

# STARTERS



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# KILLARK

STARTERS FOR HARSH & HAZARDOUS ENVIRONMENTS





# STARTERS

## MAGNETIC MOTOR STARTERS



Line Starter



Combination Starter

### 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 – HMCP, 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

**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**  
**ENCL. Type 3, 4 & 4X**



- File E83969



Certified - File LR11714

See files for details or call Killark.

- 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.

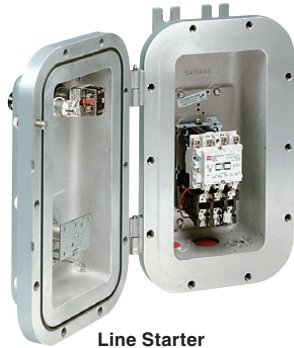
**NEW!** The SQD 8536 Series now offered with solid state adjustable Class 30 overload relays. Overload heaters are no longer required.



**B7 SERIES**



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  
 ENCL. Type 3, 4 & 4X



- File E83969



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

**FEATURES-SPECIFICATIONS**

**Magnetic Line Starters – 3 Pole, 3 Phase, Single Speed Non Reversing 600 VAC Max, 60Hz**

Square D or Cutler-Hammer motor starters available as standard. For Cutler-Hammer only, heaters not included. See page S9 to order.

B7 MAGNETIC LINE STARTERS						
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS <sup>①</sup>	MAX. HP	CATALOG NUMBER		ENCLOSURE ONLY NO INTERIORS
				CUTLER-HAMMER SERIES AN16	SQUARE D SERIES 8536 <sup>④</sup>	
0	SEP. CONTROL	120	—	B7010HB	B7010SB	B7011
0	230	240	3	B7010HG	B7010SG	
0	460	480	5	B7010HK	B7010SK	
0	575	600	5	B7010HM	B7010SM	
1	SEP. CONTROL	120	—	B7011HB	B7011SB	B7011
1	230	240	7-1/2	B7011HG	B7011SG	
1	460	480	10	B7011HK	B7011SK	
1	575	600	10	B7011HM	B7011SM	
2	SEP. CONTROL	120	—	B7012HB	B7012SB	B7012
2	230	240	15	B7012HG	B7012SG	
2	460	480	25	B7012HK	B7012SK	
2	575	600	25	B7012HM	B7012SM	
3	SEP. CONTROL	120	—	B7013HB	B7013SB	B7013
3	230	240	30	B7013HG	B7013SG	
3	460	480	50	B7013HK	B7013SK	
3	575	600	50	B7013HM	B7013SM	
4	SEP. CONTROL	120	—	B7014HB	B7014SB	B7014
4	230	240	50	B7014HG	B7014SG	
4	460	480	100	B7014HK	B7014SK	
4	575	600	100	B7014HM	B7014SM	

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

② Control transformers for use on Combination Starters Only. Will not fit into B701 Series of Non-Combination Starters.

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

④ 8536 have solid state adjustable overload relays. Heaters are no longer required.

# STARTERS

B7 SERIES



## 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 8536 starters are supplied with adjustable solid state overloads, heaters no longer required.

B7 COMBINATION MAGNETIC LINE STARTERS							
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS <sup>①</sup>	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	B7020SBDCC	
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	B7020SMDB	
0	575	600	5	15	B7020HMCC	B7020SMDC	
1	SEP. CONTROL	120	—	15	B7021HBCC	B7021SBDC	
1	SEP. CONTROL	120	—	30	B7021HBCF	B7021SBDF	
1	230	240	7-1/2	30	B7021HGCF	B7021SGDF	
1	460	480	10	30	B7021HKCF	B7021SKDF	
1	575	600	10	30	B7021HMCF	B7021SMDF	
2	SEP. CONTROL	120	—	50	B7022HBCK	B7022SBCK	B7022
2	SEP. CONTROL	120	—	70	B7022HBCM	B7022SBDM	
2	230	240	15	50	B7022HGCK	B7022SGDK	
2	230	240	15	70	B7022HGCM	B7022SGDM	
2	460	480	25	50	B7022HKCK	B7022SKDK	
2	575	600	25	50	B7022HMCK	B7022SMDK	
3	SEP. CONTROL	120	—	100	B7023HBCQ	B7023SBQ	B7023
3	230	240	30	100	B7023HGQ	B7023SGQ	
3	460	480	50	100	B7023HKQ	B7023SKQ	
3	575	600	50	100	B7023HMCP	B7023SMDQ	
4	SEP. CONTROL	120	—	150	B7024HBCT	B7024SBGT	B7024
4	230	240	50	150	B7024HGCT	B7024SGGT	
4	460	480	100	150	B7024HKCT	B7024SKGT	
4	575	600	100	150	B7024HMCT	B7024SMGT	
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 <sup>②</sup>	J	F-225	K	B7025W2
Eaton	Freedom-AN19 <sup>②</sup>	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 or 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 0 50VA
  - » Size 1-2 100VA
  - » Size 3 150VA
  - » Size 4-5 200VA

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  
**ENCL. Type 3, 4 & 4X**



- 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
						OLR CODE	FLA RANGE	
0	230	3	110/50 120/60	3 7 15	B7AD020H6CA* B7AD020H6CB* B7AD020H6CC*	-1P6	0.33-1.62A	B7AD021
	460	5				-005	1.0-5.0A	
	575	5				-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*	-140	28-140A	B7AD024
	460	100						
	575	100						
5	230	100	110/50 120/60	400	B7AD025H6K400*	-300	60-300A	B7AD025K
	460	200						
	575	200						

# STARTERS

B7 SERIES



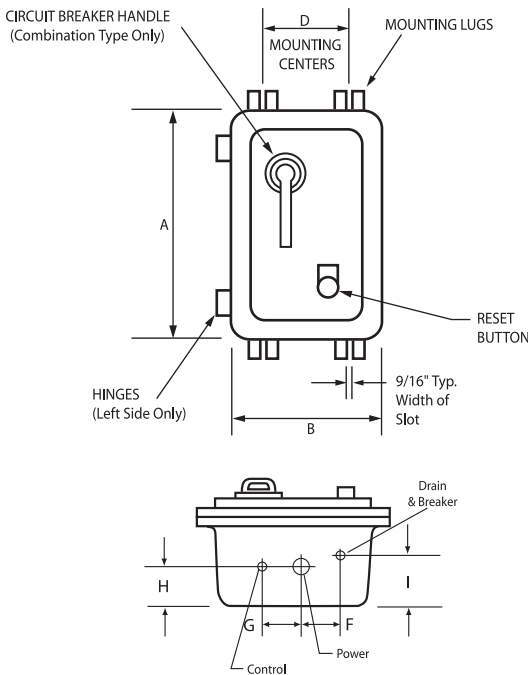
## MOTOR STARTERS DIMENSIONS

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"

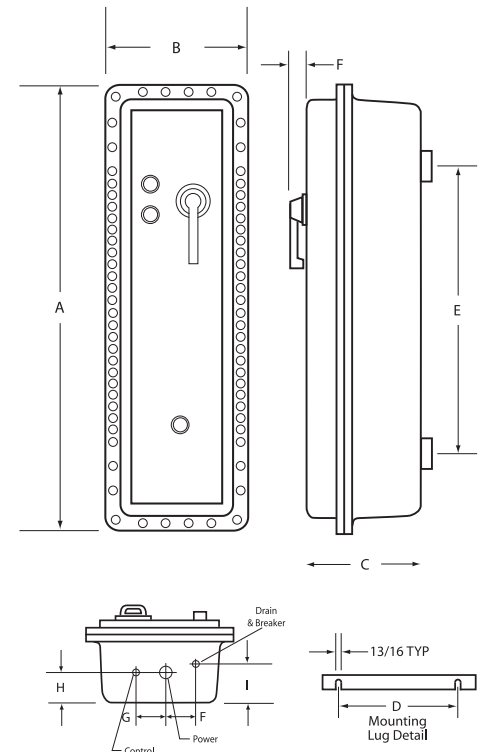
① 1/2" conduit openings may be used for drain and/or breather installation. Smaller conduit openings may be used by utilizing reducing bushings. Custom conduit sizes and locations are available upon request.

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





B7 SERIES



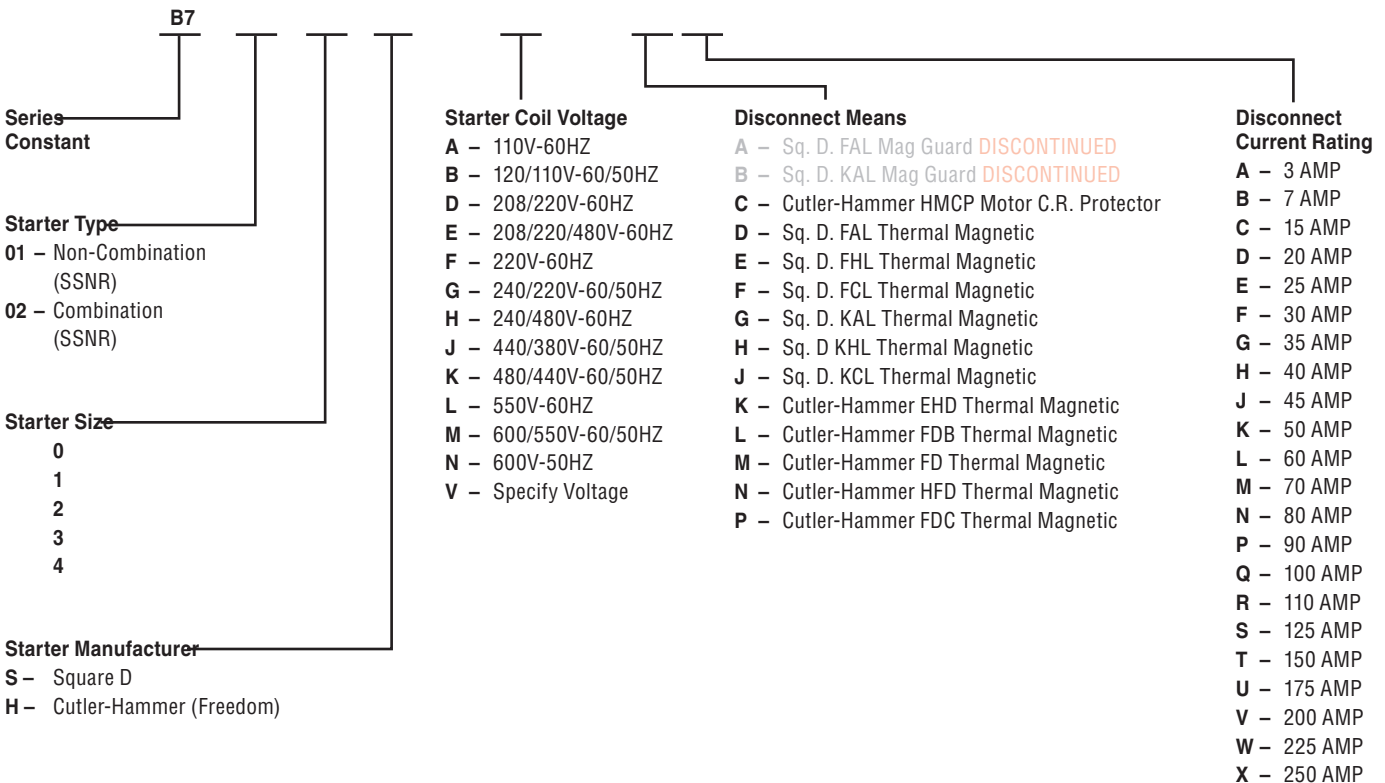
MOTOR STARTERS ACCESSORIES / CATALOG LOGIC

B7 MODIFICATIONS AND ACCESSORIES		
CATALOG NUMBER		DESCRIPTION
SIZE 0 THRU 4	SIZE 5	
B7DBP	B7EDBP	Double pushbutton (Start/Stop)
B7RPL	B7ERPL	Red pilot light 120 Volt
B7GPL	B7EGPL	Green pilot light 120 Volt
B7APL	B7EAPL	Amber pilot light 120 Volt
B7LPBR	B7ELPBR	Illuminated red pushbutton 120 Volt
B7LPBG	B7ELPBG	Illuminated green pushbutton 120 Volt
B7LPBA	B7ELPBA	Illuminated amber pushbutton 120 Volt
B7PLR220	B7PLR220	Pilot light resistor 220 Volt to 110 Volt
B7PLR440	B7PLR440	Pilot light resistor 440 Volt to 110 Volt
B7PLR550	B7PLR550	Pilot light resistor 550 Volt to 110 Volt
B72SS	B7ESS	2 position selector switch (On-Off)
B7SSHOA	B7ESSHOA	3 position selector switch (Hand-Off-Auto)
B7HAC	B75CAC	Cutler Hammer auxiliary contact (1NO/1NC)
B7SAC	B75SAC	Square D auxiliary contact (1NO/1NC)
B7TB	B7TB	Terminal block (6 Terminals)
—	B7IPR	Interposing relay 120 Volt coil
B7CT50	—	Control transformer 50VA (0,1,2)*
B7CT75	—	Control transformer 75VA (0,1,2)*

B7 MODIFICATIONS AND ACCESSORIES		
CATALOG NUMBER		DESCRIPTION
SIZE 0 THRU 4	SIZE 5	
B7CT100	—	Control transformer 100VA (0,1,2)*
B7CT150	—	Control transformer 150VA (0,1,2)*
B7CT200	—	Control transformer 200VA (3,4)*
B7CT250	—	Control transformer 250VA (3,4)*
—	B7CT300	Control transformer 300VA (5)*
—	B7CT500	Control transformer 500VA (5)*
KB1-4X	KB1-4X	Breather & Drain Type 4X
KB1S6-4X	KB1S6-4X	Drain & Breather Type 4X SS
KIT-251	KIT-251	Grounding kit
B7SF	B7SF	Special finish – Baked epoxy outside
B7DLO	B7DLO	Delete lock “ON” feature for breaker handle
B7SH251	B7SH251	Space heater 25 Watt 120 Volt
B7SH252	B7SH252	Space heater 25 Watt 240 Volt
B7SH254	B7SH254	Space heater 25 Watt 480 Volt
B7SH501	B7SH501	Space heater 50 Watt 120 Volt
B7SH502	B7SH502	Space heater 50 Watt 240 Volt
B7SH504	B7SH504	Space heater 50 Watt 480 Volt

\* Control transformers are primary 240/480 - Secondary 120 Volt. Control transformers for use on Combination Starters Only. Will not fit into B701 Series of Non-Combination Starters. All control transformers include fused primary and secondary circuits.

Catalog Logic – B7 Enclosures with Controls



This Catalog Logic Chart is for reference only and is to be used for selection of special voltage and amperage requirements. Consult Factory since not all assemblies are available with complete list of options displayed.



# STARTERS

## OVERLOAD HEATERS/NON-REVERSING



### 3-POLE, 60HZ, 600VAC SINGLE-SPEED

Overload heaters are not supplied as part of the starter assemblies and are to be ordered as separate items by catalog number and priced accordingly.

Heaters should be selected on the basis of the actual full-load current and service factor as shown on the motor nameplate or in the manufacturer's published literature.

When motor and overload relay are in the same ambient and the service factor of the motor is 1.15 to 1.25, select heaters from the heater selection chart. If the service factor of the motor is 1.0, or there is no service factor shown, or a maximum of 115% protection is desired, select one size smaller heater than indicated.

When motor and overload relay are in different ambients, select heaters from the chart using adjusted motor currents as follows: decrease rated motor current 1% for each °C motor ambient exceeds controller ambient; increase rated motor current 1% for each °C controller ambient exceeds motor ambient.

CUTLER-HAMMER HEATER (EACH HEATER PACK CONSISTS OF 3 HEATERS)				
CATALOG NUMBER	MOTOR FULL-LOAD AMPERE RATING DIAL POSITION			
	A	B	C	D
<b>FOR SIZES 0-1</b>				
KH2001B-3	.254	.306	.359	.411
KH2002B-3	.375	.452	.530	.607
KH2003B-3	.560	.676	.791	.907
KH2004B-3	.814	.983	1.15	1.32
KH2005B-3	1.20	1.45	1.71	1.96
KH2006B-3	1.79	2.16	2.53	2.90
KH2007B-3	2.15	2.60	3.04	3.49
KH2008B-3	3.23	3.90	4.56	5.23
KH2009B-3	4.55	5.50	6.45	7.40
KH2010B-3	6.75	8.17	9.58	11.0
KH2011B-3	9.14	10.8	12.4	14.0
KH2012B-3	14.0	16.9	19.9	22.8
KH2013B-3	18.7	22.7	26.7	30.7
KH2014B-3	23.5	28.5	33.5	38.5
<b>FOR SIZE 2</b>				
KH2015B-3	29.0	34.0	39.1	44.1
KH2016B-3	39.6	45.5	51.5	57.4
KH2017B-3	53.9	60.9	67.9	74.9
<b>FOR SIZES 3-4</b>				
KH2018-3	18.0	20.2	22.3	24.5
KH2019-3	24.6	27.6	30.5	33.4
KH2020-3	33.5	37.5	41.5	45.6
KH2021-3	45.7	51.2	56.7	62.1
KH2022-3	62.2	69.7	77.1	84.6
KH2023-3	84.7	95.0	105.0	115.0
KH2024-3	106.0	118.0	131.0	144.0
<b>FOR SIZE 5</b>				
KH2004B-3	49	59	69	79
KH2005B-3	72	87	103	118
KH2006B-3	107	130	152	174
KH2007B-3	129	156	182	209
KH2008B-3	194	234	274	—



Y7 SERIES



MOTOR STARTERS – MAGNETIC LINE STARTERS



Y7011ZH

Class I, Div. 1 & 2, Groups C, D  
 Class 1, Zones 1 & 2, Groups IIB, IIA  
 Class II, Div. 1 & 2, Groups E, F, G  
 Class III

Certified - File LR11714

Contact Killark for FM file numbers.  
 See files for details or call Killark.

**FEATURES-SPECIFICATIONS**

**New!** The Square D 8536 Series is now supplied with the solid state overload relay, with adjustable Class 30 Trip settings. Overload heaters no longer required.

**Applications**

- Hazardous areas due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers or flyings
- Installations at petroleum refineries, chemical and petrochemical plants, storage areas and other processing facilities where hazardous substances are handled or stored
- Full-voltage, across-the-line starting and stopping of polyphase AC squirrel cage induction motors or as the primary starter for wound rotor motors
- Provides running and undervoltage protection of motor
- Remote starting and stopping of motor

**Features**

- Rectangular bolted cover design provides for attractive, compact, uniform installations
- Ground flange joint between box and cover provides required flame path
- Two drilled and tapped power conduit openings, one top and one bottom are standard on all assemblies.
- One 3/4"-14 NPT drilled, tapped and plugged conduit opening is provided in bottom for remote control
- Two 3/4"-14 NPSM drilled, tapped, and plugged openings in cover are provided for addition of local control operator

- External reset button and stainless steel cover bolts are standard
- Hinges are either stainless steel or aluminum and are mounted on the left side of all assemblies
- Enclosure is cast copper-free aluminum alloy
- Available for Cutler-Hammer AN16 Freedom or Square D 8536 starters

**Overload Heaters**

Heaters not included. See page S9 for Cutler-Hammer heater selection

**Dimensions**

See page S12 for dimensional data

**Modifications**

See page S12

Y7 MAGNETIC LINE STARTER (ENCLOSURES WITHOUT SPACE FOR CONTROL TRANSFORMER)					
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS	MAXIMUM HP	CATALOG NUMBER	
				CUTLER-HAMMER SERIES AN16	SQUARE D SERIES 8536
0	Sep Control	120	—	Y7010BH	Y7010BS
0	230	240	3	Y7010DH	Y7010DS
0	440-460	480	5	Y7010KH	Y7010KS
1	Sep Control	120	—	Y7011BH	Y7011BS
1	230	240	7-1/2	Y7011DH	Y7011DS
1	440-460	480	10	Y7011KH	Y7011KS
2	Sep Control	120	—	Y7012BH	Y7012BS
2	230	240	15	Y7012DH	Y7012DS
2	440-460	480	25	Y7012KH	Y7012KS
0	Enclosure only No interior			Y7010ZH	Y7010ZS
1	Enclosure only No interior			Y7011ZH	Y7011ZS
2	Enclosure only No interior			Y7012ZH	Y7012ZS

Y7 MAGNETIC LINE STARTER (ENCLOSURES WITH SPACE FOR CONTROL TRANSFORMER)					
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS	MAXIMUM HP	CATALOG NUMBER	
				CUTLER-HAMMER SERIES AN16	SQUARE D SERIES 8536
0	230//460	120	3//5	Y7000BH	Y7000BS
1	230//460	120	7 1/2//10	Y7001BH	Y7001BS
2	230//460	120	15//25	Y7002BH	Y7002BS
0	Enclosure only No interior			Y7000ZH	Y7000ZS
1	Enclosure only No interior			Y7001ZH	Y7001ZS
2	Enclosure only No interior			Y7002ZH	Y7002ZS

# STARTERS

Y7 SERIES



## COMBINATION MOTOR STARTERS



Y7021ZHAZ

Class I, Div. 1 & 2, Groups C, D  
 Class 1, Zones 1 & 2, Groups IIB, IIA  
 Class II, Div. 1 & 2, Groups E, F, G  
 Class III

Certified - File LR11714

Contact Killark for FM file numbers.  
 See files for details or call Killark.

### FEATURES-SPECIFICATIONS

**New!** The Square D 8536 Series is now supplied with the solid state overload relay, with adjustable Class 30 Trip settings. Overload heaters no longer required.

#### Applications

- Hazardous areas due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers or flyings
- Full-voltage, across-the-line starting and stopping of polyphase AC squirrel cage induction motors or as the primary starter for wound rotor motors
- Provides running and undervoltage protection of motor
- Motor branch circuit disconnect and short circuit protection

#### Features

- Rectangular bolted cover design provides for attractive, compact, uniform installations
- Two 3/4"-14 NPSM drilled, tapped, and plugged openings are provided for addition of local operators
- Two drilled, tapped and plugged openings, one top and one bottom are supplied for installation of drain and breather
- Hinges are either stainless steel or aluminum and are mounted on the left side of all assemblies

- Circuit breaker handle mechanism interlocks with circuit breaker to prevent opening of enclosure when circuit is in the "ON" position
- External handle is vault type with standard provisions for locking in the "OFF" position with up to three padlocks
- Circuit breaker is trip free of handle mechanism

#### Modifications

Modifications are available. See page S12.

#### Dimensions

For dimensional data, see page S12.

#### Overload Heaters

Heaters are not included. See page S9 for Cutler-Hammer heater selection.

Y7 COMBINATION MAGNETIC LINE STARTER						
NEMA STARTER SIZE	MOTOR VOLTS	COIL VOLTS	MAXIMUM HP	DISCONNECT TRIP AMPS	CATALOG NUMBER	
					CUTLER-HAMMER SERIES AN16	SQUARE D SERIES 8536
0	Sep Control	120	—	3	Y7020BHVV	Y7020BSVV
0	Sep Control	120	—	7	Y7020BHVX	Y7020BSVX
0	Sep Control	120	—	15	Y7020BHVA	Y7020BSVA
0	230	240	1	7	Y7020DHVX	Y7020DSVX
0	230	240	3	15	Y7020DHVA	Y7020DSVA
0	460	480	1	3	Y7020KHVV	Y7020KSVV
0	460	480	5	7	Y7020KHVX	Y7020KSVX
1	Sep Control	120	—	15	Y7021BHVA	Y7021BSVA
1	Sep Control	120	—	30	Y7021BHVC	Y7021BSVC
1	230	240	7-1/2	30	Y7021DHVC	Y7021DSVC
1	460	480	10	30	Y7021KHVC	Y7021KSVC
2	Sep Control	120	—	50	Y7022BHVE	Y7022BSVE
2	Sep Control	120	—	70	Y7022BHVX	Y7022BSVX
2	230	240	15	50	Y7022DHVE	Y7022DSVE
2	230	240	15	70	Y7022DHVX	Y7022DSVX
2	460	480	25	50	Y7022KHVE	Y7022KSVE
0	Enclosure only. No Interior				Y7020ZHVZ	Y7020ZSVZ
1	Enclosure only. No Interior				Y7021ZHVZ	Y7021ZSVZ
2	Enclosure only. No Interior				Y7022ZHVZ	Y7022ZSVZ



MOTOR STARTERS / MODIFICATIONS

Combination Starter Modifications

Modifications are available by ordering the following by catalog number as separate items and noting on the order that they are to be assembled into the enclosure.

FEATURES-SPECIFICATIONS

Y7 MAGNETIC LINE STARTERS DIMENSIONS

NEMA SIZE	A	B	D	E	G	H	J	K	CONDUIT SIZE	
									POWER	CONTROL
0-1 <sup>ⓐ</sup>	7-3/4"(197)	7-1/4"(184)	10"(254)	6"(152)	2"(51)	7-5/8"(194)	1-1/8"(28)	3/4"(19)	1-1/2"	3/4"
2 <sup>ⓐ</sup>	9"(228)	7-3/4"(197)	11-1/4"(286)	6-1/2"(165)	2"(51)	7-5/8"(194)	1-1/8"(28)	7/8"(22)	1-1/2"	3/4"
0-1 <sup>ⓑ</sup>	8-3/4"(222)	11-1/8"(282)	12-1/2"(317)	10-1/2"(267)	2"(51)	8-1/4"(209)	2-3/8"(60)	2-3/8"(60)	1-1/2"	3/4"
2 <sup>ⓑ</sup>	8-3/4"(222)	11-1/8"(282)	12-1/2"(317)	10-1/2"(267)	2"(51)	8-1/4"(209)	2-3/8"(60)	2-3/8"(60)	1-1/2"	3/4"

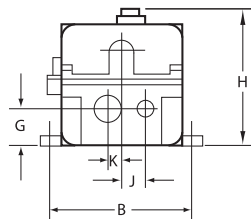
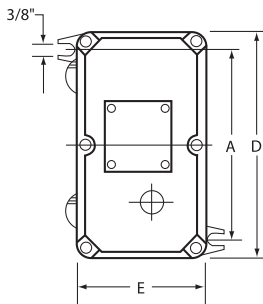
ⓐ Without space for control transformer.

ⓑ With space for control transformer.

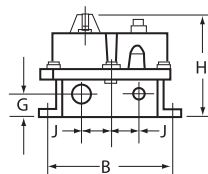
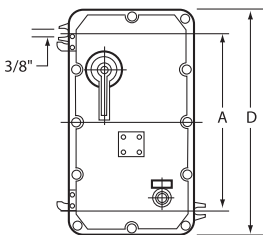
Y7 COMBINATION STARTERS DIMENSIONS

NEMA SIZE	A	B	D	E	G	H	J	CONDUIT SIZE	
								POWER	CONTROL
0-1	16-1/4"(413)	11-1/8"(282)	20"(508)	10-1/2"(267)	2"(51)	9"(228)	2-3/8"(60)	1-1/2"	3/4"
2	16-1/4"(413)	11-1/8"(282)	20"(508)	10-1/2"(267)	2"(51)	9"(228)	2-3/8"(60)	1-1/2"	3/4"

Dimensions



Magnetic Line Starters  
Sizes 0, 1, 2



Combination Starters  
Sizes 0, 1, 2

Y7 MODIFICATIONS AND ACCESSORIES

CATALOG NUMBER	DESCRIPTION
G022-GR12D	Double pushbutton (Start/Stop)
GOB3-R23C N34	Red pilot light 120 Volt
GOB3-G23C N34	Green pilot light 120 Volt
GOB3-A23C N34	Amber pilot light 120 Volt
B7PLR220	Pilot light resistor 220 Volt to 120 Volt
B7PLR440	Pilot light resistor 440 Volt to 120 Volt
B7PLR550	Pilot light resistor 550 Volt to 120 Volt
G025-2A3F	2 position selector switch (On/Off)
G025-3C3G	3 position selector switch (Hand/Off/Auto)
B7HAC	Cutler-Hammer auxiliary contact (1NO/1NC)
B7SAC	Square D auxiliary contact (1NO/1NC)
B7CT50	Control transformer 50VA*
B7CT75	Control transformer 75VA*
B7CT100	Control transformer 100VA*
KDB-1	Breather
KDB-1	Drain
KIT-251	Grounding kit

\* Control transformers are primary 240/480 – Secondary 120 Volt. All control transformers include fused primary and secondary circuits.

# STARTERS

## XSD/XSX/FXSD/FXSX SERIES



### MANUAL MOTOR STARTING SWITCHES



**XSD, XSX, Series**  
Non Factory Sealed



**FXSD, FXSX Series**  
Factory Sealed

**Class I, Div. 1 & 2, Groups C, D**  
**Class 1, Zones 1 & 2, Groups IIB, IIA**  
**Class II, Div. 1 & 2, Groups E, F, G**  
**Class III**  
**Type 3 (Factory sealed type)**

LISTED - File E53360 and/or E12379

Certified - File LR11714

APPROVED FM - File 25219

See files for details or call Killark.

### FEATURES-SPECIFICATIONS

#### Applications

- Provides manual starting and stopping of small AC or DC motors
- Motor running protection when overload heaters are used
- XSX/FXSX Series (without overload protection) are ideally suited for across-the-line applications where a positive disconnect means is required

#### Features

- FXSX-FXSD Series require no external seals (factory sealed) and are NEMA 3 (raintight) rated
- Enclosures are cast copper-free aluminum alloy
- Operating shaft is stainless steel
- Multiple gang assemblies available in combination with pilot lights, pushbuttons and switches on request
- Ground flange joint between bolted cover and box provide required flame path
- Provisions for padlocking switch in either "ON" or "OFF" position is standard

#### Dimensions

For dimensional data, see page S14.

### XSD/FXSD SERIES WITH OVERLOAD PROTECTION<sup>①</sup>

#### Non-Factory Sealed:

Square D, Class 2510, Type F  
1-Pole, 1HP, 115-230 VAC  
2-Pole, 1HP, 115-230 VAC  
3/4 HP, 115-230 VDC

#### Factory Sealed:

Square D, Class 2510, Type F  
1-Pole, 1HP, 115-230 VAC  
2-Pole, 1HP, 115-230 VAC  
3/4 HP, 115-230 VDC

XSD SINGLE GANG			
CATALOG NUMBER		HUB STYLE	HUB SIZE
1-POLE SINGLE PHASE	2-POLE SINGLE PHASE		
XSD-11	XSD-12	Dead end	1/2"
XSD-21	XSD-22		3/4"
XSD-41	XSD-42	Feed thru	1/2"
XSD-51	XSD-52		3/4"
XSD-01	XSD-02	Cover and Switch assembly	

FXSD SINGLE GANG			
CATALOG NUMBER		HUB STYLE	HUB SIZE
1-POLE SINGLE PHASE	2-POLE SINGLE PHASE		
FXSD11	FXSD12	Dead end	1/2"
FXSD21	FXSD22		3/4"
FXSD41	FXSD42	Feed thru	1/2"
FXSD51	FXSD52		3/4"
FXSD01	FXSD02	Cover and Switch assembly	

<sup>①</sup> Order heaters separately on page S13.

### XSX/FXSX SERIES WITHOUT OVERLOAD PROTECTION

#### Non-Factory Sealed:

Square D, Class 2510, Type K  
2-Pole, 2 HP, 115 VAC  
2 HP, 200-230 VAC  
3 HP, 460-575 VAC  
3-Pole, 2 HP, 115 VAC  
7-1/2 HP, 200-230 VAC  
10 HP, 460-575 VAC

#### Factory Sealed:

Square D, Class 2510, Type K  
2-Pole, 2 HP, 115 VAC  
2 HP, 200-230 VAC  
3 HP, 460-575 VAC  
3-Pole, 2 HP, 115 VAC  
3 HP, 200-230 VAC  
5 HP, 460-575 VAC

XSX SINGLE GANG <sup>②</sup>			
CATALOG NUMBER		HUB STYLE	HUB SIZE
2-POLE 600V 1-PHASE	3-POLE 600V 3-PHASE		
XSX-12	XSX-13	Dead end	1/2"
XSX-22	XSX-23		3/4"
XSX-42	XSX-43	Feed thru	1/2"
XSX-52	XSX-53		3/4"
XSX-2	XSX-3	Cover and Switch assembly	

FXSX SINGLE GANG			
CATALOG NUMBER		HUB STYLE	HUB SIZE
2-POLE 600V 1-PHASE	3-POLE 600V 3-PHASE		
FXSX12	FXSX13	Dead end	1/2"
FXSX22	FXSX23		3/4"
FXSX42	FXSX43	Feed thru	1/2"
FXSX52	FXSX53		3/4"
FXSX02	FXSX03	Cover and Switch assembly	

<sup>②</sup> FM and CSA only

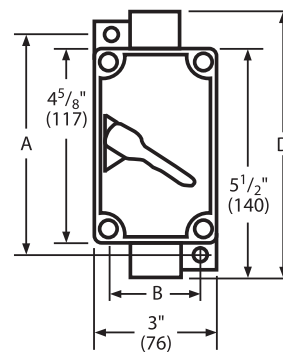
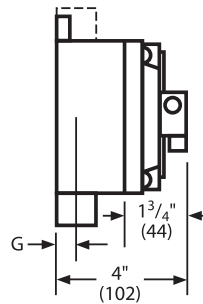


XSD / XSX / FXSD / FXSX HEATERS

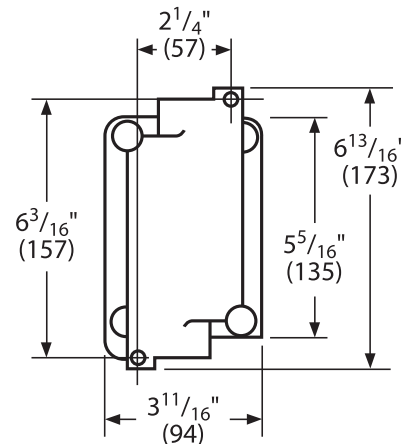
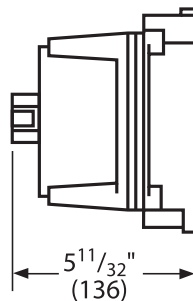
HEATER TABLE ①		
CATALOG NUMBER	FULL-LOAD MOTOR CURRENT	SQUARE D HEATER CATALOG NUMBER
YOSD-A.49	0.41-0.44	A.49
YOSD-A.54	0.45-0.49 A.54	A.54
YOSD-A.59	0.50-0.53	A.59
YOSD-A.65	0.54-0.58	A.65
YOSD-A.71	0.59-0.65	A.71
YOSD-A.78	0.66-0.71	A.78
YOSD-A.86	0.72-0.78	A.86
YOSD-A.95	0.79-0.85	A.95
YOSD-A1.02	0.86-0.96	A1.02
YOSD-A1.16	0.97-1.04	A1.16
YOSD-A1.25	1.05-1.16	A1.25
YOSD-A1.39	1.17-1.29	A1.39
YOSD-A1.54	1.30-1.37	A1.54
YOSD-A1.63	1.38-1.47	A1.63
YOSD-A1.75	1.48-1.56	A1.75
YOSD-A1.86	1.57-1.65	A1.86
YOSD-A1.99	1.66-1.79	A1.99
YOSD-A2.15	1.80-1.95	A2.15
YOSD-A2.31	1.96-2.15	A2.31
YOSD-A2.57	2.16-2.38	A2.57
YOSD-A2.81	2.39-2.75	A2.81
YOSD-A3.61	2.76-2.84	A3.61
YOSD-A3.95	2.85-3.06	A3.95
YOSD-A4.32	3.07-3.45	A4.32
YOSD-A4.79	3.46-3.70	A4.79
YOSD-A5.30	3.71-4.07	A5.30
YOSD-A5.78	4.08-4.32	A5.78
YOSD-A6.20	4.33-4.90	A6.20
YOSD-A6.99	4.91-5.35	A6.99
YOSD-A7.65	5.36-5.85	A7.65
YOSD-A8.38	5.86-6.41	A8.38
YOSD-A9.25	6.42-6.79	A9.25
YOSD-A9.85	6.80-7.57	A9.85
YOSD-A11.0	7.58-8.15	A11.0
YOSD-A11.9	8.16-8.98	A11.9
YOSD-A13.2	8.99-9.67	A13.2
YOSD-A14.1	9.68-9.95	A14.1
YOSD-A14.8	9.96-10.8	A14.8
YOSD-A16.2	10.9-12.1	A16.2
YOSD-A17.9	12.2-13.1	A17.9
YOSD-A19.8	13.2-13.9	A19.8
YOSD-A21.3	14.0-15.0	A21.3
YOSD-A25.2	15.1-16.0	A25.2

FEATURES-SPECIFICATIONS

XSD/XSX NON-FACORY SEALED DIMENSIONS					
BOX STYLE	HUB SIZE	A	B	D	G
Single gang dead-end	1/2"	5-1/4"(133)	2-1/4"(57)	—	11/16"(17)
	3/4"	5-1/4"(133)	2-1/4"(57)	—	11/16"(17)
	1"	5-3/8"(136)	2-3/8"(60)	—	7/8"(22)
Single gang feed-thru	1/2"	5-1/4"(133)	2-1/4"(57)	6"(152)	11/16"(17)
	3/4"	5-1/4"(133)	2-1/4"(57)	6"(152)	11/16"(17)
	1"	5-3/8"(136)	2-3/8"(60)	6"(152)	7/8"(22)



Factory Sealed (FXSD/FXSX)



① Overload heaters are not supplied as part of the starter assemblies and need to be ordered as separate items by catalog number and priced accordingly.



# STARTERS

## COMPACT MANUAL IEC STARTERS



**B7MS1P**  
Push Button Style



**B7MS2R**  
Rotary Style

**Class I, Div. 1 & 2, Groups B, C, D**  
**Class I, Zones 1 & 2, Groups IIB+H<sub>2</sub>, IIA**  
**Class II, Div. 1 & 2, Groups E, F, Ga**  
**Class III, Div. 1 & 2**  
**ENCL. Type 3, 4 & 4X**

Certified - File LR11714

### FEATURES-SPECIFICATIONS

#### Applications

The PRISM® B7MS Series of non-reversing, manual line voltage starters and enclosures are suitable for use in applications requiring manual across-the-line starting and stopping of small single and polyphase AC motors, and where overload protection is needed. Manual starters are generally used on small machine tools, fans and blowers, pumps, compressors, and conveyors as well as many other types of electrical equipment.

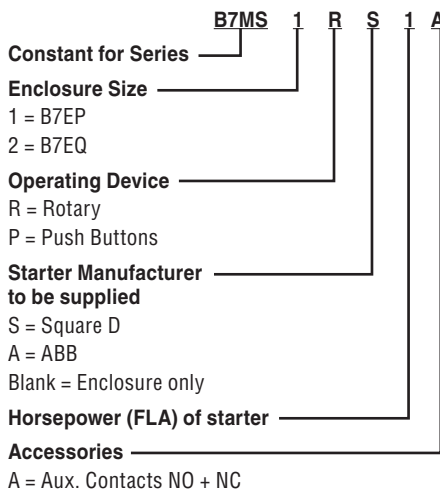
PRISM® enclosures universal design accommodates, as standard, IEC starter manufacturers including Square D, Cutler-Hammer, ABB, Siemens, Moeller, Sprecher + Schuh, Allen-Bradley, Advance Controls, and WEG.

Square D © Schneider Electric  
 Siemens © Siemens AG  
 Moeller © Moeller Electric Corp.

See catalog pg. DE8A for copyrights of other brands referenced.

When ordered with starters, ABB or Square D supplied.

#### Catalog Logic



#### Features

- Compact size enclosures provide application flexibility with cost savings over industry standard sizes
- NEMA 4, 4X rated – providing protection from hose directed water and corrosion
- Pre-drilled to facilitate easy field installation of starters
- 2 operating styles, rotary or push button, including lock-out provision.
- Provisions for drain and breather
- Bolt on ductile mounting lugs
- Two NPT conduit openings provided as standard, with custom openings on request

#### Electrical Rating

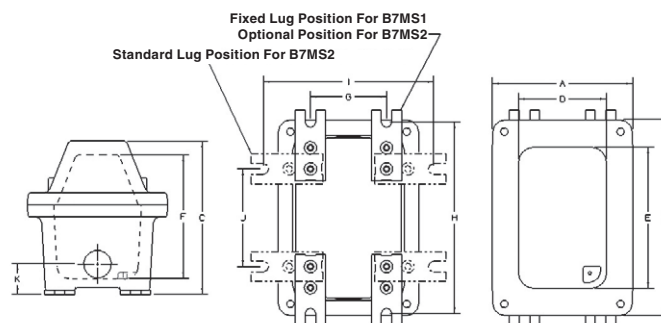
- Starters rated 600V, 3 phase up to 50HP

#### Standard Materials /Finish

- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 Stainless Steel
- O-ring Gasket: Silicone
- Finish: Grey Powder Polyester painted exterior, electrostatically applied

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
A	Auxiliary contacts 1 NO + 1 NC
SU-2	Hinge-9 Installed
SU3B-4X	Drain & Breather installed TYPE 4X
SU3B-4XSS	Drain & Breather installed TYPE 4X SS
B7SPNPT	Change Std. conduit size and location
SU9	Special paint finish
SU14	Fungus proofing of enclosures

#### DIMENSIONS



ENCLOSURE	OUTSIDE BOX DIMENSIONS			NOMINAL INSIDE BOX			MOUNTING DIMENSIONS				CONDUIT SIZE	
	A	B	C	D	E	F	G	H	I	J		K
B7MS1	5-3/4	8-1/16	6-5/16	3-5/8	5-13/16	5-1/16	3-1/8	8-1/8	—	—	1-1/4	1
B7MS2	8-1/8	13-1/16	7-13/16	4-1/4	9-13/16	6-5/16	2-1/2	11-3/8	6-3/8	7-1/2	1-13/16	1-1/2



COMPACT MANUAL IEC STARTERS

B7MS – ROTARY STYLE WITH ABB MS132 & MS450 SERIES								
	CATALOG NUMBER	ADJUSTMENT RANGE FLA	SINGLE PHASE HP		THREE PHASE HP			
			120V	230V	200V-208V	230V	480V	600V
ENCLOSURE WITHOUT STARTER  B7MS1R	B7MS1RA-1	0.63 - 1.0					0.5	0.5
	B7MS1RA-2	1.0 - 1.6		0.1			0.75	0.75
	B7MS1RA-3	1.6 - 2.5		0.167		0.5	1	1.5
	B7MS1RA-4	2.5 - 4.0	0.125	0.33		1	2	3
	B7MS1RA-5	4.0 - 6.3	0.25	0.5		1.5	3	5
	B7MS1RA-6	6.3 - 9.0	0.33	1		2.5	5	7.5
	B7MS1RA-7	9.0 - 12.5	0.5	2		3	7.5	10
	B7MS1RA-8	12.5 - 16.0	1	2.5		5	10	10
	B7MS1RA-9	16.0 - 20.0	1.5	3		5	10	15
	B7MS1RA-10	20.0 - 25.0	2	3		7.5	15	20
ENCLOSURE WITHOUT STARTER  B7MS2RA FOR USE WITH ABB ONLY	B7MS2RA-12	11 - 16	1	3	5	5	10	15
	B7MS2RA-13	14 - 20	1.5	3	5	7.5	15	20
	B7MS2RA-14	18 - 25	2	5	7.5	10	20	25
	B7MS2RA-15	22 - 32	3	5	10	10	25	30
	B7MS2RA-16	28 - 40	3	7.5	15	15	30	40
	B7MS2RA-17	36 - 45	5	7.5	15	15	30	40
	B7MS2RA-18	40 - 50	5	10	15	20	40	50
	<b>B7MS – PUSH BUTTON STYLE SQUARE D GV2 SERIES</b>							
ENCLOSURE WITHOUT STARTER  B7MS1P*	B7MS1PS-1	0.63 - 1.0					0.5	0.5
	B7MS1PS-2	1.0 - 1.6		0.1			0.75	1
	B7MS1PS-3	1.6 - 2.5		0.167	0.5	0.5	1	1.5
	B7MS1PS-4	2.5 - 4.0	0.125	0.33	0.75	1	2	3
	B7MS1PS-5	4.0 - 6.3	0.25	0.5	1.5	1.5	3	5
	B7MS1PS-6	6.0 - 10.0	0.5	1.5	2	3	5	7.5
	B7MS1PS-7	9.0 - 14.0	0.75	2	3	3	10	10
	B7MS1PS-8	13.0 - 18.0	1	3	5	5	10	15
	B7MS1PS-9	17.0 - 23.0	1.5	3	5	7.5	15	20
	B7MS1PS-10	20.0 - 25.0	2	3	5	7.5	15	20
	B7MS1PS-11	24.0 - 32.0	2	5	10	10	20	30
ENCLOSURE WITHOUT STARTER B7MS2P	GV3 SERIES PUSH BUTTON STARTER	Discontinued by the manufacturer						
<b>B7MS – ROTARY STYLE WITH SQUARE D GV2 &amp; GV3 SERIES</b>								
ENCLOSURE WITHOUT STARTER  B7MS1R	B7MS1RS-1	0.63 - 1.0					0.5	0.5
	B7MS1RS-2	1.0 - 1.6		0.1			0.75	1
	B7MS1RS-3	1.6 - 2.5		0.167	0.5	0.5	1	1.5
	B7MS1RS-4	2.5 - 4.0	0.125	0.33	0.75	1	2	3
	B7MS1RS-5	4.0 - 6.3	0.25	0.5	1.5	1.5	3	5
	B7MS1RS-6	6.0 - 10.0	0.5	1.5	2	3	5	7.5
	B7MS1RS-7	9.0 - 14.0	0.75	2	3	3	10	10
	B7MS1RS-8	13.0 - 18.0	1	3	5	5	10	15
	B7MS1RS-9	17.0 - 23.0	1.5	3	5	7.5	15	20
	B7MS1RS-10	20.0 - 25.0	2	3	5	7.5	15	20
	B7MS2RS-11	24.0 - 32.0	2	5	10	10	20	30
ENCLOSURE WITHOUT STARTER  B7MS2R	B7MS2RS-12	9.0 - 13.0	1	2	3	3	7.5	10
	B7MS2RS-13	12.0 - 18.0	1	3	5	5	10	15
	B7MS2RS-14	17.0 - 25.0	2	3	7.5	7.5	15	20
	B7MS2RS-15	23.0 - 32.0	2	5	10	10	20	30
	B7MS2RS-16	30.0 - 40.0	3	5	10	10	30	30
	B7MS2RS-17	37.0 - 50.0	3	7.5	15	15	40	40
	B7MS2RS-18	48.0 - 65.0	5	10	20	20	50	50

**B7MS1R** – For use with ABB MS116, MS325, MS132 Automation Direct BM3 Cutler-Hammer XTPR Moeller PKZM0 Seimens 3RV Sprecher + Schuh KTA7 SQ D Telemecanique GV2P WEG MPW25

**B7MS2R** – For use with Automation Direct BM3 SQ D Telemecanique GV3P

**B7MS2RA** – For use with ABB MS450

**B7MS1P** – For use with Cutler-Hammer XTPB Moeller PKZM01 SQ D Telemecanique GV2ME WEG MPW25

**B7MS2P** – For use with Advance Control MMS25

**\* B7MS1PRW** – (enclosure without starter) For use with Allen-Bradley 140 Sorecher + Schuh KT4





# STARTERS

## COMPACT MANUAL NEMA STARTERS



B7MSN2P



Internal View

Class I, Div. 1 & 2, Groups B, C, D  
 Class I, Zones 1 & 2, Groups IIB+H<sub>2</sub>, IIA  
 Class II, Div. 1 & 2, Groups E, F, Ga  
 Class III, Div. 1 & 2  
 ENCL. Type 3, 4 & 4X



Certified - File LR11714

### FEATURES-SPECIFICATIONS

#### Applications

The PRISM® B7MSN Series of nonreversing, manual line voltage starters and enclosures are suitable for use in applications requiring manual across-the-line starting and stopping of small single and polyphase AC motors, and where overload protection is needed. Manual starters are generally used on small machine tools, fans and blowers, pumps, compressors, and conveyors as well as many other types of electrical equipment.

PRISM® enclosures universal design accommodates, as standard, starter manufacturers including

- Allen-Bradley 609 Series
- Cutler-Hammer B100M Series
- GE CR106 Series
- Square D 2510M Series

Allen Bradley © Rockwell Automation

Cutler-Hammer © Eaton Corporation

GE © General Electric Company

Square D © Schneider Electric

#### Features

- Compact size enclosures provide application flexibility with cost savings over industry standard sizes
- NEMA 4, 4X rated – providing protection from hose directed water and corrosion
- Pre-drilled to facilitate easy field installation of starters
- Large double green/red start-stop push buttons
- Can be pad locked in “OFF” position
- Provisions for drain and breather
- Bolt on ductile mounting lugs
- Two 1-1/2” NPT conduit openings provided as standard, with custom openings on request

#### Electrical Rating

NEMA starter sizes 0, 1, 1-1/2 FVNR;  
 2 pole single phase = 230 VAC  
 3 pole three phase = 600 VAC  
 2 pole VDC = 230 VDC

#### Overload Heaters

Heaters are not included, see next page.

#### Standard Materials /Finish

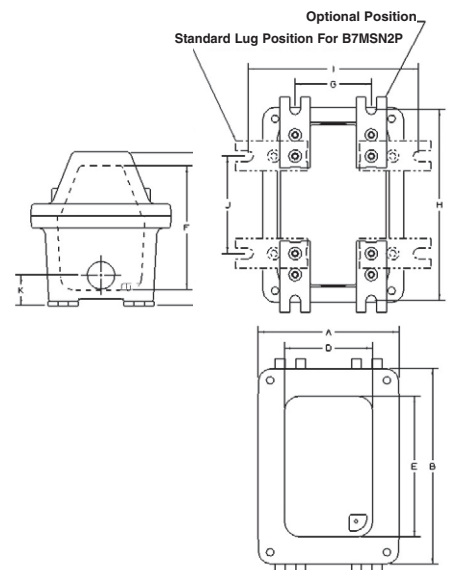
- Enclosures: Copper-free aluminum (less than 4/10 of 1% copper content)
- Cover Bolts: 316 Stainless Steel
- O-ring Gasket: Silicone
- Finish: Grey Powder Polyester painted exterior, electrostatically applied

MODIFICATIONS	
SUFFIX NUMBER	DESCRIPTION
KIT-251	100 amp ground lug
AO	Aux. contact NO only
AC	Aux. contact NC only
SU-2	Hinge-9 Installed
SU3B-4X	Drain & Breather installed TYPE 4X
SU3B-4XSS	Drain & Breather installed TYPE 4X SS
B7SPNPT	Change Std. conduit size and location
SU9	Special paint finish
SU14	Fungus proofing of enclosures

\* NOTE: The installation of a Drain & Breather will void the NEMA 4-4X rating of enclosure.

CATALOG NUMBER			SIZE/ PHASE	SINGLE PHASE HP		THREE PHASE				DC HP	
ENCLOSURE	W/CUTLER- HAMMER	W/ SQUARE D		120VAC	230VAC	208VAC	230VAC	480VAC**	600VAC	115DC	230VDC
B7MSN2P	B7MSN2PC0B	B7MSN2PS0B	M-0 2P	1	2					1 CH	1.5 CH
	B7MSN2PC1B	B7MSN2PS1B	M-1 2P	2	3					1.5 CH	2 CH
		B7MSN2PSDB	M-1P 2P	3	5						
	B7MSN2PC0C	B7MSN2PS0C	M-0 3P			3	3	5	5		
	B7MSN2PC1C	B7MSN2PS1C	M-1 3P			7.5	7.5	10	10		
		B7MSN2PS0V	M-0 2P VDC							1	1.5
	B7MSN2PS1V	M-1 2P VDC							1.5	2	

ENCLOSURE	OUTSIDE BOX DIMENSIONS			NOMINAL INSIDE BOX			MOUNTING DIMENSIONS				
	A	B	C	D	E	F	G	H	I	J	K
B7MSN2P	8-1/8	13-1/16	7-13/16	4-1/4	9-3/16	6-5/16	2-1/2	11-3/8	6-3/8	7-1/2	1-13/16





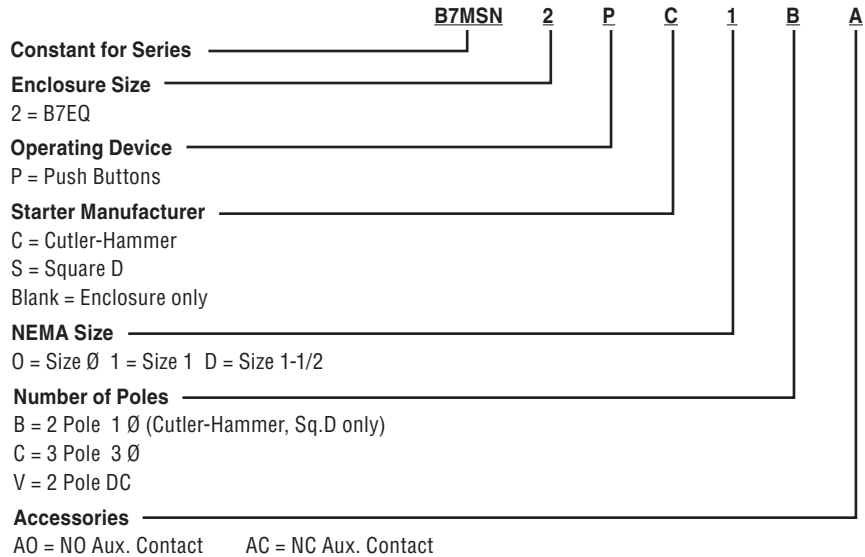
B7MSN SERIES



HEATERS, CATALOG LOGIC, DIMENSIONS

B7MSN HEATER SELECTION ①		
SQUARE D 2510M ONLY		
MOTOR FULL LOAD AMPS @ 40° C		
SIZE 0		
CATALOG NUMBER	SINGLE PHASE	THREE PHASE
KB044	0.33 - 0.36	0.29 - 0.32
KB051	0.37 - 0.40	0.33 - 0.36
KB057	0.41 - 0.45	0.37 - 0.39
KB063	0.46 - 0.52	0.40 - 0.47
KB071	0.53 - 0.59	0.48 - 0.56
KB081	0.60 - 0.66	0.57 - 0.63
KB092	0.67 - 0.73	0.64 - 0.69
KB103	0.74 - 0.81	0.70 - 0.77
KB116	0.82 - 0.91	0.78 - 0.86
KB130	0.92 - 1.02	0.87 - 0.96
KB145	1.03 - 1.14	0.97 - 1.11
KB167	1.15 - 1.29	1.12 - 1.23
KB188	1.20 - 1.42	1.24 - 1.37
KB210	1.43 - 1.64	1.38 - 1.55
KB240	1.65 - 1.80	1.56 - 1.75
KB265	1.81 - 2.10	1.76 - 1.92
KB300	2.11 - 2.30	1.93 - 2.16
KB330	2.31 - 2.61	2.17 - 2.50
KB370	2.62 - 2.99	2.51 - 2.81
KB415	3.00 - 3.37	2.82 - 3.16
KB485	3.38 - 3.94	3.17 - 3.40
KB550	3.95 - 4.24	3.41 - 3.76
KB625	4.25 - 4.54	3.77 - 4.00
KB690	4.55 - 5.29	4.01 - 4.68
KB770	5.30 - 5.73	4.69 - 5.18
KB820	5.74 - 6.35	5.19 - 5.51
KB910	6.36 - 7.08	5.52 - 6.19
KB102	7.09 - 7.83	6.20 - 7.12
KB115	7.84 - 8.47	7.13 - 8.15
KB128	8.48 - 9.83	8.16 - 8.60
KB014	9.84 - 10.5	8.61 - 9.21
KB155	10.6 - 11.4	9.22 - 10.1
KB175	11.5 - 12.8	10.2 - 11.2
KB195	12.9 - 13.9	11.3 - 12.0
KB022	14.0 - 16.1	-----
KB025	16.2 - 18.0	-----
SIZE 1 & 1P	SIZE 1 & 1P	SIZE 1 & 1P
KB195	-----	11.3 - 12.1
KB022	-----	12.2 - 13.6
KB025	16.2 - 17.6	13.7 - 15.3
KB280	17.7 - 20.6	15.4 - 17.3
KB032	20.7 - 23.1	17.4 - 19.1
KB036	23.2 - 26.0	19.2 - 21.7
KB040	-----	21.8 - 24.2
KB045	-----	24.3 - 26.0
SIZE 1P	SIZE 1P	SIZE 1P
KB036	23.2 - 27.1	-----
KB040	27.2 - 29.2	-----
KB045	29.3 - 33.0	-----
KB050	33.1 - 36.0	-----

Catalog Logic



B7MSN HEATER SELECTIONS							
CUTLER-HAMMER							
CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40°C		CUTLER-HAMMER CODEMARK	CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40°C		CUTLER-HAMMER CODEMARK
	SINGLE PHASE	THREE PHASE			SINGLE PHASE	THREE PHASE	
YOWEA200-FH03	.28-.29	.25-.26	FH03	YOWEA200-FH30	4.04-4.40	3.54-3.86	FH30
YOWEA200-FH04	.30-.33	.27-.29	FH04	YOWEA200-FH31	4.41-4.81	3.87-4.22	FH31
YOWEA200-FH05	.34-.36	.30-.32	FH05	YOWEA200-FH32	4.82-5.26	4.23-4.61	FH32
YOWEA200-FH06	.37-.40	.33-.35	FH07	YOWEA200-FH33	5.27-5.74	4.62-5.03	FH33
YOWEA200-FH07	.41-.45	.36-.39	FH07	YOWEA200-FH34	5.75-6.25	5.04-5.49	FH34
YOWEA200-FH08	.46-.50	.40-.44	FH08	YOWEA200-FH35	6.27-6.83	5.50-5.99	FH35
YOWEA200-FH09	.51-.56	.45-.49	FH09	YOWEA200-FH36	6.84-7.45	6.00-6.53	FH36
YOWEA200-FH10	.57-.63	.50-.55	FH10	YOWEA200-FH37	7.46-8.11	6.54-7.11	FH37
YOWEA200-FH11	.64-.70	.56-.61	FH11	YOWEA200-FH38	8.12-8.81	7.12-7.73	FH38
YOWEA200-FH12	.71-.78	.62-.68	FH12	YOWEA200-FH39	8.82-9.58	7.74-8.40	FH39
YOWEA200-FH13	.79-.86	.69-.75	FH13	YOWEA200-FH40	9.59-10.40	8.41-9.12	FH40
YOWEA200-FH14	.87-.95	.76-.83	FH14	YOWEA200-FH41	10.41-11.3	9.13-9.89	FH41
YOWEA200-FH15	.96-1.04	.84-.91	FH15	YOWEA200-FH42	11.4-12.2	9.9-10.7	FH42
YOWEA200-FH16	1.05-1.14	.92-1.00	FH16	YOWEA200-FH43	12.3-13.5	10.8-11.8	FH43
YOWEA200-FH17	1.15-1.25	1.01-1.10	FH17	YOWEA200-FH44	13.6-14.9	11.9-13.0	FH44
YOWEA200-FH18	1.26-1.39	1.11-1.22	FH18	YOWEA200-FH45	15.0-16.0	13.1-14.0	FH45
YOWEA200-FH19	1.40-1.54	1.23-1.35	FH19	YOWEA200-FH46	16.1-17.1	14.1-15.0	FH46
YOWEA200-FH20	1.55-1.71	1.36-1.50	FH20	YOWEA200-FH47	17.2-18.3	15.1-16.1	FH47
YOWEA200-FH21	1.72-1.89	1.51-1.66	FH21	YOWEA200-FH48	18.4-19.7	16.2-17.3	FH48
YOWEA200-FH22	1.90-2.10	1.67-1.84	FH22	YOWEA200-FH49	19.8-21.2	17.4-18.6	FH49
YOWEA200-FH23	2.11-2.32	1.85-2.03	FH23	YOWEA200-FH50	21.3-22.8	18.7-20.0	FH50
YOWEA200-FH24	2.33-2.54	2.04-2.23	FH24	YOWEA200-FH51	22.9-24.5	20.1-21.5	FH51
YOWEA200-FH25	2.55-2.79	2.24-2.45	FH25	YOWEA200-FH52	24.6-26.4	21.6-23.2	FH52
YOWEA200-FH26	2.80-3.07	2.46-2.69	FH26	YOWEA200-FH53	26.5-28.5	23.2-25.0	FH53
YOWEA200-FH27	3.08-3.36	2.70-2.95	FH27	YOWEA200-FH54	28.6-30.8	25.1-26.8	FH54
YOWEA200-FH28	3.37-3.68	2.96-3.23	FH28	YOWEA200-FH55	30.9-33.3	—	FH55
YOWEA200-FH29	3.69-4.03	3.24-3.53	FH29	YOWEA200-FH56	33.4-36.0	—	FH56
				YOWEA200-FH57	36.1-38.9	—	FH57

① Select heater element based on motor nameplate listed full load amps. Trip rating of element is 125% of motor minimum F.L.A. listed for the element

# STARTERS



## XMSW SERIES

### MANUAL LINE STARTERS

#### CUTLER HAMMER/EATON B100 STARTERS FULL VOLTAGE, NON-REVERSING SINGLE AND POLYPHASE

##### Applications

XMSW Series, non-reversing, manual line voltage starters and enclosures are suitable for use in applications requiring manual across-the-line starting and stopping of small single and polyphase AC motors, and where overload protection is needed. Manual starters are generally used on small machine tools, fans and blowers, pumps, compressors, and conveyors as well as many other types of electrical machinery.

#### FEATURES-SPECIFICATIONS

##### Features

- Rectangular bolted cover design provides for attractive, compact, uniform installations
- Enclosure and external handle are diecast copper-free (less than 0.4%) aluminum alloy
- Cast "ON," "OFF," "TRIPPED" markings on cover align with external handle and provide clear indication of enclosed starter condition
- External handle is a vault type with standard provisions for locking in the "OFF" position with up to three pad-locks. Provision for locking in "ON" position is available as factory modification (add suffix SU-40 to catalog number).
- Two cast 1" NPT conduit hubs with integral pipe stop, one top and one bottom, are standard on all assemblies

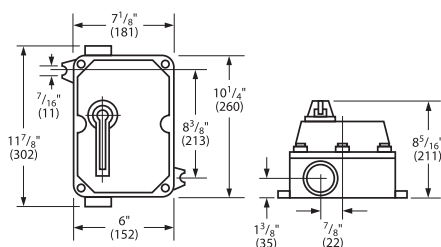
##### Electrical Rating

Starter sizes 0, 1, 11/2

Two pole, single phase; three pole, polyphase

Maximum 10 HP, 600 Volts AC

##### Dimensions



③ Select heater element based on motor nameplate listed. Full-load amps. Trip rating of element is 125% of motor minimum F.L.A. listed for the element.



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

UL LISTED - File E12379

See files for details or call Killark.

XMSW MANUAL LINE STARTERS ① ②						
NEMA SIZE	NUMBER OF POLE SIZE	MAXIMUM HORSEPOWER			CATALOG NUMBER	
		120 VAC	208-240 VAC	480-600 VAC	WITH STARTER	ENCLOSURE ONLY
0	2-POLE; 1Ø, A C	1	2	—	XMSW-0BT	XMSW-00T
0	3-POLE; 3Ø, A C	2	3	5	XMSW-0CT	
1	2-POLE; 1Ø, A C	2	3	—	XMSW-1BT	
1	3-POLE; 3Ø, A C	3	7-1/2	10	XMSW-1CT	
1-1/2	2-POLE; 1Ø, A C	3	5	—	XMSW-DBT	

① Heaters not included. If heaters are required order as separate item by catalog number, three phase starters require three heaters. Single phase starters require two heaters.

② Three pole starters may be used on two-phase four-wire circuits by running one wire direct to motor.

HEATER TABLE FOR XMSW SERIES MANUAL LINE STARTERS ③							
CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40°C		CUTLER-HAMMER	CATALOG NUMBER	MOTOR FULL-LOAD AMPS @ 40°C		CUTLER-HAMMER
	SINGLE PHASE	THREE PHASE			SINGLE PHASE	THREE PHASE	
YOWEA200-FH03	.28-.29	.25-.26	FH03	YOWEA200-FH30	4.04-4.40	3.54-3.86	FH30
YOWEA200-FH04	.30-.33	.27-.29	FH04	YOWEA200-FH31	4.41-4.81	3.87-4.22	FH31
YOWEA200-FH05	.34-.36	.30-.32	FH05	YOWEA200-FH32	4.82-5.26	4.23-4.61	FH32
YOWEA200-FH06	.37-.40	.33-.35	FH07	YOWEA200-FH33	5.27-5.74	4.62-5.03	FH33
YOWEA200-FH07	.41-.45	.36-.39	FH07	YOWEA200-FH34	5.75-6.25	5.04-5.49	FH34
YOWEA200-FH08	.46-.50	.40-.44	FH08	YOWEA200-FH35	6.27-6.83	5.50-5.99	FH35
YOWEA200-FH09	.51-.56	.45-.49	FH09	YOWEA200-FH36	6.84-7.45	6.00-6.53	FH36
YOWEA200-FH10	.57-.63	.50-.55	FH10	YOWEA200-FH37	7.46-8.11	6.54-7.11	FH37
YOWEA200-FH11	.64-.70	.56-.61	FH11	YOWEA200-FH38	8.12-8.81	7.12-7.73	FH38
YOWEA200-FH12	.71-.78	.62-.68	FH12	YOWEA200-FH39	8.82-9.58	7.74-8.40	FH39
YOWEA200-FH13	.79-.86	.69-.75	FH13	YOWEA200-FH40	9.59-10.40	8.41-9.12	FH40
YOWEA200-FH14	.87-.95	.76-.83	FH14	YOWEA200-FH41	10.41-11.3	9.13-9.89	FH41
YOWEA200-FH15	.96-1.04	.84-.91	FH15	YOWEA200-FH42	11.4-12.2	9.9-10.7	FH42
YOWEA200-FH16	1.05-1.14	.92-1.00	FH16	YOWEA200-FH43	12.3-13.5	10.8-11.8	FH43
YOWEA200-FH17	1.15-1.25	1.01-1.10	FH17	YOWEA200-FH44	13.6-14.9	11.9-13.0	FH44
YOWEA200-FH18	1.26-1.39	1.11-1.22	FH18	YOWEA200-FH45	15.0-16.0	13.1-14.0	FH45
YOWEA200-FH19	1.40-1.54	1.23-1.35	FH19	YOWEA200-FH46	16.1-17.1	14.1-15.0	FH46
YOWEA200-FH20	1.55-1.71	1.36-1.50	FH20	YOWEA200-FH47	17.2-18.3	15.1-16.1	FH47
YOWEA200-FH21	1.72-1.89	1.51-1.66	FH21	YOWEA200-FH48	18.4-19.7	16.2-17.3	FH48
YOWEA200-FH22	1.90-2.10	1.67-1.84	FH22	YOWEA200-FH49	19.8-21.2	17.4-18.6	FH49
YOWEA200-FH23	2.11-2.32	1.85-2.03	FH23	YOWEA200-FH50	21.3-22.8	18.7-20.0	FH50
YOWEA200-FH24	2.33-2.54	2.04-2.23	FH24	YOWEA200-FH51	22.9-24.5	20.1-21.5	FH51
YOWEA200-FH25	2.55-2.79	2.24-2.45	FH25	YOWEA200-FH52	24.6-26.4	21.6-23.2	FH52
YOWEA200-FH26	2.80-3.07	2.46-2.69	FH26	YOWEA200-FH53	26.5-28.5	23.2-25.0	FH53
YOWEA200-FH27	3.08-3.36	2.70-2.95	FH27	YOWEA200-FH54	28.6-30.8	25.1-26.8	FH54
YOWEA200-FH28	3.37-3.68	2.96-3.23	FH28	YOWEA200-FH55	30.9-33.3	—	FH55
YOWEA200-FH29	3.69-4.03	3.24-3.53	FH29	YOWEA200-FH56	33.4-36.0	—	FH56
				YOWEA200-FH57	36.1-38.9	—	FH57



IEC MAGNETIC MOTOR STARTERS

FEATURES-SPECIFICATIONS

Applications

The EXB70 Series of across-the-line starter and combination motor control centers utilize SSNR (single speed non-reversing) IEC starters. The EXB70 starters is for use in locations made hazardous 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.

- Petroleum Refineries
- Oil Rigs & Platforms
- Chemical/Petrochemical Plants
- Pharmaceutical Facilities
- Automotive Repair Facilities
- Aircraft Facilities
- Wet/Corrosive Environments
- Grain Elevators

The EXB70 Series is offered with the ABB brand AF contactor / TF overload relay, XT circuit breakers and motor circuit protectors.

Materials

- Box & cover: Cooper free aluminum (less than 4/10 of 1%)
- Finish: Aluminum lacquer paint – Grey
- O-Ring Gasket Material: Nitrile (BUNA-N) compound
- Stainless steel, A2, cover screw.
- CB/MCP Handle – Copper free aluminum
- Reset Operator – Thermoplastic polyester button molded onto stainless steel shaft. Aluminum shroud, black anodized.

Features

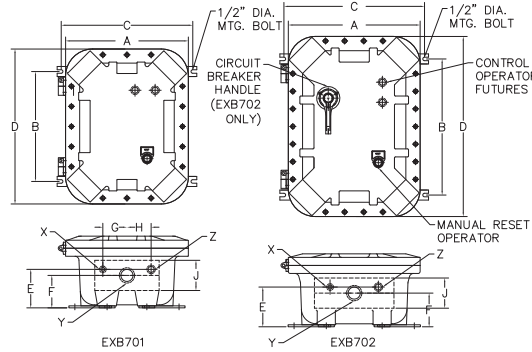
- Copper free cast aluminum construction. High in strength, lighter in weight, corrosion resistant
- Stainless steel metric cover bolts
- Cover o-ring supplied as standard for TYPE 4X and IP66 applications.
- Starters supplied with hinged covers as standard
- Bi-directional bolt on mounting lugs made from a ductile aluminum alloy which will adjust to irregular surfaces without causing damage to the casting.
- Starter only supplied as standard with a manual reset button and two future control operator openings with plugs.
- Combination starter supplied as standard with a manual reset button, through the door circuit breaker handle and two future control operator openings with plugs.
- Each starter comes with three NPT conduit openings in both the top and in the bottom allowing for power, control and drain/breathers.
- The EXB70 can be ordered with custom sizes & quantity of holes both in NPT and metric.
- Additional control operators can be supplied along with addition future operator openings.

CLASSIFIED - File E83969

Certified - File LR11716

PTB 07ATEX1024  
IECEX PTB 07.0023

Class I, Div. 1 & 2, Groups B, C, D  
Class I, Zone 1 & 2, Groups IIC, IIB, IIA  
Class II, Div. 1 & 2, Groups E, F, G  
Class III  
Enclosure Type 3, 4 & 4X  
 0518 II 2 G D  
Ex d IIB+H<sub>2</sub> T6  
Ex tD A21 IP66  
Ta < +60°C



EXB70 MODIFICATION AND ACCESSORIES

OPTIONS	DESCRIPTIONS	OPTIONS	DESCRIPTIONS
EXB7RPL-120	Pilot light 120V - Red	EXB7TB	6 point terminal block
EXB7GPL-120	Pilot light 120V - Green	EXB7SF	Epoxy powder paint
EXB7APL-120	Pilot light 120V - Amber	EXB7CT50	Control transformer 50 VA 240/480VAC to 120VAC
EXB7RPL-24	Pilot light 24V - Red	EXB7CT75	Control transformer 75VA 240/480VAC to 120VAC
EXB7GPL-24	Pilot light 24V - Green	EXB7CT100	Control transformer 100VA 240/480VAC to 120VAC
EXB7APL-24	Pilot light 24V - Amber	EXB7CT150	Control transformer 150VA 240/480VAC to 120VAC
EXB7LPBR	Illuminated pushbutton 120V - Red	EXB7CT200	Control transformer 200VA 240/480VAC to 120VAC
EXB7LPBG	Illuminated pushbutton 120V - Green	EXB7CT250	Control transformer 250VA 240/480VAC to 120VAC
EXB7LPBA	Illuminated pushbutton 120V - Amber	EXB7CT300	Control transformer 300VA 240/480VAC to 120VAC
EXB7LPBR-24	Illuminated pushbutton 24V - Red	EXB7CT50-24	Control transformer 50 VA 240/480VAC to 24VAC
EXB7LPBG-24	Illuminated pushbutton 24V - Green	EXB7CT75-24	Control transformer 75VA 240/480VAC to 24VAC
EXB7LPBA-24	Illuminated pushbutton 24V - Amber	EXB7CT100-24	Control transformer 100VA 240/480VAC to 24VAC
EXB7PLR220	Pilot light resistor 220/120V	EXB7CT150-24	Control transformer 150VA 240/480VAC to 24VAC
EXB7PLR440	Pilot light resistor 440/120V	EXB7CT200-24	Control transformer 200VA 240/480VAC to 24VAC
EXB7PLR550	Pilot light resistor 550/120V	EXB7CT250-24	Control transformer 250VA 240/480VAC to 24VAC
EXB7PLXF220	Pilot transformer 220/120V	EXB7CT300-24	Control transformer 300VA 240/480VAC to 24VAC
EXB7PLXF440	Pilot transformer 440/120V	EXB72SH251	Space heater 25 watts 120 volts
EXB7DBP	Double pushbutton Start - Stop	EXB72SH252	Space heater 25 watts 240 volts
EXB72SS	2 position selector switch On-Off	EXB72SH254	Space heater 25 watts 480 volts
EXB7SSH0A	3 position selector switch Hand-Off-Auto	EXB72SH501	Space heater 50 watts 120 volts
KB1BCEN	Breather installed	EXB72SH502	Space heater 50 watts 240 volts
KB1DCEN	Drain installed	EXB72SH504	Space heater 50 watts 480 volts
AUX	Auxiliary contact 1NO & 1NC		

EXB70 DIMENSIONS

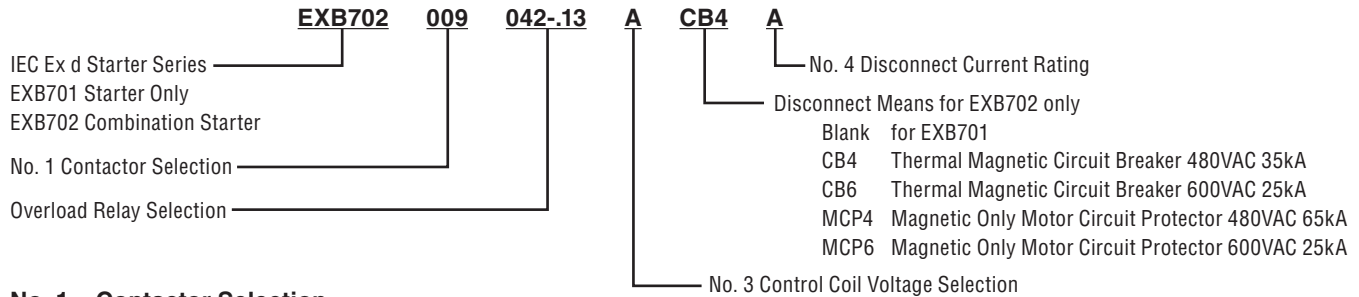
CATALOG NUMBER	TYPE	DIMENSIONS IN. (MM)								CONDUIT OPENINGS TOP & BOTTOM			WT. LBS (KG)	
		A	B	C	D	E	F	G	H	J	X	Y		Z
EXB701009 to EXB701030	Starter Only	12.38 (314)	8 (203)	9.88 (251)	14.32 (364)	5.04 (128)	3.64 (92)	2.38 (60)	2.38 (60)	9.82 (249)	1/2 NPT	1-1/2 NPT	3/4 NPT	41 (18)
EXB701040 to EXB701096	Starter Only	15.25 (387)	8.94 (227)	12.94 (329)	19.25 (489)	4.92 (125)	4.04 (103)	3 (76)	3 (76)	10.4 (264)	1/2 NPT	2 NPT	3/4 NPT	88 (39)
EXB071140	Starter Only	16.38 (416)	18.88 (479)	14.94 (379)	28.38 (721)	7.1 (180)	5.19 (132)	3.94 (100)	3.94 (100)	12.82 (325)	1/2 NPT	3 NPT	3/4 NPT	173 (78)
EXB702009 to EXB702030	Combination	15.25 (387)	8.94 (227)	12.94 (329)	19.25 (489)	4.92 (125)	4.04 (103)	3 (76)	3 (76)	10.9 (277)	1/2 NPT	1-1/2 NPT	3/4 NPT	88 (40)
EXB702065	Combination	16.38 (416)	12.88 (327)	14.94 (379)	22.38 (568)	5 (127)	4.13 (105)	3.94 (100)	3.94 (100)	11.06 (280)	1/2 NPT	2 NPT	3/4 NPT	120 (54)
EXB702096 to EXB702140	Combination	21.25 (540)	19.38 (492)	19.38 (492)	29.25 (743)	7.34 (186)	5.47 (139)	6 (152)	6 (152)	14 (355)	1/2 NPT	3 NPT	3/4 NPT	273 (123)

# STARTERS

EXB70 SERIES



## EXB701 STARTER ONLY & EXB702 COMBINATION STARTER SELECTION



### No. 1 – Contactor Selection

UL / CSA RATINGS	009		012		016		026		030		040		052		065		096		116		140	
	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS
120 VAC - 1Phase	0.75	13.8	1	16	1.5	20	2	24	2	24	3	34										
240 VAC - 1Phase	1.5	10	2	12	3	17	3	17	5	28	7.5	40										
200 - 208 VAC - 3Phase	2	7.8	3	11	5	17.5	7.5	25.3	10	32.2	10	32.2	15	48.3	20	62.1	30	92	30	92	40	120
220 - 240 VAC - 3Phase	2	6.8	3	9.6	5	15.2	7.5	22	10	28	15	42	20	54	25	68	30	80	40	104	50	130
440 - 480 VAC - 3Phase	5	7.6	7.5	11	10	14	15	21	20	27	30	40	40	52	50	65	60	77	75	96	100	124
550 - 600 VAC - 3Phase	7.5	9	10	11	10	17	20	22	25	27	40	41	50	52	60	62	75	77	100	99	125	125
IEC RATINGS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS
220 - 240 VAC - 3Phase	2.2	9	3	12	4	18	6.5	26	9	33	11	40	15	53	18.5	65	25	96	30	116	37	140
380 - 400 VAC - 3Phase	4	9	5.5	12	7.5	18	11	26	15	32	18.5	40	22	53	30	65	45	96	55	116	75	140
415 VAC - 3Phase	4	9	5.5	12	9	18	11	26	15	32	22	40	30	53	37	65	55	96	55	116	75	140
440 VAC - 3Phase	4	9	5.5	12	9	18	15	26	18.5	32	22	40	30	53	37	65	55	96	75	116	90	140
500 VAC - 3Phase	5.5	9.5	7.5	12.5	9	15	15	23	18.5	28	22	35	30	45	37	55	55	80	75	110	90	130
690 VAC - 3Phase	5.5	7	7.5	9	9	10.5	15	17	18.5	21	22	25	30	35	37	39	55	57	55	65	75	80
See Overload Relay Selection Chart	042-										065-					096-			140-			

### No. 2 – Overload Relay Selection

042-				065-			
SELECTION	AMP SETTING RANGE			SELECTION	AMP SETTING RANGE		
042- .13	0.10	to	0.13	065- 28	22.0	to	28.0
042- .17	0.13	to	0.17	065- 33	25.0	to	33.0
042- .23	0.17	to	0.23	065- 40	30.0	to	40.0
042- .31	0.23	to	0.31	065- 47	36.0	to	47.0
042- .41	0.31	to	0.41	065- 53	44.0	to	53.0
042- .55	0.41	to	0.55	065- 60	50.0	to	60.0
042- .74	0.55	to	0.74	065- 67	57.0	to	67.0
042- 1.0	0.74	to	1.00	<b>096-</b>			
042- 1.3	1.00	to	1.30	<b>SELECTION      AMP SETTING RANGE</b>			
042- 1.7	1.30	to	1.70	096- 51	40.0	to	51.0
042- 2.3	1.70	to	2.30	096- 60	48.0	to	60.0
042- 3.1	2.30	to	3.10	096- 68	57.0	to	68.0
042- 4.2	3.10	to	4.20	096- 78	65.0	to	78.0
042- 5.7	4.20	to	5.70	096- 87	75.0	to	87.0
042- 7.6	5.70	to	7.60	096- 96	84.0	to	96.0
042- 10	7.60	to	10.0	<b>140-</b>			
042- 13.0	10.0	to	13.0	<b>SELECTION      AMP SETTING RANGE</b>			
042- 16.0	13.0	to	16.0	140- 90.0	66.0	to	90.0
042- 20.0	16.0	to	20.0	140- 110.0	80.0	to	110.0
042- 24.0	20.0	to	24.0	140- 135.0	100.0	to	135.0
042- 29.0	24.0	to	29.0	140- 142.0	110.0	to	142.0
042- 35.0	29.0	to	35.0				

### No. 3 – Coil Voltage Code

SELECTION	VAC	VDC
A	24 .. 60	24 .. 60Ⓢ
B	48 .. 130	48 .. 130
C	100 .. 250	100 .. 250
D	250 .. 500	250 .. 500

Ⓢ When contactors 009 through 030 are being used with a 24 to 60 VDC control supply voltage add suffix "-DC" to the end of the catalog logic.

### No. 4 – BREAKER CODE – EXB702 ONLY

CIRCUIT BREAKER		MOTOR CIRCUIT PROTECTOR	
SELECTION	AMP	SELECTION	AMP
A	15	003	3
B	20	007	7
C	25	015	15
D	30	030	30
E	40	050	50
F	50	070	70
G	60	100	100
H	70	125	125
I	80	150	150
J	90	175	175
K	100	200	200
L	125	225	225
M	150	250	250
N	175		
O	200		
T	250		





