



Cl. I, Div. 1 & 2, Groups B³, C, D
Cl. I, Zones 1 & 2
Cl. II, Groups E, F, G
Cl. III
NEMA 3R, 4X³, 7BCD, 9EFG
Explosionproof
Dust-ignitionproof

EBMXC Explosionproof Combination Motor Starters

CONTACT US:

1.844.279.8295 - Toll Free
832.243.5372 - Local Factory Support
832.569.5645 - Fax
factoryassistance@spikeelectric.com
spikeelectric.com
5914 E. Sam Houston Pkwy S.
Houston TX 77034

Copyright © 2018 Spike Electric Controls

EBMXC Explosionproof Combination Motor Starters

Cl. I, Div. 1 & 2, Groups B[ⓑ], C, D
Cl. I, Zones 1 & 2
Cl. II, Groups E, F, G
Cl. III
NEMA 3R, 4X[ⓐ], 7BCD, 9EFG

Explosionproof
Dust-Ignitionproof

Applications:

- Operating where flammable liquids or gases are handled, processed or used
- Damp, wet, dirty, dusty, hazardous areas where ultimate corrosion and ingress protection is required
- Harsh and hazardous motor control environments, including refineries, chemical and petrochemical plants, corrosive process facilities, food and beverage, marine and mining
- Across-the-line starting, stopping, speed changing and reversing of polyphased AC induction motors

Features:

- Clamped enclosure significantly reduces time to enter enclosure and reduces opportunity for missing, stripped or broken bolts
- 65kAIC at 480V enclosure rating for high interrupting capacity applications
- -50°C to +60°C temperature range for extreme environments
- Magnetic, thermal magnetic and electronic break trip options for short circuit and overcurrent protection
- Bi-metallic and electronic/solid state overload protection options
- Normally open (NO) holding circuit contact supplied standard
- Up to six cover operators for a variety of applications
- Side operated breaker handle provides visual confirmation of proper operator alignment while cover is open and can be padlocked in either "ON" or "OFF" positions for OSHA compliance
- Neoprene cover gasket provides NEMA 4X protection for hose down applications
- Maximum wiring room compliance with National Electrical Code requirements allows for easy and safe installation[Ⓐ]
- Rugged, corrosion-resistant, cast copper-free aluminum construction provides NEMA 4X protection
- Semi-clamshell enclosure design, with an external flanged ground joint between body and cover, provides increased access to interior components
- Minimum enclosure-to-enclosure spacing with little interference between the opened cover and adjacent enclosure
- Pre-drilled mounting plate for simple starter and breaker installation
- Detachable tap-on mounting feet
- Steel brackets supplied standard for lifting during installation

- Bodies have top and bottom drilled and tapped entries for power and control conduits; removable reducers are supplied standard to accommodate smaller size conduits; all conduit entries are plugged

Electrical ratings:

- Motor starters:
 - Single-, three-phase
 - 3-pole, non-reversing, full voltage
 - 600 VAC maximum
 - NEMA sizes 0-4
- Breakers and HMCPs:
 - 3-pole, 600 VAC, 125 VDC
 - Eaton frames: EG, JG (up to 250A)[Ⓓ]

Certifications and Compliances:

NEC/CEC:

- Class I, Divisions 1 & 2, Groups B[ⓑ], C, D
- Class I, Zones 1 & 2
- Class II, Groups E, F, G
- Class III

UL Standards:

- UL1203 – Explosionproof and Dust-ignitionproof Electrical Equipment for use in Hazardous (Classified) Locations



Groups C, D

VOLTAGE (AC)	RMS SYMMETRICAL AMPS
240, 480	65,000
600	35,000

CSA Standard:

- cUL to CSA C22.2 No. 30

Additional Certifications:

- UL/cUL certified for -50°C to +60°C
- SASO Certificate of Conformity

Environmental Ratings:

- NEMA 3R, 4XC, 7BCD, 9EFG

Standard Materials:

- Body and cover – copper-free aluminum
- Clamp – anodized copper-free aluminum
- External hardware – stainless steel
- Internal parts – galvanized steel

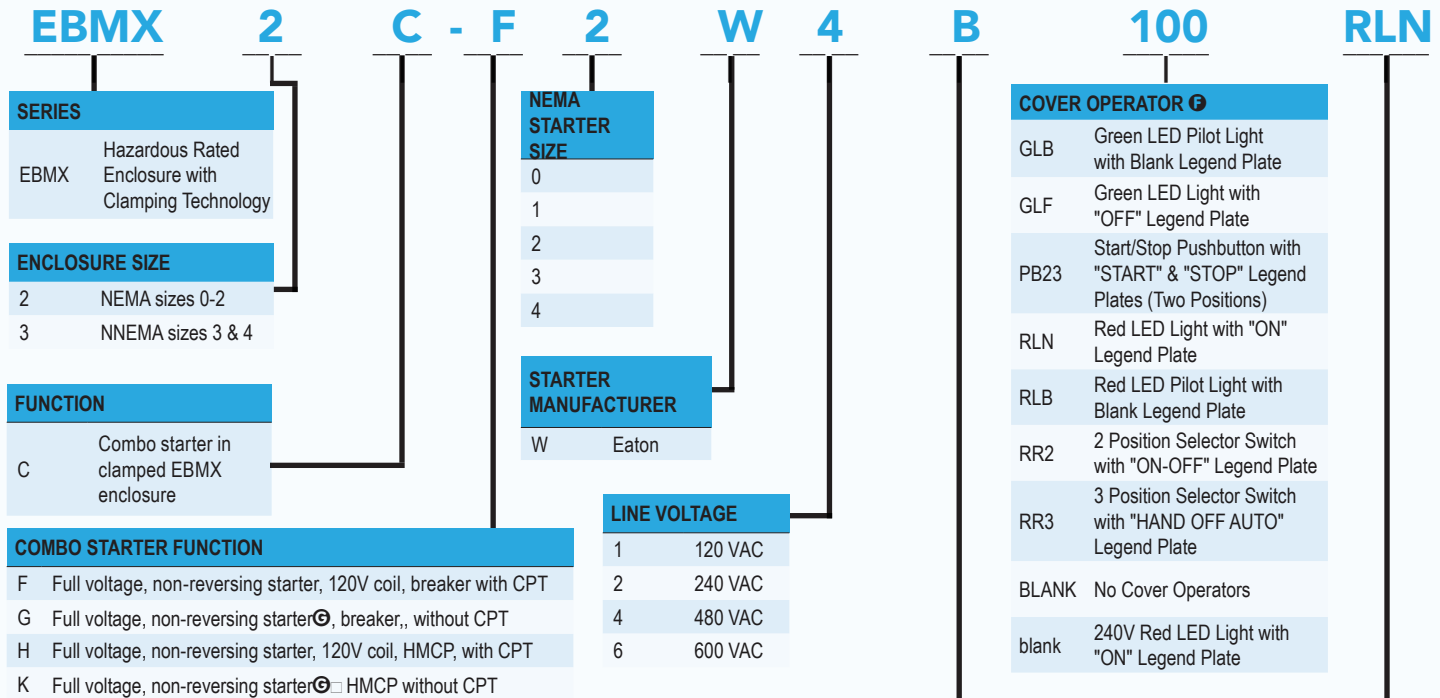
- Ⓐ Standard factory wiring included between the starter and breaker – consult factory for any additional wiring requirements.
- ⓑ High AIC and -50°C temperature certifications do not apply for Group B.
- ⓐ Enclosures with PB23, RR2 and RR3 options are rated NEMA 3R. All other options maintain NEMA 4X rating.
- Ⓓ 15-125A rated 600Y/347 VAC maximum; 150-250A rated 600 VAC maximum

EBMX Explosionproof Combination Motor Starters

Cl. I, Div. 1 & 2, Groups BⓈ, C, D
Cl. I, Zones 1 & 2
Cl. II, Groups E, F, G
Cl. III
NEMA 3R, 4XⓈ, 7BCD, 9EFG

Explosionproof
Dust-Ignitionproof

Catalog Number System



FLA				
	FLA RANGE	0, 1	2	3, 4
BLANK OR ER OPTION	00-0.0	●	●	●
A	0.8 - 1.3	●	●	
B	1.2 - 2.0	●	●	
C	1.8 - 2.9	●	●	
D	2.2 - 3.5	●	●	
E	3.2 - 5.2	●	●	
F	4.6 - 7.4	●	●	
G	6.8 - 11.0	●	●	
H	9.1 - 14.0	●	●	
J	14.0 - 22.8	●	●	
L	23.5 - 38.5	●	●	
M	39.6 - 57.4		●	
N	53.9 - 74.9		●	
P	8.0 - 11.5			●
Q	11.4 - 15.7			●
R	14.3 - 19.0			●
S	18.0 - 24.5			●
T	24.6 - 33.4			●
V	33.5 - 45.6			●
W	45.7 - 62.1			●
X	62.2 - 84.6			●
Y	84.7 - 115.0			●
Z	106.0 - 144.0			●

- Ⓢ High AIC and -50°C temperature certifications do not apply for Group B.
- Ⓢ Enclosures with PB23, RR2 and RR3 options are rated NEMA 3R. All other options maintain NEMA 4X rating.
- Ⓢ Starter coil equals line voltage.
- Ⓢ 15-125A rated 600Y/347 VAC maximum; 150-250A rated 600 VAC maximum.
- Ⓢ List selected operators in order starting with the top position.
- Ⓢ List selected options in alphanumeric order.
- Ⓢ Available with NEMA starter sizes 0-3. Pushbutton provided in cover for manual reset.

OPTIONS Ⓢ	
AIC	65kAIC at 480V, 35kAIC at 600V Enclosure Rating
BST	Shunt trip, 120V
ERⓈ	Electronic overload relay (starter)
ET	Electronic trip breaker (thermal magnetic standard)
HT	Ambient compensated breaker; +60°C enclosure rating
MT	Freeze-tested breaker; -50°C enclosure rating
R11	Space Heater, 25 Watts, 120V
R22	Space Heater, 25 Watts, 240V
R44	Space Heater, 25 Watts, 480V
S214	External Ground Lug
S752	External Epoxy Coating
S753	Internal and External Epoxy Coating
S756V	Breather and drain (Class I, Groups B, C, D)
S781	Auxiliary contact on starter: (1) NO & (1) NC
S782	Auxiliary contacts on starter: (2) NO & (2) NC
S783	Auxiliary contacts on starter: (3) NO & (3) NC
S784	Auxiliary contacts on starter: (3) NO & (3) NC
S785	Auxiliary switches on circuit breaker: 2A & 2B
S786	12-point terminal block, 30 amp, 300V

EBMXC Explosionproof Combination Motor Starters

Cl. I, Div. 1 & 2, Groups B[Ⓢ], C, D
Cl. I, Zones 1 & 2
Cl. II, Groups E, F, G
Cl. III
NEMA 3R, 4X[Ⓢ], 7BCD, 9EFG

Explosionproof
Dust-Ignitionproof

FREEDOM STARTER

MOTOR STARTER MAX. HORSEPOWER	LINE VOLTAGE	NEMA SIZE	AMPERAGE	FRAME
1	120	0	20	EG
3	240		20	
5	480		15	
5	600		15	
2	120	1	30	EG
5	240		30	
7.5	240		50	
10	480		30	
10	1600		30	
3	120	2	50	EG
10	240		50	
15	240		70	
15	480		40	
15	600		40	
20	480		50	
20	600		50	
25	480		70	
25	600		70	
20	240		3	
25	240	100		
30	240	125		
30	480	70		
30	600	70		
40	480	90		
40	600	90		
50	480	100		
50	600	100		
40	240	4		175
50	240		200	
60	480		125	
60	600		100	
75	480		150	
75	600		125	
100	480	200		
100	600	150		

NNote: 120V is single-phase; other voltages are polyphase

Reference Tables:

STARTER ELECTRONIC OVERLOAD RELAY SETTINGS

NEMA SIZE	FLA RANGE (A)
0	1 - 5
1	4 - 20
2	9 - 45
3	20 - 100
4	28 - 140

CONTROL CIRCUIT TRANSFORMER, 50/60 HZ, FUSING FOR PRIMARY AND SECONDARY[Ⓢ]

NEMA SIZE	VA
0 - 2	100
3	200

BREAKER ELECTRONIC TRIP DIAL SETTINGS

AMPERAGE (A)	RANGE (A)
50	20, 25, 30, 32, 40, 45, 50
100	40, 45, 50, 63, 70, 80, 90, 100
150	63, 80, 90, 100, 110, 125, 150, 160
200	100, 125, 150, 160, 170, 200, 225, 250

HMCP TRIP SETTINGS

AMPERAGE (A)	TRIP RANGE (A)
3	9-33
7	21-77
15	45-165
30	90-330
50	150-550
70	210-770
100	300-1100
250	1250-2500

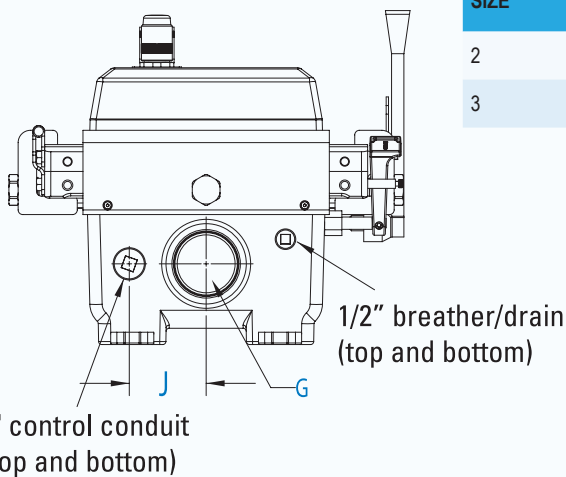
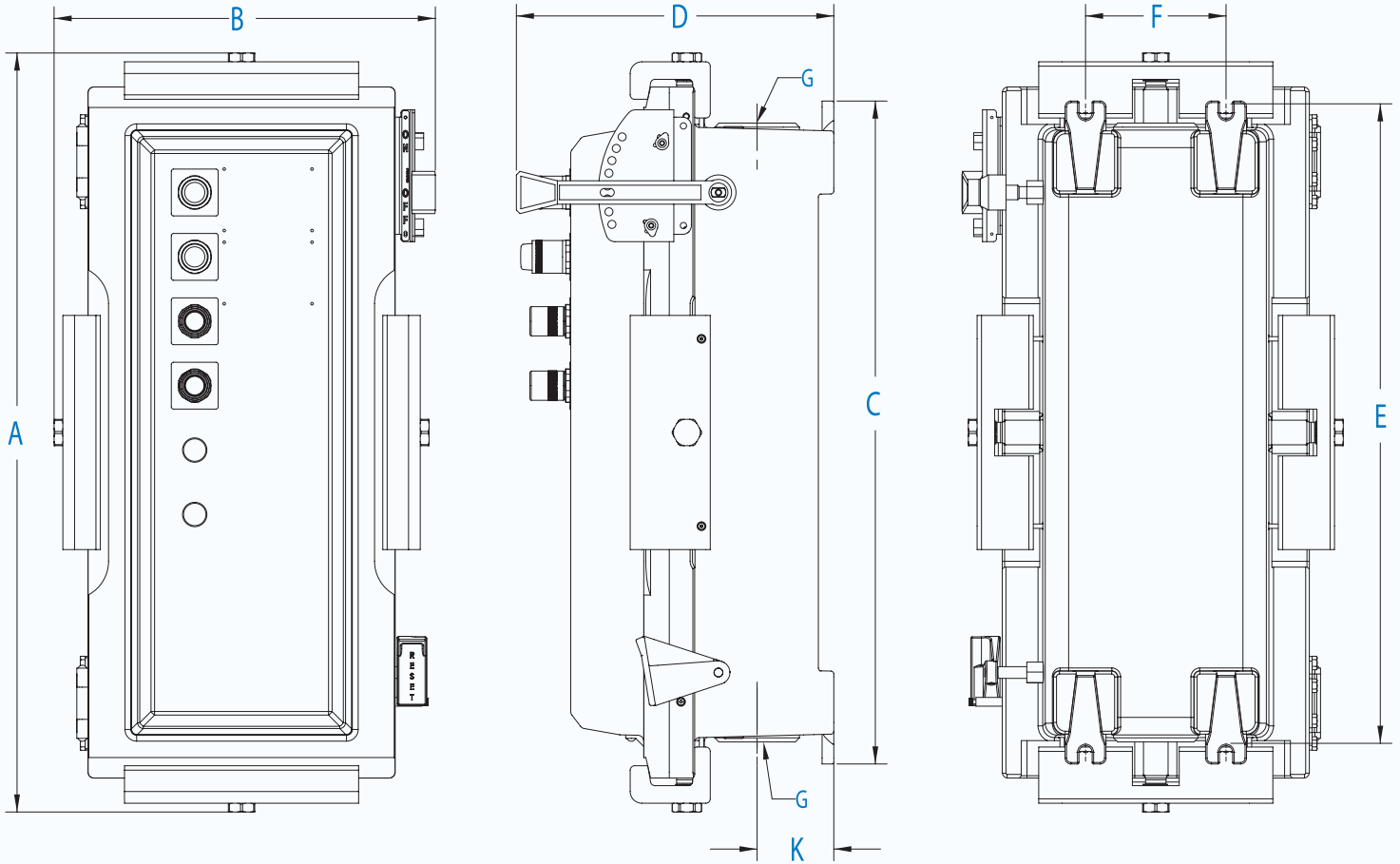
- Ⓢ High AIC and -50°C temperature certifications do not apply for Group B.
- Ⓢ Enclosures with PB23, RR2 and RR3 options are rated NEMA 3R. All other options maintain NEMA 4X rating.
- Ⓢ Fuses not included.

EBMXC Explosionproof Combination Motor Starters

Cl. I, Div. 1 & 2, Groups BⓈ, C, D
Cl. I, Zones 1 & 2
Cl. II, Groups E, F, G
Cl. III
NEMA 3R, 4XⓈ, 7BCD, 9EFG

Explosionproof
Dust-Ignitionproof

Dimensions (in inches):



ENCLOSURE SIZE	A	B	C	D	E	F	G		J	K
							DRILLED & TAPPED	WITH REDUCER		
2	32.40	16.28	28.31	13.56	27.25	6.00	3 NPT	2.5 NPT	3.12	3.28
3	42.28	17.93	38.15	13.85	37.25	6.00	3 NPT	2.5 NPT	3.93	3.56

- Ⓢ High AIC and -50°C temperature certifications do not apply for Group B.
- Ⓢ Enclosures with PB23, RR2 and RR3 options are rated NEMA 3R. All other options maintain NEMA 4X rating