

Supplement

ACS850-04 drives with SynRM motors (option +N7502)

Introduction

Synchronous reluctance motors (SynRM) must always be operated by an AC drive. ACS850-04 drives (option +N7502) can be combined with SynRM motors into a motor drive package.

This supplement describes the necessary parameter settings for each ACS850-04 drive type when it is used with the preselected SynRM motor. For the other parameter settings, see *ACS850 standard control program quick start-up guide (3AUA0000045498)*.



Parameter settings

Use the control panel or the DriveStudio PC tool to make the parameter settings.


1. Set the following parameters that are common to all motor drive combinations:

Parameter no.	Name	Value	Description
99.04	Motor type	SynRM	Synchronous reluctance motor.
99.05	Motor ctrl mode	DTC	Direct torque control.
99.07	Mot nom voltage	370 V	Nominal voltage of the motor.

2. Make the parameter settings according to your motor drive combination as described in the following table.
3. Perform the standard ID run for best performance (parameter 99.13 ID Run mode = Normal). See the appropriate drive firmware manual for more information.

Motor rating plate

The motor's main rating plate shows the motor's performance values at nominal speed.

3 ~ SYNCHRONOUS RELUCTANCE MOTOR							
M3BL 280SMC 4 IMB3/IM1001							
615745-1		2011		No. 3GF11099609			
				Ins.cl. F		IP 55	
V	Hz	kW	r/min	A	Eff.	Duty	
370 D	50	134	1500	279	95.6%	S1	
Prod. code 3GBL282233-ADB445701							
NETWORK VOLTAGE 400 V							
Nmax 1800 r/min							
6316/C3				6316/C3VL0241		697 kg	
 IEC 60034-1							

							Par 99.09	Par 99.08	Par 99.06	Par 99.12	Par 99.10	Drive type
							Speed	Frequency	Current	Torque	Power	
Output (kW)	Motor type			Product code			n_N (r/min)	f_N (Hz)	I_N (A)	T_N (N·m)	P (kW)	ACS850-04
3000 r/min												
33	M3BL	160	MLB	3GBL	162 001	-_SB	3000	100	76.7	105	33	-078A-5
40	M3BL	160	MLC	3GBL	162 002	-_SB	3000	100	92.5	127	40	-094A-5
45	M3BL	160	MLE	3GBL	162 003	-_SB	3000	100	103	143	45	-103A-5
62	M3BL	200	MLA	3GBL	202 001	-_SB	3000	100	144	197	62	-144A-5
72	M3BL	200	MLC	3GBL	202 002	-_SB	3000	100	166	229	72	-166A-5
97	M3BL	250	SMA	3GBL	252 001	-_SB	3000	100	224	309	97	-225A-5
112	M3BL	250	SMB	3GBL	252 007	-_SB	3000	100	259	357	112	-260A-5
125	M3BL	250	SMC	3GBL	252 002	-_SB	3000	100	288	398	125	-290A-5
2100 r/min												
25	M3BL	160	MLB	3GBL	162 007	-_SB	2100	70	58.8	114	25	-061A-5
31	M3BL	160	MLC	3GBL	162 008	-_SB	2100	70	72.4	141	31	-078A-5
39	M3BL	160	MLE	3GBL	162 009	-_SB	2100	70	90.4	177	39	-094A-5
44	M3BL	200	MLA	3GBL	202 005	-_SB	2100	70	102	200	44	-103A-5
62	M3BL	200	MLC	3GBL	202 006	-_SB	2100	70	143	282	62	-144A-5
88	M3BL	250	SMA	3GBL	252 005	-_SB	2100	70	201	400	88	-202A-5
98	M3BL	250	SMB	3GBL	252 008	-_SB	2100	70	224	446	98	-225A-5
115	M3BL	250	SMC	3GBL	252 006	-_SB	2100	70	258	523	115	-260A-5
124	M3BL	280	SMA	3GBL	282 215	-_DB	2100	70	259	564	124	-260A-5
134	M3BL	280	SMB	3GBL	282 225	-_DB	2100	70	279	609	134	-290A-5
160	M3BL	280	SMC	3GBL	282 235	-_DB	2100	70	329	728	160	-387A-5
1500 r/min												
17	M3BL	160	MLB	3GBL	162 004	-_SB	1500	50	42.6	108	17	-044A-5
20	M3BL	160	MLC	3GBL	162 005	-_SB	1500	50	49.2	127	20	-050A-5
25	M3BL	160	MLE	3GBL	162 006	-_SB	1500	50	58.5	159	25	-061A-5
33	M3BL	200	MLA	3GBL	202 003	-_SB	1500	50	76.9	210	33	-078A-5
40	M3BL	200	MLC	3GBL	202 004	-_SB	1500	50	92.9	255	40	-094A-5
71	M3BL	250	SMA	3GBL	252 003	-_SB	1500	50	166	452	71	-166A-5
86	M3BL	250	SMB	3GBL	252 009	-_SB	1500	50	200	547	86	-202A-5
97	M3BL	250	SMC	3GBL	252 004	-_SB	1500	50	225	618	97	-225A-5
103	M3BL	280	SMA	3GBL	282 213	-_DB	1500	50	221	656	103	-225A-5
118	M3BL	280	SMB	3GBL	282 223	-_DB	1500	50	246	758	118	-260A-5
134	M3BL	280	SMC	3GBL	282 233	-_DB	1500	50	279	853	134	-290A-5
155	M3BL	315	SMA	3GBL	312 213	-_DB	1500	50	321	987	155	-387A-5
180	M3BL	315	SMB	3GBL	312 223	-_DB	1500	50	374	1146	180	-387A-5
205	M3BL	315	SMC	3GBL	312 233	-_DB	1500	50	423	1305	205	-430A-5
250	M3BL	315	MLA	3GBL	312 413	-_DB	1500	50	516	1592	250	-521A-5
275	M3BL	315	MLB	3GBL	312 423	-_DB	1500	50	573	1751	275	-602A-5
315	M3BL	315	LKA	3GBL	312 813	-_DB	1500	50	659	2005	315	-693A-5
350	M3BL	315	LKC	3GBL	312 833	-_DB	1500	50	712	2228	350	-720A-5