

03/27/2024

Switchboard Delivery Options

Dennis Balickie – Sr. Field Applications Engineer

Meeting our customer's needs for delivery and price of switchboards is key these days.

Having options provides the flexibility to meet those needs.

Let's start with **WHY**

Why are we proposing Various Cycle options?

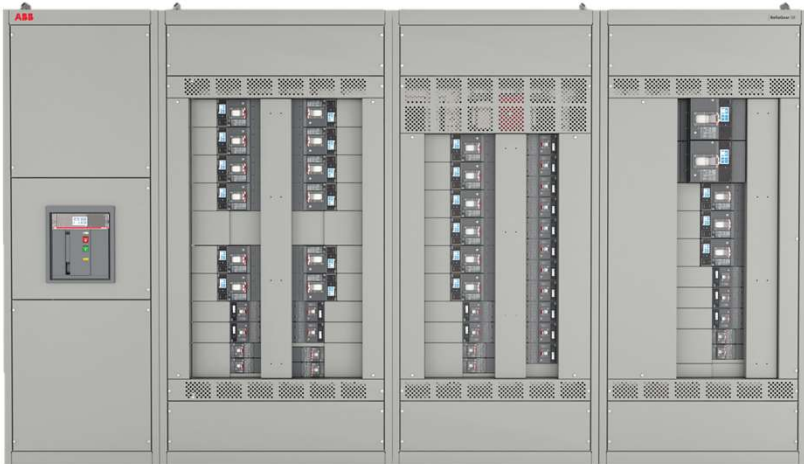
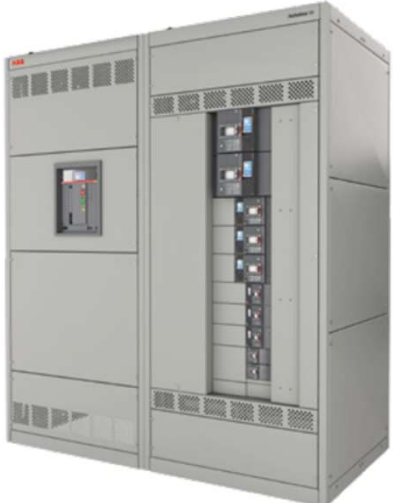


- Switchboards lead times spiked up in the last 18 months and are now about 3x of the standard historical Lead times
- There is a need for a reduced lead time Switchboard offering
- We have been successful with the *On-Demand* program
- Many customers are now open to “standard solutions” and/or are willing to pay a premium for faster delivery as the market demand keeps growing
- From a manufacturing standpoint, we want to drive a certain standardization in order to improve our execution and free up engineering resources to work on our equipment backlog

ReliaGear® SB - OVERVIEW

Equipment Offerings

Overview of the Switchboard OFFERINGS



On Demand

EXcelerate

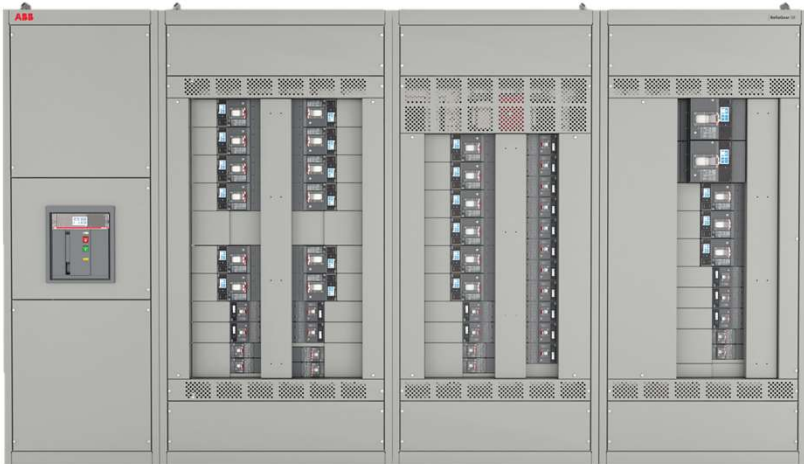
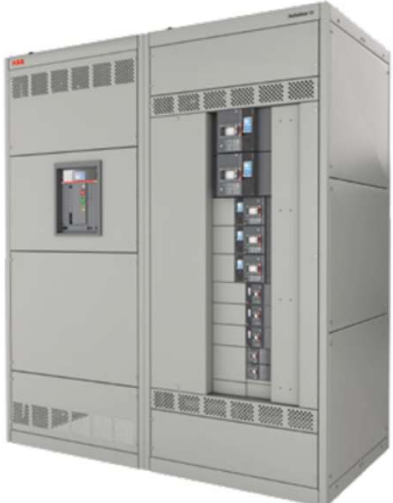
Mid-Cycle

Normal

Program	Switchboard On Demand Emergency	Switchboard On Demand Mid Cycle	Reliagear SB - EXcelerate (CTO)	Reliagear SB - Standard SB - Mid Cycle	Reliagear SB - Standard SB - Normal	Reliagear SB - Standard SB - Normal +
Lead time before PFA	2-3 weeks	10 weeks	20 weeks	30 weeks	40 weeks	45 weeks
PFA (if needed)	not required	not required	not required	6 weeks	8 weeks	8 weeks
Type	SKU	SKU	Configured to Order	Engineered to Order	Engineered to Order	Engineered to Order
Number of configurations available	7	7	~3,200	Over 250K	Over 1M	Over 1M
Max Current	4,000	4,000	4,000	4,000	6,000	6,000
Enclosure options	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R
Interrupting Rating	100kAIC	100kAIC	65/100kAIC	Up to 150kAIC^	Up to 150kAIC^	Up to 150kAIC^
Price	Market \$\$\$	Market \$\$	Market \$	Market	Market	Market to Market \$

ReliaGear® SB – **On-Demand** Equipment Offerings

Overview of the Switchboard OFFERINGS



On Demand

EXcelerate

Mid-Cycle

Normal

	Switchboard On Demand Emergency	Switchboard On Demand Mid Cycle	Reliagear SB - EXcelerate (CTO)	Reliagear SB - Standard SB - Mid Cycle	Reliagear SB - Standard SB - Normal	Reliagear SB - Standard SB - Normal +
Program						
Lead time before PFA	2-3 weeks	10 weeks	20 weeks	30 weeks	40 weeks	45 weeks
PFA (if needed)	not required	not required	not required	6 weeks	8 weeks	8 weeks
Type	SKU	SKU	Configured to Order	Engineered to Order	Engineered to Order	Engineered to Order
Number of configurations available	7	7	~3,200	Over 250K	Over 1M	Over 1M
Max Current	4,000	4,000	4,000	4,000	6,000	6,000
Enclosure options	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R
Interrupting Rating	100kAIC	100kAIC	65/100kAIC	Up to 150kAIC^	Up to 150kAIC^	Up to 150kAIC^
Price	Market \$\$\$	Market \$\$	Market \$	Market	Market	Market to Market \$

On Demand - Overview

- Onsite delivery in two to three weeks
- Seven preconfigured designs with flexible breaker settings
- Catalog number driven units for easy ordering
- Optional 10-week cycle shipping at a reduced-price



On Demand - Features

- Main bus is **copper** rated 2000A or 4000A
- Fully rated bus with provisions for future extension
- 277/480VAC maximum @ **100kAIC**
- Emax2/Ekip Touch Main breaker with **LSIG and RELT**
- Front and rear alignment for splicing sections
- Front access only with hinged doors and gutters
- NEMA Type 1 and **NEMA Type 3R NWI** enclosure
- Multifunction digital **main meters** are provided
- Feeder breakers feature digital Ekip **LSI trip units** for maximum flexibility
- ReliaGear plug-in panel type for easy breaker and/or component installation
- Units are **manufactured and stored at the factory**



On Demand - Offerings

Offers SEVEN pre-configured ReliaGear SB designs by Catalog Number

- Indoor ReliaGear SB 2000A main and feeder section
- Indoor ReliaGear SB 2000A add-on feeder section
- Indoor ReliaGear SB 4000A main and feeder section
- Indoor ReliaGear SB 4000A add-on feeder section
- Outdoor ReliaGear SB 2000A main and feeder section
- Outdoor ReliaGear SB 4000A main and feeder section
- Outdoor ReliaGear SB 4000A add-on feeder section



On Demand - Documentation

ABB

DESCRIPTIVE BULLETIN
ReliaGear® SB switchboard
On Demand program

DESCRIPTIVE BULLETIN
ReliaGear® SB 2000 A
Catalog# SWBSTS20E (2-week cycle)
SWBSTS20E-M (10-week cycle)

DESCRIPTIVE BULLETIN
ReliaGear® SB 4000 A
Catalog# SWBSTS40E (2-week cycle)
SWBSTS40E-M (10-week cycle)

DESCRIPTIVE BULLETIN
ReliaGear® SB 2000 A — NEMA 3R
Catalog# SWBSTS20EN3R (2-week cycle)
SWBSTS20EN3R-M (10-week cycle)

16-page brochure

[ReliaGear SB switchboard On Demand program \(abb.com\)](http://abb.com)

- Onsite delivery in just two weeks
- Seven pre-configured designs with flexible breaker settings
- catalog number driven for easy ordering
- Reduce project cycle times

On Demand – Configurations

DESCRIPTIVE BULLETIN

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ReliaGear® SB 2000 A

Catalog# SWBSTS20E (2-week cycle)

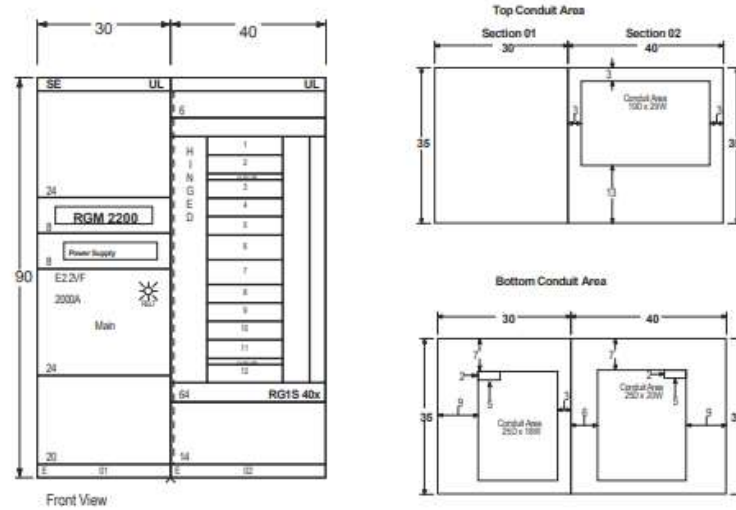
SWBSTS20E-M (10-week cycle)

ReliaGear® SB
switchboard

ACCESS TO Front Only	PHASE	3P4W
CLASS 2	AMPERE	2000
LABEL U/L SE	BUS MFL Cu 1000A / in ²	
VOLTAGE 480Y/277V	PLATE	Silver Plate
STYLE ReliaGear	RATING	Fully
BUS BRACING RMS 57M		10000A
DEV. MIN. INT. RATING RMS 57M		10000A
Total Line Up Width	75	

Feeders

- 8 - XT4 250 A (dial down to 100 A)
- 2 - XT5 600 A (dial down to 240 A)
- 2 - XT4 Spaces (future expansion)



Circuit No.	Device	Amps	Poles	Nameplates	Lugs	Notes
1	XT4L250	100	3	(Space and Bus)	Al (1) #4 - 300 MCM Cu Cbl	11, 12, 13, 14, 15
2	XT4L250	100	3	(Space and Bus)	Al (1) #4 - 300 MCM Cu Cbl	7
3	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
4	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
5	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
6	XT5L600	600	3		Al (2) 2/0 - 500 MCM Cu Cbl	6
7	XT5L600	600	3		Al (2) 2/0 - 500 MCM Cu Cbl	6
8	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
9	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
10	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
11	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
12	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6

- NOTES:
- Copper ground bus furnished.
 - Equipment ground bus furnished with lugs.
 - Switchboard furnished with Nameplates.
 - Shipping splits between each section, ship each section separately.
 - RGM 2200 Meter Modbus RS485 + Pulse installed in Switchboard. See drawing SWBSTS20EWD.
 - Switchboard furnished with hinged gutter covers.
 - Switchboard furnished with fully rated panel.
 - Device furnished with EKIP DIP (LSI) programmer.
 - Device furnished with TMA programmer.
 - Provision For Future Extension.
 - Device is furnished with 24V - 48V DC Ekip Supply.
 - Device is furnished with 250V Bell Alarm.
 - Device is furnished with RELT-Ekip Signalling 2K3 module. See drawing SWBSTS20EWD.
 - Device furnished with 400V (4Q) Auxiliary Contacts.
 - Device furnished with EKIP Touch LSIQ trip unit.
 - Equipment is furnished to work with 480/277 V and 208/120V. See drawing SWBSTS20EWD to select the operating voltage. Control circuit is unplugged, customer is responsible to connect the correct voltage source.

8

RELIAGEAR® SB SWITCHBOARD ON DEMAND PROGRAM

ReliaGear® SB 2000 A add-on feeder section*

Catalog# SWBSTS20EDIST (2-week cycle)

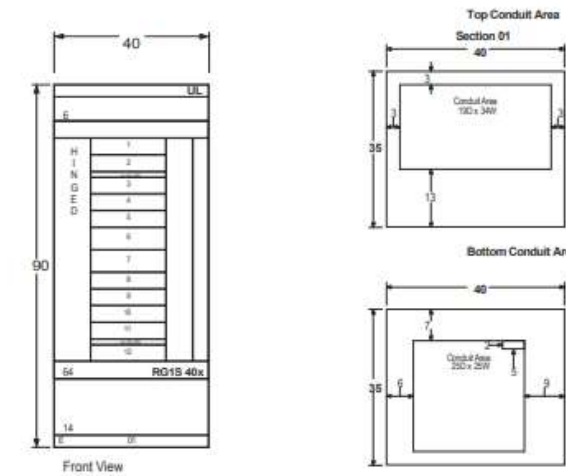
SWBSTS20EDIST-M (10-week cycle)

ReliaGear® SB
switchboard

ACCESS TO Front Only	PHASE	3P4W
CLASS 1	AMPERE	2000
LABEL U/L	BUS MFL Cu 1000A / in ²	
VOLTAGE 480Y/277V	PLATE	Silver Plate
STYLE ReliaGear	RATING	Fully
BUS BRACING RMS 57M		10000A
DEV. MIN. INT. RATING RMS 57M		10000A
Total Line Up Width	40	

Feeders

- 8 - XT4 250 A (dial down to 100 A)
- 2 - XT5 600 A (dial down to 240 A)
- 2 - XT4 Spaces (future expansion)



Circuit No.	Device	Amps	Poles	Nameplates	Lugs	Notes
1	XT4L250	100	3	(Space and Bus)	Al (1) #4 - 300 MCM Cu Cbl	7
2	XT4L250	100	3	(Space and Bus)	Al (1) #4 - 300 MCM Cu Cbl	7
3	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
4	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
5	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
6	XT5L600	600	3		Al (2) 2/0 - 500 MCM Cu Cbl	6
7	XT5L600	600	3		Al (2) 2/0 - 500 MCM Cu Cbl	6
8	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
9	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
10	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
11	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6
12	XT4L250	250	3		Al (1) 3/0 - 350 MCM Cu Cbl	6

- NOTES:
- Copper ground bus furnished.
 - Equipment ground bus furnished with lugs.
 - Switchboard furnished with Nameplates.
 - Switchboard furnished with hinged gutter cover.
 - Switchboard furnished with fully rated panel.
 - Device furnished with EKIP DIP (LSI) programmer.
 - Device furnished with TMA programmer.
 - Provision for future extension.

*Applied only as an "add-on" section to SWBSTS20E or SWBSTS20E-M

ReliaGear SB 2000 A (Main and Feeder Section)

Catalog # **SWBSTS20E** (2/3-week cycle) / Catalog # **SWBSTS20E-M** (10-week cycle)

ReliaGear® SB
switchboard

ACCESS TO: Front Only	PHASE: 3P4W
CLASS: 2	AMPERE: 2000
LABEL: U/L SE	BUS MTL: Cu 1000A / in ²
VOLTAGE: 480Y/277V	PLATE: Silver Plate
STYLE: ReliaGear	RATING: Fully
BUS BRACING (RMS SYM)	100000 A
DEV. MIN. INT. RATING (RMS SYM)	100000 A
Total Line Up Width: 70	

MAIN SUMMARY:

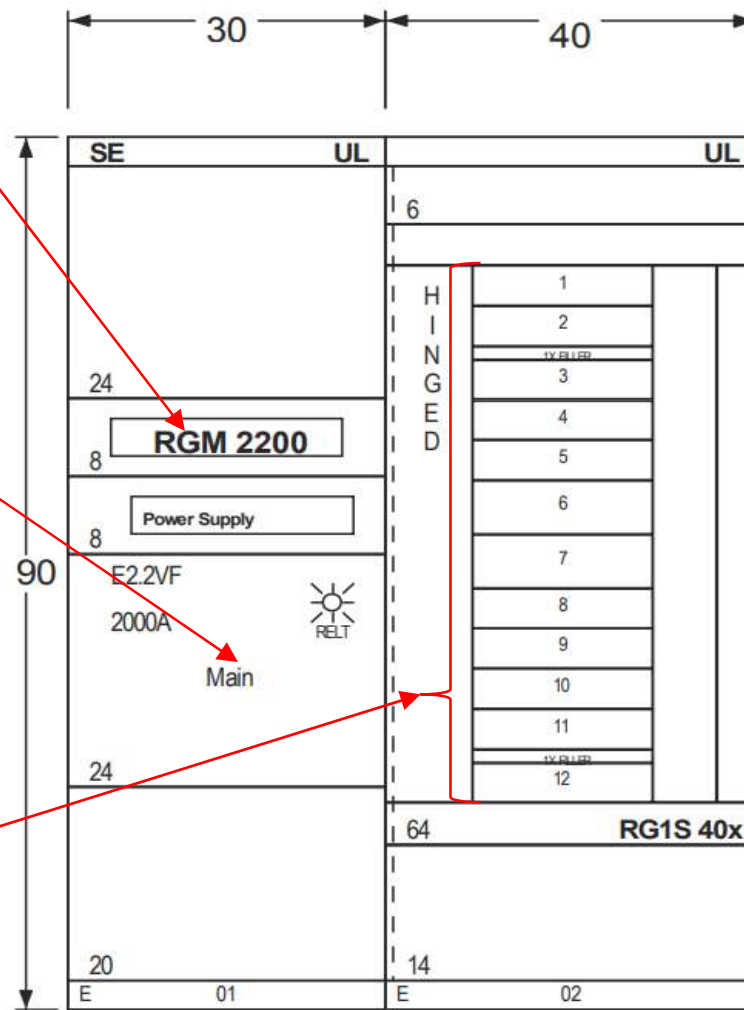
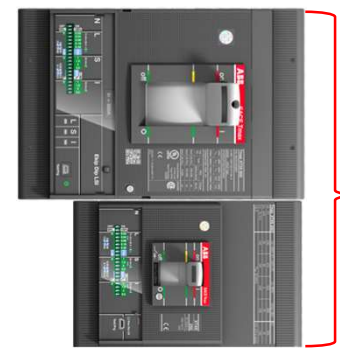
1 – E2.2VF 2000AF (800AT to 2000AT FIELD ADJUSTABLE) **LSIG WITH RELT**

FEEDER SUMMARY:

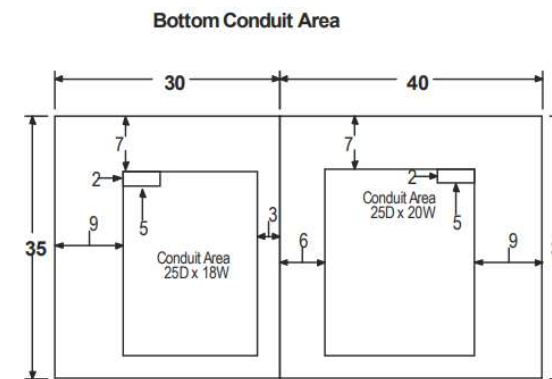
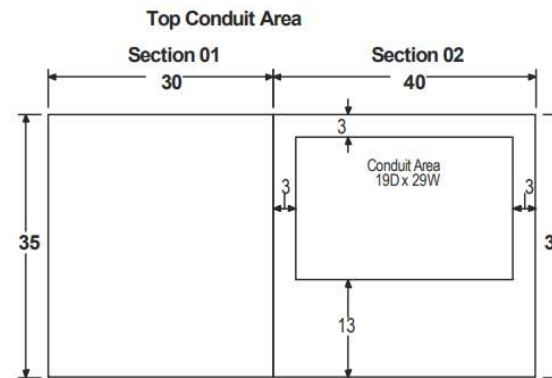
8 – XT4 250AF (100AT to 250AT FIELD ADJUSTABLE) **LSI**

2 – XT5 600AF (240AT to 600AT FIELD ADJUSTABLE) **LSI**

2 – XT4 250AF SPACES FOR FUTURE



Front View



Circuit No.	Device	Amps	Poles	Settings Range
Main	E2.2VF	2000	3	SETTINGS RANGE = 800A to 2000A
1	XT4L250	FUTURE	3	SETTINGS RANGE = 100A to 250A
2	XT4L250	FUTURE	3	SETTINGS RANGE = 100A to 250A
3	XT4L250	250	3	SETTINGS RANGE = 100A to 250A
4	XT4L250	250	3	SETTINGS RANGE = 100A to 250A
5	XT4L250	250	3	SETTINGS RANGE = 100A to 250A
6	XT5L600	600	3	SETTINGS RANGE = 240A to 600A
7	XT5L600	600	3	SETTINGS RANGE = 240A to 600A
8	XT4L250	250	3	SETTINGS RANGE = 100A to 250A
9	XT4L250	250	3	SETTINGS RANGE = 100A to 250A
10	XT4L250	250	3	SETTINGS RANGE = 100A to 250A
11	XT4L250	250	3	SETTINGS RANGE = 100A to 250A
12	XT4L250	250	3	SETTINGS RANGE = 100A to 250A

ReliaGear SB 2000 A (Add-on Feeder Section*)

Catalog # **SWBSTS20EDIST** (2/3-week cycle) / Catalog # **SWBSTS20EDIST-M** (10-week cycle)

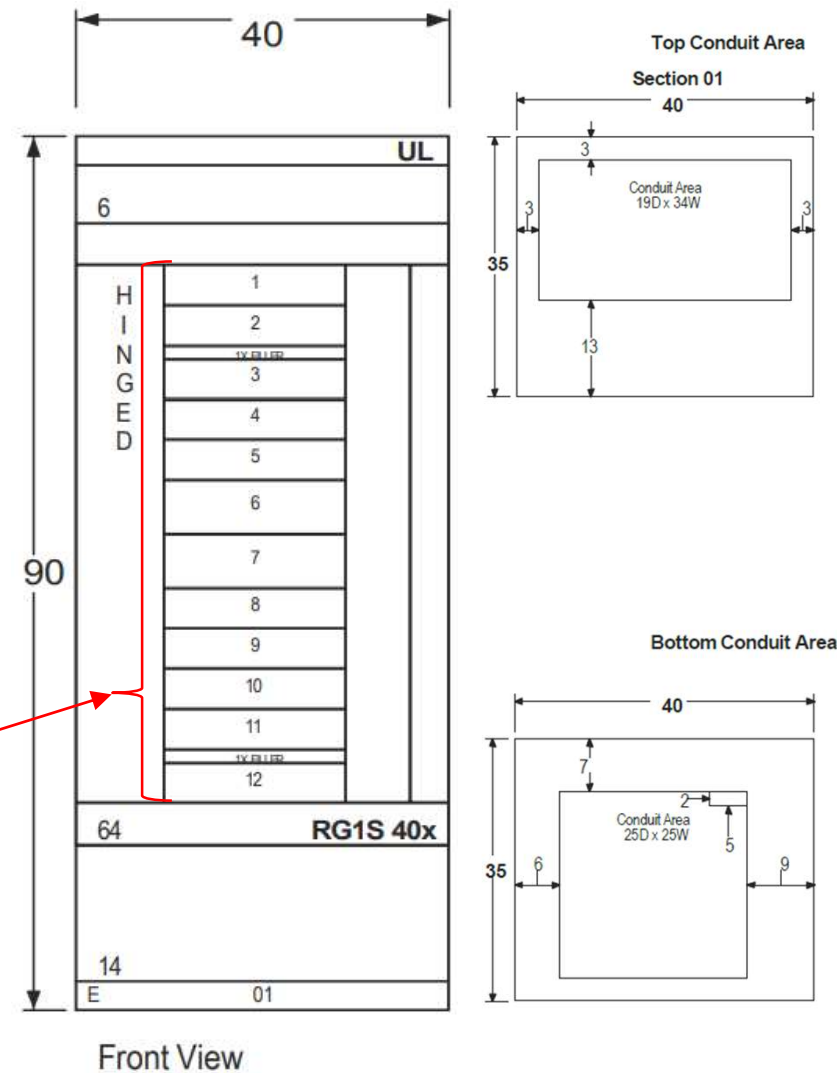
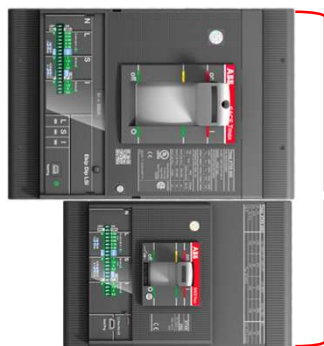
**Applied only as an "add-on" section to SWBSTS20E OR SWBSTS20E-M*

ReliaGear® SB
switchboard

ACCESS TO: Front Only	PHASE: 3P4W
CLASS: 1	AMPERE: 2000
LABEL: U/L	BUS MTL: Cu 1000A / in ²
VOLTAGE: 480Y/277V	PLATE: Silver Plate
STYLE: ReliaGear	RATING: Fully
BUS BRACING (RMS SYM)	100000 A
DEV. MIN. INT. RATING (RMS SYM)	100000 A
Total Line Up Width: 40	

FEEDER SUMMARY:

8 – XT4 250AF (100AT to 250AT FIELD ADJUSTABLE) LSI
 2 – XT5 600AF (240AT to 600AT FIELD ADJUSTABLE) LSI
 2 – XT4 250AF SPACES FOR FUTURE



Circuit No.	Device	Amps	Poles	SETTINGS RANGE =
1	XT4L250	FUTURE	3	100A to 250A
2	XT4L250	FUTURE	3	100A to 250A
3	XT4L250	250	3	100A to 250A
4	XT4L250	250	3	100A to 250A
5	XT4L250	250	3	100A to 250A
6	XT5L600	600	3	240A to 600A
7	XT5L600	600	3	240A to 600A
8	XT4L250	250	3	100A to 250A
9	XT4L250	250	3	100A to 250A
10	XT4L250	250	3	100A to 250A
11	XT4L250	250	3	100A to 250A
12	XT4L250	250	3	100A to 250A

Other ReliaGear SB On Demand Configurations

DESCRIPTIVE BULLETIN

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ReliaGear® SB 4000 A

Catalog# SWBSTS40E (2-week cycle)

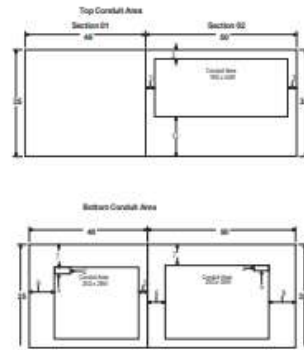
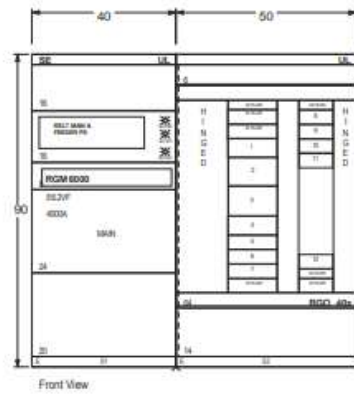
SWBSTS40E-M (10-week cycle)

ReliaGear® SB
switchboard

ACCESS TO Front Only	PHASE	3P4W
CLASS 2	AMPERE	4000
LABEL MTL SE	BUS MTL	Cu 100GA 1/1"
VOLTAGE 480V/277V	PLATE	Silver Plate
STYLE ReliaGear	RATING	Fully
BUS BRACING (RMS SYM)		100000 A
DEV. MIN. INT. RATING (RMS SYM)		100000 A
Total Line Up Width		80

Feeders

- 3 - XT4 250 A (dial down to 100 A)
- 2 - XT5 600 A (dial down to 240 A)
- 2 - XT7 1200 A (dial down to 480 A)
- 5 - XT4 spaces (future expansion)



Circuit No.	Device	Amps	Phase	Notes	Log
1	XT4 250	250	3		8
2	XT5 600	600	3		8
3	XT7 1200	1200	3		8, 10, 13, 14
4	XT4 250	250	3		8, 10, 13, 14
5	XT4 250	100	3	(Space and Bus)	11
6	XT4 250	100	3	(Space and Bus)	11
7	XT4 250	250	3		8
8	XT4 250	250	3		8
9	XT4 250	250	3		8
10	XT4 250	100	3	(Space and Bus)	11
11	XT4 250	100	3	(Space and Bus)	11
12	XT4 250	100	3	(Space and Bus)	11

NOTES:

- Copper ground bus furnished.
- Equipment ground bus furnished with lugs.
- Switchboard furnished with Nameplates.
- Shipping splits between each section, ship each section separately.
- RGM6000 Meter installed in Switchboard. See drawing SWBSTS40EWD.
- Switchboard furnished with hinged gutter covers.
- Switchboard furnished with fully rated panel.
- Device furnished with EKIP DIP (LSI) programmer.
- Device furnished with EKIP Touch (LSIG) programmer.
- Device furnished with RELT. See drawing SWBSTS40EWD.
- Device furnished with TMA programmer.
- Provision For Future Extension.
- Device furnished with EKIP RELT Signaling.
- Device furnished with EKIP 24VDC Supply.
- Device is furnished with 24V, 48V DC Ekip Supply.
- Device is furnished with 250V Bell Alarm.
- Device is furnished with RELT-Ekip Signaling 2K3 module.
- Device furnished with (PLC) Open Position - Padlock.
- Device furnished with 400V (40) Auxiliary Contacts.
- Device furnished with EKIP Touch LSIG trip unit.
- Device furnished with RELT. See drawing SWBSTS40EWD.
- Equipment is furnished to work with 480/277 V and 208/120 V. See drawing SWBSTS40EWD to select the operating voltage. Control circuit is unplugged, customer is responsible to connect the correct voltage source.

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RELIAGEAR® SB SWITCHBOARD ON DEMAND PROGRAM

ReliaGear® SB 4000 A add-on feeder section*

Catalog# SWBSTS40EDIST (2-week cycle)

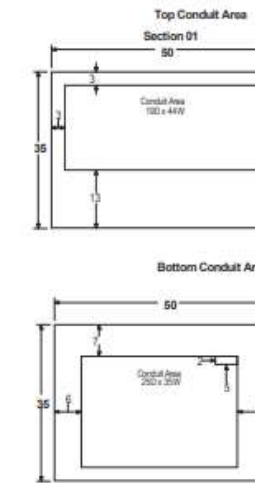
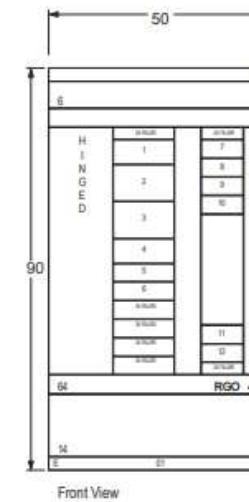
SWBSTS40EDIST-M (10-week cycle)

ReliaGear® SB
switchboard

ACCESS TO Front Only	PHASE	3P4W
CLASS 1	AMPERE	4000
LABEL MTL	BUS MTL	Cu 100GA 1/1"
VOLTAGE 480V/277V	PLATE	Silver Plate
STYLE ReliaGear	RATING	Fully
BUS BRACING (RMS SYM)		100000 A
DEV. MIN. INT. RATING (RMS SYM)		100000 A
Total Line Up Width		50

Feeders

- 3 - XT4 250 A (dial down to 100 A)
- 2 - XT5 600 A (dial down to 240 A)
- 2 - XT7 1000 A (dial down to 400 A)
- 5 - XT4 spaces (future expansion)



Circuit No.	Device	Amps	Phase	Notes	Log
1	XT4 250	250	3		8
2	XT5 600	600	3		8
3	XT7 1000	1000	3		8
4	XT4 250	250	3		8
5	XT4 250	100	3	(Space and Bus)	11
6	XT4 250	100	3	(Space and Bus)	11
7	XT4 250	250	3		8
8	XT4 250	250	3		8
9	XT4 250	250	3		8
10	XT4 250	100	3	(Space and Bus)	11
11	XT4 250	100	3	(Space and Bus)	11
12	XT4 250	100	3	(Space and Bus)	11

NOTES:

- Copper ground bus furnished.
- Equipment ground bus furnished with lugs.
- Switchboard furnished with Nameplates.
- Switchboard furnished with hinged gutter covers.
- Switchboard furnished with fully rated panel.
- Device furnished with EKIP DIP (LSI) programmer.
- Device furnished with TMA programmer.
- Provision For Future Extension.
- Device furnished with EKIP DIP (LSIG) programmer.

*Applied only as an "add-on" section to SWBSTS40E or SWBSTS40E-M.

ReliaGear SB 4000 A (Main and Feeder Section)

Catalog # **SWBSTS40E** (2/3-week cycle) / Catalog # **SWBSTS40E-M** (10-week cycle)

ReliaGear® SB
switchboard

ACCESS TO: Front Only	PHASE: 3P4W
CLASS: 2	AMPERE: 4000
LABEL: U/L SE	BUS MTL: Cu 1000A / in ²
VOLTAGE: 480Y/277V	PLATE: Silver Plate
STYLE: ReliaGear	RATING: Fully
BUS BRACING (RMS SYM)	100000 A
DEV. MIN. INT. RATING (RMS SYM)	100000 A
Total Line Up Width: 90	

MAIN SUMMARY:

1 – E6.2VF 4000AF (1600AT to 4000AT FIELD ADJUSTABLE) **LSIG WITH RELT**

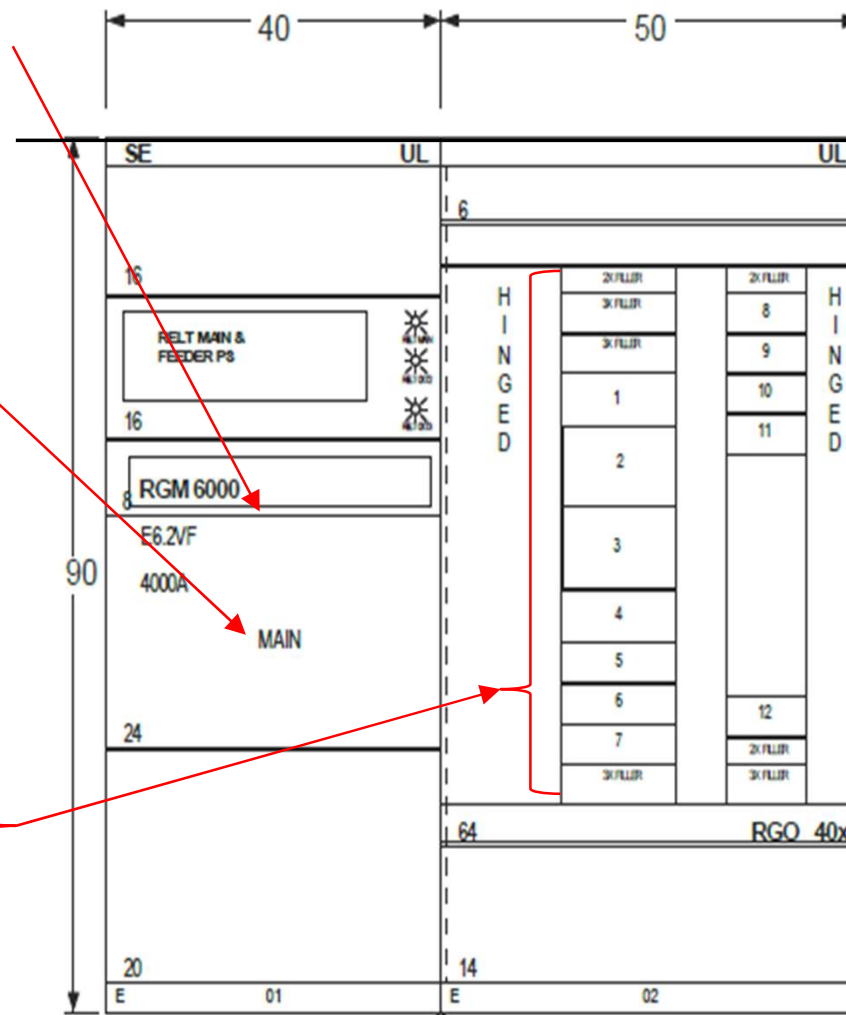
FEEDER SUMMARY:

2 – XT7 1200AF (480AT to 1200AT FIELD ADJUSTABLE) **LSI WITH RELT**

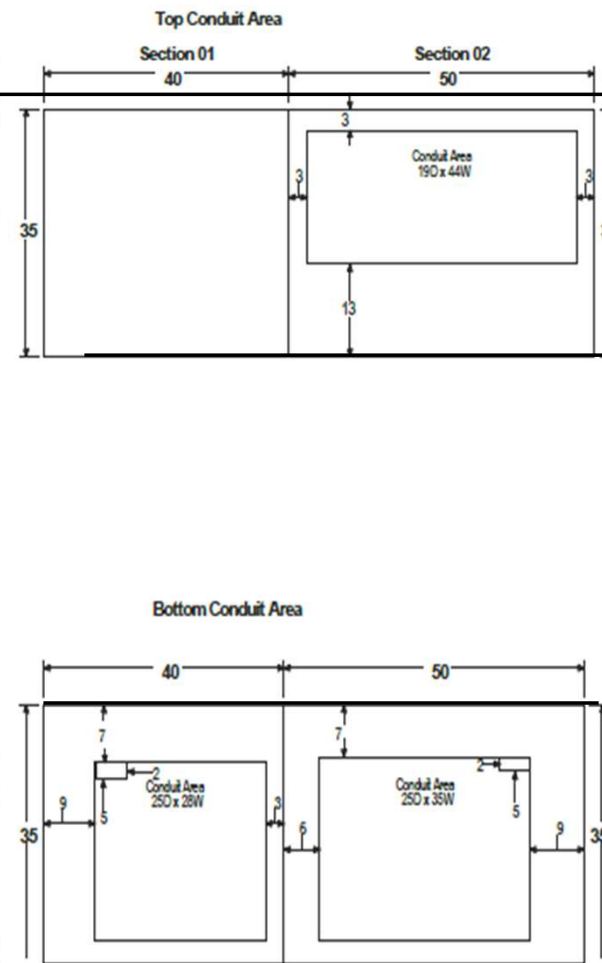
2 – XT5 600AF (240AT to 600AT FIELD ADJUSTABLE) **LSI**

3 – XT4 250AF (100AT to 250AT FIELD ADJUSTABLE) **LSI**

5 – XT4 250AF SPACES FOR FUTURE



Front View



Circuit No.	Device	Amps	Poles
Main	E6.2VF	4000	3
1	XT5L600	600	3
2	XT7L1200	1200	3
3	XT7L1200	1200	3
4	XT5L600	600	3
5	XT4L250	FUTURE	3
6	XT4L250	FUTURE	3
7	XT4L250	250	3
8	XT4L250	250	3
9	XT4L250	250	3
10	XT4L250	FUTURE	3
11	XT4L250	FUTURE	3
12	XT4L250	FUTURE	3

SETTINGS RANGE = 1600A to 4000A
SETTINGS RANGE = 240A to 600A

SETTINGS RANGE = 480A to 1200A

SETTINGS RANGE = 480A to 1200A

SETTINGS RANGE = 240A to 600A

SETTINGS RANGE = 100A to 250A

SETTINGS RANGE = 100A to 250A

SETTINGS RANGE = 100A to 250A

SETTINGS RANGE = 100A to 250A

SETTINGS RANGE = 100A to 250A

SETTINGS RANGE = 100A to 250A

SETTINGS RANGE = 100A to 250A

SETTINGS RANGE = 100A to 250A

ReliaGear SB 4000 A (Add-on Feeder Section*)

Catalog # **SWBSTS40EDIST** (2/3-week cycle) / Catalog # **SWBSTS40EDIST-M** (10-week cycle)

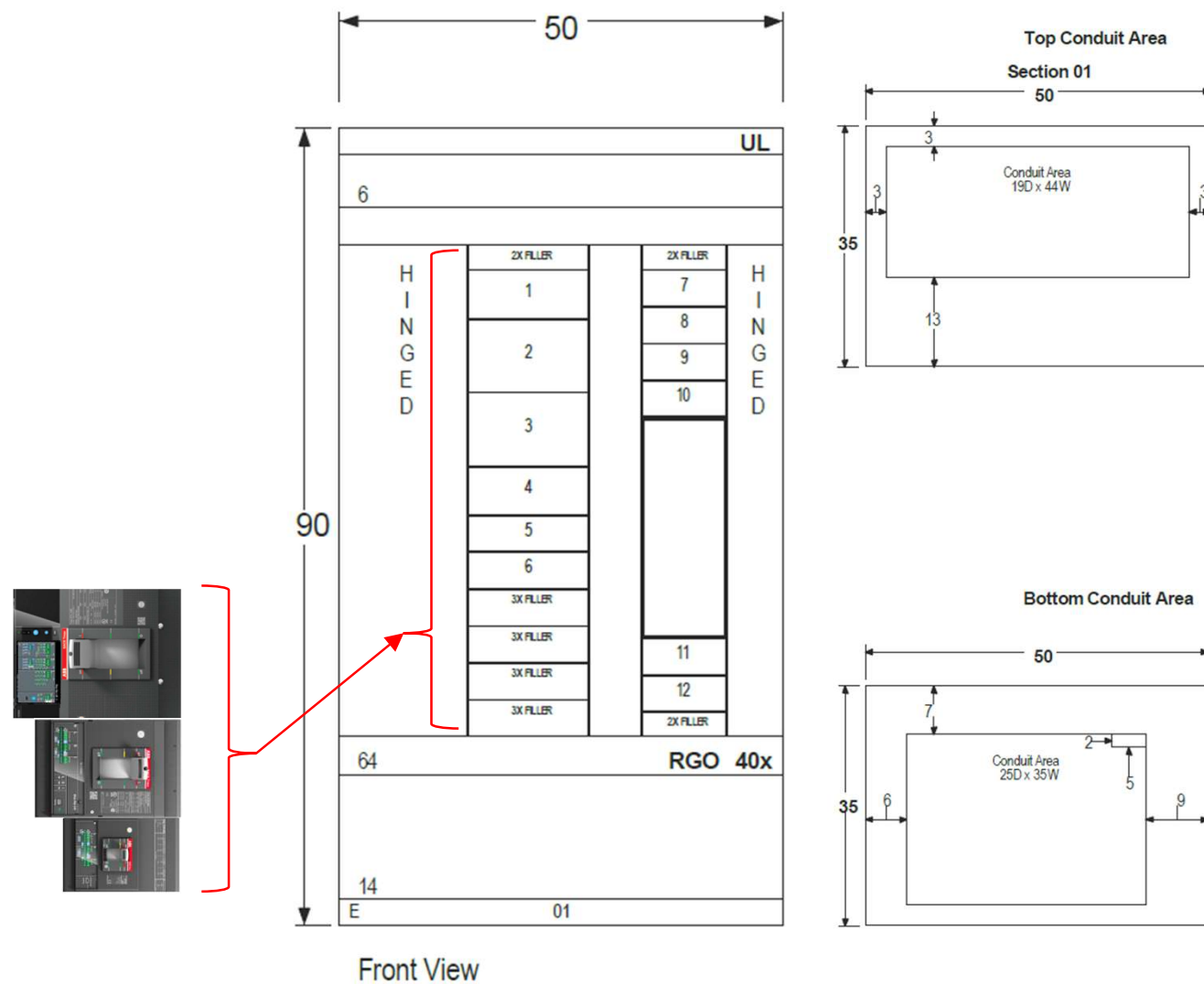
**Applied only as an "add-on" section to SWBSTS40E OR SWBSTS40E-M*

ReliaGear® SB
switchboard

ACCESS TO: Front Only	PHASE: 3P4W
CLASS: 1	AMPERE: 4000
LABEL: U/L	BUS MTL: Cu 1000A / in ²
VOLTAGE: 480Y/277V	PLATE: Silver Plate
STYLE: ReliaGear	RATING: Fully
BUS BRACING (RMS SYM)	100000 A
DEV. MIN. INT. RATING (RMS SYM)	100000 A
Total Line Up Width: 50	

FEEDER SUMMARY:

- 2 – XT7 1000AF (400AT to 100AT FIELD ADJUSTABLE) LSI
- 2 – XT5 600AF (240AT to 600AT FIELD ADJUSTABLE) LSI
- 3 – XT4 250AF (100AT to 250AT FIELD ADJUSTABLE) LSI
- 5 – XT4 250AF SPACES FOR FUTURE



Circuit No.	Device	Amps	Poles	SETTINGS RANGE
1	XT5L600	600	3	SETTINGS RANGE = 240A to 600A
2	XT7L1000	1000	3	SETTINGS RANGE = 400A to 1000A
3	XT7L1000	1000	3	SETTINGS RANGE = 400A to 1000A
4	XT5L600	600	3	SETTINGS RANGE = 240A to 600A
5	XT4L250	FUTURE	3	SETTINGS RANGE = 100A to 250A
6	XT4L250	FUTURE	3	SETTINGS RANGE = 100A to 250A
7	XT4L250	250	3	SETTINGS RANGE = 100A to 250A
8	XT4L250	250	3	SETTINGS RANGE = 100A to 250A
9	XT4L250	250	3	SETTINGS RANGE = 100A to 250A
10	XT4L250	FUTURE	3	SETTINGS RANGE = 100A to 250A
11	XT4L250	FUTURE	3	SETTINGS RANGE = 100A to 250A
12	XT4L250	FUTURE	3	SETTINGS RANGE = 100A to 250A

Other ReliaGear SB On Demand Configurations (Outdoor)

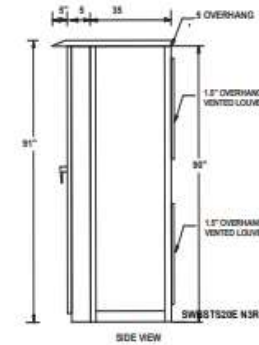
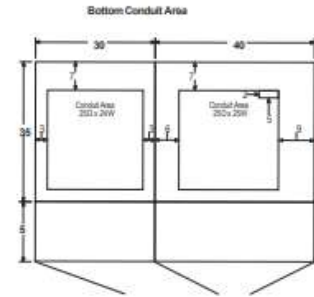
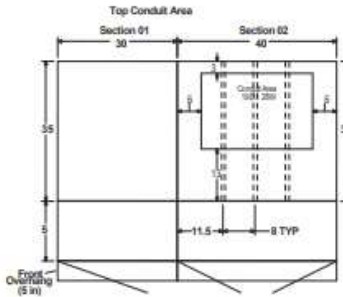
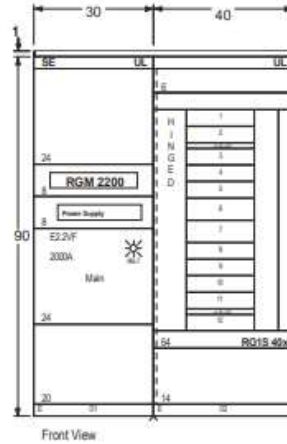
ReliaGear® SB 2000 A — NEMA 3R

Catalog# SWBSTS20EN3R (2-week cycle)
SWBSTS20EN3R-M (10-week cycle)

ReliaGear® SB
switchboard

ACCESS TO-Front Only	PHASE	3PHW
CLASS 2	AMPERE	2000
LABEL CUL SE	BASE W/CL-Cu	1500A 1/2"
VOLTAG 480Y/277V	PLATE	Silver/Black
STYLE ReliaGear	RATING	Full
BUS BRACING (RMS 27W)		100000 A
SIZE MIN. INT. RATED (RMS 27W)		100000A
Total Line Up Width: 75		

Feeders
8 - XT4 250 A (dial down to 100 A)
2 - XT5 600 A (dial down to 240 A)
2 - XT4 Spaces (future expansion)



Conduit No.	Device	Amperes	Notes	Nameplate	List	Notes
1	XT4L250	100	3	(Space and Bus)	AI(1) #4 - 300	11, 12, 13, 14, 15
2	XT4L250	100	3	(Space and Bus)	AI(1) #4 - 300	5
3	XT4L250	250	3		MCM Cu Chl	
4	XT4L250	250	3		AI(1) 3/0 - 350	5
5	XT4L250	250	3		MCM Cu Chl	
6	XT5L600	600	3		AI(2) 2/0 - 500	5
7	XT5L600	600	3		MCM Cu Chl	
8	XT4L250	250	3		AI(1) 3/0 - 350	5
9	XT4L250	250	3		MCM Cu Chl	
10	XT4L250	250	3		AI(1) 3/0 - 350	5
11	XT4L250	250	3		MCM Cu Chl	
12	XT4L250	250	3		AI(1) 3/0 - 350	5
					MCM Cu Chl	

- NOTES:
- Copper ground bus furnished.
 - Equipment ground bus furnished with lugs.
 - Switchboard furnished with Nameplates.
 - Shipping splits between each section, ship each section separately.
 - RGM 2200 Meter Modbus RS485 + Pulse installed in Switchboard. See drawing SWBSTS20EWD.
 - Switchboard furnished with hinged gutter covers.
 - Switchboard furnished with fully rated panel.
 - Device furnished with EKSP DP (LSI) programmer.
 - Device furnished with TMA programmer.
 - Provision For Future Extension.
 - Device is furnished with 24V - 48V DC Ekip Supply.
 - Device is furnished with 250V Bell Alarm.
 - Device is furnished with RELT-Ekip Signaling 2K3 module. See drawing SWBSTS20EWD.
 - Device furnished with 400V (4Q) Auxiliary Contacts.
 - Device furnished with EKSP Touch L552 trip unit.
 - Equipment is furnished to work with 480/277 V and 208/120V. See drawing SWBSTS20EWD to select the operating voltage. Control circuit is unplugged, customer is responsible to connect the correct voltage source.
 - Listed NEMA 3R rated Hub and Conduit should be used to maintain environmental integrity of the enclosure.
 - Switchboard furnished with a rainproof TYPE 3R Flatroof (non walk-in) enclosure.

Other ReliaGear SB On Demand Configurations (Outdoor)

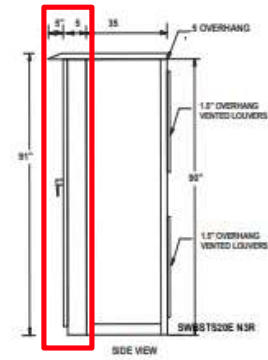
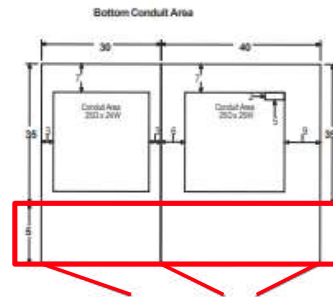
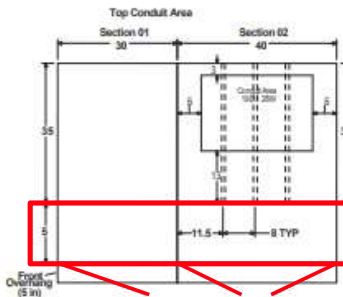
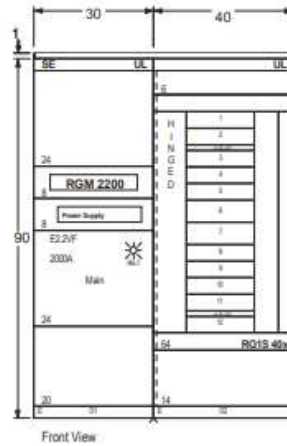
ReliaGear® SB 2000 A — NEMA 3R

Catalog# SWBSTS20EN3R (2-week cycle)
SWBSTS20EN3R-M (10-week cycle)

ReliaGear® SB
switchboard

ACCESS TO-Front Only	PHASE	3PHW
CLASS 2	AMPERE	2000
LABEL CUL SE	BUS WTL-Cu	1500A/1M
VOLTAGE 480Y/277V	PLATE	Silver/Black
STYLE ReliaGear	RATING	Full
BUS BRACING (RMS 5YR)		100000 A
SIZE MIN. INT. RATED (RMS 5YR)		100000A
Total Line Up Width: 75		

Feeders
8 - XT4 250 A (dial down to 100 A)
2 - XT5 600 A (dial down to 240 A)
2 - XT4 Spaces (future expansion)



Conduit No.	Device	Amperes	Notes	Location	Notes
1	XT4L250	100	3	(Space and Bus)	A(1) #4 - 300 MCM Cu Chl
2	XT4L250	100	3	(Space and Bus)	A(1) #4 - 300 MCM Cu Chl
3	XT4L250	250	3		A(1) 3/0 - 350 MCM Cu Chl
4	XT4L250	250	3		A(1) 3/0 - 350 MCM Cu Chl
5	XT4L250	250	3		A(1) 3/0 - 350 MCM Cu Chl
6	XT5L600	600	3		A(2) 2/0 - 500 MCM Cu Chl
7	XT5L600	600	3		A(2) 2/0 - 500 MCM Cu Chl
8	XT4L250	250	3		A(1) 3/0 - 350 MCM Cu Chl
9	XT4L250	250	3		A(1) 3/0 - 350 MCM Cu Chl
10	XT4L250	250	3		A(1) 3/0 - 350 MCM Cu Chl
11	XT4L250	250	3		A(1) 3/0 - 350 MCM Cu Chl
12	XT4L250	250	3		A(1) 3/0 - 350 MCM Cu Chl

- NOTES:
- Copper ground bus furnished.
 - Equipment ground bus furnished with lugs.
 - Switchboard furnished with Nemaplates.
 - Shipping splits between each section, ship each section separately.
 - RGM 2200 Meter Modbus RS485 + Pulse installed in Switchboard. See drawing SWBSTS20EWD.
 - Switchboard furnished with hinged gutter covers.
 - Switchboard furnished with fully rated panel.
 - Device furnished with EKSP DP (LSI) programmer.
 - Device furnished with TMA programmer.
 - Provision For Future Extension.
 - Device is furnished with 24V - 48V DC Ekip Supply.
 - Device is furnished with 250V Bell Alarm.
 - Device is furnished with RELT-Ekip Signaling 2K3 module. See drawing SWBSTS20EWD.
 - Device furnished with 400V (4Q) Auxiliary Contacts.
 - Device furnished with EKSP Touch L552 trip unit.
 - Equipment is furnished to work with 480/277 V and 208/120V. See drawing SWBSTS20EWD to select the operating voltage. Control circuit is unplugged, customer is responsible to connect the correct voltage source.
 - Listed NEMA 3R rated Hub and Conduit should be used to maintain environmental integrity of the enclosure.
 - Switchboard furnished with a rainproof TYPE 3R Flatroof (non walk-in) enclosure.

Other ReliaGear SB On Demand Configurations (Outdoor)

DESCRIPTIVE BULLETIN 13

ReliaGear® SB 4000 A — NEMA 3R

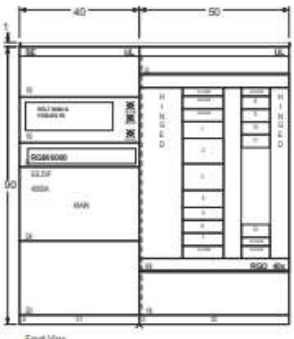
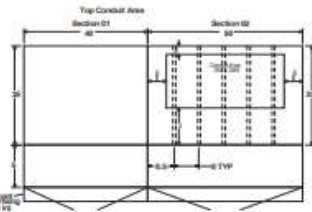
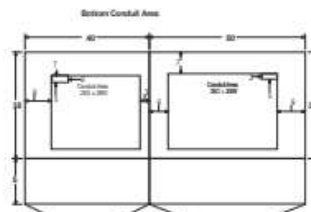
Catalog# SWBSTS40EN3R (2-week cycle)
SWBSTS40EN3R-M (10-week cycle)

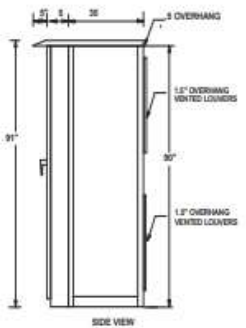
ReliaGear® SB switchboard

ACCESS TO: Front Only	PHASE: 3P/W
CLASS: 2	AMPS: 4000
LABEL LIT. BE	SUBMIT. Co 1000A/1"
VOLTAGE: 480Y/277V	PLATE: Silver Plate
STYLE: ReliaGear	MATING: Fully
BUS BRACING (RMS 57M)	100000 A
DEV. MFR. RATING (RMS 57M)	100000 A
Total Line Up Width: 80	

Feeders

- 3 - XT4 250 A (dial down to 100 A)
- 2 - XT5 600 A (dial down to 240 A)
- 2 - XT7 1200 A (dial down to 480 A)
- 5 - XT4 spaces (future expansion)



Circuit No.	Device	Amps	Poles	Nameplate	Lugs	Notes
1	XT5L600	600	3		AJ12 250-500	6
2	XT7L1200	1200	3		MC3M Cu CH	6, 10, 13, 14
3	XT7L1200	1200	3		AJ14 480-500	6, 10, 13, 14
4	XT5L600	600	3		MC3M Cu CH	6, 10, 13, 14
5	XT4L250	100	3	(Space and Bus)	MC3M Cu CH	11
6	XT4L250	100	3	(Space and Bus)	AJ11 100-300	11
7	XT4L250	250	3		MC3M Cu CH	6
8	XT4L250	250	3		AJ11 100-300	6
9	XT4L250	250	3		MC3M Cu CH	6
10	XT4L250	100	3	(Space and Bus)	AJ11 100-300	11
11	XT4L250	100	3	(Space and Bus)	MC3M Cu CH	11
12	XT4L250	100	3	(Space and Bus)	AJ11 100-300	11

NOTES:

- Copper ground bus furnished.
- Equipment ground bus furnished with lugs.
- Switchboard furnished with Nameplates.
- Shipping spits between each section, ship each section separately.
- RGMB000 Meter installed in Switchboard. See drawing SWBSTS40EWD.
- Switchboard furnished with hinged gutter covers.
- Switchboard furnished with fully rated panel.
- Device furnished with EKFP DIP (LSI) programmer.
- Device furnished with EKFP Touch (LSIG) programmer.
- Device furnished with RELT. See drawing SWBSTS40EWD.
- Device furnished with TMA programmer.
- Provision For Future Extension.
- Device furnished with EKFP RELT Signalling.
- Device furnished with EKFP 24VDC Supply.
- Device is furnished with 24V - 48V DC Expt Supply.
- Device is furnished with 250V Bell Alarm.
- Device is furnished with RELT Expt Signaling 2K3 module.
- Device furnished with (PLC) Open Position - Padlock.
- Device furnished with 400V (4Q) Auxiliary Contacts.
- Device furnished with EKFP Touch LSIG trip unit.
- Device furnished with RELT. See drawing SWBSTS40EWD.
- Equipment is furnished to work with 480/277 V and 208/120 V. See drawing SWBSTS40EWD to select the operating voltage. Control circuit is unplugged, customer is responsible to connect the correct voltage source.
- Switchboard furnished with a rainproof TYPE 3R Flatroof (non walk-in) enclosure.
- Listed NEMA 3R rated Hub and Conduit should be used to maintain environmental integrity of the enclosure.

RELIAGEAR® SB SWITCHBOARD ON DEMAND PROGRAM 14

ReliaGear® SB 4000 A NEMA 3R add-on feeder section*

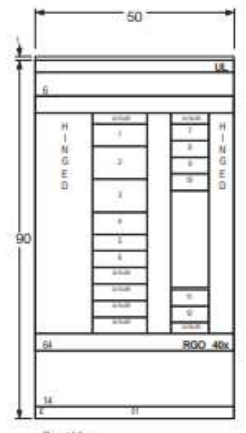
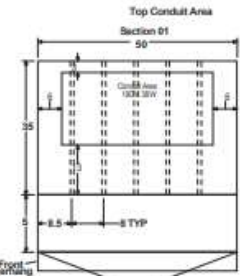
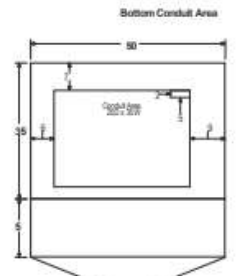
Catalog# SWBSTS40EDISTN3R (2-week cycle)
SWBSTS40EDISTN3R-M (10-week cycle)

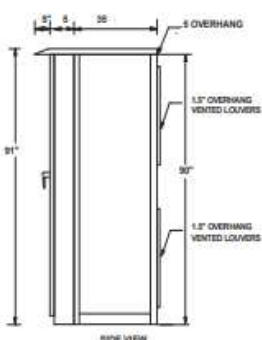
ReliaGear® SB switchboard

ACCESS TO: Front Only	PHASE: 3P/W
CLASS: 2	AMPS: 4000
LABEL LIT.	SUBMIT. Co 1000A/1"
VOLTAGE: 480Y/277V	PLATE: Silver Plate
STYLE: ReliaGear	RATING: Fully
BUS BRACING (RMS 57M)	100000 A
DEV. MFR. RATING (RMS 57M)	100000 A
Total Line Up Width: 80	

Feeders

- 3 - XT4 250 A (dial down to 100 A)
- 2 - XT5 600 A (dial down to 240 A)
- 2 - XT7 1200 A (dial down to 480 A)
- 5 - XT4 spaces (future expansion)



Circuit No.	Device	Amps	Poles	Nameplate	Lugs	Notes
1	XT5L600	600	3		AJ12 250-500	6
2	XT7L1200	1200	3		MC3M Cu CH	6
3	XT7L1200	1200	3		AJ14 480-500	6
4	XT5L600	600	3		MC3M Cu CH	6
5	XT4L250	100	3	(Space and Bus)	MC3M Cu CH	7
6	XT4L250	100	3	(Space and Bus)	AJ11 100-300	7
7	XT4L250	250	3		MC3M Cu CH	6
8	XT4L250	250	3		AJ11 100-300	6
9	XT4L250	250	3		MC3M Cu CH	6
10	XT4L250	100	3	(Space and Bus)	AJ11 100-300	7
11	XT4L250	100	3	(Space and Bus)	MC3M Cu CH	7
12	XT4L250	100	3	(Space and Bus)	AJ11 100-300	7

NOTES:

- Copper ground bus furnished.
- Equipment ground bus furnished with lugs.
- Switchboard furnished with Nameplates.
- Switchboard furnished with hinged gutter covers.
- Switchboard furnished with fully rated panel.
- Device furnished with EKFP DIP (LSI) programmer.
- Device furnished with TMA programmer.
- Provision For Future Extension.
- Device furnished with EKFP DIP (LSIG) programmer.
- Switchboard furnished with a rainproof Type 3R Flatroof (non walk-in) enclosure.
- Listed NEMA 3R rated hub and conduit should be used to maintain environmental integrity of the enclosure.

Other ReliaGear SB On Demand Configurations (Outdoor)

DESCRIPTIVE BULLETIN 13

ReliaGear® SB 4000 A — NEMA 3R

Catalog# SWBSTS40EN3R (2-week cycle)
SWBSTS40EN3R-M (10-week cycle)

ReliaGear® SB switchboard

ACCESS TO: Front Only	PHASE: 3P/W
CLASS: 2	AMPS: 4000
LABEL: LBL	SUBMIT: Cu 1000A 1/2"
VOLTAGE: 480Y/277V	PLATE: Silver Plate
STYLE: ReliaGear	MATING: Fully
BUS BRACING (RMS 57M):	100000 A
DEV. MIN. INT. RATING (RMS 57M):	100000 A
Total Line Up Width:	80

Feeders

- 3 - XT4 250 A (dial down to 100 A)
- 2 - XT5 600 A (dial down to 240 A)
- 2 - XT7 1200 A (dial down to 480 A)
- 5 - XT4 spaces (future expansion)

Circuit No.	Device	Amps	Poles	Nameplate	Logic	Notes
1	XT5L600	600	3		AJ12 250-500	6
2	XT7L1200	1200	3		AJ14 480-900	6, 10, 13, 14
3	XT7L1200	1200	3		AJ14 480-900	6, 10, 13, 14
4	XT5L600	600	3		AJ12 250-500	6
5	XT4L250	100	3	(Space and Bus)	MCM Cu CH	11
6	XT4L250	100	3	(Space and Bus)	MCM Cu CH	11
7	XT4L250	250	3		AJ11 100-300	6
8	XT4L250	250	3		MCM Cu CH	6
9	XT4L250	250	3		AJ11 100-300	6
10	XT4L250	100	3	(Space and Bus)	MCM Cu CH	11
11	XT4L250	100	3	(Space and Bus)	MCM Cu CH	11
12	XT4L250	100	3	(Space and Bus)	MCM Cu CH	11

NOTES:

- Copper ground bus furnished.
- Equipment ground bus furnished with lugs.
- Switchboard furnished with Nameplates.
- Shipping spits between each section, ship each section separately.
- RGMB00 Meter installed in Switchboard. See drawing SWBSTS40EWD.
- Switchboard furnished with hinged gutter covers.
- Switchboard furnished with fully rated panel.
- Device furnished with EKFP DIP (LSI) programmer.
- Device furnished with EKFP Touch (LSIG) programmer.
- Device furnished with RELT. See drawing SWBSTS40EWD.
- Device furnished with TMA programmer.
- Provision For Future Extension.
- Device furnished with EKFP RELT Signalling.
- Device furnished with EKFP 24VDC Supply.
- Device is furnished with 24V - 48V DC Expt Supply.
- Device is furnished with 250V Bell Alarm.
- Device is furnished with RELT Expt Signaling 2K3 module.
- Device furnished with (PLC) Open Position - Padlock.
- Device furnished with 400V (4Q) Auxiliary Contacts.
- Device furnished with EKFP Touch LSI trip unit.
- Device furnished with RELT. See drawing SWBSTS40EWD.
- Equipment is furnished to work with 480/277 V and 208/120 V. See drawing SWBSTS40EWD to select the operating voltage. Control circuit is unplugged, customer is responsible to connect the correct voltage source.
- Switchboard furnished with a rainproof TYPE 3R Flatroof (non walk-in) enclosure.
- Listed NEMA 3R rated Hub and Conduit should be used to maintain environmental integrity of the enclosure.

RELIAGEAR® SB SWITCHBOARD ON DEMAND PROGRAM 14

ReliaGear® SB 4000 A NEMA 3R add-on feeder section*

Catalog# SWBSTS40EDISTN3R (2-week cycle)
SWBSTS40EDISTN3R-M (10-week cycle)

ReliaGear® SB switchboard

ACCESS TO: Front Only	PHASE: 3P/W
CLASS: 2	AMPS: 4000
LABEL: LBL	SUBMIT: Cu 1000A 1/2"
VOLTAGE: 480Y/277V	PLATE: Silver Plate
STYLE: ReliaGear	RATING: Fully
BUS BRACING (RMS 57M):	100000 A
DEV. MIN. INT. RATING (RMS 57M):	100000 A
Total Line Up Width:	80

Feeders

- 3 - XT4 250 A (dial down to 100 A)
- 2 - XT5 600 A (dial down to 240 A)
- 2 - XT7 1200 A (dial down to 400 A)
- 5 - XT4 spaces (future expansion)

Circuit No.	Device	Amps	Poles	Nameplate	Logic	Notes
1	XT5L600	600	3		AJ12 250-500	6
2	XT7L1200	1200	3		AJ14 480-900	6
3	XT7L1200	1200	3		AJ14 480-900	6
4	XT5L600	600	3		AJ12 250-500	6
5	XT4L250	100	3	(Space and Bus)	MCM Cu CH	11
6	XT4L250	100	3	(Space and Bus)	MCM Cu CH	11
7	XT4L250	250	3		AJ11 100-300	6
8	XT4L250	250	3		MCM Cu CH	6
9	XT4L250	250	3		AJ11 100-300	6
10	XT4L250	100	3	(Space and Bus)	MCM Cu CH	11
11	XT4L250	100	3	(Space and Bus)	MCM Cu CH	11
12	XT4L250	100	3	(Space and Bus)	MCM Cu CH	11

NOTES:

- Copper ground bus furnished.
- Equipment ground bus furnished with lugs.
- Switchboard furnished with Nameplates.
- Switchboard furnished with hinged gutter covers.
- Switchboard furnished with fully rated panel.
- Device furnished with EKFP DIP (LSI) programmer.
- Device furnished with TMA programmer.
- Provision For Future Extension.
- Device furnished with EKFP DIP (LSIG) programmer.
- Switchboard furnished with a rainproof Type 3R Flatroof (non walk-in) enclosure.
- Listed NEMA 3R rated hub and conduit should be used to maintain environmental integrity of the enclosure.

*Applied only as an "add-on" section to SWBSTS40EN3R or SWBSTS40EN3R-M.

ReliaGear SB

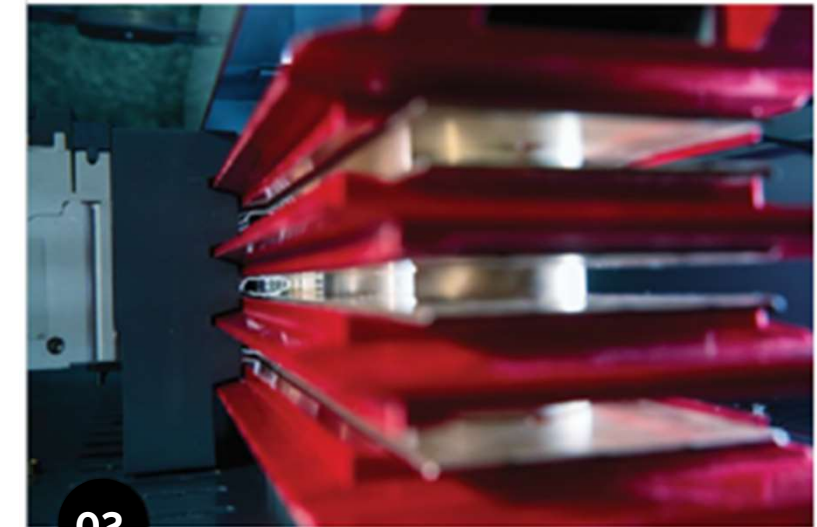
Bus-Stack Overview

ReliaGear SB Feeder Section Details

01. Interior

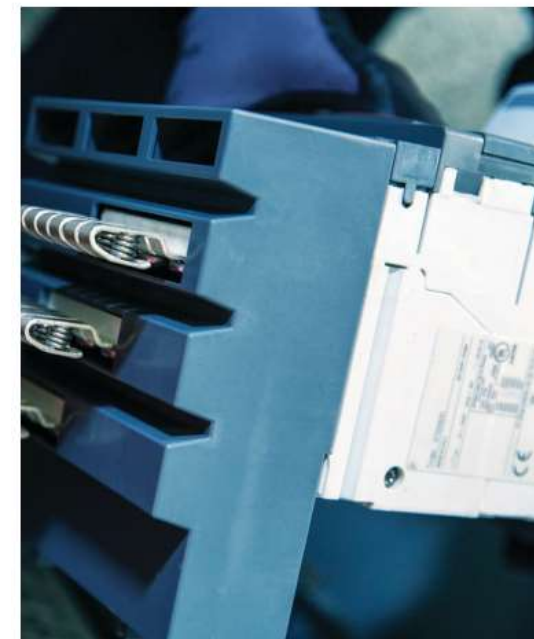
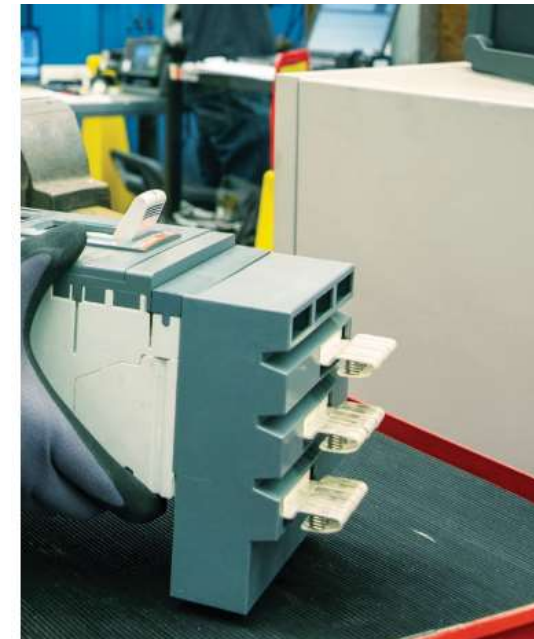
02. Vertical bus stack

03. Line side connector



ReliaGear SB Feeder Superior Plug-In Connections

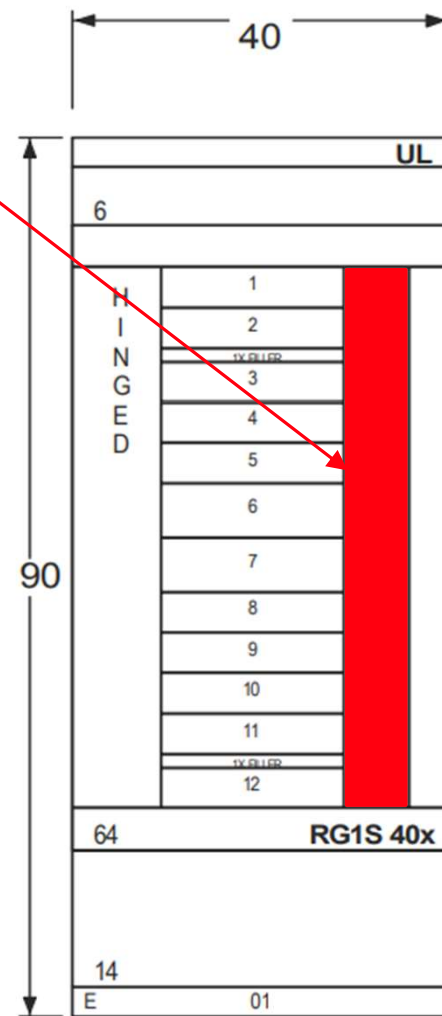
- Increased plating thickness withstands repeated insertion and removal
- Uses the magnetic force generated by a short circuit to make the connection even tighter and more reliable
- No more bolted joints that can become loose or require torque checks



On-Demand ReliaGear SB Feeder Bus Stack Configurations

One-Sided

2000A
Distribution
Section



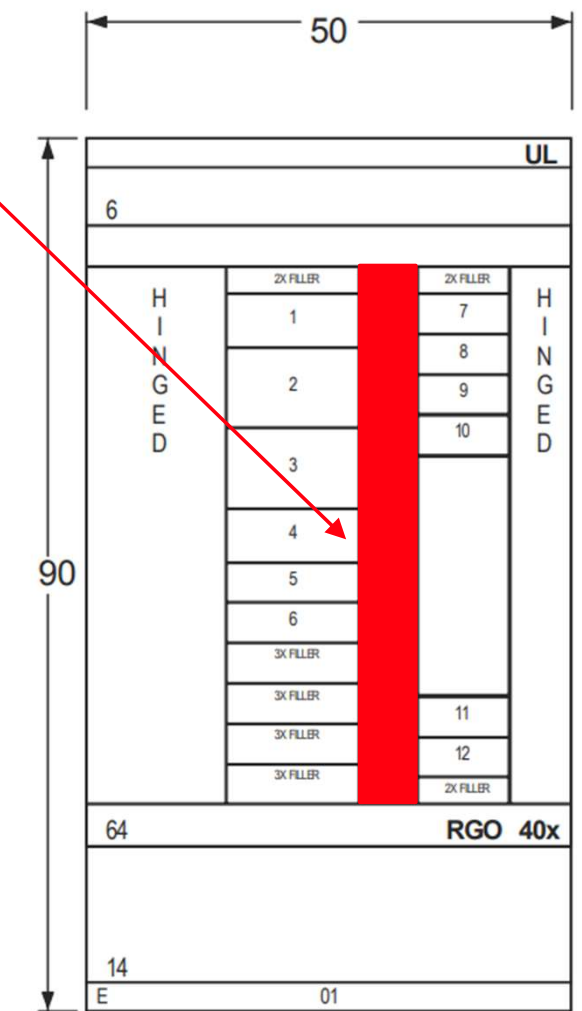
Front View

Up to
1200A



Offset

4000A
Distribution
Section



Front View

Up to
1200A



Up to
250A

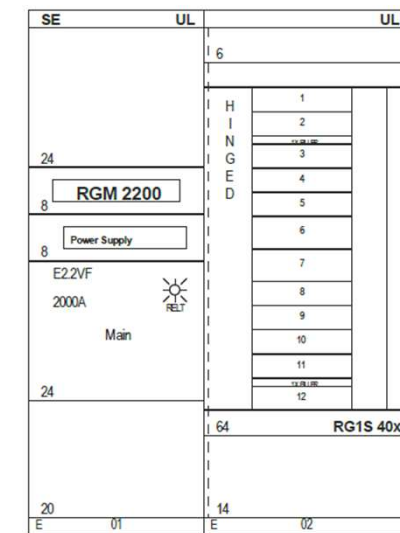


On Demand - Offerings

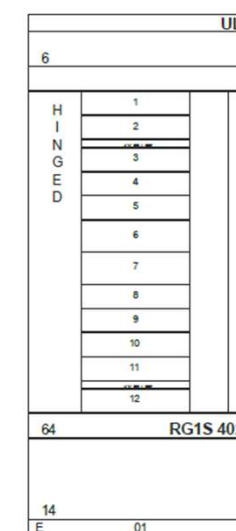
Offers SEVEN pre-configured ReliaGear SB designs by Catalog Number

- Indoor ReliaGear SB 2000A main and feeder section
 - *As a 2/3-Week Cycle or a 10-Week Cycle*
- Indoor ReliaGear SB 2000A add-on feeder section
 - *As a 2/3-Week Cycle or a 10-Week Cycle*
- Indoor ReliaGear SB 4000A main and feeder section
 - *As a 2/3-Week Cycle or a 10-Week Cycle*
- Indoor ReliaGear SB 4000A add-on feeder section
 - *As a 2/3-Week Cycle or a 10-Week Cycle*
- Outdoor ReliaGear SB 2000A main and feeder section
 - *As a 2/3-Week Cycle or a 10-Week Cycle*
- Outdoor ReliaGear SB 4000A main and feeder section
 - *As a 2/3-Week Cycle or a 10-Week Cycle*
- Outdoor ReliaGear SB 4000A add-on feeder section
 - *As a 2/3-Week Cycle or a 10-Week Cycle*

SWBSTS20E or SWBSTS20E-M



SWBSTS20EDIST or SWBSTS20EDIST-M



Items NOT in the On-Demand Switchboard Program

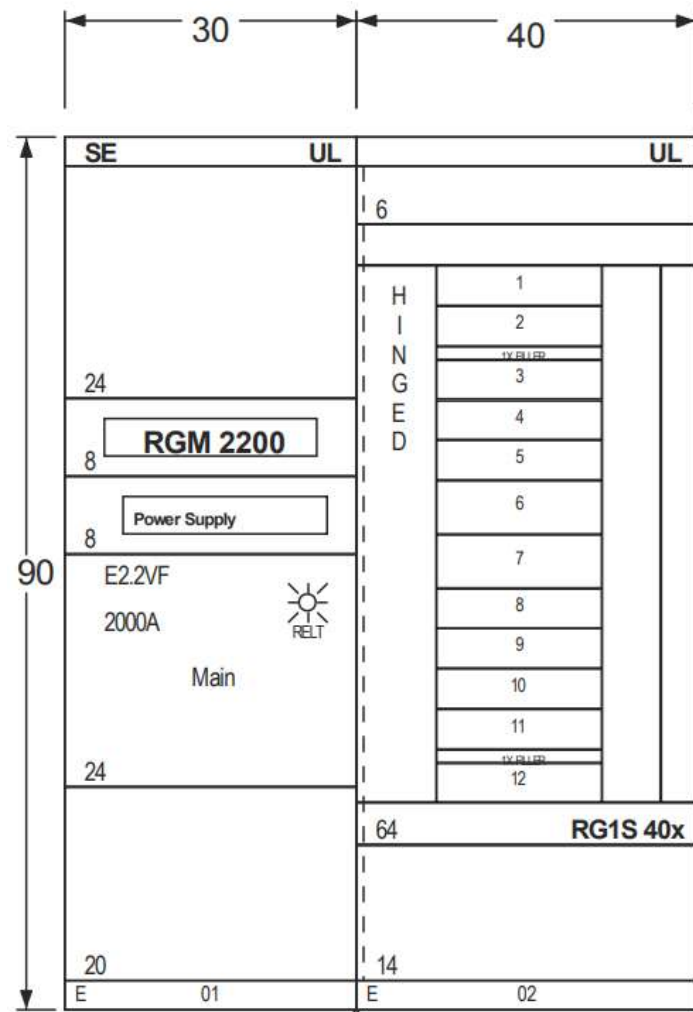
Items NOT in the On Demand Program

- **No integral SPD**
 - Solution = Add a feeder breaker with a remote SPD unit
 - Solution = Remove 10X of feeder breakers and insert the Plug-in SPD Module
- **No main incoming in the top**
 - Solution = Install a side cable trough
- **No close coupling to transformers**
 - Solution = Get SST with a LV air terminal chamber and cable connect into the bottom
- **No utility metering compartments (hot sequence)**
 - Solution = Get a cable-in/cable-out remote utility metering cabinet and cable into the bottom

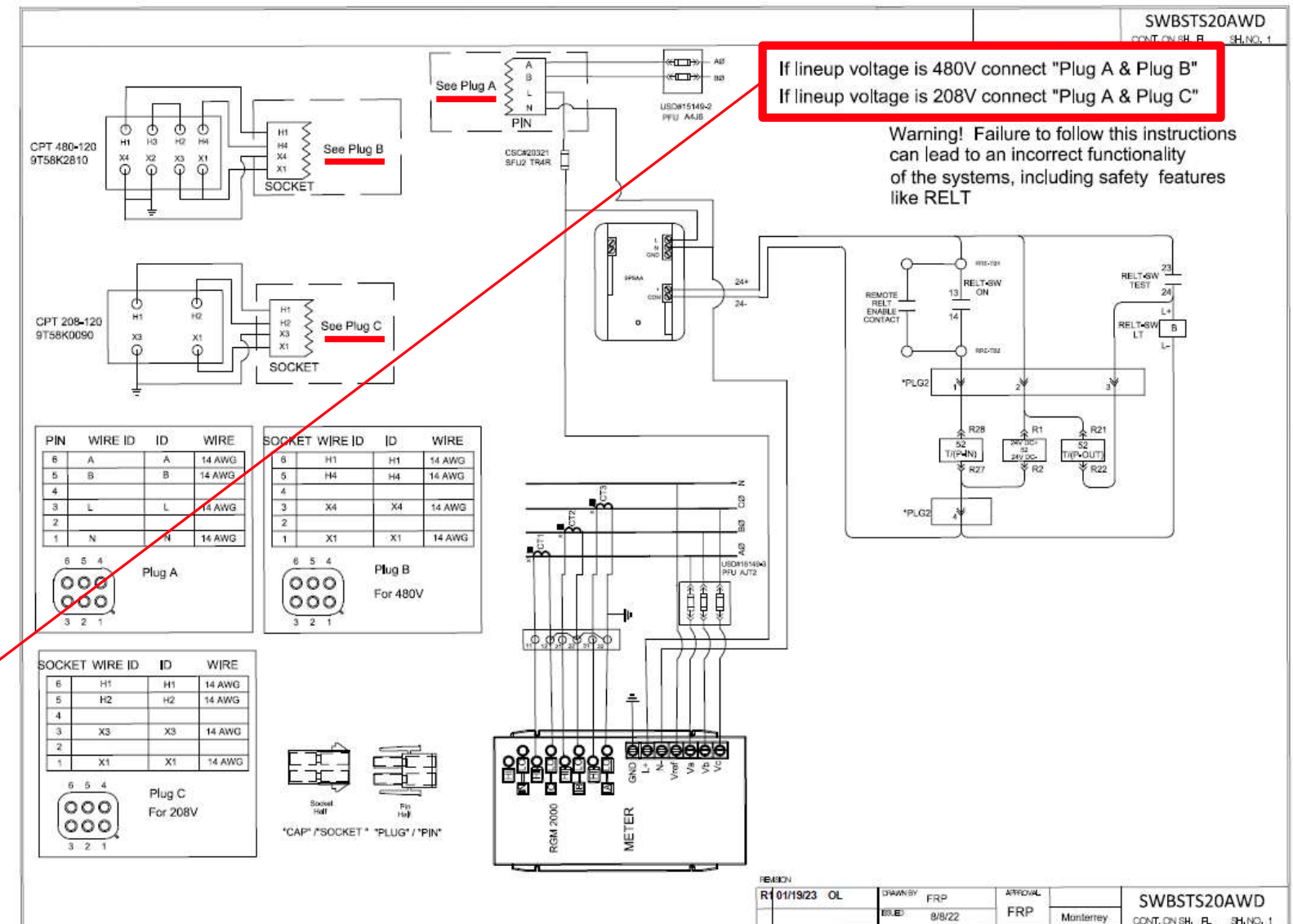
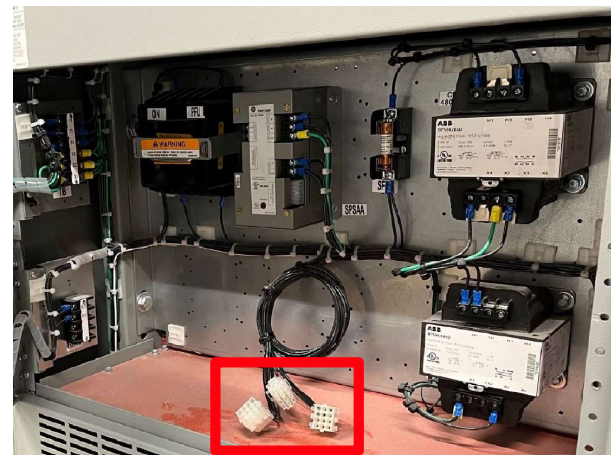
Details & Additions to On-Demand Switchboards Post Shipment

ReliaGear SB On Demand Switchboards Post Shipment Control Power

The Default Configuration is BOTH 120/208V and 277/480V Service
 Need to "field connect" the correct CPT per the Source Voltage

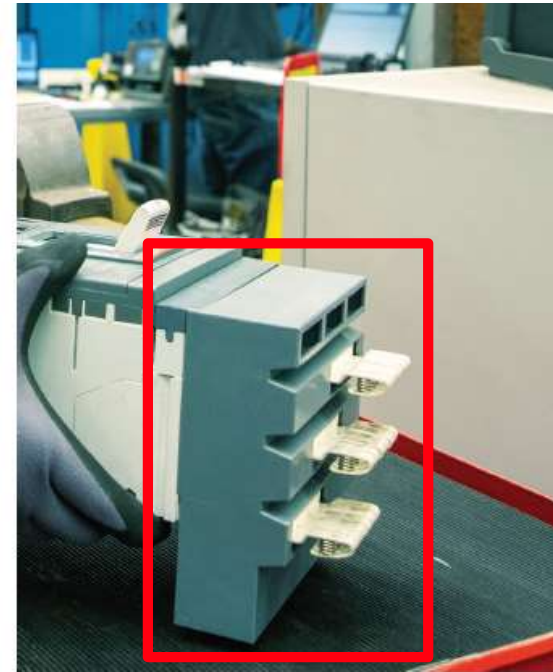


Front View



ReliaGear SB On Demand Switchboards Post Shipment Breakers

- Additional breakers and accessories can be added post-shipment of the base catalog number switchboard units
- These are done as separate component catalog numbers
- The breakers and/or accessories must be ordered with the [ReliaGear SB Line Side Connector](#)



ReliaGear SB On Demand Switchboards Post Shipment Breakers

Record Plus FB

1 & 2 POLE
100 AF



Tmax XT1

125 AF



Tmax XT4

250 AF



Tmax XT5

600 AF



Tmax XT6

800 AF



Tmax XT7

1200 AF



ReliaGear SB On Demand Switchboards Post Shipment Accessories

Surge protection devices (SPD)

- Plug-in module
- Voltages (AC): 120 Wye, 277 Wye, 347 Wye, 480 Delta
- Impulse currents (kA): 65, 80, 125, 150, 200, 300
- Takes up 10X height
- Can be used in all widths, dependent upon the configuration



Reduced Energy Let Through (RELT)

- Plug-in module to mitigate arc flash hazard
- Touch trip unit required
- Voltages (AC): 240, 480, 600
- Compulsory by NEC for 1200 A breaker (XT7)
- Takes up 3X height
- Can be used in all widths, dependent upon the configuration



ReliaGear SB On Demand Switchboards Post Shipment Breaker for Remote SPD (by others)

For the Remote SPD Circuit (30A to 60A Range)

- **XT4LU3060FYG000XXX** = 250A Frame with a **60ASensor** Trip Range is 24A to 60A, 3 Pole / Ekip Dip LSI Trip Unit and **ReliaGear Plug-In Line Side Connector**

For the Remote SPD Circuit (16A to 40A Range)

- **XT4LU3040FYG000XXX** = 250A Frame with a **40ASensor** Trip Range is 16A to 40A, 3 Pole / Ekip Dip LSI Trip Unit and **ReliaGear Plug-In Line Side Connector**

All On Demand Distribution Sections have XT4 Spaces

Using Ekip Dip Trip Units provides continuity of breakers and field adjustable settings

XT4L
250AF / 60AS

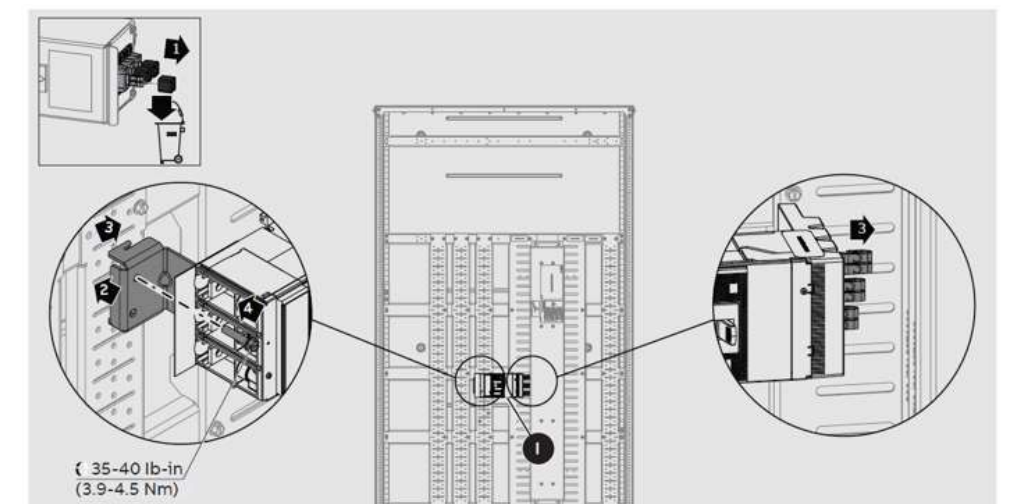


30A
60A

XT4L
250AF / 40AS



15A
40A

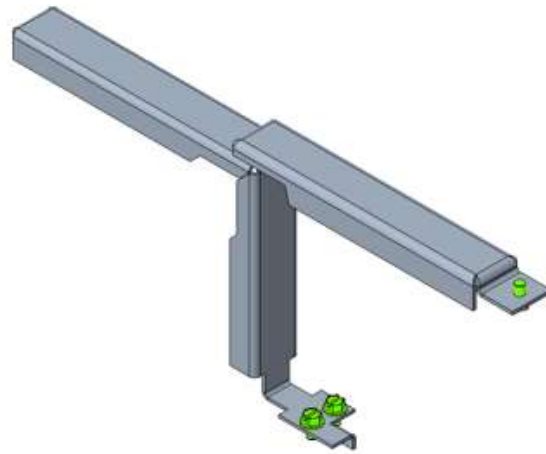


ReliaGear SB On Demand Switchboards Post Shipment

Other

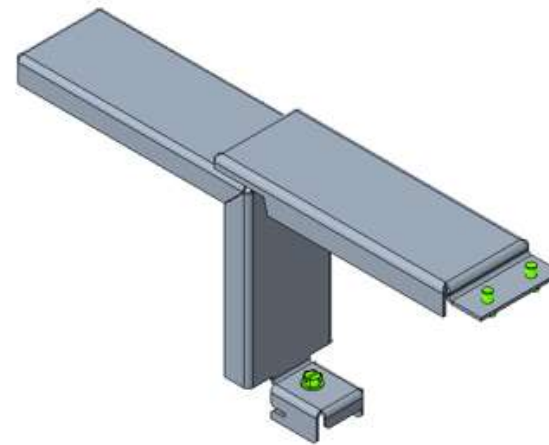
- Additional “Custom” Add-On sections
 - 2000A Main Bus (Horizontal) OR 4000A Main Bus (Horizontal)
 - These will be subject to “Requisition Engineered” Delivery Times
- Blanks and Fillers may be required when adding non-XT4 Breakers

SR01BF



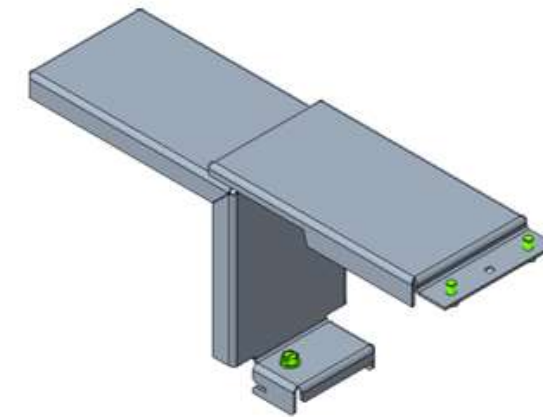
- 1X blank and filler
- Takes up 1X of space within the panel, used on the wide side

SR02BF



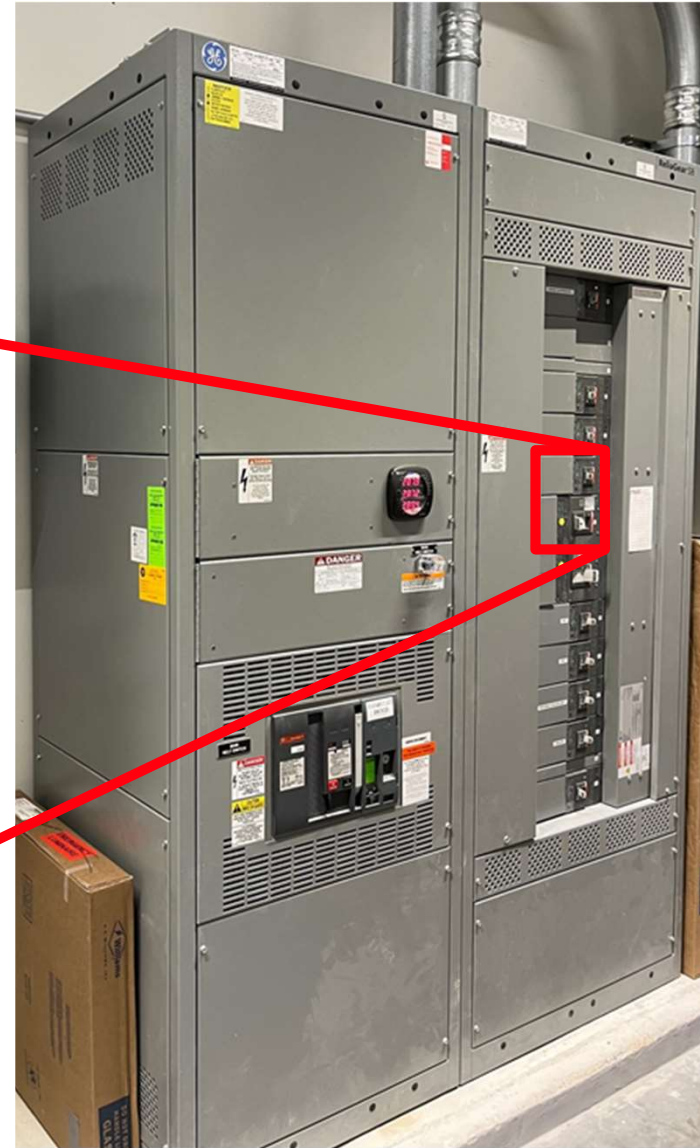
- 2X blank and filler
- Takes up 2X of space within the panel, used on the wide side

SR03BF



- 3X blank and filler
- Takes up 3X of space within the panel, used on the wide side

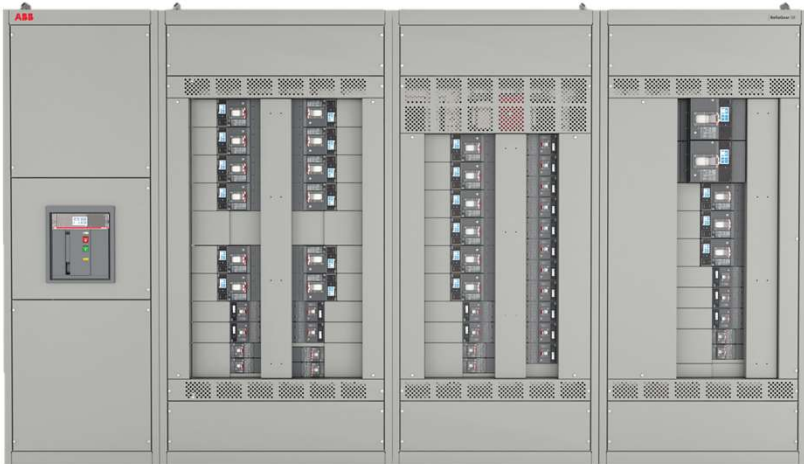
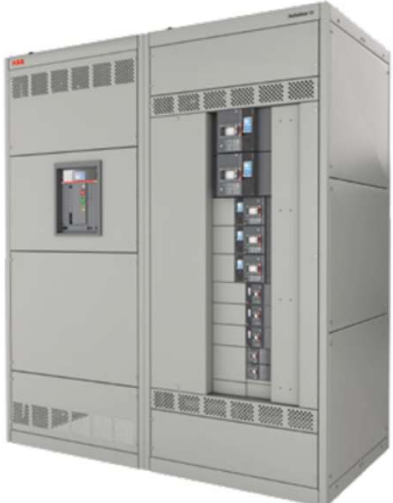
On Demand - Actuality



We have expanded our Switchboard offering to include a more “cost sensitive” offering and at HALF our normal shipping cycle

ReliaGear® SB – **EX**celerate Equipment Offerings

Overview of the Switchboard OFFERINGS



On Demand

EXcelerate

Mid-Cycle

Normal

Program	Switchboard On Demand Emergency	Switchboard On Demand Mid Cycle	Reliagear SB - EXcelerate (CTO)	Reliagear SB - Standard SB - Mid Cycle	Reliagear SB - Standard SB - Normal	Reliagear SB - Standard SB - Normal +
Lead time before PFA	2-3 weeks	10 weeks	20 weeks	30 weeks	40 weeks	45 weeks
PFA (if needed)	not required	not required	not required	6 weeks	8 weeks	8 weeks
Type	SKU	SKU	Configured to Order	Engineered to Order	Engineered to Order	Engineered to Order
Number of configurations available	7	7	~3,200	Over 250K	Over 1M	Over 1M
Max Current	4,000	4,000	4,000	4,000	6,000	6,000
Enclosure options	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R
Interrupting Rating	100kAIC	100kAIC	65/100kAIC	Up to 150kAIC^	Up to 150kAIC^	Up to 150kAIC^
Price	Market \$\$\$	Market \$\$	Market \$	Market	Market	Market to Market \$

EXcelerate – Steps in the Process

Step 1: Remove Engineering

Current State (Engineered To Order) vs Configured To Order

EMPOWER

Switchboards (NEMA) HQ

Quote: EV SWB | UAF-00009498 | Original version | Save & Exit | Save | Cancel

Item 1 | Switchboard, ReliaGear AV2 | Messages (1) | Favorites | BOM

Lineup | Utility | Incoming Service Disconnect | Feeders | Meter Monitoring | Options | ZTS | Lighting Contactors | Mounting Plate | Transformer | Breaker Plate | Panelboard | Misc AddOns | Drawing Notes | Layout | Drawings | Help

Marks (20 Characters Max) | Switchboard Type: Standard Switchboard | Panel Type: ReliaGear (C/B feeders only)

Application: Main Disconnect | MTM Interlock Type

Ratings

Voltage: 480/277 AC | Phase/Wire/Hz: 3/4/60 | HI Leg | Amps: 2000 | Feed Type: Lugs/Cable

IC Rating (kAIC): 10 | Bus Bracing S/C (KA): 65 | Service Entrance | Feed Location: Top | Section Alignment: Front/Rear | Rear Only

Rating Type: Fully | Series | CUL | Incoming Location: Left | Center | Right | Left and Right

Bus

Material: Aluminum | Bus Plating: Tin Plate | Bus Density: 750 A/Sq. In. | Enclosure Type: Type 1 | Access: Front Only

Ground Rating: Equipment U/L With Lug | Copper Ground | Neutral Rating: 100% Rated | Special Mods: None

Customers uses Empower and select more than 250 input fields...

Customer Inputs:

- Amps, Volts
- kAC rating
- N1, N3R
- # Dist Breakers
- Etc..

... + unlimited free text requests

Note Number	Note Text
1	Add Coffee Machine on section 3

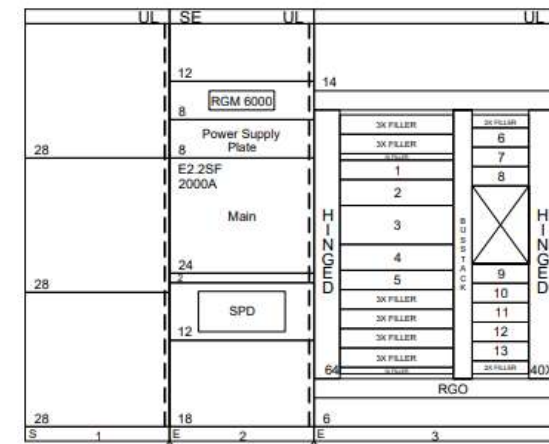
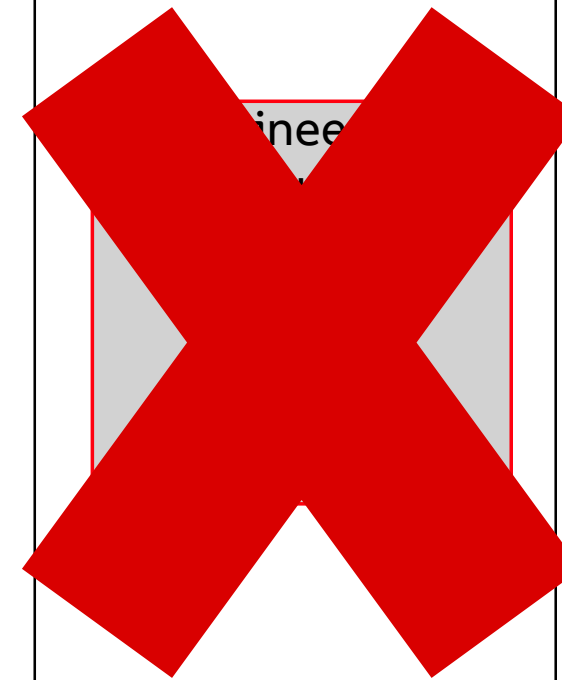
Add Delete Copy

Note: Drawing Notes can be a maximum of 100 characters. Additional text will be truncated.

ENGINEERING

MANUFACTURING

~ 3200 Configurations



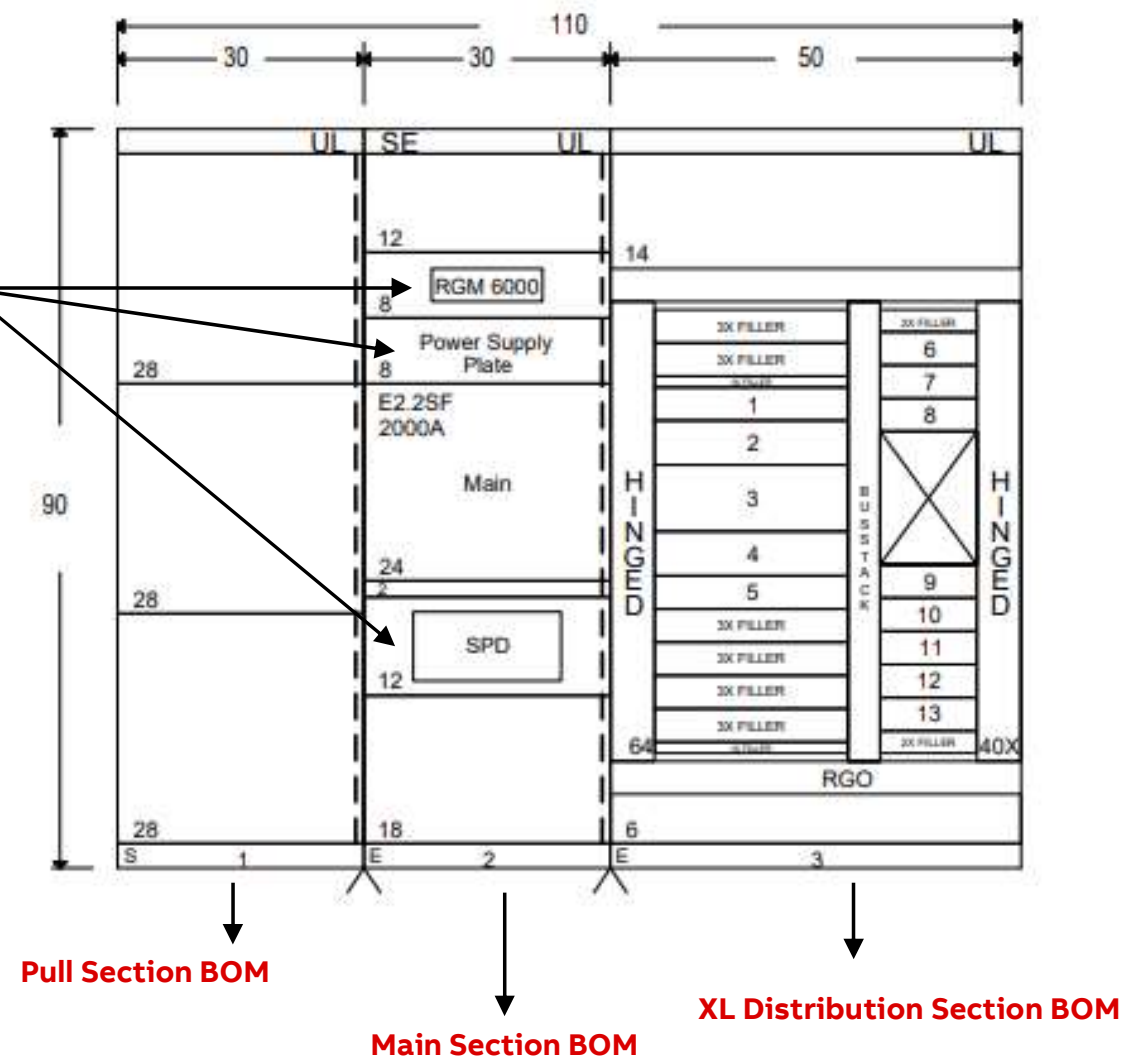
EXcelerate – Steps in the Process

Step 2: Modular Design

Modules:

- Enclosure
- Bus
- SPD Assembly
- Metering Assembly
- Lateral Covers
- Power Supply Plate
- Ground Fault CTs
- Seismic Kit
- Space Heaters

Auxiliary Circuits always in the same location. If not selected, a blank cover will be placed in the location



Pre-engineered sub assemblies that can be combined in modular way

EXcelerate – Steps in the Process

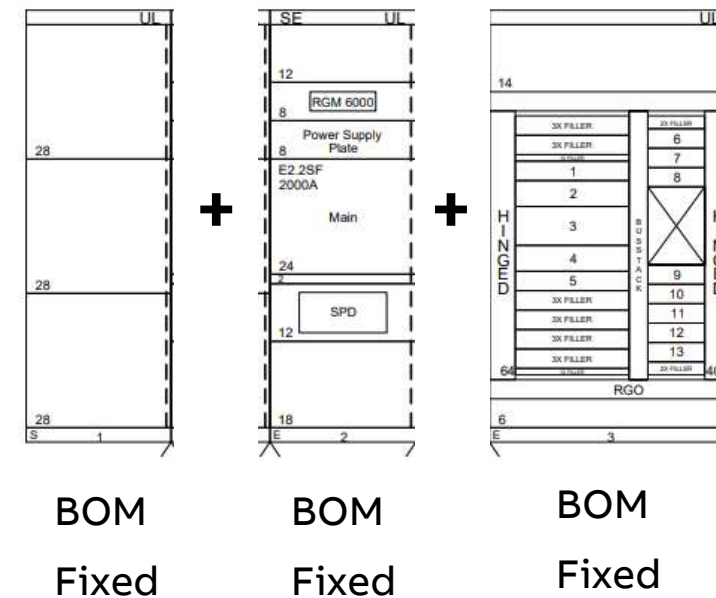
Step 3: Fixed BOM

➤ What changes and what remains the same

- **Still based on Empower** (same customer experience), but with only 7 main input fields (instead of 250), and no free text. Inputs selected to cover the most **requested and essential** features.
- **No engineering time needed.** Empower is still creating the line-up, but it will do so using already-engineered building blocks.
- Design and layout are no longer estimated and confirmed after engineering processes.
- Still allows for selection of desired breakers.

Customer Inputs:

Voltage	AMP	RATING	MATERIAL	ENCLOSURE	CABLE ENTRY/EXIT	FUNCTION
Value	Value	Value	Value	Value	Value	Value
480/277	1200	65	COPPER	N1	TOP	Buss Pull Section
208/120	1600	100	ALUMINUM	3R	BOTTOM	
600/347	2000				N/A	Cable In Main (Emax 2)
	2500					Main from Bus to Bus (Emax 2)
	3000					SMALL DISTRIBUTION (1Sided 30 wide)
	4000					MEDIUM DISTRIBUTION (1 sided 40 wide)
						MEDIUM DISTRIBUTION (Offset 40 wide)
						LARGE DISTRIBUTION (1 sided 45 wide)
						X-LARGE DISTRIBUTION (Offset 50wide)
						BLANK (15 wide)*



BOM
Fixed

BOM
Fixed

BOM
Fixed

EXcelerate – Steps in the Process

Step 4: Dedicated Production Lines

Dedicated assembly line

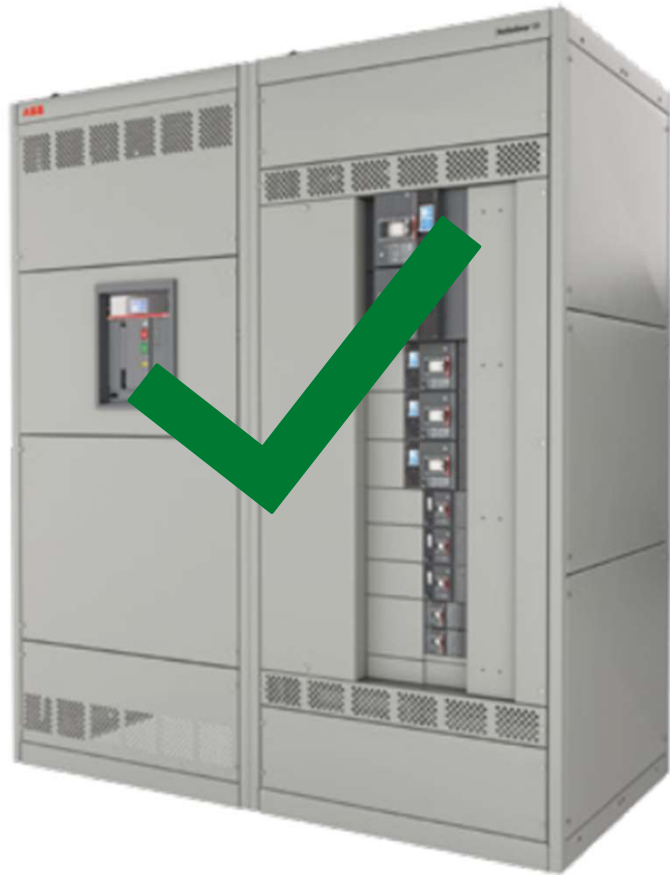
- 2 new dedicated lines have been built in the factory
- The modular approach allows a faster assembly time making the CTO line to have a similar capacity of the current ETO manufacturing



ReliaGear® SB - **EX**celerate Equipment Offerings

EXcelerate – Offerings In Scope

ReliaGear® SB



- 3 phase 4 wire SWBD Line ups with **1 Main Disconnect Breaker and Group Mounted Distribution Breakers**
- **Main Breaker is Emax Ekip Touch LSIG + RELT Manually Operated**
- Indoor & Outdoor enclosures (N1, N3R)
- 1200 to 4000 Ampacity
- Copper & Aluminum Bussing 65kA and 100kA
- XT1 to XT7 distribution Breakers (**TMA & Ekip DIP, Touch for XT7 1200 only**)
- **Fixed Section Width** (*determined by Amperage*) and **Depth** (*front and rear aligned*)
- **Optional SPD Type 1 and 2, 125kA and 200kA individually mounted ***
- **Optional RGM meter 2200, 6000, 6010 and 7000 ***
- **Single section shipping split**

*** Specification review/update may occur**

EXcelerate – Offerings Not In Scope

ReliaGear® SB

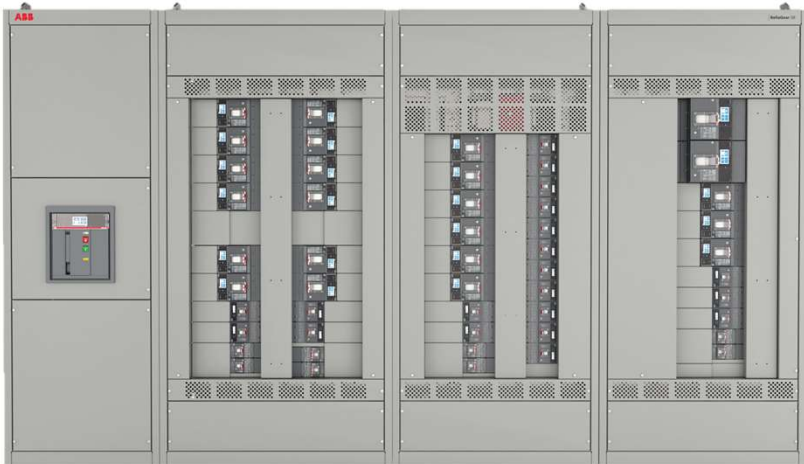


- 5000A and 6000A
- Touch/Hi-Touch trip units (exception XT7 1200A feeders)
- Commercial Metering
- Utility Metering Compartments
- Bus Bracing 150kA and 200kA
- Walk-in Enclosures
- Motor Operated Breakers
- Sub-metering
- Intermix Main + Panel Sections
- Transformer, Lighting Panel
- Increased Depth and/or Width

If the project design does NOT fit either On-Demand or EXcellerate, the “normal” shipping cycle option is still available, BUT you may still be able to shorten the shipping cycle.

ReliaGear® SB – Mid-Cycle Equipment Offerings

Overview of the Switchboard OFFERINGS



On Demand

EXcelerate

Mid-Cycle

Normal

Program	Switchboard On Demand Emergency	Switchboard On Demand Mid Cycle	Reliagear SB - EXcelerate (CTO)	Reliagear SB - Standard SB - Mid Cycle	Reliagear SB - Standard SB - Normal	Reliagear SB - Standard SB - Normal +
Lead time before PFA	2-3 weeks	10 weeks	20 weeks	30 weeks	40 weeks	45 weeks
PFA (if needed)	not required	not required	not required	6 weeks	8 weeks	8 weeks
Type	SKU	SKU	Configured to Order	Engineered to Order	Engineered to Order	Engineered to Order
Number of configurations available	7	7	~3,200	Over 250K	Over 1M	Over 1M
Max Current	4,000	4,000	4,000	4,000	6,000	6,000
Enclosure options	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R
Interrupting Rating	100kAIC	100kAIC	65/100kAIC	Up to 150kAIC^	Up to 150kAIC^	Up to 150kAIC^
Price	Market \$\$\$	Market \$\$	Market \$	Market	Market	Market to Market \$

Normal (Possible Mid-Cycle) - Overview

Mid-Cycle Option for ETO Switchboards

A new way to bring Lead time improvements to all the customers



WHY: We offer currently the best lead time in the market, and we want more customers to be able to benefit from it



HOW: via empower, all integrated in the same tool we use today to design our Switchboards



WHAT: On a specific scope that currently fall under the Standard (ETO) Switchboard, we will offer the possibility to require a **faster lead time** without the need of a pre-negotiation

A small premium will be applied to the order when the faster Lead Time is requested

Drawing availability will follow an expedited 6 weeks timing

Normal (Possible Mid-Cycle) – Added Items to the Scope of EXcelerate

Mid-Cycle option for ETO Switchboards

EXcelerate Scope:

- 3 phase 4 wire SWB line ups with:
 - 1 Incoming lug entry
 - 1 Main disconnect breaker (Emax 2 LSIG)
 - Group mounted distribution breakers
- Bussed Pull Section, Cable In Main, and Cable In/Cable Out Main
- RELT manual operation
- Indoor & outdoor enclosures (NEMA type N1 & N3R)
- 480, 208 Volts
- 1200 to 4000 Ampacity
- Copper & Aluminum bussing 65kA and 100kA
- XT1 to XT7 distribution breakers
 - TMA, Ekip DIP, or Touch (XT7 1200 only)
- Fixed section width (determined by Amperage)
- 35” depth (front and rear aligned)
- Optional SPD Type 1 and 2, 125kA and 200kA individually mounted
- Optional RGM meters 2200, 6000, 6010 and 7000
- Single section shipping split



Mid Cycle added scope:

- Front/Rear Access
- 3P/3W
- Individually Mounted Feeders
- Busway Connections
- PBII (no HPCII)
- Expanded accessory selection for all “in scope” breakers
- Group Mounted SPD
- Added more Options
 - Floor plates/sills, full height section barriers, full height vertical bus for distribution section

Specification review with ETO review could result in a 10-week cycle reduction from Normal Cycle to Mid-Cycle

Normal (Possible Mid-Cycle)

The screenshot displays the ABB empower web application interface. At the top left is the ABB empower logo. The top right contains a navigation bar with a 'Return to Salesforce' button, a 'Try New Layout' toggle, a search bar, and a user profile for 'Dennis'. A blue notification banner at the top states: 'Document Generation Slowness: empower is currently experiencing performance issues with generating/downloading documents inside empower Quote. We will continue to monitor the issue.' Below this is a breadcrumb trail: 'ReliaGear SB Examples | UAK-00041484 | Original version | Open'. A horizontal menu includes 'Details', 'Pricing', 'BOM' (highlighted with a red box), 'Documents', 'Orders', 'Rebates', 'History', and 'Notes'. The main content area is titled 'Bill of Materials' and features a 'Filter by keyword' search bar and dropdown menus for 'Product Family', 'Tags', and 'Options'. A table lists the BOM items with columns for 'Item', 'Description & Marks', 'Catalog No.', and 'Qty.'. The 'Qty.' column contains material codes (S, M, N) and quantities (1, 3). A red box highlights the 'S' codes in the 'Qty.' column for the first seven items. Red arrows point from the 'M' and 'N' codes to the 'S' code in the 'Qty.' column. The Windows taskbar at the bottom shows the time as 9:49 AM on 2/16/2024.

Item	Description & Marks	Catalog No.	Qty.
<input checked="" type="checkbox"/>	Evolution Main Section 35W 45D 90H (Est.) lbs 902		S 1
<input checked="" type="checkbox"/>	Evolution Individually Mounted Feeder Section 30W 40D 90H (Est.) lbs 715		S 1
<input checked="" type="checkbox"/>	Group Mounted Feeder ReliaGear Panel Section 40W 30D 90H (Est.) lbs 944		S 1
<input checked="" type="checkbox"/>	Bus Bracing 65000 AIC		S 3
<input checked="" type="checkbox"/>	Evolution - Fully Rated Copper Bus 1000 A/Sq. in.		M 3
<input checked="" type="checkbox"/>	Ground: Equipment U/L With Lugs		S 3
<input checked="" type="checkbox"/>	MimicBus - Blue Plastic Screw On		N 3
<input checked="" type="checkbox"/>	Full Height Side Barriers		S 1
<input checked="" type="checkbox"/>	Front Only Access		
<input checked="" type="checkbox"/>	Hinged Wire Gutter Cover		

ReliaGear® SB – **Normal & Normal+** Equipment Offerings

Overview of the Switchboard OFFERINGS



On Demand

EXcelerate

Mid-Cycle

Normal

Program	Switchboard On Demand Emergency	Switchboard On Demand Mid Cycle	Reliagear SB - EXcelerate (CTO)	Reliagear SB - Standard SB - Mid Cycle	Reliagear SB - Standard SB - Normal	Reliagear SB - Standard SB - Normal +
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Max Current	4,000	4,000	4,000	4,000	6,000	6,000
Enclosure options	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R
Interrupting Rating	100kAIC	100kAIC	65/100kAIC	Up to 150kAIC^	Up to 150kAIC^	Up to 150kAIC^
Price	Market \$\$\$	Market \$\$	Market \$	Market	Market	Market to Market \$

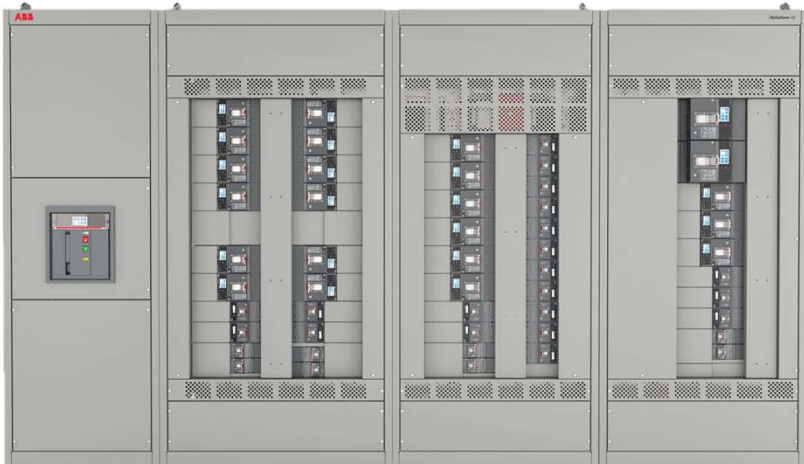
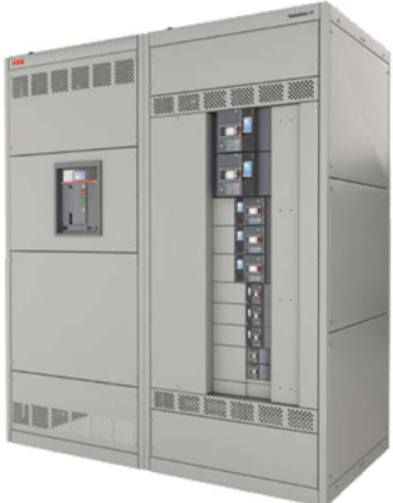
Normal & Normal+ – Offerings In Scope

ReliaGear® SB



- 5000A and 6000A
- Touch/Hi-Touch trip units
- Commercial Metering
- Utility Metering Compartments
- Bus Bracing 150kA and 200kA
- Walk-in Enclosures
- Motor Operated Breakers
- Sub-metering
- Intermix Main + Panel Sections
- Transformer, Lighting Panel
- Increased Depth and/or Width
- Main-Generator
- Main-Tie-Main
- Automatic Transfer
- More

Overview of the Switchboard OFFERINGS



On Demand

EXcelerate

Mid-Cycle

Normal

Program	Switchboard On Demand Emergency	Switchboard On Demand Mid Cycle	Reliagear SB - EXcelerate (CTO)	Reliagear SB - Standard SB - Mid Cycle	Reliagear SB - Standard SB - Normal	Reliagear SB - Standard SB - Normal +
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Max Current	4,000	4,000	4,000	4,000	6,000	6,000
Enclosure options	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R	N1/N3R
Interrupting Rating	100kAIC	100kAIC	65/100kAIC	Up to 150kAIC^	Up to 150kAIC^	Up to 150kAIC^
Price	Market \$\$\$	Market \$\$	Market \$	Market	Market	Market to Market \$

Circuit Breaker / Trip Unit Overview

TMF = Thermal Magnetic Fixed



NO Settings

I1 = Long Time Fixed Pickup = 1.0 of In (Nominal Rating)
I3 = Instantaneous Fixed Pickup = 10.0 of In (Nominal Rating)

TMA = Thermal Magnetic Adjustable



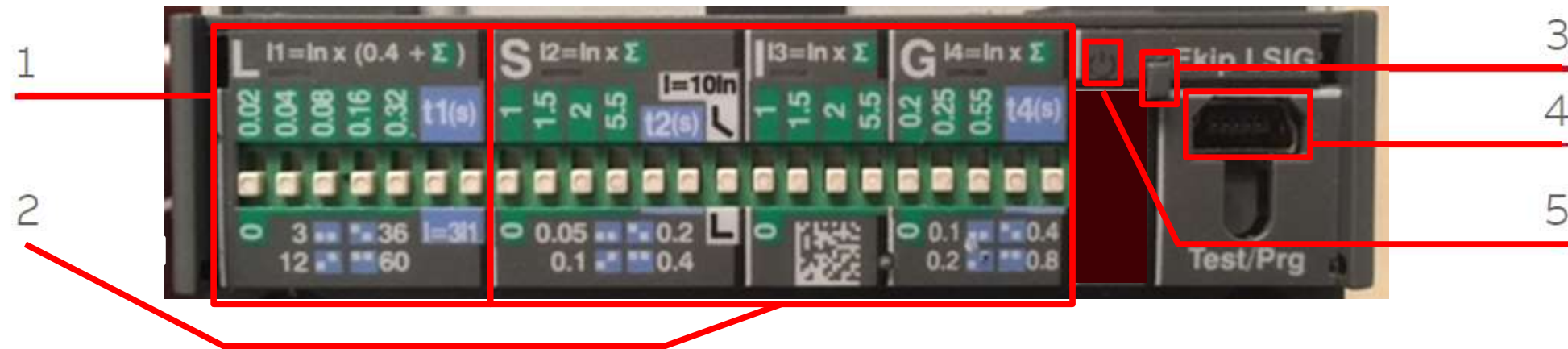
5 LTPU Settings

5 IPU Settings

I1 = Long Time Adjustable Pickup = 0.7 to 1.0 of In (Nominal Rating)
I3 = Instantaneous Adjustable Pickup = 5.0 to 10.0 of In (Nominal Rating)

EKIP DIP = Adjustable with Switches

- Key:
1. Dip switches for an overload protection setting.
 2. Dip switches for short circuit and time delayed short circuit protection settings.
 3. Slot for lead seal.
 4. Test connector.
 5. Power-on LED.



32 LTPU Settings

4 LTD Settings

16 STPU Setting

4 STD Settings

2 ST Curve Settings

15 IPU Settings

8 GFPU Settings

4 GFD Settings

I_1 = Long Time Pickup = 0.4 to 1.0 of I_n (Nominal Rating)

t_1 = Long Time Delay = 3, 12, 36, 60 Seconds

I_2 = Short Time Pickup = 1.0 to 10 of I_n (Nominal Rating)

t_2 = Short Time Delay = 0.05, 0.1, 0.2, 0.4 Seconds

curve2 = $t=k(\text{step})$, $t=k/i^2(\text{slope})$

I_3 = Instantaneous Pickup = 5.0 to 10.0 of I_n (Nominal Rating)

I_4 = Ground Fault Pickup = 0.2 to 1.0 of I_n (Nominal Rating)

t_4 = Ground Fault Delay = 0.1, 0.2, 0.4, 0.8 Seconds

EKIP Touch = Adjustable with Touch Screen



600 LTPU Settings

141 LTD Settings

5 LT Slope Settings

95 STPU Settings

35, 75 STD Settings

2 ST Slope Settings

136 IPU Settings

900 GFPU Settings

20 GFD Settings

2 GF Slope Settings

I1 = Long Time Pickup = 0.4 to 1.0 of In (Nominal Rating) in 0.001 x In Steps **or 1 Amp**

t1 = Long Time Delay = 3.0 to 144 Seconds in 1 Second Steps

curve1 = $t=k/i^2$ (slope), IEC-151-SI, IEC-151-VI, IEC-151-EI, $t=k/i^4$

I2 = Short Time Pickup = 0.6 to 10 of In (Nominal Rating) in 0.1 x In Steps

t2 = Short Time Delay = 0.05 to 0.4 or 0.8 Seconds in 0.01 Second Steps

curve2 = $t=k$ (step), $t=k/i^2$ (slope)

I3 = Instantaneous Pickup = 1.5 to 15 of In (Nominal Rating) in 0.1 In Steps

I4 = Ground Fault Pickup = 0.1 to 1.0 of In (Nominal Rating) in Steps of 0.001 In **or 1 Amp**

t4 = Ground Fault Delay = 0.05 to 1.0 Seconds in 0.05 Second Steps

curve4 = $t=k$ (step), $t=k/i^2$ (slope)

EKIP Touch = Adjustable with Buttons

XT2 = 125AF
TX4 = 250AF



- Key:**
1. Push-button for testing and tripping information
 2. Display
 3. Bush-buttons for navigation
 4. Power-on LED; pre-alarm LED; alarm LED
 5. Test and programming connector



EKIP Touch = Adjustable with Touch Screen

TX5 = 600AF
TX7 = 1200AF



- Key:**
1. Power-on LED; pre-alarm LED; alarm LED
 2. Test and programming connector
 3. Display
 4. Home push-button to return to homepage;
 5. Push-button for testing and tripping information



TMaxXT XT4 Breaker (250AF)



TMF



TMA



**Ekip Dip
LSI or LSIg**



**Ekip Touch
LSI or LSIg**

Breaker Details



XT1
15A
125A



XT2
10A
125A



XT3
80A
125A



XT4
25A
250A



XT5
250A
600A



XT6
600A
800A



XT7
800A
1200A



TMF
15-125



TMF/TMA
15-70/80-125



TMF



TMF/TMA
25-250/80-250



TMA
300,400,500,600



TMA
600 OR 800



Ekip Dip (LSI, LSIG)
10/25/60/100/125
LTPU 0.4-1.0



Ekip Dip (LSI, LSIG)
40/60/100/150/225/250
LTPU 0.4-1.0a



Ekip Dip (LSI, LSIG)
250/300/400/600
LTPU 0.4-1.0



Ekip Dip (LSI, LSIG)
600/800
LTPU 0.4-1.0



Ekip Dip (LSI, LSIG)
800/1000/1200
LTPU 0.4-1.0



Ekip Touch (LSI, LSIG)
Button
40/60/100/125
LTPU 0.4-1.0



Ekip Touch (LSI, LSIG)
Button
100/150/225/250
LTPU 0.4-1.0



Ekip Touch (LSI, LSIG)
Screen
250/300/400/600
LTPU 0.4-1.0



Ekip Touch (LSI, LSIG)
Screen
800/1000/1200
LTPU 0.4-1.0

(RELT)

ReliaGear® SB - EXcelerate

Marketing Material

[Promotional Video\(External\)](#)



AABB