BUYLOG SECTION 11

Lighting panelboards

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ReliaGear lighting panelboards
Applications

Standards
All ABB lighting panelboards meet the latest revision of the following standards.

- National Electrical Code-Ref. Article 384
- UL67 panelboards: UL50 cabinets and boxes UL943 GFCI
- UL489 molded case circuit breakers
- cUL listing for ReliaGear lighting panelboards
- cUL listing for ReliaGear non-service entrance panelboards
- International Building Code Seismic Certification
- California Building Code Seismic Certification
- NEMA PB1
- Federal Specifications
    - Panelboards, W-P-115c
        Type 1—Circuit breaker equipped
        Class 1—Panelboards
        Class 2—Load centers
    - Molded case circuit breakers, WC-375B/GEN

Application
The following classifications and limitations of panelboards have been established by the Underwriters Laboratories and the National Electrical Code. Note— “an overcurrent protective device is a circuit breaker pole or single fuse”. Panelboards have no fire wall ratings. All 50/60 Hz rated. There is no limitation as to the number and rating of branch circuits, except as determined by available enclosures.

Interrupting ratings—circuit breakers
Panelboards have integrated short circuit ratings. When fully rated, the rating is that of the lowest rated device in the panelboard. When series connected rated, the rating is that of the main device in panel (or remote line side protected device) and branch-tested/UL Listed combination.

Short-circuit ratings—fusible switch units
The interrupting rating of the fuse must equal or exceed the short-circuit rating of the switch. If it is lower, then the interrupting rating of the switch is the same as the fuse. Switches have no short-circuit rating if renewable fuses are used.

Seismic ratings
All ReliaGear Lighting Panelboards have been tested and certified to meet the the seismic requirements of 2018 International Building Code (IBC) as well as the 2019 California Building Code (CBC)

Selective coordination
NFPA 70, the National Electrical Code (NEC), requires overcurrent devices to be selectively coordinated when applied in emergency standby systems (Article 700), legally required standby systems (Article 701), Critical Power Systems (Article 708) and when supplying multiple elevator circuits (620.62). The NEC defines the performance standard of selective coordination in Article 100, Definitions. Beginning with the definition in effect with the 2014 NEC, the combinations of circuit breakers that can comply with this standard are limited. Those limitations include the number of breaker poles, current ratings of either the line side or load side breaker, and the maximum interrupting current that selective operation extends to. These limitations can affect the selection of circuit breakers used in a panelboard. ABB has documented selective pairs of their molded case circuit breakers in publication 1SDC210066D0201. This publication should be consulted when applying panelboards in the applications noted above.

Features

- Symmetrical design, no required top or bottom mountings
- Wide, easy-to-install galvanized enclosures with removable endwalls
- Flush or surface mounting
- Standard concealed mounting hardware and hinges
- Interiors that allow “straight-in” wiring
- Split neutral
- Branch-bus direct connection
- Captive hardware on branch breakers
- Short circuit ratings allow up to 100KA @ 480Y/277Vac; 200KA @ 240Vac
- Main bus ratings of 125 to 800 amps copper, 125 to 600 amps aluminum
- Tmax XT vertically mounted main circuit breakers with fixed thermal magnetic and adjustable trip units available
- Bus-connected SPD for maximum surge protection
- Optional door-in-door or front-hinged-to-box door
- Enclosures available in NEMA Type 1, Type 3R/12, Type 4/4X painted galvanneal or 316 grade stainless steel
- Optional metering features
- Front options: screw-on cover, screw front to box, stainless steel front
- Latch/lock options: best lock, national lock/corbin 60 key, corbin latch bolt 15767, yale lock, replacement locks

ReliaGear lighting panelboards

Types

Type RL

Service information:
1P, 3W-120/240 Vac
3P, 3W-240 Vac
3P, 4W-240/120 Vac, 208/120 Vac
Fully rated: 65kAIC at 240V
Series rated: 200kAIC at 240V

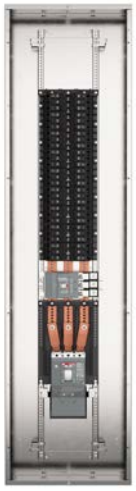
Main breakers:
100A-THQB, THHQB, TEY
125A-XT1
225A-A2
250A-XT4
400A-XT5
600A-XT5
800A-XT6

Main lug:
125-800A

Branch breakers (plug-in):
Amperage-15-100A
Poles-1, 2, 3
Types-THQL, THHQL, TXQL

Subfeeds:
Amperage-15-600A
Poles-2, 3
Types- A2, XT1, XT4, XT5

Enclosures
Length-25.5, 31.5, 37.5, 43.5, 49.5, 55.5, 64.5, 76.5, 82.5, 88.5
Width-20”
Depth-5.81”



Type RQ

Type RL

Type RQ

Service information:
1P, 3W-120/240 Vac
3P, 3W-240 Vac
3P, 4W-240/120 Vac, 208/120 Vac
Fully rated: 65kAIC at 240V
Series rated: 200kAIC at 240V

Main breakers:
100A-THQB, THHQB, TEY
125A-XT1
225A-A2
250A-XT4
400A-XT5
600A-XT5
800A-XT6

Main lug:
125-800A

Branch breakers (bolt-on):
Amperage-15-100A
Poles-1, 2, 3
Types-THQB, THHQB, TXQB

Subfeeds:
Amperage-15-600A
Poles-2, 3
Types- A2, XT1, XT4, XT5

Enclosures
Length-25.5, 31.5, 37.5, 43.5, 49.5, 55.5, 64.5, 76.5, 82.5, 88.5
Width-20”
Depth-5.81”

ReliaGear lighting panelboards
Types

Type RE

Service information:
1P, 3W-120/240 Vac, 125/250 Vdc
3P, 3W-240 Vac
3P, 4W-480/277 Vac, 208/120 Vac, 240/120 Vac
Fully rated: 18kAIC at 480Y/277V, 65kAIC at 240V
Series rated: 100kAIC at 480V

Main breakers:
100A-TEY, TEYF
125A-XT1
250A-XT4
400A-XT5
600A-XT5
800A-XT6

Main lug:
125-800A

Branch breakers (bolt-on):
Amperage-15-100A
Poles-1, 2, 3
Types-TEY, TEYF

Subfeeds:
Amperage-15-600A
Poles: 3*
Types: XT1, XT4, XT5

*3 poles can be used as 2 poles

Enclosures
Length-25.5, 31.5, 37.5, 43.5, 49.5, 55.5, 64.5, 76.5, 82.5, 88.5
Width-20”
Depth-5.81”

Type RE

Type RS

Type RS

Service information:
1P, 3W-120/240 Vac, 125/250 Vdc
3P, 3W-240 Vac
3P, 4W-480/277 Vac, 208/120 Vac, 240/120 Vac
Fully rated: 65kAIC at 480Y/277V, 100kAIC at 240V
Series rated: 100kAIC at 480V

Main breakers:
100A-TEYD, TEYH, TEYL
125A-XT1
250A-XT4
400A-XT5
600A-XT5
800A-XT6

Main lug:
125-800A

Branch breakers (bolt-on):
Amperage-15-125A
Poles- 1, 2, 3
Types- TEYD, TEYH, TEYL

Subfeeds:
Amperage-15-600A
Poles: 3*
Types: XT1, XT4, XT5

*3 poles can be used as 2 poles

Enclosures
Length-25.5, 31.5, 37.5, 43.5, 49.5, 55.5, 64.5, 76.5, 82.5, 88.5
Width-20”
Depth-5.81”

Type AD

Service information:
3P, 3W-480 Vac, 600 Vac
3P, 4W-208/120 Vac, 480/277 Vac, 600/347 Vac
Fully rated: 35kAIC at 600Y/347V, 100kAIC at 480V
Series rated: 35kAIC at 600Y/347V

Main breakers:
150A-THED, SE, FB
225A, SF
400A, SG
600A-SG
800A-SK

Main lug:
150-800A

Branch breakers (bolt-on):
Amperage-15-100A (1P, 2P)
15-150A (3P)
220A Max. double branch
Types-TED, SE, FB

Enclosures
Length-31.5, 37.5, 43.5, 49.5, 55.5, 64.5, 76.5, 82.5, 88.5
Width-20”
Depth-5.81”

ReliaGear lighting panelboards
Types

Panelboard types

Item	ReliaGear				
	RL Page 11-6	**RQ Page 11-6**	**RE Page 11-7**	**RS Page 11-7**	**AD Page 11-7**
Max. voltage	240Vac	240Vac	480Y/277Vac[1]	480Y/277Vac[1]	600Vac
			125/250Vdc	125/250Vdc	
Max. main lug amperes	800A	800A	800A	800A	800A
Max. main breaker or switch amperes	800A	800A	800A	800A	800A
Main devices	THQB, THHQB, TEY	THQB, THHQB, A2,TEY	TEY, TEYF	TEYD, TEYH, TEYL	THED , SE, SF, SG, SK
	A2, XT1, XT4, XT5, XT6		XT1, XT4, XT5, XT6		–
Branches max. amps	100A	100A	100A	125A	100A-1 ph, 2ph
					150A-3 ph
Branch devices	THQL, THHQL	THQB, THHQB, TXQB (Bolt-on)	TEY, TEYF	TEYD, TEYH, TEYL	TED, SE
Subfeed breaker types	A2	A2	XT1	XT1	TED

ReliaGear standard main breaker types and ratings

IC ratings	Voltage	Panel type															
		RQ/RL					RE/RS						AD				
		100A	**225A**	**400A**	**600A**	**800A**	**100A**	**125A**	**225A**	**400A**	**600A**	**800A**	**150A**	**225A**	**400A**	**600A**	**800A**
10	240	THQB	A2A	–	–	XT6N	–	–	–	–	–	–	–	–	–	–	–
22	240	THHQB	A2N	–	XT5N	–	–	–	–	–	–	–	–	–	–	–	–
65	240	TEY/ XT1S	XT4N	XT5N	XT5N	–	–	–	XT4N	XT5N	XT5N	–	–	–	–	–	–
100	240	XT1H	XT4S	XT5S	XT5S	–	–	–	–	–	–	–	–	–	–	–	–
200	240	–	XT4L	XT5L	–	–	–	–	–	–	–	–	–	–	–	–	–
14	480Y/277	–	–	–	–	–	TEY	–	–	XT5N	XT5N	XT6N	TED	–	–	–	–
35	480Y/277	–	–	–	–	–	–	–	–	–	–	–	SEHA	SFHA	SGHA4	SGHA6	–
18	480Y/277	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	SKHA8
25	480Y/277	–	–	–	–	–	–	XT1N/ TEYD	XT4N	–	–	–	SEHA	SEHA	–	–	–
65	480Y/277	–	–	–	–	–	–	XT1H/ TEYL	XT4H	XT5H	XT5H	–	–	–	–	–	–
100	480Y/277	–	–	–	–	–	–	XT1L	XT4L	–	–	–	SEPA	SFPA	SFPA	SGPA6	–
14	480	–	–	–	–	–	–	–	–	–	–	–	TED			SGHA6	–
65	480	–	–	–	–	–	–	–	–	–	–	–	SELA	SFLA	SGLA4	SGLA6	–
100	480	–	–	–	–	–	–	–	–	–	–	–	SEPA	SFPA	SGPA4	SGLA6	–
18	600	–	–	–	–	–	–	–	–	–	–	–	THED			SGHA6	SKHA8
25	600	–	–	–	–	–	–	–	–	–	–	–	SELA	SFLA	SGHA4	SGHA6	–
35k	600Y/347	–	–	–	–	–	–	–	–	–	–	–	SEPA	SFPA	SGPA4	SGPA6	–

[1] RE Panels are suitable for use on 3-PH, 3W applications when derived from 3PH, 4W 480V/277 service where the neutral is not connected to the panel. For 3ph-Delta use AD Panels.

ReliaGear lighting panelboards
Terminal lugs

Molded case circuit breakers

Frame	Poles	Lug kit number [1]	Cable(s) per lug	Cable Range
XT6	3	1SDA113070R1	3	Cu Al 3x2/0AWG-400kcmil
XT5	3	1SDA113066R1	2	Cu Al 2x2/0AWG-500kcmil
XT4-250A	3	1SDA075865R1	1	Cu Al 1x3/0 AWG-350 kcmil [2]
XT4 (<250A)	3	1SDA075861R1	1	Cu Al 1x4 AWG-300 kcmil
XT1	3	1SDA075837R1	1	Cu Al 1x14-2/0 AWG
A2	3	1SDA069983R1 (3pole – 3pcs lug)	1	Cu 1x1 AWG-250kcmil
				Al 1x2/0 AWG-300
A2	2	1SDA069982R1 (2pole – 2pcs lug)	1	Cu 1x1 AWG-250kcmil
				Al 1x2/0 AWG-300

[1] Kit contains 3pcs lug
[2] External solution: lugs to be mounted on EF terminals supplied in the kit

ReliaGear lighting panelboards

Pricing and ordering through empower, distributors or sales

Information required to price and order a panelboard

- Short-circuit rating (10kA, 18kA, etc.)
- Service entrance label (Yes) or (No)
- Mark(s) (LPA, MDP, RPC, etc.)
- Service (3-ph, 4-w 208Y/120; 3-ph, 3-w 480 volts, etc.)
- Entrance of incoming line (top) or (bottom). (Bottom supplied as standard)
- Trim (surface) or (flush)
- Incoming wire size (500kcmil, 250kcmil, etc.)
- Incoming number of wires per phase (1, 2, 3, etc.)
- Wire material (copper or aluminum)
- Main type (main lugs only, circuit breaker, fusible switch, etc.)
- Amperage of main bus
- Frame of main circuit breaker (XT5, XT6, etc.) (if applicable)
- Options to mains (shunt trip, lighting contactor, etc.)
- Equipment ground (optional)
- Branches
    - Amp rating (20, 30, 50, etc.)
    - Poles (1, 2, or 3)
    - Frame (THQB, TEY, etc.)
    - Quantity (1, 10, 15, etc.)
- Options:
    - Interior (copper bus, 200% rated neutral, etc.)
    - Box (painted, increased gutter, etc.)
    - Front (door in door, etc.)
    - Ground fault protection (yes) or (no)
- Type of panel (RQ, RE, etc.)

Pricing and layout for factory assembled and unassembled panelboards through empower.

https://electrification.us.abb.com/geempower

How to select a ReliaGear Pro-Stock, unassembled panelboard

Total the following components:

- Interior
- Box (add ground bars as required)
- Front
- Main breaker or lug kit
- Subfeed breaker or feed thru lug kit (if required)
- Branch breakers (from section 3)
- Accessories (200% neutral, service entrance etc.)

Please consult your local distributor for net pricing and current stock levels.

For additional details on selecting ReliaGear Pro-Stock panelboards, please refer to publication 1TQC173600E0001.

ReliaGear lighting panelboards

Pro-Stock, unassembled lighting panels

100-600A
240 Vac 1 or 3 Phase or 480Y/277 Vac 3 Phase
Order by product number from the customer service center

1. SELECT INTERIOR

Select the interior by bus type, panel rating and number of circuits. Identify the box/front height for use in Steps 2 and 3.

Copper Bus

Voltage	Rating (Amps)	No. of circuits	Feed-thru		Non feed-thru		
			Product Number[1]	Box/Front Height	Product Number[1]	Box/Front Height	TGL2 Ground Bars[2,3]
240 Vac, 1 Phase	100-225	18	AQU1182RCXAXT1B4	37.5"	AQU1182RCXAXB4	31.5"	2
		30	AQU1302RCXAXT1B4	43.5"	AQU1302RCXAXB4	37.5"	3
		42	AQU1422RCXAXT1B4	49.5"	AQU1422RCXAXB4	43.5"	4
	400	18	AQU1184RCXAXT1B4	64.5"	–	–	2
		42	AQU1424RCXAXT1B4	76.5"	AQU1424RCXAXB4	64.5"	4
	600	18	AQU1186RCXAXT1B4	64.5"	–	–	2
		42	AQU1426RCXAXT1B4	76.5"	AQU1426RCXAXB4	64.5"	4
208/120 Vac, 3 Phase	100-225	18	AQU3182RCXAXT1B4	37.5"	AQU3182RCXAXB4	31.5"	2
		30	AQU3302RCXAXT1B4	43.5"	AQU3302RCXAXB4	37.5"	3
		42	AQU3422RCXAXT1B4	49.5"	AQU3422RCXAXB4	43.5"	4
	400	18	AQU3184RCXAXT1B4	64.5"	–	–	2
		42	AQU3424RCXAXT1B4	76.5"	AQU3424RCXAXB4	64.5"	4
	600	18	AQU3186RCXAXT1B4	64.5"	–	–	2
		42	AQU3426RCXAXT1B4	76.5"	AQU3426RCXAXB4	64.5"	4
480/277 Vac, 3 Phase	100-225	18	AEU3182RCXAXT1B4	37.5"	AEU3182RCXAXB4	31.5"	2
		30	AEU3302RCXAXT1B4	43.5"	AEU3302RCXAXB4	37.5"	3
		42	AEU3422RCXAXT1B4	49.5"	AEU3422RCXAXB4	43.5"	4
	400	18	AEU3184RCXAXT1B4	64.5"	–	–	2
		42	AEU3424RCXAXT1B4	76.5"	AEU3424RCXAXB4	64.5"	4
	600	18	AEU3186RCXAXT1B4	64.5"	–	–	2
		42	AEU3426RCXAXT1B4	76.5"	AEU3426RCXAXB4	64.5"	4

Aluminum Bus

Voltage	Rating (Amps)	No. of circuits	Feed-thru Product Number[1]	Box/Front Height	TGL2 Ground Bars[2,3]
240 Vac, 1 Phase	100-225	18	AQU1182RCXAXT1	37.5"	2
		30	AQU1302RCXAXT1	43.5"	3
		42	AQU1422RCXAXT1	49.5"	4
208/120 Vac, 3 Phase	100-225	18	AQU3182RCXAXT1	37.5"	2
		30	AQU3302RCXAXT1	43.5"	3
		42	AQU3422RCXAXT1	49.5"	4
480/277 Vac, 3 Phase	100-225	18	AEU3182RCXAXT1	37.5"	2
		30	AEU3302RCXAXT1	43.5"	3
		42	AEU3422RCXAXT1	49.5"	4

TGL20 Ground Lug Quantities

Interior Type	No. of TGL20s Required by Panel Rating		
	100A-225A	400A	600A
Main Lug Only	1	1	2
Main Lug and Feed-thru	2	2	4
Main Breaker Only	1	1	1
Main Breaker and Sub-feed	1	1	1
Main Breaker and Feed-thru	2	2	3

[1] For CSA label, add "M8" suffix to product number.
[2] For TGL20 ground lug quantities, see TGL20 Ground Lug Quantities table above.
[3] For isolated ground, use EGS12. When using the EGS12, 3, 5 and 7 ground lugs (TGL20s) are required for 18, 30 and 42 circuits respectively.

ReliaGear lighting panelboards

Pro-Stock, unassembled lighting panels

NEMA 1
Front options sold separately

NEMA 3R

NEMA 4/4X/12
painted galvaneal

NEMA 4/4X/12
stainless steel

2. SELECT BOX

Select a box of the correct height (see Step 1). Boxes come with blank endwalls.
If endwalls with knockouts are required, also order knockout endwall kit AKEW2.
Note: This is only available for NEMA 1 20" wide enclosures.

Box Height	NEMA 1	NEMA 1	NEMA 3R		NEMA 4, 4X & 12 Painted Galvaneal	NEMA 4, 4X & 12 Painted Galvaneal	NEMA 4, 4X & 12 Stainless Steel	
	20" Wide	30" Wide	20" Wide	30" Wide	20" Wide	30" Wide	20" Wide	30" Wide
25.5"	–	–	–	–	–	–	AB254S	AB254DWS
31.5"	AB31B	AB31BW	AB313	AB31DW	AB314	AB314DW	AB314S	AB314DWS
37.5"	AB37B	AB37BW	AB373	AB37DW	AB374	AB374DW	AB374S	AB374DWS
43.5"	AB43B	AB43BW	AB433	AB43DW	AB434	AB434DW	AB434S	AB434DWS
49.5"	AB49B	AB49BW	AB493	AB49DW	AB494	AB494DW	AB494S	AB494DWS
55.5"	AB55B	AB55BW	AB553	AB55DW	AB554	AB554DW	AB554S	AB554DWS
64.5"	AB64B	AB64BW	AB643	AB64DW	AB644	AB644DW	AB644S	AB644DWS
76.5"	AB76B	AB76BW	AB763	AB76DW	AB764	AB764DW	AB764S	AB764DWS

Standard

Door within door

Front hinged to Box

3. SELECT FRONT

Select a front of the correct height (see Step 1).

Front Height	Standard (20" wide)		Door Within Door (20" wide)		Front Hinged To Box (20" wide)		Standard (30" Wide)	
	Flush[1]	Surface[1]	Flush[1]	Surface[1]	Flush[1]	Surface[1]	Flush1	Surface[1]
31.5"	AF31F	AF31S	AF31FP	AF31SP	AF31FD	AF31SD	AF31FW	AF31SW
37.5"	AF37F	AF37S	AF37FP	AF37SP	AF37FD	AF37SD	AF37FW	AF37SW
43.5"	AF43F	AF43S	AF43FP	AF43SP	AF43FD	AF43SD	AF43FW	AF43SW
49.5"	AF49F	AF49S	AF49FP	AF49SP	AF49FD	AF49SD	AF49FW	AF49SW
55.5"	AF55F	AF55S	AF55FP	AF55SP	AF55FD	AF55SD	AF55FW	AF55SW
64.5"	AF64F	AF64S	AF64FP	AF64SP	AF64FD	AF64SD	AF64FW	AF64SW
76.5"	AF76F	AF76S	AF76FP	AF76SP	AF76FD	AF76SD	AF76FW	AF76SW

[1] For CSA label, add "A" suffix to product number.

ReliaGear lighting panelboards

Pro-Stock, unassembled lighting panels

4. SELECT MAIN AND/OR SUB-FEED BREAKER KIT

Select main breaker kit appropriate for your interior type (see Step 1), amp rating and kAIC rating.
If a sub-feed breaker is required, repeat the selection process.

Note: 400A and 600A breaker kits cannot be used for sub-feed applications in Pro-Stock panelboards.

For additional details, see Section 6 of the BuyLog.

Interior Type	Cat. No.[1]	Rating (Amps)	No. of Poles	Breaker Short Circuit Rating (kAIC)									
				10	14	22	25	35	50	65	100	150	200
AQU1: 240 VAC, 1 Phase	MB612	100	2	THQB	–	THHQB	–	–	–	–	–	–	–
	MB614	100	4	(x2) THQB	–	(x2) THHQB	–	–	–	–	–	–	–
	MBA12	225	2	A2A	–	A2N[2]	–	–	–	–	–	–	–
	MBM324	400	2	–	–	–	–	–	–	XT5N	XT5S	XT5H	XT5L
	MBM124WB	400	2[3]	–	–	–	–	–	–	XT5N	–	–	–
AQU3: 208/120 VAC, 3 Phase	MB613	100	3	THQB	–	THHQB	–	–	–	–	–	–	–
	MB616	100	6	(x2) THQB	–	(x2) THHQB	–	–	–	–	–	–	–
	MBA13	225	3	A2A	–	A2N[2]	–	–	–	–	–	–	–
	MBA16	400	6	(x2) A2A	–	(x2) A2N[2]	–	–	–	–	–	–	–
	MBB33	225	3	–	–	–	–	–	–	XT4N	XT4S	XT4H	XT4L
	MBB13WB	225	3	–	–	–	–	–	–	XT4N	–	–	–
	MBB36[5]	400	6[5]	–	–	–	–	–	–	(x2) XT4N	(x2) XT4S	(x2) XT4H	(x2) XT4L
	MBB16WB[5]	400	6[5]	–	–	–	–	–	–	(x2) XT4N	–	–	–
	MBM334	400	3	–	–	–	–	–	–	XT5N	XT5S	XT5H	XT5L
	MBM134WB	400	3	–	–	–	–	–	–	XT5N	–	–	–
	MBM124WB[4]	400	2[3]	–	–	–	–	–	–	XT5N	–	–	–
AEU3; 480/277 VAC, 3 phase	MB423	100	3	–	TEY	–	–	–	–	–	–	–	–
	MB426	100	6	–	(x2) TEY	–	–	–	–	–	–	–	–
	MBC33	125	3	–	–	–	XT1N	XT1S	–	XT1H	–	–	–
	MBC33WB	125	3	–	–	–	–	–	–	XT1H	–	–	–
	MBB33	225	3	–	–	–	XT4N	XT4S	–	XT4H	–	–	–
	MBB33WB	225	3	–	–	–	–	–	–	XT4H	–	–	–
	MBB36[5]	400	6[5]	–	–	–	(x2) XT4N	(x2) XT4S	–	(x2) XT4H	–	–	–
	MBB36WB[5]	400	6[5]	–	–	–	–	–	–	(x2) XT4H	–	–	–
	MBM334	400	3	–	–	–	–	XT5N	XT5S	XT5H	–	–	–
	MBM334WB	400	3	–	–	–	–	–	–	XT5H	–	–	–
	MBM324WB[4]	400	2[5]	–	–	–	–	–	–	XT5H	–	–	–

[1]Breaker not included except for “WB” kits (where product number ends in “WB”). “WB” kits include a breaker, mounting kit and load-side lugs.
[2]Actual Breaker Short Circuit Rating is 25kAIC
[3]Use 2 outer poles from the 3 available poles
[4]For Subfeed application only
[5]6 poles of subfeed applies only to 400A and 600A interiors.

ReliaGear lighting panelboards

Pro-Stock, unassembled lighting panels

5. Typical main circuit breakers

- Skip Step 5 if you selected a main circuit breaker kit ending in “WB” —no circuit breaker is required.
- To correlate circuit breaker types with the kAIC rating in specific panelboards, see the table for Step 4. For more rating details, see ReliaGear Lighting Panels Rating Series Labels (1TQC173100E0001).
- All Tmax XT and Formula A2 main circuit breakers require line-side lugs.
- For TEY and THQB main circuit breakers, see branch circuit breakers tables in Step 7.

Tmax XT Circuit breakers (3-pole) For use with appropriate main circuit breaker kit (see Step 4).

Circuit breaker			Replacement terminal lugs for front connection		
Poles	**Amp frame**	**Product Number**	**Wire Range (Cu/Al)**	**Terminal lugs product number**	**Cables per lug**
3	100	XT1NU3100AFD000XXX	Cu Al 1x14-2/0 AWG	1SDA075837R1	1
		XT1SU3100AFD000XXX	Cu Al 1x14-2/0 AWG	1SDA075837R1	1
		XT1HU3100AFD000XXX	Cu Al 1x14-2/0 AWG	1SDA075837R1	1
		XT4LU3100AFJ000XXX	Cu Al 1x4 AWG-300 kcmil	1SDA075861R1	1
	150	XT4NU3150AFJ000XXX	Cu Al 1x4 AWG-300 kcmil	1SDA075861R1	1
		XT4SU3150AFJ000XXX	Cu Al 1x4 AWG-300 kcmil	1SDA075861R1	1
		XT4HU3150AFJ000XXX	Cu Al 1x4 AWG-300 kcmil	1SDA075861R1	1
		XT4LU3150AFJ000XXX	Cu Al 1x4 AWG-300 kcmil	1SDA075861R1	1
	225	XT4SU3225AFJ000XXX	Cu Al 1x4 AWG-300 kcmil	1SDA075865R1	1
		XT4HU3225AFJ000XXX	Cu Al 1x4 AWG-300 kcmil	1SDA075865R1	1
		XT4LU3225AFJ000XXX	Cu Al 1x4 AWG-300 kcmil	1SDA075865R1	1
3	400	XT5SU340ABFN000XXX	Cu Al 2x2/0AWG-500kcmil	1SDA113066R1	2
		XT5HU340ABFN000XXX	Cu Al 2x2/0AWG-500kcmil	1SDA113066R1	2
		XT5LU330ABFN000XXX	Cu Al 2x2/0AWG-500kcmil	1SDA113066R1	2
2	400	XT5SU340ABFN000XXX	Cu Al 2x2/0AWG-500kcmil	1SDA113066R1	2
		XT5HU340ABFN000XXX	Cu Al 2x2/0AWG-500kcmil	1SDA113066R1	2
		XT5LU330ABFN000XXX	Cu Al 2x2/0AWG-500kcmil	1SDA113066R1	2
3	600	XT5HU360BBFN000XXX	Cu Al 2x2/0AWG-500kcmil	1SDA113066R1	2
		XT5LU350BBFN000XXX	Cu Al 2x2/0AWG-500kcmil	1SDA113066R1	2
2	600	XT5HU360BBFN000XXX	Cu Al 2x2/0AWG-500kcmil	1SDA113066R1	2
		XT5LU350BBFN000XXX	Cu Al 2x2/0AWG-500kcmil	1SDA113066R1	2

Main or subfeed circuit breakers for use with RQ panels (208/120 Vac 3-phase or 240 Vac single phase). See Step 4.

Amp Rating	2-pole		3-pole	
	10kAIC	**22kAIC**	**10kAIC**	**22kAIC**
	Product[3] Number	**Product Number**	**Product Number**	**Product Number**
125	A2A125TL-2	A2N125TL-2	A2A125TT	A2N125TT
150	A2A150TL-2	A2N150TL-2	A2A150TT	A2N150TT
175	A2A175TL-2	A2N175TL-2	A2A175TT	A2N175TT
200	A2A200TL-2	A2N200TL-2	A2A200TT	A2N200TT
225	A2A225TL-2	A2N225TL-2	A2A225TT	A2N225TT

Main or subfeed circuit breakers for use with RE panels (480/277 Vac 3-phase). See Step 4.

Amp Rating	Poles	kAIC	Product Number	Kits
100	3	14	TEY3100	MB423 (3-pole) MB426 (6-pole)

ReliaGear lighting panelboards

Pro-Stock, unassembled lighting panels

6. SELECT MAIN LUG KIT AND ACCESSORIES

Select lug kit(s) for main lug and/or feed-thru applications, if required. (All lugs are suitable for interiors with either copper or aluminum bus.) Also select any accessories required.

Main Lug Kits

Lug Type	Amp Rating	Standard		Oversized		200% Neutral
		Product Number	Wire Range	Product Number	Wire Range	Product Number
Pressure	225	MLA1	6-350 MCM	MLA2	1-600 MCM or (2) 1/0-250 MCM	NKA
	400	MLA41	2-600 MCM or (2) 1/0-250 MCM	MLA62	3/0-800 MCM	NKA4[2]
	600	MLA61	(2) 2/0-500 MCM	MLA62	3/0-800 MCM	–
Copper	225	MLR1	4-450 MCM	MLR2	1-600 MCM	NKR
	400	MLR41	1-600 MCM	MLR61	(2) 2/0-500 MCM	NKR4
	600	MLR61	(2) 2/0-500 MCM	–	–	–
Compression	225	MLT1	2/0-300 MCM	MLT2	4/0-500 MCM	NKT
	400	MLT42	250-600 MCM	MLT41	500-750 MCM[1]	NKT4
Dual	225	MLA2	2-600 MCM or (2) 1/0-250 MCM	–	–	–
Main	400	MLA61	(2) 2/0-500 MCM	–	–	–

[1] 500 MCM Cu, 750 MCM Al.

[2] For 200% neutral feed-thru, order NKA4FT, (GO-101P). Wire range (2) 2/0 – 600 MCM or (4) 4-250 MCM.

Accessories

Service Entrance[3]	
Amp Rating	Product Number
225A	BNDKT
400A	BNDKT6
600A	BNDKT6

[3] Service entrance kit includes a bonding strap with hardware and a service entrance label.

ProCare Kit[4]	
Description	Product Number
ProCare Kit for Pro-Stock panelboard installation and maintenance	PROCARE

[4] ProCare Kit includes: (5) filler plate hardware kits, (9) bus stud nuts, (5) MLA1 filler plates, (2) 225A phase barriers, (2) feed-thru barriers, (1) 400/600A phase barrier, (50) directory cards/rating books, (50) circuit number strips (1-48), (50) circuit number strips (43-84), (5) standard locks and keys, (50) deadfront screws, (10) RQ/RE front hardware kits, (10) AD front hardware kits, (50) service disconnect labels, (50) main labels.

7. TYPICAL BOLT-ON BRANCH BREAKERS

These tables show typical branch breakers, but do not include all branch breakers that can be used with Pro-Stock panelboards.

Branch circuit breakers for use with RQ panels (208/120 Vac 3-phase or 240 Vac single phase)

Amp Rating	10kAIC			22kAIC		
	1-pole	2-pole	3-pole	1-pole	2-pole	3-pole
	Product Number	Product Number	Product Number	Product Number	Product Number	Product Number
15	THQB1115	THQB2115	THQB32015	THHQB1115	THHQB2115	THHQB32015
20	THQB1120	THQB2120	THQB32020	THHQB1120	THHQB2120	THHQB32020
25	THQB1125	THQB2125	THQB32025	THHQB1125	THHQB2125	THHQB32025
30	THQB1130	THQB2130	THQB32030	THHQB1130	THHQB2130	THHQB32030
35	THQB1135	THQB2135	THQB32035	THHQB1135	THHQB2135	THHQB32035
40	THQB1140	THQB2140	THQB32040	THHQB1140	THHQB2140	THHQB32040
45	THQB1145	THQB2145	THQB32045	THHQB1145	THHQB2145	THHQB32045
50	THQB1150	THQB2150	THQB32050	THHQB1150	THHQB2150	THHQB32050
60	THQB1160	THQB2160	THQB32060	THHQB1160	THHQB2160	THHQB32060
70	THQB1170	THQB2170	THQB32070	THHQB1170	THHQB2170	THHQB32070
80	–	THQB2180	THQB32080	–	THHQB2180	THHQB32080
90	–	THQB2190	THQB32090	–	THHQB2190	THHQB32090
100	–	THQB21100	THQB32100	–	THHQB21100	THHQB32100

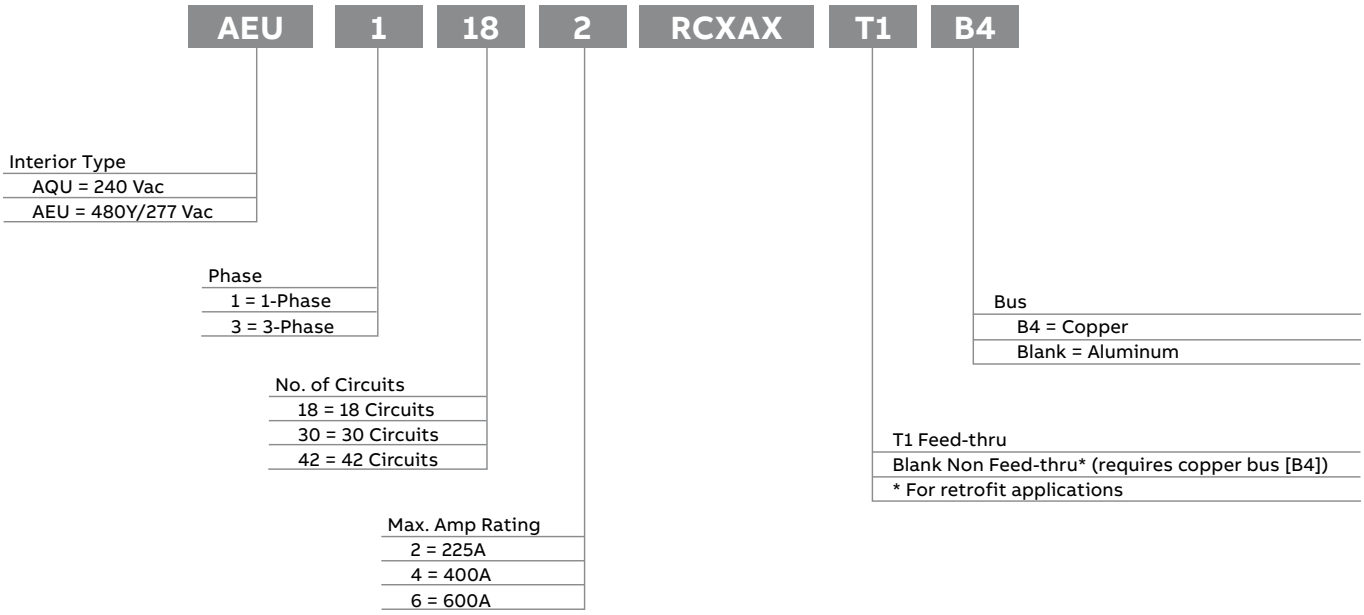
Branch circuit breakers for use with RE panels (480/277 Vac 3-phase)

Amp Rating	14kAIC		
	1-pole	2-pole	3-pole
	Product Number	Product Number	Product Number
15	TEY115	TEY215	TEY315
20	TEY120	TEY220	TEY320
30	TEY130	TEY230	TEY330
40	TEY140	TEY240	TEY340
50	TEY150	TEY250	TEY350
60	TEY160	TEY260	TEY360
70	TEY170	TEY270	TEY370
80	TEY180	TEY280	TEY380
90	TEY190	TEY290	TEY390
100	TEY1100	TEY2100	TEY3100

ReliaGear lighting panelboards

Pro-Stock, unassembled lighting panels

Pro-Stock interiors product number structure



ReliaGear lighting panelboards
Product options

Enclosure options

BOX EXTENSIONS—For additional end gutter space or conduit skirt applications–see page 11-18.

Equipment grounds—factory supplied with panelboard

Description	Product Number
Field installed kits	
Standard bonded to box-for each 12 branch positions	TGL2
Copper bonded to box-for each 12 branch positions	TGC2
Standard-isolated/insulated-for each 12 branch positions	EGS12
Copper-isolated/insulated-for each 12 branch positions	EGC12
Main lug for above terminal kits	TGL20

Optional equipment grounds

Description	Product Number
Aluminum Extruded Bonded	AEBG
Copper Extruded Bonded	AEBGC
Aluminum Extruded Isolated	AEIG
Copper Extruded Isolated	AEIGC
Copper Isolated/Bonded	ASPGIBC

THQB/THHQB/THQL/THHQL/TEY filler plates

Product Number
TQLFP1

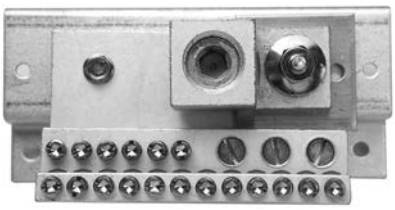
TED4/SE/FB filler plates

Product Number
TEDFP1

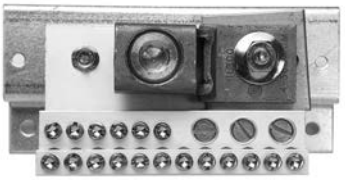
Breaker mounting[1] hardware kits

Description	Product Number
Breaker type TED/THED4/SE	ASPTED3P
Breaker type Formula A2	ASPA23P
Breaker type Tmax XT–for mounting 12 poles	ASPXT12P[2]
Breaker type Tmax XT–for mounting 3 poles	ASPXT3P[3]

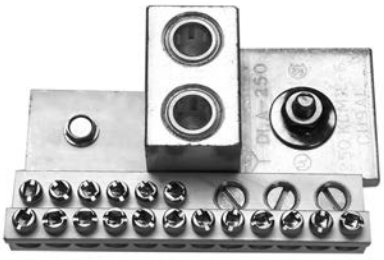
[1] Use to mount breaker in existing space.
[2] Includes mounting screws and washers only.
[3] Includes screws, washers and ReliaGear panelboard connectors.



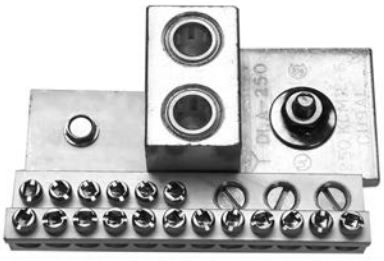
AEBG



AEBGC



AEIG



AEIGC

ASPGIBC

ReliaGear lighting panelboards

Accessories

Field installed kits/replacement parts

Order by product number from factory

Endwall kits

Field installed. For standard 20"w x 5.81"d boxes.

Product Number	Description	Qty.
ABEW2	Blank	1
AKEW2	Knockout	1

Panelboards parts

Description	Product Number
Directory Card	139C5612P3
Replacement Lock with Std. Key	569B737P1
Additional Keys for Above Lock	569B737P5
Circuit Numbering Strips - 1-48	569B806G1
49-84	569B806G2
85-126	569B806G3
Adhesive Backed Lamicoid Nameplate 3/4 in. x 3 in.	315A7190P1
Metal Directory Card Holder	139C5491G1
Directory Card Holder	139C5491P4
Delta Hi-leg Conversion Kit, to Add B-Phase Plug on RL Panels	APHBL
Bolt on RE/RQ Panels	APHBQ
NEMA 3R/12 Tamper Proof Tork Screw Kit	NEMATRX
AD 25 to 65 kAIC Barrier kit	ASP25AD65KA1
Service Entrance Kit	ASPSERENT
2 wire Relay Kit	ASP2WRelay
Yale Lock Kit	ASPYALE47
Corbin Lock Kit	ASPCORBNTEU1
Replacement Lock with GE75 Key	569B737P2
RQ/RL/RE Rail Bracket	ASPAQLEBKT
Front Flush Adjust Kit	ASPFLUSHADJ
RE Front Mounting Kit	139C5720G3
RQ/RL Front Mounting Kit	139C5720G6
AD Front Mounting Kit	139C5720G9
Front Hinge to Box Mounting Kit	139C5700G6
Front Extension Mounting Kit	139C5700G11

[1] Included in factory assembled panels—AD panels with Spectra branch breakers.

Permanent circuit number kits

Product Number		Description
RQ, RL, RE	AD	
APN48	APN48AD	No's 1-48
APN84	APN84AD	No's 43-84
APN126	APN126AD	No's 85-126

Replacement Lock with Standard Key – Black

Replacement Lock with ABB75 Key – Red

Box extensions

Bolts to ReliaGear box with or without box endwall in place. Extensions can be combined to obtain lengths greater than 18 and 24 inches.

Box Width and Depth	Box Mounting	Box Extension Length (Inches)	Box Extension Product Number
20 x 5.81	Flush	9	ABX2509F
		18	ABX2518F
		24	ABX2524F
	Surface	9	ABX2509S
		18	ABX2518S
		24	ABX2524S
		31	ABX2531S
		37	ABX2537S
		43	ABX2543S
		49	ABX2549S
		55	ABX2555S
		64	ABX2564S
		76	ABX2576S
30 x 5.81	Flush	18	ABX3518F
		24	ABX3524F
	Surface	18	ABX3518S
		24	ABX3524S
30 x 7.81	Flush	18	ABX3718F
		24	ABX3724F
	Surface	18	ABX3718S
		24	ABX3724S

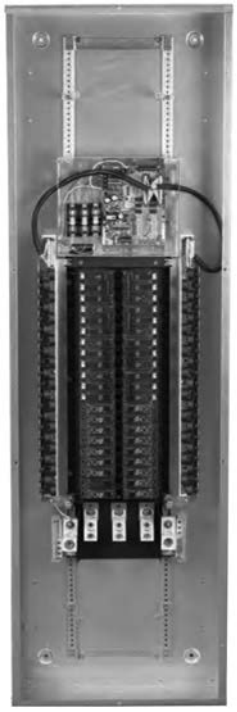
Box Extensions Covers Only

10 covers per kit.

Description	Product Number
9" Covers Surface	ASPABX09S
9" Covers Flush	ASPABX09F
18" Covers Surface	ASPABX18S
18" Covers Flush	ASPABX18F
64" to 76" Covers Surface	ASPABX20S
64" to 76" Covers Flush	ASPABX20F

ReliaGear lighting panelboards
Branch circuit monitoring

The Branch Circuit Monitoring (BCM) unit provides a cost-effective integrated solution for ReliaGear Lighting Panelboard power monitoring and submetering applications. With exceptional performance, the BCM unit monitors key electrical parameters of the main circuit and various branch circuits coming into the panelboard. This information can be transmitted via the RS-485 communication system in order to analyze usage and identify potential cost saving measures and improve load management. Offering IEC Class 1 revenue grade metering accuracy, the revenue grade BCM meter can be used for tenant billing and cost allocation.



Features

- Solutions up to 800A
- IEC Class 1 revenue grade metering accuracy
- Offers Solid Core or Split Core BCM selection process
- Monitor up to 50 panelboards on one RS-485 drop
- Reports volts, amps, power, and energy for each circuit
- Solid Core monitors 42 circuits (and optional mains)
- Split Core monitors up to 66 circuits (and optional mains) configurable alarm thresholds improve load management
- Ability to set the orientation and numbering of the circuits
- 1/4 to 125[1] Amp monitoring – the widest range available
- 1-, 2-, 3-pole breaker support
- 5-year warranty
- Modbus RTU via RS485 communications

[1] Must use Split Core BCM for 110A and 125A monitoring.
Solid Core available for 42 circuits only, 100A max.
Split Core available up to 66 circuits max. and up to 125A max.

References

1TQC213600Z0001 for additional information
empower for configuration/quotation purposes

ReliaGear lighting panelboards

AMP1 integrated power and energy

The AMP1 Power & Energy Meter provides a cost-effective integrated solution for ReliaGear Lighting panelboard power monitoring and submetering applications. With exceptional performance, the AMP1 monitors key electrical parameters of the main power coming into the panelboard. This information can then be transmitted to a building automation system (BAS), or similar system, to analyze usage and identify potential cost saving measures. Offering ANSI 12.20 0.5% accuracy, the revenue grade AMP1 meter can be used for tenant billing and cost allocation.

Features

- Solutions up to 800A
- Revenue Grade, ANSI 12.20 0.2% accuracy
- Monitors voltage, amperage, power, and energy
- Backlit LCD Display
- Data logging option to ensure data is still preserved locally
- Communicates via Modbus RTU or BACnet – Versatile and widely used protocols.
- User-enabled password protection
- UL-67 approved
- 5-Year warranty
- Earn points towards LEED Certification

Meter

Type	Product Number
Pulse	AMP1B1
Modbus	AMP1C2
Modbus & data logger	AMP1C3
Bacnet & data logger	AMP1H5

ReliaGear lighting panelboard ratings & capabilities

	TYPE RQ	TYPE RE	TYPE RS
Max Voltage	240V	480Y/277V, 125/250 Vdc	480Y/277V, 125/250 Vdc
Max Amperage	800A	800A	800A
Fully Rated	65kAIC at 240V	18kAIC at 480Y/277V, 65kAIC at 240V	65kAIC at 480Y/277V, 100kAIC at 240V
Series Rated	200kAIC at 240V	100kAIC at 480V	100kAIC at 480V
Main Lug	600 Amp Max	600 Amp Max	600 Amp Max
Main Breakers	THQB, TEY, XT1, XT4, XT5, XT6	TEY, TEYF, XT1, XT4, XT5, XT6	TEYD/H/L, XT1, XT4, XT5, XT6
Branch Breakers	15A-100A, 1P, 2P, 3P THQB	15A-100A, 1P, 2P, 3P TEY or TEYF	15A-125A, 1P, 2P, 3P TEYD/H/L

Optional accessories

To add an AMP1 meter to an existing/non-metering panel, enclosure, CTs and fuse kit can be ordered separately.

Current transformer[1]

Amp Rating	Product Number
100	AMP1V100A
200	AMP1V200A
300	AMP1V300A
400	AMP1V400A
600	AMP1V600A
800	AMP1V800A
1000	AMP1V1000A
1200	AMP1V1200A
2000	AMP1V2000A

[1] Qty 3 per meter required for three pole breaker applications; qty 2 per meter required for two pole breaker applications.

Enclosure[2]

AMP1N4

Fuse Kit[3]

AMP1FUSE

[2] Qty 1 per meter required.

[3] Qty 1 per meter required.

ReliaGear lighting panelboards

Title 24 solutions

California's Title 24, Part 6, Building Energy Efficiency Standards, §130.5(b) requires electrical systems are to be arranged to allow metering of electrical loads by load type or other classifications. While the meters themselves do not need to be installed, electrical equipment that is an intended location for this metering must be able to allow future current and voltage sensing. Section 130.5(b) applies to new electrical system installations or when complete electrical systems are replaced. The requirement does not apply to modifications made in existing electrical systems, such as adding a new breaker to an electrical panel

Branch Circuit Monitoring (BCM) upgradable panels are a practical, cost effective way to meet Title 24 Part 6 §130.5(b) requirements. This method provides freedom to place branch devices anywhere in a panel regardless of load type. This means that panels can be installed with less labor since there is no further time dedicated to validating the construction of a complex layout.

Branch Circuit Monitoring (BCM) upgradable panelboards allow the ability to meter each branch circuit individually without the complexity and cost of physically grouping similar branch devices together within the panel. Title 24 compliance can be attained with BCM upgradable panels no matter where a branch device is located in the panel, provided a single load type is wired per branch. The BCM upgradable panelboards provide more installation flexibility and better density per panel than disaggregated load monitoring. The field upgrade kit can be installed after the panel is commissioned. The kit includes a meter and split core CTs. BCM upgradable panels retain density and flexibility when adding additional branch devices regardless if metering has been implemented.

Split bus panels are another cost-effective solution for disaggregating multiple type of loads that can be metered separately in the future using additive/subtractive current transformer wiring techniques. Up to seven sections can be configured in the panel, with space in between each section for future CTs. The quantity of the branches in each section is flexible and can be any multiple of six 1-pole branches. The accurate and inexpensive AMP1 meter can be used for the future metering, which must be separately mounted.

Features

- Solutions up to 800A
- Offers 3 solutions: BCM upgradable panels, field upgrade kits or split bus panels
- 1, 2, 3 pole breaker support

Notes