Industrial Solutions

DESCRIPTIVE BULLETIN

ReliaGear® SB

Switchboards

The road to reliability

by ABB

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The road to reliability
ReliaGear® SB

Ready to dramatically speed up field modifications and eliminate labor-intensive bolt-on components? Plug into what's next in switchboards: ReliaGear SB.

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01 One-sided configurations available to minimize the width

ReliaGear SB features a safe, reliable design and groundbreaking Tmax XT plug-in circuit breakers to dramatically save time, labor, and cost while helping to ensure greater energy efficiency and reliability.

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01

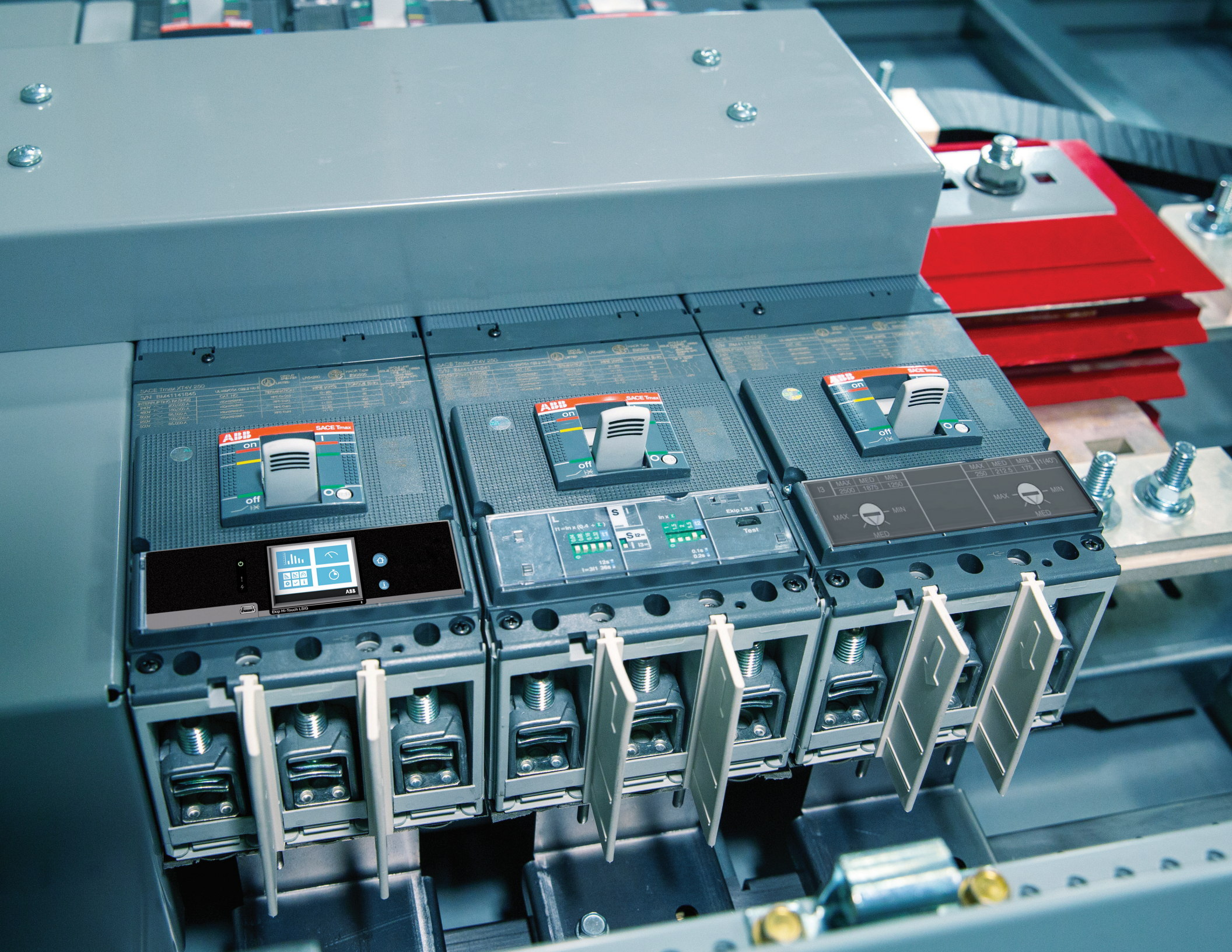


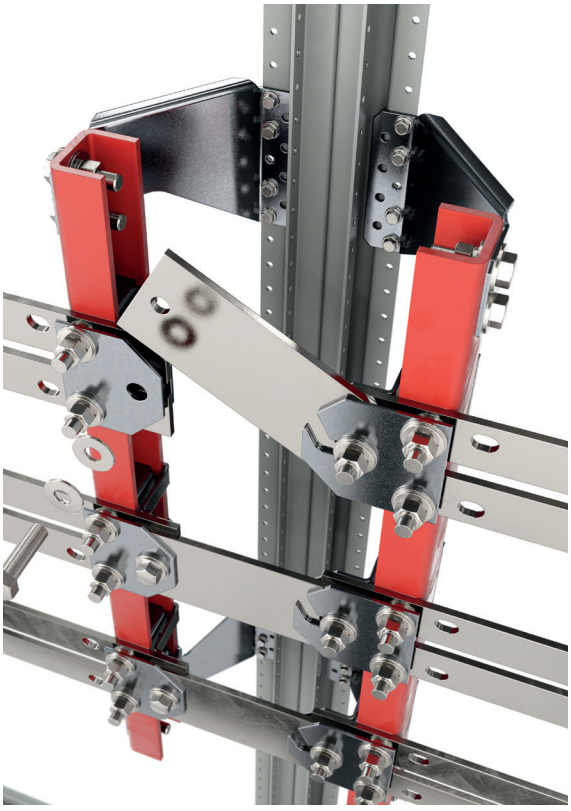
ABB
SACE Tmax
on
off
Ekip Hi-Touch LSIG
Ekip LS/I
Test
MAX
MED
MIN

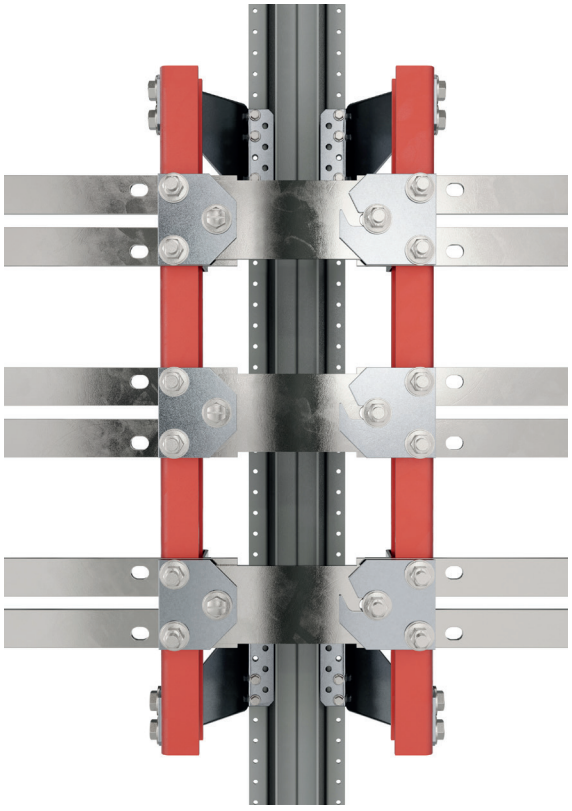
Install components in seconds
Safe. Smart. Sustainable.

—
02 Hinged splice plate with captive hardware

SAFE

The next level of protection
ABB is passionate about safety. From the largest piece of arc-resistant switchgear down to the smallest arc fault and ground fault sensing circuit breaker, ABB is always designing ways to help keep personnel out of harm's way. ReliaGear panelboard and switchboard designs come with an improved finger-safe bus stack that meets IP20 standards. Thanks to the circuit breaker integrated Bluetooth® technology, it is also possible to set parameters and check measurements directly from your smartphone from an arc-free zone.





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02

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03 Finger-safe bus stack that meets IP20 standards in select models

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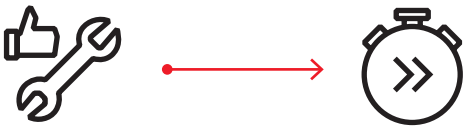
04 Spring-loaded circuit breaker plug-in connectors

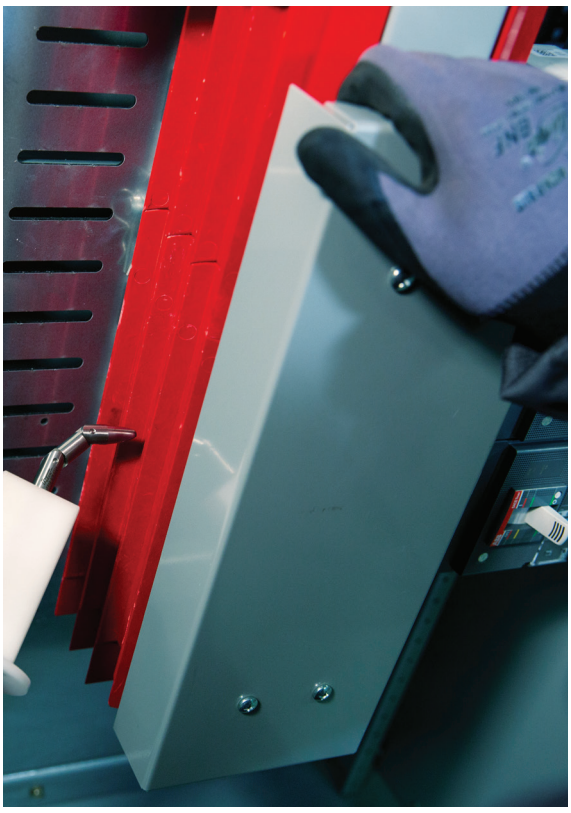


SMART

Modular, flexible, fast
The ReliaGear SB features plug-in, single-tool simplicity enabling easy, fast component installation or replacement in the field. For even greater flexibility, circuit breakers can be installed anywhere on the bus stack. Hinged gutter doors allow quick, convenient access for wiring of circuit breakers. Captive splice plates between sections allow for quick assembly.

SUSTAINABLE

Dependable connections
Spring-loaded circuit breaker plug-in connectors have plating that is durable enough to withstand repeated insertion and removal. Levering features further reduce installation and removal forces. The plug-in connector design uses the magnetic forces generated by a short circuit event to help make the connection even stronger and more reliable. Fewer bolted joints mean fewer potential loose connections to check and retorque.



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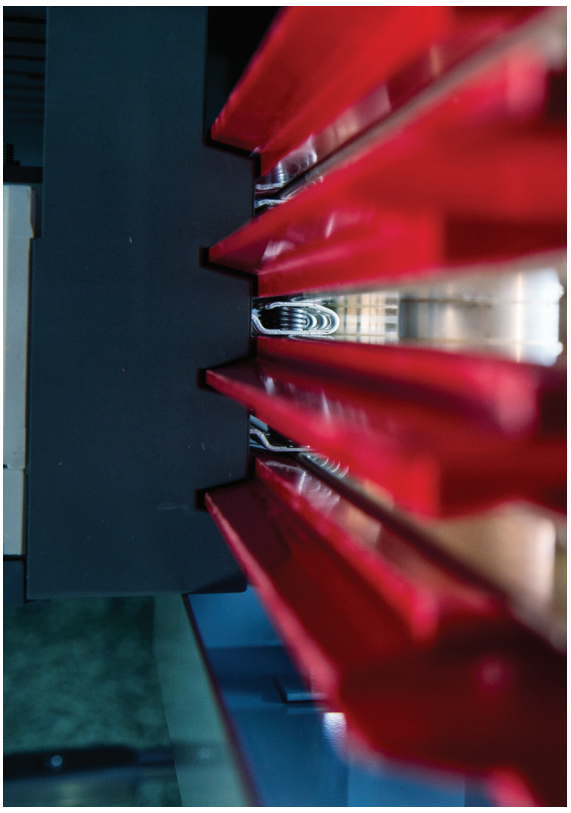

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04

Tmax XT plug-in circuit breakers feature spring-loaded primary disconnects, enabling fast installation, easy replacement and reliable connection to maximize uptime.

When reliability matters, count on ReliaGear SB.
To learn more, contact your ABB representative or visit abb.com/lowvoltage/switchboards.

More advantages

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05 Angled lifting brackets for fast placement

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06 Remote access to accurate information anywhere, anytime

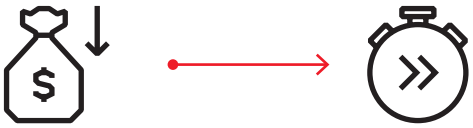
—
07 Components can be installed in as little as 20 seconds

SAFE

Set in place
With ReliaGear SB, angled lifting brackets enable switchboard sections to be placed together without having to remove the brackets, allowing for faster, more precise placement of switchboard sections next to each other.

SMART

Link to data analysis in real time
With ABB Ability cloud connectivity, multiple communication options and built-in metering, Tmax XT circuit breakers put facility managers in control. Precise measured data allows users to access accurate information anywhere or anytime, making it easier to monitor resources and identify savings opportunities.



SUSTAINABLE

Speed up your project
Reducing labor and saving time is crucial for electrical contractors. In fact, an 8% savings in labor costs for a typical large project can mean 133% more profit for the contractor.* ReliaGear SB's intuitive installation enables components to be installed in as few as 20 seconds, dramatically saving skilled-labor costs, reducing downtime and lowering the risk of mistakes.

*From “How to Make a Good Estimate Even Better” by Don Kiper, |EC&M, 2017.

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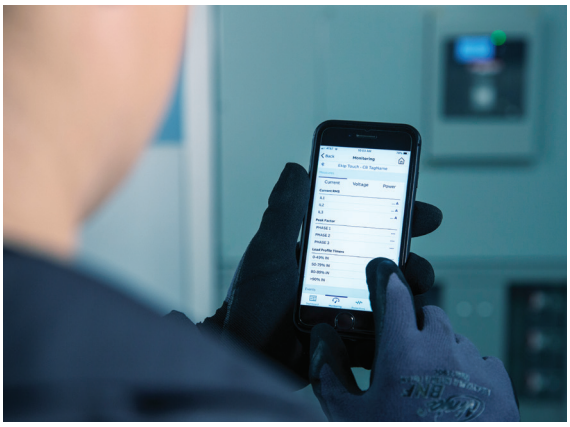
05



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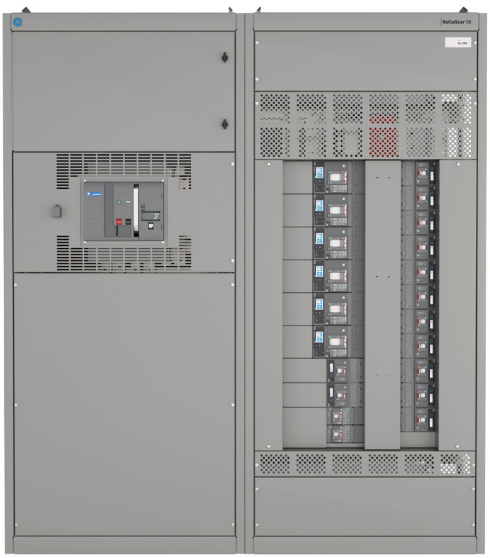
Switchboard details

ReliaGear SB can be equipped with circuit breakers from 15 to 5000 A. The maximum short circuit rating is equal to 100 kAIC at 480 VAC or the lowest current interruption rating of any device installed.

ReliaGear SB can be used on the following system voltages:
- 240 V AC; 3-phase, 3-wire
- 480 V AC; 3-phase, 3-wire
- 600 V AC; 3-phase, 3-wire
- 208Y/120 V AC; 3-phase, 4-wire
- 480Y/277 V AC; 3-phase, 4-wire
- 600Y/347 V AC; 3-phase, 4-wire

Available environmental enclosure types
- NEMA 1
- NEMA 3R

Section depths
- 25–60" in 5" increments
- (5000 to 6000 A - 30" minimum depth)



ReliaGear SB is available with multiple options

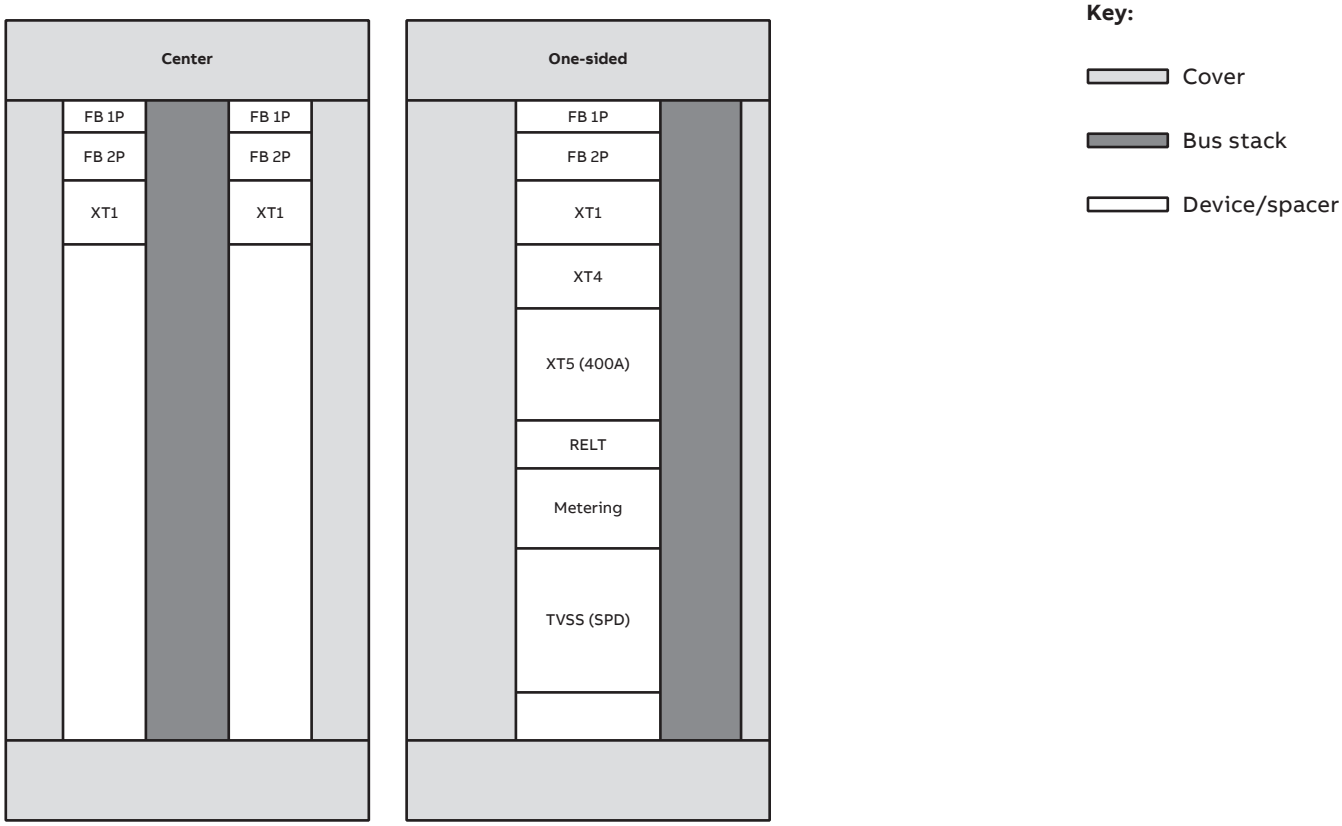
- **Feed location:**
  Top or bottom

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

- **Bus stack material:**
  Copper or aluminum, heat-rated or density-rated

ReliaGear SB group-mounted distribution sections come in three bus stack configurations: center, offset, and one-sided. The bus stack configuration and width of the switchboard section determine the maximum ampacity circuit breaker allowed on the side(s) of the bus stack.

Device fit per section width



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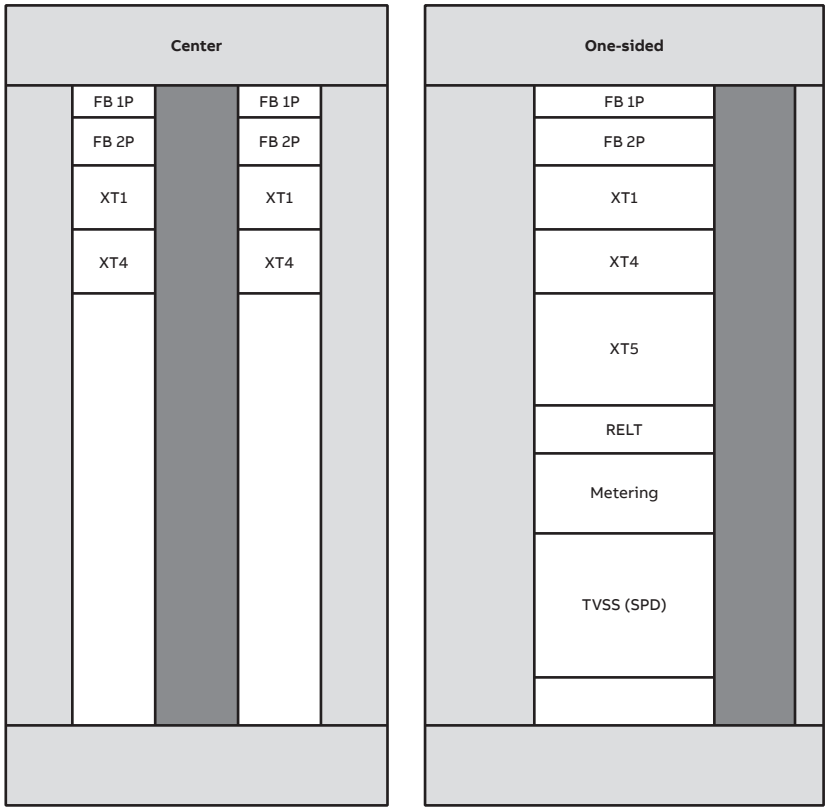
08 Device mounting configurations 30W



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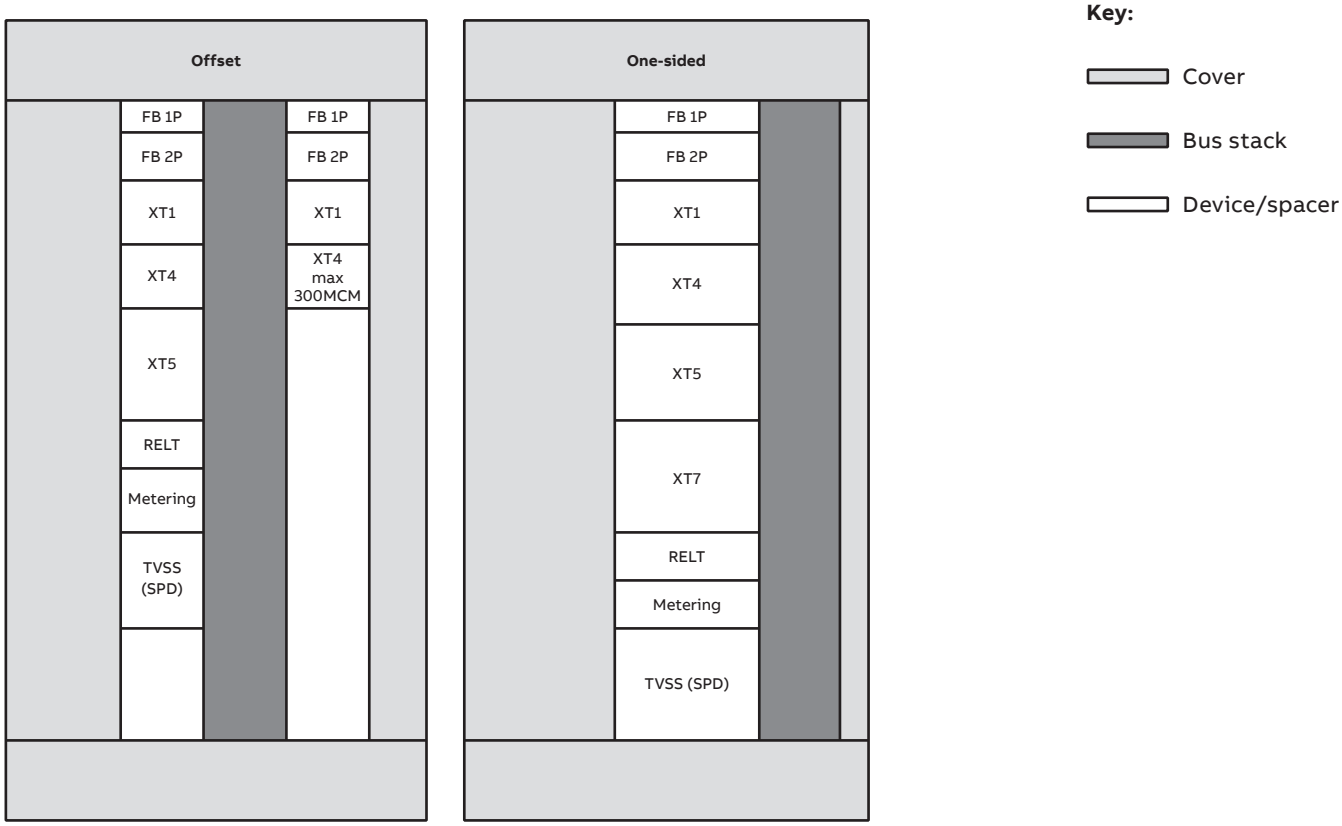
09 Device mounting configurations 35W

Device fit per section width



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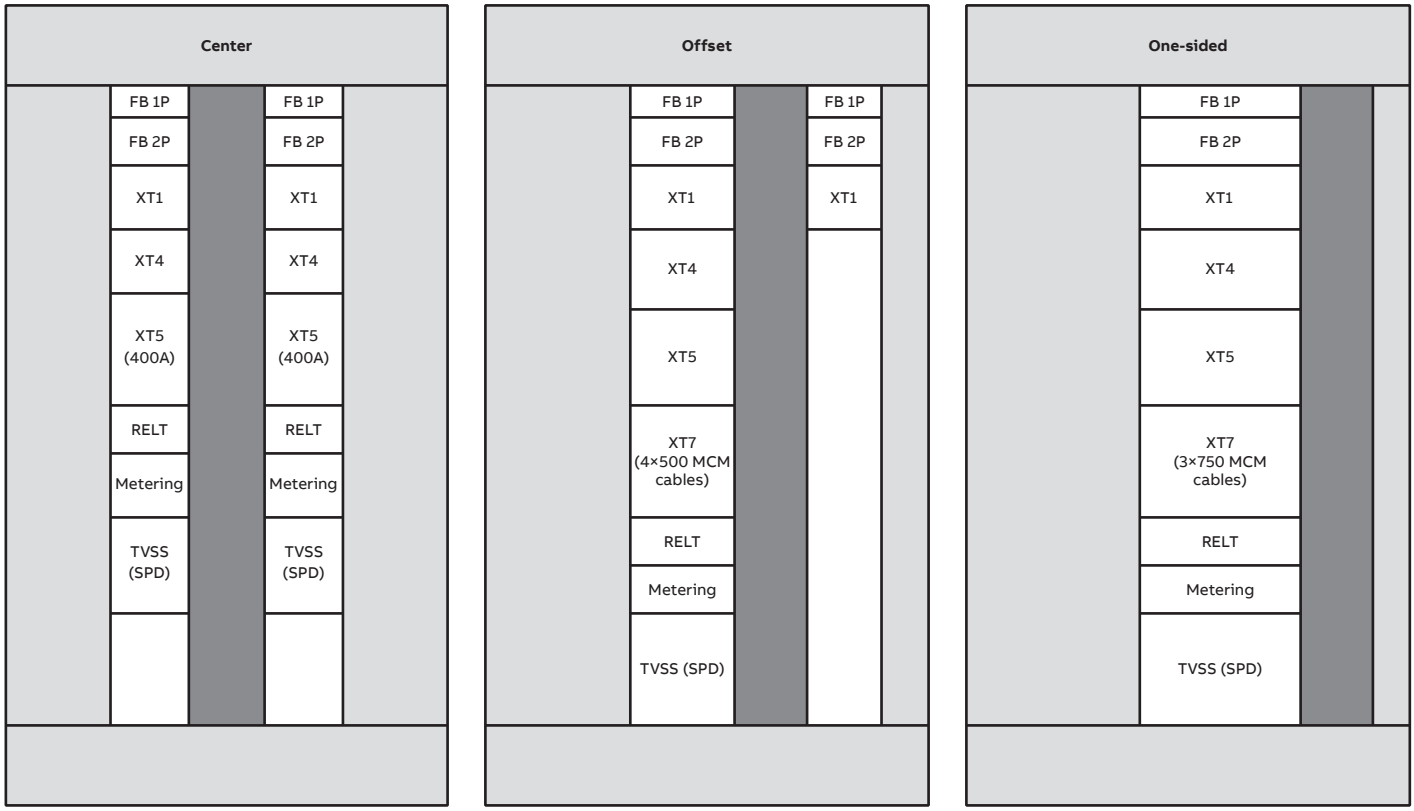
10 Device mounting configurations 40W



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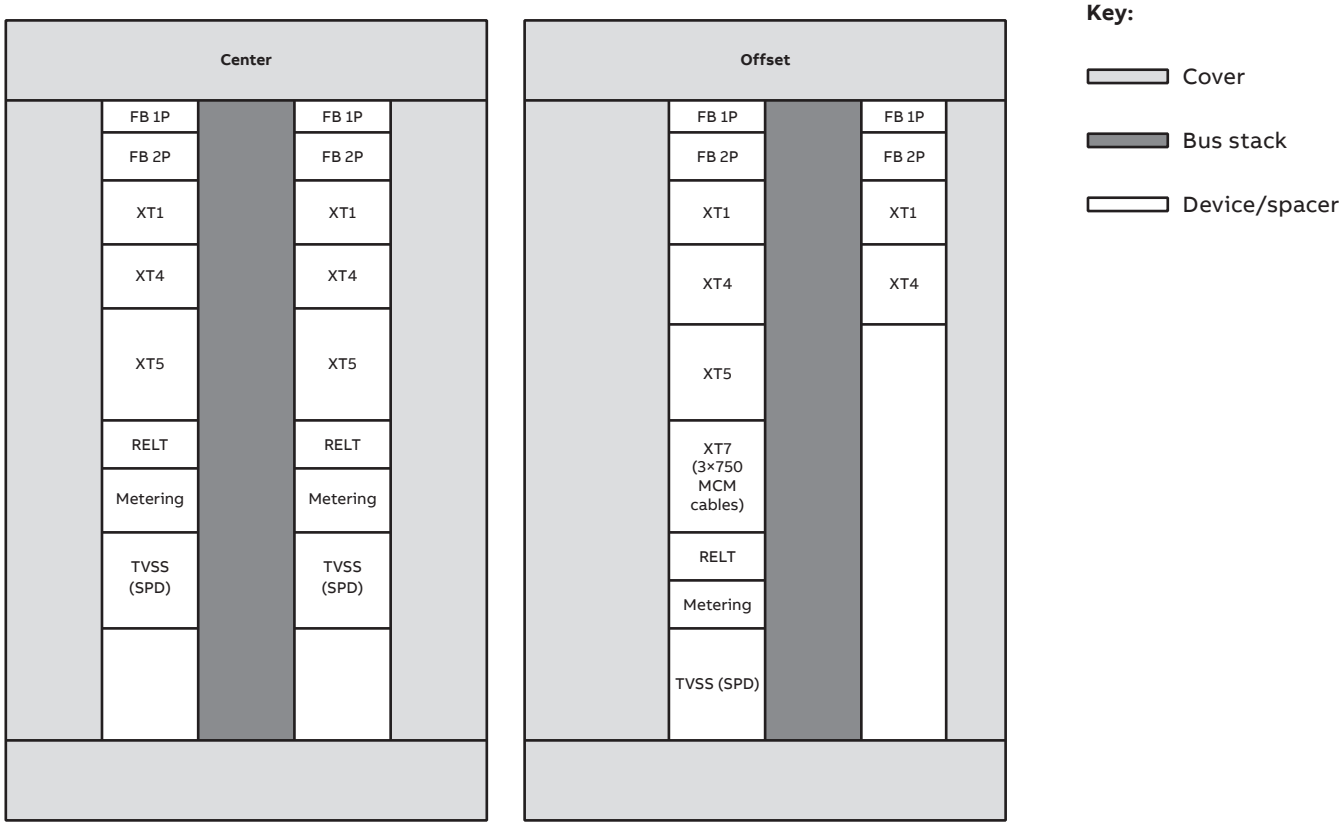
11 Device mounting configurations 45W

Device fit per section width



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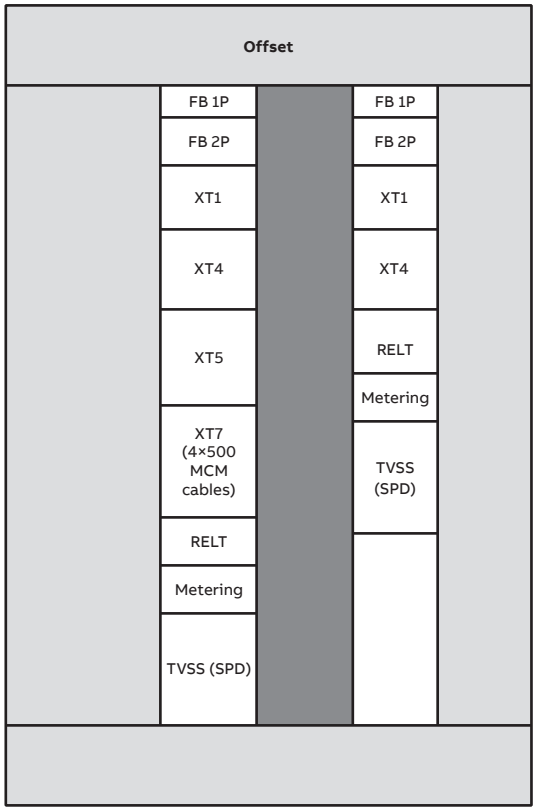
12 Device mounting configurations 50W



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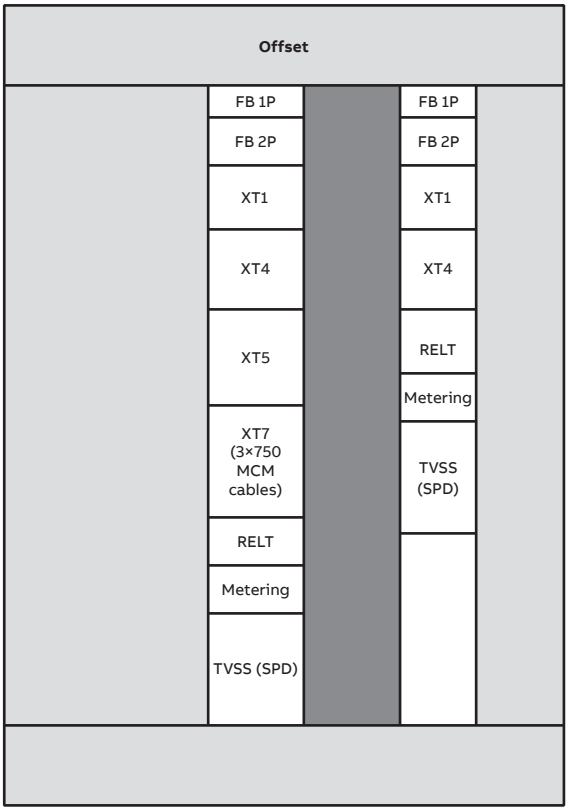
13 Device mounting configurations 55W



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14 Device mounting configurations 60W

Molded case circuit breakers

Record Plus FB

The Record Plus FB line features true one and two-pole construction, has a double-break contact system for fast response and current limitation to help with arc flash and coordination.

			FB
Frame size		**[A]**	**100**
Pole(s)		[No.]	2
Rated voltage	(AC) 50–60 Hz	[V]	600
Versions			Fixed
			V N H
Interrupting ratings	240 V (AC)	[kA]	35 65 100
	277 V (AC)	[kA]	35 65 100
	347 V (AC)	[kA]	22 25 35
	480 V (AC)	[kA]	- - -
	600 V (AC)	[kA]	- - -
			65 150 200
			- - -
			- - -
			35 65 100
			22 25 35
Trip units for power distribution			
TMF			• •

Tmax XT range

The SACE Tmax XT range offers higher performance, better protection and more precise metering than equivalent units, and can handle from 15 A up to 1200 A.

Combined with precise electronic trip units in small frames, the new range delivers significant time savings and helps to enhance installation quality. Reliability is further increased, and speed of installation improved, thanks to Bluetooth® and Ekip connectivity for mobile devices.

			XT1			XT4				XT5				XT7		
Frame size		**[A]**	**125**			**250**				**400–600**				**800–1000–1200**		
Poles		[No.]	3			3				3				3		
Rated voltage	(AC) 50–60 Hz	[V]	480 V Δ[2]			600				600				600		
Versions			Fixed			Fixed				Fixed				Fixed		
			N	S	H	N	S	H[1]	L[1]	N	S	H[1]	L[1]	S	H	L
Interrupting ratings	240 V (AC)	[kA]	50	65	100	65	100	150[3]	200[3]	65	100	150[3]	200[3]	65	100	200[3]
	480 V (AC)	[kA]	25	35	65	25	35	65	100	35	50	65	100	50	65	100
	600Y/347 V (AC)	[kA]	18	22	25	–	–	–	–	–	–	–	–	–	–	–
	600 V (AC)	[kA]	–	–	–	18	22	25	50	18	25	35	65	25	50	65
Trip units for power distribution																
TMF					•											
TMA									•				•			
Ekip DIP									•				•			•
Ekip Touch									•				•			•

[1] Current-limiting circuit breaker in 480 V AC and 600 V AC
[2] 600Y/347
[3] The max. interrupting rating of breakers into the neXT power panelboard is 100 kA

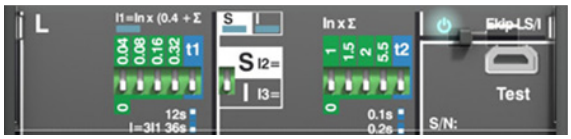
Tmax XT range
Trip units

SACE Tmax XT trip units represent a new benchmark for molded case circuit breakers, able to satisfy any performance requirement. These complete, flexible protection trip units can be adapted to the level of protection required, independently of the complexity of the system.

The range is available for three levels of performance to meet any requirement, from simple to advanced applications.

Thermal-magnetic trip unit
An easy solution for protection against overloads and short circuits.

Ekip Dip
The first level of electronic trip units: Ekip Dip trip units are based on microprocessor technologies designed for high reliability and tripping precision.



Ekip Touch/Hi-Touch
The Ekip Touch/Hi-Touch trip units provide a complete series of protections and high accuracy measurements of all electrical parameters. They are intended to integrate seamlessly with most common automation and supervision systems.

Thanks to the maximum flexibility guaranteed by these packages, the new Ekip trip units are now completely customizable. Depending on the specific trip unit version, different packages are available by default, but all of them can be added to the trip unit.

Default functionalities and upgradability of the trip units:
• Available by default
↑ Upgradable
↑ Some functions available.
Upgradable with the full package.

	Ekip Touch	Ekip Touch measuring	Ekip G Touch	Ekip M Touch	Ekip Hi-Touch	Ekip G Hi-Touch
Standard protection	•	•	•	•	•	•
Standard measures	•	•	•	•	•	•
Measuring package	↑	•	•	•	•	•
Voltage protections	↑	↑	↑	•	•	•
Frequency protections	↑	↑	↑	•	•	•
Power protections	↑	↑	↑	↑	↑	•
Adaptive protections	↑	↑	↑	•	•	•
Adaptive protections	↑	↑	↑	↑	•	•
Network analyzer	↑	↑	•	↑	•	•
Advanced voltage protections	↑	↑	↑	↑	↑	•
ROCOF protections	↑	↑	↑	↑	↑	•
Power controller	↑	↑	↑	↑	↑	↑

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1VAL088301-DB Rev A July 2020