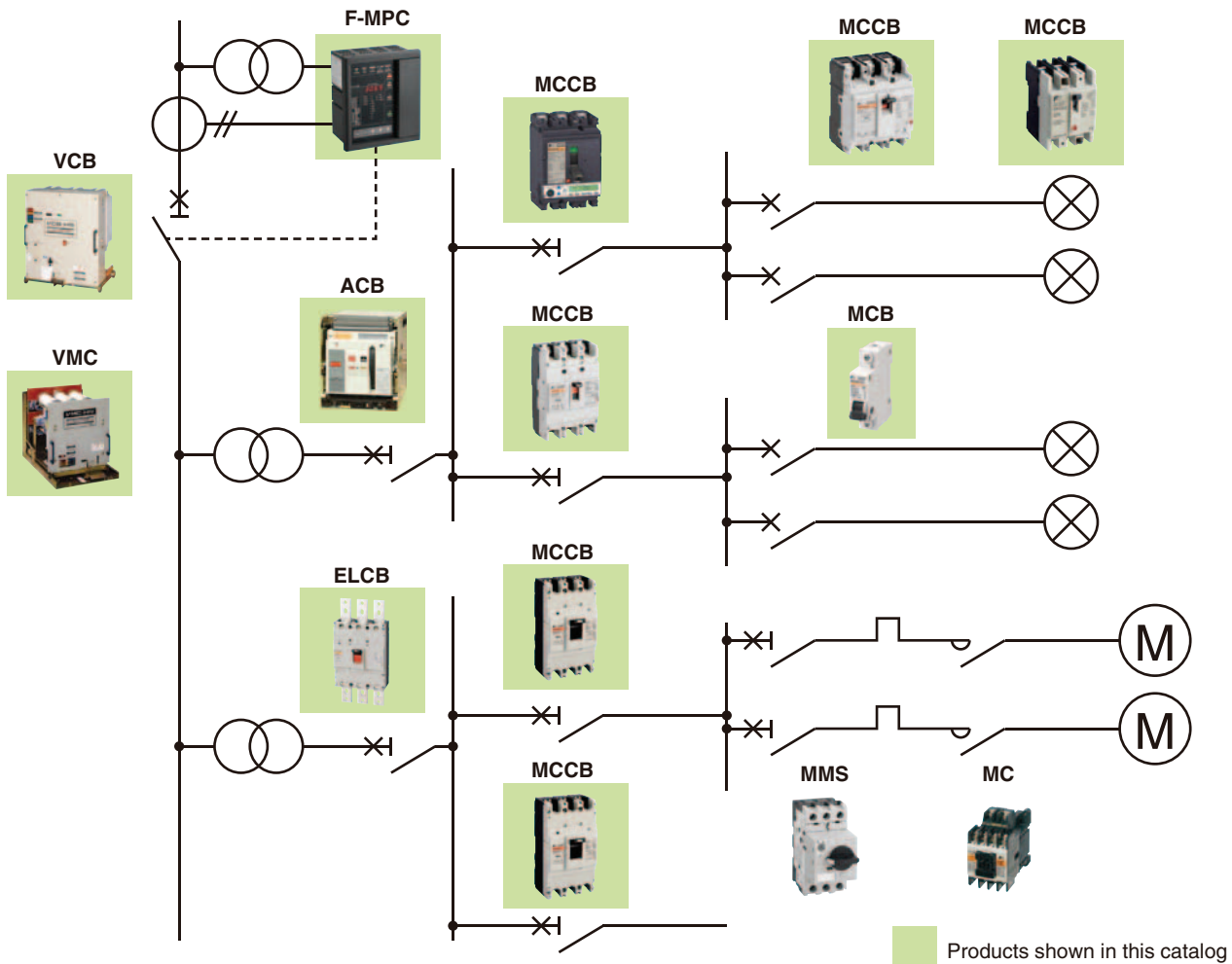


New Line-up D&C Component for Asian Market



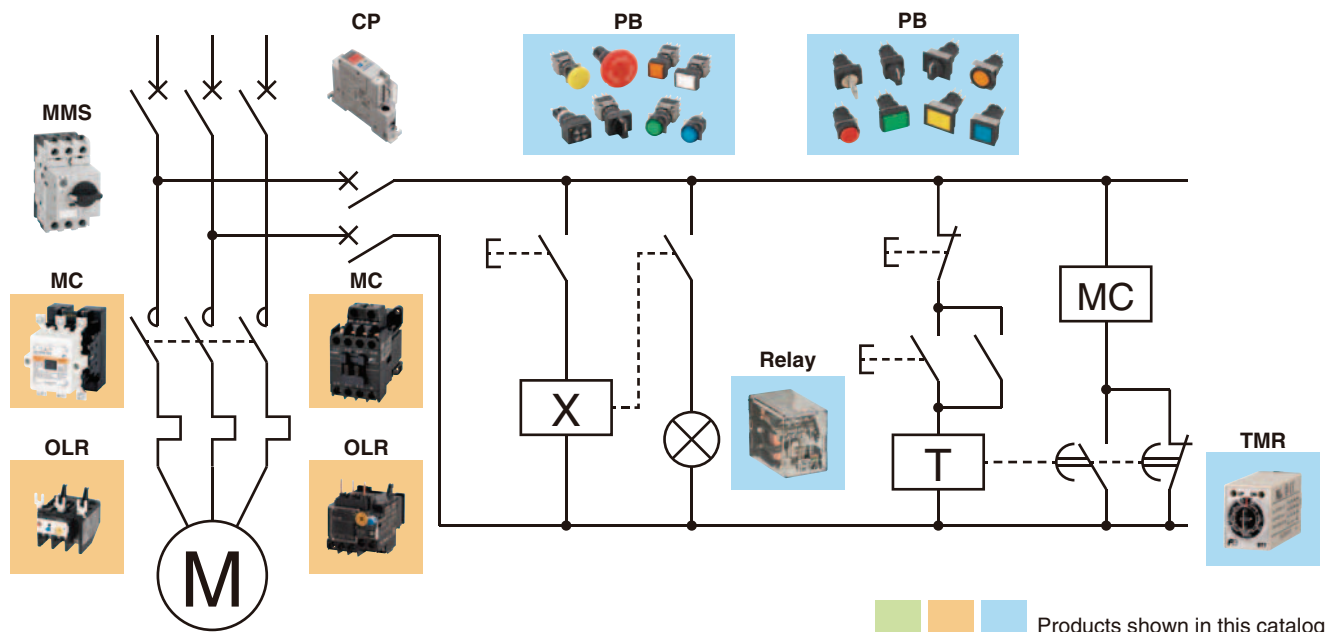
Fuji Electric FA's D&C product line-up can meet your needs

Electrical Distribution



Motor Control

Control



Line-up

Electrical Distribution

OEM (Machine tools, transport machinery etc..)

High-end to Mid-range

Low-end

Private (Large-scale)
Capital Properties

Private (Small to Middle-scale)
Capital Properties

Page

■ Air circuit breakers

DW Series



BT3 Series



4

ACB

■ Miniature circuit breakers

BC Series (IEC60947-2)



BE1 Series (IEC60898-1)



8

MCB

■ Molded case circuit breakers

BX Series



G-TWIN Series



BW0 Series



10

MCCB

■ Magnetic contactors

SC Series



FJ Series



■ Thermal overload relays

16

MC

■ Push buttons ■ Selector switches ■ Pilot lights

AH164, AH165 Series
AR22, DR22 Series



AR15C, DR15C, AF15C, DF15C
AR16C, DR16C, AF16C, DF16C
AY22, DY22 Series



20

PB

■ Industrial relays

HH52, HH53, HH54 Series



HH52-C, HH53-C, HH54-C Series



28

Relay

■ Time delay relays

ST7P Series



ST7P-C Series



28

TMR

DW Series



The standard for power circuit breakers around the world.

Over the years, other major manufacturers have tried to keep up by developing products incorporating DW's most innovative features, including the breaking principle, modular design and the use of composite materials. In addition to the traditional features of power circuit breakers (withdrawability, discrimination and low maintenance), DW ranges offer built-in communications and metering functions, all in optimised frame sizes. DW incorporate the latest technology to enhance both performance and safety. Easy to install, with user-friendly, intuitive operation and environment-friendly design, DW are, quite simply, circuit breakers of their time.

Features

Covering all your applications

DW meets the needs of all types of LV electrical distribution networks.
- Building, Data Centres and Networks, Industry, Energy and Infrastructures

One family and two frame sizes

DW series, in two frame sizes, one from 800 to 4000 A and the other from 4000 A to 6300 A.



DW 800 to 4000 A



DW 4000 to 6300 A

2 performance levels

H1 - for industrial sites with high short-circuit levels or installations with two parallel-connected transformers.
H2 - high-performance for heavy industry where very high short-circuits can occur.

		DW08	DW10	DW12	DW16	DW20	DW25	DW32	DW40
H2	100kA	■	■	■	■	■	■	■	■
H1	65kA	■	■	■	■	■	■	■	■
		DW40b	DW50	DW63					
H2	150kA	■	■	■					
H1	100kA	■	■	■					

BT3 Series







Air Circuit Breakers, 1600 to 6300A

Features

- Compact design
- Satisfied Icu = 50kA or above at 440V for all of ampere frame size
- Available Icu / Ics rating at 440V, rated current from 200A to 6300A, Ics = 100% of Icu
- Conform to IEC 60947-2 (DEKRA (KEMA) certificate will be obtained.)

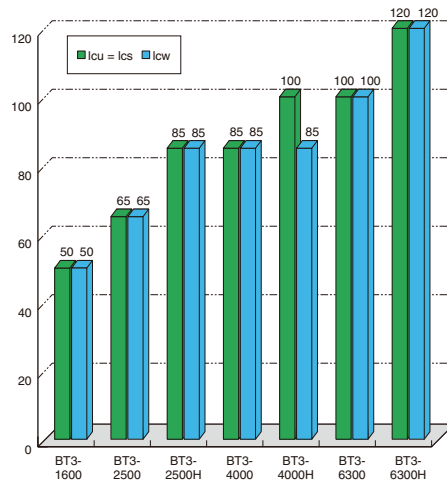
Compact size

BT3 series, Air Circuit Breakers, have four ampere frame sizes and physical dimensions.

Ampere frame	1600	2500	4000	6300
Appearance				
Width (3-poles, Draw-out type)	248mm	347mm	401mm	754mm

Breaking Capacity

Icu is equal to Ics up to 120kA at maximum and Icw 1s is up to 120kA at maximum under AC415V distribution.



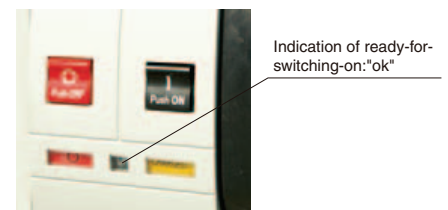
Safety performance

Draw-out type BT3 series Air Circuit Breakers can be operated safely at 3 positions:

1. Connected position
2. Testing position
3. Disconnected position



Clear indication of ready-for-switching-on to ensure safe manipulation and reliable operation.



Installation

The bus bar terminal of the BT3 series, Air Circuit Breakers, can be simply installed as follows:

- Horizontal connection
- Vertical connection
- Composite connection




More reliable safety protection with secondary terminals of protection grade IP30




Air Circuit Breakers DW and BT3 Series

DW Series

Frame size		800AF	1000AF	1250AF	1600AF				
Types		DW08	DW10	DW12	DW16				
Appearance									
International standards		CE							
Number of poles		3, 4							
Rated insulation voltage U_i (V)		1000							
Impulse withstand voltage U_{imp} (kV)		12							
Rated operational voltage U_e max. (V AC) 50/60Hz		690							
Type of circuit breaker		H1	H2	H1	H2	H1	H2	H1	H2
Rated current I_n (A) at 40°C	IEC60947-2 Vertical terminal	800		1000		1250		1600	
Sensor ratings (A)		400 630 800		400 630 800 1000		630 800 1000 1250		800 1000 1250 1600	
Rated breaking capacity $I_{cu} = I_{cs}$ (kA rms)	IEC60947-2 220/415/440V AC 690V AC	65	100	65	100	65	100	65	100
Rated making capacity I_{cm} (kA peak)	IEC60947-2 220/415/440V AC 690V AC	143	220	143	220	143	220	143	220
Rated short-time withstand current I_{cw} (kA rms)	1s 3s	65 36	85 50	65 36	85 50	65 36	85 50	65 36	85 50
Dimensions H x W x D (mm)	Drawout, RC	3P 4P	439x441x395 439x556x395						
	Fixed, RC	3P 4P	352x422x297 352x537x297						

BT3 Series

Frame size		1600AF	
Types		BT3-1600	
Appearance			
Number of poles		3, 4	
Rated insulation voltage U_i (V)		1000	
Impulse withstand voltage U_{imp} (kV)		12	
Rated operational voltage U_e max. (V AC) 50/60Hz		690	
Rated current I_n (A) at 40°C	IEC60947-2 Vertical terminal	200 400 630 800 1000 1250 1600	
Rated breaking capacity I_{cu} / I_{cs} (kA rms)	IEC60947-2 400V AC 440V AC 690V AC	65/55 50/50 50/42	
Rated making capacity I_{cm} (kA peak)	IEC60947-2 400V AC 440V AC 690V AC	143 105 105	
Rated short-time withstand current I_{cw} (kA rms)	400V AC, 1s 440V AC, 1s 690V AC, 1s	50, 55 (0.5s) 50 42	
Dimensions (mm) H x W x D	Drawout	3P 4P	351.5 x 248 x 297 351.5 x 318 x 297
	Fixed	3P 4P	320 x 259 x 195 320 x 329 x 195

Note: BT3 Specification is subject to change.

2000AF	2500AF	3200AF	4000AF	4000AF	5000AF	6300AF
DW20	DW25	DW32	DW40	DW40b	DW50	DW63



CE

H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
2000		2500		3200		4000		5000		6300			
1000 1250 1600 2000		1250 1600 2000 2500		1600 2000 2500 3200		2000 2500 3200 4000		2000 2500 3200 4000		2500 3200 4000 5000		3200 4000 5000 6300	
65	100	65	100	65	100	65	100	100	150	100	150	100	150
65	85	65	85	65	85	65	85	100	100	100	100	100	100
143	220	143	220	143	220	143	220	220	330	220	330	220	330
143	187	143	187	143	187	143	187	220	220	220	220	220	220
65	85	65	85	65	85	65	85	100	100	100	100	100	100
36	75	65	75	65	75	65	75	100	100	100	100	100	100

479x786x395

479x1016x395

352x767x297

352x997x297

2500AF	4000AF	6300AF
BT3-2500	BT3-4000	BT3-6300
BT3-2500H	BT3-4000H	BT3-6300H



630 800 1000 1250 1600 2000 2500		1000 1250 1600 2000 2500 2900 3200 3600 4000		4000 5000 6300	
65/65	85/85	85/85	100/100	120/120	135/135
65/65	85/85	85/85	100/100	100/100	120/120
55/55	65/65	75/75	85/85	85/85	100/100
143	187	187	220	264	297
143	187	187	220	264	297
121	143	165	187	187	220
65	85	85	100	120	135
65	85	85	85	100	120
55	65	75	85	85	100
438 x 347 x 395		438 x 401 x 395		475.5 x 754 x 395	
438 x 442 x 395		438 x 514 x 395		475.5 x 980 x 395	
395 x 362 x 290		395 x 414 x 290		395 x 769 x 290	
395 x 457 x 290		395 x 527 x 290		395 x 995 x 290	

Miniature Circuit Breakers BC and BE1 Series

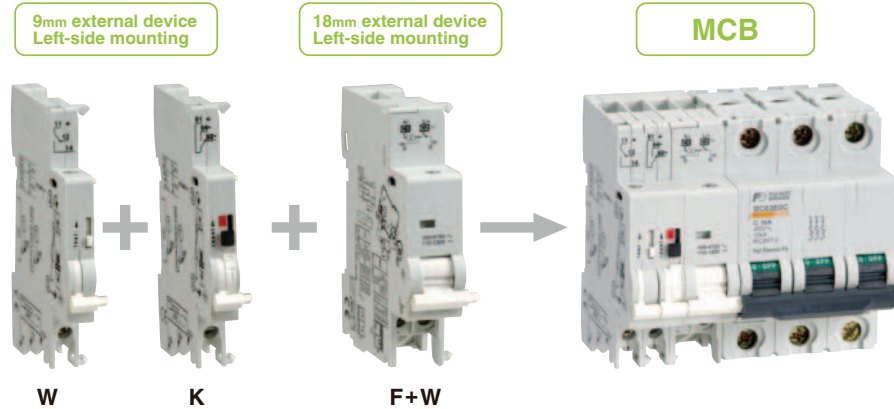
BC Series



MCB "BC series" for General Consumer Use.

Features

- 10kA short circuit breaking capacity.
- In accordance with IEC60947
- Ratings : 1,2 and 3 poles 1-63A
- Type C tripping characteristics (general use)
- IEC 35mm rail mounted, modular devices, 1 module (18mm/pole)
- Accessories = Snap-on fittings speed up mounting.



BE1 Series

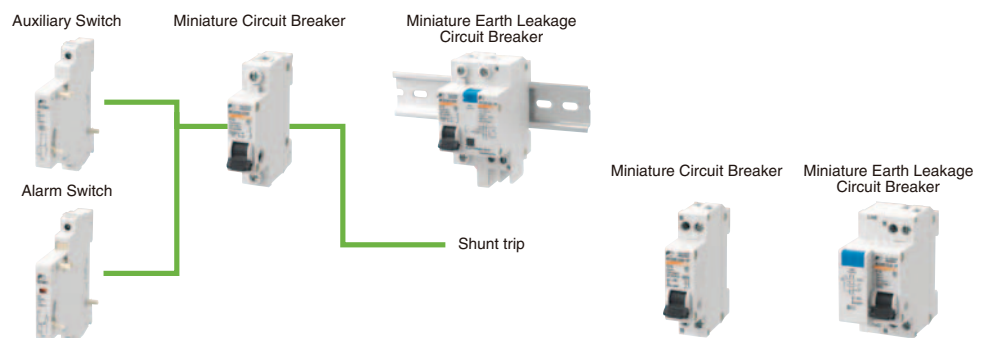


This series of miniature circuit breaker is for the purpose of the protection of distribution equipment in the residential or similar facility, to protect against short circuit and overload damage.

Features

- Among the characteristics of overload protection, there are the Curve C characteristic for the protection of lighting electrical systems having 5 to 10In instantaneous tripping characteristic, and the Curve D characteristic for the protection of ordinary electrical system wires having 10 to 14In instantaneous tripping characteristic.
- ELCB is completed by combining a miniature circuit breaker with an earth leakage shunt trip device.
- As functional components can be installed such as auxiliary switch, alarm switch among others, it can monitor and control the electrical system.

Product Composition



BC Series

Frame	63A		
Type	BC61E0C	BC62E0C	BC63E0C
Number of poles	1	2	3
Curve	C (7-10In)		
In=1A	BC61E0C- 001	BC62E0C- 001	BC63E0C- 001
2A	002	002	002
3A	003	003	003
4A	004	004	004
6A	006	006	006
10A	010	010	010
16A	016	016	016
20A	020	020	020
25A	025	025	025
32A	032	032	032
40A	040	040	040
50A	–	050	050
63A	–	063	063
International standards	IEC60947-2		
Impulse withstand Voltage(Uimp) (kV)	6		
Rated Insulation Voltage(Ui) (V)	500		
Ultimate short circuit capacity(Icu) (kA) IEC60947-2	440V AC –	6	6
	415V AC 3*1	10	10
	240V AC 10	20	20
	130V AC 20	–	–
Service short-circuit capacity(Ics)(kA)	75% of Icu		
Rated interrupting capacity (DC)(kA) L/R<0.015sec	125V DC –	20	30
	<60V DC 15	–	–
Electrical durability(O-C x1000)	20		
Dimensions(mm) W x H x D	1P	18 x 81 x 70	
	2P	36 x 81 x 70	
	3P	54 x 81 x 70	



*1 Breaking capacity under 1 pole with IT isolated neutral system (case of double fault)

BE1 Series

Frame	63A								
Type	BC63E1CG-1P	BC63E1DG-1P	BC63E1CG-2P	BC63E1DG-2P	BC63E1CG-3P	BC63E1DG-3P	BC63E1CG-4P	BC63E1DG-4P	
Number of poles	1		2		3		4		
Curve	C (5-10In)		D (10-14In)		C (5-10In)		D (10-14In)		
In=1A	BC63E1CG-1P001E	BC63E1DG-1P001E	BC63E1CG-2P001E	BC63E1DG-2P001E	BC63E1CG-3P001E	BC63E1DG-3P001E	BC63E1CG-4P001E	BC63E1DG-4P001E	
2A	002E	002E	002E	002E	002E	002E	002E	002E	
3A	003E	003E	003E	003E	003E	003E	003E	003E	
4A	004E	004E	004E	004E	004E	004E	004E	004E	
5A	005E	005E	005E	005E	005E	005E	005E	005E	
6A	006E	006E	006E	006E	006E	006E	006E	006E	
10A	010E	010E	010E	010E	010E	010E	010E	010E	
16A	016E	016E	016E	016E	016E	016E	016E	016E	
20A	020E	020E	020E	020E	020E	020E	020E	020E	
25A	025E	025E	025E	025E	025E	025E	025E	025E	
32A	032E	032E	032E	032E	032E	032E	032E	032E	
40A	040E	040E	040E	040E	040E	040E	040E	040E	
50A	050E	–	050E	–	050E	–	050E	–	
63A	063E	–	063E	–	063E	–	063E	–	
International standards	IEC60898-1, GB10963.1,								
Rated breaking capacity (kA) IEC60898-1	230/400V AC In:1-40A	6	4.5	6	4.5	6	4.5	6	4.5
	In:50,63A	4.5	–	4.5	–	4.5	–	4.5	–
Rated breaking capacity(DC)(kA)	250V DC	–	–	–	–	–	–	50	–
	125V DC	–	–	20	–	–	–	–	–
	60V DC	10	–	–	–	–	–	–	–
Electrical durability(O-C x1000)	10								
Dimensions(mm) W x H x D	1P	18 x 77 x 72.5							
	2P	36 x 77 x 72.5							
	3P	54 x 77 x 72.5							
	4P	72 x 77 x 72.5							



BX Series



Full-featured & compact MCCB.

Ideal for protecting and measuring the power receiving and distribution circuit.

Features

Safety and performance

Compactness, discrimination and modularity - new circuit breakers incorporate advanced monitoring and communication functions, from 40 amps up, combined with impeccable protection.

Expert technology

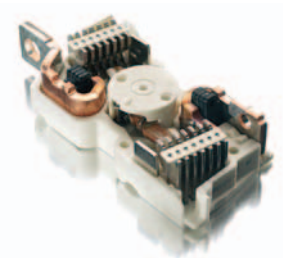
A roto-active contact breaking principle provides each circuit breaker with very high breaking capacity in a very small device, remarkable fault current limitation performance, and endurance.

- BX benefits from a patented double roto-active contact breaking concept, together with a reflex tripping system for ultimate breaking.
- Exceptional fault current limitation guarantees robust, reliable protection and, above all, reduces the causes of component aging, thus extending service life for installations.

Breaking performance at 415V 50/60Hz

	BX100	BX160	BX250	BX400	BX630
H 70kA	█	█	█	█	█
R 50kA			█	█	█

	BX800	BX1000	BX1250	BX1600
H 70kA	█	█	█	█
R 50kA	█	█	█	█



New breaking capacities

New performance levels for BX improve application targeting:

- 50 kA : standard applications (industrial plants, buildings and hospitals),
- 70 kA : high performance at controlled cost.

Reduced installation costs

Optimising installations allows for achieving up to 30 % savings:

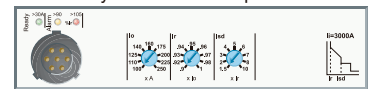
- considerable savings at the time of installation, thanks to total discrimination with miniature circuit breakers,
- smaller devices, more economic switchboards mean best overall installation cost, without overcalibration.

Built-in control unit

We have prepared a rich lineup ranging from standard types designed exclusively for overcurrent protection to specialized types capable of power quality control.

- The protective functions enable long time delays, short time delays, and instantaneous combinations, while also making it possible to choose various measuring functions such as ammeter and wattour meter.
- Parameter measurement, computation, data storage, log event records, alarm output, communication.

Exclusively for overcurrent protection



Equipped with power quality control functions



G-TWIN Series



The Twin Breakers have advanced to an entirely new stage.

Features

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



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
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Compact & High performance

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

Current model



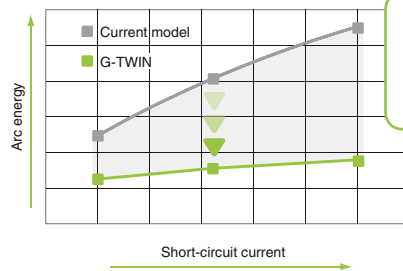
Rated voltage 480V
BU3JLC
(W105 x H256 x D103 mm)
(250AF)



Rated voltage 480V
BW250RAGU
(W105 x H181 x D68 mm)
(250AF)

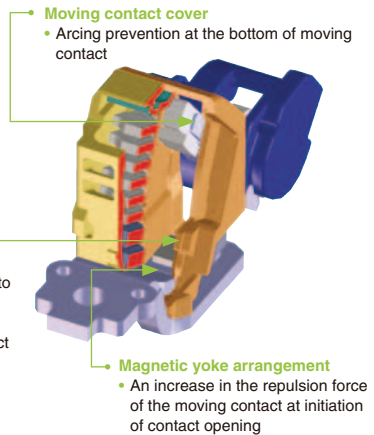
480V
Volume ratio
- 53%!

- Effect of "ablation breaking technology"
Short-circuit arc energy reduced by 30%



Reduced by 30%!

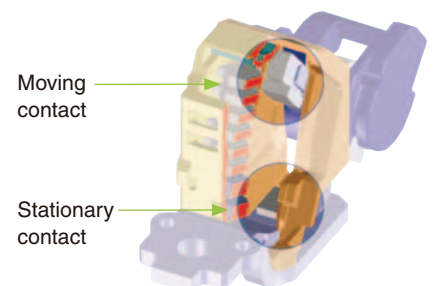
- Narrow slit resin
 - Increased arc voltage due to narrow slit effect
 - Increased arc voltage and high-speed moving contact opening by ablation effect
 - Suppression of internal pressure rise by adjusting the narrow slit width



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 (Cr⁶⁺-free) (125 to 800AF)



Cadmium-free contact material

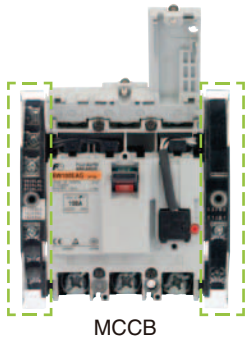
Molded Case Circuit Breakers BX, G-TWIN and BW0 Series

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



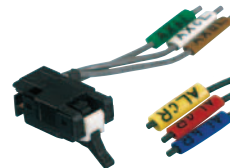
MCCB



Shunt trip device



Undervoltage trip device



Auxiliary switch



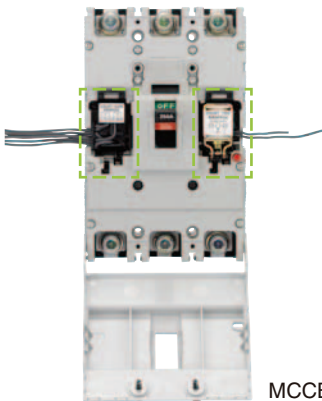
Alarm switch

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



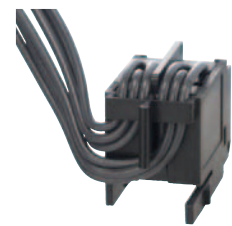
Shunt trip device



Undervoltage trip device



Auxiliary switch



Alarm switch

BW0 Series



Economy series MCCB from 32AF to 400AF

Features

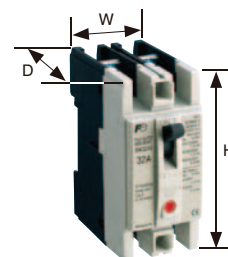
Focusing on assembly of wiring, maintenance check, reasonable price, and standardized distribution box design, BW0 series MCCBs are designed mainly for civil construction market and secondary distribution market.

32AF

Compact design

Cost and space saving for building a control panel.

- Compact size
 - 2P W36×H80×D76(mm)
 - 3P W54×H80×D76(mm)
- AC 440V application
 - Icu: 1.5kA at 440V AC,
 - 2.5kA at 240V AC



Available accessories

Auxiliary switch, alarm switch and shunt trip device



Compliance to RoHS Directive

All materials used are compliant to RoHS Directive and the main components are easy to recycle.

100AF to 400AF

Compact design

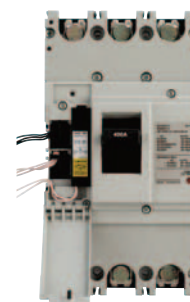
We've applied high-performance technology to achieve 100AF to 250AF models with a uniform depth of 60mm.

Cassette type accessories

All accessories can be assembled by the user. Quickly adaptable to the many onsite changes in specifications.

Compliance to RoHS Directive

All materials used are compliant to RoHS Directive and the main components are easy to recycle.



Interchangeability

The design of the same external dimensions (400AF) and mounting hole size (160AF to 400AF) with G-TWIN circuit breaker. Just simply change the model when a customer suddenly changes the design (e.g. when changed to earth leakage circuit breaker).



BW253E0

Interchangeability



EW250EAG-3P



BW403S0



Interchangeability









EW400EAG-3P

Molded Case Circuit Breakers BX, G-TWIN and BW0 Series

BX Series




Frame size		100AF	160AF
Types	Thermal magnetic Electronic	BX100 <input type="checkbox"/> AG- <input checked="" type="checkbox"/> P BX100 <input type="checkbox"/> AE- <input checked="" type="checkbox"/> P	BX160 <input type="checkbox"/> AG- <input checked="" type="checkbox"/> P BX160 <input type="checkbox"/> AE- <input checked="" type="checkbox"/> P
Appearance			
International standards		CE	CE
Number of poles	<input checked="" type="checkbox"/>	3,4	3,4
Rated insulation voltage (V AC)		800	800
Type of circuit breaker	<input type="checkbox"/>	H	H
Rated current In (A)	Thermal magnetic Electronic	16, 25, 32, 40, 50, 63, 80, 100 40, 100	125, 160 160
Rated breaking capacity 660-690V AC (kA) (IEC 60947-2) (Icu/Ics)	525V AC 500V AC 440V AC 380-415V AC 220-240V AC	10/10 35/35 50/50 65/65 70/70 100/100	10/10 35/35 50/50 65/65 70/70 100/100
Dimensions (mm) Fixed W x H x D	3P 4P	105 x 161 x 126 140 x 161 x 126	105 x 161 x 126 140 x 161 x 126








G-TWIN Series


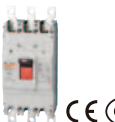
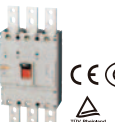
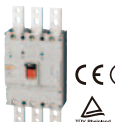
Frame size	32AF	50AF	63AF	100AF	125AF	160AF	
Types	Thermal magnetic Hydraulic magnetic	<input type="checkbox"/> AG- <input checked="" type="checkbox"/> P <input type="checkbox"/> AG- <input checked="" type="checkbox"/> P	BW50 <input type="checkbox"/> AG- <input checked="" type="checkbox"/> P -	BW63 <input type="checkbox"/> AG- <input checked="" type="checkbox"/> P -	BW100 <input type="checkbox"/> AG- <input checked="" type="checkbox"/> P -	BW125 <input type="checkbox"/> AG- <input checked="" type="checkbox"/> P -	BW160 <input type="checkbox"/> AG- <input checked="" type="checkbox"/> P -
Appearance							
International standards	CE	CE	CE	CE	CE	CE	CE
Number of poles	<input checked="" type="checkbox"/> 2, 3	2, 3	2, 3	2, 3	2, 3, 4	2, 3, 4	2, 3, 4
Rated insulation voltage (V AC) (IEC 60947-2)	500 690	500 690	690	690	500 690	690	690
(V DC)	- 250*1	- 250*1	250	250*1	- 250*1	250	250
Rated current In (A)	Thermal magnetic Hydraulic magnetic	- 3, 5, 10, 15, 20, 30, 32	- 5, 10, 15, 20, 30, 32, 40, 50	15, 20, 30, 40, 50 10, 15, 20, 30, 32, 40, 50	- 60, 63	15, 20, 30, 40, 50, 60, 75, 100, 125 60, 63, 75, 100	125, 150, 160
Type of circuit breaker	<input type="checkbox"/> A <input type="checkbox"/> S	A E S	R H *3	E S R	A E J S R H *3	E J S R	
Rated breaking capacity (kA) (IEC 60947-2) (Icu/Ics)	690V AC 500V AC 415-440V AC 380-400V AC 230-240V AC 250V DC	- 1.5/1 1.5/1 1.5/1 2.5/2	- 1.5/1 2.5/2 2.5/2 5/3	- 7.5/4 10/5 65/17 125/63	- 25/7 1.5/1 2.5/2 5/3	- 5/3 7.5/4 10/5 25/13	- 10/5 30/15 36/18 50/25 65/17 18/9 30/15 36/18 50/25
Dimensions (mm) Fixed W x H x D	2P 3P 4P	50 x 100 x 84 75 x 100 x 84 -	90 x 155 x 95 90 x 155 x 95 -	50 x 100x 84 75 x 100x 84 -	90(60*2) x 155 x 95 90 x 155 x 95 120 x 155 x 95	105 x 165 x 95 105 x 165 x 95 140 x 165 x 95	



Notes : *1 Specify DC only when ordering circuit breakers for DC circuit. *2 BW125JAG-2P model only *3 BW50HAG, BW125HAG, BW250HAG : CE standard only

BW0 Series

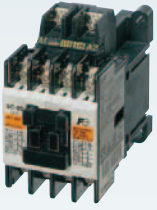
Frame size	32AF	100AF	160AF
Types	Thermal magnetic	BW10 <input type="checkbox"/> <input checked="" type="checkbox"/> 0	BW16 <input type="checkbox"/> <input checked="" type="checkbox"/> 0
Appearance			
International standards	CE	CE	CE
Number of poles	<input checked="" type="checkbox"/> 2, 3	3 2 3	2, 3
Rated insulation voltage (V AC) (IEC 60947-2)	440	690 250	690 250
(V DC)	-	-	-
Type of circuit breaker	<input type="checkbox"/> A	E S	E J S
Rated current (A)	Thermal magnetic 5, 10, 15, 20, 32	15, 20, 25, 30, 40, 50, 60, 75, 80, 100	100, 125, 150, 160
Rated breaking capacity (kA) (IEC 60947-2) (Icu/Ics)	500V AC 440V AC 415V AC 400V AC 380V AC 230-240V AC 250V DC	- 5/3 10/3 15/8 18/9 25/13	- 10/3 20/5 30/8 30/15 30/15 50/25
Dimensions (mm) Fixed W x H x D	2P 3P	36 x 80 x 76 54 x 80 x 76	50 x 130 x 81 75 x 130 x 81
			105 x 165 x 86 105 x 165 x 86

250AF		400AF		630AF		800AF		1000AF		1250AF		1600AF	
BX250 □ AG- ■ P BX250 □ AE- ■ P		BX400 □ AE- ■ P		BX630 □ AE- ■ P		BX800 □ AE- ■ P		BX1000 □ AE- ■ P		BX1250 □ AE- ■ P		BX1600 □ AE- ■ P	
													
3,4		3,4		3,4		3,4		3,4		3,4		3,4	
800		800		800		800		800		800		800	
R		R		R		R		R		R		R	
H		H		H		H		H		H		H	
200, 250		-		-		-		-		-		-	
100, 160, 250		250		400		630		800		1000		1250	
10/10		10/10		10/10		20/10		30/30		42/31		30/30	
35/35		35/35		22/11		35/11		40/40		50/37		40/40	
36/36		50/50		30/30		50/50		40/40		50/37		40/40	
50/50		65/65		42/42		65/65		50/50		65/48		40/40	
50/50		70/70		50/50		70/70		50/50		70/52		50/50	
90/90		100/100		85/85		100/100		85/50		85/52		85/50	
105 x 161 x 126		140 x 255 x 168		140 x 255 x 168		210 x 327 x 205		280 x 327 x 205		280 x 327 x 205		280 x 327 x 205	
140 x 161 x 126		185 x 255 x 168		185 x 255 x 168		280 x 327 x 205		280 x 327 x 205		280 x 327 x 205		280 x 327 x 205	

250AF		400AF		630AF		800AF	
BW250 □ AG- ■ P		BW400 □ AG- ■ P		BW630 □ AG- ■ P		BW800 □ AG- ■ P	
							
2, 3		2, 3		3		3	
2, 3, 4		2, 3, 4		3, 4		3, 4	
2, 3, 4		2, 3, 4		3, 4		3, 4	
2, 3		2, 3		3		3	
690		690		690		690	
250		250		250		250	
175, 200, 225, 250		125, 150, 160, 175, 200, 225, 250		500, 600, 630		700, 800	
-		-		-		-	
E		E		E		E	
J		S		R		R	
S		R		H		H	
R		H		E		E	
H ^{*3}		S		R		R	
-		10/5		15/8		15/8	
5/3		8/4		10/5		10/5	
18/9		30/15		36/18		50/25	
18/9		30/15		36/18		50/25	
36/18		50/25		85/43		100/50	
10/5		20/10		30/15		40/20	
105 x 165 x 95		140 x 257 x 146		140 x 257 x 146		210 x 275 x 146	
105 x 165 x 95		140 x 257 x 146		140 x 257 x 146		280 x 275 x 146	
140 x 165 x 95		185 x 257 x 146		185 x 257 x 146		280 x 275 x 146	

250AF		400AF	
BW25 □ E0		BW40 □ 0	
			
2, 3		2, 3	
690		690	
250		250	
E		S	
J		S	
S		S	
175, 200, 225, 250		250, 300, 350, 400	
5/3		20/10	
15/8		25/13	
18/9		36/18	
18/9		36/18	
18/9		36/18	
25/13		85/43	
5/3		20/10	
105 x 165 x 86		140 x 257 x 146	
105 x 165 x 86		140 x 257 x 146	

SC Series



Features

- Long life expectancy with a strong electrical switching durability of 2 million operations (SC-N3 and below)
- Improves contact reliability by making the auxiliary contacts bifurcated
- Complies with international standards (UL, CSA, CE, LR, BV, etc.)
- Improves usability (Adopts a structure that makes it easy to replace coils, etc.)
- High operation reliability via an integrated circuit mounted super magnet (SC-N6 and above) (prevention of coil burnout due to voltage fluctuation and contact welding due to chattering, as well as AC/DC common use for the coil, enhanced range, elimination of moaning sound, etc.)
- Comes standard with mirror contacts
- Offers a rich lineup of options

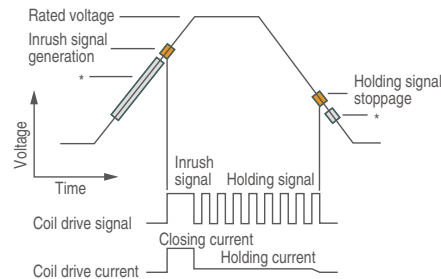
Enhanced operation reliability via a new type of super magnet

We have achieved high operation reliability for the NEO SC Series Magnetic Contactor by adopting a new type of super magnet for electronic control in the operating circuit (AC input DC excitation system).

- Eliminates chattering due to voltage fluctuation and prevents contact welding and damage
- Has a regular rated voltage upon inrush, and supports use upon contact with the main contact at a voltage reduced to 65% of the rated voltage
- Prevents low voltage starting of the motor
- Greatly reduces operating volt amperes and power consumption of the operation coil
- The coil has a wide rated range and supports both AC and DC.
- Has a built-in surge suppression function
- Electromagnetically compatible

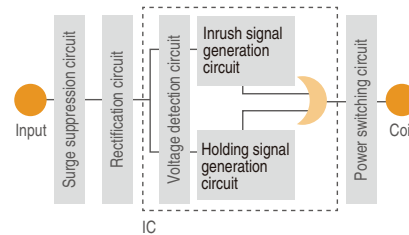


Operating principles



* Voltage range susceptible to coil burnout, contact welding due to chattering, and damage

Circuit configuration



Application specific feature-rich optional unit



Auxiliary contact block (front mounting)
SZ-A□ type



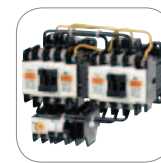
Auxiliary contact block (side mounting)
SZ-AS□ type



Main circuit surge suppression unit (front mounting, side mounting)
SZ-ZM□ type



Interlock unit
SZ-RM type



Power connection kit for reversing
SZ-RW□ type



Three-phase parallel terminal plate
SZ-SP□ type



Coil drive unit for IC output (front mounting, side mounting)
SZ-CD□ type



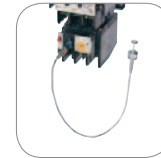
Coil-surge suppression unit
SZ-Z□ type



Separate mounting unit for thermal overload relay
SZ-H□ type



Thermal overload relay trip indicator
SZ-L□ type



Thermal overload relay reset release
SZ-R□ type



Thermal overload relay dial cover
SZ-DA type

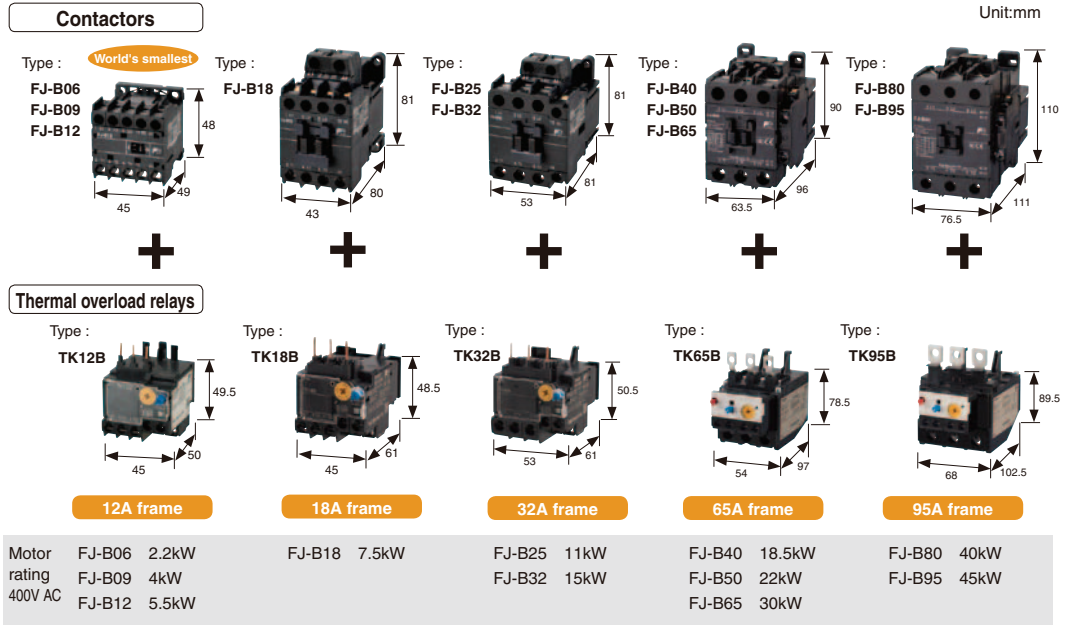
FJ Series



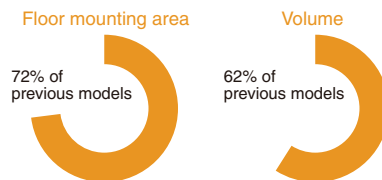
The FJ Series is compact, safety, environmental friendly and the world's smallest magnetic contactors. (applied motor capacity : 440 VAC, 2.2 to 45 kW)

Features

- Compact and space-saving of magnetic contactor and thermal overload relay



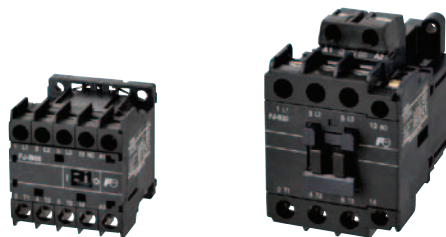
Average of FJ-B06 to B32 types



Average of models with thermal overload relay















- Highly efficient electromagnet has been developed by using a computer simulation with 3D magnetic field analysis so that AC and DC electromagnets have the same appearance. (FJ-B06, B09, and B12 types)
- Optimization was achieved through 3D thermal analysis and inversion mechanism simulation.
- Terminal cover for finger protection
The terminal cover satisfies the requirements of Machinery Directive EN60204-1 "Direct Contact Prevention" concerning mechanical safety.






































Magnetic Contactors and Thermal overload relays SC and FJ Series








SC Series

Series		SC Series								
Frame		03	0	05	4-0	4-1	5-1	N1	N2	
Magnetic Contactor appearance										
Thermal Overload Relay appearance										
Type	Magnetic Contactors	SC-03	SC-0	SC-05	SC-4-0	SC-4-1	SC-5-1	SC-N1	SC-N2	
Type	Thermal Overload Relays	TK13-□TN	TK13-□TN	TK13-□TN	TK26-□TN	TK26-□TN	TK26-□TN	TR-N2/3	TR-N2/3	
Rating	Max.motor capacity (kW)	200-240V	2.5	3.5	3.5	4.5	5.5	5.5	7.5	11
	AC-3,IEC60947-4-1	380-440V	4	5.5	5.5	7.5	11	11	15	18.5
	Operational current (A)	200-240V	11	13	13	18	22	22	32	40
	AC-3,IEC60947-4-1	380-440V	9	12	12	16	22	22	32	40
Conventional free air thermal current (A)			20	20	20	25	32	32	50	60
International standards										

FJ Series

Series		FJ Series							
Frame		06	09	12	18	25	32	40	
Magnetic Contactor appearance									
Thermal Overload Relay appearance									
Type	Magnetic Contactors	FJ-B06	FJ-B09	FJ-B12	FJ-B18	FJ-B25	FJ-B32	FJ-B40	
Type	Thermal Overload Relays	TK12B	TK12B	TK12B	TK18B	TK32B	TK32B	TK65B	
Rating	Max.motor capacity (kW)	200-240V	1.5	2.2	3	4	5.5	7.5	11
	AC-3,IEC60947-4-1	380-440V	2.2	4	5.5	7.5	11	15	18.5
	Operational current (A)	200-240V	6	9	12	18	25	32	40
	AC-3,IEC60947-4-1	380-440V	6	9	12	18	25	32	40
Conventional free air thermal current (A)			20	20	20	25	32	40	50
International standards									

SC Series												
N2S	N3	N4	N5	N6	N7	N8	N10	N11	N12	N14	N16	
												
											-	
SC-N2S	SC-N3	SC-N4	SC-N5A	SC-N6	SC-N7	SC-N8	SC-N10	SC-N11	SC-N12	SC-N14	SC-N16	
TR-N3/3	TR-N3/3	TR-N5/3	TR-N5/3	TR-N6/3	TR-N7/3	TR-N8/3	TR-N10/3	TR-N12/3	TR-N12/3	TR-N14/3	-	
15	18.5	22	30	37	45	55	65	90	120	180	220	
22	30	40	55	60	75	90	110	160	220	315	440	
50	65	80	105	125	150	180	220	300	400	600	800	
50	65	80	105	125	150	180	220	300	400	600	800	
80	100	135	150	150	200	260	260	350	450	660	800	
												

FJ Series			
50	65	80	95
			
			
FJ-B50	FJ-B65	FJ-B80	FJ-B95
TK65B	TK65B	TK95B	TK95B
15	18.5	22	25
22	30	40	45
50	65	80	95
50	65	80	95
60	65	100	105
			

AH164, 165, 165-2 Series

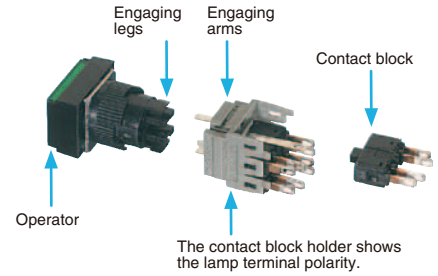


Contact separable type enabling addition and replacement of contact block

Features

Easy addition/replacement of contacts

Contact block holder is easily disengaged by holding down the engaging arms above and below the contact block holder. Addition of contacts and replacement of block is possible.



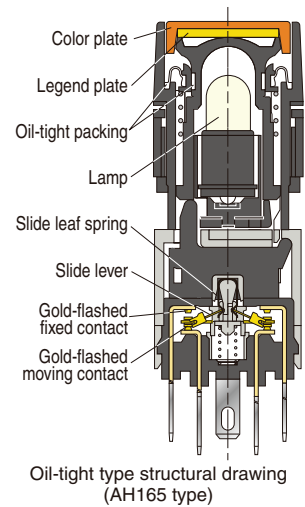
Offering a standard enclosed type and oil-tight type series

The standard enclosed type (AH164) and oil-tight type (AH165, AH 165-2) series make application to all types of equipment ranging from machine tools to office automation (OA) equipment possible.

Operator protective structure

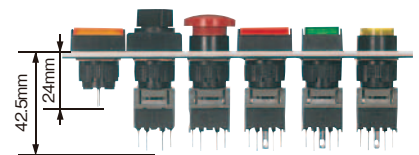
Series	AH164	AH165 AH165-2
JEM1030 Previous view	Standard enclosed type	Dust-tight type Jet-proof type Oil-tight type
JIS C 0920	IP40	IP65F
IEC 60594	IP40	IP65

(Note) Excluding some models.



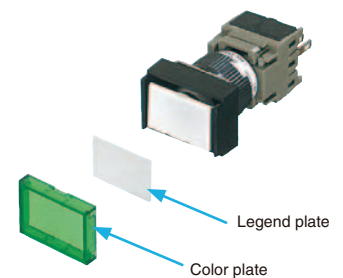
Standardized depth length

The depth length of the panel is standardized at 24 mm for the pilot light and 42.5mm for other components. Wiring is easily implemented since we were able to reduce the thickness of the panel and arrange the entire terminal positions on the back surface.



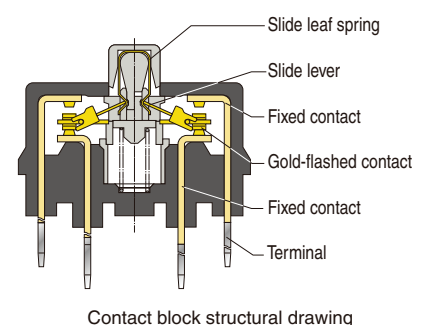
Simplified legend plate

It is possible to engrave the legend plate since a milky-white legend plate is included. In addition, since an adhesive can be applied to the special legend sheet, it is easy to make attachment to the legend plate.



High contact reliability via a unique slide structure

By combining the gold-flashed contact and slide structure, it has become possible to attain an IC level of 5V/1mA. A contact gap of 1mm or greater has been secured via a double break contact.



AR15C, DR15C, AF15C, DF15C, AR16C, DR16C, AF16C and DF16C Series

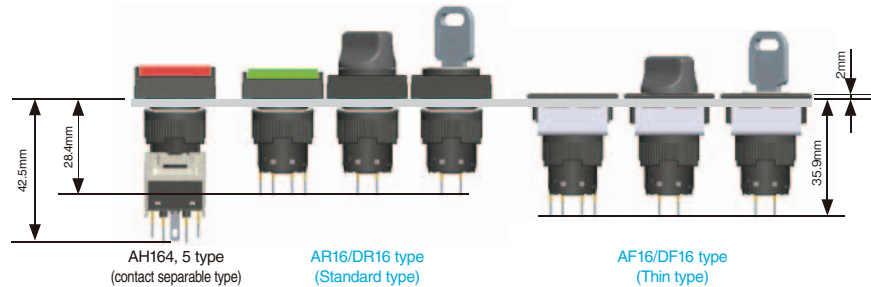


Contact integrated type with reduced panel depth length

Features

Facilitates miniaturization and thinning of operation panel

We have integrated the operator and contacts to reduce the panel depth length. In addition, wiring is easily implemented since we arranged the entire terminal positions on the back surface.



Greatly improved dismounting/mounting life expectancy of the key

The key selector switch adopts a pin tumbler-type key (reversible) that has improved dismounting/mounting of the key.

- We have prepared 6 types of keys.
- We have also improved security via the pin tumbler structure.



Supports neat panel design

Besides the standard type, we have prepared a thin type with 2mm panel protrusion. It is possible to implement an elegant panel design applicable to high density mounting.



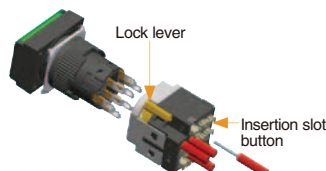
Various sockets improving wiring work efficiency

The combination of switches and various sockets have contributed to improving wiring work efficiency. (Excluding AR16V type)

Quick connection socket



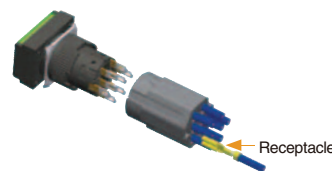
- By combining with a switch, it can be used as a quick connection terminal switch.
- By stripping the sheathing of electrical wire and pushing the button of the insertion slot, wiring can be mounted by simply inserting it (no soldering required).
- Branch wiring (jumper connection) is easy with the branch terminal.



Connector socket



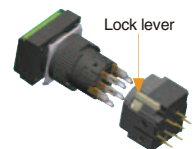
- It can be used as a connector by combining with a receptacle.
- The receptacle can be attached to the switch and held in place by the socket.



Print plate socket



- By combining with a switch, it can be used as a print plate switch.
- It utilizes pattern wiring to reduce wiring hours, while also contributing to preventing miswiring.



AR22/DR22 Series



Long-time seller achieving "easy mounting"

Features

Easy mounting and dismounting via a release arm

It achieves tool-free one-touch mounting and dismounting of the operator and contacts through its separate structure that utilizes a unique wedge mechanism.

One-step lock!
One-step release!



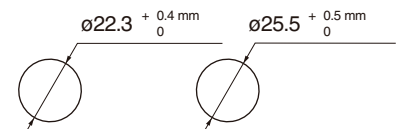
Push of release arm



Compatible with a panel cutout size of ø22.3 mm, ø25.5 mm.

By setting the protrusion for the tightening nut, a single product can be used for mounting two types of panel cutout sizes. Therefore, it is not necessary to purchase a product based on panel cutout size.

ø25.5 mounting is possible by simply reversing the tightening nut.



One-touch addition/replacement of contacts and transformer unit.

No tools are required since the contact block and transformer unit completely support snap-on mounting. Only one screwdriver is needed for dismounting. As a result, not only is simple mounting possible, but by changing the specification when performing high density mounting, addition and replacement of components can be smoothly carried out.

Attachment One-touch!



Detachment One-touch!



The standard product has acquired international standard certification.

- It comes standard with UL/CSA certification and TÜV based EN certification, making it ideal for use with exported equipment.
- It is also compliant with China's CCC standard.
- The standard product fulfills the compliance standards of the RoHS directive (EU Directive 2002/95/EC). (ø22 commonality)

Excellent contact reliability

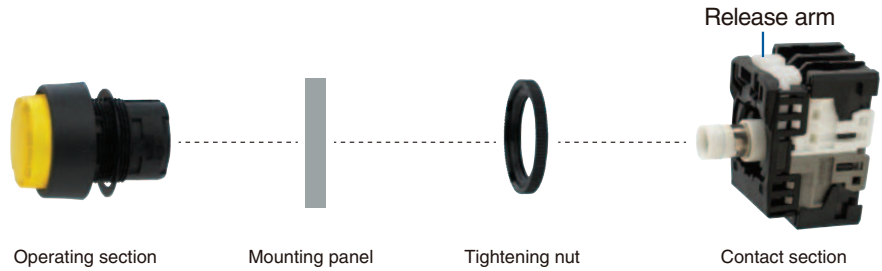
A contact mechanism based on a unique sliding contact technology enables it to achieve high contact reliability (failure rate $\lambda_{60} = 1.15 \times 10^{-8}$ level), and can also be safely used with low voltage and low current circuits (5 V/5 mA).

AY22/DY22 Series



Features

The use of a release arm enables easy mounting.

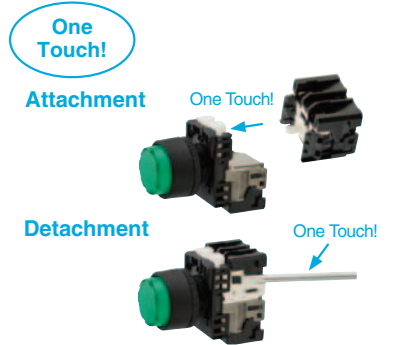


The separate structure with a unique wedge mechanism enables one-step attachment and detachment of the operating section and contact section, without the use of any tool.



Contact block and lamp terminal can also be added or replaced in a single step.

All contact block and lamp terminal are designed with snap-on mounting, so no tools are required. Replacement of the contact block can be done with a screwdriver, without the need for any special tool. Contact block is easily replaced even when the pushbuttons are mounted closely together.



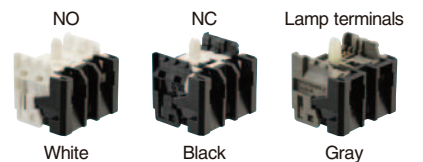
Metal tone rosette is also available.

Metal tone rosette will provide greater sense of security.



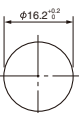















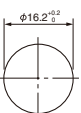












Color-coding contact blocks improves work efficiency.

Each type of block has a different color, so it is possible to visually check the wiring by color.




Command Switches ø16 Series






















AH164, AH165 Series





















Product category		Illuminated pushbutton switches				Pushbutton switches	
Operator shape		Flush rectangular	Flush rectangular with guard	Flush square	Extended round	Flush rectangular	
Appearance /panel cutting(mm)							
International standards							
Type	IP40	AH164-TL	AH164-TGL	AH164-SL	AH164-L	AH164-TF	
(Degree of protection)	IP65	AH165-TL	AH165-TGL	AH165-SL	AH165-L	AH165-TF	
Color							
Product category		Selector switches					
Operator shape		Knob with rectangular bezel	Knob with square bezel	Key with rectangular bezel	Key with square bezel	Key with rectangular bezel (Direct opening action)	
Appearance /panel cutting(mm)							
International standards							
Type	IP40	AH164-P	AH164-SP	AH164-J	AH164-SJ	AH164-JM	
(Degree of protection)	IP65	AH165-P	AH165-SP	AH165-J	AH165-SJ	AH165-JM	
Color				-	-	-	
No. of position		2-position, 3-position	2-position, 3-position	2-position, 3-position	2-position, 3-position	2-position, 3-position	
Operator action		Maintained, Spring/manual return, Spring return	Maintained, Spring/manual return, Spring return	Maintained, Spring/manual return, Spring return	Maintained, Spring/manual return, Spring return	Maintained, Spring/manual return, Spring return	




























AR15C, DR15C, AF15C, DF15C, AR16C, DR16C, AF16C and DF16C Series













Product category		Illuminated pushbutton switch					Pushbutton switch	
Operator shape		Flush rectangular	Flush rectangular with guard	Flush square	Extended round	Flush round	Flush rectangular	
Appearance /panel cutting(mm)								
International standards								
Type	IP40 *1	AR15F0NC AF15F0NC	AR15G0NC	AR15F0MC AF15F0MC	AR15E0LC	AF15F0LC	AR15F0TC AF15F0TC	
(Degree of protection)	IP65	AR16F0NC AF16F0NC	AR16G0NC	AR16F0MC AF16F0MC	AR16E0LC	AF16F0LC	AR16F0TC AF16F0TC	
Color								
Product category		Selector switches						
Operator shape		Knob with rectangular bezel	Knob with square bezel	Knob with round bezel	Key with rectangular bezel	Key with square bezel	Key with round bezel	
Appearance /panel cutting(mm)								
International standards								
Type	IP40 *1	AR15PTC AF15PTC	AR15PSC AF15PSC	AR15PRC AF15PRC	AR15JTC AF15JTC	AR15JSC AF15JSC	AR15JRC AF15JRC	
(Degree of protection)	IP65	AR16PTC AF16PTC	AR16PSC AF16PSC	AR16PRC AF16PRC	AR16JTC AF16JTC	AR16JSC AF16JSC	AR16JRC AF16JRC	
Color					-	-	-	
No. of position		2-position, 3-position	2-position, 3-position	2-position, 3-position	2-position, 3-position	2-position, 3-position	2-position, 3-position	
Operator action		Maintained, Spring/manual return, Spring return	Maintained, Spring/manual return, Spring return	Maintained, Spring/manual return, Spring return	Maintained, Spring/manual return, Spring return	Maintained, Spring/manual return, Spring return	Maintained, Spring/manual return, Spring return	

*1 : UL/CSA Standards: We will obtain in May 2013.

				Pilot lights			
Flush rectangular with guard	Flush square	Extended round	Flush rectangular	Flush rectangular with guard	Extended round	Dome	
							
							
AH164-TGF	AH164-SF	AH164-E	AH164-ZT	AH164-ZS	AH164-Z	AH164-ZM	
AH165-TGF	AH165-SF	AH165-E	AH165-ZT	AH165-ZS	AH165-Z	AH165-ZM	
							










































Selector switches		Emergency stop pushbutton switches		Buzzers			
Key (Direct opening action)	Push-lock, turn-reset (32mm dia.)	Push-lock, turn-reset (40mm dia.)	Standard	Loud sound	Loud sound with volume control	Standard sound with volume control	
							
							
AH164-RJM	–	–	AH164-TX(IP00)	AH164-TX1(IP00)	AH164-TX2(IP00)	–	
AH165-RJM	AH165-V5R	AH165-V6R	–	–	–	AH165-X(IP54)	
–							
2-position, 3-position	–	–	–	–	–	–	
Maintained, Spring/manual return, Spring return	Push-lock, turn-reset	Push-lock, turn-reset	–	–	–	–	

				Pilot lights					
Flush rectangular with guard	Flush square	Extended round	Flush round	Flush rectangular	Flush square	Extended round	Flush round	Dome	
									
									
AR15G0TC	AR15F0SC AF15F0SC	AR15E0RC	AF15F0RC	DR15F0NC DF15F0NC	DR15F0MC DF15F0MC	DR15E0LC	DF15F0LC	DR15D0LC	
AR16G0TC	AR16F0SC AF16F0SC	AR16E0RC	AF16F0RC	DR16F0NC DF16F0NC	DR16F0MC DF16F0MC	DR16E0LC	DF16F0LC	DR16D0LC	
									























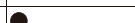
Emergency stop pushbutton switches		Emergency stop illuminated pushbutton switches	
Push-lock, turn-reset or pull-reset (32mm dia.)	Push-lock, turn-reset or pull-reset (40mm dia.)	Push-lock, turn-reset or pull-reset (32mm dia.)	Push-lock, turn-reset or pull-reset (40mm dia.)
			
			
–	–	–	–
AR16V0R	AR16V1R	AR16V0L	AR16V1L
			
Push-lock, turn-reset or pull-reset	Push-lock, turn-reset or pull-reset	Push-lock, turn-reset or pull-reset	Push-lock, turn-reset or pull-reset







































Command Switches ø22 Series
















AR22/DR22 Series

Product category	Illuminated pushbutton switches						Pushbutton switches	
Bezel	Round			Square			Round	
Operator shape	Flush round head (24mm dia.)	Extended round head (24mm dia.)	Mushroom head (40mm dia.)	Extended with transparent full guard (24mm dia.)	Extended square head (□24)	Flush round head (24mm dia.)	Extended round head (24mm dia.)	
Appearance								
International standards								
Type	Momentary							
	Alternate							
Color								
Degree of protection	IP65	IP65	IP65	IP65	IP65	IP65	IP65	
Product category	Illuminated selector switches					Illuminated emergency stop pushbutton switches		
Bezel	Round		Round			Round		
Operator shape	Knob	Knob	Lever	Cylindrical knob	Key	Push-lock, turn-reset (40mm dia.)	Push-lock, turn-reset (Soft-touch 29mm dia. with white arrow)	
Appearance								
International standards								
Type	AR22PL	AR22PR AR22PCR	AR22WR AR22WCR	AR22RR AR22RCR	AR22JR AR22JCR	AR22V2L	AR22VSL	
Color					—			
Degree of protection	IP65	IP65	IP65	IP65	IP65	IP65	IP65	
Remarks	No. of position : 2,3-position Operator action : Maintained, Spring/manual return, Spring return	No. of position : 2,3,4,5-position Operator action : Maintained, Spring/manual return, Spring return	No. of position : 2,3,4,5-position Operator action : Maintained, Spring/manual return, Spring return	No. of position : 2,3,4,5-position Operator action : Maintained, Spring/manual return, Spring return	No. of position : 2,3-position Operator action : Maintained, Spring/manual return, Spring return	Operator action : Push-lock, turn-reset	Operator action : Push-lock, turn-reset	

AY22/DY22 Series

Product category	Illuminated pushbutton switches			Pushbutton switches			Selector switches	
Bezel	Round			Round			Round	
Operator shape	Extended round head (24mm dia.)	Mushroom head (40mm dia.)	Extended with transparent full guard (24mm dia.)	Flush round head (24mm dia.)	Extended round head (24mm dia.)	Mushroom head (40mm dia.)	Knob	Key
Appearance								
International standards								
Type	Momentary							
	Alternate							
Color								—

Pushbutton switches				Pilot lights			
Round		Square		Round		Square	
Mushroom head (40mm dia.)	Extended with full guard (24mm dia.)	Mushroom head with full guard (40mm dia.)	Flush square head (□24)	Dome (24mm dia.)	Extended round (24mm dia.)	Faceted (24mm dia.)	Flush square head (□24)
							
							
AR22M0R	AR22G3R	AR22M3R	AR22F0S	DR22D0L	DR22E3L	DR22K0L	DR22F3M
AR22M5R	AR22G8R	AR22M8R	AR22F5S				
IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65
Emergency stop pushbutton switches		Emergency Stop Pushbutton Switches with Synchro Safe Contact		Joy stick selector switches	Buzzers		
Round		Round		Round	Round		
Push-lock, turn-reset (40mm dia.)	Key-release push-lock, turn-reset (40mm dia.)	Push-lock, turn-reset Mushroom head (40mm dia.)	Push-lock, turn-reset Giant Mushroom head (65mm dia.)	Ball type with lock (22mm dia.)	Electronic sound (22mm dia)		
							
							
AR22V2R	AR22V7R	AR22VQR	AR22VPR	AR22A1□ AR22A6□	DR22B5		
							
IP65	IP65	IP65	IP65	IP65	IP00		
Operator action : Push-lock, turn-reset	Operator action : Key-release, push-lock, turn-reset	Operator action : Push-lock, pull/turn-reset	Operator action : Push-lock, pull/turn-reset	Operator action : Manual return, Spring return	-		

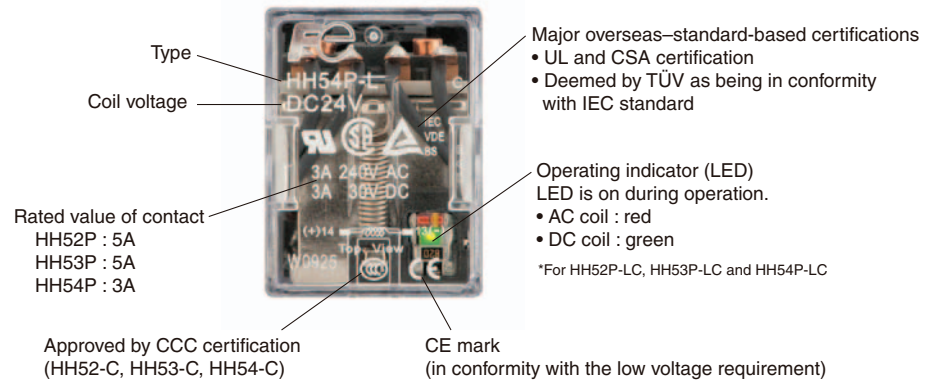
Product category	Pilot lights			Emergency stop pushbutton switches (conform to EN418)	
Bezel	Round			Round	
Operator shape	Extended round (24mm dia.)	Flush round (24mm dia.)	Dome (24mm dia.)	Push-lock, turn-reset (40mm dia.)	Push-lock, turn-reset (40mm dia.)
Appearance					
International standards					
Type	DY22E3L	DY22F3L	DY22D0L	AY22V2L	AY22V2R
Color					

HH52-C, HH53-C, HH54-C Series



Features

- The products have obtained the CCC certification and can satisfy the market demands. (HH52-C, HH53-C, HH54-C)
- Standard products have been approved by UL, CSA and TÜV.
- The series products are equipped with an operating indicator (LED), ensuring a clear glance of work status.
- The products are environmentally friendly and conformed to regulations on pollution control of electronic information products.




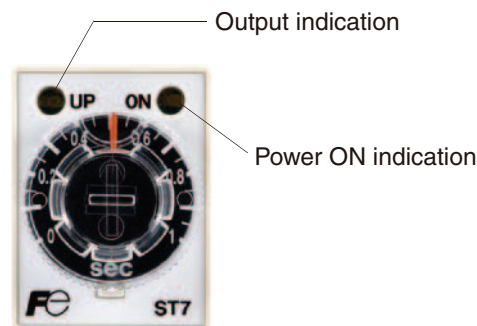
ST7P-C Series



The ST7P series are compact and highly accurate Super Timers. The ST7P are on-delay operation types.

Features

- These Super Timers are highly accurate. Their repeat accuracy is less than $\pm 1\%$ at maximum setting time.
- Timing range
The ST7P are the single timing range types; 0.06 sec. to 12 hours.
- Time setting dial is user friendly.
Easy to check the status of the timer by the LED indicators.
- The ST7P has been approved by the UL,  and CCC.
- The sockets with finger safety protection are also available.



Sockets with finger protection

HH52, HH53, HH54 Series



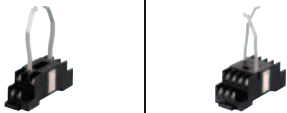
Description			Standard					High capacity		With extra pick-up coil		Magnetically held	
			2P		3P	4P		2P	4P	2P		2P	
			Single	Bifurcated	Single	Single	Bifurcated	Single	Single	Single	Bifurcated	Single	Bifurcated
Relay appearance													
International standards													
Type	Mounting		HH52P	HH52PW	HH53P	HH54P	HH54PW	HH52PU	HH54PU	HH54-2P	HH54-2PW	HH52P-R	HH52PW-R
	Plug-in mounting												
	PC board mounting		HH52B	HH52BW	HH53B	HH54B	HH54BW	HH52BU	HH54BU	HH54-2B	HH54-2BW	HH52B-R	HH52BW-R
	Flange mounting		HH52S	HH52SW	HH53S	HH54S	HH54SW	HH52SU	HH54SU	HH54-2S	HH54-2SW	HH52S-R	HH52PS-R
Rated coil voltage			AC6, 12, 24, 48, 100/110, 110/120, 200/220, 220/240V DC6, 12, 24, 48, 100/110V									AC24, 48, 100, 200V DC24, 48A	
Rated thermal current			5A	5A	5A	3A	3A	7A	5A	3A	3A	3A	3A
Minimum applicable load			5V 1mA	1V 0.1mA	1V 1mA	1V 1mA	1V 0.1mA	5V 100mA	1V 1mA	1V 1mA	1V 0.1mA	1V 1mA	1V 0.1mA
Socket appearance													
Type	Mounting	Terminal	TP58X1		TP514X1		TP58X1	TP514X1	TP58X1		TP514X1		
	Rail mounting screw terminal	M3		-									
		M3.5	TP58X2	TP511X2	TP514X2		TP58X2	TP514X2	TP58X2		TP514X2		
	Soldering		TP58	TP511	TP514		TP58	TP514	TP58		TP514		
	PC board		TP58B	TP511B	TP514B		TP58B	TP514B	TP58B		TP514B		
	Wire wrap		TP58R2	TP511R2	TP514R2		TP58R2	TP514R2	TP58R2		TP514R2		

HH52-C, HH53-C, HH54-C Series



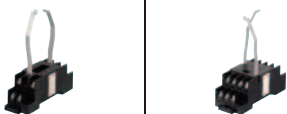
Description			Standard		
			2P	3P	4P
			Single	Single	Single
Relay appearance					
International standards					
Type	Mounting		HH52P-C	HH53P-C	HH54P-C
Rated coil voltage			AC110V, AC220V DC24V, DC48V		
Rated thermal current			5A		3A
Minimum applicable load			5V 1mA		5V 1mA
Socket appearance					
Type	Mounting	Terminal	TP58X1-C	TP511X1-C	TP514X1-C
	Rail mounting screw terminal	M3			
Socket appearance (With finger safety protection)					
Type	Mounting	Terminal	TP58X1-EC	TP511X1-EC	TP514X1-EC
	Rail mounting screw terminal	M3			

Time Delay Relays ST7P Series

ST7P Series

Description			Plug-in mounting		PC board mounting	
Appearance						
International standards						
Type			ST7P-2	ST7P-4	ST7B-2	ST7B-4
Contact			Timed:2PDT	Timed:4PDT	Timed:2PDT	Timed:4PDT
Operation			On-delay			
Time range			0.06–0.5s 0.1–1s 0.3–3s 0.4–5s 1–10s 2–30s 4–60s	0.25–3min 1–10min 2–30min 4–60min	0.2–2h 0.5–6h 1–12h 2–24h	
Input voltage			240V AC 50/60Hz 200-230V AC 50/60Hz 100-120V AC 50/60Hz	100-110V DC 24V DC 12V DC		
Socket appearance						
Type	Screw terminal and Rail mounting	M3	TP88X1	TP814X1		
		M3.5	TP88X2	TP814X2		
	Soldering		TP88	TP814		
	PC board		TP88B	TP814B		
	Wire wrap		TP88R2	TP814R2		

ST7P-C Series

Description			Plug-in mounting			
Appearance						
International standards						
Type			ST7P-2C	ST7P-4C		
Contact			Timed:2PDT	Timed:4PDT		
Operation			On-delay			
Time range			0.05-0.5s 0.1-1s 0.5-3s 0.5-5s 1-10s 3-30s 5-60s	0.5-3min 1-10min 3-30min 5-60min	0.2-2h 0.5-6h 1-12h	
Input voltage			240V AC 50/60Hz 220V AC 50/60Hz 110V AC 50/60Hz 24V AC 50/60Hz	110V DC 48V DC 24V DC 12V DC		
Socket appearance						
Type	Screw terminal and Rail mounting	M3	TP88X1-C	TP814X1-C		
		M3 (With finger safety protection)	TP88X1-EC	TP814X1-EC		
		M3.5	–	–		
	Soldering		–	–		
	PC board		–	–		
Wire wrap		–	–			

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