EXTERNAL

MARCH 2025

ReliaGear®Lighting Panelboards

Sales Presentation: Experience XTreme performance

Document ID.: 1SXU999050N0201 Rev.:

ReliaGear® lighting panelboards

Overview
- XTra Value
- Channels
- Application

Product
- Common features by panel type
- Key components: Circuit breakers, trip units, accessories

Product
- Door options and locks
- Enclosures
- Optional panel features
- BCM, RGM40 & more

Resources
- Technical documents

Product

ReliaGear® Lighting Panelboards

XTra values

Easy to Install

Greater Versatility

Design Flexibility

Automated Logistics

With XTreme performance you will receive greater versatility & flexibility design that is smart, safe, sustainable

ReliaGear® lighting panelboards

XTra value for every audience

Contractors

- Modular and versatile design helps speed installation and reduces labor costs
- Advanced level of customization
- Continuity of service and equipment protection at all times

Distributors

- Same-day availability
- Exceptional lead times offer a competitive advantage to projects where time is critical
- Empower enables product configuration, drawings submit detailed quotes and order entry at any time

OEMs and panel builders

- Ease of installation
- Availability
- Commonality
- Functionality and XTreme performance

Consultants and end users

- Sustainable, safer, smarter technology
- Backed by a long history of success and innovation.
- Highly skilled and experienced engineers at your service to support you before, during, and beyond the product life cycle.

ReliaGear® Lighting Panelboards

Applications

Commercial

- Building renovation
- Schools
- Retail expansions

Industrial

- Warehouse expansion
- Manufacturing renovations
- Machine and equipment power distribution

Clean Energy

- EV Charging Station
- Solar Power Systems
- Battery Energy Storage Systems

Semiconductor

- Cleanroom lighting
- Equipment illumination
- UPS power integration

Data Center

- Emergency lighting
- Security and surveillance
- Redundancy

Transportation

- Airport additions
- Road infrastructure (public transit, traffic control)
- Railway power distribution

Product

ReliaGear® lighting panelboards

The smart choice to deliver XTreme performance

Product overview

Factory assembled on rigid steel frames and equipped with circuit breakers from 15 A to 800 A.

The maximum short circuit rating is equal to 100 kAIC at 240 V AC and 480/277 V AC with series rating of 100 kAIC at 480 V AC and 200 kAIC at 240 V AC.

Feed location: Top or bottom

Incoming type: Main lug only (MLO), main circuit breaker (MCB, either vertically or horizontally mounted) and with feed-through lugs or sub-feed breakers

Busbar ratings: 125 A, 225 A, 250 A, 400 A, 600 A, 800 A

Busbar material: Bare, silver-plated or tin-plated copper, tin-plated aluminum, heat-rated or density-rated (fully)

*At a certain length of branch fill panels are copper bus vs aluminum bus because we do not have aluminum bus available at lengths equal to or greater than 42 inches. To be clear 42 inch bus does not mean 42 circuits. We can do panels up to 78 circuits with 42 inch aluminum bus.

ReliaGear® lighting panelboards

Versatility that impresses

Product overview for RQ, RL, RE & RS

All ReliaGear® lighting panelboards have dual mounted feeders or single mounted subfeeds. The maximum ampacity of the breakers selected will determine the width of the panelboard needed.

ReliaGear® lighting panelboards can be used on the following system voltages:

- 120/240 V AC; 1-phase, 3-wire
- 125/250 V DC
- 240 V AC; 3-phase, 3-wire
- 240/120V AC; 3-phase, 4 wire (B-phase hi leg)
- 480 V AC; 3-phase, 3-wire
- 208Y/120 V AC; 3-phase, 4-wire
- 480Y/277 V AC; 3-phase, 4-wire

Standards & certifications

- 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
- CSA 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.

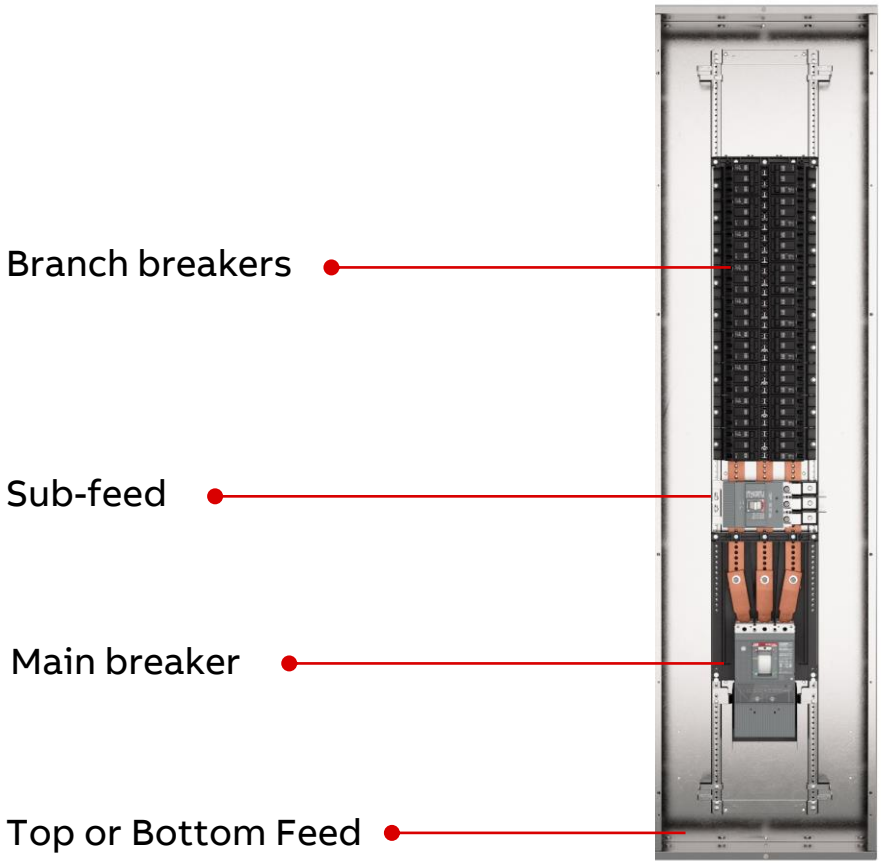
  Class 1—Panelboards

  Class 2—Load centers.

  Molded case circuit breakers, WC-375B/GEN

ReliaGear® lighting panelboards

Common features and options available



Reliagear® Lighting panelboards available in:

- RQ
- RL
- RE
- RS
- RD

Note:
The position of the breakers may vary depending on the type of lighting panelboard.

Choosing the right panel

Experience XTreme performance

RQ 240 V max., 1- or 3-phase

RL 240 V max., 1- or 3-phase

RE/RS 480Y/277 V max., 3-phase

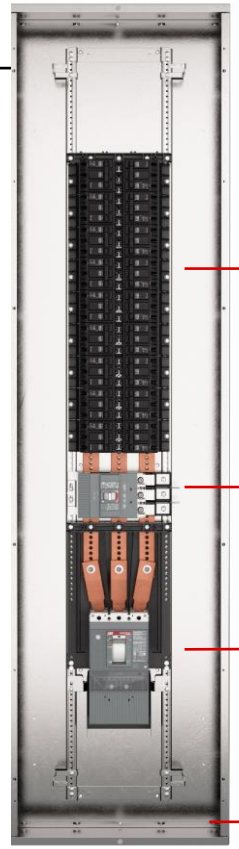
RD 600V max., 3-phase 3 wire & 4 wire

ReliaGear® lighting panelboards

Products in detail

RQ

- 240 V max., 1- or 3-phase
- 125–800 A
- RQ: Bolt-on THQB breakers
- GFCI/GFEP up to 60A 2P
- 65 kAIC at 240 V
- 200A THQB Mounting strap option



THQB branch breakers

Horizontal mounted
Formula A2 sub-feed
Formula A2 TMF

Vertical main breaker
Tmax XT5
Tmax Trip Unit TMA

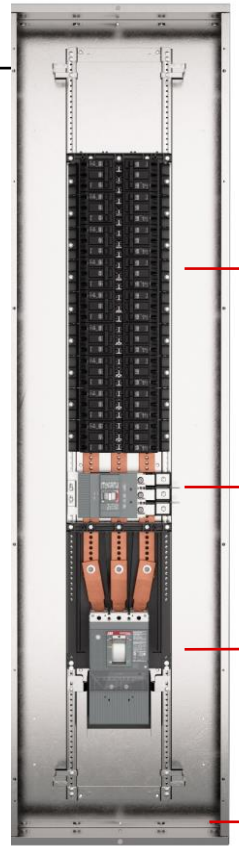
Bottom Feed

ReliaGear lighting panelboards

Products in detail

RL

- 240 V max., 1- or 3-phase
- 125–800 A; 10–22 kAIC
- RL: Plug-in THQL breakers
- GFCI/GFEP up to 60A 2P
- 180A strap kit



THQL branch breakers

Horizontal mounted
Formula A2 sub-feed
Formula A2 TMF

Vertical main breaker
Tmax XT5
Tmax Trip Unit TMA

Bottom Feed

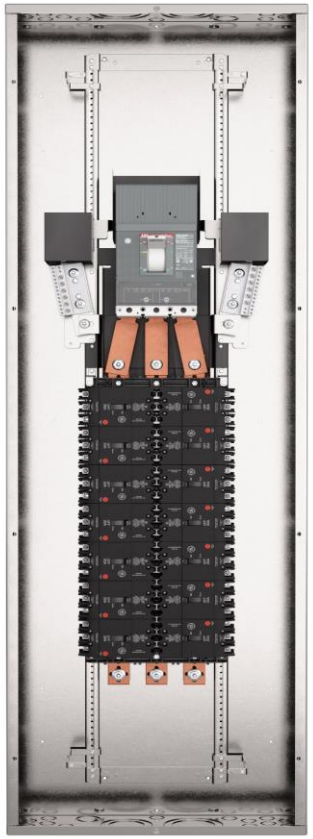
ReliaGear® lighting panelboards

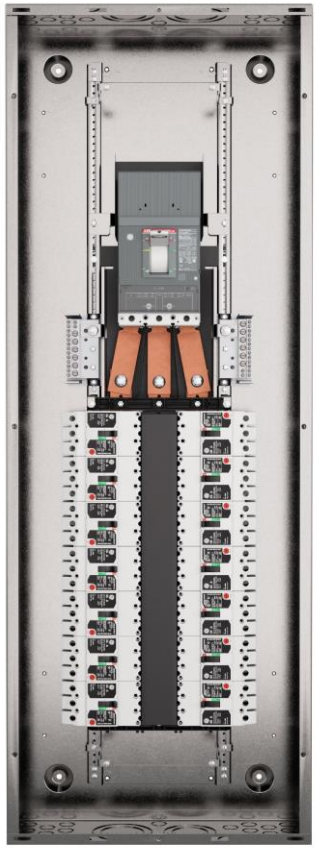
Products in detail

RE

- 480Y/277 V max., 3-phase
- 125–800 A
- 18 kAIC at 480Y/277 V;
  65 kAIC at 240 V

  18 kAIC at 250V DC
- Bolt-on TEY(F) breakers
- Main lugs 125-800A up to 250VDC &
  Main breaker 125A at 250VDC max
- Max branch breakers 100A
- No GFCI circuits available
  - Solutions available for field installed ground fault relays





RS

- 480Y/277 V max., 3-phase
- 125–800 A
- 100 kAIC at 240 V;
  65 kAIC at 480 V

  18kAIC at 250V DC
- Bolt-on TEY(D/H/L) breakers
- Main lugs 125-800A up to 250VDC & Main breaker 125A at 250VDC max
- Max branch breakers 125A
- No GFCI circuits available
  - Solutions available for field installed ground fault relays

ReliaGear® lighting panelboards

Products in detail

RD

- 600 V max., 1- or 3-phase
- 125–600 A
- RQ: Bolt-on FB breakers
- 600Y/347 V AC
- 42 kAIC at 600Y/347 V AC and 42 kAIC 480/277
- XT2 subfeeds

Top Feed Vertical main breaker

Horizontal mounted
XT2 Breakers
Bolt on FB Breakers TMF

Formula A2 & Tmax XT circuit breakers

Main and sub-feed breakers

New CB generation in mains & subfeeds for RQ, RL, RE & RS

SACE® Tmax® XT, FORMULA A2, and legacy GE circuit breakers

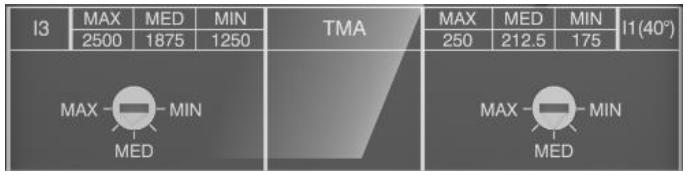
			FORMULA A2	Tmax XT1	Tmax XT4	Tmax XT5	Tmax XT6
Frame size		(A)	225	125	250	400 and 600	800
Poles			2, 3	3[1]	3[1]	3[1]	3[1]
Amperage		(A)	125–225	15–125	25–250	250–600	600–800
Max. rated voltage		(V)	240	480	600	600	600
Trip units			Thermal magnetic fixed (TMF)	Thermal magnetic fixed (TMF)	Thermal magnetic fixed (TMF)	Thermal magnetic adjustable (TMA)	Thermal magnetic adjustable (TMA)
					Ekip Dip LSI	Ekip Dip LSI	Ekip Dip LSI
					Ekip Hi-Touch	Ekip Hi-Touch	
Max. interrupting rating	240 V AC	(kA)	10	100[3]	200[3]	200[3]	100[3]
	480 V AC		–	65	100	65	50

[1] 3-pole can be used in a 2-pole application
[2] 1-pole rated 15–70 A
[3] ReliaGear lighting panelboard is rated up to 65 kAIC.

– All circuit breakers are standard, 80% rated

Tmax XT trip unit

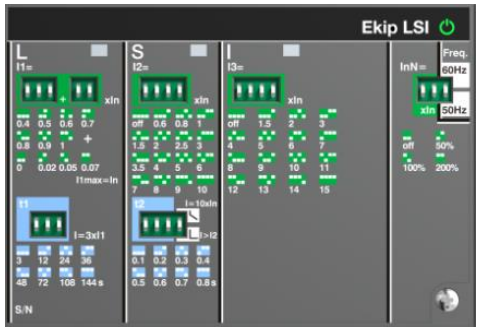
Thermo-Mag trip



TMF: Thermo-Mag Fixed: No Adjustments Possible

TMA: Thermo-Mag Adjustable: Adjustable Thermal (L) & Magnetic (I)

Ekip Dip



LSI: Adjustable L, S, and I

Ekip Hi-Touch

LSI: Adjustable L, S and I

1. Via Dip Switch Setting, S or I protection is selected as adjustable, the protection not selected as adjustable is set to a predetermined, fixed value

Molded case circuit breakers

Mains, sub-feeds & branch breakers

Confidence for a lifetime in RQ, RL, RE & RS

We have combined the best technology of ABB and GE Industrial Solutions to bring you a true breakthrough in lighting panels

			THQB (bolt-on) THQL (plug-on)	THHQB (bolt-on) THHQL (plug-on)	TEY	TEYF	TEYD	TEYH	TEYL
Frame size		(A)	100	100	100	100	100	100	100
Poles			1, 2, 3	1, 2, 3	1†,2, 3	1†, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3
Amperage		(A)	15–100**	15–100**	15–100	15–100‡	15–125**	15–125**	15–125**
Max. related voltage		(V)	240	240	480	480	480	480	480
Trip units			Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Max. interrupting rating	240 V AC	(kA)	10	22	65	65	65	65	100
	480 V AC		–	–	14	18	25	35	65

*3-pole can be used in a 2-pole application
**1-pole rated 15–70 A
‡1-pole rated 15–60 A
†1-pole max. (kA) 14

Molded case circuit breakers

Branch breakers for RD panelboards

Optional features
For Tmax XT2 ekip Hi-Touch

- Tmax XT ekip Hi-touch branch breakers can be field upgraded to communicate with ABB Ability
- Advanced functionality with voltage protection and frequency protection.
- Adaptive protection, data network logger, network analyzer
- LCD screen to interface with breaker
- ABB Connect mobile app to interface with breaker via bluetooth

Branch circuit breakers

		FB	XT2
Frame size	(A)	100	125
Poles		1, 2	3
Amperage	(A)	15-100A	15-125A
Trip units		TMF	TMF ekip DIP ekip Hi-Touch
Max rated voltage	240	220A double branch	220A double branch
	480		
Max. interrupting rating (kA)	240	200	(XT2L)
	480	150	150 (XT2V)
	600Y/347V	42	42 (XT2V)
	600V	N/A	42 (XT2V)

[1]The panel is limited to 42kAIC at 240V, 480 and 600V.

Molded Case Circuit Breakers

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
XT6 (750MCM)	3	1SDA115968R1	2	500kcmil - 750 kcmil[3]
XT5	3	1SDA113066R1	2	Cu Al 2x2/0AWG-500kcmil
XT5 (750MCM)	3	1SDA115948R1	2	500kcmil - 750 kcmil[3]
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

[3]The lug kit will come with 2 sets of cable set screws. One is for 600 MCM and smaller cable and the other is for cable greater than 600 MCM. Follow the instructions that are included with the kit. If you are upgrading the existing lugs to the 750 MCM lugs, the customer, AHJ (authority having jurisdiction) and/or inspector will need to make sure the panel is compliant with NEC and UL cable bending space. ABB is not responsible for the addition of these lugs in existing panels.

Main Lugs

Mechanical or compression

Main lugs are rated for both AL and CU

Lug type: Mechanical

Amps	00	Incoming/quantity/phase	Cable size	Feed-thru: quantity/phase	Cable size	Min enclosure width
125	single	1	#14-2/0	1	#14-2/0	
	dual	2		N/A	N/A	
225	single	1	#6-350	1	#6-350	
	dual	2		N/A	N/A	
400	single	1	#4-600	1	#4-600	
		1 lug/ 2 wires	1/0-250	1 lug/ 2 wires	1/0-250	
	dual	2	#4-600	N/A	N/A	
		2/4 wires	1/0-250	N/A	N/A	
600	single	1	(2) 2/0-500	1	(2) 2/0-500	
	dual	2		N/A	N/A	20"
800	single	2	(3)2/0-500	2	(3) 2/0-500	
	dual	N/A	N/A	N/A	N/A	30"

Lug type: Compression

Amps	00	Incoming/quantity/phase	Cable size	Feed-thru: quantity/phase	Cable size	Min enclosure width
125	single	1	#1-2/0	1	#1-2/0	
	dual	2		N/A	N/A	
225	single	1	2/0-300	1	2/0-300	
	dual	2		N/A	N/A	
400	single	1	250-600	1	250-600	
	dual	2		N/A	N/A	
600	single	2	4/0-500	2	4/0-500	
	dual	N/A	N/A	N/A	N/A	20"
800	single	N/A	N/A	N/A	N/A	
	dual	N/A	N/A	N/A	N/A	30"

ReliaGear® NEMA enclosures

Experience XTreme performance

NEMA environmental enclosure types

Available environmental enclosure types:
NEMA 1 | NEMA 3R | NEMA 4/4X | NEMA 12

- 30" wide options for increased access to gutter space
- Blank end walls are standard; end walls with knockouts available as an option
- NEMA 4/4X/12 enclosures made of 316 stainless steel or painted galvaneal for harsh indoor/outdoor conditions (corrosion-resistant, water-tight and dust-proof)
- Optional locks, Yale, Best or Corbin, corrosion-resistant, catch and locking door latch offering (doors over 55" and higher provide two latches as shown)
- Optional field-installable metal directory frames available

ReliaGear NEMA enclosures

Single- and 3-point catch latch

NEMA 3R/4/4x/12

Nema 4 SS enclosures and fronts are 316 grade stainless steel

NEMA 3R enclosure
All include a 3 point catch as shown

NEMA 4/4X/12 enclosures 31" and smaller have a single point latch
NEMA 4/4X/12 enclosures 37" and taller will have (2) single point latches as shown

ReliaGear® lighting panelboards

Door options for NEMA 1 enclosures

Standard

Front Hinge to Box

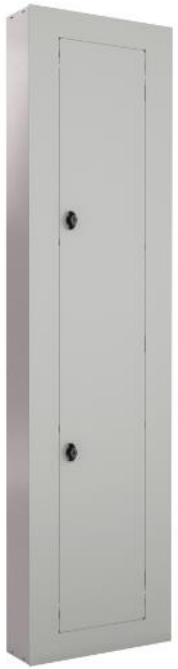
Door-in-door

ReliaGear® lighting panelboards

Standard door offerings for XT5 and XT6 applications & Stainless-Steel Offering

Standard

Standard front for XT5 & XT6 applications with quarter turn lock



Front Accessories

Stainless steel fronts available in empower

Locks (on the different offerings)

Flush lock / part/ picture (purchased externally and mounted in the field)

ReliaGear® lighting panelboards

Lock options & devices

Panelboard locks & devices for NEMA 1 enclosures

Panelboard locks

Description	Product Number
T-Handle Quarter Turn Kit[1]	ASPQTRT
Flush Quarter Turn Kit[1]	ASPQTRK
Replacement Lock with Std. Key	569B737P1
Additional Keys for Above Lock	569B737P5
Yale Lock Kit	ASPYALE47
Corbin Lock Kit	ASPCORBNTEU1
Replacement Lock with ABB75 Key	569B737P2

[1] The quarter turn kits are only compatible with factory-built quarter turn fronts. They cannot be used to convert other locks (standard, Corbin, etc.) to quarter turn. Keys are interchangeable with standard, Corbin, etc.

T-Handle Quarter Turn Kit

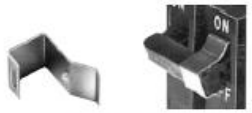
Replacement Lock with Standard Key – Black

Corbin Lock

Replacement Lock with ABB75 Key – Red

Fixed padlock in the open position – PLL

Padlock in the open position – PLC



Handle locking THL103

Locking devices

Frame Style	Description	Product Number
Padlocking Device (single padlock)		
Q	THQB, THHQB, THQL, THHQL	THP100
E	TEY	TEYPLD1
Formula	Formula A2 3 pole	KA2LD
Formula	Formua A2 2 pole	KA2LDOR
Tmax XT	XT1	KXTBPLLOPCL
Tmax XT	XT2 and XT4	KXTCPLLOPCL
Tmax XT	XT5	KXT5PLLOPLC
Tmax XT	XT6	KXT6PLLOPLC
Handle Locking (nonpadlocking)		
Q	THQB, THHQB, THL, THHQL	THL103
E	TEY	TEYLD1
Q/E	Filler plate for Q and TEY breakers	TQLFP1
	Safety catch for trough covers	ACHK
	Gasketing Kit	AGSK

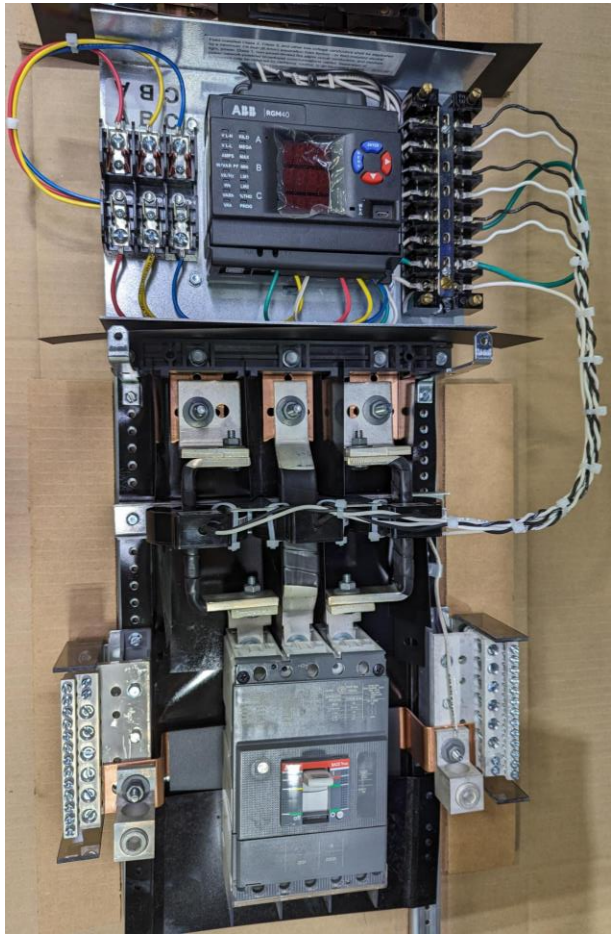
RGM40 Main Meter

Accurate and reliable measurements for many applications

- 0.2% class revenue certifiable energy and demand metering
  - Meets ANSI C12.20 0.2 CL and IEC 62053-22 0.2S classes
- Multifunction measurement including voltage, current, power, frequency, energy, etc.
- Stores up to 2048 power quality event logs
- Easy commissioning and faster startups via Micro USB port
- LED display for high visibility
- Easily configure parameters and change settings with intuitive local control

Communication options:

- - Serial Modbus ASCII/RTU, DNP3 (RS485)
- - 10/100BaseT Ethernet Modbus TCP/IP
- (INP10 option)
- 10/100BaseT BACnet/IP (INP10B option)



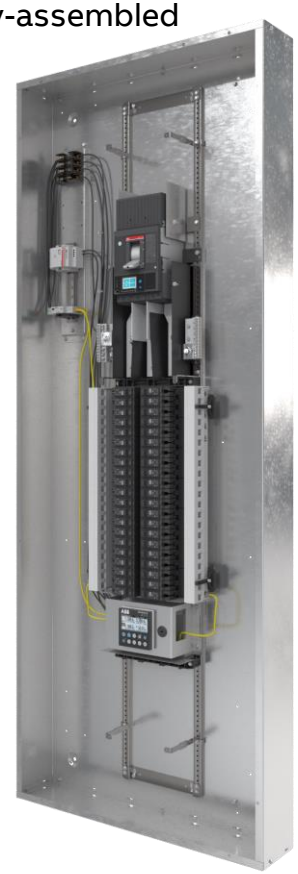
Revenue Grade Branch Circuit Monitoring

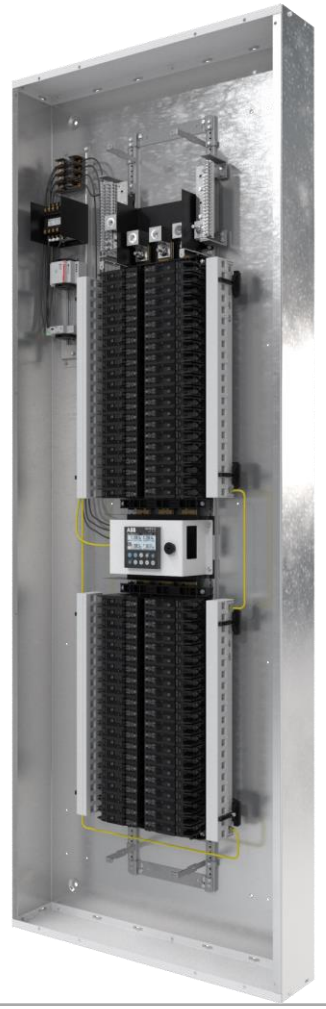
Summary

The ReliaGear® Lighting panel branch circuit monitoring combines the meters, local display, current transformers, communications and overload protection into a single module that mounts inside a UL Listed factory-assembled panel.

Technical Specifications

- Standards: IEC 61557-12 , Title 24, ASHRAE 90.1, UL 61010 and ANSI C12.20
- Revenue grade accuracy (ANSI C12.20 0.5%)
- Measures either 42 or 84 ckt panels
- +120A Max branch TEY/THQ breakers
- +Encapsulated solid core CT strips installed by the factory
- Measurements for:
  - Voltage
  - Amperage
  - Power factor
  - Frequency
  - +Power quality
  - Harmonic analysis
  - And more (See brochure)
- +Local display Captive touch screen technology
- +Included startup software
- +Ships fully assembled from factory
- Configurable alarms
- Modbus RTU (2-wire RS485)
- +Modbus TCP, Bacnet IP (Ethernet RJ45 10/100 Mbs).





ReliaGear® lighting panelboards

Split bus configurations

Split Bus Lighting Panelboards

Incoming type:

Lighting contactor, main lug or main breaker

Panelboard selections

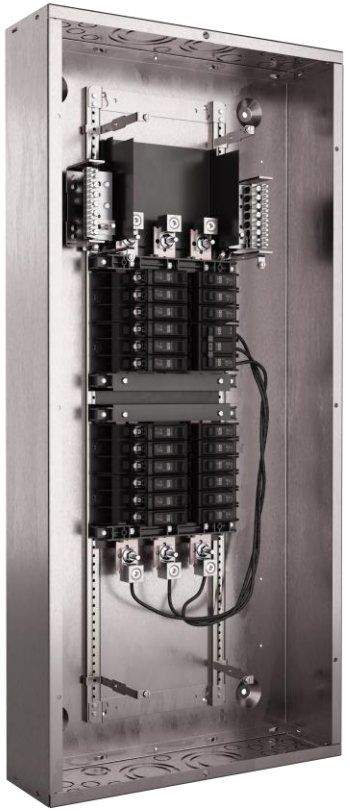
- RQ/RL up to 225A main breaker or main lug, max 22 KAIC at 240V
- RE up to 125A main breaker or 225A main lug, max 18 KAIC at 480V

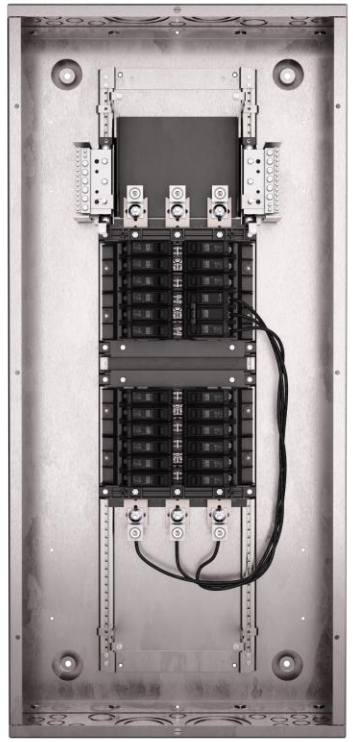
Main breakers:

Formula A2, XT1, THQB, TEY, TEY(D/H/L) Feeders: THQB, TEY

Sub-feeds:

Formula A2, THQB, TEY, TEY(D/H/L) TED, XT1 Max rating of 22 KAIC at 240V and 208/120V and 18 KAIC @480V.





Basic Components

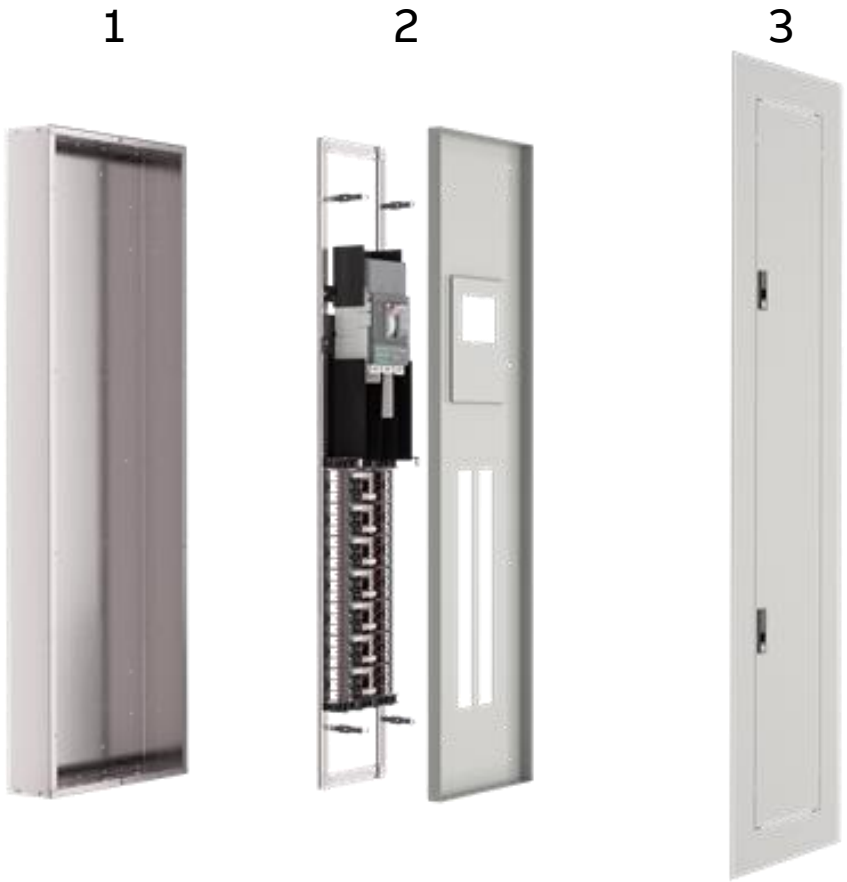
Sold in and shipped in three-line items

1 **ENCLOSURE**: Protective metal box for interior.

2 **INTERIOR**: Side rails, bus bars & insulation system.

3 **DEAD FRONT/SHIELD**: Metal protective shield for interior.

TRIM / FRONT: Metal pieces used to seal enclosure.

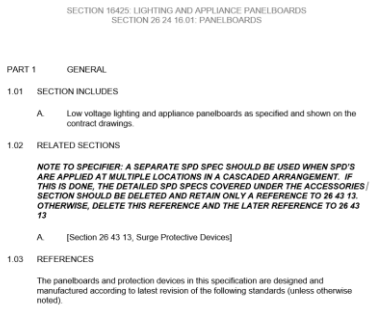


Technical toolkit

ReliaGear® lighting panelboards

Resources

CSI Specification



SECTION 16425: LIGHTING AND APPLIANCE PANELBOARDS
SECTION 26 24 16.01: PANELBOARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Low voltage lighting and appliance panelboards as specified and shown on the contract drawings.

1.02 RELATED SECTIONS

NOTE TO SPECIFIER: A SEPARATE SPD SPEC SHOULD BE USED WHEN SPD'S ARE APPLIED AT MULTIPLE LOCATIONS IN A CASCADED ARRANGEMENT. IF THIS IS DONE, THE DETAILED SPD SPECS COVERED UNDER THE ACCESSORIES SECTION SHOULD BE DELETED AND RETAIN ONLY A REFERENCE TO 26 43 13. OTHERWISE, DELETE THIS REFERENCE AND THE LATER REFERENCE TO 26 43 13

A. [Section 26 43 13, Surge Protective Devices]

1.03 REFERENCES

The panelboards and protection devices in this specification are designed and manufactured according to latest revision of the following standards (unless otherwise noted).

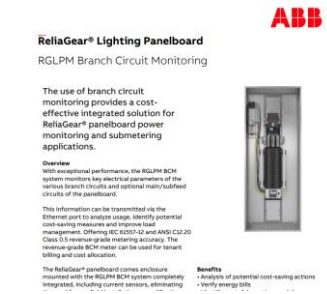
BuyLog

ABB

Panelboards

Application guides RE/RS & RQ/RL

Branch Circuit Monitoring



ABB

ReliaGear® Lighting Panelboard

RGLPM Branch Circuit Monitoring

The use of branch circuit monitoring provides a cost-effective integrated solution for ReliaGear® panelboard power monitoring and submetering applications.

Overview

Benefits

ReliaGear® Lighting Panel Brochure

Choosing the right panelboard

RGM40 Main Meter

ABB RGM40


ABB