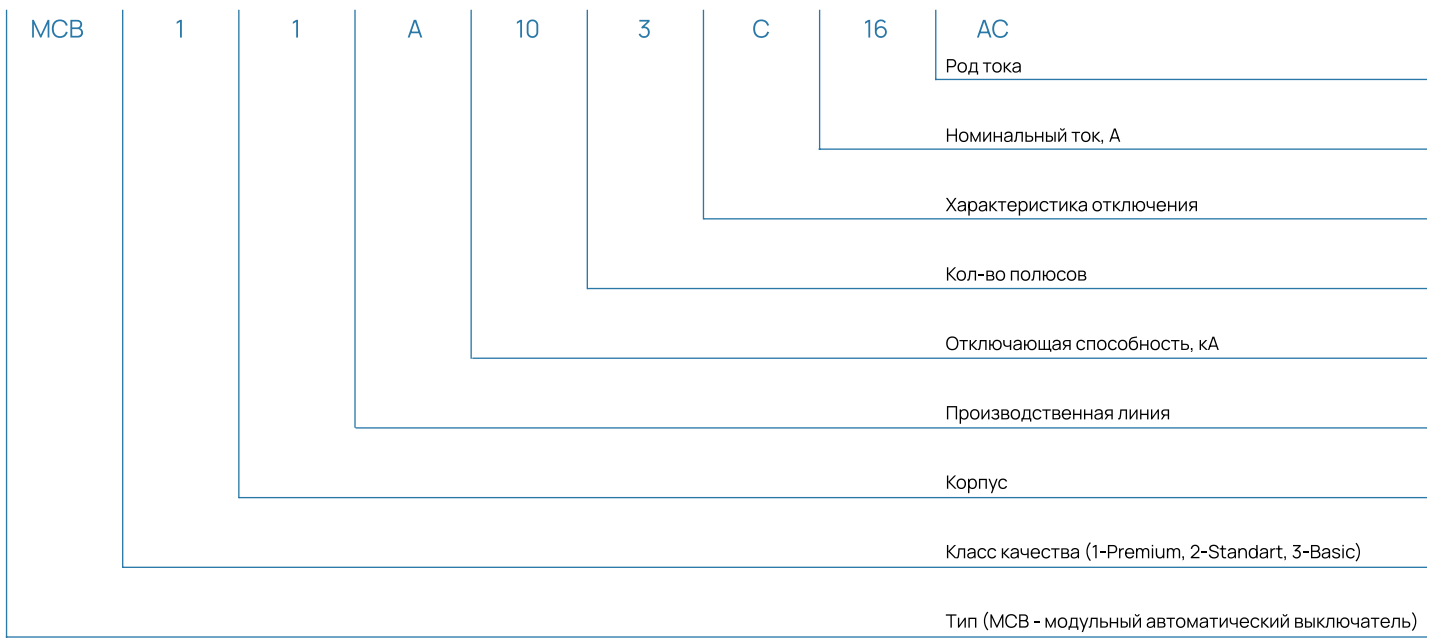


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													4	B	100	AC
													3	4	125	DC
													4,5	1+N		AC
													6	2+N		DC
													10	3+N		AC/DC
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## MCB11F-4,5



No. of pole:	1P, 2P, 3P, 4P	Rated insulation voltage:	415V
Rated voltage:	240V/415V AC	Rated impulse withstand voltage:	6kV
Rated current:	1-63A	Rated short-circuit breaking capacity:	4500A
Rated frequency:	50/60Hz	Comply with	IEC60898-1
Tripping curve:	B, C, D		

Номиналы: 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63 A

## MCB11F-6



No. of pole:	1P, 2P, 3P, 4P	Rated insulation voltage:	415V
Rated voltage:	240V/415V AC	Rated impulse withstand voltage:	6kV
Rated current:	1-63A	Rated short-circuit breaking capacity:	6000A
Rated frequency:	50/60Hz	Comply with	IEC60898-1
Tripping curve:	B, C, D		

Номиналы: 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63 A

## MCB11F-10



No. of pole:	1P, 2P, 3P, 4P	Rated insulation voltage:	415V
Rated voltage:	240V/415V AC	Rated impulse withstand voltage:	6kV
Rated current:	1-63A	Rated short-circuit breaking capacity:	10000A
Rated frequency:	50/60Hz	Comply with	IEC60898-1
Tripping curve:	B, C, D		

Номиналы: 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63 A

## MCB11F-15



No. of pole:	1P, 2P, 3P, 4P	Rated insulation voltage:	415V
Rated voltage:	240V/415V AC	Rated impulse withstand voltage:	4kV
Rated current:	1-32A	Rated short-circuit breaking capacity:	15000A
Rated frequency:	50/60Hz	Comply with	IEC60898-1
Tripping curve:	B, C, D		

Номиналы: 1, 2, 3, 4, 6, 10, 16, 20, 25, 32 A

## MCB12F-10



No. of pole:	1P, 2P, 3P, 4P	Rated insulation voltage:	415V
Rated voltage:	240V/415V AC	Rated impulse withstand voltage:	6kV
Rated current:	63-125A	Rated short-circuit breaking capacity:	10000A
Rated frequency:	50Hz	Comply with	IEC/EN 60947-2

Номиналы: 63, 80, 100, 125 A      Характеристика: C, D

Performance of circuit breakers

IEC Standards covering Low Voltage Circuit Breakers provide the user with a better assurance of quality and performance by taking into account the actual operating conditions of the breaker. New definitions and symbols have been introduced which should be committed to memory. Some of those most frequently used are:

- Ue: rated service voltage
- Ui: rated insulation voltage (> Uemax)
- Uimp: rated impulse withstand
- Icm: rated short circuit making capacity
- Icn: rated short circuit capacity
- Ics: rated service short circuit breaking capacity
- Icu: rated ultimate short circuit breaking capacity
- I'n: rated residual operating current (often called residual sensitivity)
- In: rated current = maximum value of current used for the temperature rise test
- t: trip delay of residual current devices

In addition IEC60947-2 sets out to provide a greater degree of safety to the uninstructed users of circuit breakers. It is interesting to note that the description 'miniature circuit breaker' or MCB is not used at all in this standard, but no doubt both manufacturers and users will continue to call circuit breakers complying with IEC60947-2 miniature circuit breakers or MCBs for some time to come.

The scope of this standard is limited to ac air break circuit breakers for operation at 50Hz or 60Hz, having a rated current not exceeding 125A and a rated short-circuit capacity not exceeding 25kA.

A rated service short-circuit breaking capacity Ics is also included which is equal to the rated short-circuit capacity Icn for short-circuit capacity values up to and including 6kA, and 50% of Icn above 6kA with a minimum value of 7.5kA. As the circuit-breakers covered by this standard are intended for household and similar uses, Ics is of academic interest only. The circuit-breakers capacity of a MCB (Icn) is the alternating component of the prospective current expressed by its r.m.s. value, which the MCB is designed to make, carry for its opening time and to break under specified conditions. Icn is shown on the MCB label in a rectangular box without the suffix 'A' and is the value

Which is used for application purposes. Icn (of short-circuit current at the point of application) You will see from the curves that the inverse time / current characteristic which provides overload protection is the same on all three. This is because the international IEC60947-2 Standard requires the breaker to carry 1.05 times the rated current without tripping for at least one hour and when the test current is increased to 1.3 times the rated current, it must trip within one hour, and again from cold if the current is increased to 2 times the rated current the breaker must trip between 1 and 120 seconds. The inverse time delay characteristic of all MCBs claiming compliance with IEC60947-2 must operate within these limits.

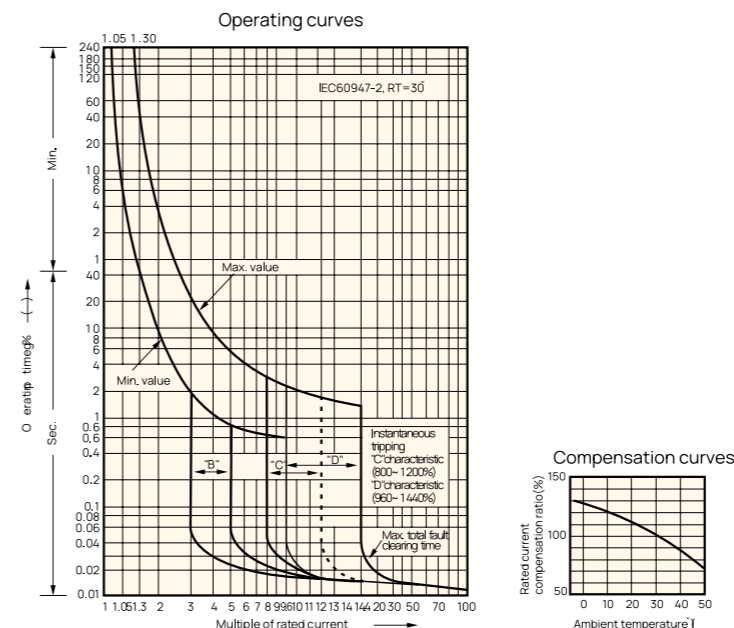
The difference between the three types of characteristic curves designated 'B', 'C' and 'D' concerns only their magnetic instantaneous trip which provides short-circuit protection.

- For type 'B' the breaker must trip between the limits of 3 to 5 times rated current
- For type 'C' the breaker must trip between the limits of 8 to 12 times rated current
- For type 'D' the breaker must trip between the limits of 9.6 to 14.4 times rated current.

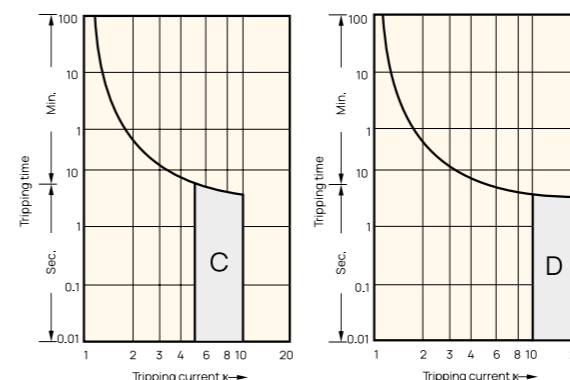
Often manufacturers publish their MCB tripping characteristics showing the limits set by the standard and guarantee that any breaker that you purchase will operate within these limits. So great care should be taken when working with characteristic curves showing lower and higher limits - on no account should you take a mean point for application design purposes.

For cable protection applications you should take the maximum tripping time and some manufacturers publish single line characteristic curves which show the maximum tripping time. If the design problem is nuisance tripping then the minimum tripping time should be used and for desk top co-ordination studies, both lower and upper limits have to be taken into account.

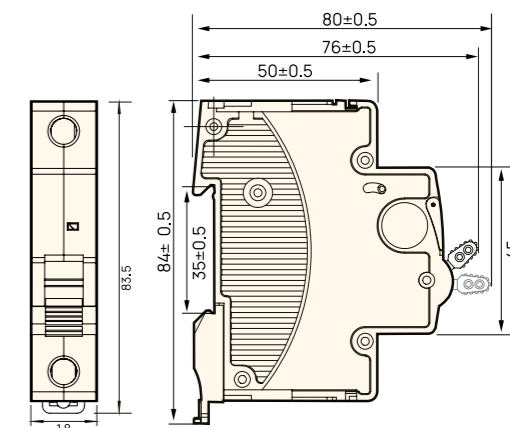
MCB11F all



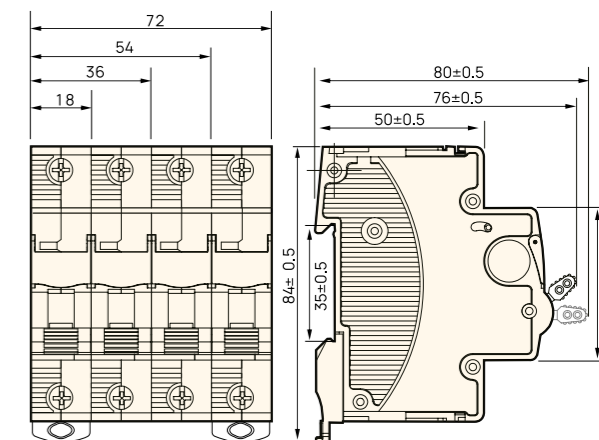
MCB12F-10 tripping current



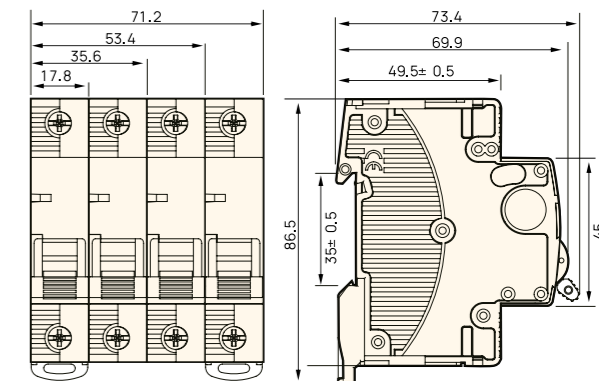
MCB11F-4.5



MCB12F-10



MCB11F-6 / MCB11F-10 / MCB11F-15



Pack	References				
Type	MCB11F-4.5	MCB11F-6	MCB11F-10	MCB11F-15	MCB12F-10
Pole	1P, 2P, 3P, 4P	1P, 2P, 3P, 4P	1P, 2P, 3P, 4P	1P, 2P, 3P, 4P	1P, 2P, 3P, 4P
Tripping characteristics	B, C, D	B, C, D	B, C, D	B, C, D	C, D
Rated operational voltage Ue (v)	240/415	240/415	240/415	240/415	240/415
Nominal current	1-63A	1-63A	1-63A	1-32A	63-125A
Breaking capacity to IEC 60947-2	4.5KA	6KA	10KA	15KA	10KA
Rated insulation voltage Ui (v)	415V	415V	415V	415V	690V
Rated impulse voltage Uimp (kV)	4000V	4000V	4000V	4000V	6000V
Overvoltage category	-	-	-	-	-
Energy limiting class	Class 3	Class 3	Class 3	Class 3	Class 3
Protection degree	IP20	IP20	IP20	IP20	IP20
Electrical endurance	4000 cycles	4000 cycles	4000 cycles	4000 cycles	4000 cycles
Ambient temperature	-5 ~ to +40	-5 ~ to +40	-5 ~ to +40	-5 ~ to +40	-5 ~ to +40
Terminal capacity ( max )	25 mm <sup>2</sup>	25 mm <sup>2</sup>	25 mm <sup>2</sup>	16 mm <sup>2</sup>	50 mm <sup>2</sup>

Nominal current of (A)	Internal resistance (mohm)	Power loss (W)	Max. impedance of impedance loop (Ohm)			Thermal correction of nominal currents				
			Charater			Ambient temperature				
			B	C	D	20 °C	30 °C	40 °C	50 °C	60 °C
1	1215,69	1,24	46,20	25,70	14,40	1,05	1	0,95	0,90	0,85
2	343,28	1,38	21,60	12,02	6,73	2,08	2	1,92	1,84	1,74
3	128,09	1,15	16,90	9,40	5,26	3,18	3	2,82	2,61	2,37
4	105,53	1,68	10,68	5,94	3,33	4,24	4	3,76	3,52	3,24
6	29,22	1,08	7,14	3,97	2,22	6,24	6	5,76	5,52	5,30
10	14,49	1,55	3,87	2,15	1,21	10,60	10	9,30	8,60	7,80
16	10,00	2,56	2,24	1,25	0,70	16,80	16	15,20	14,20	13,30
20	8,02	3,32	1,55	0,86	0,48	21,00	20	19,00	17,80	16,80
25	3,11	2,00	2,43	1,35	0,76	26,20	25	23,70	22,20	20,70
32	3,05	3,17	1,27	0,71	0,40	33,50	32	30,40	28,40	27,50
40	2,16	3,40	0,60	0,33	0,19	42,00	40	38,00	35,60	33,20
50	1,65	4,20	0,71	0,39	0,22	52,50	50	47,40	44,00	40,50
63	1,68	6,30	0,47	0,32	0,15	66,20	63	58,00	54,20	49,20

# АКСЕССУАРЫ:

## AUX11-MCB11F

Размеры:

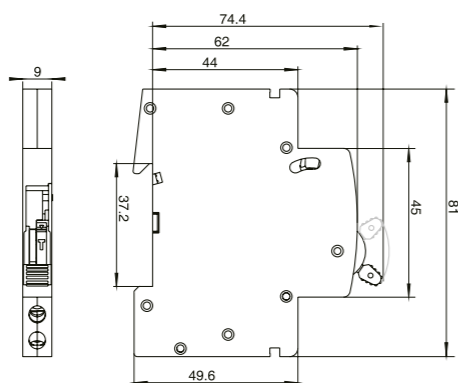
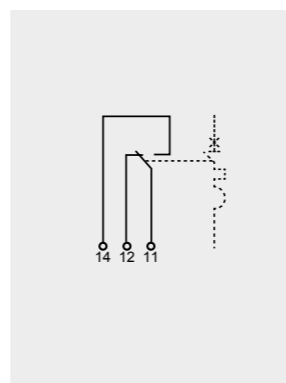


Схема:



## ALR11-MCB11F

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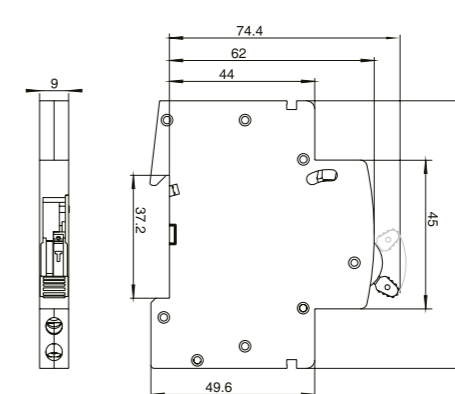
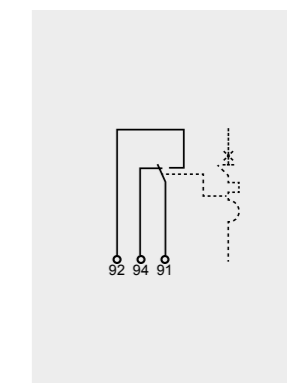


Схема:



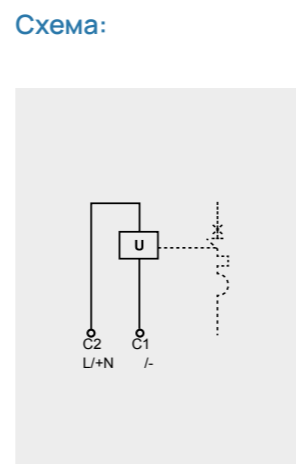
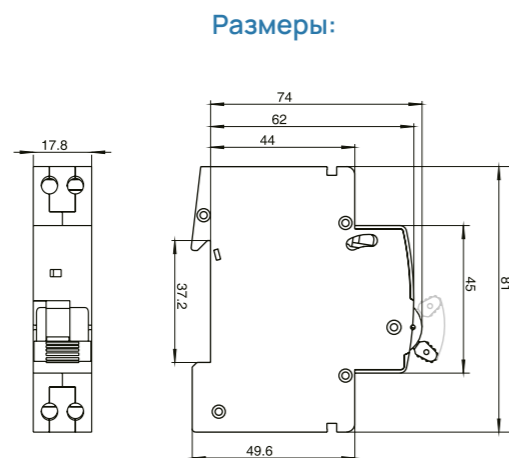
Type	Description
AUX	1NO / NC

Type	AX
Rated voltage	240 V AC
Rated frequency	50 / 60 Hz
Rated current	6 A
Contact configuration	1 NO / NC
Utilization category AC12	6A/240V AC, 3A/415V AC
DC12	6A/24V DC, 3A/48V DC, 2A/60V DC, 1A/130V DC
Rated insulation voltage	500 V AC
Electrical endurance	6000
Terminal capacity	max 2.5 mm <sup>2</sup>
Tightening torque	max 1.0 Nm
Protection degree	IP20
Dimensions (H x D x W)	81 x 70.4 x 9 mm
Net weight	34 g
Compatible MCB	MCB11F-6, MCB11F-10, MCB11F-15
Mounting position	Left or right side of MCB
Standard conformity	IEC/EN 60947-5-1

Type	Description
ALR	1NO / NC

Type	AX
Rated voltage	240 V AC
Rated frequency	50 / 60 Hz
Rated current	6 A
Contact configuration	1 NO / NC
Utilization category AC12	6A/240V AC, 3A/415V AC
DC12	6A/24V DC, 3A/48V DC, 2A/60V DC, 1A/130V DC
Rated insulation voltage	500 V AC
Electrical endurance	6000
Terminal capacity	max 2.5 mm <sup>2</sup>
Tightening torque	max 1.0 Nm
Protection degree	IP20
Dimensions (H x D x W)	81 x 70.4 x 9 mm
Net weight	34 g
Compatible MCB	MCB11F-6, MCB11F-10, MCB11F-15
Mounting position	Left or right side of MCB
Standard conformity	IEC/EN 60947-5-1

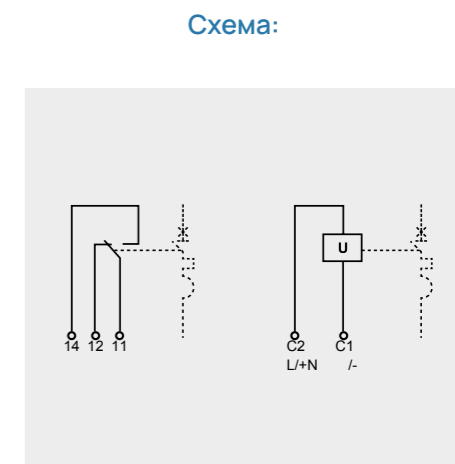
## SR-MCB11F



Type	Description
SR-230	110V~400V AC / 110~130V DC
SR-24	24V~60V DC

Type	ST
Rated voltage (Ue)	110V~400V AC / 110~130V DC / 24V~60V DC
Frequency	50 / 60 Hz
Operational voltage range	70%~110% of Ue
Coil resistance	120 Ω
Terminal capacity	max 6 mm <sup>2</sup>
Tightening torque	0.8 N·m
Dimensions (H x D x W)	81 x 70.4 x 17.8 mm
Net weight	61 g
Electrical endurance	4000
Wiring connection type	Bottom
Compatible MCB	MCB11F-6, MCB11F-10, MCB11F-15
Mounting position	Left or right side of MCB
Standard conformity	IEC/EN 60947-1

## SRA11-MCB11F



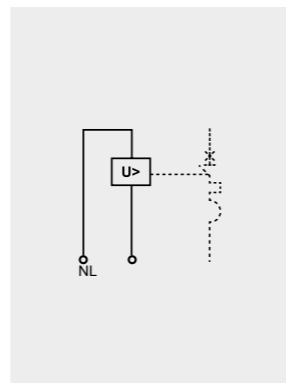
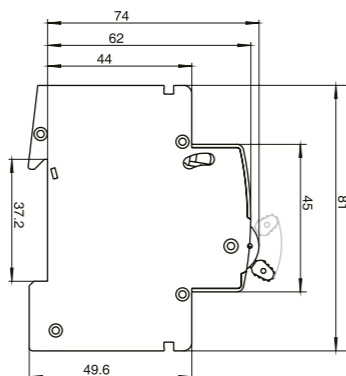
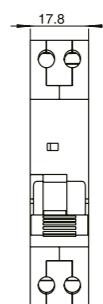
Type	Description
SRA11-230	110V~400V AC / 110~130V DC
SRA11-24	24V~60V DC

Type	ST
Rated voltage (Ue)	110V~400V AC / 110~130V DC / 24V~60V DC
Frequency	50 / 60 Hz
Contact configuration	1NO / NC
Operational voltage range	70%~110% of Ue
Coil resistance	120 Ω
Terminal capacity	max 6 mm <sup>2</sup>
Tightening torque	0.8 N·m
Dimensions (H x D x W)	81 x 70.4 x 17.8 mm
Net weight	69 g
Electrical endurance	4000
Wiring connection type	Bottom
Compatible MCB	MCB11F-6, MCB11F-10, MCB11F-15
Mounting position	Left or right side of MCB
Standard conformity	IEC/EN 60947-1, IEC/EN 60947-5-1

## OVR-MCB11F

Размеры:

Схема:



Type	Description
------	-------------

OVR 230V AC, Single phase

Type	OVR
------	-----

Rated voltage 230V AC

Frequency 50 / 60 Hz

Duration of impulse command max 10ms

Oversvoltage tripping threshold 280V±5%

Dimensions (H x D x W) 81 x 70.4 x 17.8 mm

Net weight 58 g

Electrical edurance 4000

Wiring connection type Bottom

Compatible MCB MCB11F-6, MCB11F-10, MCB11F-15

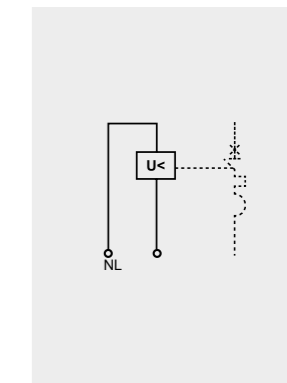
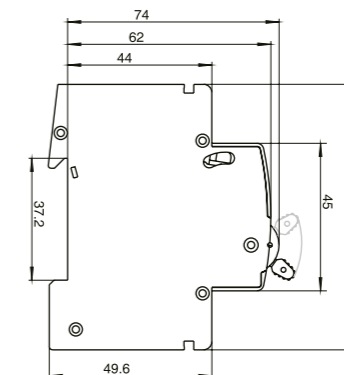
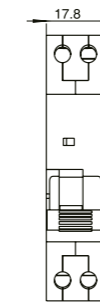
Mounting position Left or right side of MCB

Standard conformity IEC/EN 60947-1

## UVR-MCB11F

Размеры:

Схема:



Type	Description
------	-------------

UVR 230V AC, Single phase

Type	UVR
------	-----

Rated voltage 230V AC

Frequency 50 / 60 Hz

Duration of impulse command max 10ms

Oversvoltage tripping threshold 170V±5%

Dimensions (H x D x W) 81 x 70.4 x 17.8 mm

Net weight 58 g

Electrical edurance 4000

Wiring connection type Bottom

Compatible MCB MCB11F-6, MCB11F-10, MCB11F-15

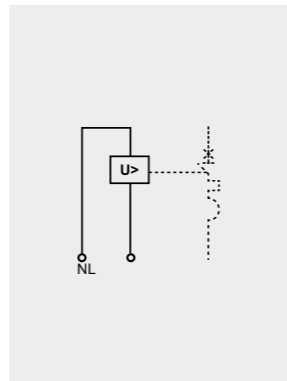
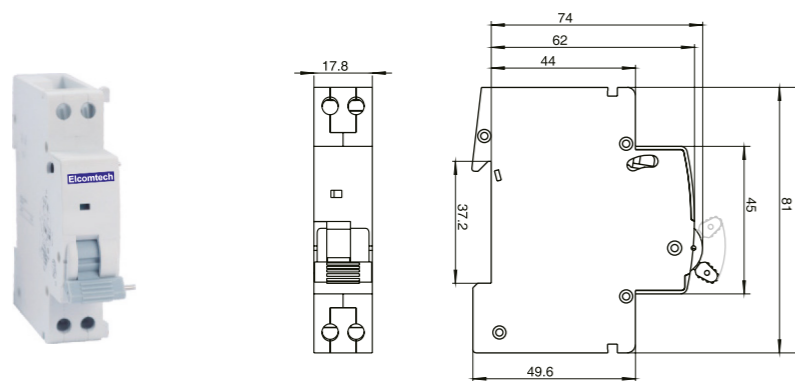
Mounting position Left or right side of MCB

Standard conformity IEC/EN 60947-1

## OUVR-MCB11F

Размеры:

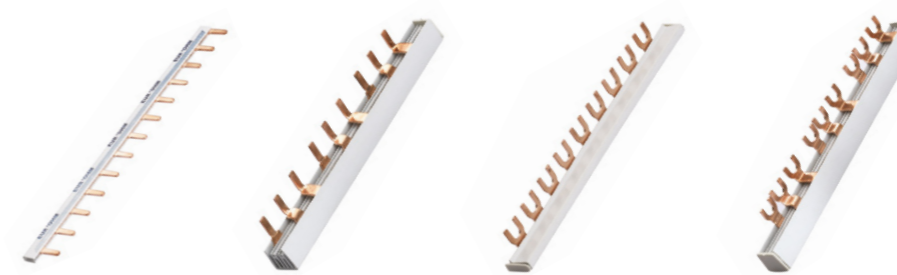
Схема:



Type	Description
OUVR-230	230V AC, Single phase
OUVR-400	400V AC, Three phase

Type	DVR	
Phase	Single phase	Three phase
Rated voltage	230V AC	400V AC
Frequency	50 / 60 Hz	
Duration of impulse command	max 10ms	
Undervoltage tripping threshold	170V±5%	300V±5%
Overvoltage tripping threshold	280V±5%	460V±5%
Dimensions (H x D x W)	81 x 70.4 x 17.8 mm	
Net weight	58 g	
Electrical endurance	4000	
Wiring connection type	Bottom	
Compatible MCB	MCB11F-6, MCB11F-10, MCB11F-15	
Mounting position	Left or right side of MCB	
Standard conformity	IEC/EN 60947-1	

## PIN & FORK TYPE BUSBARS



Pin-type busbars 63A 1.5 mm thickness

Type	Cat.nos.	Description	Lenght	Max. number of devices connected
20	BB-Pin-1P63A-MCB21F	Universal single pole+neutral	1 row Meter	13 57
20	BB-Pin-2P63A-MCB21F	Double pole	1 row Meter	6 28
20	BB-Pin-3P63A-MCB21F	Triple pole	1 row Meter	4 19
20	BB-Pin-4P63A-MCB21F	Four pole	1 row Meter	3 14

Fork-type busbars 63A 1.5 mm thickness

Type	Cat.nos.	Description	Lenght	Max. number of devices connected
20	BB-Fork-1P63A-MCB21F	Single pole	1 row Meter	12 57
20	BB-Fork-2P63A-MCB21	Double pole	Meter	28
20	BB-Fork-3P63A-MCB21F	Triple pole	1 row Meter	4 19
20	BB-Fork-4P63A-MCB21F	Four pole	Meter	14



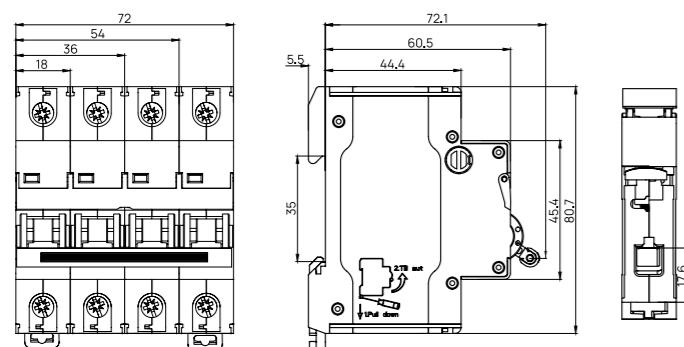
## MCB21B-4,5



<b>Standard:</b>	IEC/EN60898-1
<b>Protection:</b>	Overcurrent and short circuit
<b>Type of trip:</b>	Thermo-magnetic
<b>No. of poles:</b>	1P,1P+N,2P,3P,3P+N,4P
<b>Rated voltage Ue:</b>	240/415V~
<b>Rated frequency:</b>	50/60Hz
<b>Rated breaking capacity:</b>	4,500A
<b>Rated impulse withstand voltage(1.5/50) Uimp:</b>	4,000V
<b>Dielectric test voltage at Ind. Freq. for 1 min:</b>	2kV
<b>Thermal release characteristic:</b>	(1.13-1.45) x In
<b>Magnetic release characteristic:</b>	B: (3-5) x In, C: (5-10) x In, D: (10-20) x In
<b>Electrical life:</b>	4,000 Cycles
<b>Mechanical life:</b>	10,000 Cycles
<b>Contact position indicator:</b>	Yes
<b>Protection degree:</b>	IP20
<b>Ambient temperature:</b>	-5°C to +40°C Max.95%humidity
<b>Max.terminal size for cable:</b>	25mm <sup>2</sup>
<b>Terminal connection type:</b>	Cable/Pin-type busbar
<b>Max.tightening torque:</b>	2.5N.m
<b>Installation:</b>	Mounting on 35mm DIN rail
<b>Connection:</b>	From top and bottom

Номиналы: 1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63A

### Overall and Installation Dimension(mm)



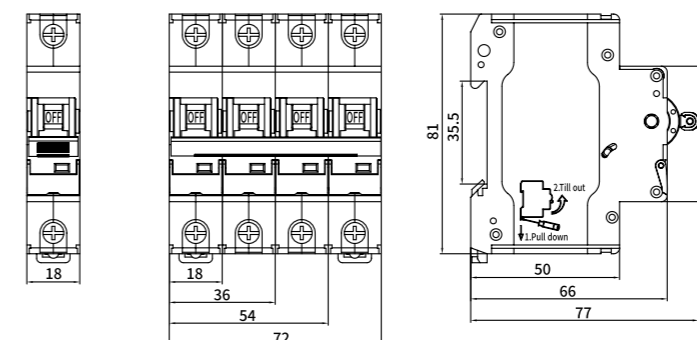
## MCB21B-6



<b>Standard:</b>	IEC/EN60898-1   IEC/EN60947-2
<b>Protection:</b>	Overcurrent and short circuit
<b>Type of trip:</b>	Thermo-magnetic
<b>No. of poles:</b>	1P,1P+N,2P,3P,3P+N,4P
<b>Rated voltage Ue:</b>	240/415V~
<b>Rated frequency:</b>	50/60Hz
<b>Rated breaking capacity:</b>	6,000A
<b>Rated impulse withstand voltage(1.5/50) Uimp:</b>	6,000V
<b>Energy Limiting Class:</b>	3
<b>Dielectric test voltage at Ind. Freq. for 1 min:</b>	2kV
<b>Thermal release characteristic:</b>	(1.13-1.45) x In   (1.05-1.30) x In
<b>Magnetic release characteristic:</b>	B: (3-5) x In, C: (5-10) x In   (8-12) x In
<b>Electrical life:</b>	8,000 Cycles
<b>Mechanical life:</b>	20,000 Cycles
<b>Contact position indicator:</b>	Yes
<b>Protection degree:</b>	IP20
<b>Ambient temperature:</b>	-5°C to +40°C Max.95%humidity
<b>Max.terminal size for cable:</b>	25mm <sup>2</sup>
<b>Terminal connection type:</b>	Cable/Pin-type busbar
<b>Max.tightening torque:</b>	2.5N.m
<b>Installation   Connection:</b>	Mounting on 35mm DIN rail   From top and bottom

Номиналы: 1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63A

### Overall and Installation Dimension(mm)



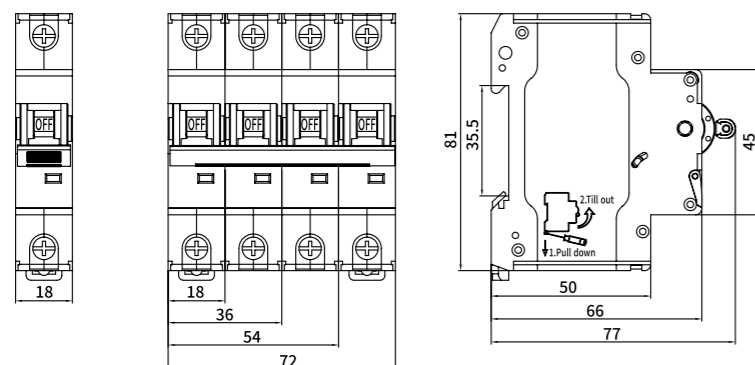
## MCB21B-10



<b>Standard:</b>	IEC/EN60898-1
<b>Protection:</b>	Overcurrent and short circuit
<b>Type of trip:</b>	Thermo-magnetic
<b>No. of poles:</b>	1P,1P+N,2P,3P,3P+N,4P
<b>Rated voltage Ue:</b>	240/415V~
<b>Rated frequency:</b>	50/60Hz
<b>Rated breaking capacity:</b>	10,000A
<b>Rated impulse withstand voltage(1.5/50) Uimp:</b>	4,000V
<b>Energy Limiting Class:</b>	3
<b>Dielectric test voltage at Ind. Freq. for 1 min:</b>	2kV
<b>Thermal release characteristic:</b>	(1.13-1.45) x In
<b>Magnetic release characteristic:</b>	B:(3-5) x In, C:(5-10) x In, D:(10-20) x In
<b>Electrical life:</b>	4,000 Cycles
<b>Mechanical life:</b>	10,000 Cycles
<b>Contact position indicator:</b>	Yes
<b>Protection degree:</b>	IP20
<b>Ambient temperature:</b>	-5°C to +40°C Max.95%humidity
<b>Max.terminal size for cable:</b>	25mm <sup>2</sup>
<b>Terminal connection type:</b>	Cable/Pin-type busbar
<b>Max.tightening torque:</b>	2.5N.m
<b>Installation   Connection:</b>	Mounting on 35mm DIN rail   From top and bottom

Номиналы: 1, 2, 3, 4, 5, 6, 8, 10, 13, 16, 20, 25, 32, 40, 50, 63A

### Overall and Installation Dimension(mm)



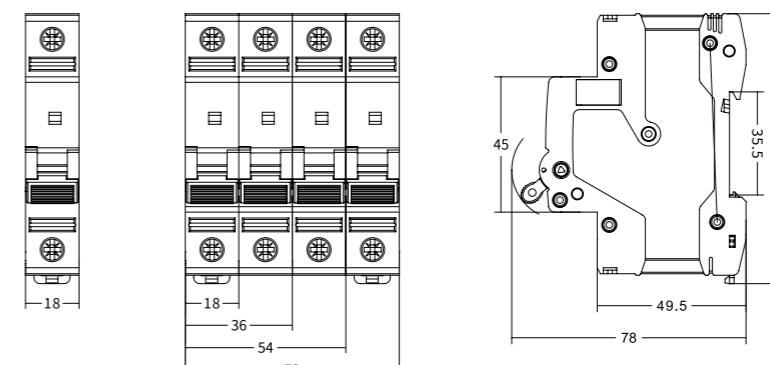
## MCB22B-6



<b>Standard:</b>	IEC/EN60898-1
<b>Protection:</b>	Overcurrent and short circuit
<b>Type of trip:</b>	Thermo-magnetic
<b>No. of poles:</b>	1P,1P+N,2P,3P,3P+N,4P
<b>Rated voltage Ue:</b>	240/415V~
<b>Rated frequency:</b>	50/60Hz
<b>Rated breaking capacity:</b>	6,000A
<b>Rated impulse withstand voltage(1.5/50) Uimp:</b>	4,000V
<b>Dielectric test voltage at Ind. Freq. for 1 min:</b>	2kV
<b>Thermal release characteristic:</b>	(1.13-1.45) x In
<b>Thermo-magnetic release characteristic:</b>	C:(5-10) x In, D:(10-20) x In
<b>Electrical life:</b>	4,000 Cycles
<b>Mechanical life:</b>	10,000 Cycles
<b>Contact position indicator:</b>	Yes
<b>Protection degree:</b>	IP20
<b>Ambient temperature:</b>	-5°C to +40°C Max.95%humidity
<b>Max.terminal size for cable:</b>	50mm <sup>2</sup>
<b>Terminal connection type:</b>	Cable/Pin-type busbar
<b>Max.tightening torque:</b>	3.5N.m
<b>Installation:</b>	Mounting on 35mm DIN rail
<b>Connection:</b>	From top and bottom

Номиналы: 63, 80, 100, 125A

### Overall and Installation Dimension(mm)

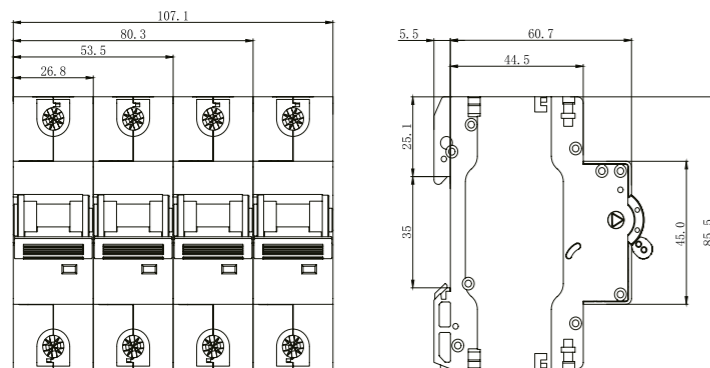


## MCB22B-10



<b>Standard:</b>	IEC/EN60898-1   IEC/EN60947-2
<b>Protection:</b>	Overcurrent and short circuit
<b>Type of trip:</b>	Thermo-magnetic
<b>No. of poles:</b>	1P,1P+N,2P,3P,3P+N,4P
<b>Rated voltage Ue:</b>	240/415V~
<b>Rated frequency:</b>	50/60Hz
<b>Rated breaking capacity:</b>	6,000A   10,000A
<b>Rated impulse withstand voltage(1.5/50) Uimp:</b>	4,000V
<b>Dielectric test voltage at Ind. Freq. for 1 min:</b>	2kV
<b>Thermal release characteristic:</b>	(113-1.45) x In, I (8-12) x In
<b>Magnetic release characteristic:</b>	C: (5-10) x In, D: (10-20) x In
<b>Electrical life:</b>	4,000 Cycles
<b>Mechanical life:</b>	10,000 Cycles
<b>Contact position indicator:</b>	Yes
<b>Protection degree:</b>	IP20
<b>Ambient temperature:</b>	-5°C to +40°C Max.95%humidity
<b>Max.terminal size for cable:</b>	50mm <sup>2</sup>
<b>Terminal connection type:</b>	Cable/Pin-type busbar
<b>Max.tightening torque:</b>	3.5N.m
<b>Installation:</b>	Mounting on 35mm DIN rail
<b>Connection:</b>	From top and bottom
<b>Номиналы:</b> 63, 80, 100, 125A	

### Overall and Installation Dimension (mm)

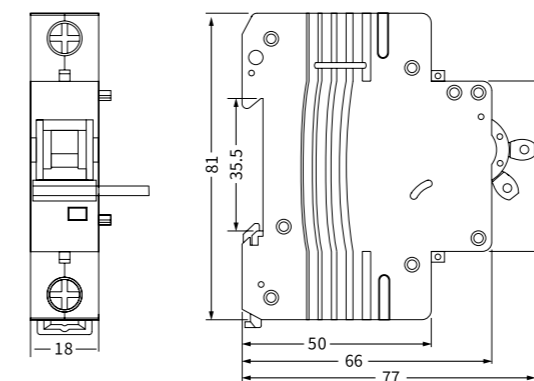


## SR-MCB21B-4,5



<b>Standard:</b>	IEC60947-5-1
<b>Rated voltage US(V):</b>	AC230/400 50/60Hz DC24 DC48 AC24 50/60Hz
<b>Rated impulse withstand voltage (1.2/50) Uimp:</b>	4,000V
<b>Rated short circuit making capacity:</b>	20Ie, t=0.1s
<b>Dielectric test voltage at ind. Freq. for 1min:</b>	2kV
<b>Insulation voltage Ui:</b>	500V
<b>Pollution degree:</b>	2
<b>Rated voltage (Ue):</b>	AC230V
<b>Rated insulating voltage(Ui):</b>	500V
<b>Over-voltage tripping range:</b>	280V±5%
<b>Under-voltage tripping range:</b>	170V±5%
<b>Electrical life:</b>	4,000 Cycles
<b>Mechanical life:</b>	4,000 Cycles
<b>Protection degree:</b>	IP20
<b>Ambient temperature (with daily average ≤35°C):</b>	-5°C~+40°C
<b>Storage temperature:</b>	-25°C~+70°C
<b>Terminal connection type:</b>	Cable
<b>Max.tightening torque:</b>	3.5N.m
<b>Terminal size top/bottom for cable:</b>	2.5mm <sup>2</sup> 18-13AWG
<b>Tightening torque:</b>	0.8 N.m 7In-lbs

### Overall and Installation Dimension(mm)

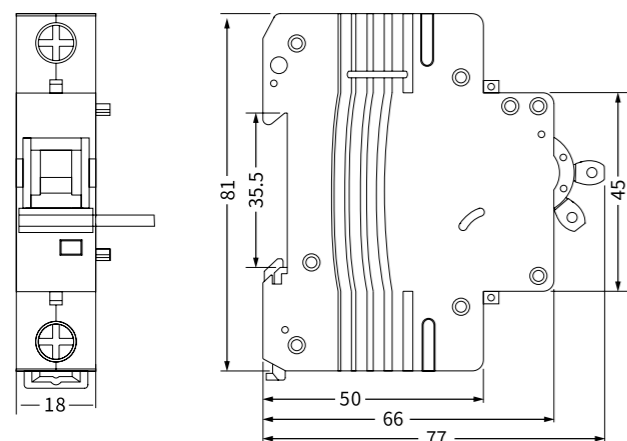


## SR-MCB21B-6/10



<b>Standard:</b>	IEC60947-5-1
<b>Rated voltage US(V):</b>	AC230/400 50/60Hz DC24 DC48 AC24 50/60Hz
<b>Rated impulse withstand voltage (1.2/50) Uimp:</b>	4,000V
<b>Rated short circuit making capacity:</b>	20Ie, t=0.1s
<b>Dielectric test voltage at ind. Freq. for 1min:</b>	2kV
<b>Insulation voltage Ui:</b>	500V
<b>Pollution degree:</b>	2
<b>Rated voltage (Ue):</b>	AC230V
<b>Rated insulating voltage(Ui):</b>	500V
<b>Over-voltage tripping range:</b>	280V±5%
<b>Under-voltage tripping range:</b>	170V±5%
<b>Electrical life:</b>	4,000 Cycles
<b>Mechanical life:</b>	4,000 Cycles
<b>Protection degree:</b>	IP20
<b>Ambient temperature (with daily average ≤35°C):</b>	-5°C~+40°C
<b>Storage temperature:</b>	-25°C~+70°C
<b>Terminal connection type:</b>	Cable
<b>Max.tightening torque:</b>	3.5N.m
<b>Terminal size top/bottom for cable:</b>	2.5mm <sup>2</sup> 18-13AWG
<b>Tightening torque:</b>	0.8 N.m 7In-lbs

Overall and Installation Dimension (mm)

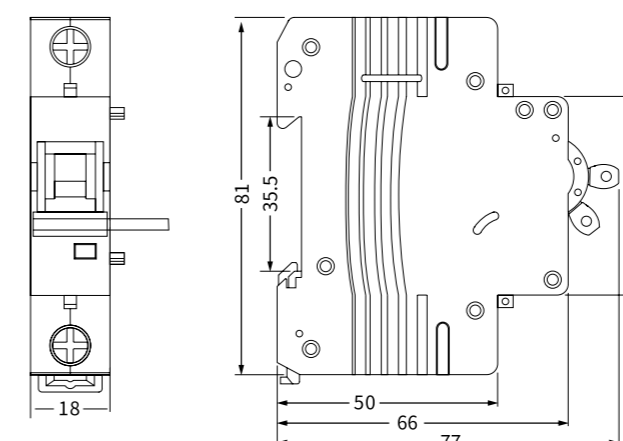


## OUVR-MCB21B-4,5



<b>Standard:</b>	IEC60947-5-1
<b>Rated voltage US(V):</b>	AC230/400 50/60Hz DC24 DC48 AC24 50/60Hz
<b>Rated impulse withstand voltage (1.2/50) Uimp:</b>	4,000V
<b>Rated short circuit making capacity:</b>	20Ie, t=0.1s
<b>Dielectric test voltage at ind. Freq. for 1min:</b>	2kV
<b>Insulation voltage Ui:</b>	500V
<b>Pollution degree:</b>	2
<b>Rated voltage (Ue):</b>	AC230V
<b>Rated insulating voltage(Ui):</b>	500V
<b>Over-voltage tripping range:</b>	280V±5%
<b>Under-voltage tripping range:</b>	170V±5%
<b>Electrical life:</b>	4,000 Cycles
<b>Mechanical life:</b>	4,000 Cycles
<b>Protection degree:</b>	IP20
<b>Ambient temperature (with daily average ≤35°C):</b>	-5°C~+40°C
<b>Storage temperature:</b>	-25°C~+70°C
<b>Terminal connection type:</b>	Cable
<b>Max.tightening torque:</b>	3.5N.m
<b>Terminal size top/bottom for cable:</b>	2.5mm <sup>2</sup> 18-13AWG
<b>Tightening torque:</b>	0.8 N.m 7In-lbs

Overall and Installation Dimension (mm)

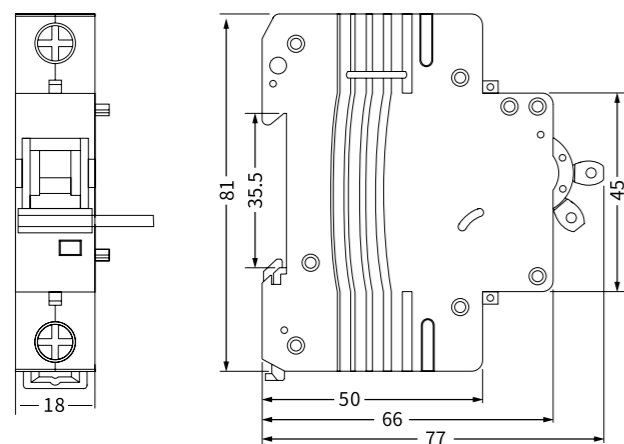


## UVR-MCB21B-6/10



<b>Standard:</b>	IEC60947-5-1
<b>Rated voltage US(V):</b>	AC230/400 50/60Hz DC24 DC48 AC24 50/60Hz
<b>Rated impulse withstand voltage (1.2/50) Uimp:</b>	4,000V
<b>Rated short circuit making capacity:</b>	20Ie, t=0.1s
<b>Dielectric test voltage at ind. Freq. for 1min:</b>	2kV
<b>Insulation voltage Ui:</b>	500V
<b>Pollution degree:</b>	2
<b>Rated voltage (Ue):</b>	AC230V
<b>Rated insulating voltage(Ui):</b>	500V
<b>Over-voltage tripping range:</b>	280V±5%
<b>Under-voltage tripping range:</b>	170V±5%
<b>Electrical life:</b>	4,000 Cycles
<b>Mechanical life:</b>	4,000 Cycles
<b>Protection degree:</b>	IP20
<b>Ambient temperature (with daily average ≤35°C):</b>	-5°C~+40°C
<b>Storage temperature:</b>	-25°C~+70°C
<b>Terminal connection type:</b>	Cable
<b>Max.tightening torque:</b>	3.5N.m
<b>Terminal size top/bottom for cable:</b>	2.5mm <sup>2</sup> 18-13AWG
<b>Tightening torque:</b>	0.8 N.m 7In-lbs

Overall and Installation Dimension(mm)

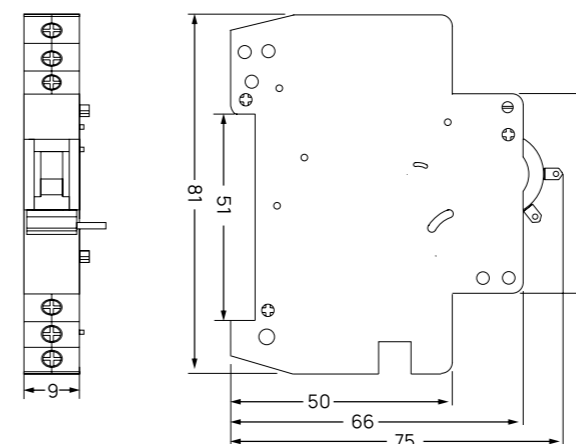


## Aux11-MCB21B-4,5



<b>Rated value:</b>	AC415/400V 50/60Hz 3A
	AC240/400V 50/60Hz 3A
	DC130V 1A
	DC48V 2A
	DC24V 6A
<b>Configurations:</b>	EKM1-OF 1N/O+1N/C
<b>Rated impulse withstand voltage (1.2/50)Uimp:</b>	4,000V
<b>Rated short circuit making capacity:</b>	20Ie, t=0.1s
<b>Dielectric test voltage at ind. Freq. for 1min:</b>	2kV
<b>Insulation voltage Ui:</b>	500V
<b>Pollution degree:</b>	2
<b>Insulation voltage Ui:</b>	500V
<b>Pollution degree:</b>	2
<b>Electrical life:</b>	6,000 Cycles
<b>Mechanical life:</b>	10,000 Cycles
<b>Protection degree:</b>	IP20
<b>Ambient temperature (with daily average ≤35°C):</b>	-5°C~+40°C
<b>Storage temperature:</b>	-25°C~+70°C
<b>Terminal connection type:</b>	Cable
<b>Terminal size top/bottom for cable:</b>	2.5mm <sup>2</sup> 18-13AWG
<b>Tightening torque:</b>	0.8 N.m 7In-lbs

Overall and Installation Dimension(mm)

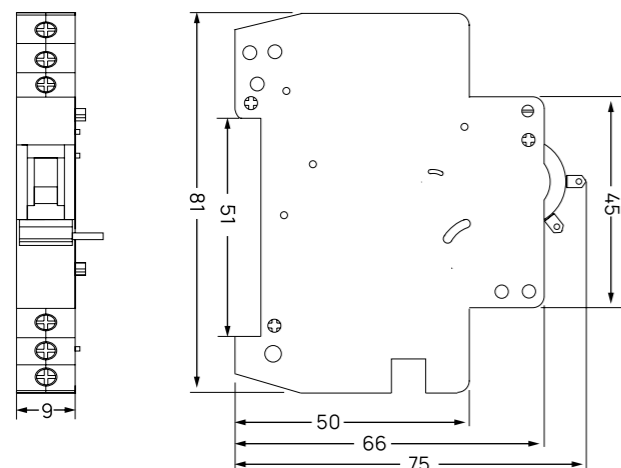


# Aux11-MCB21B-6/10



<b>Rated value:</b>	AC415/400V 50/60Hz 3A
	AC240/400V 50/60Hz 3A
	DC130V 1A
	DC48V 2A
	DC24V 6A
<b>Configurations:</b>	EKM1-OF 1N/O+1N/C
<b>Rated impulse withstand voltage (1.2/50)U<sub>imp</sub>:</b>	4,000V
<b>Rated short circuit making capacity:</b>	20I <sub>e</sub> , t=0.1s
<b>Dielectric test voltage at ind. Freq. for 1min:</b>	2kV
<b>Insulation voltage U<sub>i</sub>:</b>	500V
<b>Pollution degree:</b>	2
<b>Insulation voltage U<sub>i</sub>:</b>	500V
<b>Electrical life:</b>	6,000 Cycles
<b>Mechanical life:</b>	10,000 Cycles
<b>Protection degree:</b>	IP20
<b>Ambient temperature (with daily average ≤35°C):</b>	-5°C~+40°C
<b>Storage temperature:</b>	-25°C~+70°C
<b>Terminal connection type:</b>	Cable
<b>Terminal size top/bottom for cable:</b>	2.5mm <sup>2</sup> 18-13AWG
<b>Tightening torque:</b>	0.8 N.m 7In-lbs

## Overall and Installation Dimension (mm)

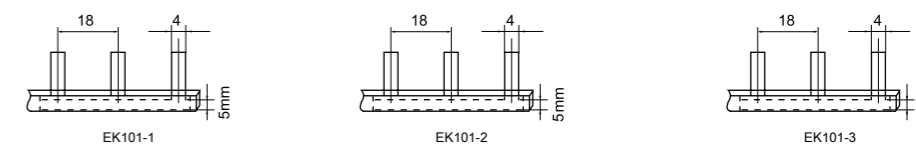


Pin	4p	32A	MCB12B	Серия автоматов
				Максимальный пропускной ток
				Кол-во полюсов автомата
				Тип соединения (Pin-штырьевой)

### BB-Pin-1P

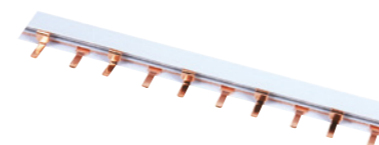


### Dimensional Drawing:

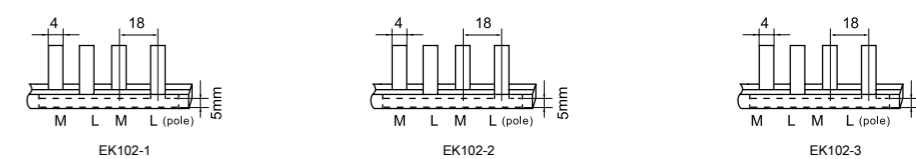


Thickness (mm)	1.0	1.2	1.4
Cross Section (mm <sup>2</sup> )	5	6	10
Current (A)	32	40	63

### BB-Pin-2P

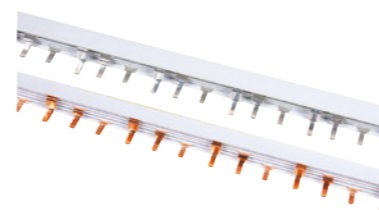


### Dimensional Drawing:

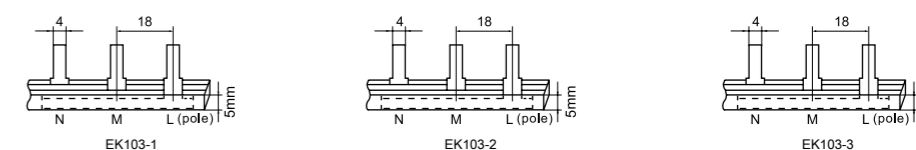


Thickness (mm)	1.0	1.2	1.4
Cross Section (mm <sup>2</sup> )	5	6	10
Current (A)	32	40	63

### BB-Pin-3P

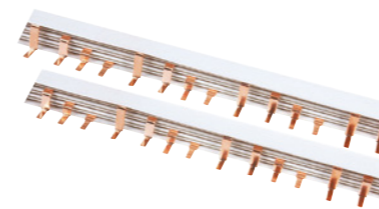


### Dimensional Drawing:

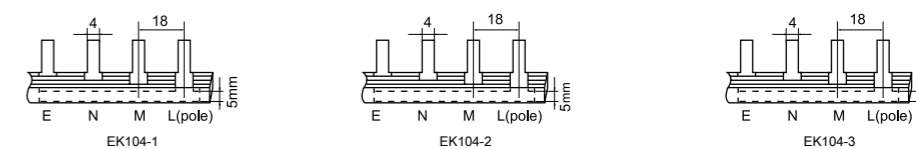


Thickness (mm)	1.0	1.2	1.4
Cross Section (mm <sup>2</sup> )	5	6	10
Current (A)	32	40	63

### BB-Pin-4P

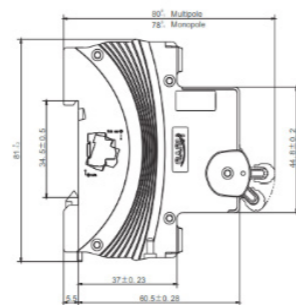
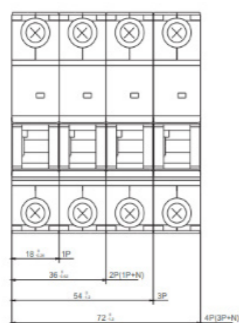


### Dimensional Drawing:



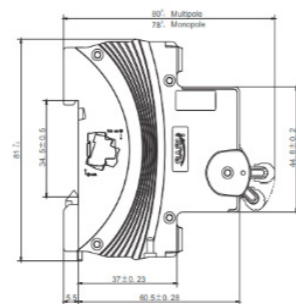
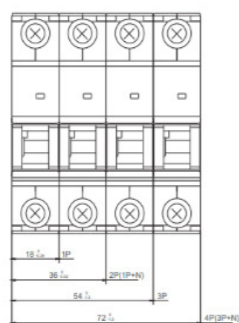
Thickness (mm)	1.0	1.2	1.4
Cross Section (mm <sup>2</sup> )	5	6	10
Current (A)	32	40	63

## MCB31J-4,5



<b>No. of poles:</b>	1P, 1P+N, 2P, 3P, 3P+N, 4P
<b>Rated voltage:</b>	AC230V (1P, 1P+N), AC400V (2P, 3P, 3P+N, 4P)
<b>Rated current:</b>	1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A
<b>Rated frequency:</b>	50/60Hz
<b>Rated impulse withstand voltage:</b>	6kV
<b>Rated short-circuit breaking capacity:</b>	4500A
<b>Rated service short-circuit breaking capacity:</b>	4500A
<b>Instantaneous tripping type:</b>	B, C, D
<b>Mechanical life (cycles)</b>	20000
<b>Electrical life (cycles)</b>	10000

## MCB31J-6



<b>No. of poles:</b>	1P, 1P+N, 2P, 3P, 3P+N, 4P
<b>Rated voltage:</b>	AC230V (1P, 1P+N), AC400V (2P, 3P, 3P+N, 4P)
<b>Rated current:</b>	1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
<b>Rated frequency:</b>	50/60Hz
<b>Rated impulse withstand voltage:</b>	6kV
<b>Rated short-circuit breaking capacity:</b>	6000A
<b>Rated service short-circuit breaking capacity:</b>	6000A
<b>Instantaneous tripping type:</b>	B, C, D
<b>Mechanical life (cycles)</b>	20000
<b>Electrical life (cycles)</b>	10000

## Remote indication accessories

### OF AUXILIARY CONTACT

- External circuit, indicating the circuit breaker's ON/OFF status
- Basic type of auxiliary contact: 1NO/1NC
- Wiring capacity: 1-2.5mm<sup>2</sup> wire



### SD ALARM CONTACT

- Send signals of fault tripping of the circuit breaker
- With mechanical indication available on the front panel, to indicate fault tripping
- Basic type of auxiliary contact: 1NO/1NC
- Wiring capacity: 1-2.5mm<sup>2</sup> wire



## Tripping accessories

### MX+OF SHUNT RELEASE

- External circuit, indicating the circuit breaker's ON/OFF status
- The circuit breaker for use with the release will be triggered to trip upon receiving a signal
- Basic type of auxiliary contact: 1NO/1NC
- Wiring capacity: 1-2.5mm<sup>2</sup> wire



### MV OVER-VOLTAGE RELEASE

- Provide line protection due to over-voltage fault
- The circuit breaker for use with the release will be triggered to trip when the voltages at both ends of the release rise to the rated voltage range
- With fault tripping indication available on the front panel, to indicate an over-voltage tripping with the indicator popped up
- Rated operating tripping over-voltage: (280±14) V AC
- Wiring capacity: 1-2.5mm<sup>2</sup> wire



**MN UNDER-VOLTAGE RELEASE**



- Provide line protection due to under-voltage fault
- The circuit breaker for use with the release will be triggered to trip when the voltages at both ends of the releasee drop to the rated voltage range
- With fault tripping indication available on the front panel, to indicate under-voltage tripping with the indicator popped up
- Rated operating tripping under-voltage: (161±8.05) V AC
- Under-voltage protection range: (35 ~ 70%) of Ue
- Wiring capacity: 1-2.5mm<sup>2</sup> wire

**MVMN OVER/UNDER-VOLTAGE RELEASE**



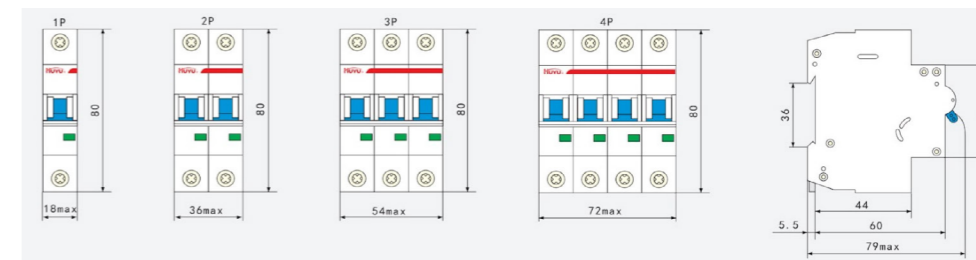
- Provide line protection due to over-voltage and under-voltage fault
- The circuit breaker for use with the release will be triggered to trip when the voltages at both ends of the releasee rise or drop to the rated range
- With fault tripping indication available on the front panel, to indicate over-voltage or under-voltage tripping with the indicator popped up
- Rated operating tripping over-voltage: (280±14) VAC
- Rated operating tripping under-voltage: (161±8.05) VAC
- Under-voltage protection range: (35% ~ 70%) of Ue
- Wiring capacity: 1-2.5mm<sup>2</sup> wire

**MNS LOSS-VOLTAGE RELEASE**



- The circuit breaker for use with the release will be triggered to trip when the power supply voltage drops to the rated range, to achieve under-voltage protection
- Ensure the circuit breaker to close normally when the power supply voltage returns to normal
- Prevent the circuit breaker from re-closing when the power supply voltage is zero or drops to the rated voltage range
- With fault tripping indication available on the front panel, to indicate under-voltage tripping when popped up
- Rated operating tripping under-voltage: (161±8.05) VAC, with under-voltage protection range of (35% ~ 70%) of Ue
- Normal recovery voltage: ≥85%Ue, with loss-voltage protection range ≥35%Ue
- Wiring capacity: 1-2.5mm<sup>2</sup> wire- Wiring capacity: 1-2.5mm<sup>2</sup> wire

**MCB31J-10**



<b>Frame size:</b>	63	
<b>Rated voltage:</b>	50Hz AC230V/400V, DC220V (1P, 2P)	
<b>Rated current:</b>	1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A, 50A, 63A	
<b>Rated breaking capacity:</b>	AC10000A, DC:6000A	
<b>Rated service short-circuit breaking capacity:</b>	AC7500A, DC:6000A	
<b>Poles:</b>	1P, 2P, 3P, 4P, 1P+N, 3P+N	
<b>Mechanical life (cycles):</b>	20000	
<b>Electrical life (cycles):</b>	10000	
<b>Characteristics and</b>	<b>B curve</b>	AC:3~5I <sub>n</sub> , DC:4~7I <sub>n</sub>
<b>Trip current range</b>	<b>C curve</b>	AC:5~10I <sub>n</sub> , DC:4~7I <sub>n</sub>
	<b>D curve</b>	AC:10~20I <sub>n</sub>

**MCB32J-15**



<b>Frame size:</b>	125	
<b>Rated voltage:</b>	50Hz 230V/400V	
<b>Rated current:</b>	63A, 80A, 100A, 125A	
<b>Rated breaking capacity:</b>	I <sub>cs</sub> =7500A, I <sub>cn</sub> =15000A	
<b>Poles:</b>	1P, 2P, 3P, 4P	
<b>Mechanical life (cycles):</b>	20000	
<b>Electrical life (cycles):</b>	10000	
<b>Characteristics and</b>	<b>C curve</b>	5~10I <sub>n</sub>
<b>Trip current range</b>	<b>D curve</b>	10~20I <sub>n</sub>



