



MAGNETIC MOTOR STARTERS



Line Starter



Combination Starter

Class I, Div. 1 & 2, Groups B, C, D
 Class I, Zones 1 & 2, Groups IIB, IIA
 Class II, Div. 1 & 2, Groups E, F, G
 Class III, Div. 1 & 2
 NEMA 3, 4, 4X, 7 (B, C, D) 9 (E, F, G)



- File E83969



Certified - File LR11714

See files for details or call Killark.

FEATURES-SPECIFICATIONS



Applications

The PRISM® B7 Series of across-the-line starter and combination motor control centers utilize SSNR single-speed, non-reversing NEMA type starters.

Prism enclosures universal design accommodates, as standard, the magnetic starters made by the following manufacturers:

- Allen-Bradley – 509 Series
- Cutler-Hammer – A10 Series
- Cutler-Hammer – AN16 Series
- Furnas – Class 14 Series
- GE – CR306 Series
- Square D – 8536 Series
- Telemecanique – A20 Series
- Westinghouse – A200 Series

In addition, the SSNR combination starters will house a Cutler-Hammer (Eaton) motor circuit protector or circuit breakers manufactured by:

- Square D – FA, FH, FC Frames
- Cutler-Hammer – HMC, EHD, FDB, FD, HFD, FDC Frames
- General Electric – TEB-TEC-TED-THED-Frame

There is sufficient space in the combination starter enclosure for a control transformer, if required.

Standard Materials

Enclosure – Copper-free aluminum

O-ring Gasket – BUNA-N nitrile

Cover Bolts – 316 grade stainless steel

CB/MCP Handle – Copper-free aluminum

Reset Operator – Thermoplastic polyester button molded onto stainless steel shaft. Aluminum shroud.

Mounting Pan – Sheet aluminum

Hinge – Aluminum with stainless steel pin

Reset Shroud – Black anodized

Features

- Nema 4, 4X rated – providing protection from hose directed water and corrosion
- Universal mounting pan, pre-drilled to facilitate easy field installation of starters. Provision for grounding supplied as standard.
- More wiring room – meets latest NEC wire bend requirements
- Quick release, captivated cover bolts of 316 grade stainless steel
- Flange sealing gasket located to the inside of cover bolt – preventing water seepage into enclosure through bolt holes
- Hinged cover provided as standard for an extra measure of safety and convenience
- Breaker (MCP) handle can be padlocked in “ON” or “OFF” position

- Provisions provided for drain and breather plus conduit openings for power and control
- Reset button provided as standard
- Two control operator openings provided plugged as standard. Additional openings can be factory or field drilled.
- Copper-free (less than 4/10 of 1% copper) enclosure
- Ductile mounting lugs

Catalog Logic

See page S8 for enclosures with controls.

NEW! The SQD 8536 Series now offered with solid state adjustable Class 30 overload relays. Overload heaters are no longer required.



MAGNETIC MOTOR STARTERS

**Combination Starters 3-Pole,
3-Phase, Single Speed Non
Reversing 600 VAC Max, 60Hz**

Square D combination motor starter / circuit breaker or Cutler-Hammer (Eaton) motor starter / motor circuit protector available. Enclosures sized to accommodate a control circuit transformer. Cutler-Hammer (Eaton) AN16 Series starters not supplied with overload heaters, see page S9 to order. Square D Series 8538 starters are supplied with adjustable solid state overloads, heaters no longer required.

B7 COMBINATION MAGNETIC LINE STARTERS							
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS ¹	MAX. HP	DISCONNECT TRIP AMPS	CATALOG NUMBER		ENCLOSURE ONLY NO INTERIORS
					CUTLER-HAMMER SERIES AN16	SQUARE D SERIES 8536	
0	SEP. CONTROL	120	—	3	B7020HBCA	B7020SBDA	B7021
0	SEP. CONTROL	120	—	7	B7020HBCB	B7020SBDDB	
0	SEP. CONTROL	120	—	15	B7020HBCC	B7020SBDC	
0	230	240	1	7	B7020HGCB	B7020SGDB	
0	230	240	3	15	B7020HGCC	B7020SGDC	
0	460	480	1	3	B7020HKCA	B7020SKDA	
0	460	480	2	7	B7020HKCB	B7020SKDB	
0	460	480	5	15	B7020HKCC	B7020SKDC	
0	575	600	1	3	B7020HMCA	B7020SMDA	
0	575	600	2	7	B7020HMCB	B7020SMDDB	
0	575	600	5	15	B7020HMCC	B7020SMDC	
1	SEP. CONTROL	120	—	15	B7021HBCC	B7021SBDC	B7021
1	SEP. CONTROL	120	—	30	B7021HBCE	B7021SBDDE	
1	230	240	7-1/2	30	B7021HGCE	B7021SGDE	
1	460	480	10	30	B7021HKCE	B7021SKDE	
1	575	600	10	30	B7021HMCE	B7021SMDE	
2	SEP. CONTROL	120	—	50	B7022HBCK	B7022SBCK	B7022
2	SEP. CONTROL	120	—	70	B7022HBCM	B7022SBCKM	
2	230	240	15	50	B7022HGCK	B7022SGCK	
2	230	240	15	70	B7022HGCKM	B7022SGCKM	
2	460	480	25	50	B7022HKCK	B7022SKCK	
2	575	600	25	50	B7022HMCK	B7022SMCK	
3	SEP. CONTROL	120	—	100	B7023HBCK	B7023SBCK	B7023
3	230	240	30	100	B7023HGCK	B7023SGCK	
3	460	480	50	100	B7023HKCK	B7023SKCK	
3	575	600	50	100	B7023HMCK	B7023SMCK	
4	SEP. CONTROL	120	—	150	B7024HBCT	B7024SBCT	B7024
4	230	240	50	150	B7024HGCT	B7024SGCT	
4	460	480	100	150	B7024HKCT	B7024SKCT	
4	575	600	100	150	B7024HMCT	B7024SMCT	
5	SEP. CONTROL	120	—	250	B7025CBCMCPJ250	B7025SBSMAGK250	See chart below
5	SEP. CONTROL	120	—	400	B7025CBCMCPK400	B7025SBSMAGL400	
5	230	240	75	250	B7025CGCMCPJ250	B7025SGSMAGK250	
5	230	240	100	400	B7025CGCMCPK400	B7025SGSMAGL400	
5	460	480	150	250	B7025CKCMCPJ250	B7025SKSMAGK250	
5	460	480	200	400	B7025CKCMCPK400	B7025SKSMAGL400	
5	575	600	150	250	B7025CMCMCPJ250	B7025SMSMAGK250	
5	575	600	200	400	B7025CMCMCPK400	B7025SMSMAGL400	

SIZE 5 COMBINATION MOTOR STARTER ENCLOSURE ONLY					
STARTER MANUFACTURER	STARTER TYPE	CIRCUIT BREAKER FRAME			ENCLOSURE CAT. NUMBER
		C-H	GE	SQ-D	
Allen Bradley	Series 509	J	F-225	K	B7025A2
Allen Bradley	Series 509	K	J-600	L	B7025A4
Cutler Hammer	Freedom-AN16	J	F-225	K	B7025C2
Cutler Hammer	Freedom-AN16	K	J-600	L	B7025C4
General Electric	Series 306	J	F-225	K	B7025G2
General Electric	Series 306	K	J-600	L	B7025G4
Square D	Series 8536	J	F-225	K	B7025S2
Square D	Series 8536	K	J-600	L	B7025S4
Eaton	Freedom-AN19 ^②	J	F-225	K	B7025W2
Eaton	Freedom-AN19 ^②	K	J-600	L	B7025W4

^① See catalog logic page S8 for other standard coil voltages.

^② Combination Starter enclosures provide sufficient space for factory of field mounting a control transformer.

^③ See catalog page S8 for modifications and accessories to enclosure.

^④ Eaton AN-19 Series are supplied with electronic overloads which do not require overload heaters.



B7 SERIES



Supplied with Eaton Freedom
AN19 Starters with C440 Electronic
Overload Relays

Applications

The PRISM® B7 Series of Combination Starters are used for Motor Control and Circuit protection of motors in Hazardous And Hostile locations. These Hazardous locations are typically due to the presence of flammable gases or vapors, combustible dust, or easily ignitable fibers and flyings, and areas which are subject to corrosion, weather and dampness.

AN19 Starter Features

- Electronic Overload Starter
- Brownout Protection
- Communications and user interface capabilities
- Overload Heaters not required
- Phase loss and a selectable (On/Off) phase unbalance protection
- Selectable automatic/manual reset
- Selectable Trip Class (10A, 10, 20, 30)
- Class II ground-fault protection – option add “GF” at end of catalog number

Enclosure Features

- Nema 4, 4X rated – providing protection from hose directed water and corrosion

COMBINATION STARTERS

- Universal mounting pan, pre-drilled to facilitate easy field installation of starters. Provision for grounding supplied as standard.
- More wiring room – meets latest NEC wire bend requirements
- Quick release, captivated cover bolts of 316 grade stainless steel
- Flange sealing gasket located to the inside of cover bolt – preventing water seepage into enclosure through bolt holes
- Hinged cover provided as standard for an extra measure of safety and convenience
- Breaker (MCP) handle can be padlocked in “ON” or “OFF” position
- Provisions provided for drain and breather plus conduit openings for power and control
- Field replaceable reset button provided as standard with gold contact blocks
- Two control operator openings provided plugged as standard. Additional openings can be factory or field drilled
- Copper-free (less than 4/10 of 1% copper) enclosure
- Ductile mounting lugs

Modifications & Accessories

- Select from B7 Modification Chart on page S8
- Minimum Control Transformer
 - » Size 1-2 100VA
 - » Size 3-4 150VA
 - » Size 5 300VA

Class I, Div. 1 & 2, Groups B, C, D
Class I, Zones 1 & 2, Groups IIB, IIA
Class II, Div. 1 & 2, Groups E, F, G
Class III, Div. 1 & 2
NEMA 3, 4, 4X, 7 (B, C, D) 9 (E, F, G)



- File E83969



Certified - File LR11714
See files for details or call Killark.

- AN19 Starters Auxiliary Contacts available, B7HAC page S8

Standard Materials

Enclosure – Copper-free aluminum

O-ring Gasket – BUNA-N nitrile

Cover Bolts – 316 grade stainless steel

CB/MCP Handle – Copper-free aluminum

Reset Operator – Thermoplastic polyester button molded onto stainless steel shaft. Aluminum shroud.

Mounting Pan – Sheet aluminum

Hinge – Aluminum with stainless steel pin

Reset Shroud – Black anodized

Notes:

1. Heaters are not required with the AN19 Starter. The Overload Module has trip current settings via DIP Switch between the amperage range shown.
2. All AN19 Starters are wired for separate control and supplied with 110V/50Hz - 120V/60Hz as standard.
3. Enclosures provide sufficient space for factory or field mounting a control transformer.

B7AD COMBINATION STARTER								
NEMA STARTER SIZE	MOTOR VOLTS	MAXIMUM HP	COIL VOLTS/HZ	DISCONNECT AMP TRIP	WITH MOTOR PROTECTOR AND STARTER	CATALOG NUMBER		
						*ADD OLR CODE		ENCLOSURE ONLY
						ORL CODE	FLA RANGE	
0	230	3	110/50 120/60	3	B7AD020H6CA* B7AD020H6CB* B7AD020H6CC*	-1P6	0.33-1.62A	B7AD021
	460	5		7		-005	1.0-5.0A	
	575	5		15		-020	4.0-20A	
1	230	7-1/2	110/50 120/60	30	B7AD021H6CF*	-005	1.0-5.0A	B7AD021
	460	10				-020	4.0-20A	
	575	10				-045	0.9-45A	
2	230	15	110/50 120/60	50	B7AD022H6CK*	-20	4.0-20A	B7AD022
	460	25				-045	0.9-45A	
	575	25						
3	230	30	110/50 120/60	100	B7AD023H6CQ*	-100	20-100A	B7AD023
	460	50						
	575	50						
4	230	50	110/50 120/60	150	B7AD024H6CT*	-100	20-100A	B7AD024
	460	100						
	575	100						
5	230	100	110/50 120/60	400	B7AD025H6K400*	-100	20-100A	B7AD025K
	460	200						
	575	200						



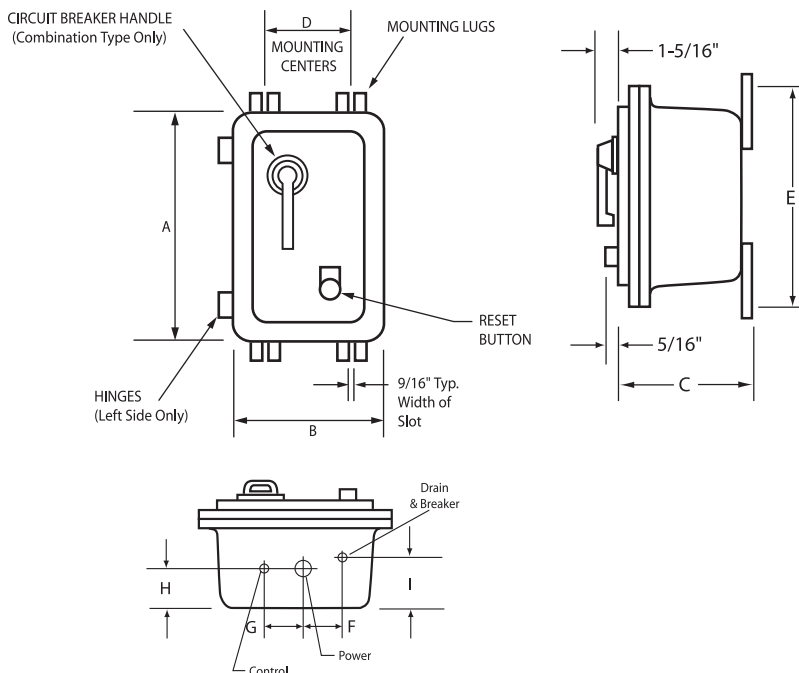
MOTOR STARTERS DIMENSIONS

B7 DIMENSIONS															
CATALOG NUMBER	NEMA SIZE	TYPE	DIMENSIONS									EST. ENCLOSURE WEIGH LBS.	CONDUIT OPENINGS TOP/BOTTOM (NPT)①		
			A	B	C	D	E	F	G	H	I		POWER	CONTROL	DRAIN BREATHER
B7011	0,1	Starter Only	18" (457)	11" (280)	9-1/8" (232)	3-5/8" (92)	16-3/8" (416)	2-1/8" (54)	2-3/8" (60)	2-11/16" (68)	3-7/16" (87)	46	1-1/2"	3/4"	1/2"
B7012	2	Starter Only	20" (508)	12-1/2" (317)	9-1/8" (232)	5" (127)	18-3/8" (467)	2-1/2" (63)	2-1/2" (63)	2-11/16" (68)	3-3/16" (81)	56	1-1/2"	3/4"	1/2"
B7013	3	Starter Only	26-1/4" (667)	12-1/2" (317)	10-3/4" (276)	5" (127)	24-5/8" (625)	2-1/2" (63)	2-3/4" (70)	4-1/16" (103)	5-1/2" (140)	80	2"	1"	1/2"
B7014	4	Starter Only	34-1/4" (870)	16-1/2" (419)	11-1/2" (292)	9" (229)	32-5/8" (830)	3-3/4" (95)	4" (102)	4-7/16" (113)	6" (152)	155	3"	1"	1/2"
B7021	0,1	Combination Starter	23" (584)	14-1/2" (368)	9-1/8" (232)	7" (178)	21-3/8" (543)	2-1/8" (54)	2-1/2" (64)	2-11/16" (68)	3-7/16" (87)	78	1-1/2"	3/4"	1/2"
B7022	2	Combination Starter	25-1/2" (648)	14-1/2" (368)	9-1/8" (232)	7" (178)	23-7/8" (606)	2-1/8" (54)	2-1/2" (64)	2-11/16" (68)	3-7/16" (87)	88	1-1/2"	3/4"	1/2"
B7023	3	Combination Starter	27-1/4" (692)	17-7/8" (454)	11" (280)	10-3/8" (263)	25-5/8" (651)	3-1/2" (89)	3-1/2" (89)	4-3/16" (106)	5-1/2" (140)	143	2"	1"	1/2"
B7024	4	Combination Starter	34-1/4" (870)	21-1/2" (546)	11-7/8" (302)	14" (356)	32-5/8" (829)	4-3/4" (121)	5" (127)	4-9/16" (116)	6-3/16" (157)	235	3"	1"	1/2"

① 1/2" conduit openings may be used for drain and/or breather installation. Smaller conduit openings may be used by utilizing reducing bushings. Custom conduit sizes and locations are available upon request.

DIMENSIONS FOR SIZE 5 COMBINATION STARTER													
DIMENSIONS										CONDUIT TOP & BTM. (NPT)			ENCL. WT. (LBS.)
A	B	C	D	E	F	G	H	I	J	K	L	M	
62-1/4" (1581)	20-1/4" (514)	15" (381)	18-1/2" (470)	43-1/2" (1105)	2-5/8" (67)	3-1/8" (79)	5-3/8" (137)	7-3/8" (187)	3-1/2" (89)	4" (102)	1/2" (13)	1" (25)	540

Dimensions B7 Size 0 Thru 4



Dimensions B7 Size 5

