EIC combination motor starters

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

Applications:

- 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 and stopping of polyphase AC induction motors with overload protection

Features:

- Available unpopulated for maximum design flexibility
- Globally certified operators
- Factory machined drilled and tapped entries up to 3" in diameter
- Factory drilled and tapped field removable mounting plate
- Two nameplates for easy identification and on-site customization
- Five combination starter sizes
- Three enclosure sizes with four operator positions
- Populated versions built to order
- Factory wiring from breaker to starter provided for populated units
- UL/cUL certified for field addition of drilled and tapped entries on sides, top, bottom or back of the enclosure
- Bolt-on/tap-in mounting feet allow for easy field replacement in case of damage or breaking
- ATEX/IECEx certified enclosure option for use in global applications

Certifications and compliances:

NEC/CEC:

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

UL standards:

- UL1203
- ECP UL classified enclosure file (E71278)

CSA standard:

- cUL to CSA C22.2 Nos. 30, 25

Environmental ratings:

- NEMA 3, 3R, 4, 4X, 7BCD, 9EFG
- -20°C ≤ Ta ≤ +60°C

IECEx standards:

- Ex db IIB + H_2 Gb
- Ex tb IIIC Db IP66
- -20°C ≤ Ta ≤ +60°C
- IECEx ETL 13.0022U

ATEX standards:

- II 2 G D Ex db IIB + H_2 Gb
- Ex tb IIIC Db IP66
- -20°C ≤ Ta ≤ +60°C
- ITS13ATEX17813U certified

Standard materials:

- Body, cover and handle – copper-free aluminum
- Gasket – neoprene
- Cover bolts and hinges – stainless steel
- Mounting plate, fork plate and contact plate – aluminum
- Circuit breaker components – stainless steel

Electrical ratings – starter:

NEMA size	CPT	Phase	Voltage	Contact type
0-2	100 VA	Single-, three-phase	120, 240, 480 or 600V	A600/P300
3	200 VA	Three-phase		
4	300 VA	Three-phase		

Note: No DC rating on starters. Standard configuration: 3-pole non-reversing starter.

Starter types by enclosure size:

Enclosure size	Starter	EIC type	NEMA size
A	Eaton Freedom AN16	Standard	0-2
	Eaton Freedom AN19	ER option	
	Eaton Space Savings AN13Ⓐ	ATEX optionⒶ	
B	Eaton Freedom AN16	Standard	3
	Eaton Freedom AN19	ER option	
	Eaton Space Savings AN13Ⓐ	ATEX optionⒶ	
C	Eaton Freedom AN16	Standard	4
	Eaton Freedom AN19	ER option	
	Eaton Space Savings AN13Ⓐ	ATEX optionⒶ	

ⒶATEX option only available for unpopulated EIC units. Eaton Space Savings AN13 starter is the recommended starter to use for EIC ATEX units, and will not actually be provided.

Reference tables:

Maximum amperage – breaker/HMCP

Enclosure size	Breaker / HMCP type	Maximum amperage recommended (40° ambient temp.)	Maximum amperage frame limit
A	Eaton EG	70	125
	Eaton HMCPE	50	100
	Eaton F-frame	70	225
	Eaton HMCP	50	150
B	Eaton EG	125	125
	Eaton HMCPE	100	100
	Eaton F-frame	125	225
	Eaton HMCP	100	150
C	Eaton JG	200	250
	Eaton HMCPJ	150	250
	Eaton F-frame	200	225
	Eaton HMCP	150	150

Note: Unpopulated EIC enclosures designed for breaker/HMCP type listed.

Recommended maximum FLA

Enclosure size	NEMA size	Starter	Ambient temperature 40°C	50°	60°
A	0	AN16, AN19, AN13	11	11	11
	1		25	25	21
	2		34	27	21
B	3	AN16, AN19, AN13	65	52	40
C	4	AN16, AN13	124	85	77
		AN19	110	85	68

Components

Enclosure size	Breaker / HMCP options	Starter options	Transformer options	External ground lug	Terminal blocks	Heater option
A	Eaton EG	Eaton Freedom AN16 NEMA size 0-2	Eaton MTE C0100E2A C0100E4C with Eaton PFK1 fuse kit	Burndy KPA8C	Buchanan terminal block – 1546234-1 Terminal block end – 1546163-1	Ohmite 270 Series 2" heater with #9 brackets
	Eaton HMCPE	Eaton Freedom AN19 NEMA size 0-2				
	Eaton F-frame	Eaton Space Savings AN13 NEMA size 0-2				
	Eaton HMCP					
B	Eaton EG	Eaton Freedom AN16 NEMA size 3	Eaton MTE C0200E2A C0200E4C with Eaton PFK1 fuse kit	Burndy KPA25		
	Eaton HMCPE	Eaton Freedom AN19 NEMA size 3				
	Eaton F-frame	Eaton Space Savings AN13 NEMA size 3				
	Eaton HMCP					
C	Eaton JG	Eaton Freedom AN16 NEMA size 4	Eaton MTE C0300E2A C0300E4C with Eaton PFK1 fuse kit			
	Eaton HMCPJ	Eaton Freedom AN19 NEMA size 4				
	Eaton F-frame	Eaton Space Savings AN13 NEMA size 4				
	Eaton HMCP					

Note: AN19 NEMA size 4 only with JG/HMCPJ breaker/HMCP.

Ordering information:

Part number example #1 – populated

EICA-F2W4-J-070-RLN-GLF-PB23-S781

EIC A – F 2 W 4

Enclosure size

A	Used with NEMA sizes 0-2
B	Used with NEMA size 3
C	Used with NEMA size 4

Note: Enclosure size is determined by the NEMA starter size. Refer to the NEMA size chart for the correct size starter, breaker/HMCP.

Combination function

F	Full voltage, non-reversing starter, 120V coil, breaker with CPT
G[B]	Full voltage, non-reversing starter, breaker (no CPT)
H	Full voltage, non-reversing starter, 120V coil, HMCP with CPT
K[B]	Full voltage, non-reversing starter, HMCP (no CPT)

NEMA size

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

Starter manufacturer

W	Eaton Freedom series

Line voltage

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

Note: 120 VAC option not available with F or H combination functions.

Part number example #2 – unpopulated

EICA ATEX

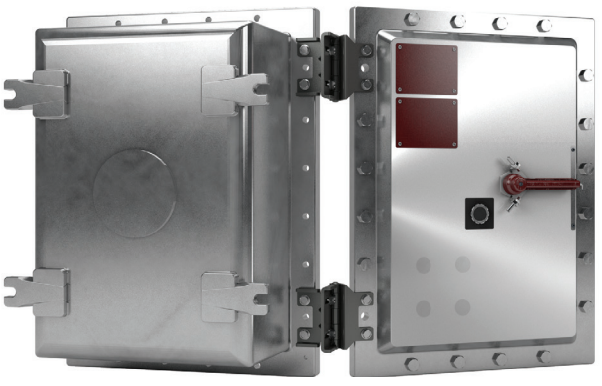
EIC A ATEX

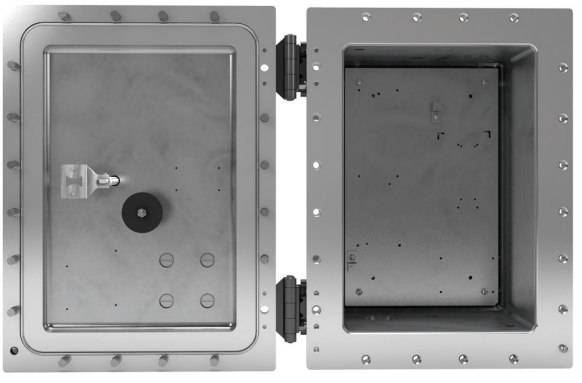
Enclosure size

A	Used with NEMA sizes 0-2
B	Used with NEMA size 3
C	Used with NEMA size 4

Options

BLANK	NEC certified
ATEX	IECEx and ATEX certified
S752	External epoxy coating





[B] Starter coil equals line voltage.

J – 070 – RLN – GLF – PB23 – S781

Heater (FLA)

	FLA range	NEMA size 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			•

Note: Heater trip rating:
Standard trip – Class 20

Note: Leave blank if ER option is selected.

OR

Breaker[C]		HMCP[D]	
015	15A	003	3A
020	20A	007	7A
025	25A	015	15A
030	30A	030	30A
035	35A	050	50A
040	40A	070	70A
045	45A	100	100A
050	50A	250	250A
060	60A		
070	70A		
080	80A		
090	90A		
100	100A		
110	110A		
125	125A		
150*	150A		
175*	175A		
200*	200A		

*150A-200A can only be used with NEMA size 4 starter.

Operators (see locations below)[E]

PB23	Start/Stop pushbutton with "START" & "STOP" legend plates (two operator spaces)
RLN	Red LED 120V light with "ON" legend plate
GLF	Green LED 120V light with "OFF" legend plate
RLB	Red LED 120V pilot light with blank legend plate
GLB	Green LED 120V 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

Note: Pilot lights and pushbuttons are not available when G or K combination functions are selected at 600 VAC line voltage.

Options[F]

BST	Shunt trip, 120V
ER	Electronic overload relay – solid state (starter)
HT	Ambient compensated breaker; +50°C calibrated
S214	External ground lug
S752	External epoxy coating
S756V	Breather and drain (Class I, Groups B, C, D)

Options – space heater *(select one heater option only)*

R11	Space heater, 25 watts, 120V
R22	Space heater, 25 watts, 240V
R44	Space heater, 25 watts, 480V

Options – auxiliary contact *(select one contact option only)*

S781	Auxiliary contact on starter, (1) NO & (1) NC
S782	Auxiliary contact on starter, (2) NO & (2) NC
S783	Auxiliary contact on starter, (3) NO & (3) NC

Options – auxiliary switch *(select one switch option only)*

S784	Auxiliary switch on circuit breaker, 1A & 1B
S785	Auxiliary switch on circuit breaker, 2A & 2B
S786	8-point terminal block, 30A, 300V

Operator locations

Size A
NEMA starter size: 0-2

Size B
NEMA starter size: 3

Size C
NEMA starter size: 4

[C] Combination functions F & G: breakers 15-125A rated 600Y/347 VAC (480 VAC); 150-250A rated 600 VAC.

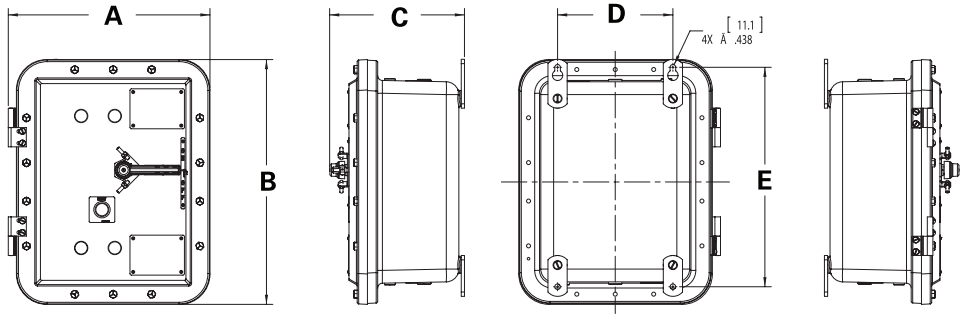
[D] Combination functions H & K: 250A HMCP can only be used with NEMA size 4 starter.

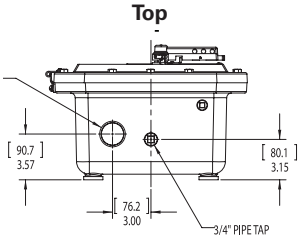
[E] Standard operator configurations shown.

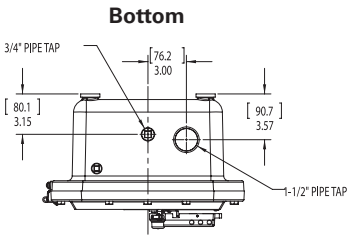
[F] List selected options in alphanumeric order. Only one option of each type allowed unless otherwise noted.

Dimensions:

Size A	A	B	C	D	E
in. (mm)	15.74 (399.8)	19.10 (485.2)	10.52 (267.2)	9.00 (228.6)	17.13 (435.0)

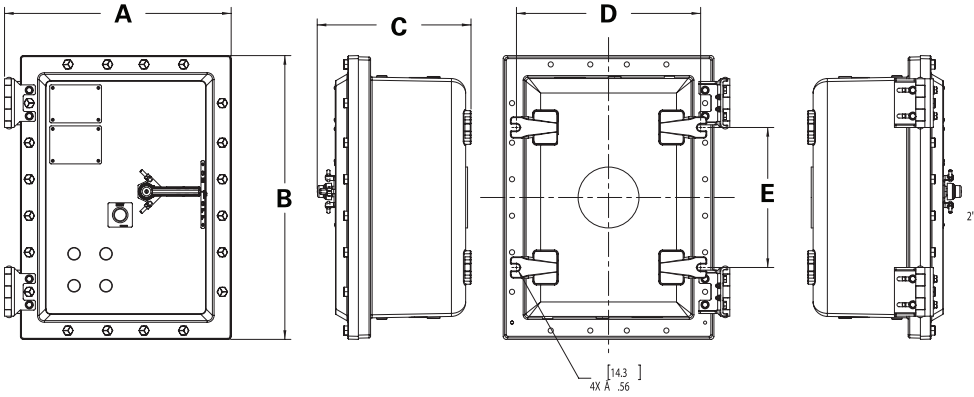


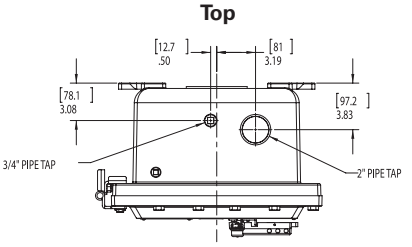


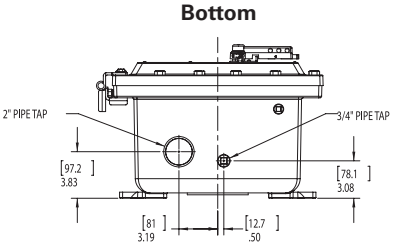


Enclosure size A

Size B	A	B	C	D	E
in. (mm)	18.62 (472.9)	23.31 (592.1)	12.63 (320.9)	15.13 (384.3)	11.50 (292.1)



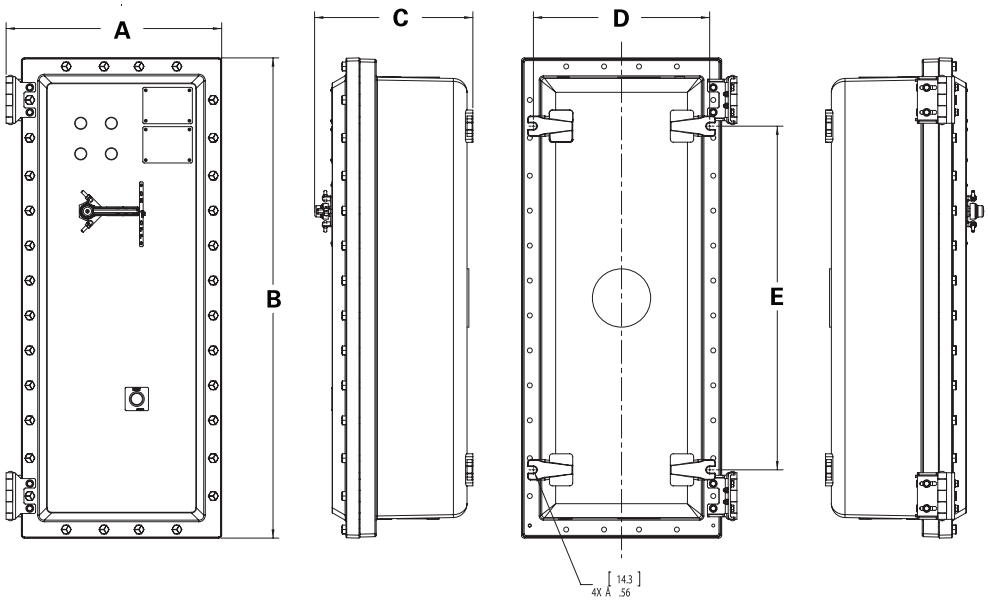


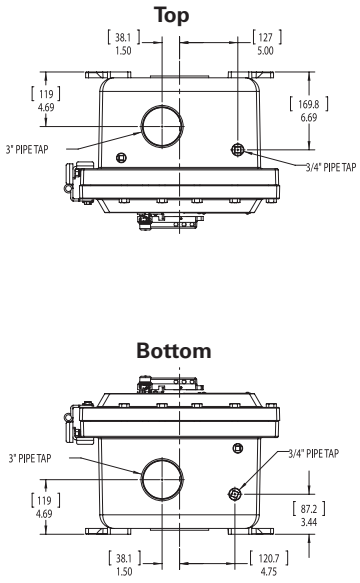


Enclosure size B

Dimensions (continued):

Size C	A	B	C	D	E
in. (mm)	18.50 (469.9)	41.22 (1047.0)	13.59 (345.1)	15.13 (384.3)	29.50 (749.3)





Enclosure size C