3C EBMB Circuit Breakers and Enclosures

Cl. I, Div. 1 & 2, Groups B,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 3,3R,4‡,7BCD,9EFG,12	Watertight

Application:

Spectrum EBM™ hinged cover motor control enclosures are used:

- For general motor control and circuit protection – indoors and outdoors – in damp, wet, dirty, dusty hazardous locations without the need for a protective shelter.
- In areas where frequent washdowns are necessary or where heavy rain or water spray is prevalent.
- To provide line disconnect means and short circuit protection.
- For service entrance, feeder or branch circuit protection for lighting, heating, appliance and motor circuits.
- On switchracks or other assemblies where it's desired that motor control be centrally located.

Features:

- Rugged, corrosion resistant, cast copper-free aluminum construction (Less than 0.4 of 1%).
- Circuit breaker operating handle located through the right side wall of the body permits visual confirmation of correct component assembly and operation.
- Total compliance to the wiring end room requirements of the National Electrical Code®.
- Semi-clamshell enclosure design, with an external flanged ground joint between body and cover makes interior components more accessible.
- Minimum enclosure-to-enclosure spacing with little interference between the opened cover and an adjacent enclosure.
- Copper-free aluminum hinges allow the cover to swing well out of the way.
- Stainless steel, quick release, captive, hex head cover bolts. Stainless steel springs provide clear indication cover bolts are fully retracted from body.
- Versatile, internal operating mechanisms allow for field adjustment to accommodate popular manufacturers' breakers.
- Simple, straightforward installation of breaker on pre-drilled mounting plate within enclosure. Mounting plate also field removable.
- Circuit breaker external operating handle can be padlocked in either ''ON'' or ''OFF'' positions.
- Neoprene cover gasket permanently attached to the cover seals out moisture.
- Bodies have top and bottom drilled and tapped entrances for power conduits and control conduits. Removable reducers are supplied, as standard, to accommodate smaller size conduits. All conduit entrances are plugged.
- Tap-on mounting feet.
- Optional EMPS control devices may be added to enclosure cover.
- Steel bracket for lifting larger enclosures during installation supplied as standard.

Certifications and Compliances:

- NEC/CEC:
  Class I, Division 1 & 2, Groups B,C,D
  Class II, Division 1, Groups E,F,G
  Class II, Division 2, Groups F,G
  Class III
- UL Standard: UL1203 – Hazardous (classified) locations/CSA Standards: C22.2 No. 30
- UL subject 2062 –
  High A.I.C. Rating (Interrupting Capacity)
  For Groups C & D only.

Volt	RMS Symm. Amperes
240	65,000
480	50,000
600	25,000

- NEMA 3, 3R, 4 ‡, 7BCD, 9EFG, 12

Standard Materials:

- Body and cover – copper-free aluminum
- Operating handle – copper-free aluminum
- Operating shaft and bushing – stainless steel
- Interior parts – sheet steel, electrogalvanized
- Cover bolts, washers and retractile springs – stainless steel

Electrical Rating Ranges:

- Circuit breakers – 100, 150, 225, 250, 400, 600, 800, 1000** ampere frame sizes

National Electrical Code is a Registered Trademark of The National Fire Protection Association.

** 1000 Ampere Frame (max. 800 ampere trip)



Spectrum EBM motor control enclosures accommodate popular makes of circuit breakers.

‡ Enclosure not suitable for NEMA 4 with cover mounted operators. Breather and drain entries must be plugged for NEMA 4 rating.

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EBMB Circuit Breakers and Enclosures

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NEMA 3,3R,4‡,7BCD,9EFG,12 Watertight

Options:

The following options are available from factory by adding suffix to catalog number. Suffixes are added alphanumerically.

Catalog Number System
EBMBB-(A)-WT30FDB36-(B)

(A) Options in this position are additions to the enclosure and should be listed alphanumerically.
(B) Options in this position are modifications to the circuit breaker and should be listed alphanumerically.



EBMB Series circuit breaker enclosures are available with breakers from 100 to 1000** amp frame sizes.
** 1000 Ampere Frame (max. 800 ampere trip.)

Description	Suffix to be added to Cat. No.	Position in Cat. No.
● Ambient compensated circuit breaker trip setting	**AC**	**B**
● Pilot light, 120VAC, red jewel, w/blank indicating plate	**J1**①	**A**
● Pilot light, 120VAC, green jewel, w/blank indicating plate	**J3**①	**A**
● LED pilot lights in place of standard incandescent pilot lamps	**LED**	**A**
● Start-stop pushbuttons (requires 2 spaces)	**PB23**①‡	**A**
● Space heater, 120 volt, 25 watts	**R11**	**A**
● Space heater, 240 volt, 25 watts	**R22**	**A**
● Space heater, 480 volt, 25 watts	**R44**	**A**
● Insulated neutral w/2 connectors	**S146**	**A**
● Grounded neutral stud w/3 connectors (50, 100, 225 amp)	**S178**	**A**
● Std. drain, Class I, B,C & D; Class II, E F & G, Class III	**S756 ‡**	**A**
● Std. breather & drain, Class I, B,C & D; Class II, E F & G; Class III	**S756V ‡**	**A**
● Side conduit entrances (check factory for application)	**S366**	**A**
● Back conduit entrances (check factory for application)	**S367**	**A**
● External epoxy finish	**S752**	**A**
● Internal and external epoxy finish	**S753**	**A**
● Aux. switch on circuit breaker, 1A & 1B contacts	**S784**	**B**
● Aux. switch on circuit breaker, 2A & 2B contacts	**S785**	**B**
● 12 point term. block – 30 amp, 300 V	**S786**	**A**
● General purpose control relay, 4 pole N.O., contacts rated 10A @ 600V, coil 120VAC, 50-60 Hertz	**S787**	**A**

① When specifying any one of the following options with Spectrum EBM™ Motor Controls (J1, J3, PB23, RR2, RR3) it is necessary to order **DSL** Legend Plates for non-standard markings of the device(s) being used. See page 329 for DSL Legend Plate listings

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Ordering Information:

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

● Enclosures can be ordered without circuit breakers. Select from listings below. For manufacturer's catalog numbers of circuit breakers that may be used with Spectrum EBM motor control enclosures see section 6C.

EBMB Series Enclosures for Circuit Breakers

Circuit Breaker			Enclosures		
Poles ①	**Voltage Rating**	**Circuit Breaker Frame Size**	**Without Circuit Breaker Cat. No.**	**Circuit Breaker Amp Rating**	**With Circuit Breaker Cat. No.**
3	240VAC or 125-250VDC	100 Amp. Frame	EBMBA②✓	15A thru 70A	EBMBA-DT□FAL32✓
3	240VAC or 125-250VDC	150 Amp. Frame	EBMBA③④✓	10A thru 70A	EBMBA-TT□TEB32✓
3	480VAC or 250VDC	100 Amp. Frame	EBMBA②✓	15A thru 70A	EBMBA-†□◆34✓
3	480VAC or 250VDC	150 Amp. Frame	EBMBA③④✓	10A thru 70A	EBMBA-TT□TED34✓
3	600VAC	100 Amp. Frame	EBMBA②✓	15A thru 70A	EBMBA-DT□FAL36✓
3	600VAC	150 Amp. Frame	EBMBA③④⑤✓	10A thru 70A	EBMBA-†□◆36✓
3	240VAC or 125-250VDC	100 Amp. Frame	EBMBB②✓	15A thru 100A	EBMBB-DT□FAL32✓
3	240VAC or 125-250VDC	150 Amp. Frame	EBMBB③④✓	10A thru 150A③	EBMBB-TT□TEB32✓
3	480VAC or 250VDC	100 Amp. Frame	EBMBB②✓	15A thru 100A	EBMBB-†□◆34✓
3	480VAC or 250VDC	150 Amp. Frame	EBMBB③④✓	10A thru 150A	EBMBB-TT□TED34✓
3	600VAC	100 Amp. Frame	EBMBB②✓	15A thru 100A	EBMBB-DT□FAL36✓
3	600VAC	150 Amp. Frame	EBMBB③④⑤✓	15A thru 150A	EBMBB-†□◆36✓
3	600VAC	250 Amp. Frame	EBMBG⑥⑦✓	70A thru 250A	EBMBG-†□◆36
3	600VAC or 250VDC	400 Amp. Frame	EBMBK⑧✓	100A thru 400A⑥	EBMBK-†□◆36
3	600VAC or 250VDC	600 Amp. Frame	EBMBL⑨✓	250A thru 600A	EBMBL-WT□◆36
3	600VAC or 250VDC	800 Amp. Frame	EBMBL⑩✓	300A thru 800A	EBMBL-WT□◆36
3	600VAC or 250VDC	1000 Amp. Frame	EBMBL✓	125A thru 800A (max.)	EBMBL-DT□◆36

† Circuit Breakers:

Manufacturer	Symbol
Cutler-Hammer	WT
General Electric	TT
Square D	DT

◆ Select Circuit Breaker Frame Type based on Frame size, voltage, and manufacturer desired:

	100 Amp. Frame			150 Amp. Frame			250 Amp. Frame⑥⑦	400 Amp. Frame	600 Amp. Frame	800 Amp. Frame	1000 Amp. Frame
Manufacturer	240VAC	480VAC	600VAC	240VAC	480VAC	600VAC	600VAC	600VAC	600VAC	600VAC	600VAC
Cutler-Hammer	—	EHD	—	—	—	FDB	JD–Interchangeable Trip Unit JDB–Non-Interchangeable Trip Unit	KD–Interchangeable Trip Unit KDB–Non-Interchangeable Trip Unit	LD	MD	—
General Electric	TEB	—	—	—	TED	TED	TFK–Interchangeable Trip Unit TFJ–Non-Interchangeable Trip Unit	TJK–Interchangeable Trip Unit TJJ–Non-Interchangeable Trip Unit	TJK	TKMA	—
Square D	FAL	FAL	FAL	—	—	—	KAL	LAL	—	—	MAL

□ Select Trip Setting from below:

100 Amp Frame (EHD, FAL)② – 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100

150 Amp. Frame (TDB, TEB, TED)③④⑤ – 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125, 150

225/250 Amp Frame (JD, JDB, KAL, TFJ, TFK)⑥⑦ – 70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250

400 Amp. Frame (KD, KDB, LAL, TJJ, TJK)⑧ – 100, 125, 150, 175, 200, 225, 250, 300, 350, 400

600 Amp. Frame (LD, TJK)⑨ – 250, 300, 350, 400, 450, 500, 600

800 Amp Frame (MD, TKMA)⑩ – 300, 350, 400, 450, 500, 600, 700, 800

1000 Amp Frame (MAL) – 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600, 700, 800

Footnotes:

① Depending on availability from the circuit breaker manufacturer 1 and 2 pole can be furnished. Information on request.
② EBMBA will accept 15 thru 70 amp. trip, EBMBB will accept 15 thru 100 amp. trip.
③ EBMBA will accept 10 thru 70 amp. trip, EBMBB will accept 10 thru 150 amp. trip.
④ General Electric TEB frame available 10 thru 100 amp. trip. TED frame available 10 thru 150 amp. trip.
⑤ Westinghouse FDB frame available 15 thru 150 amp. trip.
⑥ General Electric TFJ and TFK types are 225 amp. frame, available 70 thru 225 amp. trip.
⑦ Westinghouse JD and JDB types are 250 amp. frame, available 70, 90, 100 and 125 thru 250 amp. trip.
⑧ Westinghouse KD and KDB frames available 100 thru 400 amp. trip. Square D LAL and General Electric TJJ and TJK frames available 125 thru 400 amp. trip.
⑨ Westinghouse LD frame available 300 thru 400 and 500, 600 amp. trip.
⑩ Westinghouse MD frame available 400 and 500 thru 800 amp. trip.

✓ – available with Lightning Service™ delivery. See Section G for complete details.

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EBMB Circuit Breakers and Enclosures

Dimensions (inches)

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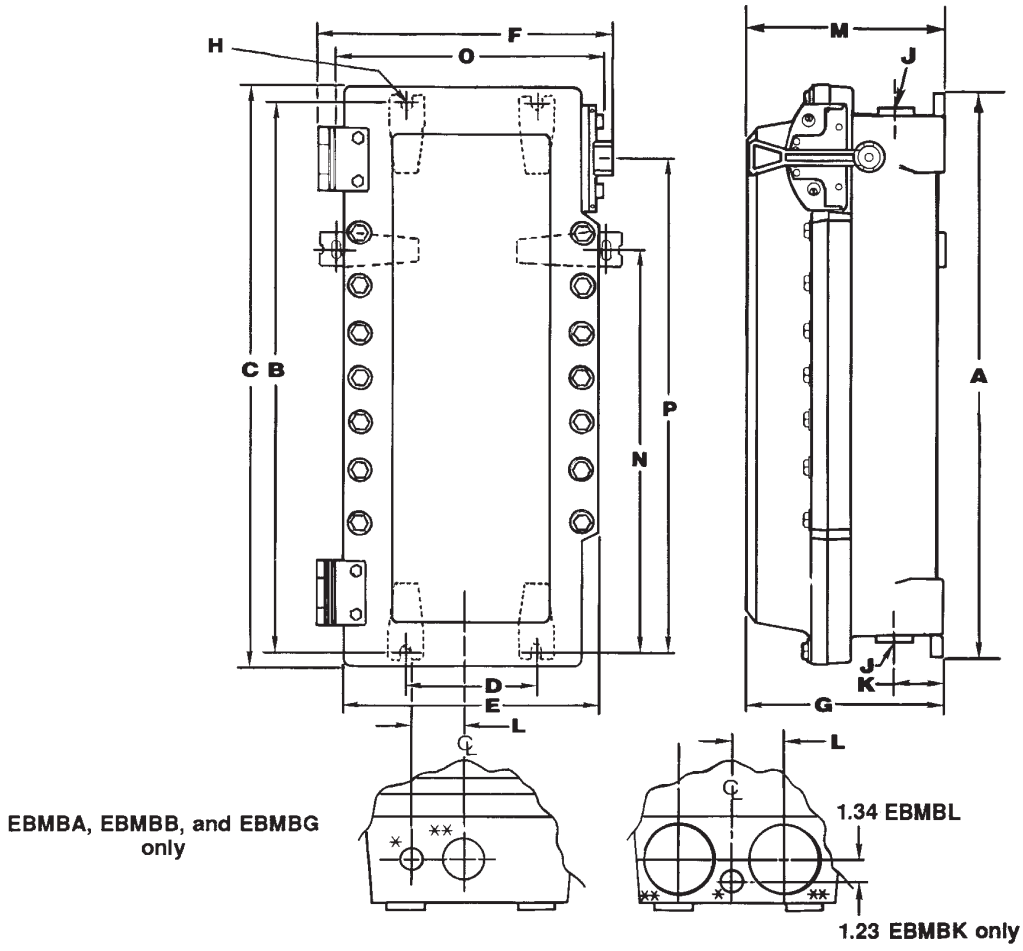
Cl. II, Div. 2, Groups F,G
Cl. III
NEMA 3,3R,4‡,7BCD,9EFG,12

Explosionproof
Dust-Ignitionproof
Raintight
Wet Locations
Watertight



Dimensions are approximate, not for construction purposes.



* 1″ Drilled & Tapped (D & T) conduit entry for control conductors supplied with PLG plug top and bottom.

** Conduit entrance(s) for power conductors (top and bottom). (All conduit entrance(s) supplied with RE reducer and PLG plug.)

*** Use ½″ diameter bolts for mounting all enclosures. (see H) Note: Lifting bracket will accommodate a maximum 2 ton hook.

	Enclosure Only Cat. No.	Enclosure Size Symbol	Dimensions							** J Conduit Entry Trade Size		Dimensions					
			A	B	C	D	E	F	G	D&T♦	w/RE	K	L	M	N	O	P
100 Amp Frame	EBMBA✓	A	18.25	17.25	19.40	6.00	13.03	14.78	10.25	2″	1.5″	3.25	3.13	10.25	—	—	14.50
100 and 150 Amp Frame	EBMBB✓	B	25.75	24.75	26.90	6.00	13.03	14.78	10.25	2″	1.5″	3.25	3.13	10.25	—	—	22.00
225 and 250 Amp Frame	EBMBG✓	G	37.50	36.50	39.28	6.00	13.03	14.78	10.25	3.0″	2.5″	3.25	3.13	10.25	—	—	34.06
400 Amp Frame	EBMBK✓	K	43.12	41.50	42.65	12.00	17.65	20.28	10.92	(2)3″	(2)2.5″	3.25	3.00	10.92	—	—	29.23
600, 800 and 1000† Amp Frame	EBMBL✓	L	53.25	51.50	53.28	12.00	17.90	20.58	13.03	(2)4″	(2)3.5″	4.00	3.50	13.13	41.50	18.40	29.88

† 1000 Ampere Frame (max. 800 ampere trip)

✓ – available with Lightning Service™ delivery. See Section G for complete details.

♦ Drilled & Tapped.

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