PLEXPOWER™ DISTRIBUTION PANELBOARDS — PRODUCT GUIDE

APPLETON™

EMERSON™

BUILT FOR THE GLOBAL MARKETPLACE

PlexPower™ panelboards provide reliable flameproof protection of lighting, heat trace and power circuits in Zone 1 and 2 – 21 and 22 environments. Indoors or outdoors, in weather exposed and corrosive environments, they're the ideal electrical distribution solution for every part of your facility.

CERTIFICATIONS

- **ATEX/IECEx:**
  - — Zone 1 and 2 – 21 and 22
  - — Ⓔx II2GD
  - — EPL Gb Db
  - — Ex db eb IIB+H_2
  - — Ex tb IIIC
  - — IP66/IK10
- **ATEX/IECEx — Optional:**
  - — Zone 1 and 2 – 21 and 22
  - — Ⓔx II2GD
  - — EPL Gb Db
  - — Ex db eb IIC
  - — Ex tb IIIC
  - — IP66/IK10
- **Ambient temperature ratings:**
  - — Standard model:
    –25°C to +55°C (–13°F to +131°F)
  - — Standard model without switching:
    –40°C to +55°C (–40°F to +131°F)

INDUSTRIES AND APPLICATIONS

CHEMICAL PLANTS

PROCESS FACILITIES

PETROLEUM PLANTS

REFINERIES

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ADAPTS TO ANY APPLICATION

From a complete selection of branch breakers to practically limitless configuration options, PlexPower™ offers the versatility to meet your application requirements today and expand capacity as needed tomorrow. Adaptability – that's the Appleton standard.

STANDARD FEATURES

- Branch breaker current ratings:
  – 1-pole: 120, 240 Amps, 63 Amps maximum
  – 2-, 3- and 4-pole: 240 and 415 Amps, 63 Amps maximum
- Branch breakers are labeled with numbers:
  – Odd numbers for line side
  – Even numbers for load side
  – Labeled with inside breaker details
- Mains circuit breaker rating:
  – 40 to 250 Amps, 2- , 3- or 4-pole
- Mains and branch breaker combinations offer multiple cascading and short circuit ratings
- Branch and mains breakers can be padlocked in either the On or Off position
- Breaker modules supplied with captive bolts
- Ground bar provided as standard
- External ground lug provided as standard
- 240/415 Volts breaker module 8-pole terminal wire range: 2.5 mm^2 through 10 mm^2 (standard), 16 mm^2 with special lug
- 600 Volts mains breaker module 4-pole terminal wire range: 16 mm^2 through 150 mm^2
- Optional gland plate at the bottom of enclosure can be easily field punched or drilled for cable or conduit entries

STANDARD OPTIONS

- Drain, add suffix – D
- Drain/breather, add suffix – DV
- Gland plate bottom only, specify suffix – GPP = plastic gland plate, – GPB = brass gland plate, —GPS = stainless steel gland plate.
- 316 L stainless steel enclosure material, add suffix —316L
- Stainless steel legend plate (specify legend), add suffix – SP
- Voltmeter, add suffix – VM
- Ammeter, add suffix – AM
- Cable glands installed, add suffix – CG; (cable details to be provided by customer)
- For Ex de IIC, add suffix – IIC
- Optional frame (structure) for floor mounting, self standing with and without canopy; contact your local sales representative for additional information

STANDARD MATERIALS

- Enclosure: fiberglass reinforced polyester (FRP) or 304 stainless steel
- Hardware: stainless steel
- Bus bar: hard drawn copper
- Chassis: hot dip galvanized for wall mounting

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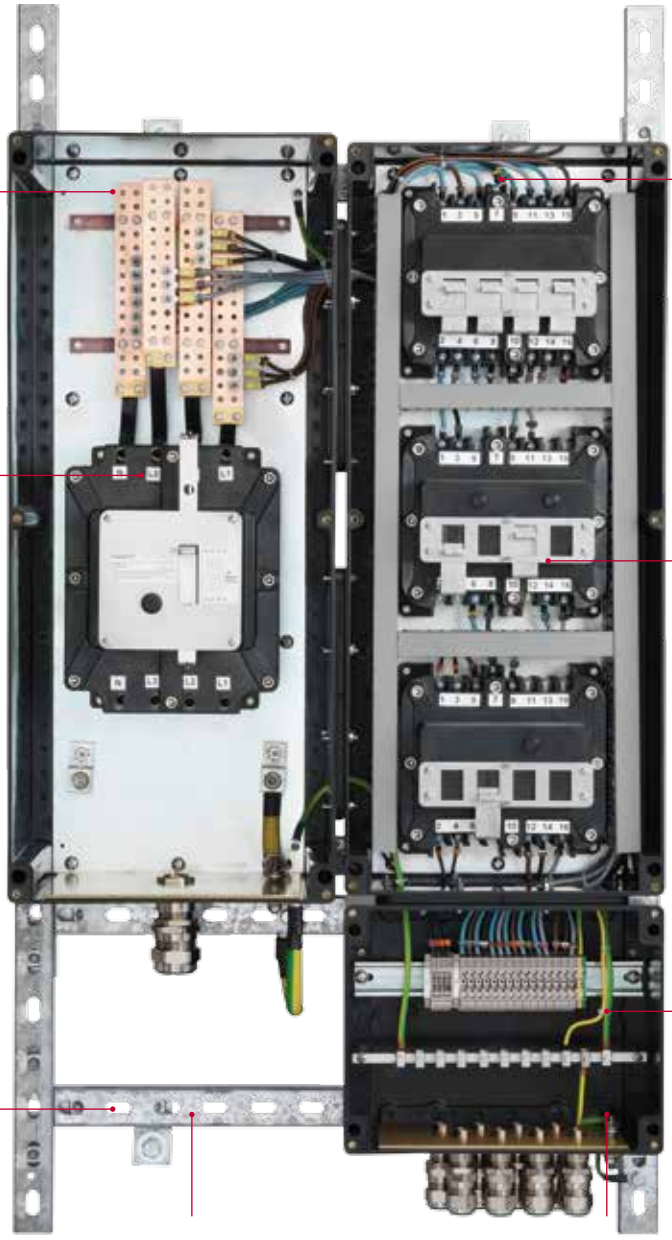
FLEXIBLE INSTALLATION

PlexPower™ is engineered to solve operational problems, easily adapting to your installation needs while providing the flexibility you require to reconfigure circuits and increase capacity at any time.



BUS BAR

50 kAIC hard drawn copper bus bar provides robust, reliable and efficient electrical connections in a compact space.

INCOMING MAINS BREAKER (MCCB) OR DISCONNECT

2-pole, 3-pole or 4-pole mains breaker, from 40 through 250 Amps.

CHASSIS FRAME

Hot dip galvanized steel frame and adjustable mounting lugs for easy mounting.

FACTORY WIRED LINE AND LOAD TERMINATIONS

Sized to maximum capacity of 6mm2 for use with branch breakers up to 63 Amps with no rewiring required.

BREAKER FLEXIBILITY

Standard, off-the-shelf branch breakers are available in 1-, 2-, 3- and 4-pole and 1-pole plus neutral; available with multiple sensitivity GFI and with option of auxiliary contacts.

MODULAR DESIGN

Enclosures offer vertical and horizontal coupling options for practically unlimited circuit configurations.

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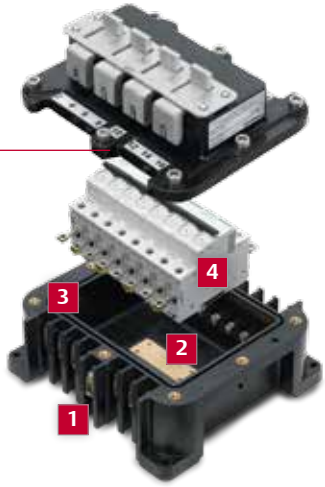
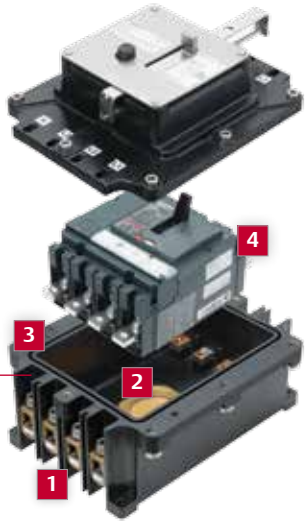
SIMPLE OPERATION AND MAINTENANCE

PlexPower™ is designed with the user in mind, with features engineered to minimize the time and cost of operating and servicing circuit breakers in hazardous locations.

BRANCH BREAKER



MAINS BREAKER



EXTERNAL MAINS BREAKER ACTUATION

External actuation of mains breaker allows for simple operation; provided with multiple lockouts for improved security.

WEATHERPROOF WINDOW

External actuation of branch breakers through a weatherproof window simplifies operation.

1. RUGGED TERMINATION

Each circuit breaker housing connects to the panelboard through Increased Safety line and load terminations for unyielding performance through years of heavy vibrations and shocks.

2. VENTING PLATE

Unique design of breaker housing allows safe heat dissipation, enabling breakers to maintain their rated amperage while eliminating nuisance tripping.

3. FLAMEPROOF ENCLOSURE HOUSING

Labyrinth joint construction maintains hazardous location rating while allowing easy dissassembly for servicing breakers.

4. FIELD REPLACEABLE BREAKER

Standard, off-the-shelf circuit breakers are easy to obtain and reduce inventory costs and downtime.

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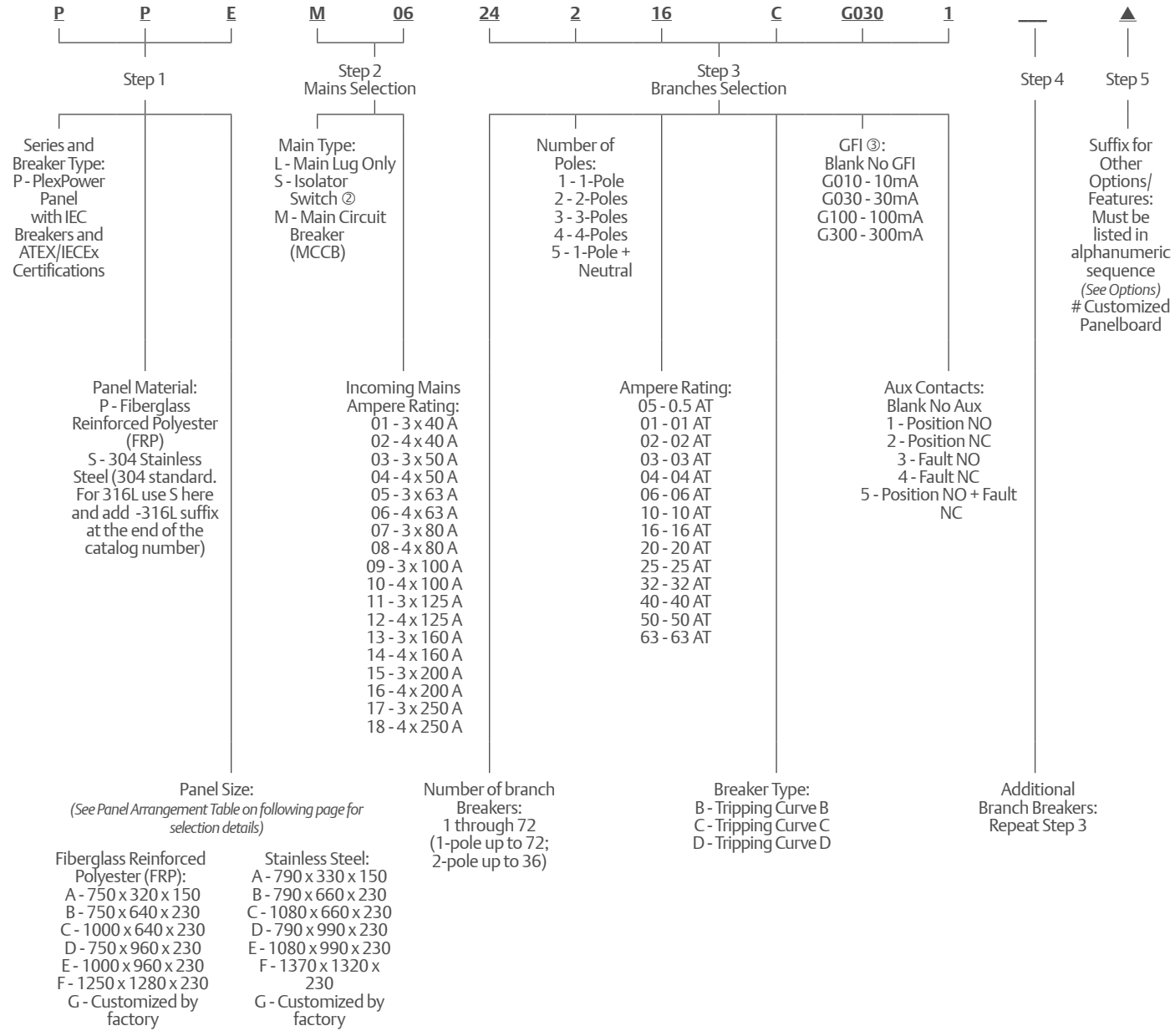
STEPS TO CREATING A CATALOG NUMBER

Standard Panelboard Catalog Logic ①



① *Please use step by step catalog number on next page.*
② *Isolators are molded case Switches (MCS).*
③ *For detailed information see table "Vigi iC60 Add-On Residual Current Devices (RCD or GFI)" on following pages.*

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STEPS TO CREATING A CATALOG NUMBER

To create a complete catalog number, refer to the Catalog Numbering Guide on previous page. Product selection information in available within the Guide.

P	P	E	M	06	12	2	16	C	G030	1	▲	__
Step 1			Step 2		Step 3						Step 4	Step 5

Step 1: Series is P
Material is P or S
Choose panel arrangement (A, B, C, D, E or F; see drawing at the end of the section for number of circuits).
Step 2: Choose either main lug (L), isolator switch (S) or main circuit breaker (M)
Choose the ampere rating of incoming mains (3 or 4 poles plus ampere: 40, 50, 63, 80, 100, 125, 160, 200, 250)
If a main breaker is desired indicate amperage rating; Example: PPEM06 – 4-pole 63 Amp main breaker.
Step 3: Choose the number of branch breakers
Choose the number of poles
Choose the ampere rating
Choose the breaker type
Choose OPTIONAL GFI
Choose OPTIONAL auxiliary contacts
First digit is the number of branch breakers, second digit is the number of poles, third number is the ampere rating, forth number is the breaker type and the fifth and six are optional GFI and/or auxiliary contacts; Example: 12216CG0301 is a 2-pole 16 Amp breaker 30 mA GFI with one auxiliary position contact with tripping curve C
Step 4: Repeat Step 3 for as many breaker types are required (*please refer to standard configurations*)
Step 5: Panel options: Add options in alphanumeric order as listed Options in the Catalog Numbering Guide or Options in the introductory section.

To be Noted When Selecting Panelboards

Entries for Mains Lugs, Isolator Switch, Main Circuit Breaker and Branch circuit breakers are based on rated Amps.

Entries

Incoming Rating	Terminal Size mm²	AWG	Wire Range mm²	AWG	Entry Sizes
40 Amp	10	8	1.5 - 16	16-6	M25
50 Amp	16	6	1.5 - 25	14-6	M32
63 Amp	35	2	2.5 - 50	12-2	M32
80 Amp	35	2	2.5 - 50	12-2	M32
100 Amp	50	1/0	10 - 70	10-1/0	M32/M40
125 Amp	50	1/0	10 - 70	10-1/0	M40/M50
160 Amp	70	2/0	10 - 95	8-2/0	M50/M63
200 Amp	120	4/0	16 - 150	4-4/0	M63/M75
250 Amp	120	4/0	16 - 150	4-4/0	M63/M75

Outgoing Branches ①	Terminal Size mm²	AWG	Wire Range mm²	AWG	Entry Sizes
20 Amp	6	8	1.5 - 10	22-8	M20
32 Amp	6	8	1.5 - 10	22-8	M25
40 Amp	10	8	1.5 - 16	16-8	M25
50 Amp	16	6	1.5 - 25	14-6	M32
63 Amp	16	6	2.5 - 50	14-6	M32

① *All outgoing entries must match respective cable sizes based on outgoing ratings.*

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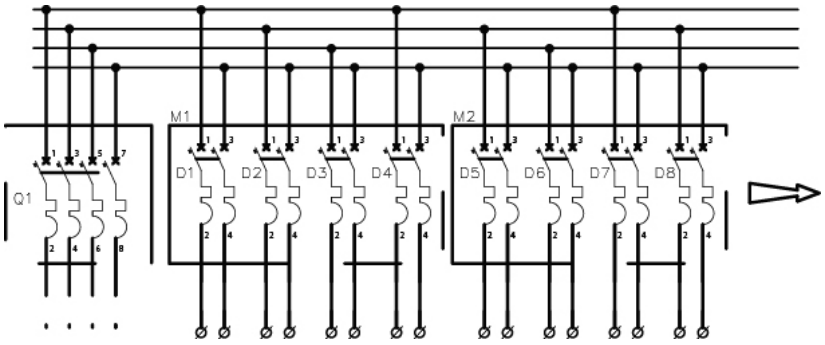
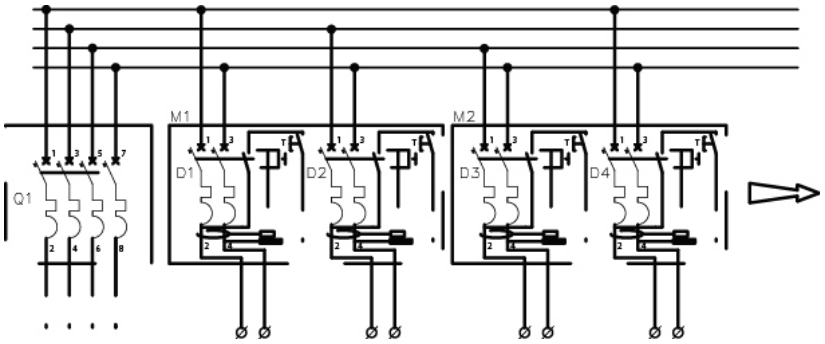
WIRING DIAGRAM

Wiring Diagrams — Panel Arrangements B, C, D, E, F — For Panel Arrangement A, Remove Main Breaker from Wiring Diagrams

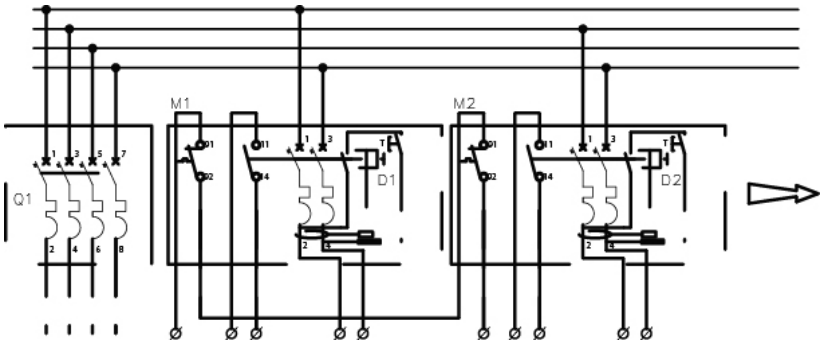
Q1: Main Breaker
M1-M8: Module Housing
D1-▲: MCB



2-Pole



2-Pole + GFI



2-Pole + GFI + AUX NO + AUX NC

▲ *Number of branch circuit breakers will depend on the number of module housing.*

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CIRCUIT CONFIGURTION

	Panel Arrangements				
Main Lugs, Isolator Switch or Mains Breaker	A/B ①	C	D	E	F
Maximum No. of 8 Poles Modules in Each Arrangement	2	3	4	6	9
Branch Breakers	Maximum No. of Circuits				
1 Pole	16	24	32	48	72
1 Poles + Aux (NO or NC)	8	12	16	24	36
2 Poles	8	12	16	24	36
3 Poles	4	6	8	12	18
4 Poles	4	6	8	12	18
2 Poles + Aux (NO or NC)	4	6	8	12	18
3 Poles + Aux (NO or NC)	4	6	8	12	18
4 Poles + Aux (NO or NC)	2	3	4	6	9
2 Poles + Aux (NO+NC)	4	6	8	12	18
3 Poles + Aux (NO+NC)	2	3	4	6	9
4 Poles + Aux (NO+NC)	2	3	4	6	9
2 Poles+GFI	4	6	8	12	18
3 Poles+GFI	2	3	4	6	9
4 Poles+GFI	2	3	4	6	9
2 Poles + GFI + Aux (NO or NC)	4	6	8	12	18
3 Poles + GFI + Aux (NO or NC)	2	3	4	6	9
4 Poles + GFI + Aux (NO or NC)	2	3	4	6	9
2 Poles + GFI + Aux (NO+NC)	2	3	4	6	9
3 Poles + GFI + Aux (NO+NC)	2	3	4	6	9
4 Poles + GFI + Aux (NO+NC) ②	2	3	4	6	9

① Panel Arrangement A has the same number of circuits as Panel Arrangement B without the Mains.
② Up to 25 Amps Only.

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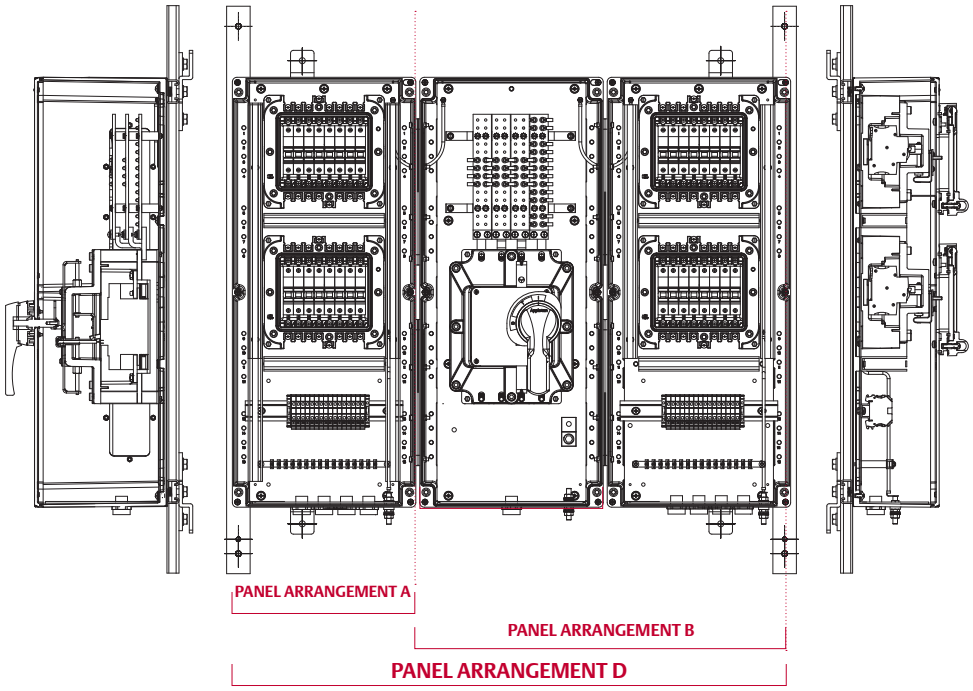
STANDARD PANELBOARD CONFIGURATIONS



STANDARD PANELBOARD SPECIFICATIONS

		Panel Arrangement A			Panel Arrangement B			Panel Arrangement D		
Panel Size	Fiberglass Reinforced Polyester (FRP)	750 x 320 x 150 mm			750 x 640 x 230 mm			750 x 960 x 230 mm		
	Stainless Steel	790 x 330 x 150 mm			790 x 660 x 230 mm			790 x 990 x 230 mm		
Voltage		220-240/380-415, 440 V			220-240/380-415, 440 V			220-240/380-415, 440 V		
Breaking Capacity in kA		Ratings in Amps	380/415 V	440 V ④	Ratings in Amps	380/415 V	440 V	Ratings in Amps	380/415 V	440 V
Mains		63 A	-	-	100 A	25 kA	20 kA	160 A	25 kA	20 kA
Busbar		100 A	-	-	125 A	50 kA	50 kA	160 A	50 kA	50 kA
Branch Breakers ③		0.5 to 4 A	50 kA	25 kA	0.5 to 4 A	50 kA	25 kA	0.5 to 4 A	50 kA	25 kA
Branch Breakers ③		6 to 63 A	10 kA	6 kA	6 to 63 A	10 kA	6 kA	6 to 63 A	10 kA	6 kA
Panel Arrangement		100 A, 3 Ph, 5W	-	-	100 A, 3 Ph, 5W	20 kA	15 kA	160 A, 3 Ph, 5W	20 kA-	15 kA

Other configurations can be customized. Call your local representative to learn more.

③ Up to 25 Amps Only
④ 440 V Without GFI.

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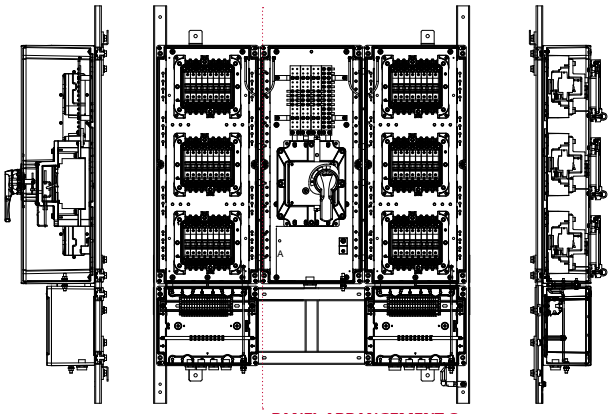
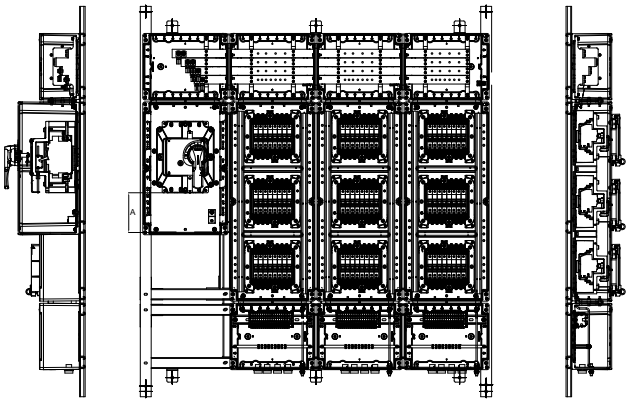
STANDARD PANELBOARD CONFIGURATIONS



PANEL ARRANGEMENT C

PANEL ARRANGEMENT E



PANEL ARRANGEMENT F

STANDARD PANELBOARD SPECIFICATIONS

		Panel Arrangement C			Panel Arrangement E			Panel Arrangement F		
Panel Size	Fiberglass Reinforced Polyester (FRP)	1000 x 640 x 230 mm			1000 x 960 x 230 mm			1250 x 1280 x 230 mm		
	Stainless Steel	1080 x 660 x 230 mm			1080 x 990 x 230 mm			1370 x 1320 x 230 mm		
Voltage		220-240/380-415, 440 V			220-240/380-415 V			220-240/380-415 V		
Breaking Capacity in kA		Ratings in Amps	380/415 V	440 V ④	Ratings in Amps	380/415 V	440 Vm	Ratings in Amps	380/415 V	440 V ④
Mains		125 A	25 kA	20 kA	200 A	25 kA	20 kA	250 A	25 kA	20 kA
Busbar		125 A	50 kA	50 kA	250 A	50 kA	50 kA	250 A	50 kA	50 kA
Branch Breakers ③		0.5 to 4 A	50 kA	25 kA	0.5 to 4 A	50 kA	25 kA	0.5 to 4 A	50 kA	25 kA
Branch Breakers ③		6 to 63 A	10 kA	6 kA	6 to 63 A	10 kA	6 kA	6 to 63 A	10 kA	6 kA
Panel Arrangement		125 A, 3 Ph, 5W	20 kA	15 kA	200 A, 3 Ph, 5W	20 kA	-	250 A, 3 Ph, 5W	20 kA	-

Other configurations can be customized. Call your local representative to learn more.

③ Up to 25 Amps Only
④ 440 V Without GFI.

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