidth 16Hz
3:	Velocity control bandwidth 50Hz	Position control bandwidth 19Hz
4:	Velocity control bandwidth 60Hz	Position control bandwidth 22Hz
5:	Velocity control bandwidth 70Hz	Position control bandwidth 24Hz
6:	Velocity control bandwidth 80Hz	Position control bandwidth 26Hz
7:	Velocity control bandwidth 90Hz	Position control bandwidth 28Hz
8:	Velocity control bandwidth 100Hz	Position control bandwidth 30Hz
9:	Velocity control bandwidth 110Hz	Position control bandwidth 32Hz
10:	Velocity control bandwidth 120Hz	Position control bandwidth 34Hz
11:	Velocity control bandwidth 130Hz	Position control bandwidth 36Hz
12:	Velocity control bandwidth 140Hz	Position control bandwidth 38Hz
13:	Velocity control bandwidth 150Hz	Position control bandwidth 39Hz

2 Velocity control bandwidth #1

Min:	5	VelFreq1	Dec
Max:	400		
Initial:	20		
Unit:	Hz		

This parameter is used for servo tuning. Specifies the control bandwidth #1 of the velocity control section of the servo loop.

3 Velocity control bandwidth #2

Min:	5	VelFreq2	Dec
Max:	400		
Initial:	20		
Unit:	Hz		

This parameter is used for servo tuning. Specifies the control bandwidth #2 of the velocity control section of the servo loop.

4 Integral time for velocity control #1

Min:	1	VelIntTim1	Dec
Max:	1000		
Initial:	1000		
Unit:	msec		

This parameter is used for servo tuning.
Specifies the integral time #1 of velocity deviation integrator in the velocity control section of the servo loop.

5 Integral time for velocity control #2

Min:	1	VelIntTim2	Dec
Max:	1000		
Initial:	1000		
Unit:	msec		

This parameter is used for servo tuning.
Specifies the integral time #2 of velocity deviation integrator in the velocity control section of the servo loop.

6 Velocity integral limiting value #1

Min:	0	VelIntLim1	Dec
Max:	4999999		
Initial:	10000		
Unit:			

This parameter is used for servo tuning.
Specifies the limiting value #1 of the velocity deviation integrator in the velocity control section of the servo loop. Specify a smaller value when a wind-up condition occurs during operation. This parameter is set automatically by either executing auto-tuning operation or changing the 'servo stiffness' parameter.

7 Velocity integral limiting value #2

Min:	0	VelIntLim2	Dec
Max:	4999999		
Initial:	10000		
Unit:			

This parameter is used for servo tuning.
Specifies the limiting value #2 of the velocity deviation integrator in the velocity control section of the servo loop. Specify a smaller value when a wind-up condition occurs during operation. This parameter is set automatically by either executing auto-tuning operation or changing the 'servo stiffness' parameter.

8 Position control bandwidth #1

Min:	1	PosFreq1	Dec
Max:	64		
Initial:	1		
Unit:	Hz		

This parameter is used for servo tuning.
Specifies the position control bandwidth #1 of the position control section of the servo loop.

9 Position control bandwidth #2

Min:	1	PosFreq2	Dec
Max:	64		
Initial:	1		
Unit:	Hz		

This parameter is used for servo tuning.
 Specifies the position control bandwidth #2 of the position control section of the servo loop.

10 Integral time for position control #1

Min:	10	PosIntTim1	Dec
Max:	10000		
Initial:	10000		
Unit:	msec		

This parameter is used for servo tuning.
 Specifies the integral time #1 of position deviation integrator in the position control section of the servo loop.

11 Integral time for position control #2

Min:	10	PosIntTim2	Dec
Max:	10000		
Initial:	10000		
Unit:	msec		

This parameter is used for servo tuning.
 Specifies the integral time #2 of position deviation integrator in the position control section of the servo loop.

12 Position integral limiting value #1

Min:	0	PosIntLim1	Dec
Max:	4999999		
Initial:	10000		
Unit:			

This parameter is used for servo tuning.
 Specifies the limiting value #1 of the position deviation integrator in the position control section of the servo loop. Specify a smaller value when a wind-up condition occurs during operation. This parameter is set automatically by either executing auto-tuning operation or changing the 'servo stiffness' parameter.

13 Position integral limiting value #2

Min:	0	PosIntLim2	Dec
Max:	4999999		
Initial:	10000		
Unit:			

This parameter is used for servo tuning.
 Specifies the limiting value #2 of the position deviation integrator in the position control section of the servo loop. Specify a smaller value when a wind-up condition occurs during operation. This parameter is set automatically by either executing auto-tuning operation or changing the 'servo stiffness' parameter.

14 Position feed forward percentage

Min:	0	Pos_FF	Dec
Max:	126		
Initial:	90		
Unit:	%		

Specifies the position feed forward value of the position control section of the servo loop.

15 Velocity feed forward percentage

Min:	0	Vel_FF	Dec
Max:	126		
Initial:	100		
Unit:	%		

Specifies the velocity feed forward value of the velocity control section of the servo loop.

16 Acceleration feed forward percentage

Min:	0	Acc_FF	Dec
Max:	200		
Initial:	0		
Unit:	%		

Specifies the acceleration feed forward value. This parameter calculates the internal gain based on the load inertia/load mass.

18 Maximum position error in the (+) direction

Min:	1	PerrLimit+	Dec
Max:	999999		
Initial:	depend on motor.driver type		
Unit:	Pulse		

Specifies the maximum allowable error in the positive direction before an error is detected.

Initial value: 5% of motor resolution

19 Maximum position error in the (-) direction

Min:	-999999	PerrLimit-	Dec
Max:	-1		
Initial:	depend on motor.driver type		
Unit:	pulse		

Specifies the maximum allowable error in the negative direction before an error is detected.

Initial value: -(5% of motor resolution)

20 Frequency notch filter #1

Min:	50	Notch1Freq	Dec
Max:	1500		
Initial:	depend on motor.driver type		
Unit:	Hz		

This parameter is used for tuning against resonance. Specifies the frequency of notch filter channel #1. Filter becomes valid by enabling Notch filter #1 through system register 2.

Initial value: 1500Hz

21 "Q" value of notch filter #1

Min:	10	Notch1Q	Dec
Max:	500		
Initial:	depend on motor.driver type		
Unit:	1/100		

This parameter is used for tuning against resonance. Specifies the 'Q' value of notch filter channel #1. Filter becomes valid by enabling Notch filter #1 through system register 2.

Initial value: 100

22 Frequency notch filter #2

Min:	50	Notch2Freq	Dec
Max:	1500		
Initial:	depend on motor.driver type		
Unit:	Hz		

This parameter is used for tuning against resonance. Specifies the frequency of notch filter channel #2. Filter becomes valid by enabling Notch filter #2 through system register 2.

Initial value: 1500Hz

23 "Q" value notch filter #2

Min:	10	Notch2Q	Dec
Max:	500		
Initial:	depend on motor.driver type		
Unit:	1/100		

This parameter is used for tuning against resonance. Specifies the 'Q' value of notch filter channel #2. Filter becomes valid by enabling Notch filter #2 through system register 2.

Initial value: 100

24 First lag compensation frequency #1

Min:	20	LagFreq1	Dec
Max:	999		
Initial:	999		
Unit:			

This parameter is used for tuning against resonance. Specifies the lower range frequency of the first lag compensation filter. Filter becomes valid by enabling the first lag compensator through system register 2.

25 First lag compensation frequency #2

Min:	21	LagFreq2	Dec
Max:	1000		
Initial:	1000		
Unit:			

This parameter is used for tuning against resonance. Specifies the higher range frequency of the first lag compensation filter. Filter becomes valid by enabling the first lag compensator through system register 2.

26 Velocity command filter bandwidth

Min:	50	VcmdFilFrq	Dec
Max:	1000		
Initial:	1000		
Unit:	Hz		

Specifies the filtering bandwidth for velocity command value. Velocity command filter can not be disabled. This parameter is always enabled.

27 Velocity feedback filter bandwidth

Min:	50	VfbFilFrq	Dec
Max:	1000		
Initial:	1000		
Unit:	Hz		

This parameter is used for tuning against resonance. Specifies filtering bandwidth for velocity information fed back to the velocity control section. Filter is activated by enabling the velocity feedback filter in system register 2.

28 Actual position value filter frequency

Min:	1	PfbFilFrq	Dec
Max:	200		
Initial:	depend on motor.driver type		
Unit:	Hz		

Specifies the frequency of the actual position value filter. Filter becomes valid by enabling the current position value filter through system register 2. The filtered actual position value is not fed back to the position control section of the servo loop.

Initial value: 200Hz

29 Cycle count for coin signal activation

Min:	1	COIN_Cycle	Dec
Max:	100		
Initial:	1		
Unit:			

Specifies the number of system cycles executed (counted) before the coin signal goes active (1 system cycle=1msec). The coin signal is activated if the absolute value of the position error is less than or equal to the coin window value for the specified number of system cycles. The coin signal will be deactivated immediately if the position error value exceeds the coin window value.

30 Velocity monitor select

Min:	0	VelMonSel	Dec
Max:	1		
Initial:	0		
Unit:			

This parameter is used for monitoring signals by the analog monitor card (optional).
 This parameter switches between the output modes of the velocity monitor.
 0: Velocity monitor
 1: Velocity monitor AC

31 Velocity monitor gain

Min:	8	VelMonGain	Dec
Max:	24		
Initial:	8		
Unit:			

This parameter is used for monitoring signals by the analog monitor card (optional).
 Specifies the monitoring gain scale factor of the velocity monitor.
 If the specified scaling value is 'n', then:
 +/-3.07V vs +/-2 n
 2 n will result in an amplitude of +/- 3.07V on the velocity monitor
 The maximum amplitude voltage is +/-4.80V.

32 Analog monitor select #1

Min:	0	A_Mon1Sel	Dec
Max:	399		
Initial:	372		
Unit:			

This parameter is used for monitoring signals by the analog monitor card (optional).
 Selects item to be output to the analog monitor #1. Specify the parameter monitor number to be observed

33 Analog monitor gain #1

Min:	8	A_Mon1Gain	Dec
Max:	24		
Initial:	8		
Unit:			

This parameter is used for monitoring signals by the analog monitor card (optional).
 Specifies the monitoring gain scale factor of the analog monitor #1.
 If the specified scaling value is 'n', then:
 +/-3.07V vs +/-2 n
 2 n will result in an amplitude of +/- 3.07V on the velocity monitor
 The maximum amplitude voltage is +/-4.80V.

34 Analog monitor select #2

Min:	0	A_Mon2Sel	Dec
Max:	399		
Initial:	378		
Unit:			

This parameter is used for monitoring signals by the analog monitor card (optional).
 Selects item to be output to the analog monitor #2. Specify the parameter monitor number to be observed

35 Analog monitor gain #2

Min:	8	A_Mon2Gain	Dec
Max:	24		
Initial:	8		
Unit:			

This parameter is used for monitoring signals by the analog monitor card (optional). Specifies the monitoring gain scale factor of the analog monitor #2.
 If the specified scaling value is 'n', then:
 +/-3.07V vs +/-2 n
 2 n will result in an amplitude of +/- 3.07V on the velocity monitor
 The maximum amplitude voltage is +/-4.80V.

36 Digital monitor select #1

Min:	—	D_Mon1Sel	Hex
Max:	—		
Initial:	depend on motor.driver type		
Unit:			

This parameter is used for monitoring signals by the analog monitor card (optional). Selects item to be output to the digital monitor #1. Specify the parameter monitor number and bit number to be observed.

Bit 16 - 8 Parameter monitor number
 Bit 4 - 0 Bit number
 Initial value: State when H00014010 #320 bit16 is selected

37 Digital monitor select #2

Min:	—	D_Mon2Sel	Hex
Max:	—		
Initial:	depend on motor.driver type		
Unit:			

This parameter is used for monitoring signals by the analog monitor card (optional). Selects item to be output to the digital monitor #2. Specify the parameter monitor number and bit number to be observed.

Bit 16 - 8 Parameter monitor number
 Bit 4 - 0 Bit number
 Initial value: State when H00014000A #320 bit10 is selected

38 Error process setup register 1

Min:	—	ErrorReg1	Hex
Max:	—		
Initial:	depend on motor.driver type		
Unit:			

Defines settings for valid/invalid and error treatment when an error occurs in the following list. The top bit is to set valid/invalid, and the last 3 bits represent error processing code in each area. Invalid setting is unavailable for excessive position command differential error (Invalid setting (0) is not effective).

Valid/Invalid setting bit
 0: Invalid 1: Valid
 Error processing code
 0: Servo ON sustaining after deceleration and stop
 1: Servo OFF after deceleration and stop
 2: Servo ON sustainnig after immediate stop
 3: Servo OFF after immediate stop
 4: Servo OFF immediately

Bit 31 - 28 Over speed
 Bit 27 - 24 Overload
 Bit 23 - 20 Excessive position error
 Bit 19 - 16 Excessive commanded position differential value
 Bit 15 - 12 Tandem error (Slave drive error)
 Bit 11 - 8 Coordinate error A
 Bit 7 - 4 Bus voltage dropping
 Bit 3 - 0 AC mains power supply voltage error

Initial value: HAAAABAZA
 Over speed : Valid, Servo ON sustainnig after immediate stop
 Overload : Valid, Servo ON sustainnig after immediate stop
 Excessive position error: Valid, Servo ON sustainnig after immediate stop
 Excessive commanded position differential value:
 Valid, Servo ON sustainnig after immediate stop
 Tandem error : Valid, Servo OFF after immediate stop
 Coordinate error A : Valid, Servo ON sustainnig after immediate stop
 Bus voltage dropping : Invalid, Servo ON sustainnig after immediate stop
 AC mains power supply voltage error:
 Valid, Servo ON sustainnig after immediate stop

39 Error process setup register 2

Min:	—	ErrorReg2	Hex
Max:	—		
Initial:	depend on motor.driver type		
Unit:			

Defines settings for valid/invalid and error treatment when an error occurs in the following list. The top bit is to set valid/invalid, and the last 3 bits represent error processing code in each area.

Valid/Invalid setting bit
 0: Invalid 1: Valid
 Error processing code
 0: Servo ON sustaining after deceleration and stop
 1: Servo OFF after deceleration and stop
 2: Servo ON sustainnig after immediate stop
 3: Servo OFF after immediate stop
 4: Servo OFF immediately

Bit 31 - 28 + direction hardware End of Travel (EOT) limit
 Bit 27 - 24 - direction hardware End of Travel (EOT) limit
 Bit 23 - 20 + direction software End of Travel (EOT) limit
 Bit 19 - 16 - direction software End of Travel (EOT) limit
 Bit 15 - 12 (reserved)
 Bit 11 - 8 Monitor pulse output error・CC-Link Error
 Bit 7 - 4 Interface emergency stop
 Bit 3 - 0 (reserved)

Drv6IIIでは、Bit11～8 モニタパルス異常・CC-Link通信異常は、モニタパルス異常に対してのみ機能します。

Initial value: H2222*ab* (*: unfixed)

(+)direction hardware EOT : Invalid, Servo ON sustainnig after immediate stop
 (-)direction hardware EOT : Invalid, Servo ON sustainnig after immediate stop
 (+)direction software EOT : Invalid, Servo ON sustainnig after immediate stop
 (-)direction software EOT : Invalid, Servo ON sustainnig after immediate stop
 Monitor pulse output error: Valid Servo ON sustainnig after immediate stop
 Interface emergency stop : Valid, Servo OFF after immediate stop

40 Start up table number

Min:	0	StrUpTblNo	Dec
Max:	59		
Initial:	59		
Unit:			

Specifies the table number to start up automatically when drive is turned on. Select 'Enable' for start up operation in system register 2 in order to execute this function.

42 (+) direction software EOT limit setup

Min:	-999999999	+SOT_Limit	Dec
Max:	999999999		
Initial:	0		
Unit:	Axis command unit		

Specifies the + direction the End of Travel(EOT) software limit value.

43 (-) direction software EOT limit setup

Min:	-999999999	-SOT_Limit	Dec
Max:	999999999		
Initial:	0		
Unit:	Axis command unit		

Specifies the - direction End Of Travel(EOT) software limit value.

44 Velocity override percentage 1

Min:	0	VelOvrrid1	Dec
Max:	20000		
Initial:	10000		
Unit:	1/100 %		

Specifies override percentage 1 for feeding velocity.

45 Velocity override percentage 2

Min:	0	VelOvrrid2	Dec
Max:	20000		
Initial:	10000		
Unit:	1/100 %		

Specifies override percentage 2 for feeding velocity.

46 Area signal 0 ON

Min:	depend on setting	Area0_On	Dec
Max:	depend on setting		
Initial:	0		
Unit:	Axis command unit		

Specifies the position where area signal 0 turns on.

Minimum value: [rotation coordinate system]: 0
 [linear coordinate system]: -999999999
 Maximum value: [rotation coordinate system]: Scaling data(on the command unit)
 value-1
 [linear coordinate system]: 999999999

47 Area signal 0 OFF

Min:	depend on setting	Area0_Off	Dec
Max:	depend on setting		
Initial:	0		
Unit:	Axis command unit		

Specifies the position where area signal 0 turns off.

Minimum value: [rotation coordinate system]: 0
 [linear coordinate system]: -999999999
 Maximum value: [rotation coordinate system]: Scaling data(on the command unit)
 value-1
 [linear coordinate system]: 999999999

48 Area signal 1 ON

Min:	depend on setting	Area1_On	Dec
Max:	depend on setting		
Initial:	0		
Unit:	Axis command unit		

Specifies the position where area signal 1 turns on.

Minimum value: [rotation coordinate system]: 0
 [linear coordinate system]: -999999999
 Maximum value: [rotation coordinate system]: Scaling data(on the command unit)
 value-1
 [linear coordinate system]: 999999999

49 Area signal 1 OFF

Min:	depend on setting	Area1_Off	Dec
Max:	depend on setting		
Initial:	0		
Unit:	Axis command unit		

Specifies the position where area signal 1 turns off.

Minimum value: [rotation coordinate system]: 0
 [linear coordinate system]: -999999999
 Maximum value: [rotation coordinate system]: Scaling data(on the command unit)
 value-1
 [linear coordinate system]: 999999999

50 Operation range under test mode

Min:	1	TestWidth	Dec
Max:	32767		
Initial:	depend on motor driver type		
Unit:	Axis command unit		

Specifies the operating range (distance of move) in test mode.

Initial value:
 [rotation]: About 0.2% value of rated speed 2*0.002*360deg for the rated speed
 at 2rps -> Approx. 1.44deg
 [linear]: 1*0.002*1000mm for the rated speed
 at 1mps -> Approx. 2mm

51 Operation range under auto-tuning mode

Min:	1	AT-Width	Dec
Max:	9999999		
Initial:	depend on motor.driver type		
Unit:	Axis command unit		

Specifies the operating range (distance of move) in auto-tuning mode.

Initial value:
 [rotation]: About 2% of the rated speed $2 \times 0.02 \times 360 \text{deg}$ for 2rps
 -> Approx. 14.4deg
 [linear]: Approx. 10mm

52 Maximum acceleration/deceleration time under auto-tuning

Min:	100	AT-TaccMax	Dec
Max:	9999		
Initial:	9999		
Unit:	msec		

Specifies the maximum value of acceleration/deceleration time in auto-tuning mode.

53 Initial acceleration/deceleration time under auto-tuning

Min:	100	AT-TaccIni	Dec
Max:	9999		
Initial:	1000		
Unit:	msec		

Specifies the initial value of acceleration/deceleration time in auto-tuning mode.

54 Repetition number for auto-tuning

Min:	1	AT-Cycle	Dec
Max:	20		
Initial:	6		
Unit:			

Specifies the number of times to execute operation in auto-tuning mode.

55 Overshoot distance in homing operation

Min:	1	ORG-Ovrmov	Dec
Max:	9999999		
Initial:	depend on motor.driver type		
Unit:	Axis command unit		

Specifies the overshoot distance during the Z-pulse sensing move for the 2nd move and all subsequent moves. It determines how far the motor moves beyond the position of the 1st Z-Pulse home sensing move

Initial value: Approx. 1/16 of Z-pulse pitch

56 Offset distance from home position

Min:	-9999999	ORG-Offset	Dec
Max:	9999999		
Initial:	0		
Unit:	Axis command unit		

Specifies the offset distance from the home position the motor will move to once the homing operation has completed.

57 Coordinate value in command units after homing

Min:	depend on setting	ORG-Scmd	Dec
Max:	depend on setting		
Initial:	0		
Unit:	Axis command unit		

Specifies the coordinate value in command units at the home position when the homing operation has completed.

Minimum value: [rotation coordinate system]: 0
 [linear coordinate system]: -999999999
 Maximum value: [rotation coordinate system]: Scaling data(on the command unit)
 value-1
 [linear coordinate system]: 999999999

58 Z-Pulse sensing iterations during homing

Min:	1	ORG-Z_Cyc	Dec
Max:	16		
Initial:	1		
Unit:	Number of times		

Specifies the number of cycles (2 or more) the Z-pulse will be approached and found during the homing move.

59 Torque/Force limit percentage

Min:	0	TF_Limit	Dec
Max:	19999		
Initial:	19999		
Unit:	1/100 %		

This parameter limits the torque or force.

60 Homing EOT sensor search velocity

Min:	1	ORG-OT-Vel	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

Specifies the velocity when executing End of Travel (EOT), or limit, signal search during homing operation. This parameter is invalid if the EOT search operation is not selected in the table setup menu.

Initial value: Approx. 10% of the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

61 Home sensor search velocity in homing operation

Min:	1	ORG-ORGVel	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

Specifies the velocity to search for the home sensor active region in homing mode. This parameter is invalid if the home sensor active region is not used.

Initial value: Approx. 10% of the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

62 Initial Z-pulse search velocity

Min:	1	ORG-Z-Vel1	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

Specifies the velocity when executing the initial Z-pulse search after the home sensor is found. Besides the initial Z-pulse search, this velocity is also used for the following:

- Home backup for Z-pulse search after 2nd search iteration
- Home backup to sense home position after Z-pulse search completed
- Homing move after Z-pulse search completed

Initial value: Approx. 5% of the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

63 Z-pulse search velocity after 2nd iteration

Min:	1	ORG-Z-Vel2	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

Specifies the velocity when executing the Z-pulse search after the 2nd iteration of the Z-pulse search in homing operation.

Initial value: Approx. 0.1% of the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

64 Feeding Velocity #0

Min:	1	FeedVel0	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

This parameter is used for table and jog operations. Specifies the feeding velocity #0.

Initial value: Approximately equal to the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

65 Feeding Velocity #1

Min:	1	FeedVel1	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

This parameter is used for table and jog operations. Specifies the feeding velocity #1.

Initial value: Approximately equal to the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

66 Feeding Velocity #2

Min:	1	FeedVel2	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

This parameter is used for table and jog operations. Specifies the feeding velocity #2.

Initial value: Approximately equal to the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

67 Feeding Velocity #3

Min:	1	FeedVel3	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

This parameter is used for table and jog operations. Specifies the feeding velocity #3.

Initial value: Approximately equal to the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

68 Feeding Velocity #4

Min:	1	FeedVel4	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

This parameter is used for table and jog operations. Specifies the feeding velocity #4.

Initial value: Approximately equal to the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

69 Feeding Velocity #5

Min:	1	FeedVel5	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

This parameter is used for table and jog operations. Specifies the feeding velocity #5.

Initial value: Approximately equal to the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

70 Feeding Velocity #6

Min:	1	FeedVel6	Dec
Max:	depend on setting		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

This parameter is used for table and jog operations. Specifies the feeding velocity #6.

Initial value: Approximately equal to the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

71 Feeding Velocity #7

Min:	1	FeedVel7	Dec
Max:	depend on setting		
Initial:	depend on motor driver type		
Unit:	Axis command unit/sec		

This parameter is used for table and jog operations. Specifies the feeding velocity #7.

Initial value: Approximately equal to the rated motor velocity
 Maximum value: Value of the User defined maximum velocity

72 Acceleration time #0

Min:	1	Tacc0	Dec
Max:	59999		
Initial:	1000		
Unit:	msec		

Specifies the acceleration #0 required for velocity change from zero velocity to the maximum velocity (#305)

73 Acceleration time #1

Min:	1	Tacc1	Dec
Max:	59999		
Initial:	1000		
Unit:	msec		

Specifies the acceleration #1 required for velocity change from zero velocity to the maximum velocity (#305)

74 Acceleration time #2

Min:	1	Tacc2	Dec
Max:	59999		
Initial:	1000		
Unit:	msec		

Specifies the acceleration #2 required for velocity change from zero velocity to the maximum velocity (#305)

75 Acceleration time #3

Min:	1	Tacc3	Dec
Max:	59999		
Initial:	1000		
Unit:	msec		

Specifies the acceleration #3 required for velocity change from zero velocity to the maximum velocity (#305)

76 Deceleration time #0

Min: 1 Tdec0 Dec
Max: 59999
Initial: 1000
Unit: msec

Specifies the deceleration time #0 required for velocity change from the maximum velocity (#305) to zero velocity.

77 Deceleration time #1

Min: 1 Tdec1 Dec
Max: 59999
Initial: 1000
Unit: msec

Specifies the deceleration time #1 required for velocity change from the maximum velocity (#305) to zero velocity.

78 Deceleration time #2

Min: 1 Tdec2 Dec
Max: 59999
Initial: 1000
Unit: msec

Specifies the deceleration time #2 required for velocity change from the maximum velocity (#305) to zero velocity.

79 Deceleration time #3

Min: 1 Tdec3 Dec
Max: 59999
Initial: 1000
Unit: msec

Specifies the deceleration time #3 required for velocity change from the maximum velocity (#305) to zero velocity.

80 Deceleration time for immediate stop

Min: 1 TdecHigh Dec
Max: 59999
Initial: 1
Unit: msec

Specifies the deceleration time required for the velocity change from maximum velocity (#305) to zero velocity when executing immediate stop.

81 External analog command offset

Min: -30000 **AcmdOffset** **Dec**
Max: 30000
Initial: 0
Unit: digit

This is the offset setting for an external analog command (optional). This value is added to an A/D converted value from an external analog command, and it is commanded to the internal circuit.

90 Coin window #0

Min: 0 **CoinWidth0** **Dec**
Max: 9999999
Initial: 5
Unit: Axis command unit or pulse

Specifies the coin window #0 width to be used for position settling check and coin standby in the position control section.

91 Coin window #1

Min: 0 **CoinWidth1** **Dec**
Max: 9999999
Initial: 5
Unit: Axis command unit or pulse

Specifies the coin window #1 width to be used for position settling check and coin standby in the position control section.

92 Coin window #2

Min: 0 **CoinWidth2** **Dec**
Max: 9999999
Initial: 5
Unit: Axis command unit or pulse

Specifies the coin window #2 width to be used for position settling check and coin standby in the position control section.

93 Coin window #3

Min: 0 **CoinWidth3** **Dec**
Max: 9999999
Initial: 5
Unit: Axis command unit or pulse

Specifies the coin window #3 width to be used for position settling check and coin standby in the position control section.

94 Coin window #4

Min:	0	CoinWidth4	Dec
Max:	9999999		
Initial:	5		
Unit:	Axis command unit or pulse		

Specifies the coin window #4 width to be used for position settling check and coin standby in the position control section.

95 Coin window #5

Min:	0	CoinWidth5	Dec
Max:	9999999		
Initial:	5		
Unit:	Axis command unit or pulse		

Specifies the coin window #5 width to be used for position settling check and coin standby in the position control section.

96 Coin window #6

Min:	0	CoinWidth6	Dec
Max:	9999999		
Initial:	5		
Unit:	Axis command unit or pulse		

Specifies the coin window #6 width to be used for position settling check and coin standby in the position control section.

97 Coin window #7

Min:	0	CoinWidth7	Dec
Max:	9999999		
Initial:	5		
Unit:	Axis command unit or pulse		

Specifies the coin window #7 width to be used for position settling check and coin standby in the position control section.

98 System setup register 2

Min:	—	SystemReg2	Hex
Max:	—		
Initial:	depend on motor.driver type		
Unit:			

Bit23	Enable actual position value filter
Bit21	Enable velocity feedback filter
Bit18	Enable first lag compensation filter
Bit17	Enable notch filter #2
Bit16	Enable notch filter #1
Bit 1	Disable M-function when an error occurs
Bit 0	Enable start up operation (motion control table operation)

Initial value: H00030002	
Enable actual position value filter [without interpolation process]	: 0 Disable
Enable actual position value filter [with interpolation process]	: 1 Enable
Enable velocity feedback filter	: 0 Disable
Enable first lag compensation filter	: 0 Disable
Enable notch filter #2	: 1 Enable
Enable notch filter #1	: 1 Enable
Disable M-function when an error occurs	: 1 Enable
Enable start up operation (motion control table operation)	: 0 Disable

99 System setup register 3

Min:	—	SystemReg3	Hex
Max:	—		
Initial:	depend on motor.driver type		
Unit:			

See item/chapter related to system setting register in the utility software/technical manual.

Homing mode:

- Bit23 Enables the home sensor position error
- Bit21 Deceleration type for offset move
- Bit20 Acceleration type for offset move
- Bit19-18 Select deceleration time for offest move
- Bit17-16 Select acceleration time for offest move
- Bit14-12 Select offset move velocity

Jog mode:

- Bit 9 Deceleration type in jog operation
- Bit 8 Acceleration type in jog operation
- Bit 7- 6 Select deceleration time in jog operation
- Bit 5- 4 Select acceleration time in jog operation
- Bit 2- 0 Select velocity in jog operation

```

Initial value: H00800000
Enables the home sensor position error : 1 Enable
Deceleration type for offset move      : 0 Constant acceleration
Acceleration type for offset move       : 0 Constant acceleration
Select deceleration time for offest move : 0 Deceleration time #0
Select acceleration time for offest move : 0 Acceleration time #0
Select offset move velocity              : 0 Feeding velocity #0
Deceleration type in jog operation       : 0 Constant acceleration
Acceleration type in jog operation       : 0 Constant acceleration
Select deceleration time in jog operation : 0 Deceleration time #3
Select acceleration time in jog operation : 0 Acceleration time #3
Select velocity in jog operation         : 0 Feeding velocity #7
    
```

100 Variable 0

Min:	—	Variable0	Dec
Max:	—		
Initial:	0		
Unit:			

101 Variable 1

Min:	—	Variable1	Dec
Max:	—		
Initial:	0		
Unit:			

102 Variable 2

Min:	—	Variable2	Dec
Max:	—		
Initial:	0		
Unit:			

108 **Variable 8**

Min:	—	Variable8	Dec
Max:	—		
Initial:	0		
Unit:			

109 **Variable 9**

Min:	—	Variable9	Dec
Max:	—		
Initial:	0		
Unit:			

110 System setup register 1

Updated on power cycle

Min:	—	SystemReg1	Hex
Max:	—		
Initial:	depend on motor.driver type		
Unit:			
Bit31-28	Setup of AC power monitoring cycle		
	cycle time=(setting value+2)*10msec		
Bit25	Select serial interface For jog operation		
	(0: controller, 1: serial)		
Bit24	Select controller interface for high speed processing start signal		
	(0: low[Invalid], 1: high[Valid])		
Bit17	Select pulse scale for coin window		
	(0: command units, 1: pulse units)		
Bit16	Sustain command value in command unit during servo-ON		
	(0: Invalid, 1: Valid)		
Bit13	Select ext. Analog sub input function for torque/force		
	(0: torque/force limit, 1: torque/force feed forward)		
Bit12	Enable ext. Analog sub input (ASUB_IN)		
	(0: Invalid, 1: Valid)		
Bit11	Brake-ON during servo-OFF (only for motors with dynamic brake)		
	(0: Invalid, 1: Valid)		
Bit10	Enable Z-pulse hysteresis on inaccurate edge		
	(only for software ZERO type)		
	(0: Invalid, 1: Valid)		
Bit 9	Select linear coordinate command units		
	(0: rotation, 1: linear)		
Bit 8	Coordinate commanded direction setup		
	(0: Pos. Dir.=CW, 1: Pos. Dir.=CCW)		
Bit 7- 6	Pulse command signal type (0:UP-DOWN(CW/CCW), 1: A-B(incremental encoder), 2: PLS-SIGN(step/direction), 3: reserved)		
Bit 5	Pulse monitor (encoder out) signal type (0: UP-DOWN(CW/CCW), 1: A-B(incremental encoder))		
Bit 4	External analog input range (0: +/-6V, 1: +/-10V)		
Bit 3	Select position control mode (0: I-P, 1: Proportional integration)		
Bit 2	Select velocity control mode (0: Proportional, 1: Proportional integration control)		
Bit 1- 0	Basic control mode (0: (reserved), 1: Torque/Force, 2: Velocity, 3: Position)		
Initial value:	Motor/Drive dependent		
Setup of AC power monitoring cycle	: 15	170msec	
Select serial interface for jog operation	: 1	Serial interface	
Select controller interface for high speed processing start signal	: 0	Slow speed	
Select pulse scale for coin window	: 0	Command unit	
Sustain command value in command unit during servo-ON	: 0	Disable	
Select ext. Analog sub input function for torque/force	: 0	Feed forward	
Enable ext. Analog sub input (ASUB_IN)	: 0	Disable	
Brake-ON during servo-OFF	: 1	Enable (Brake-ON)	
Enable Z-pulse hysteresis on inaccurate edge	: 1	Enable (Hysteresis)	
Select linear coordinate command units	: 0	Rotation coordinate	
	: 1	Linear coordinate	
Coordinate commanded direction setup (rotation)	: 1	CW	
[linear]	: 2	Right side	
Pulse command signal type	: 2	PLS-SIN(STP-DIR)	
Pulse monitor (encoder out) signal type	: 1	A-B(Incremental encoder)	
External analog input range	: 0	+/-6V	
Select position control mode	: 0	I-P	
Select velocity control mode	: 0	Proportional	
Basic control mode	: 3	Position control	

111 Maximum velocity limit

Updated on power cycle

Min:	1	Vmax	Dec
Max:	32000000		
Initial:	depend on motor.driver type		
Unit:	Axis command unit/sec		

Specifies the maximum velocity the drive can move the motor (in units/sec). This value must be less than or equal to the maximum mechanical speed of the motor (in rev/sec [rotary motor] or meters/sec [linear motor]). Therefore, the command units, units/sec, must be converted to rps, or mps, to verify this parameter meets this requirement. This maximum velocity value is displayed using monitor #305.

Initial value: Approximately equal to the rated motor velocity

112 Scaling data ratio denominator (on the command unit) Updated on power cycle

Min:	10000	ScaleUnit	Dec
Max:	99999999		
Initial:	depend on motor.driver type		
Unit:	Axis command unit		

Specifies the scale factor denominator to convert the units of axis related parameters in pulses to user definable units (axis command units). The value specified is equivalent to the axis scaling data (on the pulse) parameter. If the rotary coordinate system is selected, this parameter is set to the number of units in one rotation of the axis command coordinate system. For example,

Ex) Rotation: Circumference [micron]
 Linear: Ball screw lead pitch [micron]

Pulse units=(#113 / #112) * axis command units

Initial value:
 [rotation] DM Motor resolution * 4 [unit/rev]
 DR Motor resolution * 2 [unit/rev]
 [Linear] Motor resolution * 2 [unit/m]

113 Scaling data ratio numerator (on the pulse) Updated on power cycle

Min:	10000	ScalePulse	Dec
Max:	99999999		
Initial:	depend on motor.driver type		
Unit:	pulse		

Specifies the scale factor numerator to convert the units of axis related parameters to user definable units (axis command units). The value specified is equivalent to the axis scaling data (on the command unit) parameter. If the rotary coordinate system is selected, the parameter value is set to the number of pulses in one rotation of the pulse coordinate system.

Pulse units = (#113 / #112) * axis command units

Initial value: Motor resolution [rotation] unit [pls/rev]
 [linear] unit [pls/m]

121 External velocity input sensitivity Updated on power cycle

Min:	2000	ExVinSense	Dec
Max:	19999		
Initial:	depend on motor.driver type		
Unit:	1/100 %		

Specifies the sensitivity (scaling) of the analog command input (controller interface) for commanded velocity in velocity control mode (system setup register 1, bits1-0, option 2). The value is a percentage of the rated velocity which is indicated by monitor #307. The value specified shall be equal to the maximum input voltage, which is determined by the analog input range (+/-6V or +/-10 V) set in system setup register 1, bit4.

122 External torque/force input sensitivity Updated on power cycle

Min:	2000	ExTFiSense	Dec
Max:	19999		
Initial:	depend on motor.driver type		
Unit:	1/100 %		

Specifies the sensitivity (scaling) of the analog command input (controller interface) for the commanded torque/force mode (system setup register 1, bits1-0, option 1), or when executing torque/force limiting. It also specifies the sensitivity (scaling) of the analog sub input (controller interface) for torque/force feed forward functionality. The value is a percentage of the maximum torque/force of the motor, which is part of monitor #301. The value specified shall be equal to the maximum input voltage, which is determined by the analog input range (+/-6V or +/-10 V) set in system setup register 1, bit4.