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

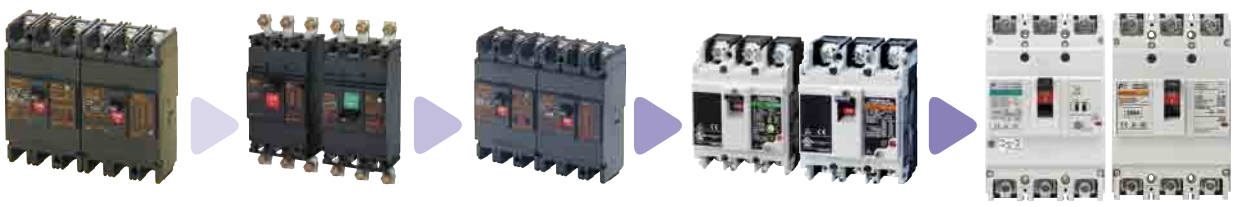
G-TWIN
Standard series
MCCB

G-TWIN
Global series
MCCB

Compact & High performance

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

GLOBAL TWIN History



1990 TWIN Breaker | 1992 Super TWIN | 1995 Super 60 | 2001 α-TWIN | **2006 G-TWIN**

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
MCCB

G-TWIN
Global series
MCCB

Usefulness

Leading the way in user-friendliness

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.

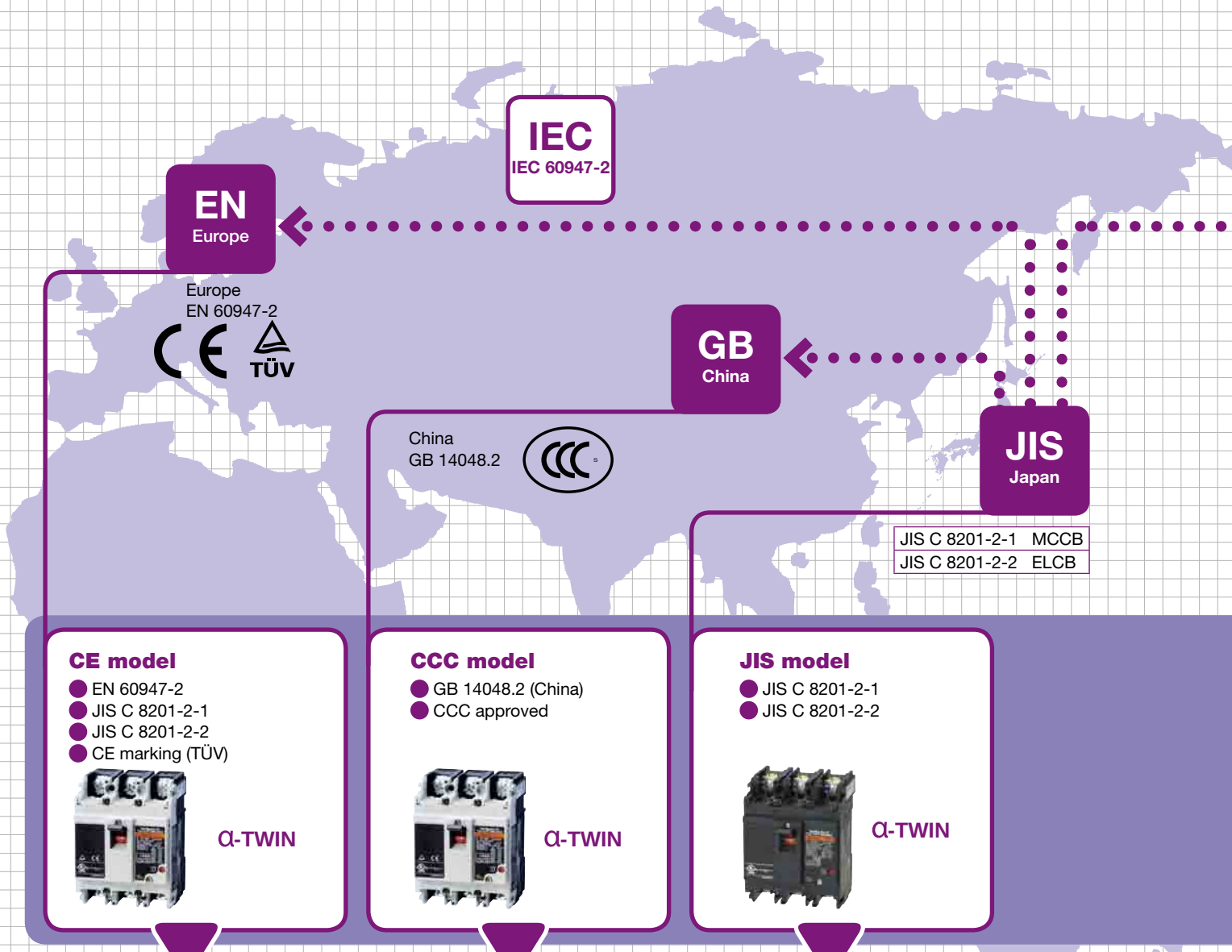
At the end of 2004, the Japanese Industrial Standards (JIS) were aligned with the IEC standards, and the globalization in this field has been further accelerated.

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.

GLOBAL-TWIN

Conforming to IEC & local Standards

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



CE model

- EN 60947-2
- JIS C 8201-2-1
- JIS C 8201-2-2
- CE marking (TÜV)

α-TWIN

CCC model

- GB 14048.2 (China)
- CCC approved

α-TWIN

JIS model

- JIS C 8201-2-1
- JIS C 8201-2-2

α-TWIN

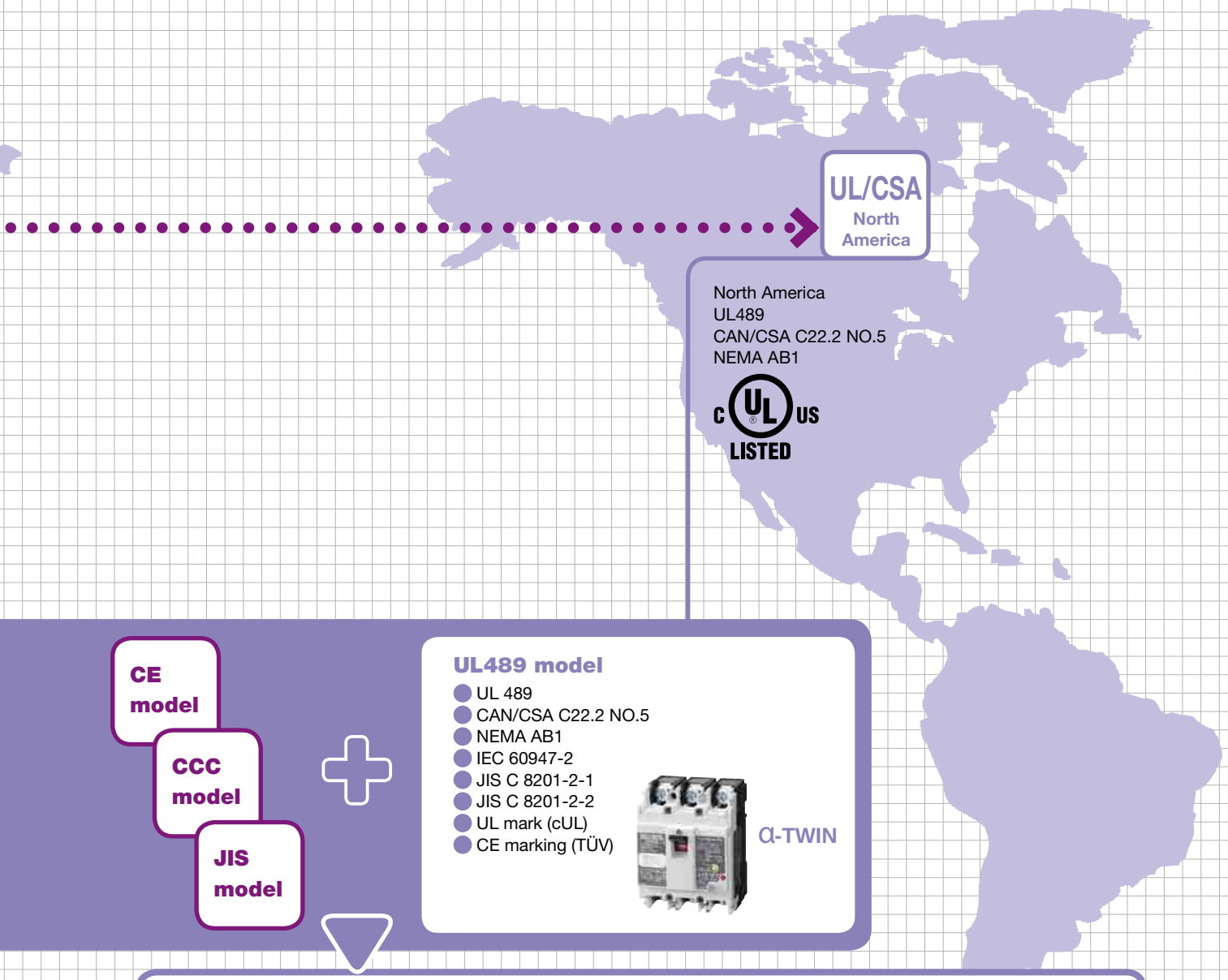
CE marking (TÜV) + CCC approved + JIS

G-TWIN Standard series

- IEC 60947-2
- EN 60947-2 (CE marking)
- GB 14048.2 (CCC)
- JIS C 8201-2-1
- JIS C 8201-2-2

Ampere frame size (AF)

32	50	63	100	125	160	250	400	630	800



North America
UL489
CAN/CSA C22.2 NO.5
NEMA AB1

c UL us
LISTED

CE model

CCC model

JIS model

UL489 model

- UL 489
- CAN/CSA C22.2 NO.5
- NEMA AB1
- IEC 60947-2
- JIS C 8201-2-1
- JIS C 8201-2-2
- UL mark (cUL)
- CE marking (TÜV)

α-TWIN

UL mark (cUL) + CE marking (TÜV) + CCC approved + JIS

G-TWIN Global series

- IEC 60947-2
- EN 60947-2 (CE marking)
- GB 14048.2 (CCC)
- JIS C 8201-2-1
- JIS C 8201-2-2
- UL 489
- CAN/CSA C22.2 NO.5
- NEMA AB1

Ampere frame size (AF)

50	100	125	250	400	630	800

GLOBAL-TWIN

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

Compact & High performance

Compact size meeting UL489 480V requirements

Current model

Rated voltage 480V
BU3JLC
(W105 x H256 x D103 mm)

(250AF)

Rated voltage 480V
BW250RAGU
(W105 x H181 x D68 mm)

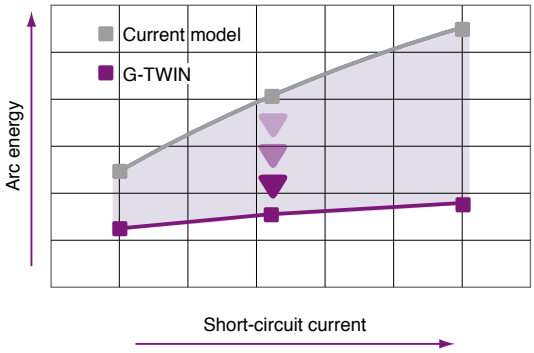
(250AF)

480V Volume ratio - 53%!

Technical innovation

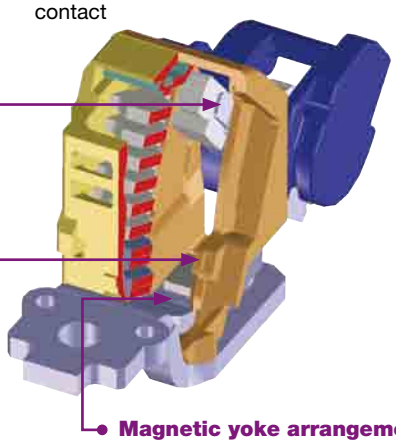
Arc and gas flow control technology

Effect of “ablation breaking technology”



Decrease by 30%!

Moving contact cover
- Arcing prevention at the bottom of moving contact



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

Magnetic yoke arrangement
- An increase in the repulsion force of the moving contact at initiation of contact opening

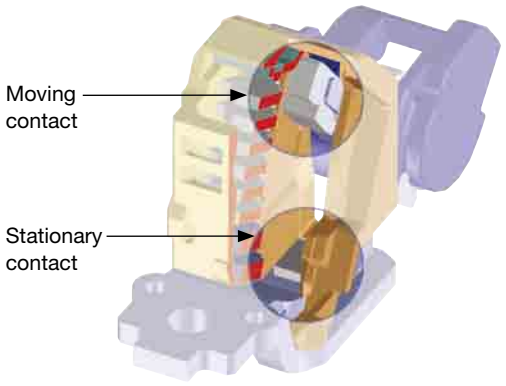
Ecology

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^{6+}-free) (125 to 800AF)



Cadmium-free contact material

Usefulness Leading the way in user-friendliness

Unifying and reducing the types of internal accessories

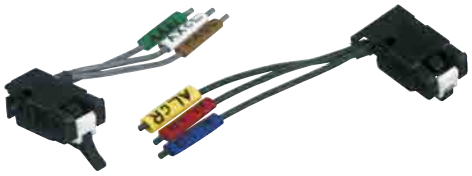
32~100AF

• Internal and external accessories
A wider range of customer-mountable accessories


MCCB


Shunt trip device


Undervoltage trip device

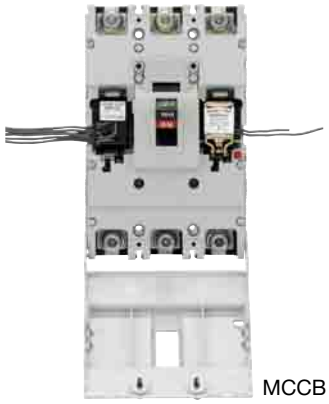

Auxiliary switch / Alarm switch

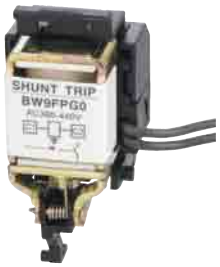
125~250AF

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

Number of types of internal accessories

AF	α-TWIN	G-TWIN
125	8	8
160/250	8	


MCCB



Shunt trip device

Undervoltage trip device


Auxiliary switch


Alarm switch

400~800AF

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

Number of types of internal accessories

AF	α-TWIN	G-TWIN
400	26	6
630		
800		


MCCB

Shunt trip device

Undervoltage trip device


Auxiliary switch


Alarm switch

Type of MCCBs

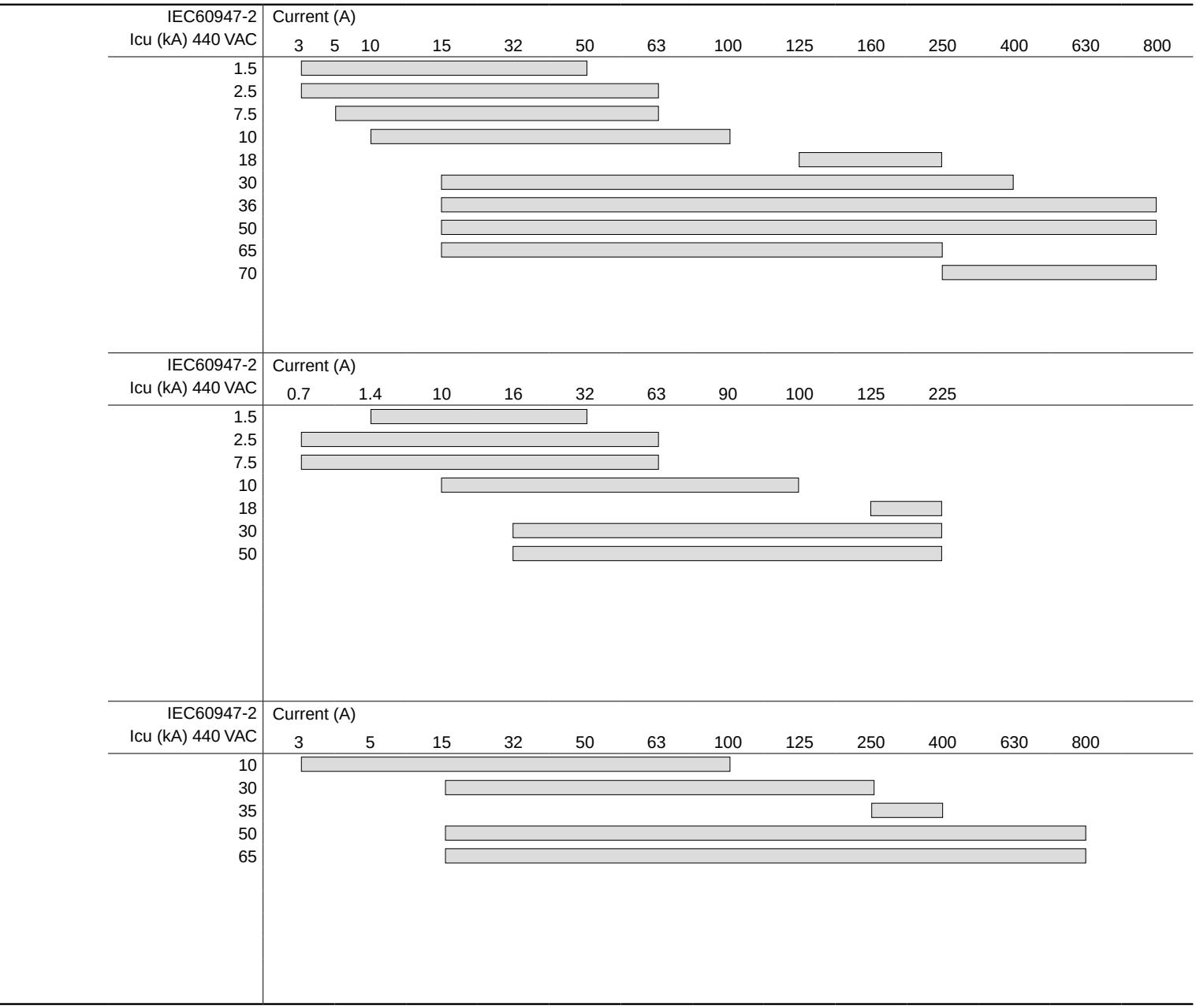
■Type of MCCBs

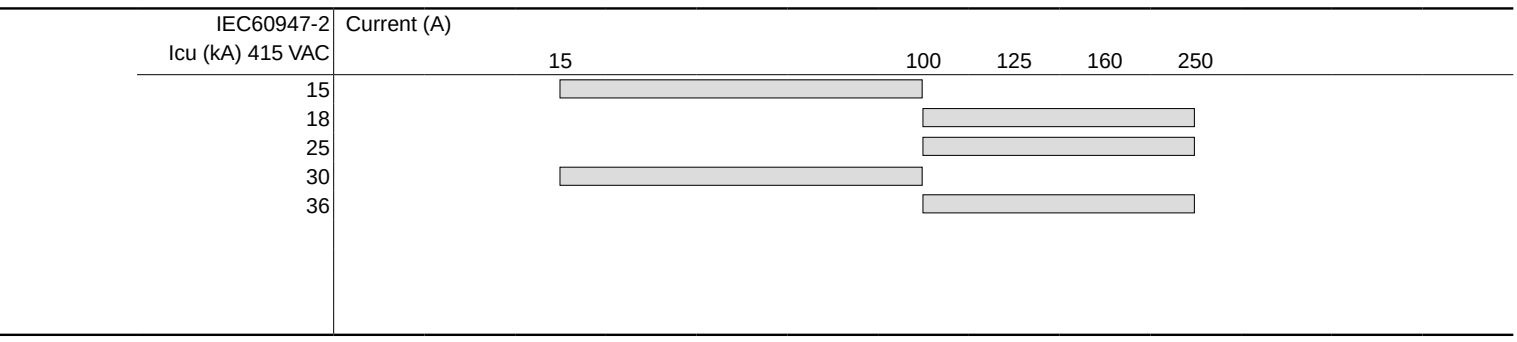
G-TWIN Series

Line protection	Page	Feature	Type
	06/04	· Models from 3A to 800A · Conforming to international standard IEC/EN(CE)/GB(CCC)/JIS · Most accessories can be installed by the user.	BW ① ② A G- ③ ④ ①AF: 32, 50, 63, 100, 125, 160, 250, 400, 630, 800 ②Breaking capacity: A, E, J, S, R, H ③Pole: 2P, 3P, 4P ④Rated current: 003, ·, ·, ·, 800
Motor-protection	**Page**	**Feature**	**Type**
	06/18	· Models from 0.7A to 225A · Line & Motor protection · Conforming to international standard IEC/EN(CE)/GB(CCC)/JIS	BW ① ② A M- ③ ④ ①AF: 32, 50, 63, 100, 125, 250 ②Breaking capacity: E, J, S, R ③Pole: 2P, 3P ④Rated current: 0P7, ·, ·, ·, 225
UL489Listed	**Page**	**Feature**	**Type**
	06/13	· Models from 3A-800A · Conforming to international standard UL/CSA/IEC/EN(CE)/GB(CCC)/JIS	BW ① ② A GU- ③ ④ ①AF: 50, 100, 125, 250, 400, 630, 800 ②Breaking capacity: E, J, S, R, H ③Pole: 2P, 3P ④Rated current: 003, ·, ·, ·, 800

BW0 Series

Line protection	Page	Feature	Type
	06/96	· Compact: depth 60mm · Cassette: All accessories can be assembled by user. · Global: Conforming to IEC/EN(CE) standard.	BW ① ② ③ 0/ ④ ①AF: 10:100AF, 16:160AF, 25:250AF ②Breaking capacity: E, J, S ③Pole: 2:2P, 3:3P ④Rated current: 15, ·, ·, ·, 250


IEC60947-2
Icu (kA) 440 VAC
Current (A)
3 5 10 15 32 50 63 100 125 160 250 400 630 800
1.5
2.5
7.5
10
18
30
36
50
65
70
IEC60947-2
Icu (kA) 440 VAC
Current (A)
0.7 1.4 10 16 32 63 90 100 125 225
1.5
2.5
7.5
10
18
30
50
IEC60947-2
Icu (kA) 440 VAC
Current (A)
3 5 15 32 50 63 100 125 250 400 630 800
10
30
35
50
65


IEC60947-2
Icu (kA) 415 VAC
Current (A)
15 100 125 160 250
15
18
25
30
36

Type of MCCBs

H Series

Line protection	Page	Feature	Type
	06/111	· Models with high breaking capacities from 5 to 800A	H ① ② ③ / ④ ①AF: 5:50AF, 10:100AF, 20:225AF, 40:400AF, 60:600AF, 80:800AF ②Pole: 2:2P, 3:3P ③Breaking capacity: BA, R ④Rated current: 10 ⋮ 800

Motor-protection	Page	Feature	Type
	06/114	· High breaking capacity model of 16 to 45A · Line and Motor protection	H53BAM/ ① ① Rated current: 16 ⋮ 45

Solid-state trip types

SA-E series	Page	Feature	Type
	06/148	· Equipped with a load current pre-trip alarm · Adjustable rated current · wide-range-adjustable trip characteristics	SA ① ② E/ ③ ①AF: 100:1000AF, 120:1200AF, 160:1600AF ②Pole: 3:3P, 4:4P ③Rated current: 500 ⋮ 1600

Distribution breaker

F seriies	Page	Feature	Type
	06/165	· Used for protection of lighting and heating branch circuit	F ① ② B/ ③ ①AF: 5:50AF, 10:100AF ②Pole: 1:1P, 2:2P, 3:3P ③Rated current: 15 ⋮ 100

DH series

ACB	Page	Feature	Type
	06/172	· Standardized basic dimensions · Small and high performance · Same panel cutout size in all models · Equipped with multi-function protective device	DH ① ② ③ ④ ①AF: 08:800AF, 12:1200AF, 16:1600AF, 20:2000AF, 25:2500AF, 30:3000AF, 40:4000AF, 50:5000AF, 60:6300AF ②Pole: 3:3P, 4:4P ③Rated current: Breaking capacity class (Blank), H, P

Type of MCCBs