

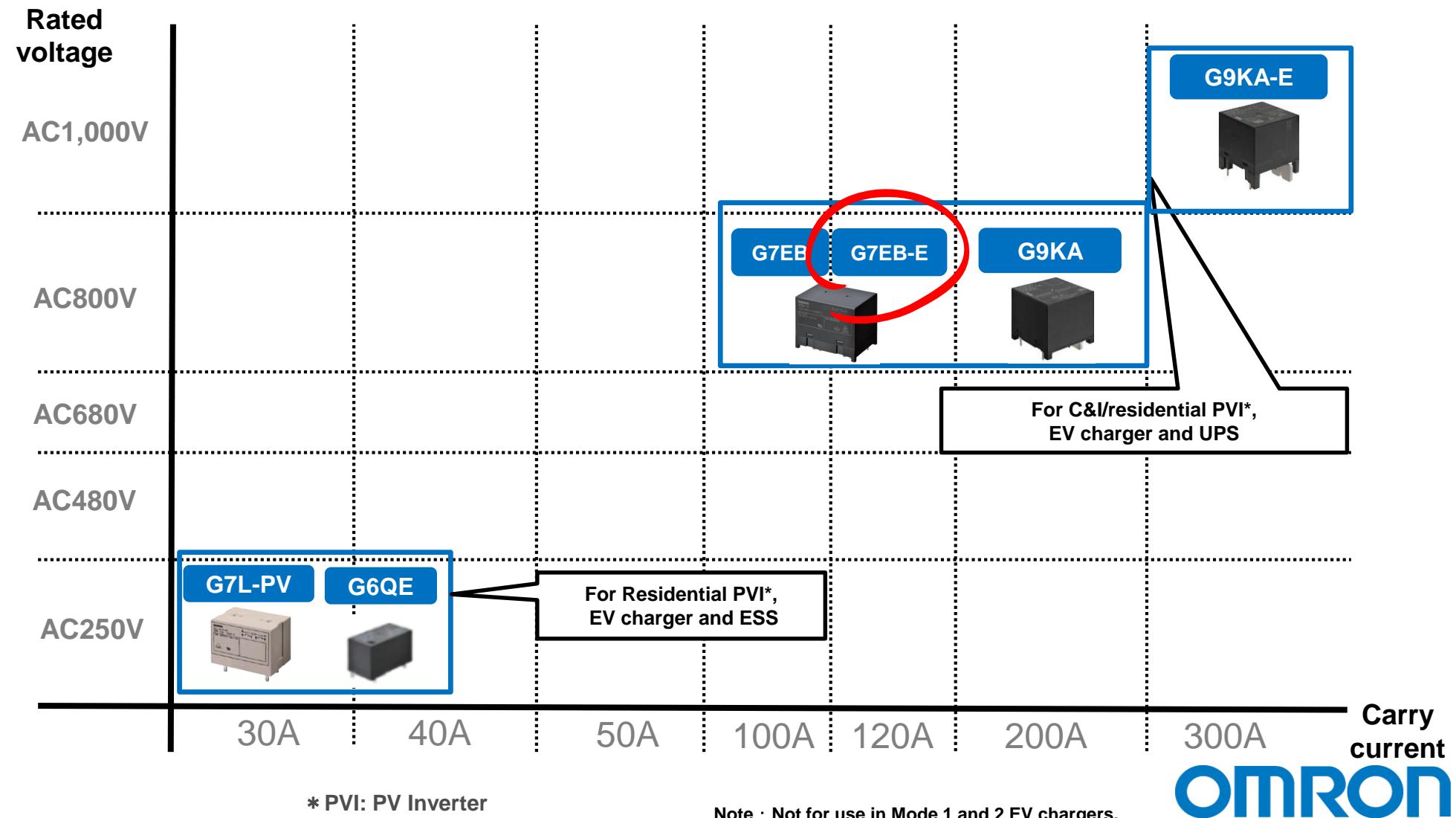
New PCB Power Relay Introduction

G7EB-E AC800V/120A High Power Relay

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Updated Product Roadmap

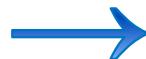
- 120A (carry) type has been added to the G7EB family.



Background of Product Launch

- Due to the spread of Smartphones and the Internet, the scale (Capacity) of data centers is increasing.
- The capacity of uninterruptable power supplies (UPS) used in these facilities is increasing in turn.
- With these increases, higher capacity is required for relays used internally.

UPS



20~60kVA (AC400V,3phase)

60~80kVA (AC400V,3phase)

Relay



~100A

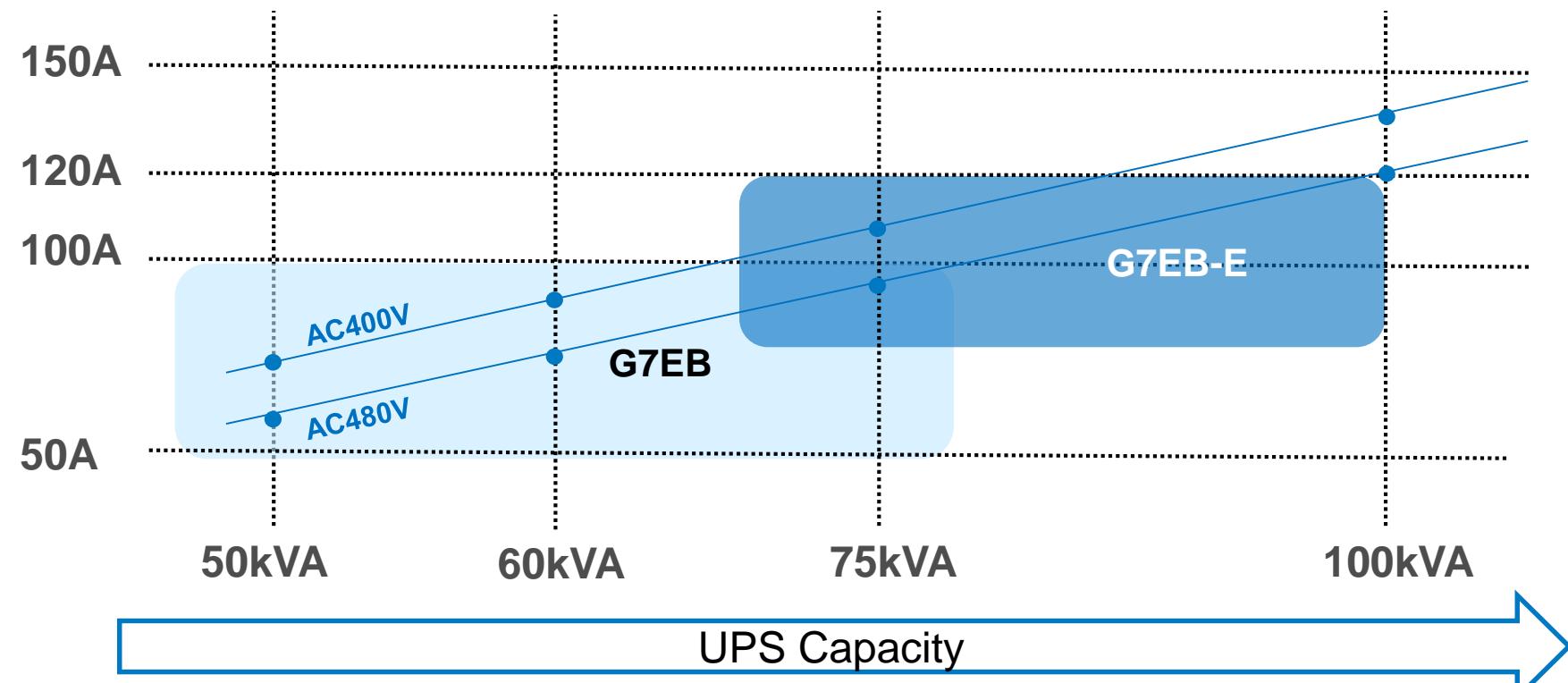
~120A

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Background of Product Launch

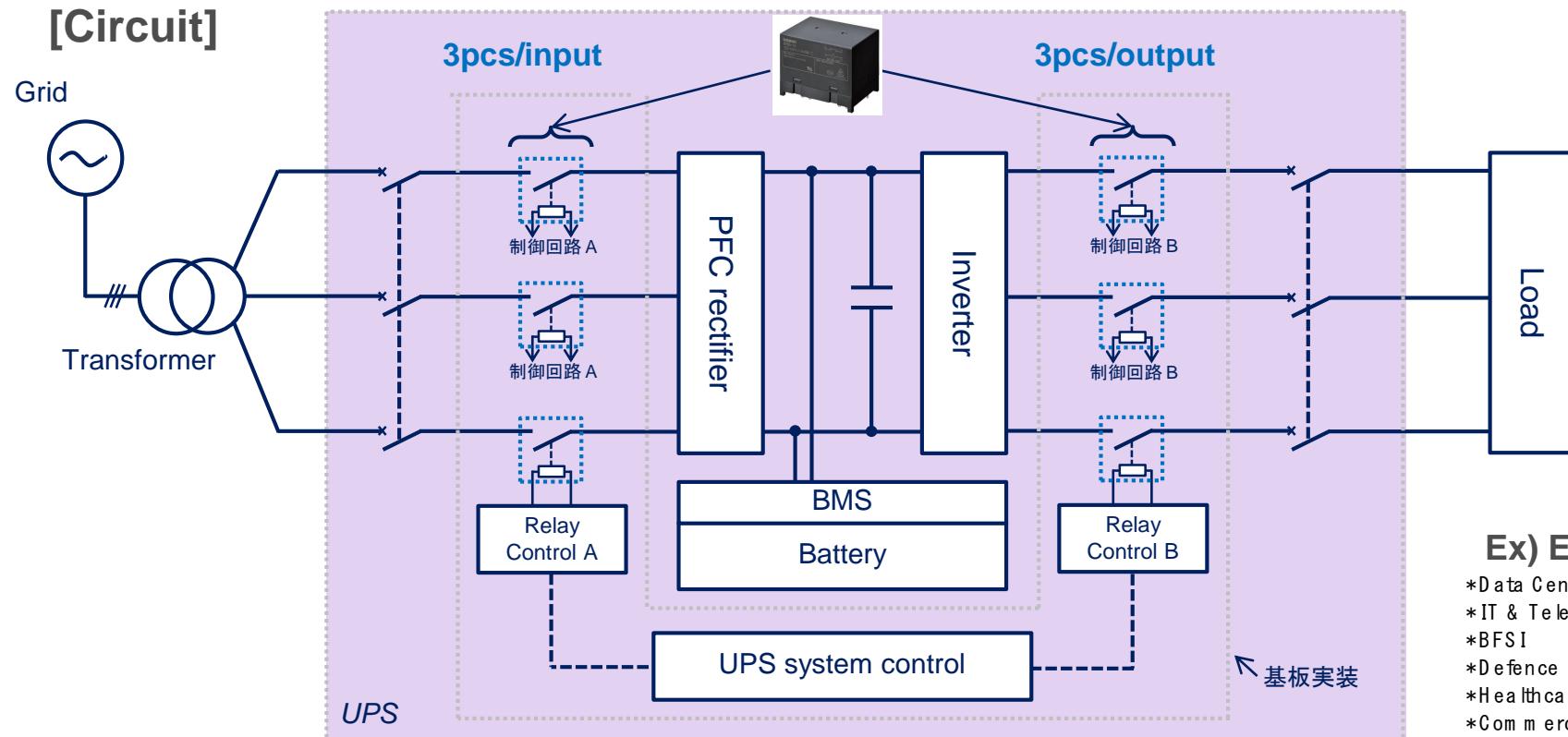
- G7EB covered up to 60kVA/AC400V class UPS. With the G7EB-E, it is possible to propose even higher capacity 75kVA/AC400V class .

Image : Product line-up(3 phases)



Target application (UPS)

- Low heat generation is an important requirement, provided by the low CR G7EB-E contacts
- 3 relays are required for each input side and output side. There are many customers who use contactors, so by switching to relays, Omron can propose cost reduction and board miniaturization.



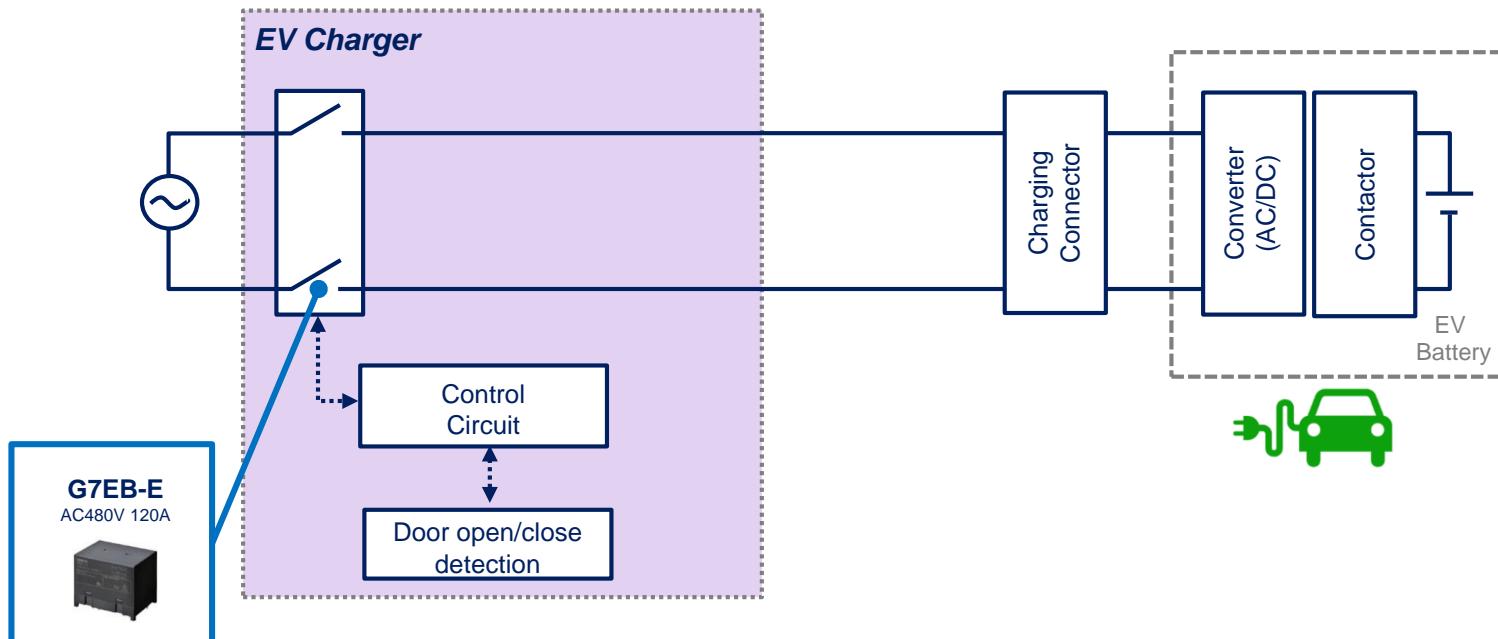
UPS : Un-interrupted power system
UPS has a battery inside. When a blackout happens, provides temporary power in order to protect equipment.

Ex) End user
*Data Center
*IT & Telecom.
*BFSI
*Defence
*Healthcare
*Commercial & Infrastructure
*Energy
*Media & Entertainment

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Target application (EVC:Mode3)

- G7EB-E can be proposed for AC input switching applications of AC output Mode3 EV chargers (19.2kW/80A).



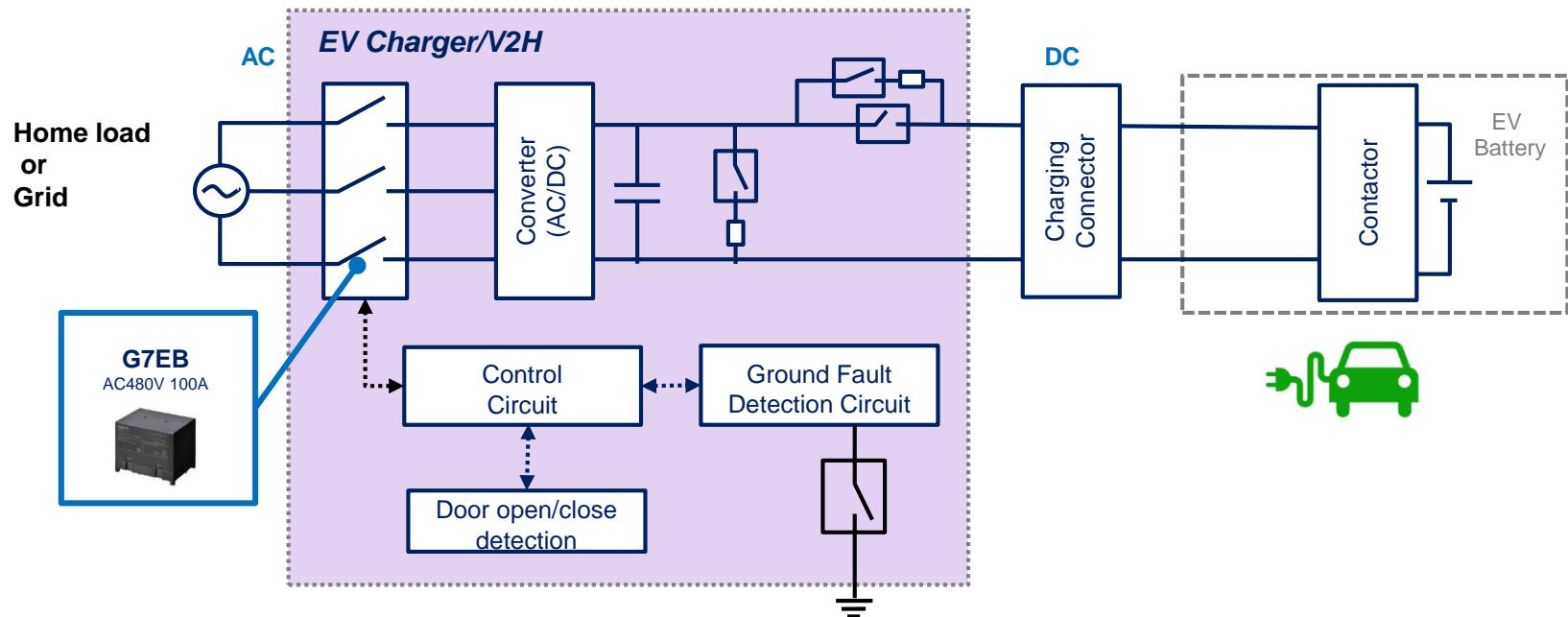
Mode3		AC charger 3phases 22.1kW, shingle phase19.2kW
Mode4		DC charger 20kW~

EVC:EV charger

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Target application (EVC:Mode4/V2H)

- G7EB-E can be proposed for DC output EV chargers called Mode4 and V2H of AC input switching applications.



Mode3		AC charger 3phases 22.1kW, shingle phase19.2kW
Mode4		DC charger 20kW~

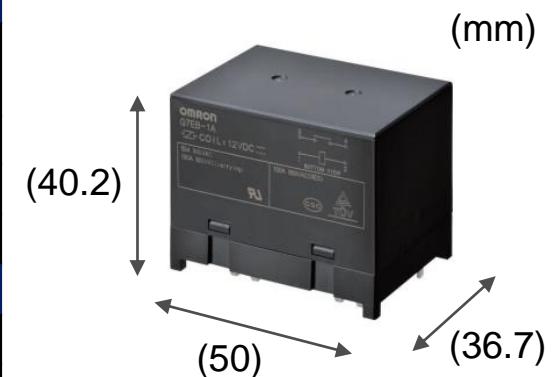
EVC:EV charger
V2H: Vehicle to Home

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Specifications of G7EB-E

- 800Vac/120A. Adaptation for high current carrying.
- Contact resistance and size are the same as G7EB but G7EB-E can carry up to 120A.

Terms	G7EB-1A	G7EB-1A-E G7EB-1AP1-E
Coil		
Rated voltage	DC12V, DC24V	
	Power consumption	2,800mW, 575mW (at holding voltage)
Contacts		
Rated Load (Resistance)	AC480V 100A/AC800V 40A/DC60V 100A/ DC60V 50A/ DC60V 40A	
Rated carry current	100A	120A
Contact resistance	5mΩ max.	
Contact gap	3.6mΩ min. (Applied to VDE0126)	
Durability		
Mechanical	1,000,000 ops	
Electrical (1sec ON/9sec OFF at 85°C)	AC480V 100A 300 ops	
	AC800V make · break 40A, carry 100A 30,000 ops	
	DC60V 100A 400 ops	
	DC60V 50A 1,000 ops	
	DC60V 40A 6,000 ops	
	---	AC800V make · break 40A, carry 120A 30,000 ops
Other		
Use condition for ambient operating temperature	-40 ~ +85°C	

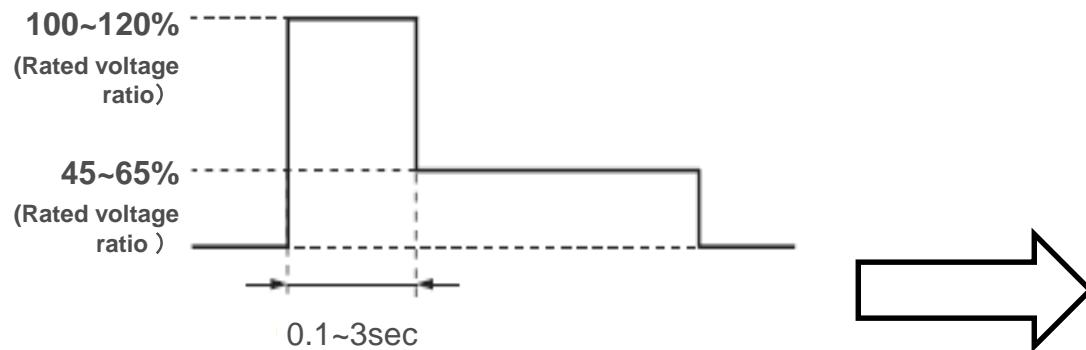


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Caution for Holding Voltage

- G7EB-E **must be used** at holding voltage.
- This allows customers to reduce coil power consumption by approximately 80%.
- Please also check the datasheet about holding voltage.

Input method to coil voltage



- 1) At first, input 100~120% of the rated voltage over 0.1sec.
- 2) Then, lower the coil voltage to 45~65% of rated.

The coil consumption is 2.8W with 100% rated coil voltage.
But you can suppress it to 0.57W when coil voltage is at 45% of rated.
(Approx. 80% suppressed)

Thank You

