

Subfractional Permanent Magnet DC Motor - TENV, Rigid Base



1/50 thru 1/4 Hp

Applications: General purpose including conveyors, material handling equipment and packaging machinery.

Features: High quality ball bearing motors with precision machined die cast aluminum or steel housings. Dynamically balanced for smooth, vibration-free operation.

Input Motor Hp	Output Base Speed	Voltage Direct Current Armature	Full Load Amperage Armature	Catalog Number	List Price	Mult. Sym.	Gear Style	Ap'x. Shpg. Wgt.	Notes (a)
1/50	1800	90	0.3	AP231001	256	DS	2308P	4	20,60
1/25	1725	90	0.5	AP232001	281	DS	2314P	5	20,60
1/15	1800	90	0.8	AP233001	302	DS	2318P	6	20,60
		180	0.4	AP233021	302	DS	2318P	6	20,60
1/8	1725	90	1.3	AP7401	422	DS	2424P	10	20,60
		180	0.7	AP7402	422	DS	2424P	10	20,60
1/4	3450	90	2.5	AP7421	422	DS	2424P	10	20,60
		180	1.3	AP7422	422	DS	2424P	11	20,60

NOTE: Supplied with type SJO, three foot 18/3 AWG grounded cord. (a) See notes on inside back flap.

SCR Drive Permanent Magnet Motor - TENV and TEFC, C-Face with Base



1/4 thru 5 Hp

NEMA 56C thru 1810ATC

Applications: Conveyors, mixers, packaging machinery.

Features: NEMA C-face with removable base. Tach adaptable. Class F insulation, double sealed ball bearings. 20:1 constant torque speed range. UL and CSA recognized. 1/4 - 1/2 Hp motors are TENV, all others are TEFC. No dual mounting base holes on 1/4 - 1/2 Hp.

Hp	Base Speed	NEMA Frame	Voltage D.C.	Full Load Amperage	Enclosure	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes (a)	Reliance M/N
			Arm.	Arm.							
1/4	1750	56C	90	2.5	TENV	CDP3310	612	K	24	20,60	T56S1001
			180	1.25	TENV	CDP3306	612	K	24	20,60	
1/3	1750	56C	90	3.2	TENV	CDP3320	646	K	27	20,60	T56S1003
			180	1.6	TENV	CDP3316	646	K	27	20,60	
1/2	1750	56C	90	4.8	TENV	CDP3330	723	K	32	20,60	T56S1005
			180	2.5	TENV	CDP3326	723	K	31	20,60	T56S1027
3/4	1750	56C	90	5	TENV	CDP3335	646	K	26	20,60	T56S1006
			90	7.6	TEFC	CDP3440	878	K	38	20	T56S1009
			180	3.7	TEFC	CDP3436	878	K	38	20	T56S1029
1	1750	56C	90	7.5	TEFC	CDP3443	776	K	36	20	
			90	10	TEFC	CDP3445	1,067	K	44	20	T56S1011
			180	5	TEFC	CDP3455	1,067	K	44	20	T56S1013
1 1/2	2500	56C	90	9.7	TEFC	CDP3450	878	K	38	20	
			180	4.85	TEFC	CDP3460	878	K	38	20	T56S1012
			1750	7.7	TEFC	CDP3575	1,967	L1	65	20	
2	2500	145TC	180	7	TEFC	CDP3580	1,711	L1	51	20	
			1750	9.6	TEFC	CDP3585	2,347	L1	74	20	
3	1750	145TC	180	10	TEFC	CDP3590	1,967	L1	64	8	
			182TC	14	TEFC	CDP3603	2,890	L1	112	20	
5	1750	182TC	180	14	TEFC	CDP3604	2,874	L1	115	20	
			1810ATC	21.6	TEFC	CDP3605	4,906	L1	160	20	

NOTE: See Tach Generators on page 323 and Mounting Kits on page 324. (a) See notes on inside back flap.

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes

Integral DC Tach Permanent Magnet SCR Drive Motor - TENV and TEFC, C-Face with Base

1/4 thru 5 Hp

NEMA 56C thru 1810ATC

Applications: Conveyors and metering pumps (precise speed regulation).

Features: Provides an integral 50 VDC per 1000 RPM precision tachometer for closed loop drive system. Class F insulation. 20:1 constant torque speed range with NEMA Type K control. 1/4 - 1/2 motors are TENV, all others are TEFC.



Hp	Base Speed	NEMA Frame	Voltage D.C.		Full Load Amperage	Enclosure	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes (a)
			Arm.	Arm.							
1/4	1750	56C	90	2.5	TENV	CDPT3310	1,749	K	27	20,60	
			180	1.25	TENV	CDPT3306	1,749	K	27	20,60	
1/3	1750	56C	90	3.2	TENV	CDPT3320	1,784	K	32	20,60	
			180	1.6	TENV	CDPT3316	1,784	K	30	20,60	
1/2	1750	56C	90	4.8	TENV	CDPT3330	1,896	K	35	20,60	
			180	2.5	TENV	CDPT3326	1,896	K	36	20,60	
3/4	1750	56C	90	7.6	TEFC	CDPT3440	2,006	K	44	20	
			180	3.7	TEFC	CDPT3436	2,006	K	45	20	
1	1750	56C	90	10	TEFC	CDPT3445	2,238	K	50	20	
			180	5	TEFC	CDPT3455	2,238	K	50	20	
1 1/2	1750	143TC	180	7.7	TEFC	CDPT3575	3,106	L1	69	20	
2	1750	143TC	180	9.6	TEFC	CDPT3585	3,485	L1	79	20	
3	1750	182ATC	180	14	TEFC	CDPT3603	4,054	L1	122	20	
5	1750	1810ATC	180	24.5	TEFC	CDPT3605	6,065	L1	161	20	

(a) See notes on inside back flap.

Explosion Proof Permanent Magnet SCR Drive Motor - TEFC, C-Face with Base

1/4 thru 1 1/2 Hp

NEMA 56C thru 145TC

Applications: Conveyors, feeders, and pumps (adjustable speed and constant torque for hazardous locations).

Features: NEMA C-Face with welded on base. 20:1 constant torque speed range. UL and CSA. Class I, Group D; Class II, Group F & G. T3C. Thermostat and explosion proof conduit box included. Not tach adaptable.



Hp	Base Speed	NEMA Frame	Voltage D.C.		Full Load Amperage	Catalog Number	XP (a) CIs/Grp	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes (a)
			Arm.	Arm.							
1/4	1750	56C	90	2.7	CDPX3410	Ⓢ	1,681	K	38	20,59	
			180	1.3	CDPX3406	Ⓢ	1,681	K	38	20,59	
1/3	1750	56C	90	3.6	CDPX3420	Ⓢ	2,112	K	42	20,59	
			180	1.7	CDPX3416	Ⓢ	2,112	K	44	20,59	
1/2	1750	56C	90	5.2	CDPX3430	Ⓢ	2,385	K	46	20,59	
			180	2.5	CDPX3426	Ⓢ	2,385	K	46	20,59	
3/4	1750	56C	90	7	CDPX3440	Ⓢ	2,948	K	51	20,59	
			180	3.5	CDPX3436	Ⓢ	2,948	K	51	20,59	
1	1750	56C	90	9.6	CDPX3545	Ⓢ	3,927	K	72	20,59	
			180	4.9	CDPX3555	Ⓢ	3,927	K	71	20,59	
1 1/2	1750	145TC	180	7.1	CDPX3575	Ⓢ	4,198	L1	81	20,59	

(a) See notes on inside back flap.

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Start & Dynamic Brakes

Washdown Duty Permanent Magnet SCR Drive Motor - TENV and TEFC, C-Face with Base



1/4 thru 5 Hp

NEMA 56C thru 1810ATC

Applications: Food processing conveyors and feeders exposed to high pressure wash down.

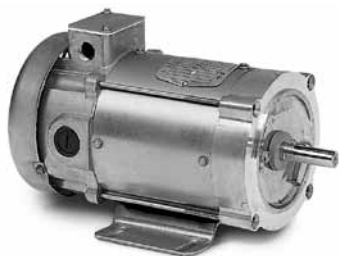
Features: Moisture sealant on bolt heads between frame and endplates, neoprene gasketed conduit box. Double sealed ball bearings. Forsheda® running contact v-ring slinger. Stainless steel shaft. Electrostatic epoxy paint coating. Class F insulation. 20:1 constant torque speed range. Tach adaptable. 3300P motors are TENV, all others are TEFC.

Hp	Base Speed	NEMA Frame	Voltage D.C.	Full Load Amperage	Enclosure	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes (a)
			Arm.	Arm.						
1/4	1750	56C	90	2.5	TENV	GDPWD3310	793	K	23	20,60
			180	1.25	TENV	CDPWD3306	793	K	24	20,60
1/3	1750	56C	90	3.2	TENV	CDPWD3320	837	K	27	20,60
			180	1.6	TENV	CDPWD3316	837	K	27	20,60
1/2	1750	56C	90	4.8	TENV	CDPWD3330	941	K	32	20,60
			180	2.5	TENV	CDPWD3326	941	K	32	20,60
3/4	1750	56C	90	7.6	TEFC	CDPWD3440	1,136	K	38	20
			180	3.7	TEFC	CDPWD3436	1,136	K	38	20
1	1750	56C	90	10	TEFC	CDPWD3445	1,386	K	44	20
			180	5	TEFC	CDPWD3455	1,386	K	44	20
1 1/2	1750	145TC	180	7.7	TEFC	CDPWD3575	2,652	L1	66	20
2	1750	145TC	180	9.6	TEFC	CDPWD3585	3,165	L1	73	20
3	1750	182TC	180	14	TEFC	CDPWD3603	4,051	L1	114	20
5	1750	1810ATC	180	24.5	TEFC	CDPWD3605	6,863	L1	157	20

NOTE: See Tach Generators on page 323. Mounting kits on page 324.

(a) See notes on inside back flap.

Paint Free Washdown Duty Permanent Magnet SCR Drive Motor, TEFC, C-Face with Base



1/4 thru 1 Hp

NEMA 56C

Applications: Food processing, packaging exposed to high pressure washdown with caustic solutions.

Features: Class F insulation; 20:1 constant torque speed range. Moisture resistant 200°C magnet wire. Sealed ball bearings with moisture resistant grease. Contact lip seals on shaft extensions. Neoprene gaskets. Special processed endplates. 300 series stainless steel motor frame, base, shaft and hardware. No exterior paint. Not tach adaptable.

Hp	Base Speed	NEMA Frame	Voltage D.C.	Full Load Amperage	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes (a)
			Arm.	Arm.					
1/4	1750	56C	90	2.7	CDPSWD3410	949	K	29	20
			180	1.3	CDPSWD3406	949	K	28	20
1/2	1750	56C	90	5.2	CDPSWD3430	1,125	K	37	20
			180	2.5	CDPSWD3426	1,125	K	38	20
1	1750	56C	90	9.6	CDPSWD3545	1,663	K	63	20
			180	4.9	CDPSWD3555	1,663	K	63	20

(a) See notes on inside back flap.

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes

Metric Flange Permanent Magnet SCR Drive Motor, TENV and TEFC, Flange and Face Mount

0.15 thru 5 kW
0.2 thru 3.7 Hp

IEC D63 thru D112D

Applications: Metric SCR Drive Motor replacement.

Features: Metric Flange or C-Face per IEC 60072-1 Standards. Bolt on non-metric base. Class F insulation. Tach adaptable except type 15kW. 20:1 constant torque speed range. Conforms to IEC 60034-1.



kW/HP	Base Speed	NEMA Frame	Voltage D.C.		Enclosure	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes (a)
			Arm.	Arm.						
B5 Flange										
.15/.20	1800	D63D	180	1.1	TENV	VP7424D	423	DS	11	60
.18/.25	1750	D71D	180	1.25	TENV	VP3311D	612	K	24	20,60
.25/.33	1750	D71D	180	1.6	TENV	VP3316D	646	K	28	20,60
.37/.5	1750	D71D	180	2.5	TENV	VP3326D	723	K	31	20,60
	3000	D71D	180	2.5	TEFC	VP3428D	749	K	32	20
.57/.75	1750	D80D	180	3.7	TEFC	VP3436D	878	K	41	20
	3000	D80D	180	3.6	TEFC	VP3439D	776	K	37	20
.75/1	1750	D80D	180	5	TEFC	VP3455D	1,067	K	46	20
	3000	D80D	180	5.1	TEFC	VP3458D	878	K	41	20
1.1/1.5	3000	D90D	180	7.7	TEFC	VP3468D	978	L1	47	20
	1750	D90D	180	7.7	TEFC	VP3575D	1,978	L1	68	20
1.5/2	1750	D90D	180	9.6	TEFC	VP3585D	2,360	L1	77	20
	3000	D90D	180	10	TEFC	VP3588D	1,978	L1	69	20
2.2/3	1750	D112D	180	14	TEFC	VP3603D	2,904	L1	124	20
3.7/5	1750	D112D	180	24.5	TEFC	VP3605D	4,931	L1	165	20
B14 Face										
.15/.20	1800	D63D	180	1.1	TENV	VP7424-14	423	DS	5	60
.18/.25	1750	D71C	180	1.4	TEFC	VP3411-14	688	K	30	20
.25/.33	1750	D71C	180	1.7	TEFC	VP3416-14	733	K	31	20
1.37/.50	3000	D71C	180	2.5	TEFC	VP3428-14	749	K	31	20
	1750	D71C	180	2.5	TEFC	VP3426-14	776	K	37	20
.56/.75	3000	D80C	180	3.6	TEFC	VP3439-14	776	K	35	20
	1750	D80C	180	3.7	TEFC	VP3436-14	878	K	39	20
.75/1	3000	D80C	180	5.1	TEFC	VP3458-14	878	K	38	20
	1750	D80C	180	5	TEFC	VP3455-14	1,067	K	44	20
1.1/1.5	3000	D80C	180	7.7	TEFC	VP3468-14	978	L1	43	20
	1750	D90C	180	7.7	TEFC	VP3575-14	1,978	L1	71	20
1.5/2	3000	D90C	180	10.0	TEFC	VP3588-14	1,978	L1	70	20
	1750	D90C	180	9.6	TEFC	VP3585-14	2,360	L1	80	20

NOTE: Above motors D71 and larger with B5 flange, fitted with oil seal. Catalog numbers VP7424D and VP7424-14 are not tach adaptable. Tach Generators are shown on page 323. Tach Mounting Kits are shown on page 324.

(a) See notes on inside back flap.

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Start & Dynamic Brakes

Low Voltage Permanent Magnet Motor - TENV and TEFC

1/4 thru 1 Hp

NEMA 56C



Applications: Battery operation for portable pumps, fans, augers, winches and lifts.

Features: NEMA C-face, Class F insulation, double sealed ball bearings. Top-mounted terminal studs for power connection on ratings 40-amps and up. Not tach adaptable. 1/4 - 1/2 Hp are TENV, 3/4 - 1 Hp are TEFC.

Hp	Base Speed	NEMA Frame	Voltage D.C.	Full Load Amperage	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes (a)
1/4	1800	56C	12	22.5	CDP3410-V12	658	K	30	20,60
			24	10.6	CDP3410-V24	624	K	29	20,60
1/3	1800	56C	12	28.6	CDP3420-V12	723	K	30	20,60
			24	13.6	CDP3420-V24	689	K	30	20,60
1/2	1800	56C	12	40	CDP3430-V12	749	K	33	20,60
			24	19.6	CDP3430-V24	714	K	34	20,60
3/4	1800	56C	12	66	CDP3440-V12	1,075	K	42	20
		56CZ	24	29.4	CDP3440-V24	745	K	35	20
1	1800	56C	12	85.6	CDP3445-V12	1,556	K	45	20
			24	34.2	CDP3445-V24	1,549	K	44	20

(a) See notes on inside back flap.

DC Power Motor - TEFC, Rigid Base

1/3 thru 1 1/2 Hp

NEMA 56 thru 184



Applications: Cranes, hoists, conveyors, augers and marine duty DC applications. Powered from generators or batteries.

Features: 20% Compound Wound. Weather proof, meets IEEE 45 specifications. Suitable for mounting in any position. Continuous duty. Easy access brushes. Not tach adaptable.

Hp	Speed	NEMA Frame	Rated Current	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes (a)
115 VDC								
1/3	1750	56	3.2	D1151	1,197	K	23	20
1/2	1750	56	4.8	D1152	1,280	K	29	20
3/4	1750	56	6.6	D1153	1,503	K	34	20
1	1750	56	8	D1154	1,768	K	62	20
230 VDC								
1/3	1750	56	1.7	D2301	1,197	K	30	20
1/2	1750	56	2.1	D2302	1,283	K	29	20
3/4	1750	56	3.3	D2303	1,503	K	33	20
1	1750	56	4	D2304	1,768	K	61	20
1 1/2	1750	184	6.1	D2305	3,104	L1	82	20

NOTE: Not for SCR control applications. Base welded on 3513D type only. Not tach adaptable.

(a) See notes on inside back flap.

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes

Shunt Wound SCR Drive Motors, TEFC & Explosion Proof C-Face with Base

1/4 thru 3 Hp

NEMA 56C thru 215C

Applications: Conveyors, printing, textile equipment, machine tools (adjustable speeds with constant torque).

Features: TEFC enclosure, shunt wound, Class F insulation. Designed for use with NEMA TYPE K SCR control, 20:1 constant torque speed range (except where noted). NEMA C-face and removable base (1) (except on explosion proof models). NEMA 182 and larger have a thermostat (normally closed contracts) on the field winding.



Hp	Base Speed	NEMA Frame	Voltage D.C.		Full Load Amperage		Catalog Number	XP (e) Cls/Grp	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes (e)
			Arm.	Field	Arm.	Field (c)						
1/4	1750	56C	90	100/50	3	.3/6	CD3425		616	K	23	20
1/3	1750	56C	90	100/50	3.4	.4/8	CD3433		673	K	24	20
			180	200/100	1.9	.21/.42	CD3434		673	K	24	20
			90	100/50	3.7	.5/1	CD5333 (a)(d)		970	K	32	20
1/2	1750	56C	90	100/50	5.7	.5/1	CD3450		765	K	29	20
			180	200/100	2.6	.25/.5	CD3451		765	K	29	20
			90	100/50	5	.44/.88	CD5350 (d)		1,072	K	38	20
3/4	1750	56C	90	100/50	7.8	.6/1.2	CD3475		952	K	34	20
			180	200/100	3.9	.3/6	CD3476		952	K	34	20
			90	100/50	8	.6/1.2	CD5375 (d)		1,262	K	47	20
1	1750	56C	180	200/100	5	.3/6	CD5318 (d)		1,344	K	53	20
			90	100/50	10	.6/1.2	CD5319 (d)		1,344	K	52	20
		182C	180	200/100	5	.25/.5	CD6218		1,796	L1	65	20
			90	100/50	9.6	.55/1.1	CD6219		1,796	L1	64	20
1 1/2	1750	182C	180	200/100	7.5	.25/.5	CD6215		2,011	L1	82	20
2	1750	182C	180	200/100	9.5	.4/8	CD6202		2,379	L1	96	20
		213C	180	200/100	9.5	.4/8	CD7502		4,174	L1	105	20
3	1750	184TC	180	200/100	14.7	.6/1.2	CD6203		2,701	L1	135	8, 73
		215C	180	200/100	14.7	.6/1.2	CD7503		4,439	L1	140	20
Explosion-Proof - Continuous Duty - Class I, Group D & Class II, Group F & G - 1.0 S.F.												
1/2	1750	182CZ	90	100/50	4.9	.55/1.1	CDX1850 (b)	Ⓢ	2,440	L1	103	2
3/4	1750	182CZ	90	100/50	7	.55/1.1	CDX1875 (b)	Ⓢ	3,232	L1	102	2
1	1750	182CZ	180	200/100	5	.25/.5	CDX2001 (b)	Ⓢ	4,021	L1	105	2
		182C	180	200/100	5	.25/.5	CDX7100	Ⓢ	3,337	L1	103	2
1 1/2	1750	182C	180	200/100	7.5	.25/.5	CDX7150	Ⓢ	4,419	L1	118	2
2	1750	182C	180	200/100	9.5	.4/8	CDX7200 (b)	Ⓢ	4,963	L1	137	2

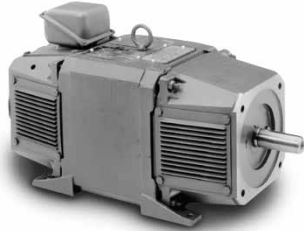
NOTE: See Tach Generators on page 323 and Mounting Kits on page 324. Tach Mounting Kits are not available for explosion-proof motors.

- (a) Base welded on type 3513D only.
- (b) Refers to shaft and/or face mounting dimensions only. Base mounting dimensions and shaft height differ from NEMA frames shown. Go to www.baldor.com for details.
- (c) Field amps for high voltage connection.
- (d) No dual mounting base holes on 35D, 75D or 91D type.
- (e) See notes on inside back flap.

Explosion-proof ratings UL and CSA, Class I, Group D & Class II, Group F & G, will not exceed surface temperature of 165°C, equivalent to Code T3B.

* F2 Mount

RPM III DC Shunt Wound SCR Drive Motors, 180V Armature Power Code K



1.5 thru 5 Hp

NEMA 189ATY thru 2112ATCZ

Applications: Metals, paper, web processes, extruders, cranes, conveyors, packaging, printing, machine tools.

Features: Unique laminated square frame for improved commutation on rectified power supplies. The square configuration allows for increased rating per frame size. Class F rated insulation system. Service Line brushes with convenient wear indicating reference lines. PLS™ (Positive Lubrication System) for longer bearing and motor life. F-3 mounting. Tach adaptable with thermostat.

Hp	Base Speed	NEMA Frame	Voltage D.C.		Full Load Amperage		Enclosure	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Reliance M/N	Field Type	XPY Tach Kit
			Arm.	Field	Arm.	Field (a)(b)								
1.5	1750	DC189ATY (c)	180	100/200	7.2	0.721	TENV	D1815R	5,275	N2	169	T18R1119	STR	413336-1R
2	1750	DC189ATY (c)	180	100/200	9.5	0.72	TENV	D1802R	5,275	N2	166	T18R1117	STR	413336-1R
3	1750	DC1811ATCZ (d)	180	100/200	14.1	1.21	TENV	CD1803R	8,651	N2	218	T18R1102	STR	413336-1R
		DC189ATY (c)(e)	180	100/200	14.8	0.946	DPG	D1803R	5,275	N2	130	T18R1118	STR	413336-1R
		DC189ATCZ (d)(e)	180	100/200	14.8	0.946	DPG	CDD1803R	5,275	N2	160	T18R1120	STR	413336-1R
5	1750	DC1810ATCZ (d)(e)	180	100/200	24	1.67	DPG	CD1805R	6,345	N2	175	T18R1105	STR	413336-1R
		DC2112ATCZ (d)	180	100/200	23	1.3	TENV	CD2105R	12,693	N2	400	T21S1101	STR	413336-1R

NOTE: Encoder and tachometer kits on page 317.

(a) Field amps at 25°C

(b) Field amps for high voltage connection

(c) 140TC C-face

(d) 180TC C-face

(e) Top mounted conduit box, if blower added, blower must be mounted F-1 or F-2.

RPM III DC Shunt Wound SCR Drive Motors, 240V Armature 240V Field, Power Code C



3 thru 10 Hp

NEMA 1811ATCZ thru 2113ATCZ

Applications: Textile range drives, roofing machines, tube mills, and similar applications.

Features: Range drive motors have matched IR drops within approximately 5 volts and good regulation characteristics out to the maximum field weakened speed of 2300 rpm. Capable of operation at 25% base speed with 67% armature current and motor field pre-weakened to 2100 rpm. Specially designed for use on multi-motor drives operating on a common voltage power supply such as textile range drives, roofing machines, tube mills, etc. F-1 mounting. Tach adaptable with thermostat.

Hp	Base Speed	NEMA Frame	Voltage D.C.		Full Load Amperage		Enclosure	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Reliance M/N	Field Type	XPY Tach Kit
			Arm.	Field	Arm.	Field (a)								
3	1750/2300	C1811ATCZ (b)	240	240	11	0.994	SPG	CD2003R-2	9,665	N2	180	T18R1009	STAB	413336-1R
5	1750/2300	C1811ATCZ (b)	240	240	18.1	1.11	SPG	CD2005R-2	9,665	N2	180	T18R1010	STAB	413336-1R
7.5	1750/2300	C1812ATCZ (b)	240	240	27	1.4	SPG	CD2007R-2	10,517	N2	215	T18R1011	STAB	413336-1R
10	1750/2300	SC2113ATCZ (c)	240	240	37	2.18	SPG	D2010R-2	14,551	N2	360	T21S1001	STAB	417708-21

NOTE: Encoder and tachometer kits on page 317.

(a) Field amps at 25°C

(b) 180TC C-face

(c) 210TC C-face

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes

RPM III DC Shunt Wound SCR Drive TEFC Motors, 240V & 500V Armature, Power Code C

5 thru 50 Hp

NEMA 1812ATZ thru 3212ATZ

Applications: Metals, paper, web processes, extruders, cranes, conveyors, packaging, printing, machine tools.

Features: Unique laminated square frame for improved commutation on rectified power supplies. The square configuration allows for increased rating per frame size. Class F rated insulation system. Service Line brushes with convenient wear indicating reference lines. PLS™ (Positive Lubrication System) for longer bearing and motor life. F-1 mounting unless otherwise specified. Tach adaptable with thermostat.



Hp	Base/Max Speed	NEMA Frame	Voltage D.C.		Full Load Amperage		Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes	Reliance M/N	Field Type	XPY Tach Kit
			Arm.	Field	Arm.	Field (a)(b)								
5	1750/2300	C1812ATZ	240	150	18.5	1.79	D2505R	11,424	N2	235	87	T18R1005 (d)	STAB	417709-17
		SC2113ATZ	500	150/300	9	1.05	D5505R	13,372	N2	345	87	T21S201 (c)	STAB	417708.21
7.5	1750/2300	SC2113ATZ	240	150	27	3.26	D2507R	14,898	N2	380	87	T21S301	STAB	417709-65
		MC2113ATZ	500	150/300	13.5	1.41	D5507R	14,898	N2	375	87	T21S302 (d)	STAB	417709-65
10	1750/2300	MC2113ATZ	240	150	35.5	3.13	D2510R	16,436	N2	380	87	T21S303	STAB	417709-65
		MC2113ATZ	500	150/300	17.5	1.55	D5510R	16,436	N2	290	87	T21S304	STAB	417709-65
15	1750/2300	SC2512ATZ	240	150	53.5	2.17	D2515R	24,640	N2	555	6.87	T25S301	STAB	417709-66
		SC2512ATZ	500	150/300	25.6	1.71	D5515R	24,640	N2	555	87	T25S302	STAB	417709-66
20	1750/2300	LC2512ATZ	240	150	71	4.14	D2520R	26,606	N2	630	87	T25S303	STAB	417709-66
		LC2512ATZ	500	150/300	33	2.05	D5520R	26,606	N2	630	87	T25S304	STAB	417709-66
25	1750/2300	MC2812ATZ	240	150	87	4.05	D2525R	37,753	N2	825	87	T28S301	STAB	417709-67
		MC2812ATZ	500	150/300	41	2.23	D5525R	37,753	N2	825	86,87	T28S302	STAB	417709-67
30	1750/2300	LC2812ATZ	500	150/300	50	1.75	D5530R	41,979	N2	900	87	T28S303	STAB	417709-67
40	1750/2300	MC3212ATZ	500	150/300	65	1.82	D5540R	57,160	N2	1150	87	T32S301	STAB	417709-68
50	1750/2300	LC3212ATZ	500	150/300	84	1.97	D5550R	60,424	N2	1325	87	T32S302	STAB	417709-68

NOTE: Encoder and tachometer kits on page 317.

- (a) Field amps at 25°C
- (b) Field amps for high voltage connection
- (c) TENV enclosure
- (d) Power Code D

RPM III Wound Field SCR 10 thru 500 Hp

NEMA 2113ATZ thru 4414ATZ

**Drive DPG-FV Motors,
240V & 500V Armature,
Power Code C**

Applications: Metals, printing, extruders, cranes, conveyors, machine tools

Features: Laminated square frame for improved commutation. Tach adaptable with thermostat. F1 mount unless otherwise specified.

Hp	Base/Max Speed	NEMA Frame	Voltage D.C.		Full Load Amperage		Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes	Reliance M/N	Field Type	XPY Tach Kit
			Arm.	Field	Arm.	Field (a)								
10	1750/2300	SC2113ATZ	500	300	18	1.11	D5010RS-BV	16,710	N2	415 (c)	101,102	T21T1342	STAB	417708-21
15	1750/2300	SC2113ATZ	240	150	56	4.73	D2015R-BV	14,459	N2	385 (d)	103	T21T1359	STR	417708-21
		SC2113ATCZ	240	150	56	4.73	CD2015R-BV	14,980	N2	385 (b)	103	T21T1384	STR	417708-21
		SC2113ATZ	500	300	27	2.22	D5015R-BV	14,459	N2	345	103	T21T1364	STR	417708-21
		SC2113ATZ	500	300	27	3.03	D5015RS-BV	16,710	N2	345 (c)	101,102	T21T1346	STAB	417708-21
20	1750/2300	SC2113ATZ	240	150	76.5	7.12	D2020R-BV	14,459	N2	400 (d)	103	T21T1363	STR	417708-21
		SC2113ATZ	500	300	37	3.03	D5020R-BV	14,459	N2	3105	103	T21T1350	STR	417708-21
		MC2113ATZ	500	300	37	2.23	D5020RS-BV	18,248	N2	440 (c)	101,102	T21T1344	STAB	417708-21
25	1750/2300	MC2113ATZ	240	150	96	8.43	D2025R-BV	15,997	N2	425 (d)	103	T21T1371	STR	417708-21
		MC2113ATZ	500	300	46	3.33	D5025R-BV	15,997	N2	370	6,104	T21T1351	STR	417708-21
		LC2113ATZ	500	300	43	3.08	D5025RS-BV	19,635	N2	470 (c)	101,102	T21T1345	STAB	417708-21
30	1750/2300	LC2113ATZ	240	150	109	10	D2030R-BV	17,384	N2	400	103	T21T1375	STR	417708-21
		LC2113ATZ	500	300	52	3.3	D5030R-BV	17,384	N2	450	103	T21T1352	STR	417708-21
	1750/2300	SC2512ATZ	500	300	51	2.84	D5030RS-BV	26,732	N2	565 (c)	101,102	T25T1342	STAB	417708-21
40	1150/1800	LC2115ATZ	500	300	54	3.104	D5130R-BV	23,220	N2	550	104	T21T1378	STR	417708-21
	1750/2300	LC2115ATZ	240	150	146	5.63	D2040R-BV	23,220	N2	480	6,103	T21T1380	STR	417708-21
		MC2115ATZ	500	300	69	4.48	D5040R-BV	20,683	N2	425	103	T21T2353	STR	417708-21
	1150/2000	MC2512ATZ	500	300	68.5	2.88	D5040RS-BV	27,718	N2	570 (c)	6,101,102	T25T1344	STAB	417708-21
50	1750/2100	LC2512ATZ	500	300	72	5.27	D5140R-BV	26,167	N2	650	104	T25T1355	STR	417708-21
		LC2115ATZ	500	300	87	3.104	D5050R-BV	23,220	N2	530	103	T21T2354	STR	417708-21
	1150/1900	C2512ATZ	500	300	84	3.38	D5050RS-BV	28,698	N2	610 (c)	6,101,102	T25T1339	STAB	417708-21
60	1750/2100	C2514ATZ	500	300	87	4.06	D5150R-BV	30,248	N2	735	6,104	T25T1359	STR	417708-21
		LC2512ATZ	500	300	102	4.6	D5060R-BV	26,167	N2	650	103	T25T2348	STR	417708-21
	1150/1900	MC2812ATZ	500	300	100	3.43	D5060RS-BV	39,845	N2	810 (c)	6,101,102	T28T1330	STAB	417708-26
75	1750/2100	C2515ATZ	500	300	102	5.17	D5160R-BV	34,1030	N2	870	6,103	T25T1364	STR	417708-21
		C2514ATZ	500	300	124	6.21	D5075R-BV	30,248	N2	6105	103	T25T2349	STR	417708-21
	1150/2000	LC2812ATZ	500	300	124	3.62	D5075RS-BV	44,071	N2	1030 (c)	6,101,102	T28T1327	STAB	417708-26
100	1750/2100	C2815ATZ	500	300	125	4.14	D5175R-BV	49,710	N2	1190	6,103	T28T1342	STR	417708-26
		C2515ATZ	500	300	167	6.7	D50100R-BV	34,1030	N2	870	103	T25T2350	STR	417708-21
	1150/1850	MC3212ATZ	500	300	162	3.33	D50100RS-BV	59,314	N2	1210 (c)	6,101,102	T32T1314	STAB	417708-26
		C2815ATZ	500	300	168	4.14	D51100R-BV	49,710	N2	1240	6,104	T28T1344	STR	417708-26
125	1750/2000	C2813ATZ	500	300	204	6.103	D50125R-BV	43,557	N2	1040	6,103	T28T1333	STR	417708-26
		UC2813ATZ	500	300	204	6.103	D50125UR-BV	44,635	N2	1045	5,6,103	T28T1349	STR	417708-26
	1150/2000	LC3212ATZ	500	300	203	4.4	D50125RS-BV	62,683	N2	1290 (c)	6,101,102	T32T1318	STAB	417708-26
		UC3214ATZ	500	300	204	8.36	D51125RR-BV	64,222	N2	1475	5,6,103	T32T1327	STR	417708-26
150	1750/2000	C2815ATZ	500	300	245	9.45	D50150R-BV	49,710	N2	1125	6,103	T28T1334	STR	417708-26
		UC2815ATZ	500	300	245	9.45	D50150UR-BV	50,787	N2	1255	5,6,103	T28T1350	STR	417708-26
	1750/2100	MC3612ATZ	500	300	240	4.8	D50150RS-BV	77,708	N2	1685 (c)	6,105	T36S1313	STAB	417708-26
200	1750/2100	ULC3612ATZ	500	300	249	7.29	D51150RR-BV	78,571	N2	1860	5,6,104	T36S1323	STR	417708-26
		UC3214ATZ	500	300	322	8.36	D50200RR-BV	64,222	N2	1585	5,6,103	T32T1322	STR	417708-26
	1150/2000	LC3612ATZ	500	300	321	5.41	D50200RS-BV	80,016	N2	1850 (c)	6,105	T36S1314	STAB	417708-26
250	1750/2100	C3613ATZ	500	300	323	10.7	D51200R-BV	102,1034	N2	2010	6,104	T36S1325	STR	417708-26
		ULC3612ATZ	500	300	405	8.87	D50250RR-BV	78,571	N2	1890	5,6,104	T36S1318	STR	417708-26
	1150/2000	C4011ATZ	500	300	400	6.63	D50250RS-BV	108,706	N2	2500 (c)	6,105	T40S1306	STAB	417708-26
300	1750/2000	MC4013ATZ	500	300	406	10.7	D51250R-BV	127,043	N2	2800	6,104	T40S1317	STR	417708-26
		LC3613ATZ	500	300	478	12.5	D50300R-BV	99,404	N2	2010	6,104	T36S1319	STR	417708-26
	1150/2000	MC4013ATZ	500	300	478	6.5	D50300RS-BV	131,390	N2	2800 (c)	6,105	T40S1309	STAB	417708-26
400	1750/2000	LC4013ATZ	500	300	485	13.2	D51300R-BV	142,529	N2	3100	6,104	T40S1320	STR	417708-26
		MC4013ATZ	500	300	643	11.9	D50400R-BV	127,043	N2	2800	6,104	T40S1314	STR	417708-26
	1150/1600	LC4013ATZ	500	300	635	7.97	D50400RS-BV	146,876	N2	3100 (c)	6,105	T40S1311	STAB	417708-26
500	1750/2050	C4413ATZ	500	300	644	13	D51400R-BV	176,1103	N2	3830	6,101,104	T44T1304	STR	417708-156
		C4412ATZ	500	300	797	10.8	D50500R-BV	171,511	N2	3480	6,101,104	T44T1305	STR	417708-156
1150/1450	C4414ATZ	500	300	805	12.3	D51500R-BV	180,069	N2	4560	6,101,104	T44T1306	STR	417708-156	

NOTE: Encoder and tachometer kits on page 317.

(a) Field amps at 25°C
(b) 210TC C-Face

(c) Extruder duty enclosed commutator design
(d) Power Code D

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes

RPM III Wound Field SCR Drive DPG Motors, 240V & 500V Armature Power Code C

3 thru 60 Hp

NEMA 189ATCZ thru 2812ATZ

Applications: Metals, paper, web processes, extruders, cranes, conveyors, packaging, printing, machine tools.

Features: Unique laminated square frame for improved commutation on rectified power supplies. The square configuration allows for increased rating per frame size. High limit thermostat. Provision for adding adapter mounted feedback device. Class F rated insulation system. Service Line brushes with convenient wear indicating reference lines. PLS™ (Positive Lubrication System) for longer bearing and motor life. F-1 mounting unless otherwise specified.



Hp	Base/Max Speed	NEMA Frame	Voltage D.C.		Full Load Amperage		Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Notes	Reliance M/N	Field Type	XPY Tach Kit
			Arm.	Field	Arm.	Field(a)(b)								
3	1750/2300	DC189ATCZ (c)(e)	240	150	11	1.52	D2003R	5,616	N2	130	80,83	T18R1127	STAB	413336-1R
		C1811ATZ	500	300	5.2	0.741	D5003R	8,704	N2	197	80	T18R1333 (d)	STR	413336-1R
5	1750/2300	C1811ATZ	240	150	19.2	1.77	D2005R	9,046	N2	194	80,83	T18R1318 (d)	STAB	413336-1R
		C1811ATZ	500	300	9	1	D5005R	8,704	N2	175	80	T18R1334 (d)	STR	413336-1R
7.5	1750/2300	C1811ATZ	240	150	28	1.95	D2007R	9,046	N2	197	80,83	T18R1301 (d)	STAB	413336-1R
		C1811ATZ	500	300	13.5	1.29	D5007R	8,704	N2	210	80	T18R1335 (d)	STR	413336-1R
10	1750/2300	C1812ATZ	240	150	37	2.12	D2010R	9,899	N2	225	80,84	T18R1302 (d)	STAB	413336-1R
		C1812ATZ	500	300	17.4	1.08	D5010R	9,899	N2	235	80,85	T18R1307 (d)	STAB	413336-1R
15	1750/2300	SC2113ATZ	240	150	56	4.12	D2015R	13,372	N2	315	87	T21S1330	STAB	417708-21
		SC2113ATZ	500	150/300	27	1.76	D5015R	13,372	N2	315	87	T21S1322	STAB	417708-21
20	1750/2300	LC2113ATZ	240	150	74	4.24	D2020R	16,297	N2	370	87	T21S1331	STAB	417708-21
		MC2113ATZ	500	150/300	35	1.98	D5020R	14,911	N2	375	87	T21S1323	STAB	417708-21
25	1750/2300	LC2113ATZ	240	150	91.5	5.82	D2025R	16,297	N2	410	87	T21S1332	STAB	417708-21
		LC2113ATZ	500	150/300	43	2.61	D5025R	16,297	N2	415	87	T21S1324	STAB	417708-21
30	1750/2300	SC2512ATZ	240	150	111	3.45	D2030R	23,114	N2	505	87	T25S1330	STAB	417708-21
		SC2512ATZ	500	150/300	52	1.71	D5030R	23,114	N2	505	87	T25S1322	STAB	417708-21
40	1750/2100	LC2512ATZ	500	150/300	68	2.4	D5040R	25,080	N2	580	6,87	T25S1323	STAB	417708-21
50	1750/2100	MC2812ATZ	500	150/300	85	2.01	D5050R	35,888	N2	775	6,87	T28S1313	STAB	417708-26
60	1750/2100	LC2812ATZ	500	300	100	2.77	D5060R	40,114	N2	850	6,87	T28S1314	STAB	417708-26

NOTE: Encoder and tachometer kits on page 317.

- (a) Field amps at 25°C
- (b) Field amps for high voltage connection
- (c) 180 TC C-face
- (e) Top mounted conduit box, if blower added, blower must be mounted F-1 or F-2
- (d) Power Code D

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Start & Dynamic Brakes

RPM III DC Motor Encoder and Tachometer Kits

Applications: Encoder and Tachometer Kits for Field Installation
Features: Kits include the encoder or tachometer and all mounting hardware required for installation on RPM III DC Motors.

Device Type	Output	Catalog Number	Frames	Enclosure	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.
RD120-1	1 x 120 ppr	417708-30	DC180, C180, DC2112	DPG, DPV, TENV	3,072	E8	5
		417708-32	C210-C250	DPG, DPV, TENV	3,072	E8	5
		417708-33	C280-C400	DPG, DPV, TENV	3,072	E8	5
		417708-153	C440	DPG, DPV, TENV	3,072	E8	5
RD120-2	2 x 120 ppr	417708-34	DC180, C180, DC2112	DPG, DPV, TENV	3,655	E8	5
		417708-36	C210-C250	DPG, DPV, TENV	3,655	E8	5
		417708-37	C280-C400	DPG, DPV, TENV	3,655	E8	5
		417708-154	C440	DPG, DPV, TENV	3,655	E8	5
H20	1024 ppr	417708-133	DC180, C180, DC2112	DPG, DPV, TENV	3,919	E8	5
		417708-134	C210-C250	DPG, DPV, TENV	3,919	E8	5
		417708-135	C280-C400	DPG, DPV, TENV	3,919	E8	5
		417708-151	C440	DPG, DPV, TENV	3,919	E8	5
RL67	1024z ppr	417708-126	DC180, C180, DC2112	DPG, DPV, TENV	4,979	E8	4
		417708-136	C210-C250	DPG, DPV, TENV	4,979	E8	6
		417708-137	C280-C400	DPG, DPV, TENV	4,979	E8	6
		417708-138	C440	DPG, DPV, TENV	4,979	E8	4
RE045	45 VAC/ 1000 RPM	413327-W	DC180, C180, DC2112	DPG, DPV, TENV	4,067	N5	8
		417708-20	C210-C250	DPG, DPV, TENV	4,067	N5	11
		417708-25	C280-C400	DPG, DPV, TENV	4,067	N5	11
		417708-152	C440	DPG, DPV, TENV	4,067	N5	13

Encoder and Tachometer Mounting Kits (less tach)

Applications: Encoder and Tachometer mounting kits for field installation
Features: Kits include all mounting hardware required for installation on RPM III DC motors. Feedback device not included.

Device Type	Catalog Number	Frames	Enclosure	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.
XC42, XC46, BC42, BC46, H56, 800123-R & -S	413336-2R	DC180, C180, DC2112	DPG, DPV, TENV	1,475	A8	9
	417708-22	C210-C250	DPG, DPV, TENV	1,475	A8	9
	417708-27	C280-C400	DPG, DPV, TENV	1,475	A8	9
	417708-155	C440	DPG, DPV, TENV	1,475	A8	9
	417709-21	C180	TEFC	3,708	A8	19
	417709-58	C210	TEFC	3,708	A8	20
	417709-59	C250	TEFC	3,708	A8	23
	417709-60	C280	TEFC	3,708	A8	23
	417709-61	C320	TEFC	3,708	A8	29
XPY, XPYII, 5PY, RPY444	413336-1R	DC180, C180, DC2112	DPG, DPV, TENV	1,475	A8	7
	417708-21	C210-C250	DPG, DPV, TENV	1,475	A8	7
	417708-26	C280-C400	DPG, DPV, TENV	1,475	A8	7
	417708-156	C440	DPG, DPV, TENV	1,475	A8	8
	417709-17	C180	TEFC	3,708	A8	6
	417709-65	C210	TEFC	3,708	A8	6
	417709-66	C250	TEFC	3,708	A8	9
	417709-67	C280	TEFC	3,708	A8	15
	417709-68	C320	TEFC	3,708	A8	18
RL67	417708-40	DC180, C180, DC2112	DPG, DPV, TENV	953	A8	1
	417708-41	C210 - C250	DPG, DPV, TENV	953	A8	2
	417708-42	C280 - C400	DPG, DPV, TENV	953	A8	1
	417708-157	C440	DPG, DPV, TENV	953	A8	1

Farm Duty
Motors

Definite Purpose
Motors

Unit Handling
Motors

Brake Motors

200 & 575 Volt
Motors

IEC Frame
Motors

50 Hertz
Motors

Inverter/Vector
Motors & Controls

DC Motors
and Controls

Soft Starters &
Dynamic Brakes

Blower Kits for use with RPM III DC Motors Suitable for operation on 230/460V or 240/480V, 3-Phase, 50/60 Hz

Motor Frame	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt. (lb)	Description
C180ATZ, DC180ATZ	417077-51	1,302	A8	44	Blower Kit Without Filter
C210ATZ	419947-29	1,302	A8	52	Blower Kit Without Filter
C250ATZ	419947-30	1,302	A8	39	Blower Kit Without Filter
C280ATZ	419947-32	1,592	A8	55	Blower Kit Without Filter
C320ATZ	419947-34	1,854	A8	81	Blower Kit Without Filter
C3612ATZ	417077-74	1,854	A8	55	Blower Kit Without Filter
C3613ATZ	417077-127	1,854	A8	75	Blower Kit Without Filter
C400ATZ	417077-75	2,030	A8	85	Blower Kit Without Filter
C440ATZ	417077-126	4,139	A8	225	Blower Kit Without Filter

Filter Kits for use with DPG-FV, RPM III DC motors

Motor Frame	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt. (lb)	Description
C180ATZ, DC180ATZ	417077-57	795	A8	2	Washable Wire Mesh Canister Type
C2113ATZ	417077-58	795	A8	4	Washable Wire Mesh Canister Type
C2115ATZ	417077-59	795	A8	4	Washable Wire Mesh Canister Type
C2512ATZ	417077-58	795	A8	4	Washable Wire Mesh Canister Type
C2514ATZ	417077-59	795	A8	4	Washable Wire Mesh Canister Type
C2515ATZ	417077-59	795	A8	4	Washable Wire Mesh Canister Type
C2812ATZ	417077-59	795	A8	4	Washable Wire Mesh Canister Type
C2813ATZ	417077-59	795	A8	4	Washable Wire Mesh Canister Type
C2815ATZ	417077-59	795	A8	4	Washable Wire Mesh Canister Type
C3210ATZ	417077-59	795	A8	4	Washable Wire Mesh Canister Type
C3212ATZ	417077-59	795	A8	4	Washable Wire Mesh Canister Type
C3214ATZ	417077-59	795	A8	4	Washable Wire Mesh Canister Type
C3612ATZ	417077-65	1,017	A8	7	Washable Wire Mesh Canister Type
C3613ATZ	417077-102	1,434	A8	6	Washable Wire Mesh Canister Type
C400ATZ	417077-102	1,434	A8	6	Washable Wire Mesh Canister Type
C440ATZ	417077-124	1,653	A8	18	Square Replaceable Polyester Type

Sliding Bases for RPM III DC motors

Applications: Used for adjusting belt tension on belted applications. Not suitable for wall or ceiling mounting.

Motor Frame	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Description	Dimension Sheet
DC1810ATZ	42384-26D	278	A8	14	Standard Duty	609987-501
DC1811ATZ	42384-26BE	278	A8	17	Heavy Duty	609987-501
C1811ATZ	42384-26BE	278	A8	17	Heavy Duty	609987-1
C1812ATZ	42384-26BF	278	A8	17	Heavy Duty	609987-1
DC2112ATZ	42384-26BH	476	A8	29	Heavy Duty	609958-51
C2113ATZ	419914-1A	476	A8	50	Heavy Duty	609957-1
C2115ATZ	419914-1P	476	A8	36	Heavy Duty	609957-1
C2512ATZ	419914-1B	553	A8	33	Heavy Duty	609957-1
C2514ATZ	419914-1R	553	A8	59	Heavy Duty	609957-1
C2515ATZ	419914-1S	553	A8	36	Heavy Duty	609957-1
UC2812ATZ	419914-1C	1,068	A8	37	Heavy Duty	609957-1
UC2813ATZ	419914-1T	1,068	A8	26	Heavy Duty	609957-1
UC2815ATZ	419914-1U	1,068	A8	42	Heavy Duty	609957-1
UC3212ATZ	419914-1D	1,403	A8	69	Heavy Duty	609977-1
UC3214ATZ	419914-1W	1,403	A8	76	Heavy Duty	609977-1
UC3612ATZ	419914-1E	1,892	A8	76	Heavy Duty	609977-1
UC3613ATZ	419914-1X	1,892	A8	81	Heavy Duty	609977-1

SCR Drive Motors Shunt 5 thru 250 Hp and Stabilized Shunt Wound - DPGF, Self Ventilated, Rigid Base



Applications: Conveyors, plastic extruders, packaging machinery and other constant torque applications for DC SCR motors.

Features: Includes thermostat on interpole. Class F insulation system resistant to dirt, carbon, dust and moisture. High dielectric stability. Low moment of inertia armature for fast response. Constant pressure brush springs and longer brushes for reduced maintenance. Includes grease fittings and reliefs for bearing maintenance. Power code C and D or M-G sets. Maximum RPM by field weakening. Provisions for tach mounting. (See tach mounting kits on page 322). May be converted to blower ventilated (DPBV) for extended constant torque speed range.

Hp	Base/Max Speed ^(a)	NEMA Frame	Voltage D.C.		Full Load Amperage		Catalog Number	List Price Motors Only ^(c)	Mult. Sym.	Ap'x. Shpg. Wgt. ^(d)	XPY Tach Kit	Blower Catalog Number	Notes ^(e)
			Arm.	Field	Arm.	Field ^(b)							
5	1750/2300	L186AT	240	150/300	17.7	.68	D2005P	5,451	N2	178	TKP1836XP	FVB3180	2,20
			500	150/300	8.5	.6	D5005P	5,451	N2	162	TKP1836XP	FVB3180	2,20
7 1/2	1750/2300	1810AT	240	150/300	28.1	.8	D2007P	6,338	N2	239	TKP1836XP	FVB3180	2,20
		218AT	500	150/300	13.2	.69	D5007P	6,994	N2	239	TKP1836XP	FVB3210	2,20
10	1750/2300	219AT	240	150/300	36.6	2.16	D2010P	7,194	N2	259	TKP1836XP	FVB3210	2,20
			500	150/300	17.2	1.17	D5010P	7,194	N2	255	TKP1836XP	FVB3210	2,20
15	1750/2300	258AT	240	150/300	55	2.58	D2015P	8,612	N2	379	TKP1836XP	FVB3250	2,20
			500	150/300	25.2	1.4	D5015P	8,612	N2	379	TKP1836XP	FVB3250	2,20
20	1750/2300	259AT	240	150/300	70.5	2.48	D2020P	9,845	N2	429	TKP1836XP	FVB3250	2,20
			500	150/300	35.1	1.24	D5020P	9,845	N2	429	TKP1836XP	FVB3250	2,20
25	1750/2300	288AT	240	150/300	89.2	2.99	D2025P	13,306	N2	589	TKP1836XP	FVB4280	2,20
		287-8AT	500	150/300	43.4	1.64	D5025P	13,306	N2	529	TKP1836XP	FVB4280	2,20
30	1750/2300	288AT	240	150/300	106	4.52	D2030P	13,306	N2	589	TKP1836XP	FVB4280	2,20
			500	150/300	50	2	D5030P	13,306	N2	579	TKP1836XP	FVB4280	2,20
40	1750/2100	328AT	500	150/300	67.9	2.17	D5040P	17,810	N2	819	TKP1836XP	FVB6320	2,20
50	1750/2100	328AT	500	150/300	83.7	2	D5050P	17,810	N2	822	TKP1836XP	FVB6320	2,20
60	1750/2100	365-6AT	500	150/300	98.6	1.75	D5060P	23,880	N2	815	TKP1836XP	FVB6400	2,20
75	1750/2100	366AT	500	150/300	123	1.48	D5075P	23,880	N2	959	TKP1836XP	FVB6400	2,20
100	1750/2000	368AT	500	150/300	158	3	D50100P	32,207	N2	1129	TKP1836XP	FVB6400	2,20
125	1750/2000	407AT	500	150/300	200	3	D50125P	37,042	N2	1459	TKP400XP	FVB6400	2,20
150	1750/2000	409AT	500	150/300	237	3.7	D50150P	46,185	N2	1139	TKP400XP	FVB6400	2,20
200	1750/1900	504AT	500	150/300	320	3.9	D50200P	57,625	N2	2149	TKP500XP	FVB8500	2,20
250	1750/1900	506AT	500	150/300	392	5	D50250P	69,054	N2	2569	TKP500XP	FVB8500	2,20

NOTES:

- (a) DPGF enclosure is self-ventilated. Speed can be reduced to approximately 60% of base speed with constant torque. See performance data in CA608 catalog for specific speed-torque curves. Separate blower can be used to increase operating range below 60% of base speed.
- (b) Field amps are for 150V connection on 240VDC motors; 300V connection on 500VDC motors. 360, 400 & 500 frames are 4 pole stabilized shunt until 3rd quarter 2006 when they became shunt. Others are 2 pole shunt.
- (c) Does not include price of blower. See page 322 for pricing.
- (d) Does not include weight of blower. See page 322 for weights.
- (e) See notes on inside back flap.

180 frame motors are supplied without external conduit box, see online layout drawing for details.

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes

SCR Drive Motor Shunt and Stabilized Shunt Wound DPBV Enclosure - Rigid Base

40 thru 500 Hp

NEMA 328AT thru 5010AT

Applications: Conveyors, plastic extruders, packaging machinery and other constant torque applications for DC SCR motors.

Features: Includes thermostat on interpole. Class F insulation system resistant to dirt, carbon, dust and moisture. High dielectric stability. Low moment of inertia armature for fast response. Constant pressure brush springs and longer brushes for reduced maintenance. Includes grease fittings and reliefs for bearing maintenance. Power code C or M-G sets. Maximum RPM by field weakening. Provisions for tach mounting. (See tach kits on page 322). Blower-ventilated, includes filter.



Hp	Base/Max Speed	NEMA Frame	Voltage D.C.		Full Load Amperage		Catalog Number	List Price w/Blower & Filter	Mult. Sym.	Ap'x. Shpg. Wgt.	XPY Tach Kit	Notes (b)
			Arm.	Field	Arm.	Field (a)						
40	1750/2100	328AT	240	150/300	138	2.64	D2040P-BV	20,754	N2	889	TKP1836XP	2,20
			500	150/300	67.9	2.17	D5040P-BV	20,754	N2	871	TKP1836XP	2,20
50	1750/2100	328AT	240	150/300	175	2.64	D2050P-BV	20,754	N2	898	TKP1836XP	2,20
			500	150/300	83.7	2	D5050P-BV	20,754	N2	899	TKP1836XP	2,20
60	1750/2100	366AT	240	150/300	201	5.6	D2060P-BV	26,825	N2	996	TKP1836XP	2,20
		365-6AT	500	150/300	98.6	1.75	D5060P-BV	26,825	N2	869	TKP1836XP	2,20
75	1750/2100	366AT	240	150/300	256	5.6	D2075P-BV	26,825	N2	1015	TKP1836XP	2,20
			500	150/300	123	1.48	D5075P-BV	26,825	N2	999	TKP1836XP	2,20
100	1750/2000	368AT	500	150/300	158	3	D50100P-BV	35,152	N2	1179	TKP1836XP	2,20
125	1750/2000	368AT	500	150/300	197	3	D50125P-BV	35,152	N2	1189	TKP1836XP	2,20
150	1750/2000	407-9AT	500	150/300	238	2.7	D50150P-BV	40,284	N2	1519	TKP400XP	2,20
200	1750/1900	409AT	500	150/300	311	3.75	D50200P-BV	50,180	N2	1809	TKP400XP	2,20
250	1750/1900	504-6AT	500	150/300	405	4.9	D50250P-BV	61,431	N2	2289	TKP500XP	2,20
300	1750	506AT	500	150/300	478	6.2	D50300P-BV	72,860	N2	2659	TKP500XP	2,20
400	1750/1900	508AT	500	150/300	624	6.08	D50400P-BV	102,851	N2	3289	TKP5006XP	2,20
500	1750/1900	5010AT	500	150/300	788	6	D50500P-BV	135,069	N2	4169	TKP500XP	2,20

NOTE: (a) Field amps are for 150V connection on 240VDC motors; 300V connection on 500VDC motors.

360 through 500 frames are 4 pole stabilized shunt, until 3rd quarter 2006 when they became shunt. Others are 2 pole shunt. Tach mounting kits on page 322.

(b) See notes on inside back flap.

SCR Drive Motor 240V Armature - 240V Field Shunt Wound DPFG - Self-Ventilated Rigid Base and C-Face

3 thru 15 Hp

NEMA L186ATC thru 258ATC

Applications: Conveyors, plastic extruders, packaging machinery and other constant torque applications for DC SCR motors.

Features: Includes thermostat on interpole. Class F insulation system resistant to dirt, carbon, dust and moisture. High dielectric stability. Low moment of inertia armature for fast response. Constant pressure brush springs and longer brushes for reduced maintenance. Includes grease fittings and reliefs for bearing maintenance. Power code C or M-G sets. Maximum RPM by field weakening.



Hp	Base/Max Speed	NEMA Frame	Voltage D.C.		Full Load Amperage		Catalog Number	List Price Motor (b)	Mult. Sym.	Ap'x. Shpg. Wgt. (c)	XPY Tach Kit	Blower Catalog Number	Notes (d)
			Arm.	Field	Arm.	Field (a)							
3	1750/2300	L186ATC	240	120/240	10.6	.45	CD2003P-2	5,635	N2	170	TKP1836XP	FVB3180	1, 3
5	1750/2300	L186ATC	240	120/240	17.7	.45	CD2005P-2	5,635	N2	170	TKP1836XP	FVB3180	1, 3
7 1/2	1750/2300	1810ATC	240	120/240	28.1	.52	CD2007P-2	6,522	N2	233	TKP1836XP	FVB3180	1, 3
10	1750/2300	219ATC	240	120/240	36.6	1.26	CD2010P-2	7,715	N2	267	TKP1836XP	FVB3210	1, 3
15	1750/2300	258ATC	240	120/240	55	1.26	CD2015P-2	9,133	N2	409	TKP1836XP	FVB3250	1, 3

NOTE: (a) Field amps for 240VDC connection. (b) Does not include price of blower and filter. See page 322 for pricing.

(c) Does not include weight of blower and filter. See page 322 for weights. Tach mounting kits on page 322.

(d) See notes on inside back flap. 180 frame motors are supplied without external conduit box, see online layout drawing for details.

Shunt Wound SCR Drive Motor - TEFC, Rigid Base

5 thru 25 Hp

NEMA 1810AT THRU 328AT

Applications: Conveyors and packaging machinery.

Features: Includes thermostat on interpole, grease fittings and reliefs. Class F insulation system. Constant pressure brush springs and precision brush holders. Provisions for tach mounting (See tach mounting kits page 322).



Hp	Base/Max Speed	NEMA Frame	Voltage D.C.		Full Load Amperage		Catalog Number	List Price Motors Only	Mult. Sym.	Ap'x. Shpg. Wgt.	XPY Tach Kit	Notes (b)
			Arm.	Field	Arm.	Field (a)						
5	1750/2300	1810AT	240	150/300	17.6	0.68	D2505P	7,863	N2	379	N/A	1, 3
			500	150/300	8.3	0.34	D5505P	7,863	N2	229	N/A	1, 3
7 1/2	1750/2300	2110AT	240	150/300	26.6	2.10	D2507P	9,152	N2	319	TKP2136XPT	1, 3
			500	150/300	12.3	1.05	D5507P	9,152	N2	319	TKP2136XPT	1, 3
10	1750/2300	259AT	240	150/300	34.3	1.72	D2510P	11,371	N2	459	TKP2136XPT	1, 3
			500	150/300	16.3	0.86	D5510P	11,371	N2	459	TKP2136XPT	1, 3
15	1750/2300	288AT	240	150/300	51.7	1.96	D2515P	15,173	N2	629	TKP2136XPT	1, 3
			500	150/300	24.5	0.99	D5515P	15,173	N2	629	TKP2136XPT	1, 3
20	1750/2300	328AT	240	150/300	68.8	2.22	D2520P	19,984	N2	879	TKP2136XPT	1, 3
			500	150/300	32.7	1.11	D5520P	19,984	N2	867	TKP2136XPT	1, 3
25	1750/2300	328AT	240	150/300	84.8	2.22	D2525P	19,984	N2	872	TKP2136XPT	1, 3
			500	150/300	40.9	1.11	D5525P	19,984	N2	870	TKP2136XPT	1, 3

NOTE: (a) Field amps are for 150V connection on 240VDC motors; 300V connection on 500VDC motors. Tach mounting kits on page 322.

(b) See notes on inside back flap.

180 frame motors are supplied without external conduit box, see online layout drawing for details.

Lifting Magnet Generators

5 thru 40 kW

NEMA 1810AT thru 329AT

Applications: Crane mounted lifting magnets for recyclers and steel mills.

Features: Heavy duty steel frame. Cast iron endplates. Class H insulation with Class F temperature rise. Precision brush holders. Constant force brush springs. Double sealed ball bearings. Compound wound with drooping voltage characteristics. DPGF enclosure. Weather resistant paint. F-2 conduit box. CDMG generators have C-face and base mounting for hydraulic pump or PTO mounting.



kW	Base Speed	NEMA Frame	Voltage D.C.		Full Load Amperage		Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Field Control Rheostat		Notes (a)
			Arm.	Field	Arm.	Field					Ohms	Amp Max.	
5	2500	1810AT	230	230	21.7	0.61	DMG2305	6,568	N2	220	300	0.85	1, 3
7 1/2	2500	219AT	230	230	32.6	1.14	DMG2307	7,556	N2	262	150	1.6	1, 3
		219AT	230	230	43.5	0.72	DMG2310	8,374	N2	246	200	1.4	1, 3
10	2500	219ATC	230	230	43.5	0.72	CDMG2310	8,899	N2	250	200	1.4	1, 3
		259AT	230	230	65	1.3	DMG2315	14,058	N2	429	200	1.82	1, 3
15	1750	259ATC	230	230	65	1.3	CDMG2315	14,571	N2	459	200	1.82	1, 3
		288AT	230	230	87	1.8	DMG2320	15,390	N2	589	125	2.52	1, 3
20	1750	288ATC	230	230	87	1.8	CDMG2320	16,266	N2	609	125	2.52	1, 3
		328AT	230	230	109	2.13	DMG2325	16,828	N2	849	100	3.0	1, 3
25	1750	328ATC	230	230	109	2.13	CDMG2325	17,698	N2	878	100	3.0	1, 3
		328AT	230	230	144	2.13	DMG2333	21,340	N2	831	100	3.0	1, 3
33	1750	328ATC	230	230	144	2.13	CDMG2333	22,203	N2	883	100	3.0	1, 3
		329AT	230	230	174	3.7	DMG2340	23,393	N2	910	50	5.2	1, 3

NOTE: Field control rheostat and meters are not included in price or available from Baldor.

(a) See notes on inside back flap.

Tach Mounting Kits and Cooling Blowers for DC Integral Hp Motors



Applications: Allows addition of DC, AC and digital tachometers to large DC motors for closed-loop operation.

Features: Tach mounting kits supply adapter, coupling, accessory shaft and mounting hardware. Allows mounting to 8.5 inch accessory face on most large DC motors.

Tach Mounting Kits for DC Integral Hp Motor Catalog No. Ending With "P"

Tach Type	Motor Frame	Motor Enclosure	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.
XPYII XPY, DPY BTG1000	180/360	DPFG, DPBV	TKP1836XP	997	A8	1
	210/360	TEFC	TKP2136XPT	997	A8	13
	400	DPFG, DPBV	TKP400XP	997	A8	3
	500	DPFG, DPBV	TKP500XP	997	A8	3
XC42 or XC46	210/360	DPFG, DPBV	TKP2136XC	1,475	A8	16
	500	DPFG, DPBV	TKP500XC	1,475	A8	7
ENC00NV ENCODER	180/360	DPFG, DPBV	TKP1836ENC	757	A8	17
	400	DPFG, DPBV	TKP400ENC	757	A8	16
	500	DPFG, DPBV	TKP500ENC	757	A8	17
NCS PANCAKE	210/360	DPFG, DPBV	TKP2136NC	56	A8	3
	400	DPFG, DPBV	TKP400NC	56	A8	1
	500	DPFG, DPBV	TKP500NC	56	A8	1
AC PANCAKE	210/360	DPFG, DPBV	TKP2136AC	56	A8	2
	400	DPFG, DPBV	TKP400AC	56	A8	1
	500	DPFG, DPBV	TKP500AC	56	A8	1

Blower and Mounting Kits for DC Integral Hp Motor Catalog No. Ending With "P"

Motor Frame	Catalog Number	Blower Power	Blower Size	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.
Blower and Mounting Kit						
180	FVB3180	1 PH	LM 3	1,302	A8	18
210	FVB3210	3 PH	LM 3	1,302	A8	22
250	FVB3250	3 PH	LM 3	1,302	A8	19
280	FVB4280	3 PH	LM 4	1,592	A8	38
320	FVB6320	3 PH	LM 6	1,854	A8	46
360-400	FVB6400	3 PH	LM 6	2,029	A8	59
504-506	FVB8500	3 PH	LM 8	2,402	A8	79
508-5012	FVB95010 (a)	3 PH	LM 9	4,139	A8	171
Filter and Hardware for Above Blowers						
180, 210, 250	FLT3210-250 (b)	-	LM 3	691	A8	2
280	FLT4280	-	LM 4	691	A8	9
320,360,400	FLT6320-400	-	LM 6	691	A8	9
504-506	FLT8500	-	LM 8	843	A8	9

NOTE: (a) Includes Blower and Filter. (b) Also used with FVB3180.

Tach Generators DC, AC and Digital Output



Applications: Speed feedback for controls (encoders also offer position feedback).

Features: Ball bearing construction, standard mounting flanges and/or feet.

Generator Type	Voltage	Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.
XPY Flange Mount (DC)					
30AFL-0	50VDC	BTG1000	488	DS	7
XPYIII	100VDC	BTG100XPS	888	N5	2
XPYII	100VDC	PTG100XPS	1,313	N5	10
XPY	100VDC	PTG100XP	1,264	N5	3
XPYIII	50VDC	BTG50XPS	888	N5	2
XPYII	50VDC	PTG50XPS	1,313	N5	8
XPY	50VDC	PTG50XP	1,264	N5	3
XPY Washdown Flange Mount (DC)					
XPYII	100VDC	PTGWD100XPS	1,398	N5	9
XPYIII	100VDC	BTGWD100XPS	1,056	N5	2
XPYII	50VDC	PTGWD50XPS	1,398	N5	10
XPYIII	50VDC	BTGWD50XPS	1,056	N5	2
Encoder Based Digital PY Flange Mount					
DPY	1024PPR	PTG1024LD (a)	1,649	N5	1
Electrically Isolated Encoder					
E-ACC	1024PPR	ENC00NV (a) (b)	1,876	E8	2
Metric Flange Mount (DC)					
XPY	60VDC	PTG60XP-M (c)	1,264	N5	5
XPYII	60VDC	PTG60XPS-M (c)	1,313	N5	5
XPYIII	60VDC	BTG60XPS-M (c)	888	N5	2
Foot Mount (DC)					
XPY	100VDC	PFTG100XP	1,264	N5	6
XPY	50VDC	PFTG50XP	1,264	N5	6
Foot Mount with Face (DC)					
XC42	100VDC	PFTG42100X	2,486	N5	33
XC42	50VDC	PFTG4250XC	2,541	N5	32
XC46	100VDC	PFTG46100X	4,370	N5	43
XC46	50VDC	PFTG4650XC	4,370	N5	44
Pancake Mount (AC & DC)					
AC	45/90VAC	PTG4590AC (d) **	1,215	N5	8
NCS	50VDC	PTG50NC (d) **	1,814	N5	8

NOTE: Flange mounted tachs require tach adapters shown on pages 322 & 324. XPY tachs have UL listing, file number E109527, CSA file number LR36841-5, XPYII tachs are pending approval.

(a) See page 236 for cables.

(b) Electrically isolated encoder & kit: Mounts to Fort Mill DC motors using appropriate adapter shown on page 322 may eliminate the need for EXB00801 isolated encoder feedback board.

(c) Requires adapter for metric flange tach. Will not mount on adapters for PY flanges.

(d) Does not mount to TEFC. See catalog MN605 for details. Will only mount to DPGF and DPBV motors on pages 319 & 320 using adapters shown on page 322.

Field Conversion Tach Mounting Kits for Permanent Magnet and Shunt Wound Motor




For PY Flange mounted BTG1000, XPY, XPYII and DPY tachometers

Complete kits consisting of fan cover (except TK3300), shaft extension coupling and tach adapter bracket with miscellaneous hardware. If you prefer, the conversion can be made by Baldor Mod Express. Tach kits will not work with Explosion Proof Motors (CDPX or CDX). See PY flange mount tachs shown on page 323.



Baldor Motor Type	Kit Catalog Number	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.
3300P	TK3300	176	A8	1
3400D/P	TK3400	312	A8	4
3500D/P	TK3500	329	A8	9
3600D	TK3600	435	A8	5
3600P	TK3600PM	435	A8	3
7500D	TK7500	450	A8	17
9100D	TK9100	486	A8	23

DC Drives Selection Chart

Single Phase DC	Three Phase DC	
BC	Series 19H Non-Regen	Series 20H Regen
		
Main Attributes		
29 models to choose from with extensive list of available options to fit greatest range of applications	Digital DC Drive with standard armature voltage feedback or built in encoder feedback capability. Many options available include high resolution analog input and digital output boards.	
Hp Range		
1/100 thru 5	5 thru 300	
Voltage Range		
115/230 1-phase	230/460 3-phase	
Enclosure Selection		
Chassis, NEMA 1, NEMA 4X	Chassis	
Speed Control		
Armature voltage or Tach	Armature voltage or Encoder feedback, standard	
Speed Regulation		
1% of base speed, 1% of set speed with tach feedback	1% of base speed, 0.1% of set speed with encoder feedback	
Speed Range		
20:1 or 50:1	100:1 based on top speed and feedback type	
Communications Options		
None	RS-232 Serial, RS-422/485, Device Net, Modbus Plus, Profibus DP.	
Operator Interface		
Local analog controls on enclosed models; analog and discrete remote control.	Local keypad / display. 2 lines X 16 characters backlit LCD. 12 key membrane w/tactile response.	
Differentiating Feature		
HP range available from 1/100 through 5.	High peak overload rating up to 300%. 15 preset speeds. 9 assignable digital inputs.	

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes

Fractional Horsepower DC Speed Controls for PMDC Motors

1/15 thru 1/4

115 VAC Single Phase 50/60 Hz.

Applications: Conveyors, machine tools and other applications requiring adjustable speed.

Features: Simple DC motor control with built-in circuit breaker, center lock reversing switch (center off), on/off switch, 7 foot SJO oil resistant cord, and variable voltage transformer for manual speed adjustment. NEMA 1 enclosure is standard. CSA list file # LR54532.



Max Hp	Catalog Number	List Price	Mult. Sym.	Ap'x Shpg. Wgt.	Amp Capacity	Input Voltage
1/15	BC110	533	E9	5	1.0	115VAC
1/8	BC115	569	E9	6	1.5	115VAC
1/4	BC130	724	E9	10	3.0	115VAC

NEMA 1 Enclosed DC Controls for PMDC and Shunt Wound Motors

1/100 thru 2 Hp

115/230 VAC Single Phase 50/60 Hz.

Applications: General purpose industrial use with permanent magnet or shunt wound DC motors.

Features: SCR controls have a free-wheeling diode and feature adjustable accel, decel, current limit, IR comp, min. and max speed pots to match applications. The anti-demag feature protects PM motors and helps protect the SCR power bridge against direct shorts. The controls have US and Canadian UL component recognition.

A Plug-in Horsepower Resistor® and armature fuse **must** be ordered and installed in BC138, BC139, BC140, BC140-FBR, BC141 and BC142.



BC140 ENCLOSED (NEMA 1)

Hp Range	Catalog Number	List Price	Mult. Sym.	Ap'x Shpg. Wgt. Lbs.	Input Voltage
1/100-1/3	BC138	211	E9	1	115
1/50-3/4	BC139	211	E9	1	230
1/100-2 (a)	BC140	358	E9	3	115/230
1/100-2 (a)	BC140-FBR	495	E9	3	115/230

NOTE: (a) 1 Hp at 115V and 2 Hp at 230V requires BC143 heatsink kit. See page 330 for features. FBR=Forward/Brake/Reverse.

DC Control Accessories

Catalog Number	Description	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.
BC24-LF	Ac Line Filter for use with CE Applications	72	E9	1
BC143	External Heatsink Kit (BC140, BC140-FBR, BC141, BC142, BC204)	69	E9	2
BC144	Forward-Brake-Reverse Switch Kit for BC140	120	E9	1
BC145	Signal Isolator Board	204	E9	1
BC146	Current Sensing Relay/Overload Protector	132	E9	1
BC147	Barrier Terminal Board (BC141 and BC142)	29	E9	1
BC148	Replacement Potentiometer Kit (5K ohm)	12	E9	1
BC149	Knob and Dial Kit	14	E9	1
BC152	Barrier Terminal Board With Signal Isolator (BC141 and BC142)	187	E9	1
BC218	DIN-rail mounting kit for BC141, BC142 or BC204	34	E9	1

NOTE: BC24-LF is an AC line filter required for applications where CE is required if the control is not filtered elsewhere in the application. This filter may be used on most 115 or 230 VAC, single phase applications where CE is required.

Chassis Mount DC Controls

1/100 thru 1.5 Hp
1/50 thru 5 Hp

115 VAC Single Phase 50/60 Hz.
230 VAC Single Phase 50/60 Hz.



BC141 / BC142

Applications: General purpose industrial use with permanent magnet or shunt wound DC motors.

Features: Chassis-mount SCR controls have a free-wheeling diode and feature adjustable accel, decel, current limit, IR comp, min and max speed pots to match applications. The anti-demag feature protects PM motors and helps protect the SCR power bride against direct shorts. The controls have US and Canadian UL component recognition.

Hp Range	Catalog Number	Description Input Voltage / Max. Hp	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Input Voltage
1/100-1 1/2 (a)	BC141	Standard Model, single voltage	196	E9	1	115
1/100-1 1/2	BC141-SIH	BC141 with BC152 Signal Isolator and BC143 Heatsink factory installed	463	E9	2	115
1/100-3 (a)	BC142	Standard Model, single voltage	196	E9	2	230
1/100 - 3	BC142-SIH	BC142 with BC152 Signal Isolator and BC143 Heatsink factory installed	484	E9	2	230
1/100-1 1/2 (a) 1/50-3	BC142-5	Dual voltage, without fuse holders	218	E9	1	115/230
1/100 - 1 1/2 (a) 1/50 - 3	BC142-6	Standard Model, dual voltage	217	E9	1	115/230
1/100 - 1 1/2 1/50 - 3	BC142-6SIH	BC142-6 with BC152 signal isolator board and BC143 heatsink factory installed	484	E9	1	115/230
5	BC155	120V - 1 Hp, 230V - 2 Hp	640	E9	5	230

NOTE: Above controls include 5k speed potentiometer.

(a) 1-1.5 Hp at 115 Volts and 2-3 Hp at 230 Volts, requires BC143 Heatsink kit.

BC155 Includes integral heatsink. Please refer to page 330 for features.

Plug-in Horsepower Resistor and Fuse Kit



A Plug-in Horsepower Resistor® and armature fuse **must** be ordered and installed in BC138, BC139, BC140, BC140-FBR, BC141 and BC142.

These should be selected based on the motor's **rated current**. The price of the Hp resistor and fuse is included in the BC138, BC139, BC140, BC140-FBR, BC141 and BC142 list price.

See selection below for catalog number.

Spare resistor kits are available for \$9.00 list, **E9** multiplier.

Motor Hp Armature Voltage		Plug-In Hp Resistor Resistance Value (Ohms)	Catalog Number	Ap'x DC Current (Amps)	DC Fuse Rating For Armature
90-130V	180V				
1/100	1/50	1.0	BR1000	0.20	0.5
1/50	1/25	0.51	BR0510	0.30	0.5
1/30	1/15	0.35	BR0350	0.33	0.5
1/20	1/10	0.25	BR0250	0.5	0.75
1/15	1/8	0.25	BR0251	0.8	1.0
1/12	1/6	0.18	BR0180	0.85	1.25
1/8	1/4	0.1	BR0100	1.3	2.0
1/6	1/3	0.1	BR0101	2.0	2.5
1/4	1/2	0.05	BR0050	2.5	4.0
1/3	3/4	0.035	BR0035	3.3	5.0
1/2	1	0.025	BR0025	5.0	8.0
3/4	1 1/2	0.015	BR0015SP	7.5	12.0
1 (a)	2 (a)	0.01	BR0010SP	10	15.0
1 1/2 (a)	3 (a)	0.006	BR0006	15	25.0 (b)

NOTE: (a) External Heatsink required. (b) Also used with AC Line Fuse. For AC line fuse rating see manual.

Farm Duty
Motors

Definite Purpose
Motors

Unit Handling
Motors

Brake Motors

200 & 575 Volt
Motors

IEC Frame
Motors

50 Hertz
Motors

Inverter/Vector
Motors & Controls

DC Motors
and Controls

Soft Starters &
Dynamic Brakes

NEMA 4X DC Control and Accessories

1/4 thru 2 Hp 115/230 VAC Single Phase 50/60 Hz.
3 Hp 230 VAC Single Phase 50/60 Hz.

Applications: Constant torque, new or replacement.

Features: BC154, BCWD140 and BC160 are non-regen controls with reversal by means of switching the armature leads (BCWD140 has a forward/brake/reverse switch mounted). BC254 is a line regenerative SCR control that can drive the motor to a timed stop. BC354 is a PWM control that provides low-ripple DC power to the motor allowing more Hp when used with a 130 or 260 VDC motor. All offer a choice of armature or tachometer feedback and a speed or torque mode. No Hp resistors are needed for these controls, current is jumper selectable. BC154, BC160, BC254 and BC354 are painted black and come with a start-stop switch. BCWD140 comes with white epoxy paint and also forward/brake/reverse and run-jog switches. See page 330 for features.



Hp Range	Catalog Number	Description Input Voltage / Max. Hp	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Input Voltage
NEMA 4X SCR (black)						
1/4-2	BC154	Standard model - 120V - 1 Hp, 230V - 2 Hp	453	E9	5	115/230
	BC154-P	BC154 with POWER SWITCH instead of START/STOP SW.	453	E9	5	115/230
	BC154-R	BC154 with BC156 - FBR Switch factory installed	598	E9	5	115/230
	BC154-SI	BC154 with BC145 Signal Isolator Board and BC158 Auto/Man Switch kit factory installed	729	E9	5	115/230
3	BC160	230V - 3 Hp	521	E9	3	230
NEMA 4X Washdown Duty SCR (white)						
1/4-2	BCWD140	120V - 1 Hp, 230V - 2 Hp	606	E9	6	115/230
NEMA 4X Washdown Duty Line Regen SCR (black)						
1/8-2	BC254	120V - 1 Hp, 230V - 2 Hp (a)	653	E9	5	115/230
	BC254-FBR	BC254 with BC253 FWD-BRAKE-REV switch factory installed	685	E9	5	115/230
NEMA 4X Washdown Duty PWM DC (black) (b)						
1/4-2	BC354	120V - 1 Hp, 230V - 2 Hp	702	E9	5	115/230

NOTE: (a) See page 329 for BC254 accessories.

(b) Output current is 7.5 amps; Output voltage is 130VDC for 115VAC input - 260VDC for 230VAC input. Motors designed for these voltages will give the best performance.

DC SCR NEMA 4X DC Control Accessories

Catalog Number	Description	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.
BC153	Electronic Forward-Dynamic Brake-Reverse Kit for BC154, BC354	216	E9	1
BC156	Mechanical Forward-Dynamic Brake-Reverse Switch for BC154, BC354	140	E9	1
BC157	Run/Jog switch for BC154 & BC160, BC354	26	E9	1
BC158	Auto/Manual Installation Kit for BC145 signal isolator for BC154, BC160, BC354	58	E9	1
BC159	AC Line Switch Kit for BC154, BCWD140, BC254, BC354	31	E9	1
BC145	Signal Isolator Board	204	E9	1

NOTE: BC159 AC Line Switch Kit is factory installed on BC154, BCWD140, BC354. Listed here as replacement or spare parts.

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Start & Dynamic Brakes

Line Regenerative DC Controls and Accessories



**1/4 thru 3 Hp
5 Hp**

**115/230 VAC
230 VAC**

**Single Phase 50/60 Hz.
Single Phase 50/60 Hz.**

Applications: Frequent start/stop/reverse applications or where controlled braking is required.

Features: Single phase line regenerative open chassis control to operate permanent magnet or wound field DC motors. These line regen controls are ideal for applications with overhauling loads. In torque mode, it can be used for tensioning applications. Several accessory boards are available to further customize the control. Includes 5k speed potentiometer. Jumper selectable current settings.

Hp Range	Catalog Number	Description Input Voltage / Max. Hp	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.	Input Voltage
Line Regen SCR						
1/8-2 (a)	BC204	120V 1 Hp, 230V 2 Hp, Standard Model	366	E9	3	115/230
	BC204-BPSI	BC204 with BC215 Bi-polar Signal Isolator factory installed	472	E9	3	
1/4-2	BC200	120V 1 Hp, 230V 2 Hp	683	E9	4	115/230
1/4-3	BC201	120V 1-1/2 Hp, 230V 3 Hp	811	E9	1	115/230
5	BC203	230V 5Hp	1,021	E9	10	230
NEMA 4X Washdown Duty Line Regen SCR						
1/8-2	BC254	120V - 1Hp, 230V - 2Hp Standard Model	653	E9	5	115/230
	BC254-FBR	BC254 with Power On/Off switch instead of Start/Stop switch, and BC253. Forward-Brake-Reverse switch factory installed	685	E9	5	115/230

NOTE: (a) 1 Hp at 115 volts and 2 Hp at 230 volts requires BC143 heatsink kit.

Line Regenerative DC Control Accessories

Catalog Number	Description	List Price	Mult. Sym.	Ap'x. Shpg. Wgt.
Accessories for BC200, BC201 and BC203				
BC212	Bipolar signal isolator board	209	E9	1
Accessories for BC204				
BC143	External Heatsink Kit	69	E9	2
BC215	Bipolar signal isolator board	97	E9	3
BC216	Multispeed board for BC204	74	E9	1
BC218	DIN rail mounting kit	34	E9	1
Accessories for BC254				
BC245	Bipolar signal isolator for BC254	206	E9	1
BC253	Forward-Stop-Brake-Reverse Switch for BC254	26	E9	1
BC258	Auto-manual Switch for BC254	58	E9	1
BC259	AC Line Switch for BC254	26	E9	5

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

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IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes

NEMA Enclosed DC Control Specifications

Features	Catalog Number											
	BC138		BC139		BC140 or BC140-FBR		BC154		BC160		BCWD140	
Enclosure	NEMA 1		NEMA 1		NEMA 1		NEMA 4X		NEMA 4X		NEMA 4X Washdown	
Control Type	NEMA K		NEMA K		NEMA K		NEMA K		NEMA K		NEMA K	
AC Line Input	115		230		115 230		115 230		230		115 230	
DC Armature Voltage Nominal	90		180		90 180		90 180		180		90 180	
Shunt Field Power Supply												
Voltage - DC	50/100		100/200		50/100 100/200		50/100 100/200		100/200		50/100 100/200	
Rated Horsepower Range	1/100 - 1/3		1/50-3/4		1/100-1 1/50-2		1/50-1 1/25-2		3		1/50-1 1/25-2	
External Heat Sink (BC143) Required	No		No		1 Hp 2Hp		Not Required		Not Required		Not Required	
Speed Range (Motor May Be 20: 1 Constant Torque)	50:1		50:1		50:1		50:1		50:1		50:1	
Adjustable Acceleration Time	Yes		Yes		Yes		Yes		Yes		Yes	
Adjustable Deceleration Time	Yes		Yes		Yes		Yes		Yes		Yes	
Minimum Speed Adjustable	Yes		Yes		Yes		Yes		Yes		Yes	
Maximum Speed Adjustable	Yes		Yes		Yes		Yes		Yes		Yes	
Current Limit Adjustable	Yes		Yes		Yes		Yes		Yes		Yes	
Adjustable Current Limit and Trip Out Type	No		No		No		Timed or Non-Timed		Timed or Non-Timed		Timed or Non-Timed	
Control Of Speed or Torque	Speed		Speed		Speed		Speed or Torque		Speed or Torque		Speed or Torque	
IR Compensation Adjustable	Yes		Yes		Yes		Yes		Yes		Yes	
Tachometer Feedback Input	No		No		No		Yes		Yes		Yes	
Plug-In Horsepower Resistor ®	Required		Required		Required		N/A		N/A		N/A	
UL & cUL Listing, CE	Yes		Yes		Yes		Yes		Yes		Yes	
AC Line Fuse	Included		Included		Included		External		External		External	
DC Armature Fuse	Included with Hp Resistor		Included with Hp Resistor		Included with Hp Resistor		Not Supplied with Control		External		Not Supplied with Control	
Options												
AC Line Switch	Standard		Standard		Standard		Opt - BC159		No		Standard	
Forward/Brake/Reverse Switch												
Mechanical	No		No		Opt-BC144		Opt-BC156		No		Standard	
Electronic	No		No		No		Opt-BC153		No		Opt-BC153	
Run/Jog Switch	No		No		No		Opt-BC157		Opt-BC157		Standard	
Input Signal							Internal		Internal		External	
Following Mode Capability							Mount		Mount		Mount	
Current (1-5, 4-20, 20-50mA)	No		No		Opt-BC145		Opt-BC145		Opt-BC145		Opt-BC145	
Voltage (0-25,0-120, VDC)							Opt-BC145		Opt-BC145		Opt-BC145	
Electrical Connection To Control Barrier Terminal Block	Standard		Standard		Standard		Standard		Standard		Standard	
Current Sensing Relay/Overload Protector	No		No		Opt - BC146		Standard		Standard		Standard	
AC Line Filter for CE	Opt-BC24-LF		Opt-BC24-LF		Opt-BC24-LF		Opt-BC24-LF		Opt-BC24-LF		Opt-BC24-LF	

Farm Duty Motors

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IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Start & Dynamic Brakes

Chassis Mount DC Control Specifications

Features	Catalog Number									
	BC141	BC142	BC142-6		BC155	BC204		BC200	BC201	BC203
Enclosure	Chassis	Chassis	Chassis		Chassis	Chassis		Chassis	Chassis	Chassis
Control Type	NEMA K	NEMA K	NEMA K		NEMA K	Regenerative		Regenerative	Regenerative	Regenerative
AC Line Input	115	230	115	230	230	115	230	115	230	230
DC Armature Voltage Nominal	90	180	90	180	180	90	180	90	180	180
Shunt Field Power Supply Voltage - DC	50/100	100/200	50/100 100/200		50/100 100/200	50/100 100/200		50/100 100/200	100/200	100/200
Rated Horsepower Range	1/100-1.5	1/50-3	1/100-1 1/2 1/50-3		5	1/8-1 1/4-2	1/4-1 1/2-2	1/4-1-1/2 1/2-3		5
External Heat Sink (BC143) Required	1 Hp-Up	2 Hp-Up	1/2 Hp-Up 1 Hp-Up		Not Required	90V-1Hp 180V-2Hp		Not Required	Not Required	Not Required
Speed Range (Motor may be 20:1 Constant Torque)	50:1	50:1	50:1		50:1	50:1		50:1	50:1	50:1
Adjustable Acceleration	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Adjustable Deceleration	Yes	Yes	Yes		Yes	Fwd & Rev Regen		Fwd & Rev Regen	Fwd & Rev Regen	Fwd & Rev Regen
Min. Speed Adjustable	Yes	Yes	Yes		Yes	No		No	No	No
Max. Speed Adjustable	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Adjustable Current	Non	Non	Non		Non	Non				Timed
Limit and Tripout Type	Timed	Timed	Timed		Timed	Timed		Timed	Timed	Timed
Control of Speed or Torque	Speed	Speed	Speed		Speed Torque	Speed or Torque		Speed or Torque	Speed or Torque	Speed
IR Compensation Adjustment	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Tachometer Feedback Input	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Plug-in Horsepower Resistor®	Required	Required	Required		N/A	N/A		N/A	N/A	N/A
UL & cUL Listing, CE	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
AC Line Fuse	Included	Included	Included		External	External		Included	Included	External
DC Armature Fuse	Included with Hp Resistor	Included with Hp Resistor	Included with Hp Resistor		Included with Hp Resistor	External		N/A	N/A	External
Options										
Input Signal										
Following Mode Capability						No				
Current (1-5, 4-20, 20-50 mA)	Opt-BC145	Opt-BC145	Opt-BC145		Opt-BC145	No		No	No	No
Voltage (0-25, 0-120, VDC)	Opt-BC145	Opt-BC145	Opt-BC145		Std 0-10 VDC	Opt BC215		Std 0-±10 VDC	Std 0-±10 VDC	Std 0-±10VDC
0-25, 0-120, VDC)	No	No	No		No	with BC214		Opt-BC212	Opt-BC212	Opt-BC212
Electrical Connection										
To Control										
Push-On Quick Connects	Standard	Standard	Standard		No	Standard		No	No	No
Barrier Terminal Block	Opt-BC147	Opt-BC147	Opt-BC147		Standard	N/A		Standard	Standard	Standard
Current Sensing Relay/										
Overload Protector	Opt-BC146	Opt-BC146	Opt-BC146		Opt-BC146	N/A		Standard	Standard	Standard
Regenerative										
Accel / Decel Board	No	No	No		No	No		Opt - BC211	Opt - BC211	Opt - BC211
AC Line Filter for CE	Opt-BC24-LF	Opt-BC24-LF	Opt-BC24-LF		Opt-BC24-LF	Opt-BC24-LF		Opt-BC24-LF	Opt-BC24-LF	Opt-BC24-LF

Farm Duty
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Inverter/Vector
Motors & Controls

DC Motors
and Controls

Soft Starters &
Dynamic Brakes

Series 19H Digital DC Controls

**5 thru 75Hp
5 thru 300 Hp**

**180-264 VAC - 50/60 Hz
340-528 VAC - 50/60 Hz**



Applications: Constant torque applications. New installations, replacements and original equipment manufacturers (OEM).

Features: Chassis mounting, built-in armature or encoder feedback, high peak currents.

Design Specifications

- Three phase, full wave SCR armature control
- High peak overload, 250-300% (depending on rating)
- Selectable operating modes: Keypad; Standard Run, 15 Speed, Bipolar speed/torque; Serial; Process follower mode.
- Analog meter outputs
- Buffered encoder output
- 9 isolated inputs
- Chassis mounting

Operator Keypad

- Digital Speed Control
- Forward/Reverse Command
- Motor RUN and JOG
- Local/Remote Key
- Stop Command (coast or external DB to stop)
- 32 Character alpha-numeric display
- Remote mount to 100 feet from control
- NEMA 4X enclosure on keypad

Environmental and Operating Conditions

- Input Frequency - 50 or 60 Hz \pm 5%
- Service factor - 1.0
- Duty - continuous
- Humidity - 90% max RH non-condensing
- Altitude - 3300 feet max without derate

Protective Features

- Control Input over and under voltage
- Encoder, tach or resolver loss
- Torque proving
- Selectable manual or automatic restart at power loss
- Digital display for fault conditions

Motor Feedback

- 1024 PPR standard (with quadrature)
- Power output: +5VDC, 300 mA max
- Max frequency: 1 MHz
- Optional feedback: tachometer or resolver through expansion board

Output Ratings	Voltage	DC - 0-1.3 times VAC input
Input Ratings	Frequency	50 or 60 Hz \pm 5%
	Voltage	200-240 VAC \pm 10%; 380-480 VAC \pm 10%
	Phase	Three phase
Control Spec.	Impedance	5% maximum
	Control Method	Full wave-uni-directional DC control, NEMA type C
	Speed Setting	0-5VDC, 0-10VDC, 4-20 mA, digital via keypad, optional RS232/422/485
	Accel/Decel	0-3600 seconds (decel-coast or controlled by external DB resistors) - no S-curve decel
	Minimum Speed	0-maximum speed
	Maximum Speed	0-5000 RPM
	Motor Matching	Automatic tuning to motor with manual override
Field Power Supply	Type	Voltage limited, current regulated full wave single phase
	Voltage	0 to 10-85% of AC line Input in DC volts
	Current	0.1-15 Amps maximum-standard, 0.1-40 amps maximum-optional
	Field Economy Level	OFF, 25-100%
	Field Forcing Level	100-125% (hoist modes only)
Motor Feedback	Feedback Type	Armature or incremental encoder coupled to motor shaft
	Pulses/Rev	60-65535 selectable, 1024 standard
	Voltage Output	2 channel in quadrature, 5VDC differential
	Marker Pulse	Required for position orientation
	Power Input	5VDC, 300 mA maximum
	Optional Feedback	Tachometer or resolver via expansion board
Protective Functions	Control Trip	Missing control power, over current armature over voltage, motor overspeed over temperature (motor & control), field loss, encoder tach or resolver loss, phase loss, motor overload and overcurrent
	Fusing	Standard input line, armature and field power supply fuses
	External Output	LED indicator for trip conditions, 4 assignable logic outputs - 30VDC Max, 2 assignable analog outputs 0-5VDC
LCD Display	Running	Motor RPM, output current, voltage (selectable)
	Setting	Parameter values for setup and review
	Trip	Separate message for each trip, last 31 trips retained in memory
Ambient Conditions	Temperature	0-40°C for UL listing
	Cooling	Forced air included when required

NOTE: Use of DC tach for feedback requires DC Tachometer Interface Board, catalog number EXB006A01. Other expansion boards are available, see pages 301-302.

Series 19H Digital DC Controls continued...

Hp	Input Volt	Armature Output Current		Catalog Number	List Price	Mult. Sym.	Chassis Size
		Amps Cont	Amps Peak				
230 Volt Input - 240 VDC Output							
5	230	20	40	BC19H205-CO	5,764	E1	A
10	230	40	80	BC19H210-CO	5,764	E1	A
15	230	60	120	BC19H215-CO	6,193	E1	A
20	230	75	150	BC19H220-CO	6,696	E1	B
25	230	100	200	BC19H225-CO	7,052	E1	B
40	230	140	280	BC19H240-CO	9,043	E1	C
50	230	180	360	BC19H250-CO	9,724	E1	C
60	230	210	420	BC19H260-CO	10,744	E1	C
75	230	270	540	BC19H275-CO	11,650	E1	C
460 Volt Input - 500 VDC Output							
10	460	20	40	BC19H410-CO	5,870	E1	A
20	460	40	80	BC19H420-CO	5,870	E1	A
30	460	60	120	BC19H430-CO	6,337	E1	A
40	460	75	150	BC19H440-CO	6,852	E1	B
50	460	100	200	BC19H450-CO	7,212	E1	B
75	460	140	280	BC19H475-CO	9,508	E1	C
100	460	180	360	BC19H4100-CO	10,154	E1	C
125	460	210	419	BC19H4125-CO	11,172	E1	C
150	460	270	540	BC19H4150-CO	12,093	E1	C
200	460	350	875	BC19H4200-CO	14,827	E1	D
300	460	500	1000	BC19H4300-CO	19,870	E1	D

OPTIONS: See pages 301-302 for optional Expansion Boards including Tachometer Feedback, RS-232, RS-422, RS-485, Resolver, Interface, etc. 40 Amp field power supply. V0073400

Dimensions in/(mm)

Size	Hp	Outside			Mounting		Ap'x Shpg. Wgt.
		Height	Width	Depth	Height	Width	
A	ALL	20.60/(523.2)	11.00/(279.4)	9.87/(250.7)	18.00/(457.2)	10.25/(260.4)	39
B 230V	ALL	25.70/(652.8)	11.00/(279.4)	9.84/(249.9)	23.87/(606.3)	10.25/(260.4)	67
B 460V	ALL	26.75/(679.5)	11.00/(279.4)	9.84/(249.9)	24.94/(633.5)	10.25/(260.4)	69
C 230V	40-60	26.50/(673.1)	11.75/(298.5)	10.63/(270.0)	23.90/(607.0)	10.25/(260.4)	80
C 460V	75-100	27.25/(692.2)	11.75/(298.5)	10.63/(270.0)	24.65/(626.1)	10.25/(260.4)	84
C 230V	75	33.00/(838.2)	11.75/(298.5)	10.63/(270.0)	23.90/(607.6)	10.25/(260.4)	94
C 460V	125-200	33.75/(857.3)	11.75/(298.5)	10.63/(270.0)	24.65/(626.1)	10.25/(260.4)	97
D	ALL	43.80/(1112.5)	16.87/(428.5)	12.43/(315.7)	39.25/(997.0)	13.75/(349.3)	272

Farm Duty Motors

Definite Purpose Motors

Unit Handling Motors

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes

Series 20H Line Regenerative Digital DC Controls



**5 thru 75Hp
5 thru 300 Hp**

**180-264 VAC - 50/60 Hz
340-528 VAC - 50/60 Hz**

Applications: Constant torque applications. New installations, replacements and original equipment manufacturers (OEM).

Features: Chassis mounting, built-in armature or encoder feedback. High peak current.

Design Specifications

- Three phase, full wave, four quadrant SCR armature control.
- Peak overload capacity of 250-300% (depending on rating)
- Selectable operating modes: Keypad, Standard Run, 15 Speed, Bipolar speed/torque, Serial, Bipolar Hoist, 7 Speed Hoist, process follower
- Motor shaft orient to encoder marker or external switch closure (encoder feedback)
- 15 preset speeds (7 in Hoist Mode.)

Operator Keypad

- Digital Speed Control
- Forward/Reverse Command
- Motor RUN and JOG
- Local/Remote Key
- Stop Command
- 32 Character alpha-numeric display
- Remote mount to 100 feet from control
- NEMA 4X enclosure on keypad

Environmental and Operating Conditions

- Input frequency - 50 or 60Hz $\pm 5\%$
- Service factor - 1.0
- Duty - continuous
- Humidity - 90% max RH non-condensing
- Altitude - 3300 feet max without derate

Protective Features

- Torque proving
- Selectable manual or automatic restart at power loss
- Digital display for fault conditions

Motor Feedback

- Power output: +5VDC, 300 mA max
- Positioning: Buffered encoder pulse train output for position loop control
- Optional feedback: tachometer or resolver through expansion board

Output Ratings	Voltage	DC 0-1.13 times VAC input	
	Input Ratings	Frequency	50 or 60 Hz $\pm 5\%$
		Voltage	200-240 VAC $\pm 10\%$; 380-480 VAC $\pm 10\%$
Control Spec.	Phase	Three phase	
	Impedance	5% maximum	
	Control Method	Full wave-bi-directional regenerative DC control, NEMA type C	
	Speed Setting	$\pm 5\text{VDC}$, 0-5VDC, $\pm 10\text{VDC}$, 0-10VDC, 4-20 mA, digital via keypad, optional RS232/422/485	
	Accel/Decel	0-3600 seconds or s-curve	
	Minimum Speed	0-maximum speed	
	Maximum Speed	0-5000 RPM	
Field Power Supply	Motor Matching	Automatic tuning to motor with manual override	
	Type	Voltage limited, current regulated full wave single phase	
	Voltage	0 to 10-85% of AC line Input in DC volts	
	Current	0.1-15 Amps maximum-standard, 0.1-40 amps maximum-optional	
	Field Economy Level	OFF, 25-100%	
Motor Feedback	Field Forcing Level	100-125% (hoist modes only)	
	Feedback Type	Armature or incremental encoder coupled to motor shaft	
	Pulses/Rev	60-65535 selectable, 1024 standard	
	Voltage Output	2 channel in quadrature, 5VDC differential	
	Marker Pulse	Required for position orientation	
	Power Input	5VDC, 300 mA maximum	
	Maximum Frequency	1 MHz	
	Positioning	Optional buffered encoder pulse train output for position loop controller	
	Optional Feedback	Tachometer or resolver via expansion board	
	Protective Functions	Control Trip	Missing control power, over current armature over voltage, motor overspeed over temperature (motor & control), field loss, encoder tach or resolver loss, phase loss, motor overload and overcurrent
Fusing		Standard input line, armature and field power supply fuses	
External Output		LED indicator for trip conditions, 4 assignable logic outputs - 30VDC Max, 2 assignable analog outputs 0-5VDC	
LCD Display	Running	Motor RPM, output current, voltage (selectable)	
	Setting	Parameter values for setup and review	
	Trip	Separate message for each trip, last 31 trips retained in memory	
Ambient Conditions	Temperature	0-40°C for UL listing	
	Cooling	Forced air included when required	

NOTE: Use of DC tach for feedback requires DC Tachometer Interface Board, catalog number EXB006A01. Other expansion boards are available, see pages 301-302.

Series 20H Line Regenerative Digital DC Controls

Hp	Input Volt	Armature Output Current		Catalog Number	List Price	Mult. Sym.	Chassis Size
		Amps Cont	Amps Peak				
230 Volt Input - 240 VDC Output							
5	230	20	60	BC20H205-CL	6,716	E1	A
10	230	40	120	BC20H210-CL	6,716	E1	A
15	230	60	150	BC20H215-CL	6,716	E1	A
20	230	75	190	BC20H220-CL	7,039	E1	B
25	230	100	250	BC20H225-CL	7,927	E1	B
40	230	140	420	BC20H240-CL	10,281	E1	C
50	230	180	480	BC20H250-CL	11,124	E1	C
60	230	210	540	BC20H260-CL	11,763	E1	C
75	230	270	680	BC20H275-CL	14,430	E1	C
460 Volt Input - 500 VDC Output							
5, 7.5, 10	460	20	60	BC20H410-CL	7,068	E1	A
15, 20	460	40	120	BC20H420-CL	7,068	E1	A
25, 30	460	60	150	BC20H430-CL	7,295	E1	A
40	460	75	190	BC20H440-CL	7,618	E1	B
50	460	100	250	BC20H450-CL	8,448	E1	B
60, 75	460	140	420	BC20H475-CL	11,689	E1	C
100	460	180	480	BC20H4100-CL	12,613	E1	C
125	460	210	530	BC20H4125-CL	14,065	E1	C
150	460	270	680	BC20H4150-CL	15,384	E1	C
200	460	350	875	BC20H4200-CL	18,494	E1	D
250	460	420	1050	BC20H4250-CL	23,162	E1	D
300	460	510	1250	BC20H4300-CL	25,373	E1	D

OPTIONS: See pages 301-302 for optional expansion Boards including Tachometer Feedback, RS-232, RS-422, RS-485, Resolver, Interface, etc.
40 Amp field power supply. V0073400

Dimensions in/(mm)

Size	Hp	Outside Height	Width	Depth	Mounting		Ap'x Shpg. Wgt.
					Height	Width	
A	ALL	20.60/(523.2)	11.00/(279.4)	9.87/(250.7)	18.00/(457.2)	10.25/(260.4)	39
B 230V	ALL	25.70/(652.8)	11.00/(279.4)	9.84/(249.9)	23.87/(606.3)	10.25/(260.4)	67
B 460V	ALL	26.75/(679.5)	11.00/(279.4)	9.84/(249.9)	24.94/(633.5)	10.25/(260.4)	69
C 230V	40-60	26.50/(673.1)	11.75/(298.5)	10.63/(270.0)	23.90/(607.0)	10.25/(260.4)	80
C 460V	75-100	27.25/(692.2)	11.75/(298.5)	10.63/(270.0)	24.65/(626.1)	10.25/(260.4)	84
C 230V	75	33.00/(838.2)	11.75/(298.5)	10.63/(270.0)	23.90/(607.6)	10.25/(260.4)	94
C 460V	125-200	33.75/(857.3)	11.75/(298.5)	10.63/(270.0)	24.65/(626.1)	10.25/(260.4)	97
D	ALL	43.80/(1112.5)	16.87/(428.5)	12.43/(315.7)	39.25/(997.0)	13.75/(349.3)	272

Farm Duty Motors

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200 & 575 Volt Motors

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Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes