

1C

Applications:

- EPC combination line starters and enclosures are used:
- For across-the-line starting of polyphase AC induction motors
 - In locations which are hazardous due to the presence of flammable vapors, gases or highly combustible dusts
 - In damp, wet or corrosive locations
 - For installation indoors or outdoors at petroleum refineries, chemical and petrochemical plants and other process industry facilities where similar hazards exist
 - To provide disconnecting means, motor branch circuit protection, motor running protection, undervoltage protection and remote starting and stopping due to the combination of thermal-magnetic circuit breaker and magnetic motor starter

Features:

- Quick-opening covers – less than two turns to remove or install
- Three section design for ease of installation
- Water-shedding construction with female threads on top cover, male threads on bottom cover, and top cover skirted
- Specially located stops and locks insure adequate thread engagement and prevent overtightening
- Separate replaceable mounting bracket attached to the rear of the body provides three-point suspension for quick installation and leveling – one keyhole slot at top and two open slots at bottom
- Bodies have two taper-tapped conduit hubs with integral bushings on the top, and two more directly below
- Universal mounting plate and reset mechanism will accommodate any of the motor starters and circuit breakers in catalog listing
- When interior mounting plate is removed, feeder and branch circuit conductors are easily pulled into the wiring chamber. The interior assembly, with breaker and starter attached, is then replaced, final connections made, and covers assembled
- External handle, which operates breaker can be padlocked in either "ON" or "OFF" positions
- Breaker is trip-free of the handle, therefore it will open under short circuit or overload, even if the external handle is locked in the "ON" position
- Furnished with third overload relay as standard

Certifications and Compliances:

- NEC/CEC
 Class I, Division 1 & 2, Groups C, D
 Class II, Division 1, Groups E, F, G
 Class II, Division 2, Groups F, G
 Class III
- NEMA/EEMAC: 3, 4, 7CD, 9EFG, 12
- UL Standard: 698
- CSA Standards: C22.2 No. 30

Standard Materials:

- Body and cover – copper-free aluminum
- Operating handle – copper-free aluminum
- Operating shafts – stainless steel
- Interior parts – sheet steel

Standard Finishes:

- Copper-free aluminum – natural
- Stainless steel – natural
- Sheet steel – electrogalvanized with chromate finish

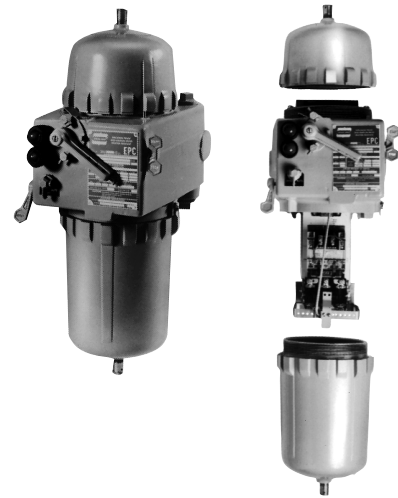
Electrical Rating Range:

- Starters – Sizes 0, 1 and 3 inclusive
- Breakers – 100 and 150 ampere frame sizes
- Motor Circuit Protectors – 100 ampere frame size

Options:

The following special options are available from factory by adding suffix to Cat. No. and many are available in kit form or for field addition to existing units: See page 471 for listing of kits

Description	Suffix
Control circuit transformer 600/480/240–120 volts, 50 or 60 hertz (Sizes 0 and 1 – 100–50 VA)	
Fusible – Secondary.....	FT
Fusible – Primary and secondary.....	FTPS
Auxiliary Contacts on Starter or Contactor*	
1 N.O./1 N.C.	S781
2 N.O./2 N.C.	S782
3 N.O./3 N.C.	S783
Auxiliary Switch on Circuit Breaker or Motor Circuit Protector*	
1A/1B (1P2T).....	S784
2A/2B (2P2T).....	S785
Side bosses drilled and tapped same size as standard hubs (except 15" dia. – 1" size).....	S366
Back boss drilled and tapped same size as standard hubs (except 15" dia. – 1" size).....	S367
Pushbuttons (heavy duty): START-STOP	PB3



Assembled unit

Separated view showing major components

Description	Suffix
Selector switches (standard duty):	
ON-OFF.....	RR2
HAND-OFF-AUTO.....	RR3
Pilot lights:	
Red, 120 volt.....	J1
Green, 120 volt	J3
LED pilot lights, in place of standard incandescent lamps.....	LED
Pilot light transformers:	
240 volt†	T2
480 volt†	T4
600 volt†	T5
Space heaters:	
120 volt	R11
240 volt	R22
480 volt	R44
Automatic reset overload relay.....	S1
Less overload relays (lighting contactor).....	CL
Less overload relays (motor contactor)	CM
Separate AC control circuit	Specify
Insulated neutral with 2 connectors (50, 100 & 225 amp)	S146
Grounded neutral stud with 3 connectors (50, 100 & 225 amp)	S178
Pilot light holes drilled, tapped and plugged for future addition of pilot lights	
One hole.....	S541
Two holes.....	S542
Standard Breather (Class I, Groups C, D, Class II, Groups E, F, G, Class III) ...	S219
Standard Drain (Class I, Groups C, D, Class II, Groups E, F, G, Class III)	S198
Standard Breather and Drain (Class I, Groups C, D, Class II, Groups E, F, G, Class III)	S198V
Universal Breather – Drain (Class I, Groups C, D, Class II, Groups F, G).....	S454‡
(2) Universal Breather – Drains (Class I, Groups C, D, Class II, Groups F, G).....	S454V‡
Less heaters.....	0

*Application is limited by starter, contactor, circuit breaker or motor circuit protector design – Consult Factory
 † Required for pilot lights on other than 120 volt control circuits. One required for each lamp.
 ‡ Not suitable for NEMA 4.

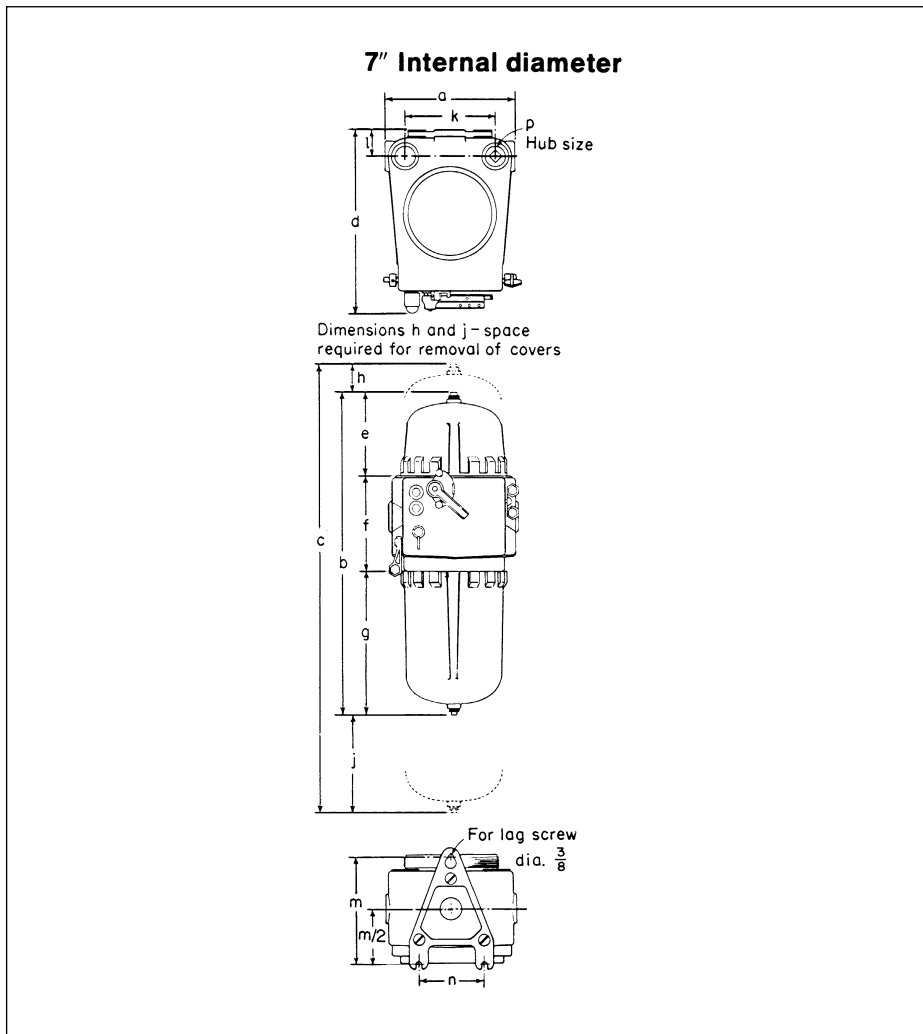
EPC Combination Line Starters and Enclosures

Dimensions* (In Inches)

Cl. I, Div. 1 & 2, Groups C, D
 Cl. II, Div. 1, Groups E, F, G
 Cl. II, Div. 2, Groups F, G
 Cl. III
 NEMA 3, 4, 7CD, 9EFG, 12

Explosionproof
 Dust-Ignitionproof
 Raintight
 Wet Locations
 Watertight

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Single-Speed Non-Reversing Sizes 0, 1 and 3 starters

	EPC87	EPC87-FTPS or EPC87-FT
Int. Dia.	7"	7"
	Dimensions	Dimensions†
a	10 $\frac{5}{8}$	10 $\frac{5}{8}$
b	26 $\frac{1}{16}$	31 $\frac{1}{16}$
c	35 $\frac{11}{16}$	47 $\frac{11}{16}$
d	14 $\frac{11}{16}$	14 $\frac{11}{16}$
e	6 $\frac{3}{4}$	11 $\frac{3}{4}$
f	71 $\frac{1}{16}$	71 $\frac{1}{16}$
g	11 $\frac{5}{8}$	11 $\frac{5}{8}$
h	2	9
j	7 $\frac{5}{8}$	7 $\frac{5}{8}$
k	7 $\frac{3}{8}$	7 $\frac{3}{8}$
l	2 $\frac{1}{16}$	2 $\frac{1}{16}$
m	9 $\frac{3}{8}$	9 $\frac{3}{8}$
n	5 $\frac{1}{4}$	5 $\frac{1}{4}$
p	1 $\frac{1}{4}$	1 $\frac{1}{4}$

*Dimensions are approximate, not for construction purposes.
 †For units with Control Circuit Transformer (suffix FT or FTPS).

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EPC Combination Line Starters and Enclosures Single Speed, Non-Reversing with Circuit Breakers 3-Pole 60 hertz, 600 VAC Maximum

Cl. I, Div. 1 & 2, Groups C, D Explosionproof
Cl. II, Div. 1, Groups E, F, G Dust-Ignitionproof
Cl. II, Div. 2, Groups F, G Raintight
Cl. III Wet Locations
NEMA 3, 4, 7CD, 9EFG, 12 Watertight

Ordering Information:

To order an enclosure complete with starter and breaker, insert the manufacturer's symbols in the designated positions of the catalog number. Symbols are shown in the footnotes below.

Select the complete Cat. No. below and specify HP, voltage, frequency, RPM, type and full load ampere rating of motor – or specify ampere rating of heaters.

Enclosures only can be ordered. Select from listings below.

Instantaneous magnetic trip circuit breakers (magnetic circuit interrupters) can be supplied. Consult factory.

For combination starters with motor circuit protectors or single speed, non-reversing motors see page 457.

Max. HP Polyphase	Motor Starter		Circuit Breaker		Enclosure		Without Starter & Circuit Breaker Cat. #	With Starter & Circuit Breaker Cat. # §
	Volts	NEMA Size	Amp Rating	Frame	Hub Size in.	Int. Dia. in.		
2	120	0	30	EB	1¼	7	EPC87	EPC870 ①30ED ②613
3	240	0	20	EHD	1¼	7	EPC87	EPC870 ①20EHD ②623
3	480	0	15	EHD	1¼	7	EPC87	EPC870 ①15EHD ②643
3	480	0	15	FDB	1¼	7	EPC87	EPC870 ①15FD ②643
3	600	0	15	FD	1¼	7	EPC87	EPC870 ①15FD ②653
5	240	1	30	EHD	1¼	7	EPC87	EPC871 ①30EHD ②623
5	480	0	15	EHD	1¼	7	EPC87	EPC870 ①15EHD ②643
5	480	0	15	FDB	1¼	7	EPC87	EPC870 ①15FD ②643
5	600	0	15	FDB	1¼	7	EPC87	EPC870 ①15FD ②653
7½	240	1	50	EHD	1¼	7	EPC87	EPC871 ①50EHD ②623
7½	480	1	30	EHD	1¼	7	EPC87	EPC871 ①30EHD ②643
7½	480	1	30	FDB	1¼	7	EPC87	EPC871 ①30FD ②643
7½	600	1	30	FDB	1¼	7	EPC87	EPC871 ①30FD ②653
10	480	1	30	EHD	1¼	7	EPC87	EPC871 ①30EHD ②643
10	480	1	30	FDB	1¼	7	EPC87	EPC871 ①30FD ②643
10	600	1	30	FDB	1¼	7	EPC87	EPC871 ①30FD ②653

①Circuit Breakers:

Manufacturer	Symbol	Frames 100/150AMP		
		240V	480V	600V
General Electric	TT	TEB	TED*	TED*
Cutler-Hammer	WT	EHD	EHD	FB, FDB

*Specify Voltage

②Motor Starters:

Manufacturer	Symbol
Allen-Bradley	AB
General Electric	G
Square D	D
Cutler-Hammer	W

§ Starters are furnished with three heaters when heater ratings are fully specified.

EPC Combination Line Starters

Single-Speed Non-Reversing with Motor Circuit Protectors 3-Pole 60 hertz, 600 VAC Maximum

Cl. I, Div. 1 & 2, Groups C, D
Cl. II, Div. 1, Groups E, F, G
Cl. II, Div. 2, Groups F, G
Cl. III
NEMA 3, 4, 7CD, 9EFG, 12

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight

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Ordering Information:

Select the complete Catalog No. below and specify HP, voltage, frequency, RPM, type and full load ampere rating of motors or specify ampere rating of heaters.

Current limiters may be ordered by specification*.

Motor Starter			Enclosure with Motor Circuit Protector and Starter §	
Max. HP Polyphase	Volts	NEMA Size	Amp Rating	Cat. #
3	240	0	15	EPC870 ① 15HMCP ② 623
3	480	0	7	EPC870 ① 7HMCP ② 643
3	600	0	7	EPC870 ① 7HMCP ② 653
5	480	0	15	EPC870 ① 15HMCP ② 643
5	600	0	15	EPC870 ① 15HMCP ② 653
7½	240	1	30	EPC871 ① 30HMCP ② 623
7½	480	1	15	EPC871 ① 15HMCP ② 643
10	600	1	15	EPC871 ① 15HMCP ② 653
10	480	1	30	EPC871 ① 30HMCP ② 643

①Motor Circuit Protectors

Manufacturer	Symbol
General Electric	TP
Square D	DP
Cutler-Hammer	WP

②Motor Starters:

Manufacturer	Symbol
Allen-Bradley	AB
General Electric	G
Square D	D
Cutler-Hammer	W

*General Electric or Cutler-Hammer MCPs only.

§ Starters are furnished with three heaters when heater ratings are fully specified.

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