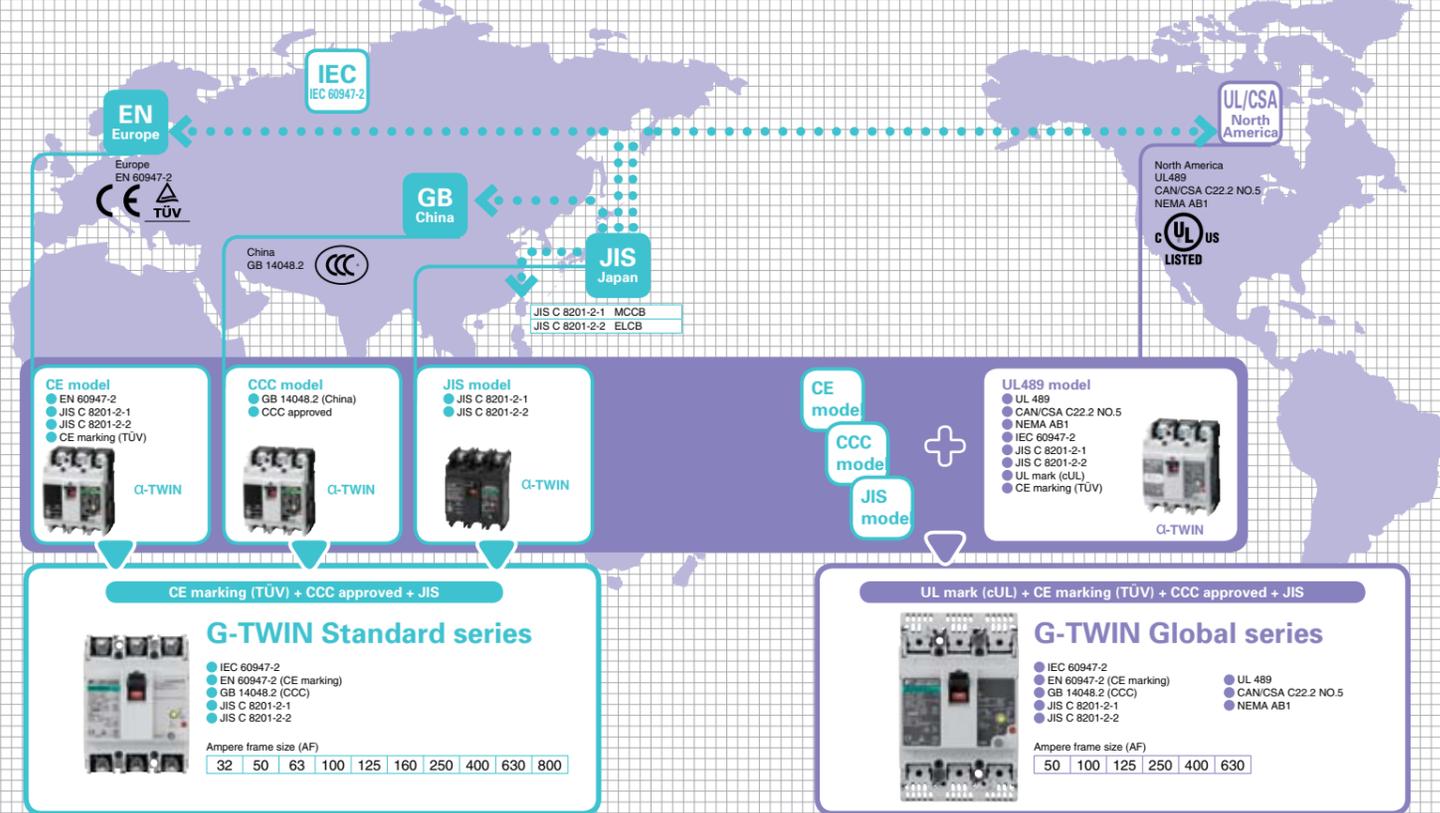


# GLOBAL-TWIN

## Conforming to IEC & local Standards

The G-TWIN series is a global breaker series that satisfies all major standards.



# FUJI Earth Leakage Circuit Breakers



ETH132

Fuji Electric FA Components & Systems Co., Ltd.

## Compact & High performance

Compact size meeting UL489 480V requirements & same dimensions as MCCB

**ELCB**

Rated voltage 480V (W105xH181xD68mm)

**MCCB**

Rated voltage 480V (W105xH181xD68mm)

Same dimensions

### Technical innovation

Arc and gas flow control technology  
Effect of "ablation breaking technology"

**Decrease by 30%!**

- Narrow slit resin**
  - Increased arc voltage due to narrow slit effect
  - Increased arc voltage and high-speed moving contact opening by ablation effect
  - Suppression of internal pressure rise by adjusting the narrow slit width
- Moving contact cover**
  - Arcing prevention at the bottom of moving contact
- Magnetic yoke arrangement**
  - An increase in the repulsion force of the moving contact at initiation of contact opening

### Ecology

**Advanced environmental technology**  
Conforming to the RoHS Directive

The G-TWIN Series is designed to lower environmental impact.

**Recycling**

- For easier recycling, all major parts are marked with the names of the materials used.

**Conforming to the RoHS Directive**

- Lead-free (Pb-free) solder is used.
- Free of hexavalent chromium (Cr<sup>VI</sup>-free) (125 to 800AF)

Cadmium-free contact material

## Usefulness Leading the way in user-friendliness

32 to 100AF • Internal and external accessories  
A wider range of customer-mountable accessories

125 to 250AF • Sharing internal accessories of 125/160/250AF breakers.

AF	α-TWIN	G-TWIN
125	8	8
160/250	8	8

400 to 800AF • The number of types of internal accessories of 400/630/800AF has been significantly reduced.

AF	α-TWIN	G-TWIN
400	26	6
630	26	6
800	26	6

## The Twin Breakers have advanced to an entirely new stage.

### Conforming to IEC & local Standards

Conforming to certifications and standards in major world markets Expanded frame sizes in G-TWIN Global Series

G-TWIN Standard series ELCB

G-TWIN Global series ELCB

### Compact & High performance

Compact models with unified dimensions meeting UL489 480V and IEC 440V requirements

## FUJI MCCB and ELCB GLOBAL TWIN

### Ecology

Lower environmental impact  
Advanced green engineering and energy-saving support  
Conforming to the RoHS Directive

G-TWIN Standard series ELCB

Fuji Electric launched the Twin Breaker Series to world markets in 1990, in which molded case circuit breaker (MCCB) and earth leakage circuit breaker (ELCB) types were unified in external dimensions for the first time in the world. The Twin Breaker Series was highly evaluated and gained strong support, and the concept of Twin Breakers was established as Japan's de facto standards for MCCBs and ELCBs.

In 1992, Fuji Electric released the Super Twin Breaker Series, which enabled user installation of internal accessories for the first time in Japan.

In 1995, Fuji Electric released the Super 60 Series and advanced modularization via uniform external dimensions. In 2001, Fuji Electric launched the α-Twin Series to further advance the miniaturization and modularization of economic types with 100A frame or less as Japan's first multi-standard circuit breakers satisfying domestic and international standards. Since then, Fuji Electric has been making further product improvements by predicting market trends.

In recent years, market globalization has increasingly accelerated.

At the end of 2004, the Japanese Industrial Standards (JIS) were aligned with the IEC standards, and the globalization in this field has been further accelerated.

Based on the Twin Breaker Series, Fuji Electric has expanded the range of its products conforming to and approved by international standards for global markets, always advanced the innovative development of fundamental technologies in response to the market demand, and developed the G-TWIN Series of MCCBs and ELCBs.



### Usefulness

Leading the way in user-friendliness

<b>G-TWIN series</b> CNS5422(IEC/EN60947-2, GB14048.2, JISC8201-2-2)		32AF				50AF				63AF			100AF			125AF			250AF											
Type		EW32AAG		EW32EAG	EW32SAG	EW50AAG		EW50EAG	EW50SAG	EW50RAG	EW63EAG	EW63SAG	EW63RAG	EW100AAG	EW100EAG	EW125JAG	EW125RAG	EW250EAG	EW250JAG	EW250RAG										
Pole		2	3	3	3	2	3	3	3	3	3	3	3	3	2	3	3	4 <sup>*2</sup>	3	4	3	3	4 <sup>*2</sup>	3	4					
Rated current	In [A]	5, 10, 15, 20, 30, (32) <sup>*2</sup>				3, 5, 10, 15, 20, 30, (32) <sup>*2</sup>				5, 10, 15, 20, 30, (32) <sup>*2</sup> , 40, 50			10, 15, 20, 30, (32) <sup>*2</sup> , 40, 50			60, (63) <sup>*2</sup>			60, (63) <sup>*2</sup> , 75, 100			50, 60, (63) <sup>*2</sup> , 75, 100			15, 20, 30, 40, 50, 60, 75, 100, 125			125, 150, 160, 175, 200, 225, 250 <sup>*1</sup>		
Rated impulse withstand voltage	Uimp [kV]	2.5	4	4	4	2.5	4	6	6	6	6	6	6	4	4	6	6	6	6	6	6	6	6	6	6	6				
Isolation compliant		Approved				Approved				Approved			Approved			Approved			Approved			Approved								
Rated voltage	Ue [V AC]	100-230		100-230-440		100-230-440		100-230		100-230-440		100-230-440		100-230		100-230	100-230-440	100-230-440		100-230-440		100-230-440		100-230-440		100-230-440				
Instantaneous trip type	Rated sensitive current [mA]	15, 30, 100		15, 30, 100		30, 100/200/500		15, 30, 100		15, 30, 100/200		30, 100/200/500		30, 100/200/500		30, 100/200		30, 100/200/500		30		30		30		30				
	Tripping time [s]	0.1		0.1		0.1		0.1		0.1		0.1		0.1		0.1		0.1		0.1		0.1		0.1		0.1				
Instantaneous/time delay trip type	Rated sensitive current [mA]	-		-		-		-		-		-		-		-		-		100/200/500/1000 changeover		100/200/500/1000 changeover		100/200/500/1000 changeover		100/200/500/1000 changeover				
	Tripping time [s]	-		-		-		-		-		-		-		-		-		0.1/0.4/1/2 changeover		0.1/0.4/1/2 changeover		0.1/0.4/1/2 changeover		0.1/0.4/1/2 changeover				
	Inertia non-tripping time [s]	-		-		-		-		-		-		-		-		-		0/0.2/0.5/1		0/0.2/0.5/1		0/0.2/0.5/1		0/0.2/0.5/1				
Rated frequency	[Hz]	50-60				50-60				50-60			50-60			50-60			50-60			50-60								
Rated breaking capacity Icu/Ics [kA]	CNS5422 IEC60947-2 EN60947-2 JIS8201-2-2	AC	440V	-		1.5/1	2.5/2	-		2.5/2	7.5/4	10/5	2.5/2	7.5/4	10/5	-		10/5	30/15	50/25	18/9	30/15	50/25	18/9	30/15	50/25				
			415V	-		-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
			400V	-		-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
			380V	-		-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
			240V	-		-	-	-		-	-	-	-	-	-	-	-	-	-	-	50/25	100/50	36/18	50/25	100/50	36/18	50/25			
			230V	2.5/2	5/3	5/3	5/3	2.5/2	5/3	10/5	25/13	5/3	10/5	25/13	5/3	10/5	25/13	5/3	10/5	25/13	5/3	10/5	25/13	5/3	10/5	25/13	5/3	10/5		
GB14048.2	AC	400V	-		1.5/1	2.5/2	-		2.5/2	7.5/4	10/5	2.5/2	7.5/4	10/5	-		10/5	30/15	50/25	18/9	30/15	50/25	18/9	30/15	50/25					
		230V	2.5/2	5/3	5/3	5/3	2.5/2	5/3	10/5	25/13	5/3	10/5	25/13	5/3	10/5	25/13	5/3	10/5	25/13	5/3	10/5	25/13	5/3	10/5	25/13					
Dimensions	[mm]	a	50	75	75	75	50	75	75	75	75	75	75	75	75	75	75	90	120	90	120	105	140	105	140					
		b	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	155	155	155	155	165	165	165	165					
		c	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	68	68	68	68	68	68	68	68					
		d	84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	95	95	95	95	95	95	95	95					
Mass	[kg]	0.4	0.5	0.5	0.6	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.3	1.7	1.3	1.7	1.8	2.3	1.8	2.3						
Tripping device		Hydraulic-magnetic																		Thermal-magnetic										

\*1 4-pole, 250A Breakers cannot be made. \*2 Contact FUJI.

<b>G-TWIN series</b> CNS5422(IEC/EN60947-2, GB14048.2, JISC8201-2-2)		400AF				630AF			800AF					
Type		EW400EAG		EW400SAG	EW400RAG	EW400HAG	EW630EAG	EW630RAG	EW630HAG	EW800EAG	EW800RAG	EW800HAG		
Pole		3	3	3	4	3	3	3	3	3	3	3		
Rated current	In [A]	250, 300, 350, 400				500, 600, 630			700, 800					
Rated impulse withstand voltage	Uimp [kV]	6				6			6					
Isolation compliant		Approved				Approved			Approved					
Rated voltage	Ue [V AC]	100-230-440				100-230-440			100-230-440					
Instantaneous trip type	Rated sensitive current [mA]	30				-			-					
	Tripping time [s]	0.1				-			-					
Instantaneous/time delay trip type	Rated sensitive current [mA]	100/200/500/1000 changeover				100/200/500/1000 changeover			100/200/500/1000 changeover					
	Tripping time [s]	0.1/0.4/1/2 changeover				0.1/0.4/1/2 changeover			0.1/0.4/1/2 changeover					
	Inertia non-tripping time [s]	0/0.2/0.5/1				0/0.2/0.5/1			0/0.2/0.5/1					
Rated frequency	[Hz]	50-60				50-60			50-60					
Rated breaking capacity Icu/Ics [kA]	CNS5422 IEC60947-2 EN60947-2 JIS8201-2-2	AC	440V	30/15	36/18	50/25	70/35	36/18	50/25	70/35	36/18	50/25	70/35	
			415V	-		-	-	-		-	-	-		-
			400V	-		-	-	-		-	-	-		-
			380V	-		-	-	-		-	-	-		-
			240V	50/25	85/43	100/50	125/63	50/25	100/50	125/63	50/25	100/50	125/63	50/25
			230V	50/25	85/43	100/50	125/63	50/25	100/50	125/63	50/25	100/50	125/63	50/25
GB14048.2	AC	400V	30/15	36/18	50/25	70/35	36/18	50/25	70/35	36/18	50/25	70/35		
		230V	50/25	85/43	100/50	125/63	50/25	100/50	125/63	50/25	100/50	125/63		
Dimensions	[mm]	a	140	140	140	185	140	185	210	210	210	210		
		b	257	257	257	257	275	275	275	275	275	275		
		c	103	103	103	103	103	103	103	103	103	103		
		d	146	146	146	146	146	146	146	146	146	146		
Mass	[kg]	5.8	5.8	5.8	7.8	5.8	7.8	9.1	9.1	9.1	9.6	9.6		
Tripping device		Thermal-magnetic												

<b>HG series</b> CNS5422(JISC8201-2-2 Ann 2)		50AF	100AF	225AF		
Type		HG53B	HG103B	HG203B		
Pole		3	3	3		
Rated current	In [A]	15, 20, 30, 40, 50	15, 20, 30, 40, 50, 60, 75, 100	125, 150, 175, 200, 225		
Rated impulse withstand voltage	Uimp [kV]	-				
Isolation compliant		-				
Rated voltage	Ue [V AC]	100-230-440				
Instantaneous trip type	Rated sensitive current [mA]	30, 100/200/500 changeover				
	Tripping time [s]	0.1				
Rated frequency	[Hz]	50-60				
Rated breaking capacity Icu/Ics [kA]	CNS5422 IEC60947-2 EN60947-2 JIS8201-2-2	AC	440V	65	65	65
			415V	-		-
			400V	-		-
			380V	-		-
			240V	-	-	-
			230V	100	100	100
Dimensions	[mm]	a	90	90	105	
		b	155	155	165	
		c	82	82	99	
		d	104	104	127	
Mass	[kg]	2.3	2.3	3.3		
Tripping device		Thermal-magnetic				

<b>DV series</b> JISC8221 Ann 2		30AF		
Type		DV32	DV33	
Pole		2	3	
Rated current	In [A]	30		
Rated voltage	Ue [V AC]	100-200		
Rated sensitive current	[mA]	15, 30		
Tripping time	[s]	0.1		
Rated frequency	[Hz]	50-60		
Rated short-time withstand current Icw [kA]	AC200V	1.5	1.5	
	AC100V	-		
Dimensions	[mm]	a	68	90
		b	70	80
		c	40	40
		d	63	63
Mass	[kg]	0.17	0.24	
Tripping device		Ground fault protection only		