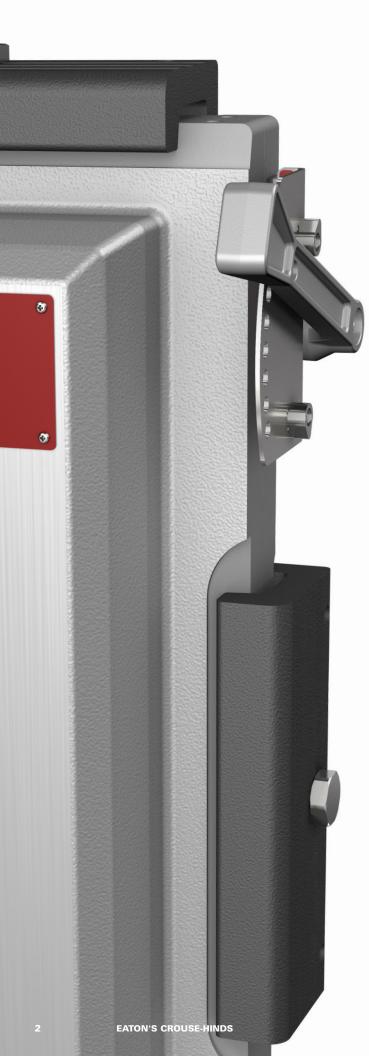
## CROUSE-HINDS SERIES









# Safer. Faster.

Easy access, lower risk and less downtime.

Creative thinking and reliable solutions. That's what you need in the world's most demanding environments, and that's what Eaton's Crouse-Hinds delivers with its new clamped EBMX explosionproof enclosures.

The only clamped enclosure for hazardous areas.

## **CLAMP DOWN on safety & productivity**

#### The challenge:

Traditional classified enclosures require a significant number of bolts designed into their covers.

#### Issue #1 - Time

Opening and closing traditional bolted enclosures is a labor-intensive task. Facilities that regularly inspect their enclosures as part of a preventative maintenance plan can spend thousands of dollars a year on labor.

#### Issue #2 - Installation errors

A traditional NEMA 7 enclosure that has been properly installed is extremely safe. However, human installation error may result in bolts being left out or not torqued properly. If internal combustion were to occur inside an incorrectly installed enclosure, a flame could escape and ignite the outside atmosphere.

#### The solution:

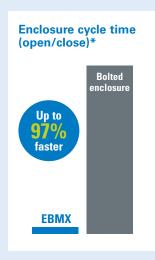
The clamped EBMX from Eaton's Crouse-Hinds. The world's only NEMA 7 classified enclosure to utilize clamping technology.

#### The EBMX advantage:

FASTER. A significant reduction in installation and maintenance costs due to its revolutionary design makes opening and closing the EBMX significantly faster than traditional enclosures.

SAFER. The clamps on the EBMX enclosure automatically apply even pressure across the flame path for an error-proof installation. No need to worry about missing or improperly torqued bolts creating an explosion hazard in your facility.

The EBMX enclosure is rated Class I, Divisions 1 and 2, and has a NEMA 4X rating to protect against water ingress.



Reference: Manahan, J., Zhao, Y., & Foster, M. (2015, July/August). NEMA Type 7 Hazardous-Area Enclosures. IEEE Industry Applications, 46-55.

\* Multi-lead captive fastener enclosure vs. clamped enclosure

# Why EBMX?

Save time and money. Reduce safety risk for personnel, maintenance costs and downtime activities.



#### **Environmental ratings**

• NEMA 3R, 4X\*, 7BCD, 9EFG

#### Certifications and compliances

- NEC & CEC
  - Class I, Divisions 1 and 2, Groups B, C and D
  - Class II, Groups E, F and G
  - Class III
  - Class I, Zones 1 and 2
- UL Standards
  - UL1203 Explosionproof and Dust-ignition-proof Electrical Equipment for Use in Hazardous (Classified) Locations
  - UL2062 High AIC Ratings for Groups C and D
- cUL to CSA C22.2 No. 30
- UL/cUL certified for -50°C to+60°C
- SASO Certificate of Conformity

#### Standard materials

- Body and cover copper-free aluminum
- Clamp anodized copper free aluminum
- External hardware stainless steel
- Internal parts galvanized steel
- \* Enclosures with PB23, RR2 and RR3 options are rated NEMA 3R. All other options maintain NEMA 4X rating.

#### **Extended temperature range:**

• -50°C to +60°C certified enclosure temperature rating

#### Reduced risk:

· No missing, stripped, broken or improperly torqued bolts



#### Simplified alignment:

 Side operated handles for visual confirmation of proper operator alignment while cover is open

## The only clamped solution



#### Save time and money

- Simple clamp cover design opens in seconds
- Reduces installation and maintenance costs

#### **Error-proof installation**

- All surface clamps apply even pressure across the flame path
- · No chance of missing bolts

#### Multi-use and highly customizable

- Designed for use as starter, combo starter, disconnect switch or breaker
- 65kAIC at 480V certified enclosure rating
- Up to 6 cover operators
- Standard factory wiring included between the starter and breaker
- Thermal magnetic and electronic trip breakers
- Bi-metallic and electronic overload starters

#### **Patented safety**

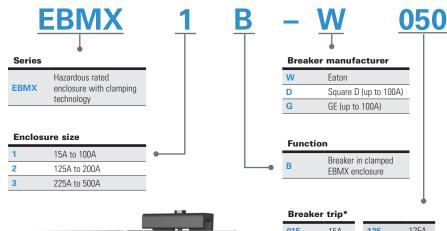
11 patents associated with all-clamp technology

## **Ordering information – Breaker**

#### Part number example

#### EBMX1B-W050 AIC

EBMX hazardous rated breaker, size 1 enclosure, Eaton breaker, 50A breaker trip, 65kAIC breaker





015	15A	125	125A
020	20A	150	150A
030	30A	175	175A
035	35A	200	200A
040	40A	225	225A
050	50A	250	250A
060	60A	300	300A
070	70A	350	350A
080	80A	400	400A
090	90A	500	500A
100	100A		

<sup>\* 15-100</sup>A rated 600Y/347 VAC maximum; 125-500A rated 600 VAC maximum.

#### Options\*

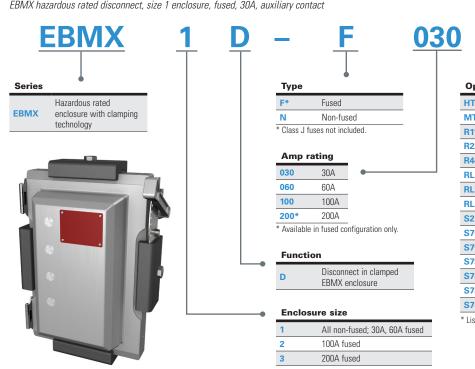
AIC	65kAIC at 480V, 35kAIC at 600V
BST	Shunt trip, 120V
ET**	Electronic trip (thermal magnetic standard)
HT	Ambient compensated breaker; +60°C enclosure rating
MT	Freeze-tested breaker; -50°C enclosure rating
R11	Space heater, 25 watts, 120V
R22	Space heater, 25 watts, 240V
R44	Space heater, 25 watts, 480V
RLN	120V red LED light with "ON" legend plate
RLN2	240V red LED light with "ON" legend plate
RLN4	480V red LED light with "ON" legend plate
S214	External ground lug
S752	External epoxy coating
S753	Internal and external epoxy coating
S756V	Breather and drain, Class I, Groups B, C, D
S784	Auxiliary switch on circuit breaker: 1A & 1B
S785	Auxiliary switches on circuit breaker: 2A & 2B
S786	12-point terminal block, 30 amp, 300V

## **Ordering information – Disconnect switch**

#### Part number example

## EBMX1D-F030 S784

EBMX hazardous rated disconnect, size 1 enclosure, fused, 30A, auxiliary contact



#### Options\*

Option					
HT	+60°C enclosure rating				
MT	-50°C enclosure rating				
R11	Space heater, 25 watts, 120V				
R22	Space heater, 25 watts, 240V				
R44	Space heater, 25 watts, 480V				
RLN	120V red LED light with "ON" legend plate				
RLN2	240V red LED light with "ON" legend plate				
RLN4	480V red LED light with "ON" legend plate				
S214	External ground lug				
S752	External epoxy coating				
S753	Internal and external epoxy coating				
S756V	Breather and drain, Class I, Groups B, C, D				
S784	Auxiliary contact on switch: (1) NO & (1) NC				
S785	Auxiliary contacts on switch: (2) NO & (2) NC				
S786	12-point terminal block, 30 amp, 300V				

<sup>\*</sup> List selected options in alphanumeric order.

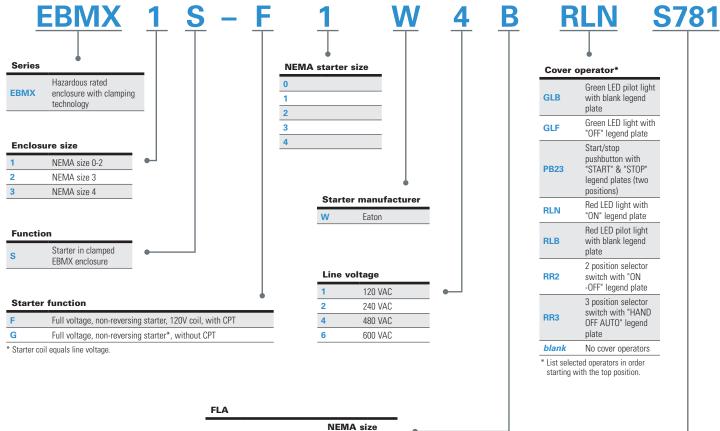
<sup>\*</sup> List selected options in alphanumeric order.
\*\* Electronic trip breakers are available in 70A or larger; 600 VAC maximum.

## **Ordering information – Motor starter**

#### Part number example

#### **EBMX1S-F1W4B RLN S781**

EBMX hazardous rated motor starter, size 1 enclosure, Eaton full voltage, non-reversing starter with CPT, starter size 1, 480V, red LED pilot light, auxiliary contact





#### FLA range 0,1 3,4 Blank 0.0 - 0.0 • • 0.8 - 1.3 В 1.2 - 2.0 • 1.8 - 2.9 C • • D 2.2 - 3.5 • • E 3.2 - 5.2 F 4.6 - 7.4 • • G 6.8 - 11.0 Н 9.1 - 14.0 • J 14.0 - 22.8 • L 23.5 - 38.5 M 39.6 - 57.4 • N 53.9 - 74.9 8.0 - 11.5 Q 11.4 - 15.7 • R 14.3 - 19.0 • S 18.0 - 24.5 • Ť 24.6 - 33.4 • ٧ 33.5 - 45.6 W 45.7 - 62.1 • X 62.2 - 84.6 • Υ 84.7 - 115.0 • 106.0 - 144.0 •

#### Options\*

ER**	Electronic overload relay
HT	+60°C enclosure rating
MT	-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
S786	12-point terminal block, 30 amp, 300V

<sup>\*</sup> List selected options in alphanumeric order.

<sup>\*\*</sup> Consult factory for electronic overload FLA ranges.



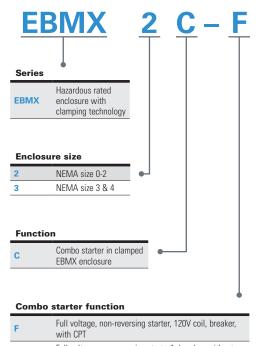


## **Ordering information – Combo starter**

#### Part number example

#### EBMX2C-F2W4B-100 RLN AIC

EBMX hazardous rated combo starter, size 2 enclosure, Eaton full voltage, non-reversing starter with CPT, starter size 2, red LED, 480V, 65kAlC



Ī	F	Full voltage, non-reversing starter, 120V coil, breaker, with CPT
	G	Full voltage, non-reversing starter*, breaker, without CPT
	н	Full voltage, non-reversing starter, 120V coil, HMCP, with CPT
	K	Full voltage, non-reversing starter*, HMCP, without CPT

<sup>\*</sup> Starter coil equals line voltage.



# Line voltage 120 VAC 240 VAC 2 480 VAC 600 VAC Starter manufacturer Eaton **NEMA** starter size 2

	0,1	2	3,4	
Blank	0.0 - 0.0	•	•	•
Α	0.8 - 1.3	•	•	
В	1.2 - 2.0	•	•	
С	1.8 - 2.9	•	•	
D	2.2 - 3.5	•	•	
Е	3.2 - 5.2	•	•	
F	4.6 - 7.4	•	•	
G	6.8 - 11.0	•	•	
Н	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			•
Т	24.6 - 33.4			•
V	33.5 - 45.6			•
w	45.7 - 62.1			•
X	62.2 - 84.6			•
Υ	84.7 - 115.0			•
Z	106.0 - 144.0			•

**NEMA** size

# Breaker trip\* (only with "F" or "G" as combo starter function)

015	050	125
020	070	150
030	090	175
040	100	200

## HMCP trip\* (only with "H" or "K" as combo starter function)

003	030	100
007	050	250
015	070	

<sup>\* 15-125</sup>A rated 600Y/347 VAC maximum; 150-250A rated 600 VAC maximum.

#### Cover operators\*

GLB	Green LED pilot light with blank legend plate
GLF	Green LED light with "OFF" legend plate
PB23	Start/stop pushbutton with "START" & "STOP" legend plates (two positions)
RLB	Red LED pilot light with blank legend plate
RLN	Red LED light with "ON" legend plate
RR2	2 position selector switch with "ON-OFF" legend plate
RR3	3 position selector switch with "HAND OFF AUTO" legend plate
blank	No cover operators

**RLN AIC** 

#### Options\*

AIC	65kAIC at 480V, 35kAIC at 600V
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 switch on circuit breaker: 1A & 1B
S785	Auxiliary switches on circuit breaker: 2A & 2B
S786	12-point terminal block, 30 amp, 300V

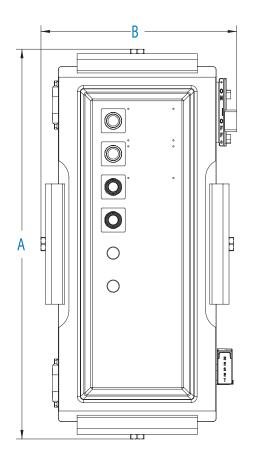
<sup>\*</sup> List selected options in alphanumeric order.

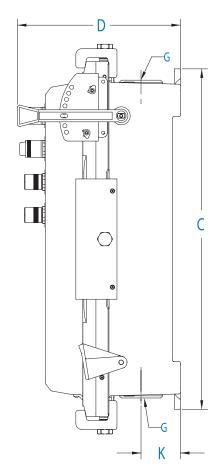
<sup>\*</sup> List selected operators in order starting with the top position.

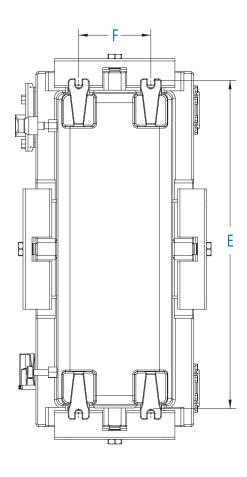
<sup>\*\*</sup> Consult factory for electronic overload FLA ranges.

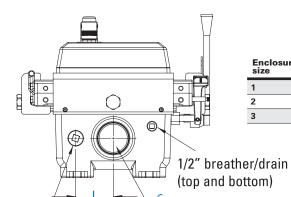
\*\*\* Electronic trip breakers available in 70A and larger; 600 VAC maximum.

## **Dimensions (inches)**









Enclosure size	Α	В	С	D	E	F	drilled & tapped	w/ reducer	J	К
1	22.11	15.98	18.04	12.86	17.13	6.00	2 NPT	1.5 NPT	3.12	3.01
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

1" control conduit (top and bottom)

G

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