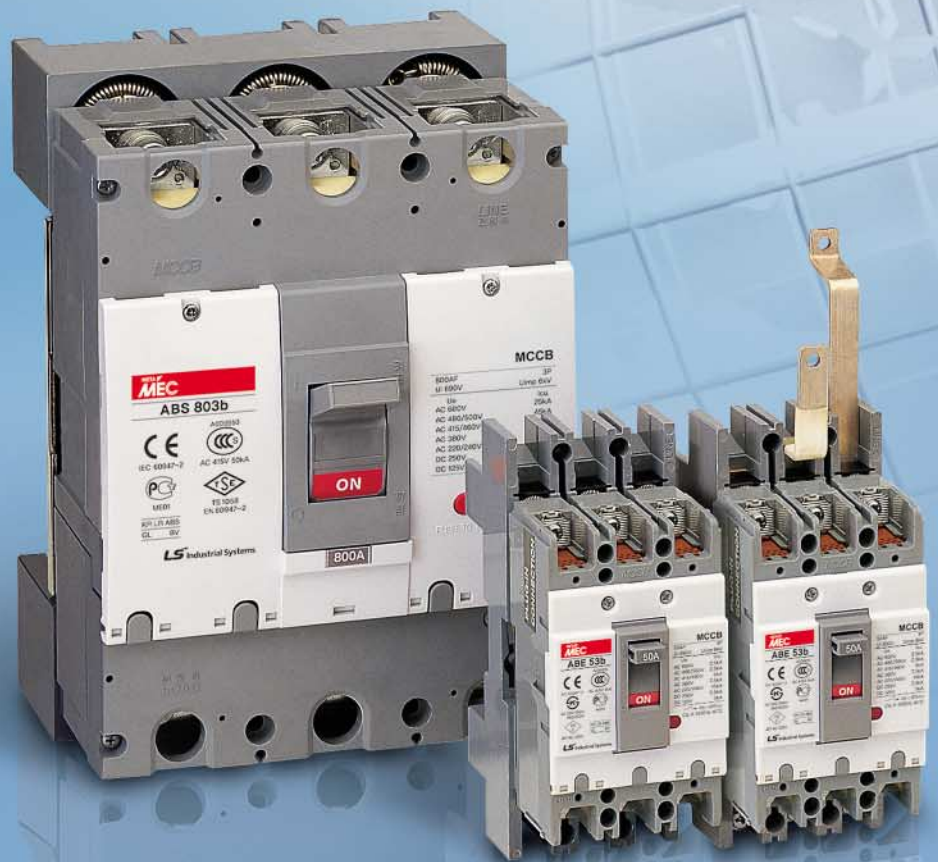


General characteristics

Features | PLUG-IN MCCB

Plug-in MCCB

Plug-in base makes it possible to extract and/or rapidly replace the circuit breaker without having to touch connections for ship and important installations.



PLUG-IN Mounting Block Ordering Information

Terminal for Plug-in accessory

PB

**PLUG-IN
Mounting Block**

A

Applicable MCCB	
A	ABE100b 60-100A
C	ABS100b
D	ABS200b
E	ABL100a
F	ABL200a
G	GBN100
H	GBN200
I	ABS400b
J	ABS800b

3

Number of Poles	
3	3P

FR

Connection type	
FR	Standard(Round Bolt)
FRL	Exclusive connection for power supply
1DB	Single line arrangement (Bus Bar)
2DB	Double lines arrangement

PBA

**PLUG-IN
Accessory**

100

Applicable MCCB	
100	ABS50b ~50A
	ABE100b 60~100A
	ABS100b
225	ABS200b
	ABE200a
	ABS400b

Features

- Four types of mounting blocks to meet customer's different requirements
- Lineup of normal type for MCCBs upto 800AF
- Rapid replacement of the MCCB without having to touch connections
- Certification of ship classification societies-LR, BV, ABS, GL, KR
- Plug-in MCCBs are adjusted to ambient temperature of 45°C

Mounting blocks(Bases)



Normal type



Line-only type



Single-row type



Double-row type



Quick selection table

MCCBs

30AF to 225AF

Frame size(AF)		30		50			
Frame type		ABS	ABH	ABE	ABS	ABH	GBL(E)
Breaking capacity(kA), Icu at 415VAC		5	10	5	10	25	85
Number of poles		2, 3	2, 3	2, 3	2, 3, 4	2, 3, 4	3
Type	2 pole	ABS32b	ABH32b	ABE52b	ABS52b	ABH52b	
	3 pole	ABS33b	ABH33b	ABE53b	ABS53b	ABH53b	GBL53E
	4 pole				ABS54b	ABH54b	
Rated current (A)		(3), 5, 10, 15, 20, 30	5, 10, 15, 20, 30	5, 10, 15, 20, 30, 40, 50		15, 20, 30, 40, 50	50 Electronically adjustable: (0.5-0.6-0.7-0.8-0.9-1.0) × In
Technical data conforming to IEC/EN60947-2							
Rated operational voltage(V), Ue(50/60Hz)		600	600	600	600	600	600
Rated operational voltage(V), Ue(DC)		250	250	250	250	250	-
Rated insulation voltage(V), Ui(50/60Hz)		690	690	690	690	690	690
Rated impulse withstand voltage(kV), Uimp		6	6	6	6	6	6
Ultimate breaking capacity(kA), Icu							
AC 50/60Hz	220/240V	10	25	10	25	50	125
	380V	7.5	14	7.5	14	25	85
	415V	5	10	5	10	25	85
	440/460V	5	10	5	10	25	85
	480/500V	2.5	7.5	2.5	7.5	14	65/50
	600V	2.5	5	2.5	5	10	35
DC	125V	5	10	5	10	20	-
	250V	2.5	5	2.5	5	14	-
Service breaking capacity(%Icu), Ics		50	50	50	50	50	75
Category of use		A	A	A	A	A	A
Endurance (Number of operations)	Mechanical	8500	8500	8500	8500	8500	10000
	Electrical	1500	1500	1500	1500	1500	5000
Type of trip unit							
Thermal-magnetic release						fixed	
Electronic release							LSIA configuration
Pre-alarm via LED							●
Hydraulic-magnetic release		fixed	fixed	fixed	fixed		
Magnetic release only without thermal trip							
Earth leakage protection for 3 pole		▲	▲	▲	▲	▲	
Accessories							
Electrical auxiliaries	Auxiliary switch	●	●	●	●	●	●
	Alarm switch	●	●	●	●	●	●
	Shunt trip	●	●	●	●	●	●
	Undervoltage trip	●	●	●	●	●	●
External accessories	Direct rotary handle	●	●	●	●	●	●
	Extended rotary handle	●	●	●	●	●	●
	Terminal shield	●	●	●	●	●	●
	Insulation barrier	●	●	●	●	●	●
	Rear connection	●	●	●	●	●	●
	Mechanical interlock	-	-	-	-	-	-
	Plug-in device(3 pole)	●	●	●	●	●	-
	Motor operator	-	-	-	-	-	-
Dimensions (W × H × Dmm)		3 pole breaker 75 × 130 × 60		75 × 130 × 60		90 × 155 × 60	105 × 165 × 86
Weight(kg)	2 pole	0.45	0.45	0.45	0.45	0.7	
	3 pole	0.65	0.65	0.65	0.65	1	1.7
	4 pole				0.85	1.2	
Reference page no.		31		32			

- * Note) 1. ● applicable or available
2. ▲ available as a separate breaker
3. (3) Breaking capacity(at 415VAC) of ABS32b 3A ABS33b 3A is 2.5kA



60		100							225		
ABE	ABS	ABE	ABS	ABH	GBN	GBH	GBL	GBL(E)	ABE	ABS	ABH
5	10	10	25	35	35	50	85	85	18	25	35
2, 3	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	3	2, 3, 4	2, 3, 4	2, 3, 4
ABE62b	ABS62b	ABE102b	ABS102b	ABH102b	GBN102	GBH102	GBL102		ABE202b	ABS202b	ABH202b
ABE63b	ABS63b	ABE103b	ABS103b	ABH103b	GBN103	GBH103	GBL103	GBL103E	ABE203b	ABS203b	ABH203b
	ABS64b	ABE104b	ABS104b	ABH104b	GBN104	GBH104	GBL104		ABE204b	ABS204b	ABH204b
60		5, 10, 15, 20, 30, 40, 50, 60, 75, 100	15, 20, 30, 40, 50, 60, 75, 100		16, 20, 25, 32, 40, 50, 63, 80, 100 Thermally adjustable; (0.8-0.9-1.0) × I _n			100 Electronically adjustable; (0.5-0.6-0.7-0.8-0.9-1.0) × I _n	100, 125, 150, 175, 200, 225		
600	600	600	600	600	600	600	600	600	600	600	600
250	250	250	250	250	250	250	250	-	250	250	250
690	690	690	690	690	690	690	690	690	690	690	690
6	6	6	6	6	6	6	6	6	6	6	6
10	25	25	50	65	50	85	125	125	35	50	65
7.5	14	14	25	35	35	50	85	85	18	25	35
5	10	10	25	35	35	50	85	85	18	25	35
5	10	10	25	35	35	50	85	85	18	25	35
2.5	7.5	7.5	14	25	30/22	42/35	65/50	65/50	10	14	25
2.5	5	5	10	18	18	25	35	35	7.5	10	18
5	10	10	20	25	-	-	-	-	15	20	25
2.5	5	5	14	18	35	50	85	-	10	14	18
50	50	50	50	50	75	75	75	75	50	50	50
A	A	A	A	A	A	A	A	A	A	A	A
8500	8500	8500	8500	8500	20000	20000	10000	10000	7000	7000	7000
1500	1500	1500	1500	1500	10000	10000	5000	5000	1000	1000	1000
			fixed	fixed	Adjustable-thermal, Fixed-magnetic			LSIA configuration	fixed	fixed	fixed
								●			
fixed	fixed	fixed									
▲	▲	▲	▲	▲			▲		▲	▲	▲
●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●	●
-	-	-	-	-	-	-	-	-	-	-	-
●	●	●	●	●	●	●	●	●	●	●	●
-	-	-	-	-	-	-	-	-	-	-	-
75 × 130 × 60		75 × 130 × 60		90 × 155 × 60		90 × 140 × 86		105 × 165 × 86		105 × 165 × 60	
0.45	0.45	0.45	0.7	0.7	1.1	1.1	1.5		1.1	1.1	1.1
0.65	0.65	0.65	1.1	1.1	1.2	1.2	1.7	1.7	1.2	1.2	1.2
	0.85	0.85	1.2	1.2	1.5	1.5	2.1		1.5	1.5	1.5
32		33		45		46		34			

Quick selection table

MCCBs

250AF to 1600AF

Frame size(AF)		250				400				
Frame type		GBN	GBH	GBL	GBL(E)	ABE	ABS	ABH	ABL	
Breaking capacity(kA), Icu at 415VAC		35	50	85	85	25	35	50	85	
Number of poles		2, 3, 4	2, 3, 4	2, 3, 4	3	2,3,4	2,3,4	2,3,4	2, 3, 4	
Type	2 pole	GBN202	GBH202	GBL202		ABE402b	ABS402b	ABH402b	ABL402b	
	3 pole	GBN203	GBH203	GBL203	GBL203E	ABE403b	ABS403b	ABH403b	ABL403b	
	4 pole	GBN204	GBH204	GBL204		ABE404b	ABS404b	ABH404b	ABL404b	
Rated current (A)		125, 160, 200, 250 Thermally adjustable : (0.8- 0.9-1.0) × In			250 Electronically adjustable: (0.5-0.6-0.7-0.8- 0.9-1.0) × In	250, 300, 350, 400 Interchangeable via rating plug between 250 and 300 350 and 400				
Technical data conforming to IEC/EN60947-2										
Rated operational voltage(V), Ue(50/60Hz)		600	600	600	600	600	600	600	600	
Rated operational voltage(V), Ue(DC)		250	250	250	-	250	250	250	250	
Rated insulation voltage(V), Ui(50/60Hz)		690	690	690	690	690	690	690	690	
Rated impulse withstand voltage(kV), Uimp		6	6	6	6	6	6	6	6	
Ultimate breaking capacity(kA), Icu										
	AC 50/60Hz	220/240V	50	85	125	125	35	50	85	125
		380V	35	50	85	85	30	42	65	100
		415V	35	50	85	85	25	35	50	85/50(Ics)
		440/460V	35	50	85	85	25	35	50	85
		480/500V	30/22	42/35	65/50	65/50	18	25	35	65
		600V	18	25	35	35	18	22	25	30
		690V	-	-	-	-	-	-	-	-
	DC	125V	-	-	-	-	20	30	50	60
		250V	35	50	85	-	10	20	40	40
Service breaking capacity(%Icu), Ics			75	75	75	75	100	100	50	50
Category of use		A	A	A	A	A	A	A	A	A
Endurance	Mechanical	10000	10000	10000	10000	4000	4000	4000	4000	4000
(Number of operations)	Electrical	5000	5000	5000	5000	1000	1000	1000	1000	1000
Type of trip unit										
Thermal-magnetic release		Adjustable-thermal & magnetic					fixed	fixed	fixed	fixed
Electronic release						LSIA configuration				
Pre-alarm via LED						●				
Hydraulic-magnetic release										
Magnetic release only without thermal trip				▲			▲			▲
Earth leakage protection	for 3 pole						▲	▲	▲	▲
Accessories										
Electrical auxiliaries	Auxiliary switch	●	●	●	●	●	●	●	●	●
	Alarm switch	●	●	●	●	●	●	●	●	●
	Shunt trip	●	●	●	●	●	●	●	●	●
	Undervoltage trip	●	●	●	●	●	●	●	●	●
External accessories	Direct rotary handle	●	●	●	●	●	●	●	●	●
	Extended rotary handle	●	●	●	●	●	●	●	●	●
	Terminal shield	●	●	●	●	●	●	●	●	●
	Insulation barrier	●	●	●	●	●	●	●	●	●
	Rear connection	●	●	●	●	●	●	●	●	●
	Mechanical interlock	-	-	-	-	●	●	●	●	●
	Plug-in device(3pole)	●	●	●	-	●	●	●	●	●
	Motor operator	-	-	-	-	-	-	-	-	-
Dimensions (W × H × Dmm)	3 pole breaker	105 × 165 × 86				140 × 257 × 113				
Weight(kg)	2 pole	1.5	1.5	1.5	-	5.2	5.2	5.2	5.2	
	3 pole	1.7	1.7	1.7	1.7	6.2	6.2	6.2	6.2	
	4 pole	2.1	2.1	2.1		7.8	7.8	7.8	7.8	
Reference page no.		46			47	52				

* Note) 1. ● applicable or available
2. ▲ available as a separate breaker

Quick Selection Table

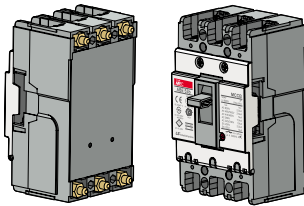
Plug-in MCCBs

Selection table of plug-in MCCBs

Plug-in version Breakers

Figure	Type	Rated current, A	Rated breaking current, kA		
			220V	460V	600V

AB type MCCB



Plug-in version Breakers are available in two types of MCCBs- AB and GB

ABS33b	3, 5, 10, 15, 20, 30	10(5)	5(2.5)	2.5(1.5)
ABH33b	5, 10, 15, 20, 30	25	10	5
ABE53b	5, 10, 15, 20, 30, 40, 50	10	5	2.5
ABS53b	5, 10, 15, 20, 30, 40, 50	25	10	5
ABE63b	60	10	5	2.5
ABS63b	60	25	10	5
ABE103b	5, 10, 15, 20, 30, 40, 50, 60, 75, 100	25	10	5
ABH53b	15, 20, 30, 40, 50	50	25	10
ABS103b	15, 20, 30, 40, 50, 60, 75, 100	50	25	10
ABH103b	15, 20, 30, 40, 50, 60, 75, 100	65	35	18
ABL53a	15, 20, 30, 40, 50	100	85	42
ABL103a	15, 20, 30, 40, 50, 60, 75, 100	100	85	42
ABE203b	100, 125, 150, 175, 200	35	18	7.5
ABS203b	100, 125, 150, 175, 200, 225	50	25	10
ABH203b	100, 125, 150, 175, 200, 225	65	35	18
ABH203a	125, 150, 175, 200, 225	125	65	35
ABL203a	125, 150, 175, 200, 225	125	65	35
ABE403b	300, 350, 400	35	25	18
ABS403b	250, 300, 350, 400	50	35	22
ABH403b	250, 300, 350, 400	85	50	25
ABL403b	250, 300, 350, 400	125	85	30
ABE803b	500, 600, 630, 700, 800	50	35	22
ABS803b	500, 600, 630, 700, 800	100	50	25
ABL803b	500, 600, 630, 700, 800	125	85	30

AB type MCCB



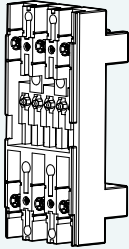
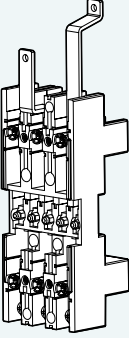
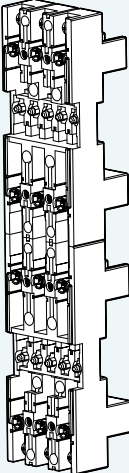
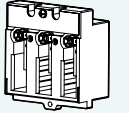
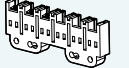
GB type MCCB

GB type MCCB



GBN 53	16, 20, 25, 32, 40, 50	50	35	18
GBH 53	16, 20, 25, 32, 40, 50	85	50	25
GBN103	63, 80, 100	50	35	18
GBH103	63, 80, 100	85	50	25
GBL53	16, 20, 25, 32, 40, 50	125	85	35
GBL103	63, 80, 100	125	85	35
GBN 203	125, 160, 200, 250	50	35	18
GBH 203	125, 160, 200, 250	85	50	25
GBL 203	125, 160, 200, 250	125	85	35

Mounting blocks and Terminal blocks

Mounting block		Terminal	Reference page no	Figure
Mounting block	Type	Terminal		
Normal type	PB-A3-FR	PBA-100	74	 Normal type
Single-row type	PB-A3-1DB		77	
Double-row type	PB-A3-2DB		78	
Line-only type	PB-A3-FRL		-	
Mounting block	Type	Terminal		
Normal type	PB-C3-FR	PBA-100	74	 Single-row type
Single-row type	PB-C3-1DB		77	
Double-row type	PB-C3-2DB		78	
Line-only type	PB-C3-FRL		-	
Mounting block	Type	Terminal	74	
Normal type	PB-E3-FR	PBA-225		
Mounting block	Type	Terminal	74	
Normal type	PB-D3-FR	PBA-225		
Mounting block	Type	Terminal	74	
Normal type	PB-I3-FR	PBA-225		 Double-row type
Mounting block	Type	Terminal	74	
Normal type	PB-J3-FR	PBA-225		
Mounting block	Type	Terminal		
Normal type	PB-G3-FR	PBA-100	74	 Line-only type
Single-row type	PB-G3-1DB		77	
Double-row type	PB-G3-2DB		78	
Line-only type	PB-G3-FRL		-	
Mounting block	Type	Terminal	74	 Terminal block for electrical auxiliaries
Normal type	PB-D3-FR	PBA-225		