



BROCHURE

EntelliGuard® R Retrofill

Make the most of your existing equipment.
Available in 600 A to 5000 A.



Retrofill existing metal frame circuit breaker cubicles with an EntelliGuard G circuit breaker

EntelliGuard R retrofill solution available for complete range 600 A–5000 A

Aging switchgear can often be a major cause of concern. Add to that the normal wear and tear on low-voltage circuit breakers to create a situation that may lead to a loss of system protection and reliability.

EntelliGuard R retrofill provides a streamlined solution to update your legacy circuit breakers with a new EntelliGuard G circuit breaker, to give your existing switchgear a new lease on life. In addition to providing a host of new features, the EntelliGuard R retrofill solution offers the option to:

- Increase reliability and enhance the protection of your existing electrical system without requiring a full system replacement
- Include the EntelliGuard trip unit for both arc flash protection and selectivity at the same time

EntelliGuard R retrofill benefits

EntelliGuard R retrofill is 100% interchangeable with GE circuit breakers and offers:



Reduced project and labor costs

- Retains existing switchgear structure, conduits, cabling and footprint
- Secondary disconnect wiring connection works without modifications to your switchgear
- Innovative neutral CT adapter design allows you to use existing neutral CT in your switchgear
- Maintains UL listings without additional charges



Minimized downtime

- Minimal or no cubicle modifications means less time to change out
- Compatible with shutters racking mechanism in existing circuit breaker cubicles
- Interfaces with original cubicle secondary disconnects, position switches and neutral disconnects



Protection for people and equipment

- Exclusive GE ArcWatch® technology uses instantaneous zone selective interlocking (I-ZSI) and wave form recognition (WFM), and can reduce arc flash energy to <math><8\text{ calories per cm}^2</math> without sacrificing selectivity settings (learn more at www.geindustrial.com/arcwatch)
- Trip unit and all indicators are visible through the door; through-the-door and remote racking helps reduce exposure to arc flash or electrical shock
- Powerful trip unit toolkit helps simplify setup and provides easy access to remotely manage, monitor and test breakers



EntelliGuard R retrofill for AKD5



EntelliGuard R retrofill for AKD6 and AKD8

- 01 Single finger cluster design
- 02 Trip unit and all indicators are visible through the door
- 03 Accessible secondary wiring
- 04 Micro processor-based trip unit technology
- 05 Free trip unit toolkit software

EntelliGuard R retrofit standard features

- UL listed
- Increases short circuit rating on AK25 and AKR30S while maintaining UL listing (see chart on page 4)
- Remote racking using the standard EntelliGuard G racking device
- High-quality modern mechanism means a lower maintenance circuit breaker
- Through-the-door racking
- Single finger cluster design generates less heat, provides a solid, reliable connection and reduces number of failure mode points when compared to designs with finger clusters on both the cassette and circuit breaker
- AK retrofills utilize the EntelliGuard G lifting bar
- Easy field wiring of retrofit with ABB provided AS-IS drawings
- Pre-punched doors available with or without holes for pilot lights and RELT switch for all stack widths (when applicable) for legacy GE equipment

Options

- UL field-installable accessories include:
 - 8 NO/NC auxiliary contacts
 - Coil signaling contacts
 - Close coil and motor operator
 - Bell alarm
 - Shunt trips
 - Undervoltage releases
 - Network interlocks
- EntelliGuard trip unit
 - With ArcWatch technology providing arc flash protection and selectivity at the same time
 - Metering, relaying, Modbus/Profibus, waveform capture
 - Mechanism timing feature
 - Free trip unit toolkit software enables users to manage, monitor, test and customize parameters (for more information: www.geindustrial.com/free)
 - Ground fault alarm and RELT



01



02



03

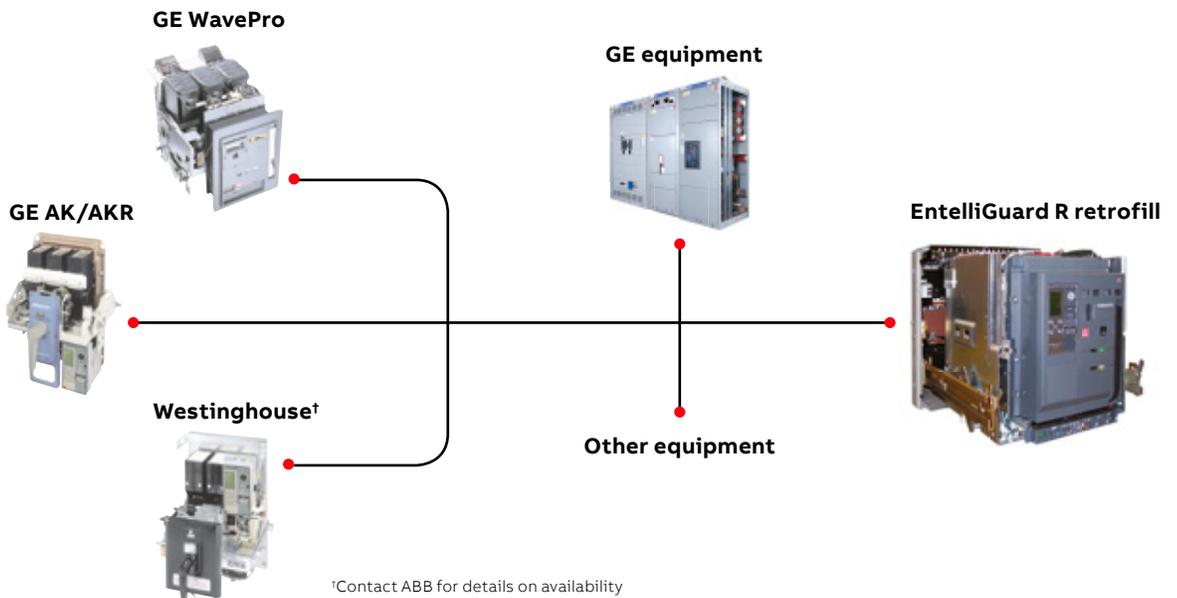


04



05

EntelliGuard R retrofit is available for GE Industrial Solutions and other manufacturers' OEM equipment.



Available offerings and ratings**

Breaker details						Interrupting rating with inst. (kA)			Interrupting rating without inst. (kA)		
Manufacturer	Switchgear type	Thermal rating max. (A)	Breaker type	Frame size (A)	CT ratings (A)	240 V	480 V	600 V	240 V	480 V	600 V
GE	Metal-clad	1600	AL-50 ^{†††}	1600	800, 1000, 1200, 1600	65	65	50	65	65	50
		AKD	225	AK-15 [†]	225	400 (lowest PU @ 75 w/150 RP)	42 [‡]	42 [‡]	42 [‡]	22	22
		1600	AK-50 [†]	1600	800, 1000, 1200, 1600	65	65	50	65	65	50
	AKD5/OEM	600	AK-25	600	400, 600	42 [‡]	42 [‡]	42 [‡]	22	22	22
			AKU-25 [†]			100	100	100	-	-	-
		1600	AK-50, AKJ-50, AKS-50	1600	800, 1000, 1200, 1600	65	65	50	65	65	50
			AKU-50 [†] , AKSU-50 [†]			100	100	100	-	-	-
		2000	AKT-50, AKJT-50, AKST-50, AKJT-50H	2000	2000	65	65	50	65	65	50
		3000	AK-75	3000	3000	85	65	65	65	65	65
		4000	AK-100	4000	4000	130	85	85	85	85	85
	AKD6/OEM	800	AKR-30, AKR-30H	800	400, 600, 800	50	42	42	42	42	42
		1600	AKR-50, AKR-50H	1600	1000, 1200, 1600	65	65	50	65	65	50
		2000	AKRT-50	2000	2000	65	65	50	65	65	50
		3200	AKR-75	3200	3200	85	65	65	65	65	65
		4000	AKR-100	4000	4000	130	85	85	85	85	85
	AKD8/OEM	800	AKR-30S	800	400, 600, 800	42 [‡]	42 [‡]	42 [‡]	42 [‡]	42 [‡]	42 [‡]
			AKRU-30S		800	100	100	100	-	-	-
			AKR-30, AKR-30H		400, 600, 800	50	42	42	42	42	42
			AKRU-30 [†]			100	100	100	-	-	-
			AKR-30L			65	65	50	65	65	50
		1600	AKR-50, AKR-50H	1600	1000, 1200, 1600	65	65	50	65	65	50
			AKRU-50 [†]		800, 1000, 1200, 1600	100	100	100	-	-	-
		2000	AKRT-50, AKRT-50H	2000	2000	65	65	65	65	65	65
		3200	AKR-75	3200	3200	85	65	65	65	65	65
			AKR-75H			130	85	85	85	85	85
	AKD10/OEM/ ENTELLISYS	800	WPS-08, EGS-08	800	400, 800	42	30	30	30	30	30
			WPH-08, EGH-08			50	42	42	42	42	42
			WPX-08, EGX-08			65	65	50	65	65	50
		1600	WPS-16, EGS-16	1600	800, 1600	65	50	42	50	50	42
			WPH-16, EGH-16			65	65	65	65	65	65
2000		WPS-20, EGS-20	2000	2000	65	65	65	65	65	65	
3200		WPS-32	3200	3200	85	65	65	65	65	65	
		WPH-32			130	85	85	85	85	85	
		WPX-32			130	100	85	100	100	85	
4000		WPS-40	4000	4000	130	85	85	85	85	85	
	WPX-40			130	100	85	100	100	85		
5000	WPS-50	5000	5000	130	85	85	85	85	85		
	WPX-50			130	100	85	100	100	85		
Westinghouse	DB	600	DB-25 [†]	600	400, 600	42 [‡]	42 [‡]	42 [‡]	22	22	22
			DBL-25 [†]			100	100	100	-	-	-
	1600	DB-50 [†]	1600	800, 1000, 1200, 1600	65	65	50	65	65	50	
		DBL-50 [†]			100	100	100	-	-	-	
		DS-416 [†]		400, 800, 1200, 1600	65	65	50	65	65	50	

[†]Not UL Listed

^{††}Retrofit offers increased ratings on AK25 and AKR30S with no cubicle modifications required. AK25 was 22 kAIC and AKR30S was 30 kAIC.

^{†††}Replacing manually operated AL-50 ACBs at this time

[‡]For other manufacturers and/or breaker types, contact your ABB representative.

Selector: <https://new.abb.com/low-voltage/service/service-breakers-switches/extension-upgrades-and-retrofits/selector>

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