

ELECTRICAL INSTALLATION IN BUILDINGS

**ABB basic**

Your solid base





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**ABB is the world's leading provider of products for electrical installation in buildings. A comprehensive domain knowledge, global experience and continuous innovation enable us to provide optimal solutions for residential buildings. Our solutions help to make your buildings safer, intelligent and equipped for the future.**

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# ABB basic

## A solution you can rely on

ABB basic is the right solution for electrical professionals who are looking to provide optimum protections in residential applications without compromises. With the ABB basic product portfolio of MCBs, RCCBs, RCBOs, SDs and consumer units we help you to improve safety, productivity and performance according to the necessary requirements.



We offer a solid base for residential installations covering the functionality and optimum protection required. We ensure the safety of the installation without compromises.





# ABB basic

## The right choice for you

With the ABB basic portfolio we help electrical professionals to improve safety, productivity and performance in residential applications even for basic requirements. The components offer good enough solutions for a lot of electrical installations without losing the ABB quality standards. So we provide tangible benefits and concrete values for your daily installation business.



### Completeness

ABB basic is a complete system solution, including consumer units, MCBs, RCCBs, RCBOs, SDs and busbars dedicated for residential applications.



### Easy ordering

Simplified ordering codes with integrated technical information.



### Easy mounting and installation

Mounting and installation of all ABB basic M products is possible with the same tools thanks to harmonized terminals, tightening torque and wire stripping length.



### Easy selection

The technical information on the website enable you to make the right choice from the ABB basic range for residential application.

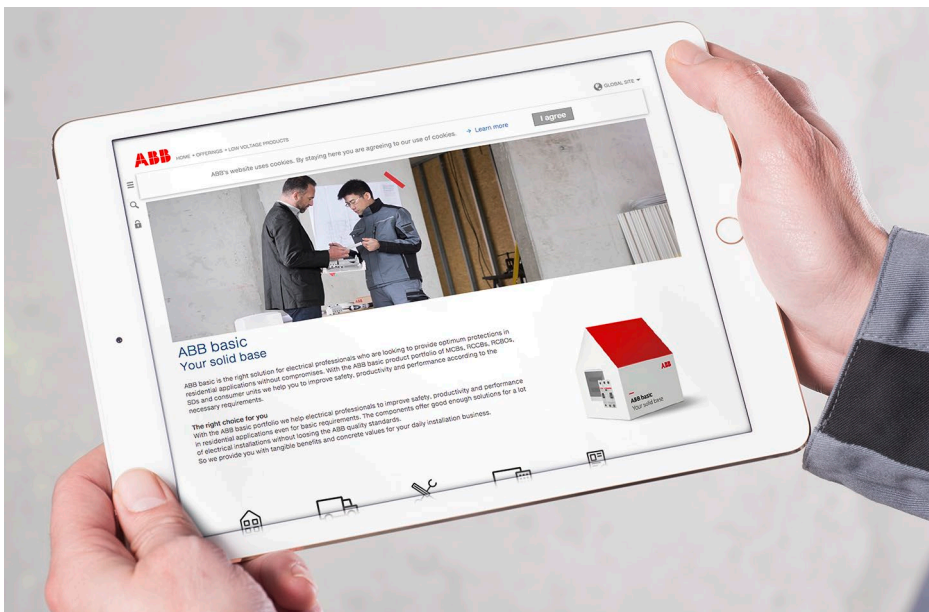


### Quality marks and approvals

ABB basic meets mandatory requirements for residential applications, thanks to compliance with the CE European directive. The quality is guaranteed by ABB's high level standard and approval mark from external certifying bodies.









# ABB basic

## Portfolio overview

With the ABB basic portfolio we offer a complete system solution including MCBs, RCCBs, RCBOs, SDs, busbars and consumer units, dedicated for residential applications.

### MCB – Miniature circuit breaker

- Protect installations against overloads and short-circuit, guaranteeing reliability and safety of operations
- basic M MCB with breaking capacity of 4.5kA in C characteristics and 1/2/3/4P configurations in all sizes up to 63A

### RCCB – Residual current circuit breaker

- Sensitive only to earth fault current, therefore they have to be connected in series with a MCB or a fuse to protect them against over-currents and short-circuits
- basic M RCCB with sensitivity 30/300mA in AC type and 2/4P configuration up to 63A, corresponding to all requirements in residential applications

### RCBO

- Combined protection against both earth-fault currents and overloads or short-circuits in one single device
- basic M RCBO with breaking capacity 4.5kA in C characteristics, AC types, 30mA sensitivity and 1P+N configuration up to 40A

### SD – Switch disconnecter

- Opening a disconnecter ensures isolation of downstream circuit
- basic M SD with 1/2/3/4 P configurations in all sizes up to 63A

### Accessories

- basic M Busbar with 12/56/57 pins in 1/2/3P to ensure easy and reliable wiring
- basic M terminal locking device fitting to all basic M DIN-rail products, to prevent manipulation





### ABB basic E consumer units

With ABB basic E you find a complete assortment of high quality enclosures made for small and medium flats, multiple dwellings or office and administration buildings. They are available in different sizes, colors, wall and flush mounted versions with smart accessories. Efficient enclosures from ABB basic E are used wherever power is metered and distributed. A diversity of applications and products from which you can only benefit with ABB.

ABB Basic E enclosures are available in 8 different sizes



2 Modules

4 Modules

6 Modules

8 Modules

12 Modules

16 Modules

24 Modules

36 Modules

# ABB basic

## Product features

Up to 35 mm<sup>2</sup>  
cage terminals\*

Necessary  
approvals and  
markings

Simplified  
ordering code

Wiring diagram for easy  
reference

Test push button for  
periodic performance  
check of RCCB and RCBO

Laser printed EAN code –  
quick identification of  
devices

Captive screws facilitate  
installation and avoid  
misplacing during wiring

\* More technical details starts on page 22 ff



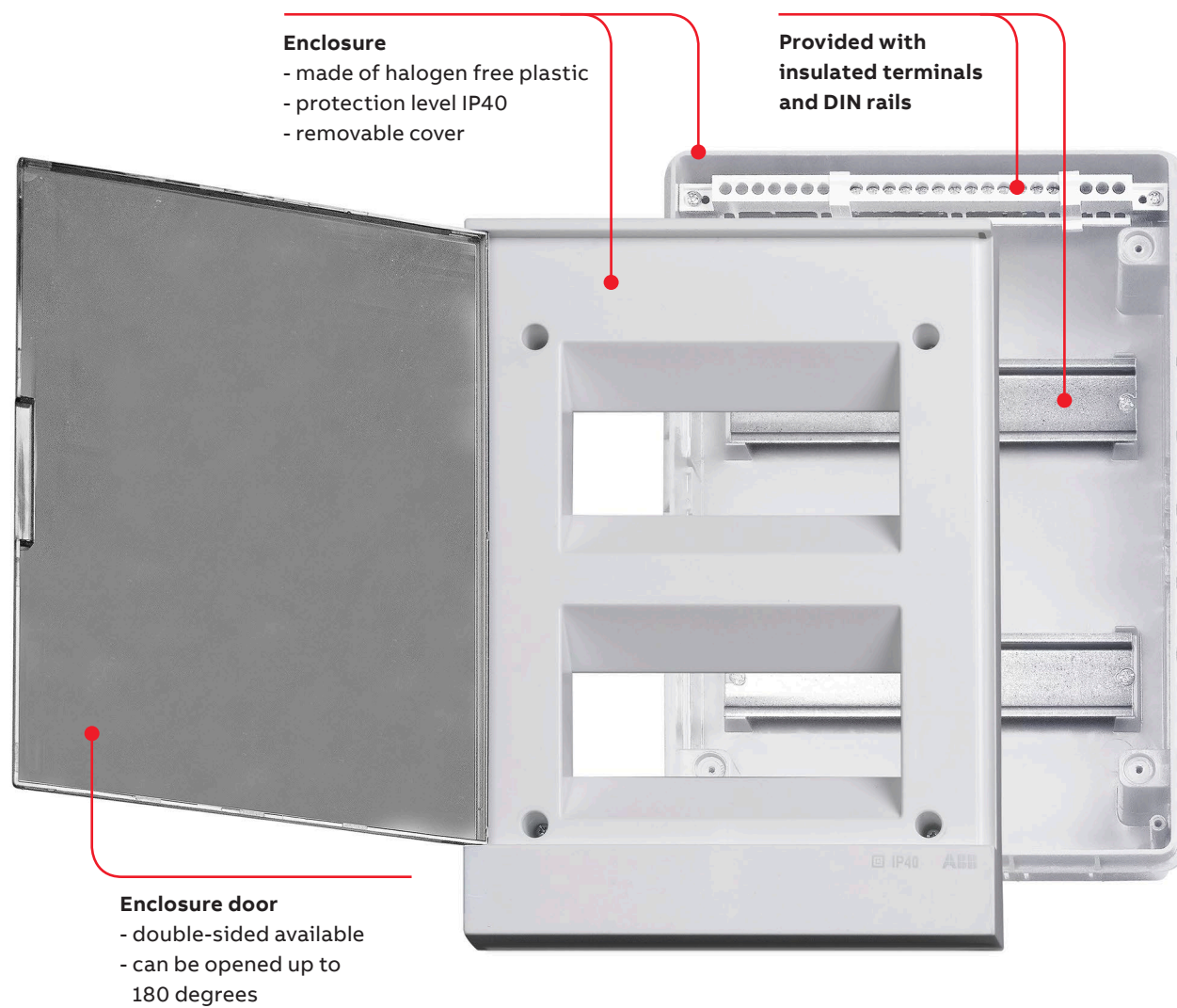
ABB basic M – simplified ordering code for easy reference

BM	X	XX	X	X*	XX
Series name	Product type	Internal code	Pole	Curve	Rated current**
basic M	S = MCB F = RCCB R = RCBO D = SD L = Busbar		1 = 1 P 2 = 2 P 3 = 3 P 4 = 4 P 5 = 1 P + N	C = C Curve	06 = 6 A 10 = 10 A 16 = 16 A 20 = 20 A 25 = 25 A 32 = 32 A 40 = 40 A 50 = 50 A 63 = 63 A

\* Valid for MCB, RCBO portfolios

\*\* Valid for MCB, RCBO, RCCB and SD; number of pins for busbar





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ABB basic E – simplified ordering code for easy reference

BE	X	XX	X	X	XX
Series name	Instal. type	IP rating	Door type	Terminal bar	Number of modules
basic E	W = wall	40	1 = opaque	0 = no bars	02
	F = flush	41	2 = transparent	1 = config. 1	04
		65		2 = config. 2	06
				n = config. N	08
					12
					24
					36

# Operating principles

## For technical reference









# Operating principles

## Overcurrent protection

According to IEC 60898-1 Miniature Circuit Breakers (MCB) are intended for protection against over-currents of wiring installations in buildings and similar applications; they are designed for use by uninstructed people.



### Cable and conductor protection with MCBs

MCB's are primarily designed to protect cables, equipment and lines against **overloads** (thermal) and **short-circuits** (electromagnetic)

- MCB's are subject to international and national norms.
- The design and test requirements are defined in the standard IEC 60898.

### Overloads and short circuits

An overload results when many devices are connected to one single electrical circuit and consume more energy than the line (cable) can carry. Here, the miniature circuit breaker, or MCB, performs one of its critical tasks: To trip before the overload damages the cable.

Alternatively, a short circuit is a defect within the circuit where electricity takes a "short cut" via a faulty path where there is a lower resistance than the device being powered. The result? A sudden surge in current, within milliseconds. You might be able to feel or see it, as wires become hot or sparks fly. Such an event could damage the circuit as well as any connected devices – if an MCB weren't installed to keep them safe.

When selecting the right MCB to protect cables, equipment and lines the permissible let-through values for conductors must be respected.

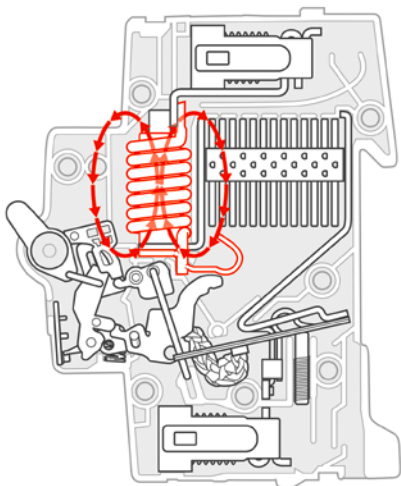


# Operating principles

## MCBs technology

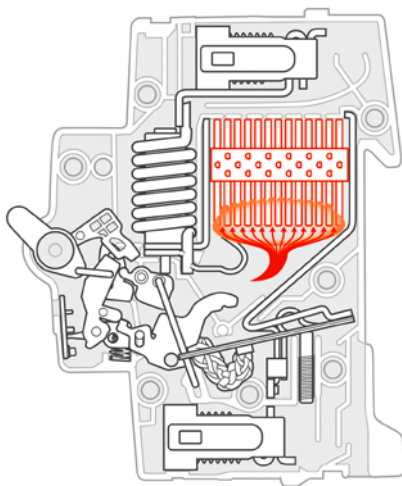
ABB expert knowledge is not only needed for devices that switch high currents and voltages, but also for the more commonly used miniature circuit breakers – a sophisticated piece of engineering.

### 01. Tripping because of short-circuit



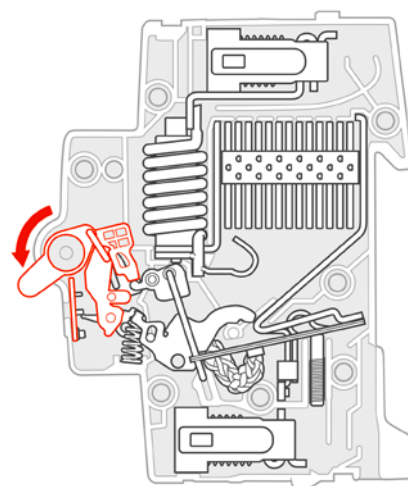
#### 01 In the beginning

Within half a millisecond (ms) a short circuit is released, the coil registers the increased current due to the fault. The hammer trip forces the contacts to open.



#### 02 An arc forms

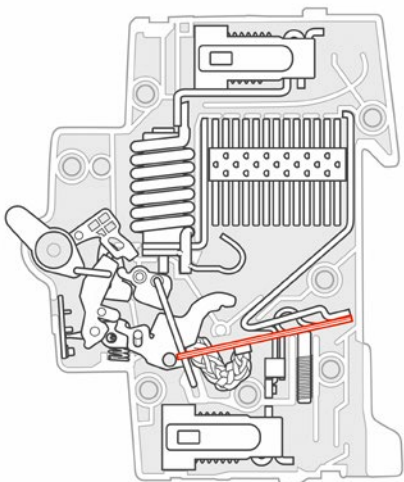
The unequal pressure across the arc causes the plasma wave to be driven away from the contacts into the arc extinguishing chamber.



#### 03 The toggle trips

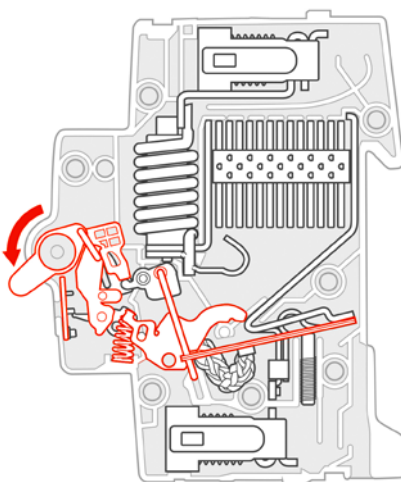
In less than 3ms after the short circuit current is released, the fault is safely cleared. Due to its mass inertia, it takes the toggle 10ms to reach its end position.

### 02. Tripping because of thermal overload



#### 01 In the beginning

In overload tripping, excessive current heats up a strip made up of two metals, called a bimetal.



#### 02 The toggle trips

When the current exceeds the rating of the MCB, the bimetal bends and eventually trips the MCB. Depending on intensity of the current, this may happen after seconds or even minutes.

# Operating principles

## Residual current protection

RCCB assures protection of people and installations against earth fault currents.



### RCCB – Residual current circuit breaker

A residual current circuit-breaker is an amperometric protection device which trips when there is a leakage of current to earth.

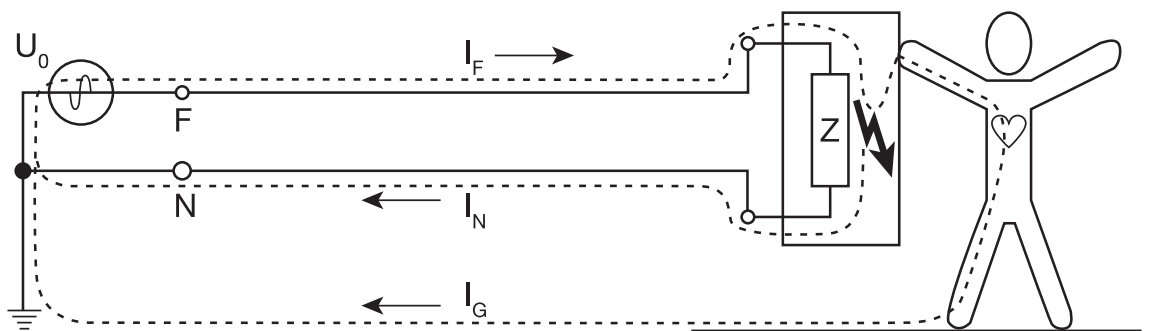
This device continuously calculates the vector sum of the single-phase or three-phase system line currents. As long as the sum is equal to zero the RCCB allows electricity to be supplied. The supply is rapidly interrupted if the sum exceeds a value preset according to the sensitivity of the device.

- Protect persons against electric shock by direct contact (30mA)
- Protect persons against electric shock by indirect contact (100mA or 300mA)
- Protect installations against the risk of fire (300mA)

### Fault condition due to leakage currents

The electrical circuit is usually isolated to the level of rated voltage. In this condition a human contact does not cause any inconveniences.

After an internal fault on the equipment, a conductive live part comes in contact with the protective enclosure creating a dangerous situation for a person who touches it accidentally. Main causes for earth fault could be: energizing of exposed conductive parts, localized electric arcs, disturbance to telecommunication systems, erosion phenomena of earth electrodes.







### RCBO

Residual current circuit breakers with inbuilt over-current protection are called RCBO or residual current breaker operators.

Residual current circuit-breakers with overcurrent protection (RCBO) respond to the demand for devices that fully protect modern installations against short-circuit currents, overloads, earth fault currents and indirect contacts, providing additional protection against direct contacts.

The compact design allows easy installation in either switchboards or distribution boards. With rated current from 6 to 40A and a 30mA sensitivities, the ABB basic M RCBO series can cover all possible applications.



# Installation examples

## Small flat – example 1

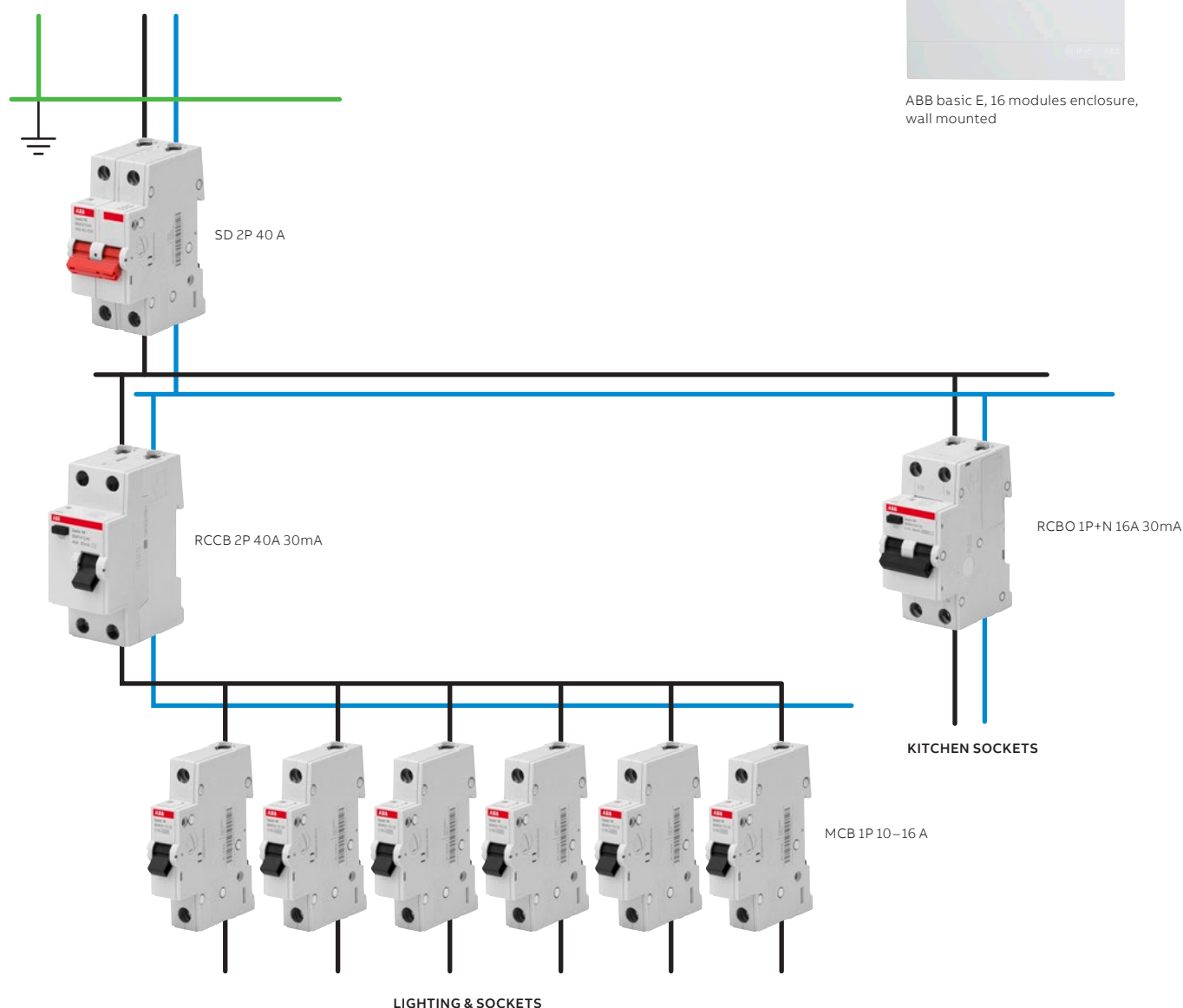
The demands of modern flat or apartments appliances push the electrical installations to their limits. Residents are often unaware of the dangers. This overloading is reflected in the high number of household fires: 10 – 15% being caused by the smouldering of electrical cables or by the use of defective appliances. The installer has to take care to fulfil all regulations and secure the residents at the same time.

With the respect to a better consumer protection the installer should inform building owners and renovators about safety standards.

You can see here two examples of standard safety installation.

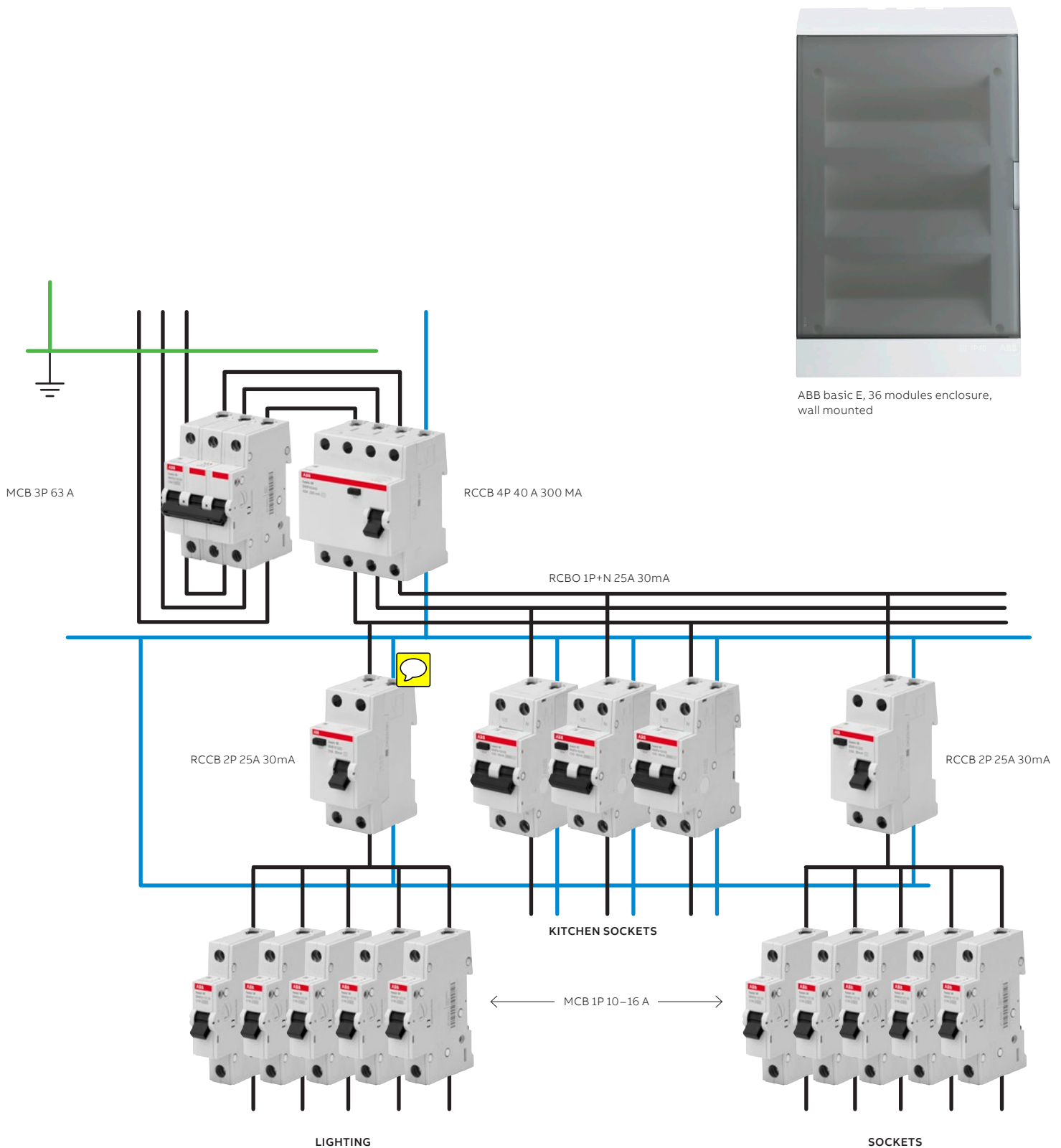


ABB basic E, 16 modules enclosure, wall mounted



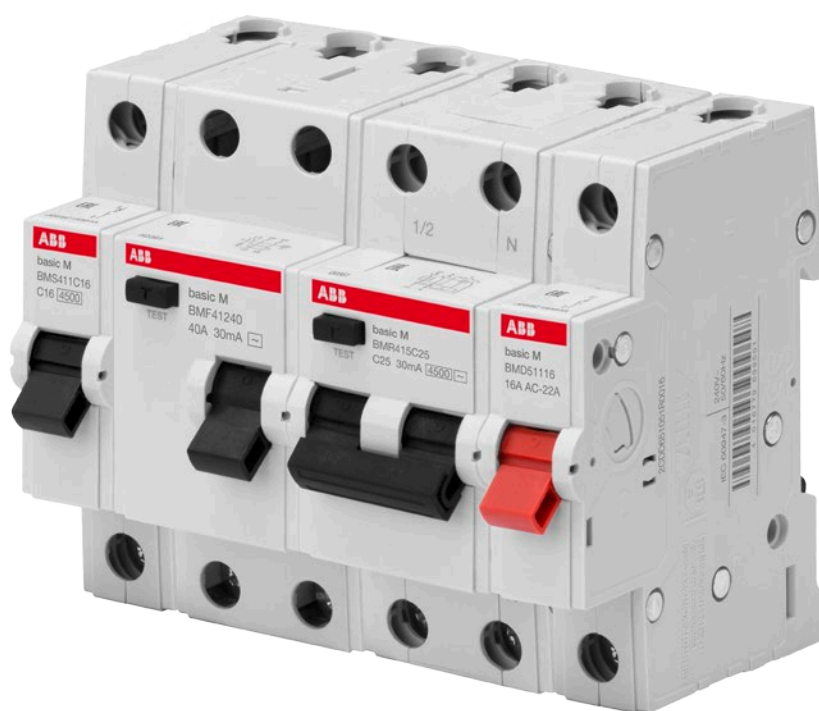
# Installation examples

## Medium flat – example 2



# ABB basic M – DIN-Rail products

## Ordering codes and technical details







# ABB basic M


## Miniature circuit breakers

### Protection against over-currents

MCBs protect installations against overloads and short-circuits, guaranteeing reliability and safety of operations. ABB basic M series satisfies most common requirements in terms of MCBs, allowing the usage of different pole configurations (1P, 2P, 3P, and 4P), C characteristic and ratings up to 63 A for residential and commercial applications.

#### Technical details







MCB	Product Standard	GOST R 50345-2010 (IEC 60898-1)
	Poles	1P, 2P, 3P, 4P
	Tripping characteristic	C
	Rated current $I_n$	6...63 A
	Rated frequency	50 Hz
	Rated voltage $U_e$	1P: 230 / 400 V AC 2...4P: 400 V AC
	Breaking capacity $I_{cn}$	4.5 kA
	Terminal size for cable	Rigid cable: 6...40 A: 1...25 mm <sup>2</sup> ; 50...63 A: 1...35 mm <sup>2</sup> Flexible cable: 6...40 A: 1...16 mm <sup>2</sup> ; 50...63 A: 1...25 mm <sup>2</sup>
	Electrical life	4000 cycles
	Mechanical life	10000 cycles
	Ambient temperature (with daily average $\leq +35^\circ\text{C}$ )	-25...+55° C
	Storage temperature	-40...+70° C
	Protection degree with cover	IP40
	Approval	EAC, CE
	Tightning torque	2.0 Nm
	Cable length	12.5 mm
	Screw driver	No. 2 pozidriver
	Dimension H x D x W	1P – 88 x 69 x 17.5 mm
		2P – 88 x 69 x 35 mm
		3P – 88 x 69 x 52.5 mm
		4P – 88 x 69 x 70 mm
	Average weight	1P – 93 g
		2P – 186 g
		3P – 279 g
		4P – 372 g

# ABB basic M

## Miniature circuit breakers

### Ordering codes/information

MCB	Description	Icn (kA)	Curve	Poles	In (A)	Order Code	ABB Global ID
	4.5 kA, 1P, C-Char., 6 A	4.5	C	1	6	BMS411C06	2CDS641041R0064
	4.5 kA, 1P, C-Char., 10 A				10	BMS411C10	2CDS641041R0104
	4.5 kA, 1P, C-Char., 16 A				16	BMS411C16	2CDS641041R0164
	4.5 kA, 1P, C-Char., 20 A				20	BMS411C20	2CDS641041R0204
	4.5 kA, 1P, C-Char., 25 A				25	BMS411C25	2CDS641041R0254
	4.5 kA, 1P, C-Char., 32 A				32	BMS411C32	2CDS641041R0324
	4.5 kA, 1P, C-Char., 40 A				40	BMS411C40	2CDS641041R0404
	4.5 kA, 1P, C-Char., 50 A				50	BMS411C50	2CDS641041R0504
	4.5 kA, 1P, C-Char., 63 A				63	BMS411C63	2CDS641041R0634
	4.5 kA, 2P, C-Char., 6 A	4.5	C	2	6	BMS412C06	2CDS642041R0064
	4.5 kA, 2P, C-Char., 10 A				10	BMS412C10	2CDS642041R0104
	4.5 kA, 2P, C-Char., 16 A				16	BMS412C16	2CDS642041R0164
	4.5 kA, 2P, C-Char., 20 A				20	BMS412C20	2CDS642041R0204
	4.5 kA, 2P, C-Char., 25 A				25	BMS412C25	2CDS642041R0254
	4.5 kA, 2P, C-Char., 32 A				32	BMS412C32	2CDS642041R0324
	4.5 kA, 2P, C-Char., 40 A				40	BMS412C40	2CDS642041R0404
	4.5 kA, 2P, C-Char., 50 A				50	BMS412C50	2CDS642041R0504
	4.5 kA, 2P, C-Char., 63 A				63	BMS412C63	2CDS642041R0634
	4.5 kA, 3P, C-Char., 6 A	4.5	C	3	6	BMS413C06	2CDS643041R0064
	4.5 kA, 3P, C-Char., 10 A				10	BMS413C10	2CDS643041R0104
	4.5 kA, 3P, C-Char., 16 A				16	BMS413C16	2CDS643041R0164
	4.5 kA, 3P, C-Char., 20 A				20	BMS413C20	2CDS643041R0204
	4.5 kA, 3P, C-Char., 25 A				25	BMS413C25	2CDS643041R0254
	4.5 kA, 3P, C-Char., 32 A				32	BMS413C32	2CDS643041R0324
	4.5 kA, 3P, C-Char., 40 A				40	BMS413C40	2CDS643041R0404
	4.5 kA, 3P, C-Char., 50 A				50	BMS413C50	2CDS643041R0504
	4.5 kA, 3P, C-Char., 63 A				63	BMS413C63	2CDS643041R0634
	4.5 kA, 4P, C-Char., 6 A	4.5	C	4	6	BMS414C06	2CDS644041R0064
	4.5 kA, 4P, C-Char., 10 A				10	BMS414C10	2CDS644041R0104
	4.5 kA, 4P, C-Char., 16 A				16	BMS414C16	2CDS644041R0164
	4.5 kA, 4P, C-Char., 20 A				20	BMS414C20	2CDS644041R0204
	4.5 kA, 4P, C-Char., 25 A				25	BMS414C25	2CDS644041R0254
	4.5 kA, 4P, C-Char., 32 A				32	BMS414C32	2CDS644041R0324
	4.5 kA, 4P, C-Char., 40 A				40	BMS414C40	2CDS644041R0404
	4.5 kA, 4P, C-Char., 50 A				50	BMS414C50	2CDS644041R0504
	4.5 kA, 4P, C-Char., 63 A				63	BMS414C63	2CDS644041R0634



# ABB basic M


## Residual current circuit breakers

### Protection against direct and indirect contacts

Residual current circuit breakers (RCCB), ensure protection against earth leakage due to direct and indirect contacts. Thus they prevent accidental electrical shock for humans. Function: protection against the effects of sinusoidal alternating earth fault currents; protection against indirect contacts and additional protection against direct (with  $I\Delta n = 30, 100$  and  $300$  mA) contacts.

#### Technical details





RCCB	Product Standard	GOST R 51326, 1-99 (IEC 61008-1)
	Poles	2P, 4P
	Type	AC
	Rated current $I_n$	25 A, 40 A, 63 A
	Rated sensitivity $I\Delta n$	30 mA, 100 mA, 300 mA
	Rated frequency	50 Hz
	Rated voltage $U_e$	230 / 400 V AC
	Rated conditional short circuit current $I_{cn}$ , no fuse	Greater value between 500 A and $10 \times I_n$
	Rated conditional short circuit current $I_{cn}$ , with fuse	4.5 kA
	Rated conditional short circuit current $I_{cn}$ , with same rated basic M MCB	4.5 kA with MCB with $I_{cn} = 4.5$ kA
	Terminal size for cable	Rigid cable: 35 mm <sup>2</sup> Flexible cable: 25 mm <sup>2</sup>
	Electrical life	2000 cycles
	Mechanical life	5000 cycles
	Ambient temperature (with daily average $\leq +35^\circ\text{C}$ )	$-25 \dots +55^\circ\text{C}$
	Storage temperature	$-40 \dots +70^\circ\text{C}$
	Protection degree with cover	IP40
	Approval	EAC, CE
	Tightening torque	2.0 Nm
	Cable length	12.5 mm
	Screw driver	No. 2 pozidriver
	Dimension H x D x W	2P – 88 x 69 x 35 mm
		4P – 88 x 69 x 70 mm
	Average weight	2P – 150 g
		4P – 245 g

# ABB basic M

## Residual current circuit breakers



### Ordering codes/information

RCCB	Description	Type	I <sub>dn</sub> (mA)	Poles	I <sub>n</sub>	Order Code	ABB Global ID
 	4.5 kA, AC, 30 mA, 2P, 25 A	AC	30	2	25	BMF41225	2CSF602041R1250
	4.5 kA, AC, 30 mA, 2P, 40 A				40	BMF41240	2CSF602041R1400
	4.5 kA, AC, 30 mA, 2P, 63 A				63	BMF41263	2CSF602041R1630
	4.5 kA, AC, 30 mA, 4P, 25 A			4	25	BMF41425	2CSF604041R1250
	4.5 kA, AC, 30 mA, 4P, 40 A				40	BMF41440	2CSF604041R1400
	4.5 kA, AC, 30 mA, 4P, 63 A				63	BMF41463	2CSF604041R1630
	4.5 kA, AC, 100 mA, 2P, 25 A	AC	100	2	25	BMF42225	2CSF602042R2250
	4.5 kA, AC, 100 mA, 2P, 40 A				40	BMF42240	2CSF602042R2400
	4.5 kA, AC, 100 mA, 2P, 63 A				63	BMF42263	2CSF602042R2630
	4.5 kA, AC, 100 mA, 4P, 25 A			4	25	BMF42425	2CSF604042R2250
	4.5 kA, AC, 100 mA, 4P, 40 A				40	BMF42440	2CSF604042R2400
	4.5 kA, AC, 100 mA, 4P, 63 A				63	BMF42463	2CSF604042R2630
	4.5 kA, AC, 300 mA, 2P, 25 A	AC	300	2	25	BMF43225	2CSF602043R3250
	4.5 kA, AC, 300 mA, 2P, 40 A				40	BMF43240	2CSF602043R3400
	4.5 kA, AC, 300 mA, 2P, 63 A				63	BMF43263	2CSF602043R3630
	4.5 kA, AC, 300 mA, 4P, 25 A			4	25	BMF43425	2CSF604043R3250
	4.5 kA, AC, 300 mA, 4P, 40 A				40	BMF43440	2CSF604043R3400
	4.5 kA, AC, 300 mA, 4P, 63 A				63	BMF43463	2CSF604043R3630

# ABB basic M


## Residual current circuit breakers with over-current protection

### Combined universal protection

RCBOs ensure protection of people and installations against earth fault currents. They combine protection against both earth-fault currents and overloads or short-circuits in one single device.

The new residual current circuit breakers with over-current protection are a technologically advanced and comprehensive range, concerning size, tripping characteristics, breaking capacity and accessories: (1 phase + neutral) available in two modules.

#### Technical details

RCBO	Product Standard	GOST R 51327.1-2010, GOST R 51327.2.1, GOST R 31216-2003(EMC), IEC 61009-1, IEC 61009-2.1
	Poles	1P+N
	Tripping characteristic	C
	Type	AC
	Rated current I <sub>n</sub>	6...40 A
	Rated sensitivity I <sub>Δn</sub>	30 mA
	Rated frequency	50 Hz
	Rated voltage U <sub>e</sub> (V)	230 V AC
	Breaking capacity I <sub>cn</sub>	4.5 kA
	Rated residual making & breaking capacity	500 A
	Terminal size for cable	Rigid cable: 25 mm <sup>2</sup> Flexible cable: 16 mm <sup>2</sup>
	Electrical life	2000 cycles
	Mechanical life	8000 cycles
	Ambient temperature (with daily average ≤ +35 °C)	-25...+55° C
	Storage temperature	-40...+70° C
	Protection degree with cover	IP40
	Approvals	EAC, CE
	Tightening torque	2.00 Nm
	Cable length	12.5 mm
	Screw driver	No. 2 pozidriver
	Dimension H x D x W (mm)	88 x 69 x 35 mm
	Average weight	180 g




# ABB basic M

## Residual current circuit breakers with over-current protection



### Ordering codes/information

RCBO	Description	Icn (kA)	Type	Idn (mA)	Poles	Curve	In	Order Code	ABB Global ID
	4.5 kA, AC, 30 mA, 1P+N, C-Char., 6 A	4.5	AC	30	1P+N	C	06	BMR415C06	2CSR645041R1064
	4.5 kA, AC, 30 mA, 1P+N, C-Char., 10 A						10	BMR415C10	2CSR645041R1104
	4.5 kA, AC, 30 mA, 1P+N, C-Char., 16 A						16	BMR415C16	2CSR645041R1164
	4.5 kA, AC, 30 mA, 1P+N, C-Char., 20 A						20	BMR415C20	2CSR645041R1204
	4.5 kA, AC, 30 mA, 1P+N, C-Char., 25 A						25	BMR415C25	2CSR645041R1254
	4.5 kA, AC, 30 mA, 1P+N, C-Char., 32 A						32	BMR415C32	2CSR645041R1324
	4.5 kA, AC, 30 mA, 1P+N, C-Char., 40 A						40	BMR415C40	2CSR645041R1404

# ABB basic M


## Switch disconnectors

### Isolation of downstream circuit

Switch disconnectors are suitable for commanding loads according to IEC 60947-3. Available configurations (1P, 2P, 3P, 4P), in all sizes from 16 up to 63 A.

#### Technical details





SD	Product Standard	GOST R 50030.3-99 (IEC 60947-3)
	Number of poles	1P, 2P, 3P, 4P
	Utilization category	AC-22 A
	Rated current In	16...63 A
	Rated voltage Ue	1P: 240 / 415 V AC 2...4P: 415 V AC
	Rated frequency	50 / 60 Hz
	Rated short-time withstand current Icw	12 In for 1 sec
	Rated short-circuit making capacity Icm	15 In
	Rated conditional short-circuit current Inc	5 kA with NH 00 63 A gL-gG (40 A-63 A)
	Terminal size for cable	Rigid cable: 35 mm <sup>2</sup> Flexible cable: 25 mm <sup>2</sup>
	Electrical life	1500 cycles
	Mechanical life	8500 cycles
	Ambient temperature (with daily average ≤ +35°C)	-25...+55° C
	Storage temperature	-40...+70° C
	Protection degree with cover	IP40
	Approval	EAC, CE
	Tightening torque	2.0 Nm
	Cable length	12.5 mm
	Screw driver	No. 2 pozidriver
	Dimension H x D x W	1P – 88 x 69 x 17.5 mm
		2P – 88 x 69 x 35 mm
		3P – 88 x 69 x 52.5 mm
		4P – 88 x 69 x 70 mm
	Average weight	1P – 70 g
		2P – 140 g
		3P – 210 g
		4P – 280 g

# ABB basic M

## Switch disconnectors



### Ordering codes/information


SD	Description	Poles	In (A)	Order Code	ABB Global ID
	5 kA, 1P, 16 A	1	16	BMD51116	2CDD641051R0016
	5 kA, 1P, 25 A		25	BMD51125	2CDD641051R0025
	5 kA, 1P, 32 A		32	BMD51132	2CDD641051R0032
	5 kA, 1P, 40 A		40	BMD51140	2CDD641051R0040
	5 kA, 1P, 50 A		50	BMD51150	2CDD641051R0050
	5 kA, 1P, 63 A		63	BMD51163	2CDD641051R0063
	5 kA, 2P, 16 A	2	16	BMD51216	2CDD642051R0016
	5 kA, 2P, 25 A		25	BMD51225	2CDD642051R0025
	5 kA, 2P, 32 A		32	BMD51232	2CDD642051R0032
	5 kA, 2P, 40 A		40	BMD51240	2CDD642051R0040
	5 kA, 2P, 50 A		50	BMD51250	2CDD642051R0050
	5 kA, 2P, 63 A		63	BMD51263	2CDD642051R0063
	5 kA, 3P, 16 A	3	16	BMD51316	2CDD643051R0016
	5 kA, 3P, 25 A		25	BMD51325	2CDD643051R0025
	5 kA, 3P, 32 A		32	BMD51332	2CDD643051R0032
	5 kA, 3P, 40 A		40	BMD51340	2CDD643051R0040
	5 kA, 3P, 50 A		50	BMD51350	2CDD643051R0050
	5 kA, 3P, 63 A		63	BMD51363	2CDD643051R0063
	5 kA, 4P, 16 A	4	16	BMD51416	2CDD644051R0016
	5 kA, 4P, 25 A		25	BMD51425	2CDD644051R0025
	5 kA, 4P, 32 A		32	BMD51432	2CDD644051R0032
	5 kA, 4P, 40 A		40	BMD51440	2CDD644051R0040
	5 kA, 4P, 50 A		50	BMD51450	2CDD644051R0050
	5 kA, 4P, 63 A		63	BMD51463	2CDD644051R0063




# ABB basic M

## Accessories

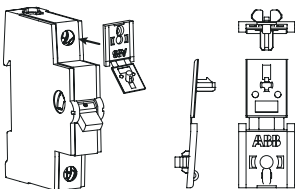
### Busbar technical details

Busbar	Product Standard	IEC 60947-1
	Rated voltage Ue	Ph / N – 230 V AC Ph / Ph – 400 V AC
	Rated frequency	50 / 60 Hz
	Insulation voltage Ui	500 V
	Rated current In	End feeding – 63 A Non-end feeding – 100 A
	Number of pins	12, 56, 57
	Cross-section	10 mm <sup>2</sup>
	Approval	CE
	Compatibility	With basic M products

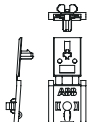
### Busbar ordering codes/information

Busbar	Description	Type	Poles	Cross-section (mm <sup>2</sup> )	Order Code	ABB Global ID
	1P, pin type, 10 mm <sup>2</sup> , 12 pins	Pin	1	10	BML11112	2CDL610011R1012
	1P, Pin Type, 10 mm <sup>2</sup> , 57 pins	Pin	1	10	BML11157	2CDL610011R1057
	2P, pin type, 10 mm <sup>2</sup> , 12 pins	Pin	2	10	BML11212	2CDL620011R1012
	2P, pin type, 10 mm <sup>2</sup> , 56 pins	Pin	2	10	BML11256	2CDL620011R1056
	3P, pin type, 10 mm <sup>2</sup> , 12 pins	Pin	3	10	BML11312	2CDL630011R1012
	3P, pin type, 10 mm <sup>2</sup> , 57 pins	Pin	3	10	BML11357	2CDL630011R1057
	Busbar, end cap, 1P	Pin	–	–	BML11100	2CDL600011R0001
	Busbar, end cap, 2P / 3P	Pin	–	–	BML11200	2CDL600011R0002

### Terminal Locking Device technical details

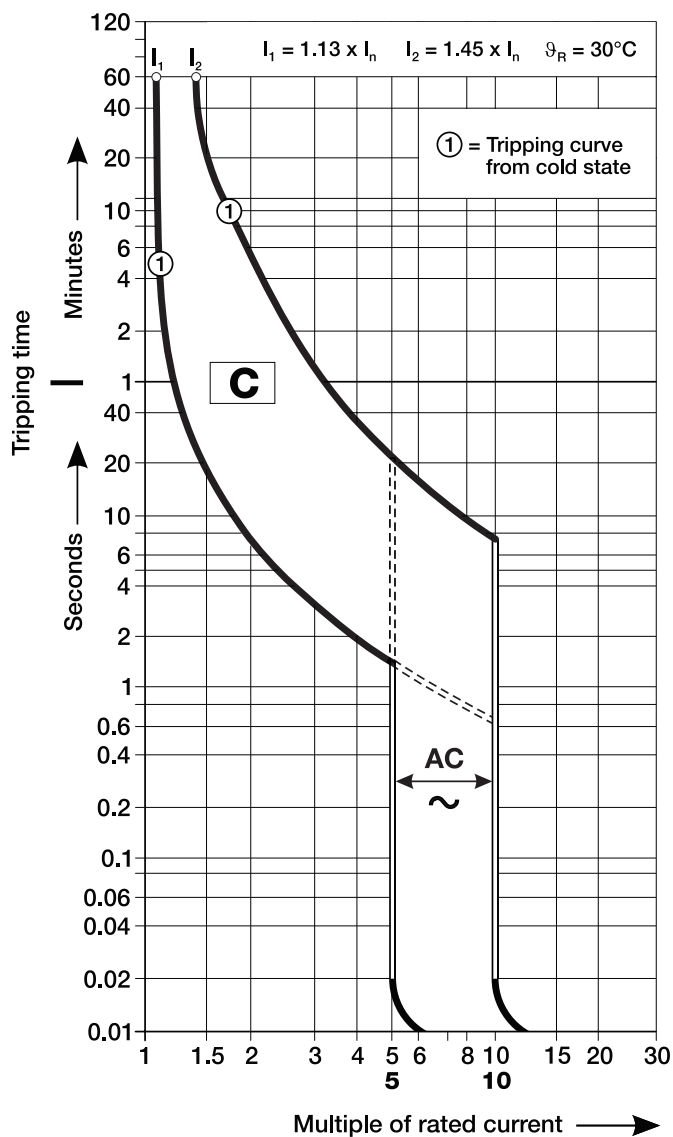
Terminal Locking Device	Product Standard
	Sealable with maximum diameter of cable
	1.2 mm
	Mounting of terminal locking device
	from top and bottom screw terminal
	Protection degree for screw terminal
	IP40

### Terminal Locking Device ordering codes/information

Terminal Locking Device	Description	Module width	Order Code	ABB Global ID
	1 module width	1	BMS911	2CSS600991R0001

# ABB basic M

## Tripping diagrams (MCB, RCBO)\*



### C curve

For overload and short-circuit protection of cables – suitable for households and similar installation where inrush currents can occur. Protection against electric shock by automatic disconnection.

\* ABB basic M MCB according to IEC 60898-1,  $I_n = 6 \dots 63\text{A}$

\* ABB basic M RCBO according to IEC 61009,  $I_n = 6 \dots 40\text{A}$

## ABB basic E – Consumer units

Ordering codes and technical details































# ABB basic E – Surface Mounted

## Ordering codes and technical details

ABB basic E Surface Mounted	No. of Modules	Description	Global Product ID	Order Code	Pieces per pack
 	2M	Surface mounted opaque white door 2 modules	1SZR004002A2100	BEW401202	40
		Surface mounted transparent grey door 2 modules	1SZR004002A2200	BEW402202	
 	4M	Surface mounted opaque white door 4 modules	1SZR004002A2101	BEW401204	25
		Surface mounted transparent grey door 4 modules	1SZR004002A2201	BEW402204	
 	6M	Surface mounted opaque white door 6 modules	1SZR004002A2102	BEW401206	20
		Surface mounted transparent grey door 6 modules	1SZR004002A2202	BEW402206	
 	8M	Surface mounted opaque white door 8 modules	1SZR004002A2103	BEW401208	15
		Surface mounted transparent grey door 8 modules	1SZR004002A2203	BEW402208	
 	12M	Surface mounted opaque white door 12 modules	1SZR004002A2104	BEW401212	10
		Surface mounted transparent grey door 12 modules	1SZR004002A2204	BEW402212	
 	16M	Surface mounted opaque white door 16 modules	1SZR004002A2105	BEW401216	10
		Surface mounted transparent grey door 16 modules	1SZR004002A2205	BEW402216	
 	24M	Surface mounted opaque white door 24 modules	1SZR004002A2107	BEW401224	5
		Surface mounted transparent grey door 24 modules	1SZR004002A2207	BEW402224	
 	36M	Surface mounted opaque white door 36 modules	1SZR004002A2109	BEW401236	5
		Surface mounted transparent grey door 36 modules	1SZR004002A2209	BEW402236	

# ABB basic E – Flush Mounted

## Ordering codes and technical details

ABB basic E Flush Mounted	No. of Modules	Description	Global Product ID	Order Code	Pieces per pack
	2M	Flush mounted opaque white door 2 modules	1SZR004002A1100	BEF401202	40
		Flush mounted transparent grey door 2 modules	1SZR004002A1200	BEF402202	
	4M	Flush mounted opaque white door 4 modules	1SZR004002A1101	BEF401204	25
		Flush mounted transparent grey door 4 modules	1SZR004002A1201	BEF402204	
	6M	Flush mounted opaque white door 6 modules	1SZR004002A1102	BEF401206	20
		Flush mounted transparent grey door 6 modules	1SZR004002A1202	BEF402206	
	8M	Flush mounted opaque white door 8 modules	1SZR004002A1103	BEF401208	15
		Flush mounted transparent grey door 8 modules	1SZR004002A1203	BEF402208	
	12M	Flush mounted opaque white door 12 modules	1SZR004002A1104	BEF401212	10
		Flush mounted transparent grey door 12 modules	1SZR004002A1204	BEF402212	
	16M	Flush mounted opaque white door 16 modules	1SZR004002A1105	BEF401216	10
		Flush mounted transparent grey door 16 modules	1SZR004002A1205	BEF402216	
	24M	Flush mounted opaque white door 24 modules	1SZR004002A1107	BEF401224	5
		Flush mounted transparent grey door 24 modules	1SZR004002A1207	BEF402224	
	36M	Flush mounted opaque white door 36 modules	1SZR004002A1109	BEF401236	5
		Flush mounted transparent grey door 36 modules	1SZR004002A1209	BEF402236	


# ABB basic E – Surface Mounted

## Technical details

### ABB basic E – Surface Mounted

	2	4	6	8	12	16	24	36
<b>Number of modules</b>	2	4	6	8	12	16	24	36
<b>Dimensions (WxHxD) in mm</b>	120x180x102	155x180x102	190x180x102	230x180x102	300x220x102	230x315x102	300x335x102	300x450x102
<b>Body / Cover Colour</b>	White / White	White / White	White / White	White / White	White / White	White / White	White / White	White / White
<b>Body / Cover Material</b>	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic
<b>Door Colour</b>	Opaque white	Opaque white	Opaque white	Opaque white	Opaque white	Opaque white	Opaque white	Opaque white
	Transparent grey	Transparent grey	Transparent grey	Transparent grey	Transparent grey	Transparent grey	Transparent grey	Transparent grey
<b>Door Material</b>	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic
<b>Fire Resistance Cover-Body, Terminal-Holder</b>	650° C / 850° C	650° C / 850° C	650° C / 850° C	650° C / 850° C	650° C / 850° C	650° C / 850° C	650° C / 850° C	650° C / 850° C
<b>Installation Temperature</b>	-25 / +60	-25 / +60	-25 / +60	-25 / +60	-25 / +60	-25 / +60	-25 / +60	-25 / +60
<b>Resistance to Heat Cover-Body, Terminal-Holder</b>	650–70° C	650–70° C	650–70° C	650–70° C	650–70° C	650–70° C	650–70° C	650–70° C
<b>IP rating</b>	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40
<b>Max. dissipation power</b>	10 W	14 W	16 W	20 W	27 W	31 W	33 W	40 W
<b>Extractable DIN rail</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Halogen Free</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Cable entry</b>	Knockout	Knockout	Knockout	Knockout	Knockout	Knockout	Knockout	Knockout
<b>Protection class</b>	II □	II □	II □	II □	II □	II □	II □	II □
<b>Resistance to mechanical impacts</b>	IK08	IK08	IK08	IK08	IK08	IK08	IK08	IK08
<b>Maximum current</b>	63 A	63 A	63 A	63 A	63 A	63 A	63 A	63 A
<b>Resistance to heat</b>	BPT 70° C	BPT 70° C	BPT 70° C	BPT 70° C	BPT 70° C	BPT 70° C	BPT 70° C	BPT 70° C
<b>Terminal bars (Number of holes)</b>	–	–	–	2x5	2x13	2x13	2x13	2x21

### Number of cable entries for Surface Mounted

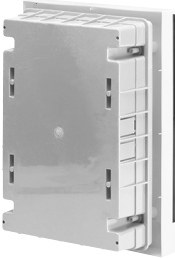
ABB basic E Surface Mounted	Module	Top Number of Entries	Bottom Number of Entries	Hole diameter (mm)
	2	1	1	24
	4	1	1	24
	6	2	2	24
	8	2	2	24
	12	3	3	24
	16	3	3	24
	24	3	3	24
	36	3	3	24

# ABB basic E – Flush Mounted

## Technical details

ABB basic E – Flush Mounted								
Number of modules	2	4	6	8	12	16	24	36
Dimensions (WxHxD) in mm	120x180x102	155x180x102	190x180x102	230x180x102	300x220x102	230x315x102	300x335x102	300x450x102
Body / Cover Colour	White/White	White/White	White/White	White/White	White/White	White/White	White/White	White/White
Body / Cover Material	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic
Door Colour	Opaque white	Opaque white	Opaque white	Opaque white	Opaque white	Opaque white	Opaque white	Opaque white
	Transparent grey	Transparent grey	Transparent grey	Transparent grey	Transparent grey	Transparent grey	Transparent grey	Transparent grey
Door Material	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic
Fire Resistance Cover-Body, Terminal-Holder	650° C/850° C	650° C/850° C	650° C/850° C	650° C/850° C	650° C/850° C	650° C/850° C	650° C/850° C	650° C/850° C
Installation Temperature	-25 / +60	-25 / +60	-25 / +60	-25 / +60	-25 / +60	-25 / +60	-25 / +60	-25 / +60
Resistance to Heat Cover-Body, Terminal-Holder	650–70° C	650–70° C	650–70° C	650–70° C	650–70° C	650–70° C	650–70° C	650–70° C
IP rating	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40
Max. dissipation power	10 W	14 W	16 W	20 W	27 W	31 W	33 W	40 W
Extractable DIN rail	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Halogen Free	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cable entry	Knockout	Knockout	Knockout	Knockout	Knockout	Knockout	Knockout	Knockout
Protection class	II □	II □	II □	II □	II □	II □	II □	II □
Resistance to mechanical impacts	IK08	IK08	IK08	IK08	IK08	IK08	IK08	IK08
Maximum current	63 A	63 A	63 A	63 A	63 A	63 A	63 A	63 A
Resistance to heat	BPT 70° C	BPT 70° C	BPT 70° C	BPT 70° C	BPT 70° C	BPT 70° C	BPT 70° C	BPT 70° C
Terminal bars (Number of holes)	–	–	–	2x5	2x13	2x13	2x13	2x21

### Number of cable entries for Flush Mounted

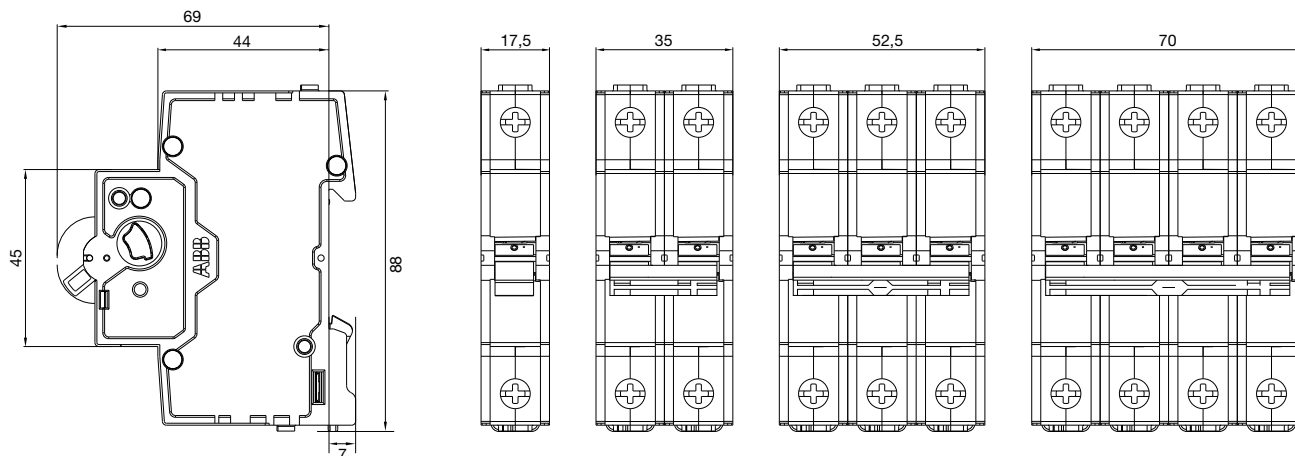
ABB basic E Flush Mounted	Module	Top Number of Entries	Bottom Number of Entries	Right Number of Entries	Left Number of Entries	Hole diameter (mm)
	2	2	2	3	3	28
	4	2	2	3	3	28
	6	4	4	2	2	28
	8	4	4	2	2	28
	12	6	6	2	2	28
	16	4	4	2	2	28
	24	6	6	2	2	28
	36	6	6	6	6	28



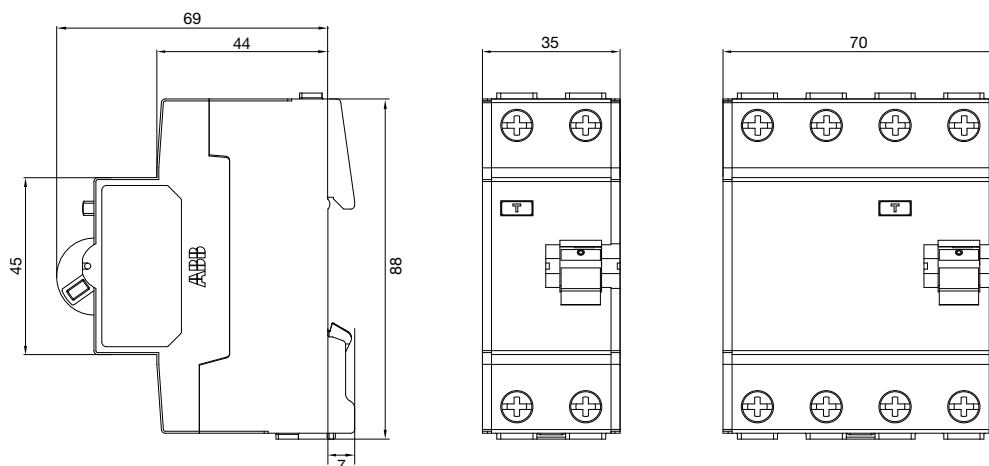
# ABB basic M

## Overall dimensions

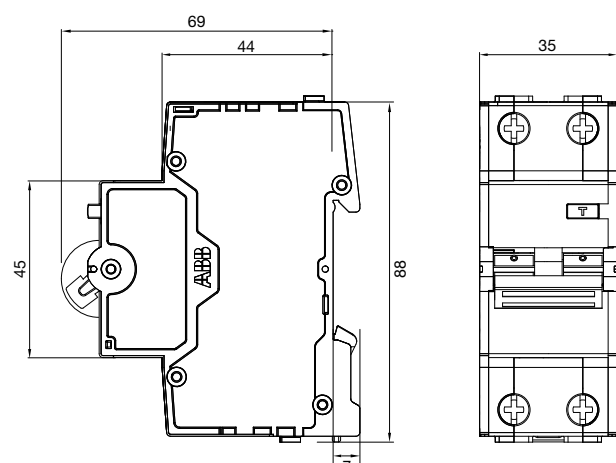
### MCB/SD dimensions (mm)



### RCCB dimensions (mm)



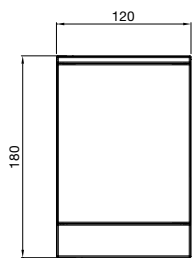
### RCBO dimensions (mm)



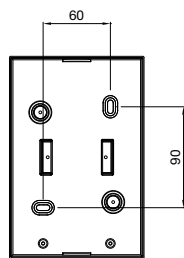
# ABB basic E

## Overall dimensions

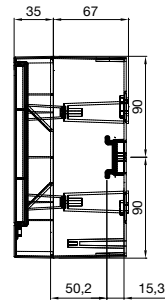
### 2M Enclosure, dimensions (mm)



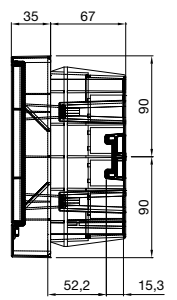
Front cover + door



Surface mounted

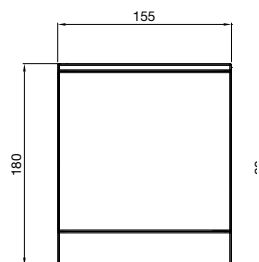


Surface mounted

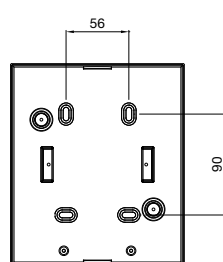


Flush mounted

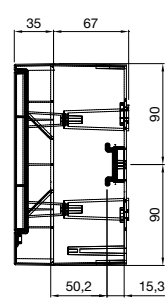
### 4M Enclosure, dimensions (mm)



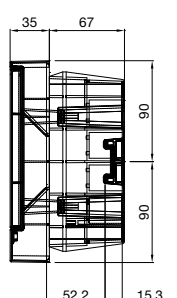
Front cover + door



Surface mounted

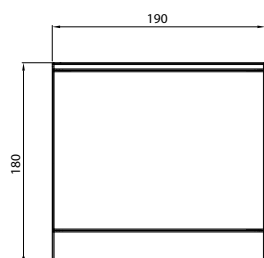


Surface mounted

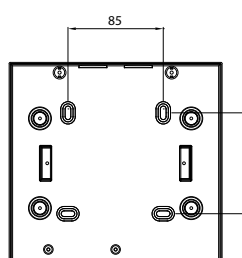


Flush mounted

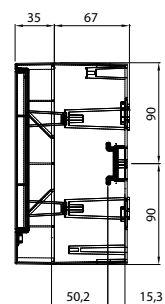
### 6M Enclosure, dimensions (mm)



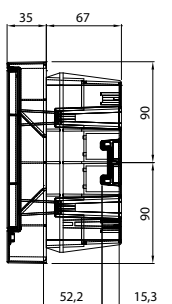
Front cover + door



Surface mounted



Surface mounted

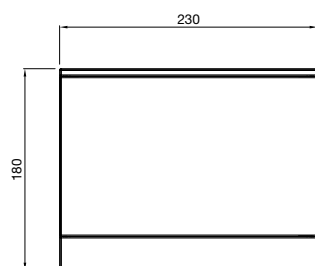


Flush mounted

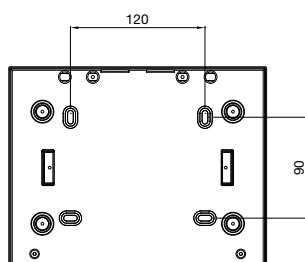
# ABB basic E

## Overall dimensions

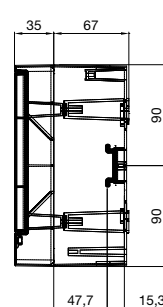
### 8M Enclosure, dimensions (mm)



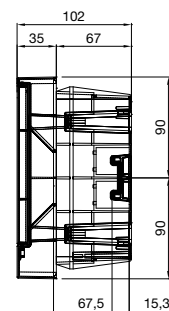
Front cover + door



Surface mounted

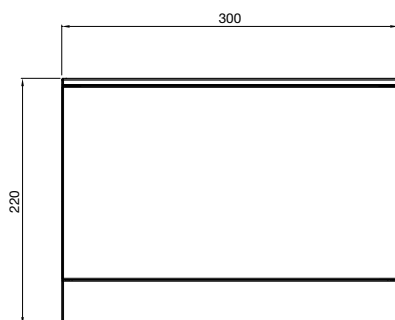


Surface mounted

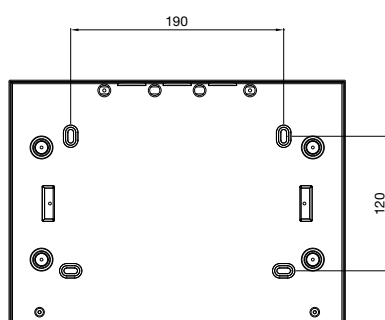


Flush mounted

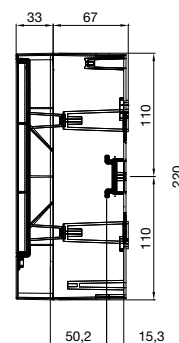
### 12M Enclosure, dimensions (mm)



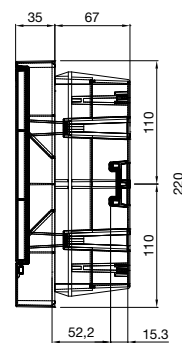
Front cover + door



Surface mounted

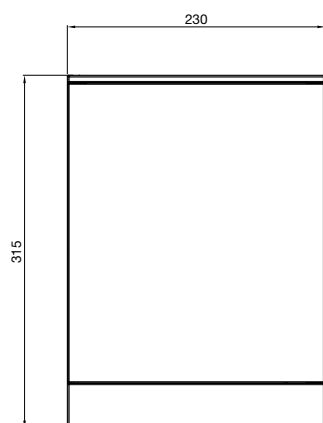


Surface mounted

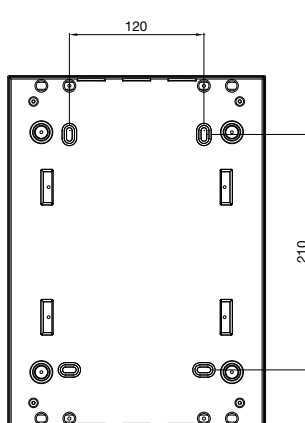


Flush mounted

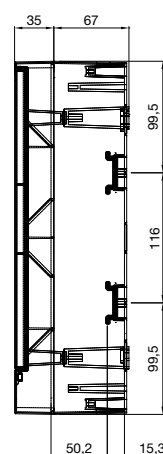
### 16M Enclosure, dimensions (mm)



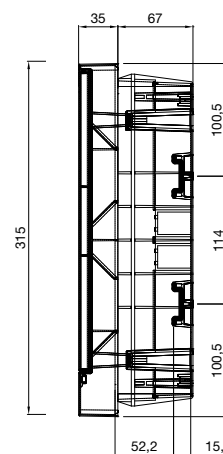
Front cover + door



Surface mounted



Surface mounted

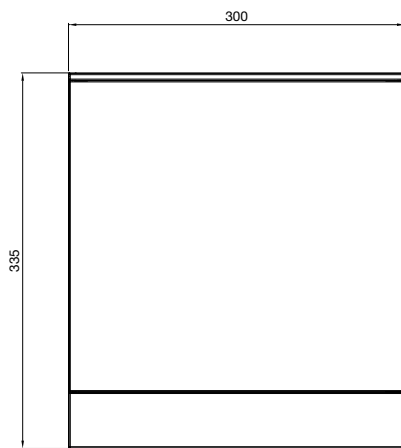


Flush mounted

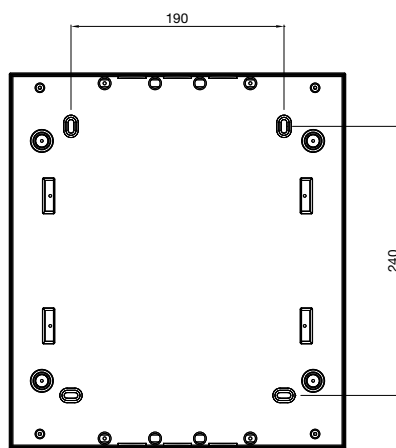
# ABB basic E

## Overall dimensions

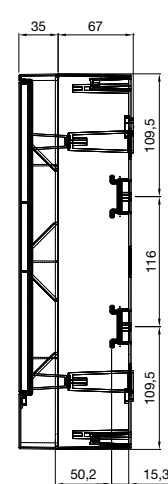
### 24M Enclosure, dimensions (mm)



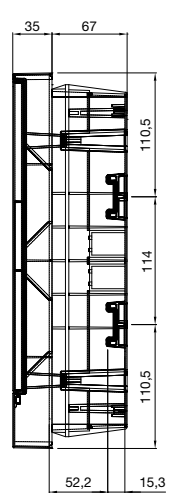
Front cover + door



Surface mounted

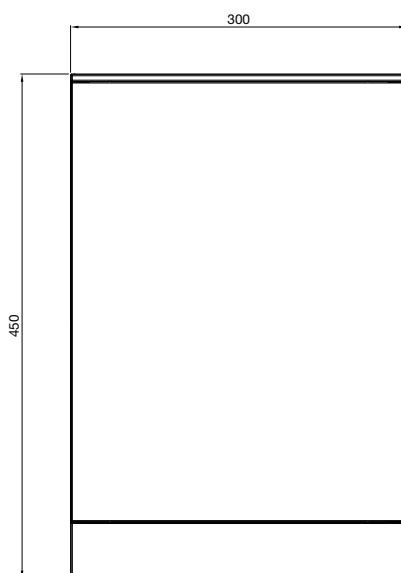


Surface mounted

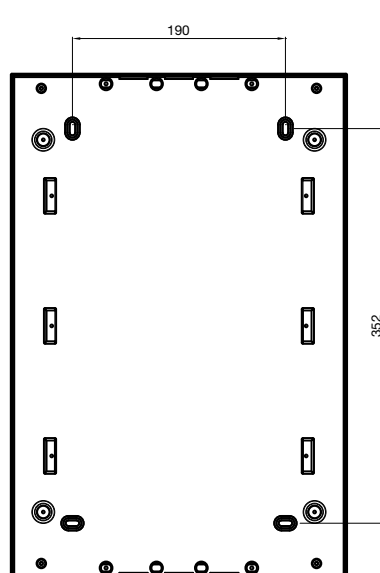


Flush mounted

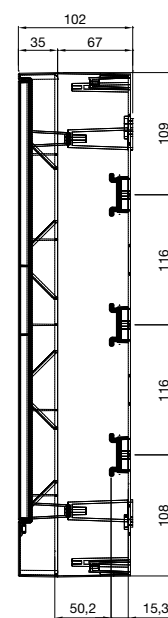
### 36M Enclosure, dimensions (mm)



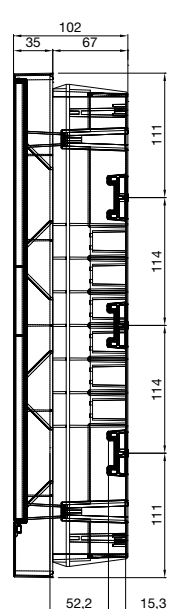
Front cover + door



Surface mounted



Surface mounted

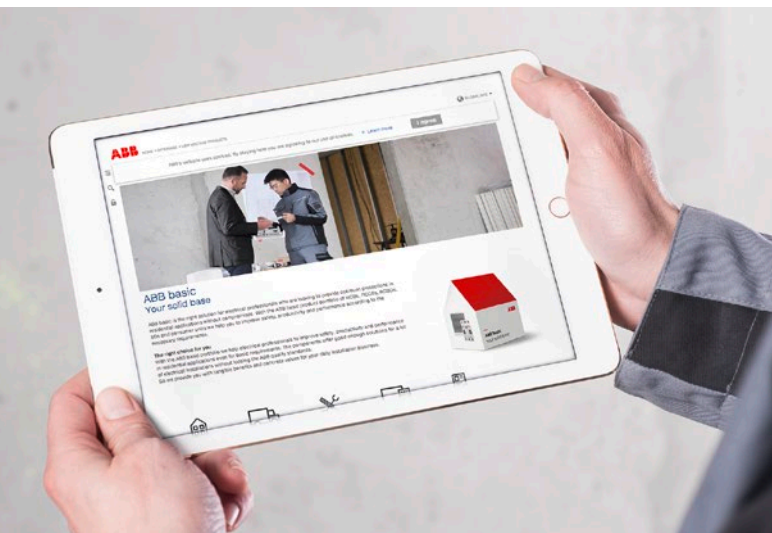


Flush mounted



# Learn more about ABB basic

## All information available 24/7



You can find all additional information, technical details and service offers on the ABB website whenever you need them. Here we provide you with a lot of facts and figures, downloads and technical specs of the ABB basic portfolio that make your daily business easier and safer. If you miss some information or need additional support you can also contact your local ABB retailer or ABB sales representative. They would be happy to assist you.

### Additional information

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