

EPC combination line starters and enclosures

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

1C

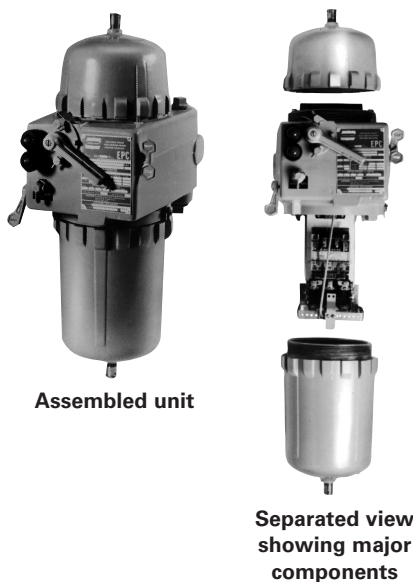
Applications:

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 ensure 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, Divisions 1 & 2, Groups C, D
- Class II, Division 1, Groups E, F, G
- Class II, Division 2, Groups F, G
- Class III

UL standard:

- UL698

CSA standard:

- C22.2 No. 30

Environmental ratings:

- NEMA/EMAC 3, 4, 7CD, 9EFG, 12

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 ratings:

- 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 catalog number. Many options are available in kit form or for field addition to existing units. See Section 2C for listing of kits.

Description	Suffix
• Control circuit transformer, fusible – secondary.....	FT
600/480/240-120V, 50 or 60 Hz (sizes 0 and 1 – 100-50VA)	
• Control circuit transformer, fusible – primary and secondary.....	FTPS
600/480/240-120V, 50 or 60 Hz (sizes 0 and 1 – 100-50VA)	
• Side bosses drilled and tapped same size as standard hubs.....	S366
Except 15" diameter – 1" size	
• Back boss drilled and tapped same size as standard hubs.....	S367
Except 15" diameter – 1" size	
• START-STOP pushbutton (heavy duty)	PB3
• ON-OFF selector switch (standard duty)	RR2
• HAND-OFF-AUTO selector switch (standard duty)	RR3
• Pilot light, red, 120V.....	J1
• Pilot light, green, 120V.....	J3
• LED pilot lights (in place of standard incandescent lamps)	LED
• Pilot light transformer, 240V.....	T2
• Pilot light transformer, 480V.....	T4
• Pilot light transformer, 600V.....	T5
• Space heater, 120V.....	R11
• Space heater, 240V.....	R22
• Space heater, 480V.....	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 two connectors	S146
50, 100, 225A	
• Grounded neutral stud with three connectors	S178
50, 100, 225A	
• 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
• Two universal breather/drains (Class I, Groups C, D; Class II, Groups F, G)	S454V
• Less heaters	0
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
Pilot light holes drilled, tapped and plugged for future addition of pilot lights:	
• One hole	S541
• Two holes	S542

^A Required for pilot lights on other than 120V control circuits. One required for each lamp.

^B Not suitable for NEMA 4.

^C Application is limited by starter, contactor, circuit breaker or motor circuit protector design – contact factory.

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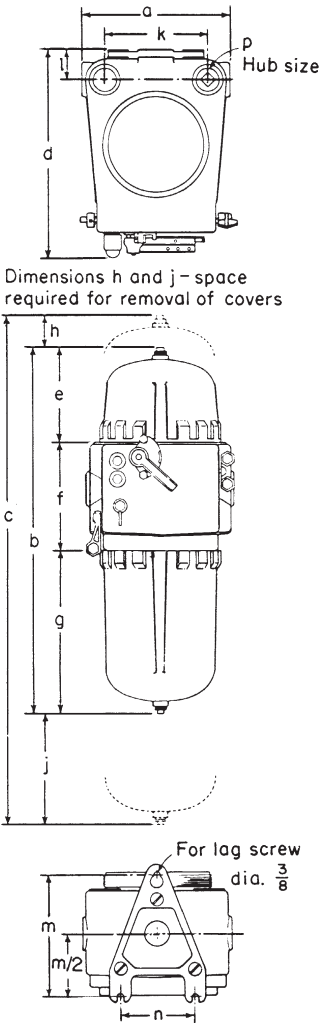
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Dimensions[Ⓓ] (in inches):

7" Internal diameter



Single-speed, non-reversing sizes 0, 1 and 3 starters

	EPC87	EPC87-FTPS or EPC87-FT [Ⓔ]
Internal diameter	7"	7"
a	10 ⁵ / ₈	10 ⁵ / ₈
b	26 ⁷ / ₁₆	31 ¹ / ₁₆
c	35 ¹¹ / ₁₆	47 ¹¹ / ₁₆
d	14 ¹¹ / ₁₆	14 ¹¹ / ₁₆
e	6 ³ / ₄	11 ³ / ₄
f	7 ¹¹ / ₁₆	7 ¹¹ / ₁₆
g	11 ⁵ / ₈	11 ⁵ / ₈
h	2	9
j	7 ⁵ / ₈	7 ⁵ / ₈
k	7 ³ / ₈	7 ³ / ₈
l	2 ¹ / ₁₆	2 ¹ / ₁₆
m	9 ³ / ₈	9 ³ / ₈
n	5 ¹ / ₄	5 ¹ / ₄
p	1 ¹ / ₄	1 ¹ / ₄

1C

[Ⓓ]Dimensions are approximate, not for construction purposes.
[Ⓔ]For units with control circuit transformer (FT or FTPS suffix).

EPC combination line starters and enclosures

Single-speed, non-reversing with circuit breakers
3-pole, 60 Hz, 600 VAC maximum

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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 catalog number below and specify horsepower, 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 (please contact factory).

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

Motor starter			Circuit breaker			Enclosure		
Max. HP polyphase	Voltage	NEMA size	Ampereage	Frame type	Hub size	Internal diameter	Cat. # Without breaker and starter	Cat. # With breaker and starter [Ⓕ]
2	120	0	30	EB	1 1/4"	7"	EPC87	EPC870 ①30ED ②613
3	240	0	20	EHD	1 1/4"	7"	EPC87	EPC870 ①20EHD ②623
3	480	0	15	EHD	1 1/4"	7"	EPC87	EPC870 ①15EHD ②643
3	480	0	15	FDB	1 1/4"	7"	EPC87	EPC870 ①15FD ②643
3	600	0	15	FD	1 1/4"	7"	EPC87	EPC870 ①15FD ②653
5	240	1	30	EHD	1 1/4"	7"	EPC87	EPC871 ①30EHD ②623
5	480	0	15	EHD	1 1/4"	7"	EPC87	EPC870 ①15EHD ②643
5	480	0	15	FDB	1 1/4"	7"	EPC87	EPC870 ①15FD ②643
5	600	0	15	FDB	1 1/4"	7"	EPC87	EPC870 ①15FD ②653
7.5	240	1	50	EHD	1 1/4"	7"	EPC87	EPC871 ①50EHD ②623
7.5	480	1	30	EHD	1 1/4"	7"	EPC87	EPC871 ①30EHD ②643
7.5	480	1	30	FDB	1 1/4"	7"	EPC87	EPC871 ①30FD ②643
7.5	600	1	30	FDB	1 1/4"	7"	EPC87	EPC871 ①30FD ②653
10	480	1	30	EHD	1 1/4"	7"	EPC87	EPC871 ①30EHD ②643
10	480	1	30	FDB	1 1/4"	7"	EPC87	EPC871 ①30FD ②643
10	600	1	30	FDB	1 1/4"	7"	EPC87	EPC871 ①30FD ②653

①Circuit breakers

Manufacturer	Symbol	150 and 150A frame		
		240V	480V	600V
General Electric	TT	TEB	TED [Ⓖ]	TED [Ⓖ]
Cutler-Hammer	WT	EHD	EHD	FB, FDB

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.

[Ⓖ] Specify voltage.

EPC combination line starters

Single-speed, non-reversing with motor circuit protectors 3-pole, 60 Hz, 600 VAC maximum

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Ordering information (continued):

Select the complete catalog number below and specify horsepower, 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 starter and MCP [Ⓜ]	
Max. HP polyphase	Voltage	NEMA size	Amperage	Cat. #
3	240	0	15	EPC870 WP15HMCP [Ⓜ] 623
3	480	0	7	EPC870 WP7HMCP [Ⓜ] 643
3	600	0	7	EPC870 WP7HMCP [Ⓜ] 653
5	480	0	15	EPC870 WP15HMCP [Ⓜ] 643
5	600	0	15	EPC870 WP15HMCP [Ⓜ] 653
7.5	240	1	30	EPC871 WP30HMCP [Ⓜ] 623
7.5	480	1	15	EPC871 WP15HMCP [Ⓜ] 643
10	600	1	15	EPC871 WP15HMCP [Ⓜ] 653
10	480	1	30	EPC871 WP30HMCP [Ⓜ] 643

Motor circuit protectors	
Manufacturer	Symbol
Cutler-Hammer	WP

Ⓜ Motor 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.