

Technical Data

Electrical Features

- Rated current I_n : 1, 2, 3, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50, 63A
- Poles: 1P, 1P+N, 2P, 3P, 3P+N, 4P
- Rated voltage U_e : 240/415V
- Insulation voltage U_i : 500V
- Rated frequency: 50/60Hz
- Rated breaking capacity : 4,500/6,000A
- Energy limiting class: 3
- Rated impulse withstand voltage(1.2/50) U_{imp} : 4,000V
- Dielectric test voltage at ind. Freq. for 1 min: 2kV
- Pollution degree: 2
- Thermo-magnetic release characteristic: B, C, D

Mechanical Features

- Electrical life: 4,000 Cycles
- Mechanical life: 8,000 Cycles
- Contact position indicator: Yes
- Protection degree: IP20
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature (with daily average $\leq 35^\circ\text{C}$): $-5^\circ\text{C} \sim +40^\circ\text{C}$
- Storage temperature: $-25^\circ\text{C} \sim +70^\circ\text{C}$

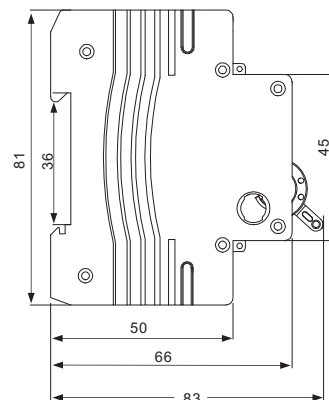
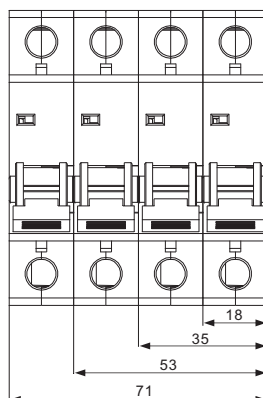
Installation

- Terminal connection type: Cable/Pin-type busbar
- Terminal size top/bottom for cable: 25mm^2 18-3AWG
- Terminal size top/bottom for busbar: 25mm^2 18-3AWG
- Tightening torque 2.0 N*m 22 In-lbs.
- Mounting: On DIN rail EN 60715 (35mm) by means of fast clip device
- Connection: From top and bottom

Combination with accessories

- Auxiliary contact: Yes
- Shunt release: Yes
- Under voltage release: Yes
- Alarm contact: Yes

Overall and Installation Dimension(mm)



Technical Data

Electrical Features

- Rated current I_n : 1, 2, 3, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50, 63A
- Poles: 1P, 1P+N, 2P, 3P, 3P+N, 4P
- Rated voltage U_e : 240/415V
- Insulation voltage U_i : 500V
- Rated frequency: 50/60Hz
- Rated breaking capacity : 6,000A
- Energy limiting class: 3
- Rated impulse withstand voltage(1.2/50) U_{imp} : 4,000V
- Dielectric test voltage at ind. Freq. for 1 min: 2kV
- Pollution degree: 2
- Thermo-magnetic release characteristic: B, C, D

Mechanical Features

- Electrical life: 8,000 Cycles
- Mechanical life: 20,000 Cycles
- Contact position indicator: Yes
- Protection degree: IP20
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature (with daily average $\leq 35^\circ\text{C}$): $-5^\circ\text{C} \sim +40^\circ\text{C}$
- Storage temperature: $-25^\circ\text{C} \sim +70^\circ\text{C}$

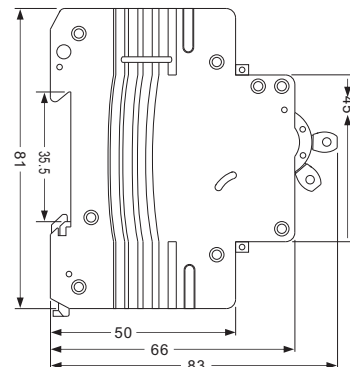
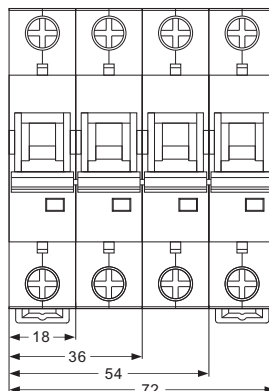
Installation

- Terminal connection type: Cable/U-type busbar/Pin-type busbar
- Terminal size top/bottom for cable: 25mm² 18-3AWG
- Terminal size top/bottom for busbar: 25mm² 18-3AWG
- Tightening torque 2.0 N*m 22 In-lbs.
- Mounting: On DIN rail EN 60715 (35mm) by means of fast clip device
- Connection: From top and bottom

Combination with accessories

- Auxiliary contact: Yes
- Shunt release: Yes
- Under voltage release: Yes
- Alarm contact: Yes

Overall and Installation Dimension(mm)



Technical Data

Electrical Features

- Rated current I_n : 1, 2, 3, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50, 63A
- Poles: 1P, 1P+N, 2P, 3P, 3P+N, 4P
- Rated voltage U_e : 240/415V
- Insulation voltage U_i : 500V
- Rated frequency: 50/60Hz
- Rated breaking capacity : 10,000A
- Energy limiting class: 3
- Rated impulse withstand voltage(1.2/50) U_{imp} : 4,000V
- Dielectric test voltage at ind. Freq. for 1 min: 2kV
- Pollution degree: 2
- Thermo-magnetic release characteristic: B, C, D

Mechanical Features

- Electrical life: 8,000 Cycles
- Mechanical life: 20,000 Cycles
- Contact position indicator: Yes
- Protection degree: IP20
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature (with daily average $\leq 35^\circ\text{C}$): $-5^\circ\text{C} \sim +40^\circ\text{C}$
- Storage temperature: $-25^\circ\text{C} \sim +70^\circ\text{C}$

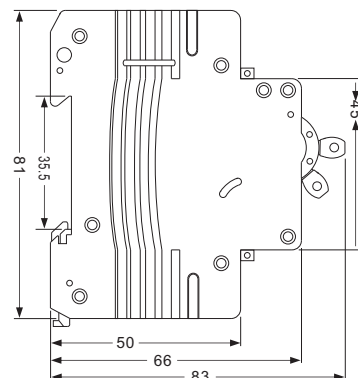
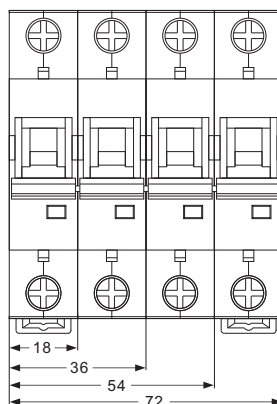
Installation

- Terminal connection type: Cable/U-type busbar/Pin-type busbar
- Terminal size top/bottom for cable: 25mm² 18-3AWG
- Terminal size top/bottom for busbar: 25mm² 18-3AWG
- Tightening torque 2.0 N*m 22 In-lbs.
- Mounting: On DIN rail EN 60715 (35mm) by means of fast clip device
- Connection: From top and bottom

Combination with accessories

- Auxiliary contact: Yes
- Shunt release: Yes
- Under voltage release: Yes
- Alarm contact: Yes

Overall and Installation Dimension(mm)



Technical Data

Electrical Features

- Rated current I_n : 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63A
- Poles: 1P, 2P, 4P
- Rated voltage U_e : 1P(250V), 2P(500V), 4P(1,000V)
- Rated breaking capacity : 6,000/10,000A
- Rated impulse withstand voltage(1.2/50) U_{imp} : 4,000V
- Dielectric test voltage at ind. Freq. for 1 min: 2kV
- Pollution degree: 2
- Thermo-magnetic release characteristic: C(7~10) I_n



Mechanical Features

- Electrical life: 4,000 Cycles
- Mechanical life: 20,000 Cycles
- Contact position indicator: Yes
- Protection degree: IP20
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature (with daily average $\leq 35^\circ\text{C}$): $-5^\circ\text{C} \sim +40^\circ\text{C}$
- Storage temperature: $-25^\circ\text{C} \sim +70^\circ\text{C}$



Installation

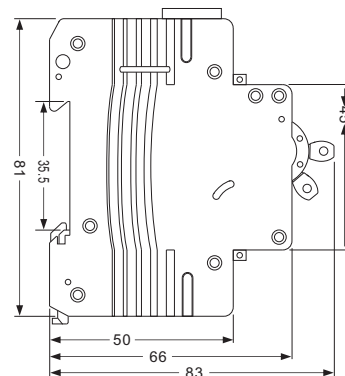
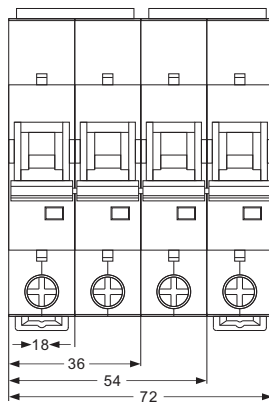
- Terminal connection type: Cable/U-type busbar/Pin-type busbar
- Terminal size top/bottom for cable: 25mm² 18-3AWG
- Terminal size top/bottom for busbar: 25mm² 18-3AWG
- Tightening torque 2.0 N*m 22 In-lbs.
- Mounting: On DIN rail EN 60715 (35mm) by means of fast clip device
- Connection: From top and bottom

Combination with accessories

- Auxiliary contact: Yes
- Shunt release: Yes
- Under voltage release: Yes
- Alarm contact: Yes



Overall and Installation Dimension(mm)





Technical Data

Electrical Features

- Rated current I_n : 6, 10, 16, 20, 25, 32, 40A
- Poles: 1P+N
- Rated voltage U_e : 230/240V
- Insulation voltage U_i : 500V
- Rated frequency: 50/60Hz
- Rated breaking capacity : 6,000A
- Energy limiting class: 3
- Rated impulse withstand voltage(1.2/50) U_{imp} : 4,000V
- Dielectric test voltage at ind. Freq. for 1 min: 2kV
- Pollution degree: 2
- Thermo-magnetic release characteristic: B, C

Mechanical Features

- Electrical life: 4,000 Cycles
- Mechanical life: 8,000 Cycles
- Contact position indicator: Yes
- Protection degree: IP20
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature (with daily average $\leq 35^\circ\text{C}$): $-5^\circ\text{C} \sim +40^\circ\text{C}$
- Storage temperature: $-25^\circ\text{C} \sim +70^\circ\text{C}$

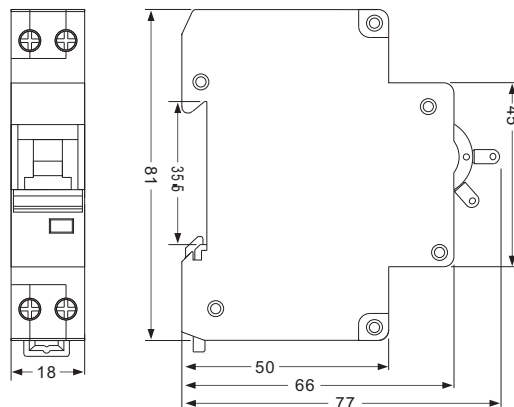
Installation

- Terminal size top/bottom for cable: 16mm²
- Terminal size top/bottom for busbar: 16mm²
- Tightening torque 1.2 N*m
- Mounting: On DIN rail EN 60715 (35mm) by means of fast clip device
- Connection: From top and bottom

Combination with accessories

- Auxiliary contact: Yes
- Shunt release: Yes
- Under voltage release: Yes
- Alarm contact: Yes

Overall and Installation Dimension(mm)



Technical Data

Electrical Features

- Rated current I_n :63, 80, 100, 125A
- Poles:1P, 1P+N, 2P, 3P, 3P+N,4P
- Rated voltage U_e :240/415V
- Insulation voltage U_i :500V
- Rated frequency:50/60Hz
- Rated breaking capacity :10,000A
- Energy limiting class:3
- Rated impulse withstand voltage(1.2/50) U_{imp} :4,000V
- Dielectric test voltage at ind. Freq. for 1 min:2kV
- Pollution degree:2
- Thermo-magnetic release characteristic: C,D

Mechanical Features

- Electrical life:4,000 Cycles
- Mechanical life:10,000 Cycles
- Contact position indicator: Yes
- Protection degree:IP20
- Reference temperature for setting of thermal element:30°C
- Ambient temperature (with daily average $\leq 35^\circ\text{C}$): $-5^\circ\text{C} \dots +40^\circ\text{C}$
- Storage temperature: $-25^\circ\text{C} \sim +70^\circ\text{C}$

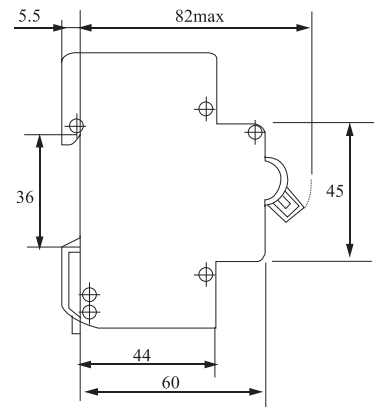
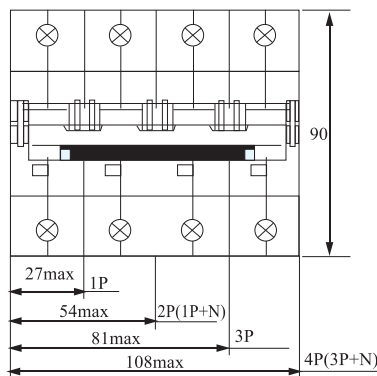
Installation

- Terminal connection type: Pin-type busbar
- Terminal size top/bottom for cable: 50mm^2
- Terminal size top/bottom for busbar: 50mm^2
- Tightening torque 2.5 N*m
- Mounting: On DIN rail EN 60715 (35mm) by means of fast clip device
- Connection: From top and bottom

Combination with accessories

- Auxiliary contact: Yes
- Shunt release: Yes
- Under voltage release: Yes
- Alarm contact: Yes

Overall and Installation Dimension(mm)





Technical Data

Electrical Features

- Rated value: AC415 /400V 50/60Hz 3A
 AC240 /400V 50/60Hz 3A
 DC130V 1A
 DC48V 2A
 DC24V 6A
- Configurations: EKM1-OF 1N/O+1N/C
 EKM1-FB 1N/O+1N/C
- Rated impulse withstand voltage (1.2/50)Uimp: 4,000V
- Rated short circuit making capacity: 20Ie, t=0.1s
- Dielectric test voltage at ind. Freq. for 1min: 2kV
- Insulation voltage Ui: 500V
- Pollution degree: 2



EKM1-OF

Mechanical Features

- Electrical life: 6,000 Cycles
- Mechanical life: 10,000 Cycles
- Protection degree: IP20
- Ambient temperature (with daily average $\leq 35^{\circ}\text{C}$): $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$
- Storage temperature: $-25^{\circ}\text{C} \sim +70^{\circ}\text{C}$

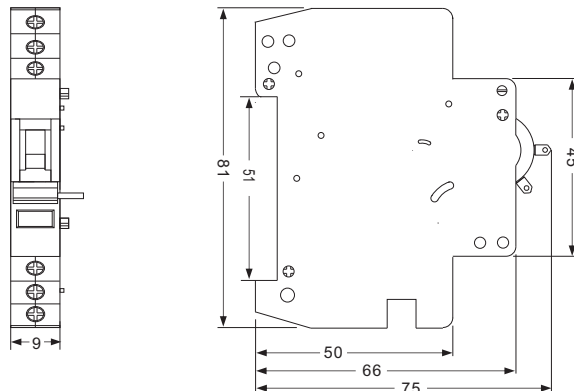
Installation

- Terminal connection type: Cable
- Terminal size top/bottom for cable: 2.5mm^2 18-13AWG
- Tightening torque 0.8 N*m 7In-lbs.



EKM1-FB

Overall and Installation Dimension(mm)





EKM1-MX

Technical Data

Electrical Features

EKM1-MX

- Rated voltage US(V): AC230/400 50/60Hz DC24 DC48 AC24 50/60Hz
- Rated impulse withstand voltage (1.2/50)Uimp: 4,000V
- Rated short circuit making capacity: 20Ie, t=0.1s
- Dielectric test voltage at ind. Freq. for 1min: 2kV
- Insulation voltage Ui: 500V
- Pollution degree: 2

EKM1-MN+MV

- Rated voltage (Ue): AC230V
- Rated insulating voltage(Ui):500V
- Over-voltage tripping range:280V±5%
- Under-voltage tripping range:170V±5%
- Mounted on the right side of circuit breaker, actuate the combined device to trip in case of under-voltage or over-voltage, effectively prevent the device from closing operation under abnormal power voltage condition.

Mechanical Features

- Electrical life:4,000 Cycles
- Mechanical life:4,000 Cycles
- Protection degree: IP20
- Ambient temperature (with daily average≤35°C):-5°C~+40°C
- Storage temperature: -25°C~+70°C

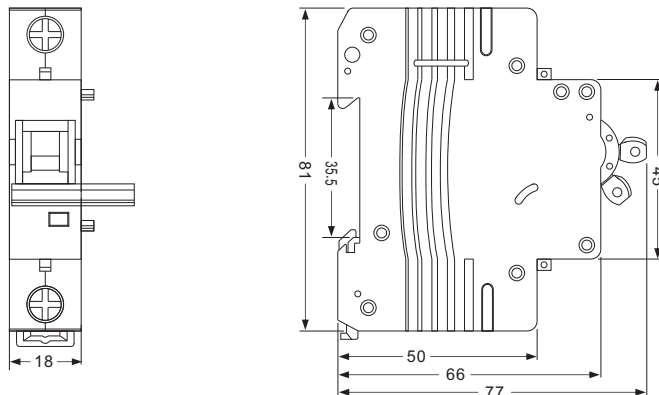
Installation

- Terminal connection type: Cable
- Terminal size top/bottom for cable: 2.5mm² 18-13AWG
- Tightening torque 0.8 N*m 7In-lbs.



EKM1-MN+MV

Overall and Installation Dimension(mm)



Technical Data

Electrical Features

- Rated current I_n : 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63A
- Poles: 1P, 1P+N, 2P, 3P, 3P+N, 4P
- Rated voltage U_e : 240/415V
- Insulation voltage U_i : 500V
- Rated frequency: 50/60Hz
- Rated breaking capacity: 4,500A
- Energy limiting class: 3
- Rated impulse withstand voltage (1.2/50) U_{imp} : 4,000V
- Dielectric test voltage at ind. Freq. for 1 min: 2kV
- Pollution degree: 2
- Thermo-magnetic release characteristic: B, C, D

Mechanical Features

- Electrical life: 4,000
- Mechanical life: 8,000
- Contact position indicator: No
- Protection degree: IP20
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature (with daily average $\leq 35^\circ\text{C}$): $-5^\circ\text{C} \sim +40^\circ\text{C}$
- Storage temperature: $-25^\circ\text{C} \sim +70^\circ\text{C}$

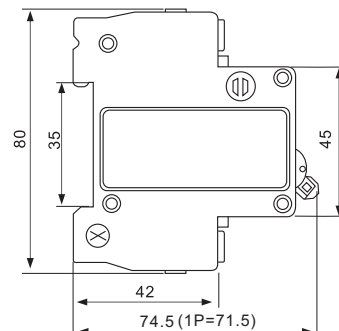
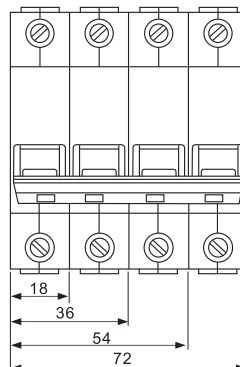
Installation

- Terminal connection type: Cable/Pin-type busbar
- Terminal size top/bottom for cable: 25mm²
- Terminal size top/bottom for busbar: 25mm²
- Tightening torque 2.0 N*m
- Mounting: On DIN rail EN 60715 (35mm) by means of fast clip device
- Connection: From top and bottom

Combination with accessories

- Auxiliary contact: Yes
- Shunt release: Yes
- Under voltage release: Yes
- Alarm contact: Yes

Overall and Installation Dimension(mm)



Technical Data

Electrical Features

- Rated current In : 1, 2, 3, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63A
- Poles: 1P, 1P+N, 2P, 3P, 3P+N, 4P
- Rated voltage Ue: 240/415V
- Insulation voltage Ui : 500V
- Rated frequency: 50/60Hz
- Rated breaking capacity : 4,500A
- Energy limiting class: 3
- Rated impulse withstand voltage(1.2/50) Uimp: 4,000V
- Dielectric test voltage at ind. Freq. for 1 min: 2kV
- Pollution degree: 2
- Thermo-magnetic release characteristic: B, C, D

Mechanical Features

- Electrical life: 4,000 Cycles
- Mechanical life: 8,000 Cycles
- Contact position indicator: Yes
- Protection degree: IP20
- Reference temperature for setting of thermal element: 30°C
- Ambient temperature (with daily average $\leq 35^\circ\text{C}$): $-5^\circ\text{C} \sim +40^\circ\text{C}$
- Storage temperature: $-25^\circ\text{C} \sim +70^\circ\text{C}$

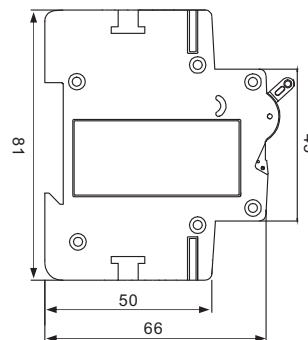
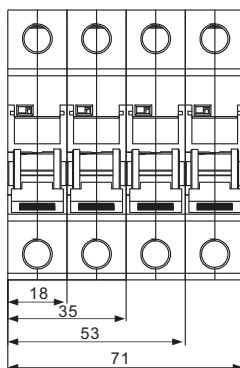
Installation

- Terminal connection type: Cable/U-type busbar/Pin-type busbar
- Terminal size top/bottom for cable: 25mm²
- Terminal size top/bottom for busbar: 25mm²
- Tightening torque 2.0 N*m
- Mounting: On DIN rail EN 60715 (35mm) by means of fast clip device
- Connection: From top and bottom

Combination with accessories

- Auxiliary contact: Yes
- Shunt release: Yes
- Under voltage release: Yes
- Alarm contact: Yes

Overall and Installation Dimension(mm)



Technical Data

Electrical Features

- Rated current I_n :63,80,100,125A
- Poles:1P, 1P+N,2P, 3P, 3P+N,4P
- Rated voltage U_e :240/415V
- Insulation voltage U_i :500V
- Rated frequency:50/60Hz
- Rated breaking capacity :6,000A
- Energy limiting class:3
- Rated impulse withstand voltage(1.2/50) U_{imp} :4,000V
- Dielectric test voltage at ind. Freq. for 1 min:2kV
- Pollution degree:2
- Thermo-magnetic release characteristic: C,D

Mechanical Features

- Electrical life:4,000 Cycles
- Mechanical life:10,000 Cycles
- Contact position indicator: Yes
- Protection degree:IP20
- Reference temperature for setting of thermal element:30°C
- Ambient temperature (with daily average $\leq 35^\circ\text{C}$): $-5^\circ\text{C}\sim+40^\circ\text{C}$
- Storage temperature: $-25^\circ\text{C}\sim+70^\circ\text{C}$

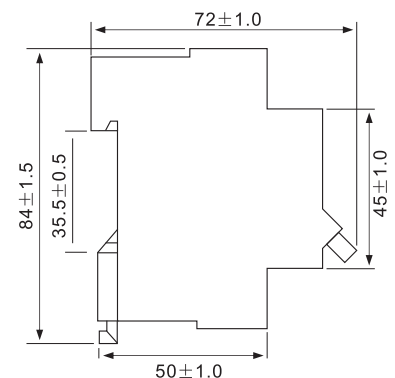
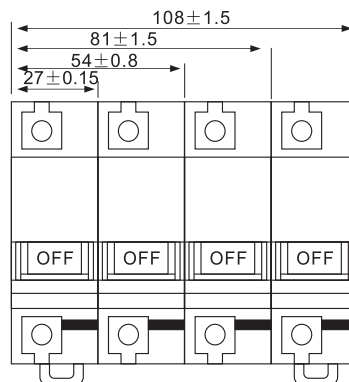
Installation

- Terminal connection type: Pin-type busbar
- Terminal size top/bottom for cable: 50mm^2
- Terminal size top/bottom for busbar: 50mm^2
- Tightening torque 2.5 N*m
- Mounting: On DIN rail EN 60715 (35mm) by means of fast clip device
- Connection: From top and bottom

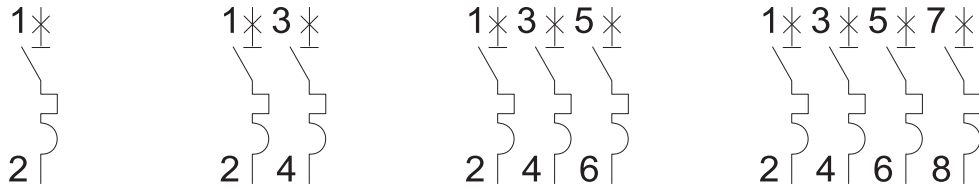
Combination with accessories

- Auxiliary contact: Yes
- Shunt release: Yes
- Under voltage release: Yes
- Alarm contact: Yes

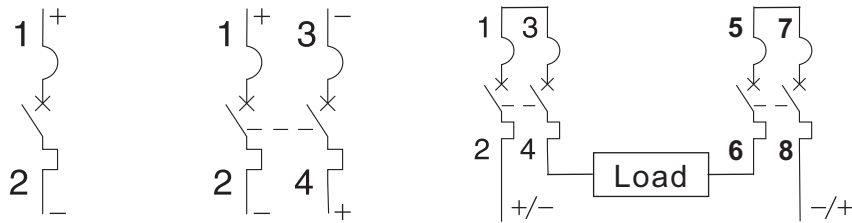
Overall and Installation Dimension(mm)



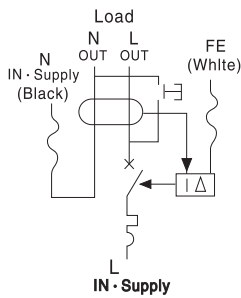
EKM1



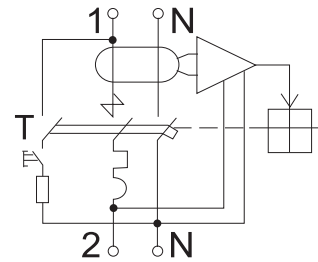
EKM1 (DC)



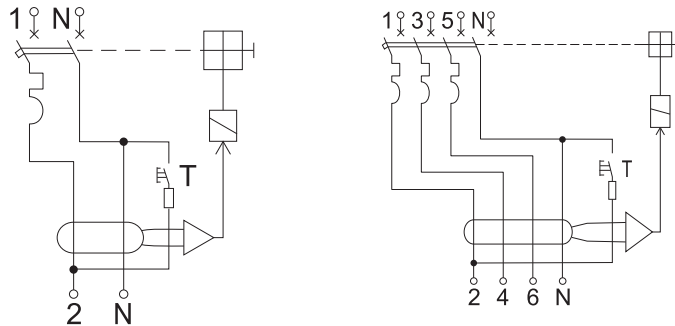
EKL2



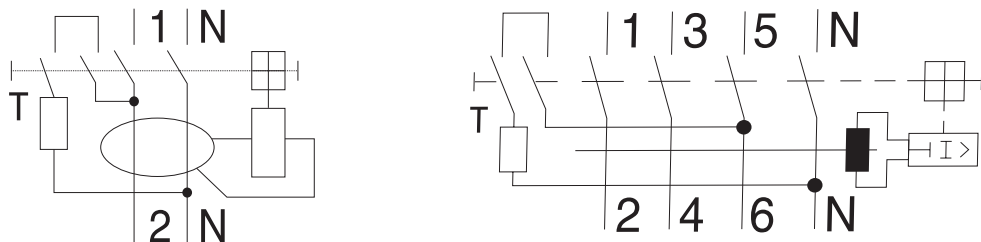
**EKL3
EKL4**



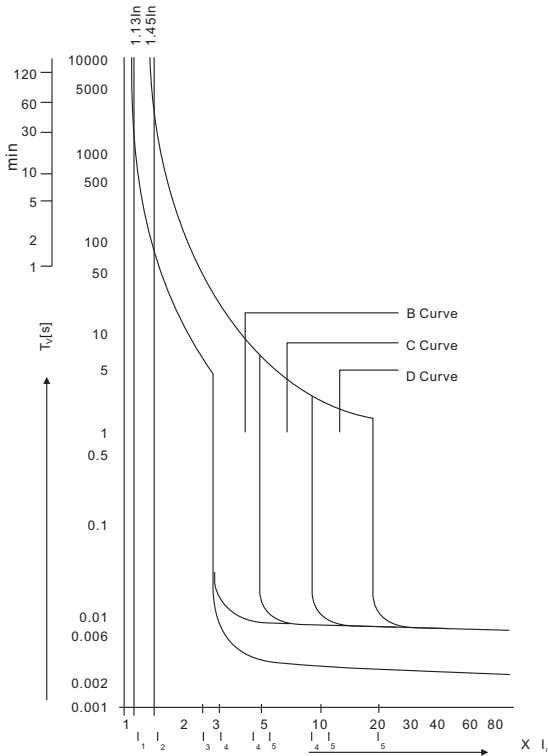
EKL5



EKL1



Characteristics Curves



As per IEC60898	Thermal Tripping		Magnetic Tripping			
	No tripping current	Tripping current I_2	Time Limits t	Hold current I_4	Trip current I_5	Time Limits t
B Curve	$1.13 \times I_N$	$1.45 \times I_N$	$\geq 1h$ $< 1h$	$3 \times I_N$	$5 \times I_N$	$\geq 0.1s$ $< 0.1s$
C Curve	$1.13 \times I_N$	$1.45 \times I_N$	$\geq 1h$ $< 1h$	$5 \times I_N$	$10 \times I_N$	$\geq 0.1s$ $< 0.1s$
D Curve	$1.13 \times I_N$	$1.45 \times I_N$	$\geq 1h$ $< 1h$	$10 \times I_N$	$20 \times I_N$	$\geq 0.1s$ $< 0.1s$
$I_3 = 2.55 \times I_N$		$1s < t < 60s$ for $I_N < 32A$ $1s < t < 60s$ for $I_N < 32A$				

Tripping characteristics

Based on the Tripping Characteristics, MCBs are available in “B”, “C” and “D” curve to suit different types of applications. “B” Curve for protection of electrical circuits with equipment that does not cause surge current (lighting and distribution circuits) Short circuit release is set to (3-5)In.

“C” Curve for protection of electrical circuits with equipment that cause surge current (inductive loads and motor circuits) Short circuit release is set to (5-10)In.

“D” Curve for protection of electrical circuits with cause high inrush current, typically 12-15 times the thermal rated current (transformers, x-ray machines etc,) Short circuit release is set to (10-20)In.

Current limiting design

