10 List of Parameters

10.1 Variable parameters

Note

R–W = Read–write parameter
RO = Read-only parameter

Selection of **Pr0**, **Pr1**, **Pr2**, and **Pr3** is controlled by **Pr17**, which receives its coding from the values of **Pr18**, **Pr19** and **Pr20**, as selected by **b16** and **Pr21**. Refer to **Pr17**, **Pr18**, **Pr19**, **Pr20**, **Pr21** and **b16**.

Pr0	**Programmable digital speed reference**			R–W
(Range: see below) RPM	Def. val.	0	Res.	1

–3000 to 3000 RPM when **Pr99** = 200 to 3000
–9000 to 9000 RPM when **Pr99** = 3600 to 9000

Pr1	**Programmable digital speed reference**			R–W
(Range: see below) RPM	Def. val.	0	Res.	1

–3000 to 3000 RPM when **Pr99** = 200 to 3000
–9000 to 9000 RPM when **Pr99** = 3600 to 9000

Pr2	**Programmable digital speed reference**			R–W
(Range: see below) RPM	Def. val.	0	Res.	1

–3000 to 3000 RPM when **Pr99** = 200 to 3000
–9000 to 9000 RPM when **Pr99** = 3600 to 9000

Pr3	**Programmable digital speed reference**			R–W
(Range: see below) RPM	Def. val.	0	Res.	1

–3000 to 3000 RPM when **Pr99** = 200 to 3000
–9000 to 9000 RPM when **Pr99** = 3600 to 9000

Pr4	**Voltage level of DC bus**			RO
0 to 1024 V	Def. val.		Res.	4

Pr6	**Analog reference input offset**			R–W
–50.0 to +50.0 RPM	Def. val.	0	Res.	0.1

Adjustment of **Pr6** permits the user to apply a correction to offset in the analog speed reference which would cause slow rotation of the motor when zero speed is intended.

Pr7	**Speed loop bandwidth limit**			R–W
1 to 7 RPM	Def. val.	2	Res.	1

Used in conjunction with **Pr13**, **Pr14**, **Pr15** to minimize instability of the speed loop caused by resonance in the mechanical transmission, or by high inertia of the driven load.

Value of Pr7	Bandwidth limit
1	320Hz
2	160Hz
3	80Hz
4	40Hz
5	20Hz
6	10Hz
7	5Hz

Pr8	**Digital current reference**			R–W
± 100 %	Def. val.	0	Res.	1

User-programmable current reference, entered as a percentage of I_{pk}. The polarity indicates the direction of motor rotation.

Pr9	**Acceleration ramp – forward**			R–W
1 to 3000 ms	Def. val.	200	Res.	1

Slope in milliseconds per 1000 RPM.

Pr10	**Acceleration ramp – reverse**			R–W
1 to 3000 ms	Def. val.	200	Res.	1

Slope in milliseconds per 1000 RPM.

Pr11	**Deceleration ramp – forward**			R–W
1 to 3000 ms	Def. val.	200	Res.	1

Slope in milliseconds per 1000 RPM.

Pr12	Deceleration ramp – reverse			R–W
1 to 3000 ms	Def. val.	200	Res.	1

Slope in milliseconds per 1000 RPM.

Pr13	Proportional gain			R–W
0 to 255	Def. val.	100	Res.	1

Pr14	Derivative gain			R–W
0 to 128	Def. val.	0	Res.	1

Pr15	Integral gain			R–W
0 to 255	Def. val.	5	Res.	1

Pr17	Digital reference			RO
0 to 3	Def. val.		Res.	

Indicates the reference selected by **Pr21**.

Pr18	Digital input configuration (terminals B4 and B5)			RO
0 to 3	Def. val.		Res.	

Indicates the signal levels on terminals B4 and B5.

Terminal		Pr18
B4	B5	
0V	0V	0
0V	+24V	1
+24V	0V	2
+24V	+24V	3

Pr19	Digital reference scan time			R–W
0.1 to 600.0s	Def. val.	10.0s	Res.	0.1

Pr20	Digital reference selector			R–W
0 to 3	Def. val.	0	Res.	1

Directs **Pr17** to select from **Pr0**, **Pr1**, **Pr2**, or **Pr3**.

Pr20	Selected reference parameter
0	Pr0
1	Pr1
2	Pr2
3	Pr3

Pr21	Digital reference selector enable			R–W
0, 1 or 2	Def. val.	0	Res.	1

Pr21	Enables...
0	Digital selector **Pr20**
1	Time selector **Pr19**
2	Digital inputs (when **b16** = 0)

Pr22	Drive address			R–W
1 to 32	Def. val.	1	Res.	1

Required when serial communications are used.

Pr23	Baud rate			R–W
300 to 19200	Def. val.	9600	Res.	

This parameter can be set only at the control keypad, not by using serial communications.

Available values are as follows:

300, 600 1200, 2400, 4800, 9600, 19200

The host computer must be set at the same Baud rate as the Drive.

Pr24	Digital run reference			RO
±9000 RPM	Def. val.		Res.	1

Indicates the value of the selected digital reference in RPM at the start of the speed loop.

Pr25	Security code			R–W
1 to 9999	Def. val.	0	Res.	1

Write protection of parameters. Refer to Setting up a security code in Chapter 8 *Security*.

Pr26	Drive model code			RO
0, 1, 2, 3, 7, 11, 12, 13	Def. val.		Res.	

SA005 = 1
SA010 = 2
SA016 = 7
SA022 = 11
SA038 to SA059 = 12
SA091 to SA150 = 13

Pr27	Shaft orientation function in resolver steps			R–W
0 to 2047 stops	Def. val.	0	Res.	1

Determines the shaft orientation as directed by either **b18** or the reference input applied to terminal B6 when **b53** = 1. See **Pr37**, **Pr53**, **Pr54**, **Pr83**, **b41**.

Pr28	Motor magnetizing current			R–W
10% to 60 %	Def. val.	26%	Res.	1

Determines the value of magnetizing current for the motor, as a percentage of I_{pk}.

Pr29	Full load slip			R–W
0 to 500 RPM	Def. val.	100	Res.	1

The motor slip at rated speed and rated load. This can be expressed as **Pr29** = $N_0 - N_r$

where:

N_0 = the no load motor speed (in RPM)
N_r = the full load motor speed (in RPM)

Pr30	Digital output selector 1			R–W
0 to 6	Def. val.	0	Res.	1

Selects the parameter value presented at terminal B7.

Pr30	Selects...
0	I^2t alarm (**b89**)
1	Temperature pre-alarm (**b91**)
2	Current limit alarm (**b84**)
3	Indication of present direction (**b38**)
4	Indication of motor stopped (**b41**)
5	Indication of At Speed (**b42**)
6	Indication of speed loop saturation (**b48**)

Pr31	Digital output selector 0			R–W
0 to 6	Def. val.	1	Res.	1

Selects the parameter value presented at terminal B8.

Pr31	Selects...
0	I^2t alarm (**b89**)
1	Temperature pre-alarm (**b91**)
2	Current limit alarm (**b84**)
3	Indication of present direction (**b38**)
4	indication of motor stopped (**b41**)
5	Indication of motor at-speed (**b42**)
6	Indication of speed loop saturation (**b48**)

Pr32	Motor base speed			R–W
100 to 10000 RPM	Def. val.	1500	Res.	1

Motor speed when rated voltage is applied. This determines the voltage/frequency characteristic below base speed.

Pr37	Orientation (position) loop gain			R–W
0 to 50	Def. val.	12	Res.	1

When the orientation function is selected (Normal stop while **b53** = 1), the Drive automatically sets the orientation loop gain.

Pr38	Stator current				RO
		Def. val.		Res.	

Indicates the value of motor current when the motor speed is not greater than base speed. Value is always positive as % of I_{pk}.

Pr39	Analog current input				RO
		Def. val.		Res.	

Indicates the value of the reference voltage on analog input terminal B1. –100% to +100% represents –10V to +10V.

Pr40	Clamped current demand				RO
–100 to +100	%	Def. val.		Res.	1

Indicates the value of the current after limiting by **Pr41**.

Pr41	Current limitation value				RO
0 to +100	%	Def. val.		Res.	1

Indicates the lowest value set in the following parameters:

I^2t limit (**Pr43**)
Analog limit (rectified) (**Pr39**) when **b11** = 1
Digital limit **Pr42**

0 is shown when the Drive is disabled

Pr42	Maximum current limit				R–W
0 to 100	%	Def. val.	100	Res.	1

Sets the maximum peak motor current (I_{max}) available from the Drive, as a percentage of I_{pk}.

Pr43	I^2t limit				RO
0 to 100	%	Def. val.		Res.	1

When **Pr43** = 100, this indicates current is not in I^2t region

When **Pr43** shows the percentage of I_{pk}, the current is in the I^2t region

Pr44	TPRC (Test Point Requested Current) value				RO
		Def. val.		Res.	

Indicates the value of the TPRC when the motor is operating at nominal torque output.

Pr45	Nominal current				R–W
20% to 67	%	Def. val.	50	Res.	1

Sets the maximum continuous motor current (I_{nom}) available from the Drive, as a percentage of I_{pk}.

Pr53	Shaft orientation window				R–W
0 to 100	stops	Def. val.	10	Res.	1

Defines a window either side of the value programmed in **Pr27** within which it is assumed that the motor shaft is correctly orientated when stop is selected while **b53** = 1. See **Pr27**.

Pr54	Speed reference during orientation				R–W
10 to 200	RPM	Def. val.	150	Res.	1

Speed in RPM adopted during shaft orientation. See **Pr27**.

Pr56	Motor At-speed window – lower limit				R–W
±9000	RPM	Def. val.	–5	Res.	1

Refer also to **Pr57**, **b42** and **b96**.

Pr57	Motor At-Speed window – upper limit				R–W
±9000	RPM	Def. val.	5	Res.	1

Refer also to **Pr56**, **b42** and **b96**.

Pr58	Maximum speed limit				R–W
0 to 12000	RPM	Def. val.	3200	Res.	1

If the motor exceeds this limit, an over-speed trip occurs. See **b87**.

Pr59	Motor speed				RO
±12000	RPM	Def. val.		Res.	1

Pr68	Simulated encoder output resolution			R–W
0 to 3	Def. val.	1	Res.	

Pr68	Pulses per revolution
0	256
1	512
2	1024
3	2048

Note

Maximum speed is 3000 RPM.

Pr80	I^2t level				RO
0 to 100	%	Def. val.		Res.	0.1

Displays values corresponding to the percentage set in **Pr42**. I^2t limiting is activated at 100%.

Pr83	Rotor position				RO
0 to 2047		Def. val.		Res.	1

See **Pr27**.

Pr95	Number of motor poles				R–W
		Def. val.	4	Res.	

Enter the number of motor poles from 2, 4, or 8.

Pr97	Software version number				RO
		Def. val.		Res.	

This manual applies to V2.XX.XX software

Pr98	Last alarm store				RO
		Def. val.		Res.	

Displays the cause of the last trip. **Pr98** is set at zero when the Drive is reset (**b3** set at 1). When **Pr98** is interrogated using serial communications, a number representing the trip is sent to the host computer. The numbers are as follows:

Pr98	Trip
0	Drive normal
1	Overvoltage
2	Undervoltage
3	Overcurrent
4	Overtemperature
5	Resolver circuit break
6	I^2t Integrating
7	Temp pre-alarm
8	Overspeed
9	Short Circuit
10	External trip
11	Internal fault

Pr99	Speed – full scale				R–W
200 to 3000 3000 to 9000	RPM	Def. val.	3000	Res.	200 600

10.2 Bit parameters

b0	Enable change of security code				R–W
0 or 1		Def. val.	0	Res.	

Enables the security code to be changed to any valid number. Refer to **Pr25**.

b1	Recall last parameter settings from EEPROM				R–W
0 or 1		Def. val.	0	Res.	

Return to the last-written parameter values. Set **b2** at 0 to enable this parameter. The display will show **rEAd** while the parameters are recalled. Related to **b5** and **b99**.

b2	Drive enable			R–W
0 or 1	Def. val.	1	Res.	

b2	Drive state
0	Disabled
1	Enabled

Refer to terminal B14.

b3	Alarm reset			R–W
0 or 1	Def. val.	0	Res.	

Accepts and cancels any alarm or trip, and resets the last alarm store. Refer to **Pr98**.

Note

Before resetting the alarm, set **b2** at 0 or apply 0V to terminal B14 to disable the Drive.

b4	Drive enable status			RO
	Def. val.		Res.	

b4	Indicates...
0	Drive is disabled by one of the following: **b2** set at 0 Alarm trip 0V applied to terminal B14)
1	Drive is enabled

b5	Recall default values from PROM			R–W
0 or 1	Def. val.	0	Res.	

Recalls the default values of all parameters from PROM and enters them in RAM for immediate application. Display will show **dEf** while defaults are restored. Related to **b1** and **b99**.

b6	Reference selector			R–W
0 or 1	Def. val.	0	Res.	

b6	Reference selected
0	Speed loop output
1	Analog or digital current reference

Refer to **b8**.

Warning

Change the value of **b6** only when the Drive is disabled by setting **b2** at 0, and the motor is stopped.

b7	Enable accel/decel ramps			R–W
0 or 1	Def. val.	0	Res.	

Change speed with or without ramps.

b7	Selects...
0	Ramps are disabled
1	Ramps are enabled

b8	Current reference mode selector			R–W
0 or 1	Def. val.	0	Res.	

b9	Digital stop function status			RO
	Def. val.		Res.	

Indicates the logic level present on terminal B6.

Terminal B6	Parameter b53	Parameter b22	Stop function
0V	X	X	Select using software only Refer to **b18**
+24V	1	X	Stop in position
+24V	0	0	Hold zero speed without ramps
+24V	0	1	Hold zero speed with ramps

Refer to **b18**.

b10	Digital enable state			RO
	Def. val.		Res.	

Indicates the logic state at input terminal B14.

Logic state at terminal B14	Parameter b10	Drive state
0	0	Not enabled
1	1	Enabled

b11	Current limit selector			R–W
0 or 1	Def. val.	0	Res.	

Selects the current limit.

b11	Selects...
0	Current limit is I_{max}
1	Current limit is determined by the signal applied to terminal B1

b12	Analog output selector			R–W
0 or 1	Def. val.	0	Res.	

Selects the analog output signal to be produced at terminal B16.

b12	Selects...
0	(Refer to b13)
1	Output signal represents the motor current (16V pk-pk ≡ I_{peak})

b13	Analog Output Selector			R–W
0 or 1	Def. val.	0	Res.	

Selects the signal source when **b12** is set at 0.

b13	Selects...
0	Clamped current demand **Pr40** (±10V ≡ ±100%)
1	Post-ramp speed reference (5V ≡ 6000 RPM demand)

b14	Reference selector			R–W
0 or 1	Def. val.	1	Res.	

Selects the speed reference.

b17	b14	Selects...
0	1	Analog speed reference (±10V) (terminals B9 and B10)
1	0	Frequency reference (terminal C7) Frequency scaling: 409.6 kHz at terminal C7 ≡ full scale speed (**Pr99**).

b15	Reverse polarity of sign signal			R–W
0 or 1	Def. val.	0	Res.	

Reverses the polarity of the sign input signal at terminal C8.

b15	Selects...
0	Logic 1 produces forward rotation
1	Logic 1 produces reverse rotation

b16	Digital speed reference or limit switch function selector			R–W
0 or 1	Def. val.	0	Res.	

Selects the functions of terminals B4 and B5.

b16	Pr21	Selects...
0	2	Digital speed reference input
1	X	Limit switch inputs

b17	Speed reference input selector			R–W
0 or 1	Def. val.	0	Res.	

Selects the speed reference at terminals B9 and B10.

b17	Selects...
0	Analog speed reference
1	Digital speed reference (**b14** has no effect)

b18	Digital stop selector			R–W
0 or 1	Def. val.	0	Res.	

Selects the stop function.

b18	b53	b22	Stop function
0	X	X	Controlled by applying a signal to terminal B6
1	1	X	Stop in position with ramp and hold
1	0	0	Stop without ramps and hold
1	0	1	Stop with ramps and hold

Refer also to **b7**, **b9**, **b23**.

b21	BCC enable			R–W
0 or 1	Def. val.	1	Res.	

When **b21** is set at 0, BCC is disabled.
When **b21** is set at 1, BCC is enabled.

b22	Ramp function for Normal stop			R–W
0 or 1	Def. val.	1	Res.	

Selects with or without ramps for stop-and-hold.

When **b22** is set at 0, *without* ramps is selected.
When **b22** is set at 1, *with* ramps is selected.

Note

Stopping with orientation always uses ramps irrespective of the setting in b22 (see b53).

b23	Limit switch ramp function			R–W
0 or 1	Def. val.	1	Res.	

Selects with or without ramps for limit switch stop.

When **b23** is set at 0, *without* ramps is selected.
When **b23** is set at 1, *with* ramps is selected.

b33	Alarm status			RO
	Def. val.		Res.	

When **b33** is set at 0, at least one alarm is active.
When **b33** is set at 1, no alarm is active.

The state of this parameter is indicated as a logic signal on terminal B15.

b38	Direction of motor rotation			RO
	Def. val.		Res.	

Motor direction is described when looking at the shaft end of the motor.

When **b38** is set at 0, reverse (anti-clockwise) is selected.
When **b38** is set at 1, forward (clockwise) is selected.

b41	Zero speed or shaft orientation status			RO
	Def. val.		Res.	

b53	b41	Indicates...
0	0	Motor not at zero speed
1	0	Shaft not orientated
0	1	Motor at zero speed
1	1	Shaft orientated (see **Pr27**)

b42	At-speed status			RO
	Def. val.		Res.	

b42 = 0 indicates motor is not at speed; motor speed is outside the range defined by **Pr56** and **Pr57**.
b42 = 1 indicates motor is at speed; motor speed is within the range defined by **Pr56** and **Pr57**.

Refer also to **Pr56**, **Pr57** and **b96**.

b48	Speed loop saturation status			RO
	Def. val.		Res.	

b48 = 0 indicates the speed loop is in linear operation.
b48 = 1 indicates the speed loop is saturated.

b49	Resolver phasing			R–W
0 or 1	Def. val.	0	Res.	

When **b49** is set at 0, resolver phasing is inactive.
When **b49** is set at 1, resolver phasing is enabled.

b50	Display return function			R–W
0 or 1	Def. val.	0	Res.	

When **b50** is set at 0, the control keypad display returns to display **rdY** or the speed value after 8 seconds without a key stroke.
When **b50** is set at 1, the display continues to show the value of the last parameter to have been selected.

b51	Serial link data format			R–W
0 or 1	Def. val.	0	Res.	

When **b51** is set at 0, 8-bit no parity format is selected.

When **b51** is set at 1, 7 bit even parity format is selected.

Note

This parameter can be adjusted only at the control keypad, not by using serial communications.

b52	Serial link mode			R–W
0 or 1	Def. val.	0	Res.	

When **b52** is set at 0, ANSI standard is selected.

When **b52** is set at 1, Terminal mode is selected.

b53	Digital stop mode selector			R–W
0 or 1	Def. val.	0	Res.	

When **b53** is set at 0, stop-and-hold is selected.

When **b53** is set at 1, stop-orientate-and-hold is selected.

See **Pr27**.

b55	External Trip Alarm			RO
	Def. val.		Res.	

b55 = 0 indicates no external trip has occurred.

b55 = 1 indicates the external trip is active.

b56	External trip enable			R–W
0 or 1	Def. val.	0	Res.	

When **b56** is set at 0, external trip is disabled.

When **b56** is set at 1, external trip is enabled.

b81	Digital output short-circuit trip			RO
	Def. val.		Res.	

b81 = 0 indicates the digital outputs are normal.

b81 = 1 indicates a digital output is short-circuit to 0V.

b82	DC over-voltage trip			RO
	Def. val.		Res.	

b82 = 0 indicates the DC bus voltage is below the permitted maximum (808V).

b82 = 1 indicates the DC bus voltage is above the permitted maximum.

b83	DC under-voltage trip			RO
	Def. val.		Res.	

b83 = 0 indicates the DC bus voltage is above the permitted minimum (400V).

b83 = 1 indicates the DC bus voltage is below the permitted minimum.

b84	Over-current trip			RO
	Def. val.		Res.	

b84 = 0 indicates the output current is below the set limit.

b84 = 1 indicates the output current has exceeded 110% of I_{pk}.

b85	Over-temperature trip			RO
	Def. val.		Res.	

b85 = 0 indicates the heat-sink temperature is below the permitted maximum (95°C).

b85 = 1 indicates the heat-sink temperature is above the permitted maximum.

b86	Resolver break trip			RO
	Def. val.		Res.	

b86 = 0 indicates no fault has occurred.

b86 = 1 indicates a resolver signal connection has been lost.

b87	Overspeed trip			RO
	Def. val.		Res.	

b87 = 0 indicates the motor speed is within limits.

b87 = 1 indicates the motor speed has exceeded the value set in **Pr58**.

b89	I^2t integrating alarm			RO
	Def. val.		Res.	

b89 = 0 indicates the Drive is not within I^2t zone.

b89 = 1 indicates the Drive is in 1^2t limit.

b91	Over-temperature pre-alarm			RO
	Def. val.		Res.	

b91 = 0 indicates the heat-sink temperature is approaching the permitted maximum.

b91 = 1 indicates the heat-sink temperature has exceeded the permitted maximum.

b96	At-speed relative/absolute			R–W
Relative	Def. val.	1	Res.	

Selects the type of signal produced by the At-speed status parameter **b42**.

b96	Selects...
0	Absolute
1	Relative

When **b96** is set at 0 (Absolute) the At-speed status held in **b42** responds to the absolute values set in **Pr56** and **Pr57**. In this case, **b42** = 1 (At speed) when the following condition is satisfied:

Pr56 < [Motor speed] < **Pr57**

When **b96** is set at 1 (Relative) the At-speed status held in **b42** is related to the Speed Reference input. In this case, **b42** = 1 (At speed) when the following condition is satisfied:

[Reference + **Pr56**] < [Motor speed] < [Reference + **Pr57**]

Refer also to **Pr56**, **Pr57** and **b42**.

b99	Save RAM to EEPROM			R–W
Not save	Def. val.	0	Res.	

Saves new parameter values in the EEPROM. The display will show **SAVE** while parameters are being saved. Related to **b1** and **b5**.

When **b99** is set at 0, no save occurs.

When **b99** is set at 1, parameters are saved.

10.3 Summary of default values

Variable parameters (R–W)

Parameter	Default	Unit	Name	Notes
Pr0	0	RPM	Digital speed reference	
Pr1	0	RPM	Digital speed reference	
Pr2	0	RPM	Digital speed reference	
Pr3	0	RPM	Digital speed reference	
Pr6	0	RPM	Analog reference input offset	
Pr7	2	Hz	Speed loop bandwidth limit	
Pr8	0	% I_{pk}	Digital current reference	
Pr9	200	ms	Forward acceleration ramp	
Pr10	200	ms	Reverse acceleration ramp	
Pr11	200	ms	Forward deceleration ramp	
Pr12	200	ms	Reverse deceleration ramp	
Pr13	100		Proportional gain	
Pr14	0		Derivative gain	
Pr15	5		Integral gain	
Pr19	10.0	s	Digital reference scan time	
Pr20	0		Digital reference selector	
Pr21	0		Digital reference selector enable	
Pr22	1		Drive address	
Pr23	9600		Baud rate	
Pr25	0		Security code	
Pr27	0		Shaft orientation function	
Pr28	26	% I_{pk}	Magnetising current	
Pr29	100	RPM	Slip	
Pr30	0		Digital output selector 1	
Pr31	1		Digital output selector 0	
Pr32	1500	RPM	Motor base speed	
Pr37	12		Orientation loop gain	
Pr42	100	% I_{pk}	Maximum current limit	
Pr45	50	% I_{pk}	Nominal current	
Pr53	10		Shaft orientation window	
Pr54	150	RPM	Speed reference during orientation	
Pr56	–5	RPM	Motor at-speed window – lower limit	
Pr57	5	RPM	Motor at-speed window – upper limit	
Pr58	3200	RPM	Maximum speed limit	
Pr68	1		Simulated encoder output resolution	
Pr95	4		Number of motor poles	
Pr99	3000	RPM	Speed – full-scale	

Bit parameters (R–W)

Parameter	Default	Effect	Name	Notes
b0	0	Disable	Enable change of security code	
b1	0	Not	Recall parameter settings from EEPROM	
b2	1	Enable	Drive enable	
b3	0	Not	Alarm reset	
b5	0	Not	Recall default values from EEPROM	
b6	0	Speed	Reference selector	
b7	0	Disable	Enable ramps	
b8	0	Analog	Current reference mode selector	
b11	0	Delimit	Current limit selector	
b12	0	(b13)	Current signal selector	
b13	0	TPRC	Current signal source selector	
b14	1	Analog ref.	Reference selector	
b15	0	Polarity	Sign signal polarity selector	
b16	0	Speed selector	Digital input selector	
b17	0	Analog	Speed reference input selector	
b18	0	Digital	Digital stop selector	
b21	1	Enable	BCC enable	
b22	1	Enable	Normal-stop ramp function	
b23	1	With	Limit-switch ramp function	
b49	0	Inactive	Resolver phasing	
b50	0	Return	Display return function	
b51	0	8-bit	Serial link (interface) data format (parity)	
b52	0	ANSI	Serial link (interface) mode	
b53	0	Stop and hold	Digital stop mode selector	
b56	0	Disable	External trip (Et) enable	
b96	1	Relative	At-speed relative or absolute	
b99	0	Not	Save Working Table to EEPROM	