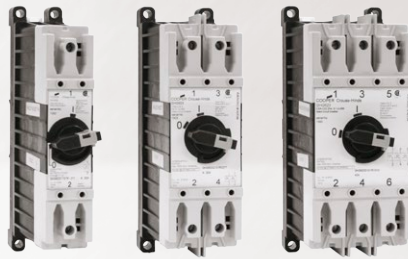


Power distribution
SynergEX panelboards

CROUSE-HINDS
SERIES

SynergEX

Class I, Division 2 panelboards



EATON

Powering Business Worldwide

Maximum safety.

Easy access, lower risk and less downtime.

One of the biggest challenges with enclosures located in hazardous areas is accessibility. To access internal components for preventative maintenance or troubleshooting, up to 70 bolts have to be loosened and then retightened, leading to extended periods of downtime and safety risks due to improperly torqued or missing bolts.

The SynergEX panelboard by Eaton's Crouse-Hinds Division utilizes individually encapsulated circuit breakers and a fully encapsulated chassis to reduce downtime, increase safety and lower maintenance costs in hazardous locations.



Application

Provide overcurrent and short circuit protection for low voltage power, lighting and heat tracing applications in hazardous locations, such as refineries, chemical and petrochemical plants, mining, food processing, corrosive and industrial processing facilities.

Certifications

- Class I, Division 2, Groups A, B, C, D
- Class I, Zone 2, AEx nA IIC Gc T4
- Ex nA IIC T4 Gc

Conforms to:

- CSA C22.2 No. 29-M1989 (R2004)
- UL67 (Ed. 12):2009
- CSA C22.2 No. 60079-15:2010
- UL60079-15 (Ed. 4):2013

Environmental ratings*

- NEMA 3R, 4, 4X
- Temperature class: T4
- Main lug only: -20°C to +55°C
Main breaker: -20°C to +40°C

* Suitable for use to -40°C with heater.

Why SynergEX?

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

Electrical ratings

SynergEX panelboard:

- Max. 225A/phase (three phase max.)
- Max. 480 VAC
- Max. 225A main breaker

Encapsulated branch circuit breakers:*

- 120/240 VAC
 - 1- and 2-pole
 - 10, 15, 20, 25, 30, 35, 40 amps
 - 1-pole GFI and EPD
 - Auxiliary and signal contact
- 208/120 VAC
 - 1- 2- and 3-pole
 - 10, 15, 20, 25, 30, 35, 40 amps
 - 1-pole GFI and EPD
 - Auxiliary and signal contact
- 480/277 VAC
 - 1-, 2-, and 3-pole
 - 10, 15, 20, 25, 30, 35, 40 amps
 - Auxiliary and signal contact

* 10A to 40A: 10 kA short circuit rating

Encapsulated main circuit breakers:*

- Up to 480 VAC
 - 2- and 3-pole
 - 10, 20, 30, 40, 60, 80, 100, 125, 150, 200, 225 amps
 - Auxiliary and signal contact

* 10A to 40A: 10 kA short circuit rating
60A to 225A: 25 kA short circuit rating

Multiple product designs and options

- 12-84* circuits
- Optional removable gland plates for easy addition of entries

* For over 42 circuits, multiple enclosures are stacked and coupled. Coupling kit provided and maintains NEMA ratings.

Save time and money

- Easy to open and access with only ¼ turn (versus up to 70+ bolts in a traditional enclosure)
- Lower maintenance costs
- Lightweight design and reduced footprint for easier installation with reduced labor costs

Main breaker

- Lightweight and compact main breaker is encapsulated and internally mounted
- Easy to install rigid connection to the bus bar for easier maintenance/installation



Seven standard sizes and custom configurations also available



60A-225A main breaker

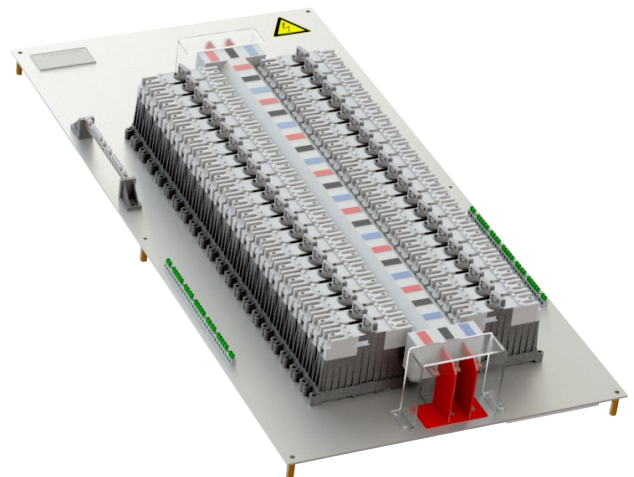


Unparalleled safety

- Proven reliability from Eaton's Crouse-Hinds tamper-proof encapsulated breakers
- Encapsulated chassis eliminates wire connections for a touch-safe design, decreasing potential for hot spots and reducing costly downtime when servicing

Materials

- Enclosure – 316L stainless steel or painted sheet steel (optional)
- Observation window – polycarbonate
- External parts (hinges, screws, washers, ¼ turn handles, gland plates) – 316L stainless steel
- Internal parts (screws, washers, back plate fasteners) – zinc plated steel
- Gaskets - silicone
- Dead front panel – 316L stainless steel
- Chassis lugs – tin-plated copper
- Bonding/grounding assembly – aluminum
- Encapsulated circuit breakers – flame rated nylon
- Breaker handles – Type 6 / 6 nylon

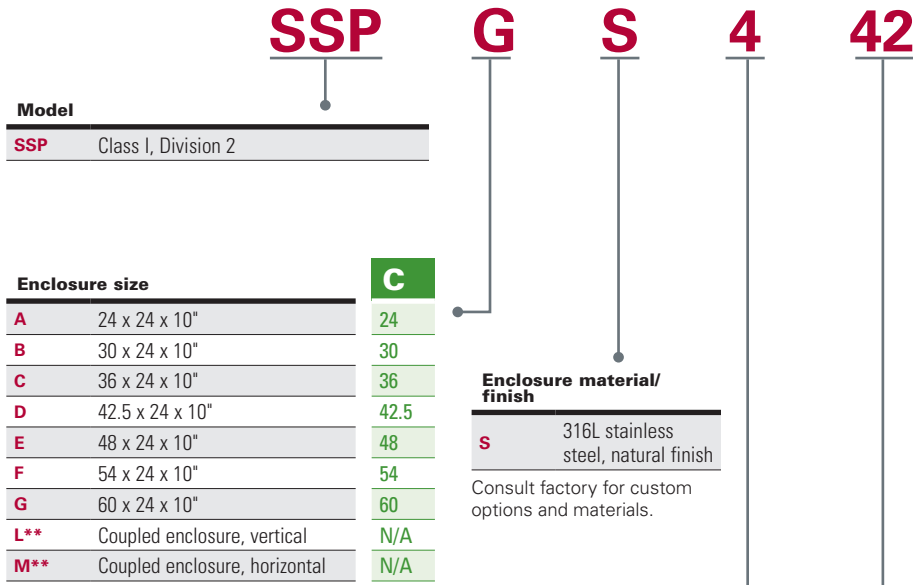


Ordering information

Part number example #1

SSPGS442-00004200-42120-3M225-HTR-GP1GP4

SynergEX panelboard, size G enclosure, 316L stainless steel, 480/277V (3 phase, 4-wire), (42) breaker spaces, (42 circuit) 1-pole bus, (42) 1-pole 20A, 3-pole 225A main breaker, heater, (2) gland plates



Model	
SSP	Class I, Division 2

Enclosure size		C
A	24 x 24 x 10"	24
B	30 x 24 x 10"	30
C	36 x 24 x 10"	36
D	42.5 x 24 x 10"	42.5
E	48 x 24 x 10"	48
F	54 x 24 x 10"	54
G	60 x 24 x 10"	60
L**	Coupled enclosure, vertical	N/A
M**	Coupled enclosure, horizontal	N/A

Enclosure material/finish	
S	316L stainless steel, natural finish

Consult factory for custom options and materials.

Panel voltage rating	
1	120/240V (single phase, 3-wire)
2	120/208V (three phase, 4-wire)
4*	480/277V (three phase, 4-wire)

* GFI/EPD not available.

Enclosure size configuration required:

C Add up chassis sections required and main lug bend radius or main breaker lengths to determine appropriate enclosure size.

A + B = C

A Main breaker or lug
B Circuit quantity & type
C Enclosure size

* Round up to the nearest enclosure size

Configuration examples

Requirements	A	B	C	Enclosure
Main breaker: 225A, 3-pole (24) 1-pole branch breakers	20"	22"	42"	Size D 42.5 x 24 x 10
Main breaker: 40A, 3-pole (12) 1-pole	10"	14" – (12) 1-pole branch breakers 8" – 40A main breaker (6) circuits, 3-pole	30"	Size B 30 x 24 x 10
Main lug (12) 1-pole (12) 2-pole	10"	14" – (12) 1-pole branch breakers 12" – (12) 2-pole branch breakers	36"	Size C 36 x 24 x 10

Breaker spaces	
1-pole breaker = 1 space	Total number of breaker spaces utilized (rounded up to the next even number)
2-pole breaker = 2 spaces	
GFI/EPD breaker = 2 spaces	
1-pole auxiliary and signal contact = 2 spaces	
2-pole auxiliary and signal contact = 3 spaces	
3-pole breaker = 3 spaces	

- 00 00 42 00

Chassis configuration				
-	00	00	42	00
	3P	2P	1P	GFI/EPD

Total number of circuits available for each modular bus section

Note: Additional space for future breaker additions should be added to total number of circuits.

Select # of circuits available per chassis section				
Total circuits	3-pole	2-pole	1-pole	GFI/EPD
06	6	–	6	–
12	12	12	12	12
24	24	24	24	24
30	30	–	30	–
36	36	–	36	–
40	–	40	–	40
42	42	–	42	–

Maximum of three modular bus sections per enclosure, not exceeding 42 circuits.
Custom bus sections available; consult factory.

For enclosure size configuration:

B Determine circuit quantity and type, then refer to the chart below for chassis lengths.
Add multiple bus sections together for "B" value, if applicable

Chassis section lengths:				
Total circuits	3-pole	2-pole	1-pole	GFI/EPD
06	8"	–	9"	–
12	11"	12"	14"	12"
24	17"	18"	22"	19"
30	19"	–	26"	–
36	22"	–	31"	–
40	–	26"	–	27"
42	25"	–	35"	–

Part number example #2

SSPE224-06121200-01340-04220-12115-3M40-NW

SynergEX panelboard, size E enclosure, 316L stainless steel, 208/120V (3 phase, 4-wire), (30) breaker spaces, (6 circuit) 3-pole bus, (12 circuit) 2-pole bus, (12 circuit) 1-pole bus, (1) 3-pole 40A, (4 circuit) 2-pole 20A, (12 circuit) 1-pole 15A, 3-pole, 40A main breaker, no window

- 42 1 20 - 3M 225 - HTR - GP1GP4

Dash indicates "breaker series" to follow

Quantity of alike branch breakers*

Specify quantity of alike branch breakers

* Insert hyphen (-) before each branch breaker series.

Branch breaker poles	
3	3-pole breaker (not available with single phase systems)
2	2-pole breaker
1	1-pole breaker

Note:
3-pole breakers are listed and assembled first, followed by 2- and 1-pole, from highest to lowest amp rating. GFI and EPD breakers are available in single pole only. SC and AC are available in 10A-25A. Consult factory for special breaker options.

Branch breaker amperage	
10	10 amps, 1-, 2- or 3-pole
10AX	10 amps, 1-, 2- or 3-pole with auxiliary contacts
10SC	10 amps, 1-, 2- or 3-pole with signal contacts
15	15 amps, 1-, 2- or 3-pole
15AX	15 amps, 1-, 2- or 3-pole with auxiliary contacts
15SC	15 amps, 1-, 2- or 3-pole with signal contacts
15E*	15 amps, 1-pole, EPD
15G*	15 amps, 1-pole, GFI
20	20 amps, 1-, 2- or 3-pole
20AX	20 amps, 1-, 2- or 3-pole with auxiliary contacts
20SC	20 amps, 1-, 2- or 3-pole with signal contacts
20E*	20 amps, 1-pole, EPD
20G*	20 amps, 1-pole, GFI
25	25 amps, 1-, 2- or 3-pole
25AX	25 amps, 1-, 2- or 3-pole with auxiliary contacts
25SC	25 amps, 1-, 2- or 3-pole with signal contacts
25E*	25 amps, 1-pole, EPD
25G*	25 amps, 1-pole, GFI
30	30 amps, 1-, 2- or 3-pole
30E*	30 amps, 1-pole, EPD
30G*	30 amps, 1-pole, GFI
35	35 amps, 1-, 2- or 3-pole
40	40 amps, 1-, 2- or 3-pole
40E*	40 amps, 1-pole, EPD
40G*	40 amps, 1-pole, GFI

* All 1-pole EPD and GFI breakers require (2) breaker positions.

Dash indicates "main breaker" to follow

Main circuit breaker

2M	2-pole main circuit breaker
3M	3-pole main circuit breaker
BLANK	Main lug only

Main breaker amperage 10A-40A*

10	10 amps, 2- or 3-pole
20	20 amps, 2- or 3-pole
30	30 amps, 2- or 3-pole
40	40 amps, 2- or 3-pole

* 10A to 40A main breakers are back feed, on-chassis and require 2- or 3-pole chassis spaces.

For enclosure size configuration:

A

Add 10" for main breaker (10-40A) or main lug

Add 20" for 60A-225A main breaker

Main breaker amperage 60A-225A*

60	60 amps, 2- or 3-pole
60AX	60 amps, 2- or 3-pole with auxiliary contacts
60SC	60 amps, 2- or 3-pole with signal contacts
80	80 amps, 2- or 3-pole
80AX	80 amps, 2- or 3-pole with auxiliary contacts
80SC	80 amps, 2- or 3-pole with signal contacts
100	100 amps, 2- or 3-pole
100AX	100 amps, 2- or 3-pole with auxiliary contacts
100SC	100 amps, 2- or 3-pole with signal contacts
125	125 amps, 2- or 3-pole
125AX	125 amps, 2- or 3-pole with auxiliary contacts
125SC	125 amps, 2- or 3-pole with signal contacts
150	150 amps, 2- or 3-pole
150AX	150 amps, 2- or 3-pole with auxiliary contacts
150SC	150 amps, 2- or 3-pole with signal contacts
200	200 amps, 2- or 3-pole
200AX	200 amps, 2- or 3-pole with auxiliary contacts
200SC	200 amps, 2- or 3-pole with signal contacts
225	225 amps, 2- or 3-pole
225AX	225 amps, 2- or 3-pole with auxiliary contacts
225SC	225 amps, 2- or 3-pole with signal contacts

* 60A to 225A main breakers are off-chassis.

Dash indicates "options" to follow

Gland plates*

GP1	
GP2	
GP3	Specify gland plate location
GP4	
GP5	(see diagram below for locations)
GP6	
GP7	
GP8	

* Leave blank for no gland plates.

Gland plate locations

Enclosure sizes A-M

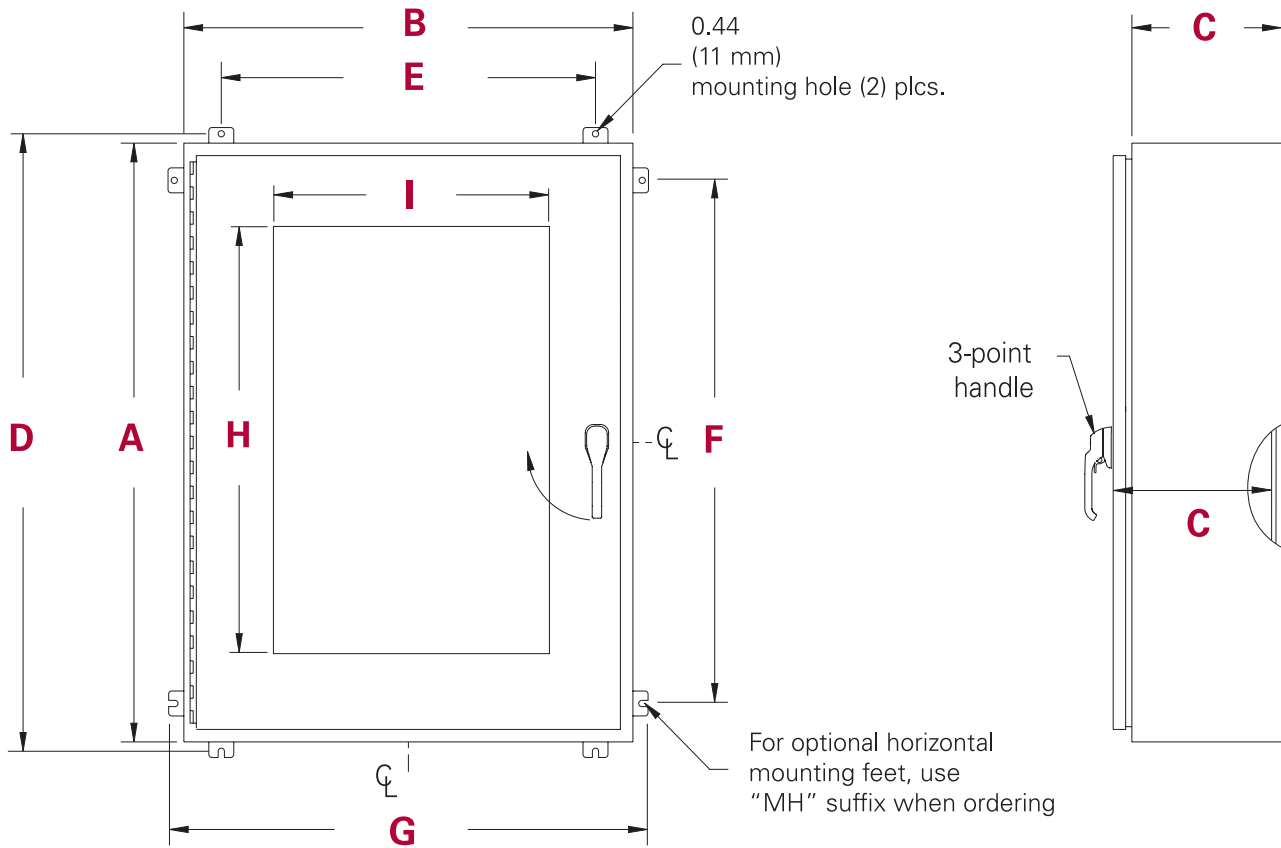
Gland plate dimensions = 10" x 6"

Options

BD	Breather and drain
HTR	Heater (-40°C)
I	Bottom feed inverted panelboard
MH	Horizontal mounting feet
NW	No window

Dimensions (inches)

Enclosure sizes A-G



* For external handles and no window add "EH" suffix

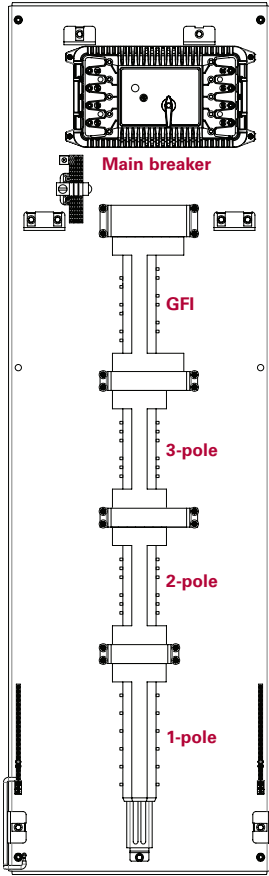
Dimensions

Enclosure size	Height x width x depth			Mounting holes (D & E vertical, F & G horizontal)				Window	
	A	B	C	D	E	F	G	H	I
A	24.00	24.00	10.00	25.25	18.00	18.00	25.25	15.00	13.00
B	30.00	24.00	10.00	31.25	18.00	24.00	25.25	21.00	13.00
C	36.00	24.00	10.00	37.25	18.00	30.00	25.25	27.00	13.00
D	42.50	24.00	10.00	43.25	18.00	36.50	25.25	33.50	13.00
E	48.00	24.00	10.00	49.25	18.00	42.00	25.25	39.00	13.00
F	54.00	24.00	10.00	55.25	18.00	48.00	25.25	45.00	13.00
G	60.00	24.00	10.00	61.25	18.00	54.00	25.25	51.00	13.00

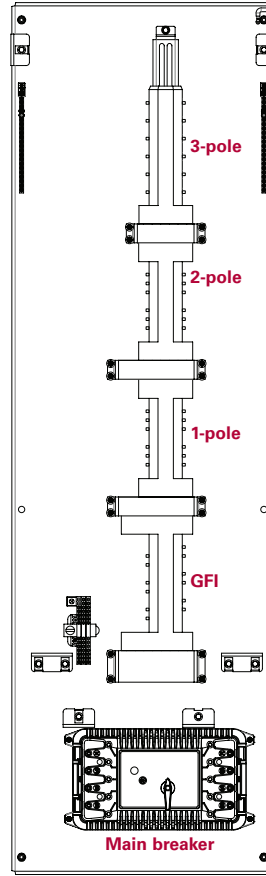
Standard chassis section layout examples

Maximum of three bus modular bus sections per enclosure, not exceeding 42 circuits.

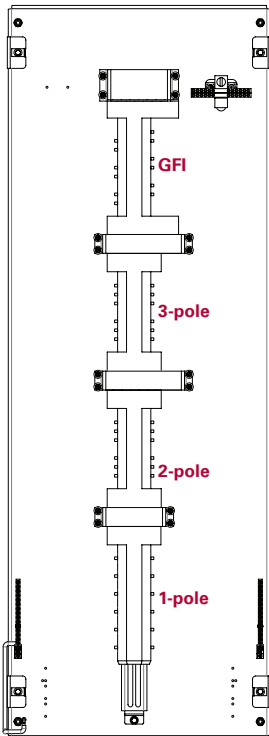
Main circuit breaker 60A-225A



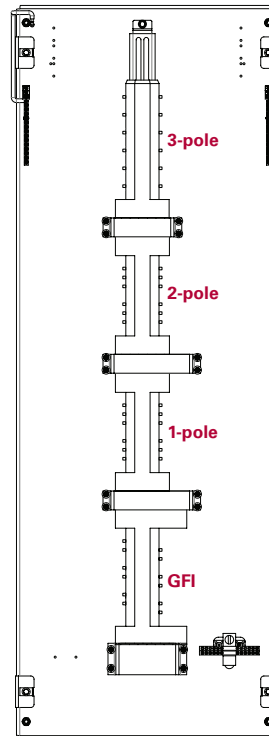
**Inverted
Main circuit breaker 60A-225A**



**Main circuit breaker 10A-40A
or main lug only**



**Inverted
Main circuit breaker 10A-40A
or main lug only**



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