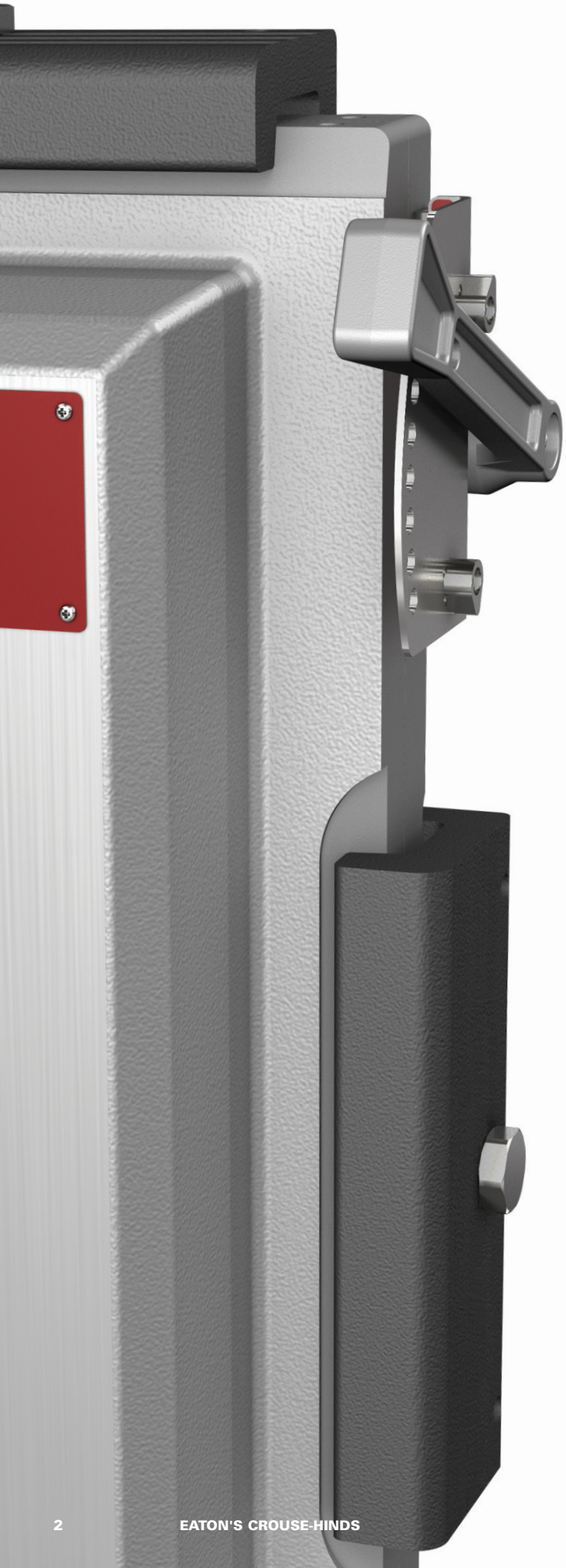
Enclosures for hazardous areas
EBMX clamped enclosures

CROUSE-HINDS SERIES

Clamped EBMX

NEMA 7 classified enclosures

EATON
Powering Business Worldwide



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.

Enclosure cycle time (open/close)*

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.

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

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.

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
- Factory wired
- 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

EBMX 1 B – W 050 AIC

Series

EBMX	Hazardous rated enclosure with clamping technology

Enclosure size

1	15A to 100A
2	125A to 200A
3	225A to 500A

Breaker manufacturer

W	Eaton
D	Square D (up to 100A)
G	GE (up to 100A)

Function

B	Breaker in clamped EBMX enclosure

Breaker trip*

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		

* 15-100A 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

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

Ordering information – Disconnect switch

Part number example

EBMX1D-F030 S784

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

EBMX 1 D – F 030 S784

Series

EBMX	Hazardous rated enclosure with clamping technology

Type

F*	Fused
N	Non-fused

* Class J fuses not included.

Amp rating

030	30A
060	60A
100	100A
200*	200A

* Available in fused configuration only.

Function

D	Disconnect in clamped EBMX enclosure

Enclosure size

1	All non-fused; 30A, 60A fused
2	100A fused
3	200A fused

Options*

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

* List selected options in alphanumeric order.

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

EBMX 1 S – F 1 W 4 B RLN S781

Series

EBMX	Hazardous rated enclosure with clamping technology

Enclosure size

1	NEMA size 0-2
2	NEMA size 3
3	NEMA size 4

Function

S	Starter in clamped EBMX enclosure

Starter function

F	Full voltage, non-reversing starter, 120V coil, with CPT
G	Full voltage, non-reversing starter*, without CPT

* Starter coil equals line voltage.

NEMA starter size

0
1
2
3
4

Starter manufacturer

W	Eaton

Line voltage

1	120 VAC
2	240 VAC
4	480 VAC
6	600 VAC

Cover operator*

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)
RLN	Red LED light with "ON" legend plate
RLB	Red LED pilot light with blank 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

* List selected operators in order starting with the top position.

FLA

		NEMA size		
	FLA range	0,1	2	3,4
Blank	0.0 - 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			•

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

* List selected options in alphanumeric order.
** 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, 65kAIC

EBMX 2 C – F 2 W 4 B – 100 RLN AIC

Series

EBMX	Hazardous rated enclosure with clamping technology

Enclosure size

2	NEMA size 0-2
3	NEMA size 3 & 4

Function

C	Combo starter in clamped EBMX enclosure

Combo starter function

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

* Starter coil equals line voltage.

Starter manufacturer

W	Eaton

NEMA starter size

0
1
2
3
4

Line voltage

1	120 VAC
2	240 VAC
4	480 VAC
6	600 VAC

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	

* 15-125A 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

* List selected operators in order starting with the top position.

FLA

		NEMA size		
	FLA range	0,1	2	3,4
Blank	0.0 - 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			•

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
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S781	Auxiliary contact on starter: (1) NO & (1) NC
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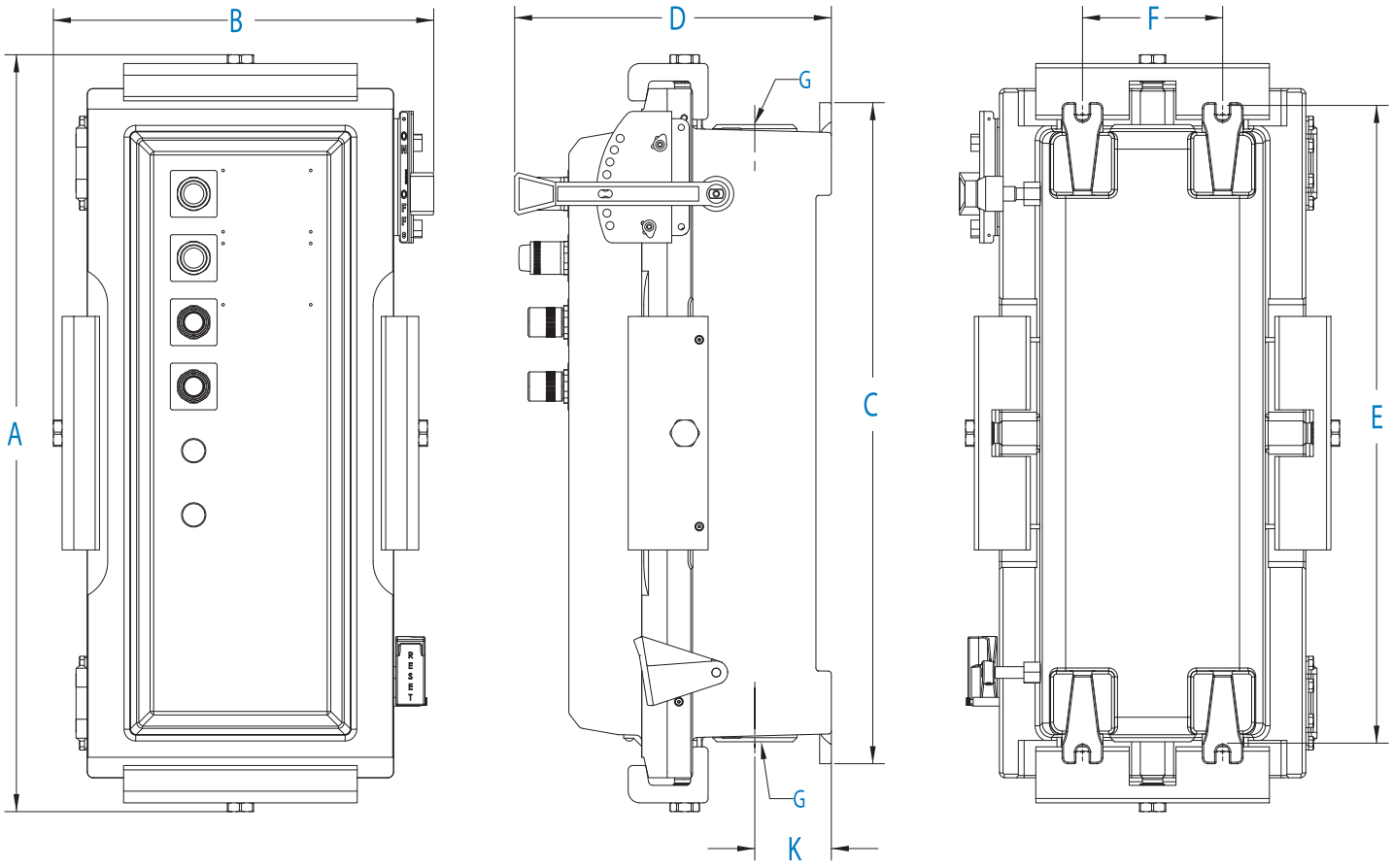
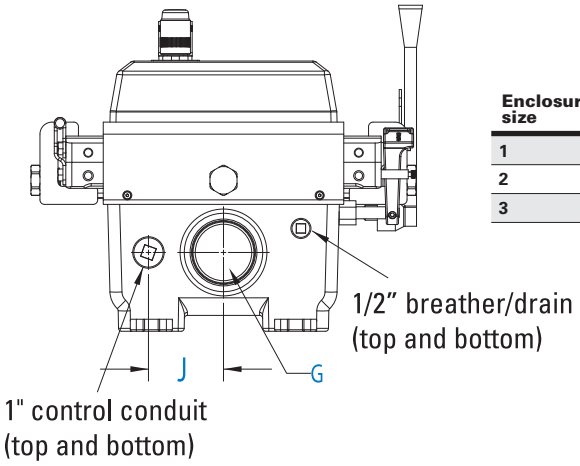
S783	Auxiliary contacts on starter: (3) NO & (3) NC
S784	Auxiliary switch on circuit breaker: 1A & 1B
S785	Auxiliary switches on circuit breaker: 2A & 2B
S786	12-point terminal block, 30 amp, 300V

* List selected options in alphanumeric order.
** Consult factory for electronic overload FLA ranges.
*** Electronic trip breakers available in 70A and larger; 600 VAC maximum.

Dimensions (inches)





Enclosure size	A	B	C	D	E	F	G drilled & tapped	G w/ reducer	J	K
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

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