

Low voltage moulded case circuit breakers and low voltage switch disconnectors

Low voltage moulded case circuit breakers are used for the switching and protection of power supply cables, motors and other electrical equipment against overloads and short circuit faults. They provide, beside protection function, other functions as remote ON/OFF operation, undervoltage protection, main switch etc.

They are available in range from 20 A up to 1600 A in 3 and 4 pole versions.

Advantages:

- Small dimensions, modular sizes
- Possibility of field-installable accessories – up to 1600A frame size series 2 (EB2)
- High short circuit breaking capacity (up to 125 kA)
- Fast break mechanism
- Reduced energy let through I^2t – minimises thermal stresses
- Reduced tripping time – minimises damage after fault
- Reduced peak short current ampacity – minimised electrodynamic stresses on conductors and protected equipment
- Installation on mounting plate, 125 & 250 A frame size also on DIN-rail
- Wide range of accessories
- Compact design with high mechanical strength
- High dielectric withstand voltages (8 kV a.c.)
- Voltage level up to 690 V a.c. and 250 V d.c. – only MCCB's with thermal-magnetic tripping unit
- Direct opening – recommendation according to standard IEC 60204-1 – up to 1600 A frame size series 2 (EB2)
- Common internal accessories – up to 1600 A frame size series 2 (EB2)
- Visual safety
- Unsurpassed flexibility

Moulded case circuit breaker ETIBREAK EB2

Thermal magnetic

Thermal magnetic MCCBs are available in frame sizes from 125A to 800A. All frame sizes have adjustable both thermal and magnetic trip settings. Overload protection is adjustable between 63 % and 100 % of I_n , meanwhile short-circuit between $6-13 \times I_n$ (more details in the technical part of catalogue).

Legend: EB2 -> series 2
 L -> economic, lower short-circuit breaking capacity
 S -> standard short-circuit breaking capacity
 H -> high short-circuit breaking capacity

ETIBREAK EB2 125

Type	I _n [A]	Code No.	Poles	I _{cu} /I _{cs} 400/415V [kA]	Adjustment thermal/magnetic	Weight [kg]	Packaging [pcs]	
EB2 125/3L 20A 3p	20	004671021	3	25/19	0,63-1/6-12	1,1	1	
EB2 125/3L 32A 3p	32	004671022			0,63-1/6-12			
EB2 125/3L 50A 3p	50	004671023			0,63-1/6-12			
EB2 125/3L 63A 3p	63	004671024			0,63-1/6-12			
EB2 125/3L 100A 3p	100	004671025			0,63-1/6-12			
EB2 125/3L 125A 3p	125	004671026			0,63-1/6-10			
EB2 125/4L 20A 4p	20	004671027	4			0,63-1/6-12		1,4
EB2 125/4L 32A 4p	32	004671028			0,63-1/6-12			
EB2 125/4L 50A 4p	50	004671029			0,63-1/6-12			
EB2 125/4L 63A 4p	63	004671030			0,63-1/6-12			
EB2 125/4L 100A 4p	100	004671031			0,63-1/6-12			
EB2 125/4L 125A 4p	125	004671032				0,63-1/6-10		
EB2 125/3S 20A 3p	20	004671041	3	36/36	0,63-1/6-12	1,1	1	
EB2 125/3S 32A 3p	32	004671042			0,63-1/6-12			
EB2 125/3S 50A 3p	50	004671043			0,63-1/6-12			
EB2 125/3S 63A 3p	63	004671044			0,63-1/6-12			
EB2 125/3S 100A 3p	100	004671045			0,63-1/6-12			
EB2 125/3S 125A 3p	125	004671046			0,63-1/6-10			
EB2 125/4S 20A 4p	20	004671047	4			0,63-1/6-12		1,4
EB2 125/4S 32A 4p	32	004671048			0,63-1/6-12			
EB2 125/4S 50A 4p	50	004671049			0,63-1/6-12			
EB2 125/4S 63A 4p	63	004671050			0,63-1/6-12			
EB2 125/4S 100A 4p	100	004671051			0,63-1/6-12			
EB2 125/4S 125A 4p	125	004671052				0,63-1/6-10		
EB2 125/3H 20A 3p	20	004672101	3	65/36	0,63-1/6-12	1,1	1	
EB2 125/3H 32A 3p	32	004672102			0,63-1/6-12			
EB2 125/3H 50A 3p	50	004672103			0,63-1/6-12			
EB2 125/3H 63A 3p	63	004672104			0,63-1/6-12			
EB2 125/3H 100A 3p	100	004672105			0,63-1/6-12			
EB2 125/3H 125A 3p	125	004672106			0,63-1/6-10			
EB2 125/4H 20A 4p	20	004672107	4			0,63-1/6-12		1,4
EB2 125/4H 32A 4p	32	004672108			0,63-1/6-12			
EB2 125/4H 50A 4p	50	004672109			0,63-1/6-12			
EB2 125/4H 63A 4p	63	004672110			0,63-1/6-12			
EB2 125/4H 100A 4p	100	004672111			0,63-1/6-12			
EB2 125/4H 125A 4p	125	004672112				0,63-1/6-10		



**ETIBREAK EB2 160/250**

Type	I _n [A]	Code No.	Poles	I _{cu} /I _{cs} 400/415V [kA]	Adjustment thermal/magnetic	Weight [kg]	Packaging [pcs]
EB2 250/3L 200A 3p	200	004671072	3	25/19	0,63-1/ 6-13	1,5	1
EB2 250/3L 250A 3p	250	004671073			0,63-1/ 6-10		
EB2 250/4L 200A 4p	200	004671075	4		0,63-1/ 6-13	1,9	
EB2 250/4L 250A 4p	250	004671076			0,63-1/ 6-10		
EB2 160/3S 160A 3p	160	004671061	3	36/36	0,63-1/ 6-13	1,5	1
EB2 250/3S 200A 3p	200	004671082			0,63-1/ 6-13		
EB2 250/3S 250A 3p	250	004671083	0,63-1/ 6-10		1,9		
EB2 160/4S 160A 4p	160	004671062	0,63-1/ 6-13				
EB2 250/4S 200A 4p	200	004671085	4		0,63-1/ 6-13		
EB2 250/4S 250A 4p	250	004671086			0,63-1/ 6-10		
EB2 160/3H 160A 3p	160	004672120	3	65/36	0,63-1 / 6-13	1,5	1
EB2 250/3H 160A 3p	160	004672130			0,63-1 / 6-13		
EB2 250/3H 200A 3p	200	004672131	0,63-1 / 6-13		1,9		
EB2 250/3H 250A 3p	250	004672132	0,63-1 / 6-10				
EB2 160/4H 160A 4p	160	004672121	4		0,63-1 / 6-13	1,9	
EB2 250/4H 160A 4p	160	004672133			0,63-1 / 6-13		
EB2 250/4H 200A 4p	200	004672134			0,63-1 / 6-13		
EB2 250/4H 250A 4p	250	004672135			0,63-1 / 6-10		

**ETIBREAK EB2 400**

Type	I _n [A]	Code No.	Poles	I _{cu} /I _{cs} 400/415V [kA]	Adjustment thermal/magnetic	Weight [kg]	Packaging [pcs]	
EB2 400/3LF 400A 3p	400A	004671105	3	25/25	fixed/fixed	4,2	1	
EB2 400/3SF 400A 3p	400A	004671106		36/36	fixed/adjustable (6-12)	4,2		
EB2 400/4SF 400A 4p	400A	004671108	4			5,6		
EB2 400/3L 250A 3p	250	004671091	3	25/25	0,63-1/ 6-12	4,2	1	
EB2 400/3L 400A 3p	400	004671092				5,6		
EB2 400/4L 250A 4p	250	004671093	4					
EB2 400/4L 400A 4p	400	004671094						
EB2 400/3S 250A 3p	250	004671101	3	50/50	0,63-1/ 6-12	4,3	1	
EB2 400/3S 400A 3p	400	004671102				5,7		
EB2 400/4S 250A 4p	250	004671103	4					
EB2 400/4S 400A 4p	400	004671104						

ETIBREAK EB2 630/800

Type	I _n [A]	Code No.	Poles	I _{cu} /I _{cs} 400/415V [kA]	Adjustment thermal/magnetic	Weight [kg]	Packaging [pcs]
EB2 800/3LF 630A 3p	630	004671117	3	36/36	fixed/adjustable (5-10)	8	1
EB2 800/3LF 800A 3p	800	004672204	3			8,5	
EB2 800/4LF 630A 4p	630	004671118	4			11	
EB2 800/4LF 800A 4p	800	004672205	4			11,5	
EB2 800/3L 630A 3p	630	004672150	3	36/36	0,63-1 / 5-10	8,5	1
EB2 800/3L 800A 3p	800	004672151	3			8,5	
EB2 800/4L 630A 4p	630	004672152	4			11,5	
EB2 800/4L 800A 4p	800	004672153	4			11,5	
EB2 800/3S 630A 3p	630	004672160	3	50/50	0,63-1 / 5-10	8,5	1
EB2 800/3S 800A 3p	800	004672161	3			8,5	
EB2 800/4S 630A 4p	630	004672162	4			11,5	
EB2 800/4S 800A 4p	800	004672163	4			11,5	
EB2 800/3H 630A 3p	630	004672170	3	70/50	0,63-1 / 5-10	8,5	1
EB2 800/3H 800A 3p	800	004672171	3			8,5	
EB2 800/4H 630A 4p	630	004672172	4			11,5	
EB2 800/4H 800A 4p	800	004672173	4			11,5	



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Microprocessor's MCCBs

Microprocessor's MCCBs are available in frame sizes from 250 A up to 1600 A, with rated current from 40 A up to 1600 A. All frame sizes have adjustable thermal and magnetic protection.

Series 2: Protection against overload can be adjusted between $0,4 - 1 \times I_n$, meanwhile short-circuit protection has already preset different curves, which can be easily selected according to the type of load.

Optional Functions:

A - Standard relay with LSI Characteristic (where no letters are present then MCCB is A type)
P - Preferential Trip Alarm
G - Ground Fault

N - Neutral Protection

S - Phase rotation function

C - Communication function

W - Electrical energy pulse

H - Harmonic current

ETIBREAK EB2 250

Type	I _n [A]	Code No.	Poles	I _{cu} /I _{cs} 400/415V [kA]	Adjustment thermal/magnetic	Weight [kg]	Packaging [pcs]
EB2 250/3LE 40A 3p	40	004671351	3	36/36	0,4-1/adjust.	2,5	1
EB2 250/3LE 125A 3p	125	004671352				2,5	
EB2 250/3LE 160A 3p	160	004671353				2,5	
EB2 250/3LE 250A 3p	250	004671354				2,5	
EB2 250/4LE 40A 4p	40	004671355	4	36/36	0,4-1/adjust.	3,3	1
EB2 250/4LE 125A 4p	125	004671356				3,3	
EB2 250/4LE 160A 4p	160	004671357				3,3	
EB2 250/4LE 250A 4p	250	004671358				3,3	
EB2 250/3E 40A 3p	40	004671301	3	70/70	0,4-1/adjust.	2,5	1
EB2 250/3E 125A 3p	125	004671302				2,5	
EB2 250/3E 160A 3p	160	004671303				2,5	
EB2 250/3E 250A 3p	250	004671304				2,5	
EB2 250/4E 40A 4p	40	004671305	4	70/70	0,4-1/adjust.	3,3	1
EB2 250/4E 125A 4p	125	004671306				3,3	
EB2 250/4E 160A 4p	160	004671307				3,3	
EB2 250/4E 250A 4p	250	004671308				3,3	



Technical data

Low voltage moulded case circuit breaker EB2

Product series	description	unit	condition	EB2 125			EB2 160	
Model-type				L	S	H	S	H
Number of poles				3, 4			3, 4	
Nominal current ratings								
	I _n	(A)	50°C	20,32,50,			160	
				63,100,125				
Electrical characteristics								
Rated operational voltage	U _e	(V)	AC 50/60 Hz	690	690	690	690	690
			DC	250	250	250	250	250
Rated insulation voltage	U _i	(V)		800	800	800	800	800
Rated impulse withstand voltage	U _{imp}	(kV)		8	8	8	8	8
Ultimate breaking capacity	I _{cu}	(kA)	690V AC	-	6	6	7.5	7.5
(IEC, JIS, AS/NZS)			525V AC	8	22	25	25	25
			440V AC	15	25	50	25	50
			400/415V AC	25	36	65	36	65
			220/240V AC	35	50	85	65	85
			250V DC	25	25	40	40	40
Service breaking capacity	I _{cs}	(kA)	690V AC	-	6	6	7.5	7.5
(IEC, JIS, AS/NZS)			525V AC	6	22	22	25	25
			440V AC	12	25	25	25	25
			400/415V AC	19	36/30	36/33	36	36
			220/240V AC	27	50	85	65	85
			250V DC	19	19	40	40	40
Rated breaking capacity (NEMA)		(kA)	480V AC	8	22	25	22	25
			240VAC	35	50	85	65	85
Protection								
Adjustable thermal, adjustable magnetic				■	■		■	
Fixed thermal, fixed magnetic				■				
Microprocessor								
Utilisation category				A	A		A	
Installation								
Front connection				■	■		■	
Attached flat bar				•	•		•	
Solderless terminal (cable clamp)				•	•		•	
Rear connection				•	•		•	
Plug-in				•	•		•	
Draw- out				-	-		-	
DIN rail mounting				•	•		-	
Dimensions	h	(mm)		155	155		165	
	w	(mm)	3 pole	90	90		105	
			4 pole	120	120		140	
	d	(mm)		68	68		68	
Weight	W	(kg)	3 pole	1.1	1.1		1.5	
			4 pole	1.4	1.4		1.9	
Operation								
Direct Opening Action				■	■		■	
Toggle operation				■	■		■	
Variable depth / direct mount operating handle				•	•		•	
Motor operator				•	•		•	
Endurance	Electrical	cycles	415V AC	30000	30000		20000	
	Mechanical	cycles		30000	30000		30000	
Standards	IEC 60947-2, EN 60947-2							

■ Standard • Optional - Not Available

Product series	description	unit	condition	EB2 250			EB2 250	
Model-type				L	S	H	LE	E
Number of poles				3, 4			3, 4	
Nominal current ratings								
	I _n	(A)	50°C	200, 250			40, 125, 160, 250	
Electrical characteristics								
Rated operational voltage	U _e	(V)	AC 50/60 Hz	690	690	690	690	690
			DC	250	250	250	-	-
Rated insulation voltage	U _i	(V)		800	800	800	800	800
Rated impulse withstand voltage	U _{imp}	(kV)		8	8	8	8	8
Ultimate breaking capacity (IEC, JIS, AS/NZS)	I _{cu}	(kA)	690V AC	-	7.5	7.5	7,5	20
			525V AC	10	25	25	25	35
			440V AC	15	25	50	25	50
			400/415V AC	25	36	65	36	70
			220/240V AC	35	65	85	65	125
			250V DC	25	40	40	-	-
Service breaking capacity (IEC, JIS, AS/NZS)	I _{cs}	(kA)	690V AC	-	7.5	7.5	7,5	15
			525V AC	7.5	25	25	25	35
			440V AC	12	25	25	25	50
			400/415V AC	19	36	36	36	70
			220/240V AC	27	65	85	65	125
			250V DC	19	40	40	-	-
Rated breaking capacity (NEMA)		(kA)	480V AC	10	22	25	25	35
			240VAC	35	65	85	65	125
Rated short-time withstand current	I _{cw}	(kA)	0.3 s	-	-	-	-	-
Protection								
Adjustable thermal, adjustable magnetic				■	■		-	-
Fixed thermal, fixed magnetic							-	-
Microprocessor							■	■
Utilisation category				A	A		A	A
Installation								
Front connection				■	■		■	■
Attached flat bar				•	•		•	•
Solderless terminal (cable clamp)				•	•		•	•
Rear connection				•	•		•	•
Plug-in				•	•		•	•
Draw- out				-	-		-	-
DIN rail mounting				-	-		-	-
Dimensions	h	(mm)		165	165		165	165
	w	(mm)	3 pole	105	105		105	105
		(mm)	4 pole	140	140		140	140
	d	(mm)		68	68		103	103
Weight	W	(kg)	3 pole	1.5	1.5		2.3	2.5
			4 pole	1.9	1.9		3.1	3.3
Operation								
Direct Opening Action				■	■		■	■
Toggle operation				■	■		■	■
Variable depth / direct mount operating handle				•	•		•	•
Motor operator				•	•		•	•
Endurance	Electrical	cycles	415V AC	10000	10000		10000	10000
	Mechanical	cycles		30000	30000		30000	30000
Standards	IEC 60947-2, EN 60947-2							

■ Standard • Optional - Not Available

Technical data

Product series	description	unit	condition	EB2 400		EB2 400		EB2 630		
Model-type				L	S	E, LCD	HLCD	LE, LLCD	E, LCD	HE
Number of poles				3, 4	3, 4	3, 4	4	3, 4	3, 4	3, 4
Nominal current ratings										
	I _n	(A)	50°C	250, 400	250, 400	250, 400		630	630	630
Electrical characteristics										
Rated operational voltage	U _e	(V)	AC 50/60 Hz	525	690	690	690	690*	690*	690*
			DC	250	250	-	-	-	-	-
Rated insulation voltage	U _i	(V)		800	800	800	800	800	800	800
Rated impulse withstand voltage	U _{imp}	(kV)		8	8	8	8	8	8	8
Ultimate breaking capacity										
(IEC, JIS, AS/NZS)	I _{cu}	(kA)	690V AC	-	20	20	20	10*	20*	20*
			525V AC	15	30	30	30	15	30	30
			440V AC	22	45	45	65	25	45	65
			400/415V AC	25	50	50	70	36	50	70
			220/240V AC	35	85	85	100	50	85	100
			250V DC	25	40	-	-	-	-	-
Service breaking capacity										
(IEC, JIS, AS/NZS)	I _{cs}	(kA)	690V AC	-	15	15	15	10*	15*	15*
			525V AC	15	30	30	30	15	30	30
			440V AC	22	45	45	50	25	45	50
			400/415V AC	25	50	50	50	36	50	50
			220/240V AC	35	85	85	85	50	85	85
			250V DC	19	40	-	-	-	-	-
Rated breaking capacity (NEMA)										
		(kA)	480V AC	15	25	25	30	15	25	30
			240VAC	35	85	85	100	50	85	100
Rated short-time withstand current	I _{cw}	(kA)	0.3 s	-	-	5	5	-	-	-
Protection										
Adjustable thermal, adjustable magnetic				■	■					
Fixed thermal, fixed magnetic										
Microprocessor						■	■	■	■	■
Utilisation category				A	A	B	B	A	A	A
Installation										
Front connection				■	■	■	■	■	■	■
Attached flat bar				•	•	•	•	•	•	•
Solderless terminal (cable clamp)				•	•	•	•	-	-	-
Rear connection				•	•	•	•	-	-	-
Plug-in				•	•	•	•			
Draw-out				•	•	•	•	-	-	-
DIN rail mounting				-	-	-	-	-	-	-
Dimensions										
	h	(mm)		260	260	260	260	260	260	260
	w	(mm)	3 pole	140	140	140	-	140	140	140
		(mm)	4 pole	185	185	185	185	185	185	185
	d	(mm)		103	103	103	103	103	103	103
Weight										
	W	(kg)	3 pole	4.2	4.2	4.3	-	5.0	5.0	5.0
			4 pole	5.6	5.6	5.7	5.7	6.5	6.5	6.5
Operation										
Direct Opening Action				■	■	■	■	■	■	■
Toggle operation				■	■	■	■	■	■	■
Variable depth / direct mount operating handle				•	•	•	•	•	•	•
Motor operator				•	•	•	•	•	•	•
Endurance										
	Electrical	cycles	415V AC	4500	4500	4500	4500	4500	4500	4500
	Mechanical	cycles		15000	15000	15000	15000	15000	15000	15000
Standards										
				IEC 60947-2, EN 60947-2						

■ Standard • Optional - Not Available

* MCCB can not be used in IT system at this voltage

Product series	description	unit	condition	EB2 800			EB2 800			EB2 1000		EB2 1250		EB2 1600	
Model-type				L	S	H	LE	E	HE	LE	E	LE	E	LE	E
Number of poles				3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4
Nominal current ratings															
	I _n	(A)	50°C	630, 800	630, 800	630, 800	800	800	800	1000	1000	1250	1250	1600	1600
Electrical characteristics															
Rated operational voltage	U _e	(V)	AC 50/60 Hz	690	690	690	690	690	690	690	690	690	690	690	690
			DC	250	250	250	-	-	-	-	-	-	-	-	-
Rated insulation voltage	U _i	(V)		800	800	800	800	800	800	800	800	800	800	800	800
Rated impulse withstand voltage	U _{imp}	(kV)		8	8	8	8	8	8	8	8	8	8	8	8
Ultimate breaking capacity (IEC, JIS, AS/NZS)	I _{cu}	(kA)	690V AC	10*	20*	25*	20*	25*	25*	20*	25*	20*	25*	20*	45*
			525V AC	15*	30	45	30	35	40	30	45	30	45	30	65
			440V AC	30	50	65	50	65	125	45	65	45	65	45	85
			400/415V AC	36	50	70	50	70	125	50	70	50	70	50	100/85
			220/240V AC	50	85	100	85	100	150	85	100	85	100	85	125
			250V DC	50	50	50	-	-	-	-	-	-	-	-	-
Service breaking capacity (IEC, JIS, AS/NZS)	I _{cs}	(kA)	690V AC	10*	20*	20*	20*	20*	20*	15*	20*	15*	20*	15*	34*
			525V AC	15*	30	34	30	30	34	23	34	23	34	23	50
			440V AC	30	50	50	50	50	94	34	50	34	50	34	65
			400/415V AC	36	50	50	50	50	94	38	50	38	50	38	75/65
			220/240V AC	50	85	75	85	75	150	65	75	65	75	65	94
			250V DC	50	50	50	-	-	-	-	-	-	-	-	-
Rated breaking capacity (NEMA)		(kA)	480V AC	15	30	45	30	35	40	30	45	30	45	30	65
			240V AC	50	85	100	85	100	150	85	100	85	100	85	125
Rated short-time withstand current	I _{cw}	(kA)	0,3 sec	-	-	-	10	10	10	-	-	15	15	20	20
Protection															
Adjustable thermal, adjustable magnetic				■	■	■	-	-	-	-	-	-	-	-	-
Fixed thermal, fixed magnetic				-	-	-	-	-	-	-	-	-	-	-	-
Microprocessor				-	-	-	■	■	■	■	■	■	■	■	■
Utilisation category				A	A	A	B	B	B	A	A	B	B	B	B
Installation															
Front connection				■	■	■	■	■	-	-	-	-	-	-	-
Attached flat bar				•	•	•	•	•	■	■	■	■	■	■	■
Solderless terminal (cable clamp)				•	•	•	-	-	-	-	•	-	-	-	-
Rear connection				•	•	•	-	-	•	•	-	-	-	•	•
Plug-in				•	•	•	-	-	•	-	-	-	-	-	-
Draw-out				-	-	-	-	-	-	-	-	-	-	-	-
DIN rail mounting				-	-	-	-	-	-	-	-	-	-	-	-
Dimensions	h	(mm)		273	273	273	273	273	273	273	273	370	370	370	370
	w	(mm)	3 pole	210	210	210	210	210	210	210	210	210	210	210	210
		(mm)	4 pole	280	280	280	280	280	280	280	280	280	280	280	280
	d	(mm)		103	103	103	103	103	140	103	103	120	120	140	140
Weight	W	(kg)	3 pole	8,5	8,5	8,5	9,1	9,1	12,3	11	11	19,8	19,8	27	27
			4 pole	11,5	11,5	11,5	12,3	12,3	14,8	14,8	14,8	25	25	35	35
Operation															
Direct Opening Action				■	■	■	■	■	■	■	■	■	■	■	■
Toggle operation				■	■	■	■	■	■	■	■	■	■	■	■
Variable depth / direct mount operating handle				•	•	•	•	•	•	•	•	•	•	•	•
Motor operator				•	•	•	•	•	•	•	•	•	•	•	•
Endurance	Electrical	cycles	690	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	2000	2000
	Mechanical	cycles		10000	10000	10000	10000	10000	10000	10000	10000	5000	5000	5000	5000
Standards	IEC 60947-2, EN 60947-2														

■ Standard • Optional - Not Available

* MCCB can not be used in IT system at this voltage