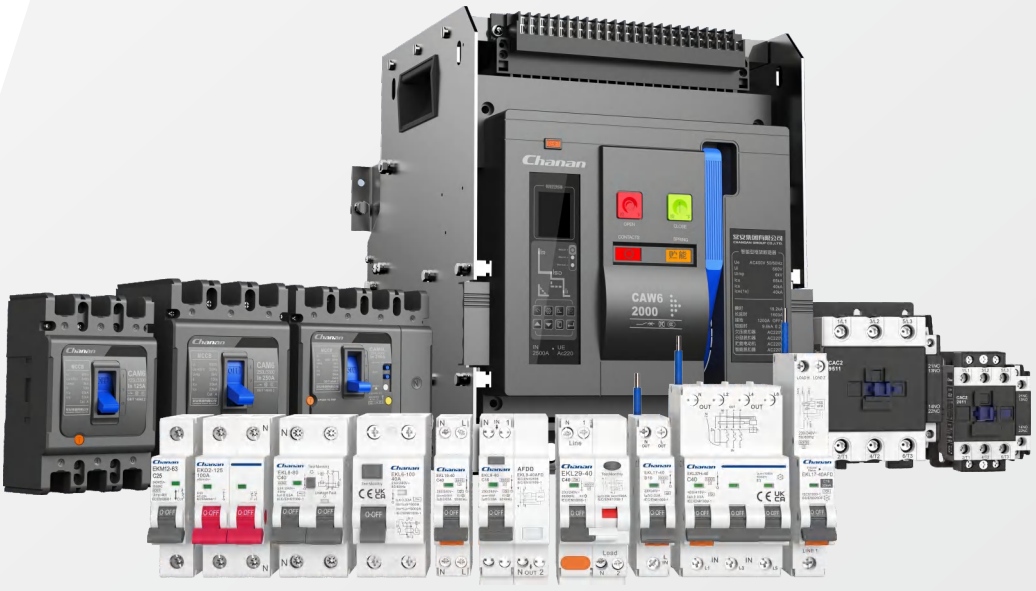
Chanan

PRODUCT SELECTION GUIDE

CIRCUIT BREAKERS



CHANGAN GROUP CO.,LTD.

ABOUT CHANGAN

Changan Group Co., Ltd., is a professional international manufacturing enterprise specializing in R&D, production, and sales of low-voltage electrical appliances. Established in 2013 and headquartered in Wenzhou City, Zhejiang Province, the company operates a modern 10,000-square-meter production facility with over 200 employees.

Changan Group has multiple production workshops such as spot welding and assembly and is equipped with multiple MCB automated production lines. Its products cover the fields of household, commercial and industrial power safety. Its main products include MCB, RCCB, RCBO, Contactors and Fuses, which can meet the needs of multiple countries and regions and are widely used in residential, commercial, and industrial scenarios.

QUALITY

Changan Group operates a low-voltage electrical testing center compliant with international IEC standards. The company holds ISO9001, ISO14001, and ISO45001 certifications, along with product certifications such as CB, TUV, VDE, CE, and RoHS. Its products are exported to over 80 countries and regions, including the EU, South America, the Middle East, Africa, and Southeast Asia.

Changan Group adheres to the corporate philosophy of "Quality First, Customer First," and the tenet of "Serving Electric Power Intelligence." The company is committed to becoming an outstanding supplier in the electrical industry with international ingenuity by constantly developing and innovating.

With a new image, a new starting point, and a new dream, Changan Electric will continue to work hard to provide customers with better products and services.

CORPORATE HISTORY

2013 Changan Group officially established its international manufacturing department.

2014 The international manufacturing department successfully passed the ISO9001, ISO14001 and ISO45001 management system certification audits.

2016 The international manufacturing department moved to Yanpan Industrial Zone.

2020 The international manufacturing department achieved independent operation and was renamed Zhejiang Changan Electrical Engineering Co., Ltd.

2022 Changan Electric completed the research and development of a few product projects and successfully obtained relevant patent authorizations.

2023 Changan Electric was awarded the honors of Zhejiang Science and Technology Enterprise and Zhejiang Innovation Enterprise and successfully passed the Advanced Customs AEO certification.

2024 Changan Electric was recognized as a high-tech enterprise and once again passed the ISO9001, ISO14001 and ISO45001 management system certifications.

WORKSHOP

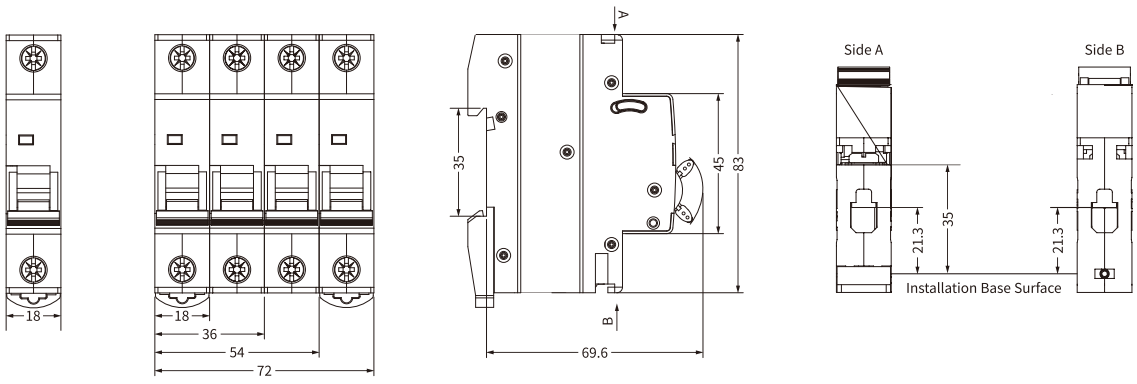
CONTENTS

*Standard_* IEC60898-1 Mini Circuit Breaker

Technical Data

Standard	IEC/EN 60898-1
Protection	Overcurrent and short circuit
Type of trip	Thermo-magnetic
No. of poles	1P,2P,3P,4P,1P+N,3P+N
Rated voltage (Ue)	240/415V~
Rated currents (In)	1,2,3,4,5,6,10,16,20,25,32,40,50,63A
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	4.5kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In, D:(10-20) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-5°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	16mm² flexible/25mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Dimension (mm)

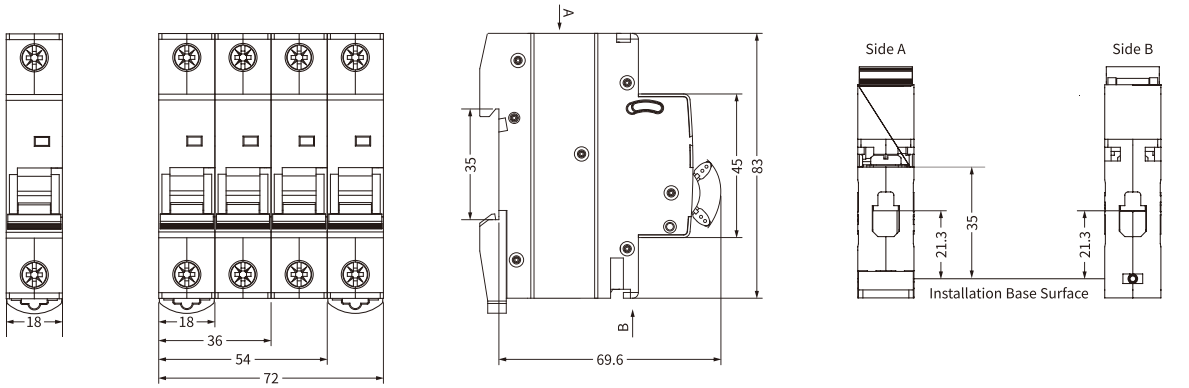


*Standard_* IEC60898-1 Mini Circuit Breaker

Technical Data

Standard	IEC/EN 60898-1
Protection	Overcurrent and short circuit
Type of trip	Thermo-magnetic
No. of poles	1P,2P,3P,4P,1P+N,3P+N
Rated voltage (Ue)	240/415V~
Rated currents (In)	1,2,3,4,5,6,10,16,20,25,32,40,50,63A
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	6kA
Energy limiting class	3
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In, D:(10-20) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-5°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	16mm² flexible/25mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Dimension (mm)

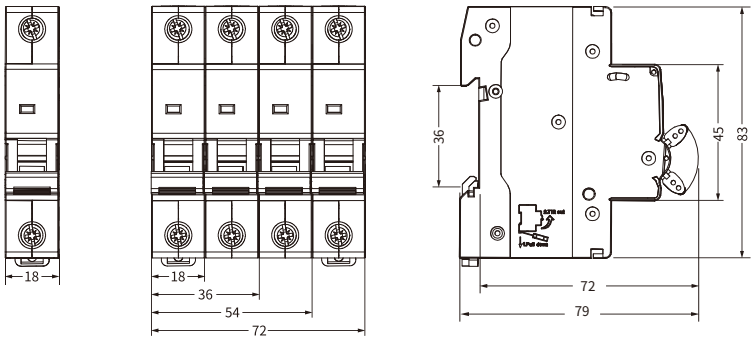


*Standard_* IEC60898-1 Mini Circuit Breaker

Technical Data

Standard	IEC/EN 60898-1
Protection	Overcurrent and short circuit
Type of trip	Thermo-magnetic
No. of poles	1P,2P,3P,4P,1P+N,3P+N
Rated voltage (Ue)	240/415V~
Rated currents (In)	1,2,3,4,5,6,10,16,20,25,32,40,50,63A
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	10kA
Energy limiting class	3
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In, D:(10-20) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-5°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar/Fork-type busbar
Max. terminal size for cable	16mm² flexible/25mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

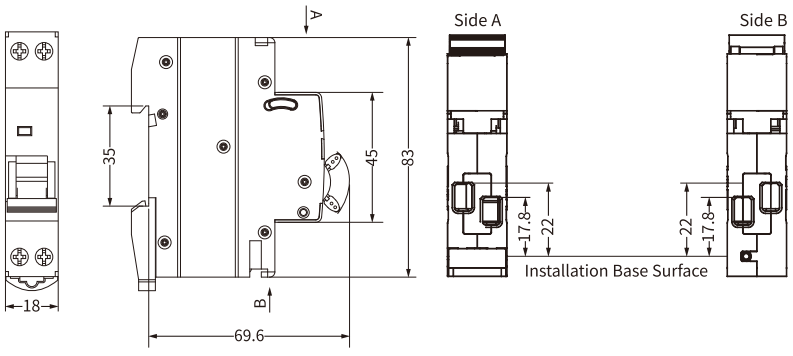
Dimension(mm)



Technical Data

Standard	IEC/EN 60898-1
Protection	Overcurrent and short circuit
Type of trip	Thermo-magnetic
No. of poles	1P+N
Rated voltage (Ue)	230/240V~
Rated currents (In)	6,10,16,20,25,32,40A
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	EKM2-40N: 6kA, EKM2-40NH: 10kA
Energy limiting class	3
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In, D:(10-20) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-5°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	10mm^2
Max. tightening torque	1.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Dimension (mm)

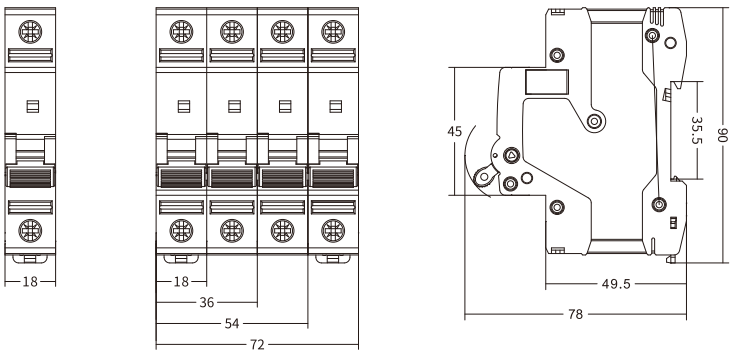


*Standard_* IEC60898-1 Mini Circuit Breaker

Technical Data

Standard	IEC/EN 60898-1
Protection	Overcurrent and short circuit
Type of trip	Thermo-magnetic
No. of poles	1P,2P,3P,4P,1P+N,3P+N
Rated voltage (Ue)	240/415V~
Rated currents (In)	63,80,100,125A
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	6kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	C:(5-10) x In, D:(10-20) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-5°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	35mm² flexible/50mm² rigid
Max. tightening torque	3.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Dimension (mm)

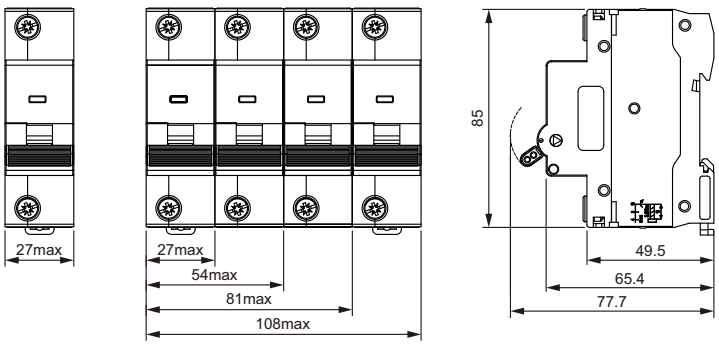


*Standard_* IEC60898-1 Mini Circuit Breaker

Technical Data

Standard	IEC/EN 60898-1	IEC/EN 60947-2
Protection	Overcurrent and short circuit	
Type of trip	Thermo-magnetic	
No.of poles	1P,2P,3P,4P	
Rated voltage (Ue)	240/415V~	
Rated currents (In)	63,80,100,125A	
Rated frequency	50/60Hz	
Rated short-circuit capacity (Icn)	6kA	
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV	
Dielectric test voltage	2kV (50/60Hz, 1 min.)	
Thermal release characteristic	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour	1.05 x In No tripping within an hour; 1.30 x In Tripping within an hour
Instantaneous tripping characteristics	C:(5-10) x In, D:(10-20) x In	(8-12) x In
Electrical life	4,000 Cycles	
Mechanical life	10,000 Cycles	
Contact position indicator	green OFF / red ON	
Protection degree	IP20	
Ambient temperature	-5°C to +40°C, Max.95% humidity	
Terminal connection type	Cable/Pin-type busbar	
Max. terminal size for cable	35mm² flexible/50mm² rigid	
Max. tightening torque	3.5N.m	
Installation	Mounting on 35mm DIN rail	
Incoming method	Bi-Directional	

Dimension (mm)

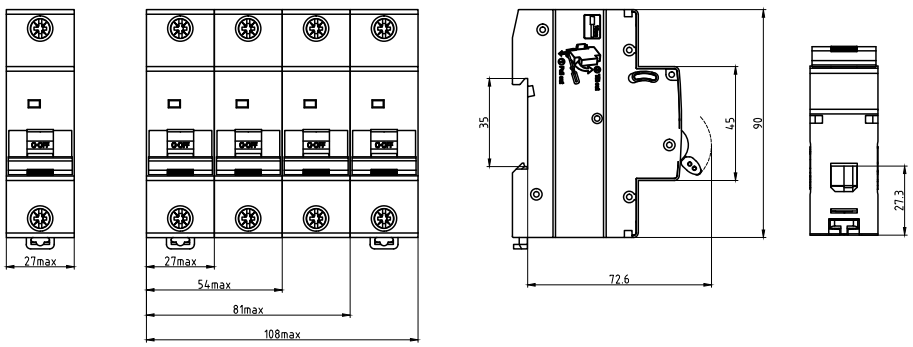


*Standard_* IEC60898-1 IEC60947-2 Mini Circuit Breaker

Technical Data

Standard	IEC/EN 60898-1	IEC/EN 60947-2
Protection	Overcurrent and short circuit	
Type of trip	Thermo-magnetic	
No.of poles	1P,2P,3P,4P,1P+N,3P+N	
Rated voltage (Ue)	240/415V~	
Rated currents (In)	63,80,100,125A	
Rated frequency	50/60Hz	
Rated short-circuit capacity (Icn)	6kA	10kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV	
Dielectric test voltage	2kV (50/60Hz, 1 min.)	
Thermal release characteristic	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour	1.05 x In No tripping within an hour; 1.30 x In Tripping within an hour
Instantaneous tripping characteristics	C:(5-10) x In, D:(10-20) x In	(8-12) x In
Electrical life	4,000 Cycles	
Mechanical life	10,000 Cycles	
Contact position indicator	green OFF / red ON	
Protection degree	IP20	
Ambient temperature	-5°C to +40°C, Max.95% humidity	
Terminal connection type	Cable/Pin-type busbar	
Max. terminal size for cable	35mm² flexible/50mm² rigid	
Max. tightening torque	3.5N.m	
Installation	Mounting on 35mm DIN rail	
Incoming method	Bi-Directional	

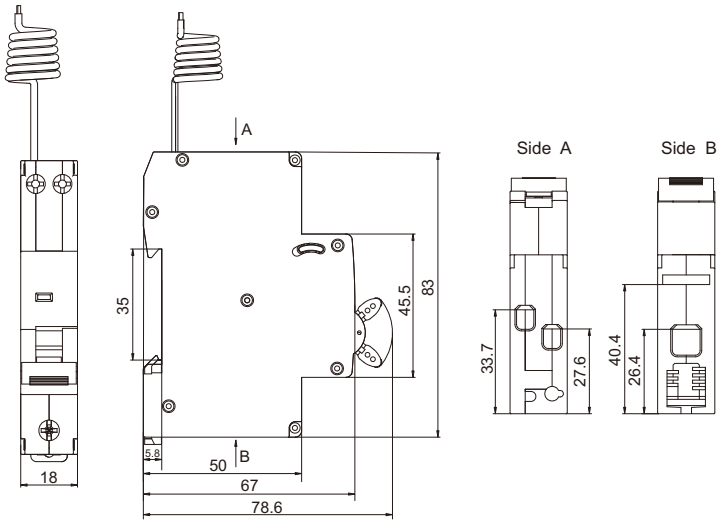
Dimension (mm)



*Standard_* IEC61009-1

Residual Current Circuit Breaker with Overcurrent Protection

Dimension (mm)



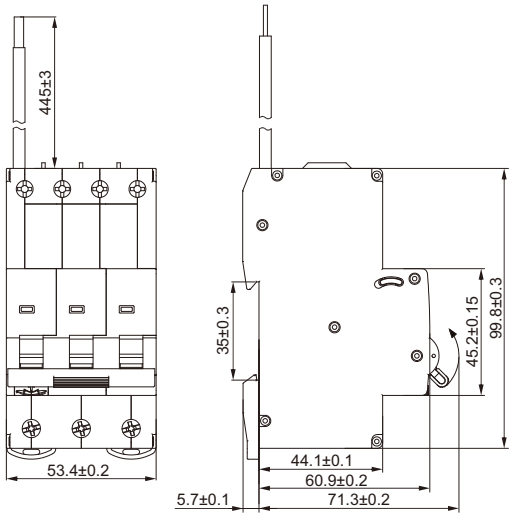
Technical Data

Standard	IEC/EN 61009-1
Protection	Ground fault, Overcurrent and short circuit
Type of trip	Ground fault : Electronic
	Overload and short circuit :Thermo-magnetic
Residual current type	AC,A
No. of poles	1P+N 1module (with switched neutral)
Rated voltage (Ue)	230/240V~
Rated currents (In)	6,10,16,20,25,32,40A
Rated sensitivity currents (IΔn)	10,30,100,300mA
Residual current off-time under (IΔn)	⩽ 0.1s
Rated residual making and breaking capacity (IΔm)	500A(In⩽50A), 10In(In>50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	EKL17-40: 6kA; EKL17H-40: 10kA
Energy limiting class	3
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	$10mm^2$ flexible/$16mm^2$ rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	From bottom, Bi-directional (Customized)

*Standard_* IEC61009-1

Residual Current Circuit Breaker with Overcurrent Protection

Dimension (mm)



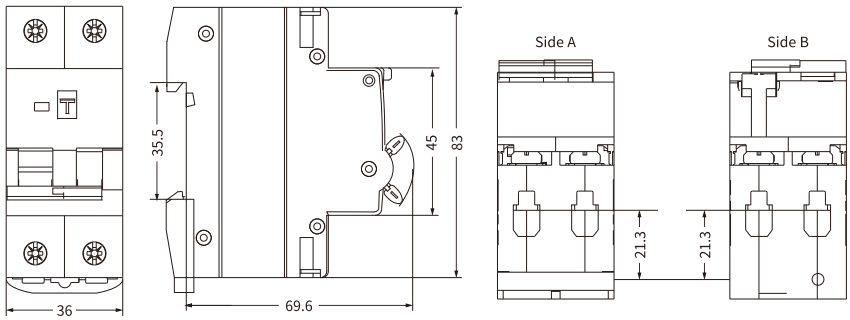
Technical Data

Standard	IEC/EN 61009-1
Protection	Ground fault, Overcurrent and short circuit
Type of trip	Ground fault : Electronic Overload and short circuit :Thermo-magnetic
Residual current type	AC,A
No. of poles	3P+N, compact 3 modules 54mm width
Rated voltage (Ue)	400/415V~
Rated currents (In)	6,10,16,20,25,32,40A
Rated sensitivity currents (I∆n)	10,30,100,300mA
Residual current off-time under (I∆n)	⩽ 0.1s
Rated residual making and breaking capacity (I∆m)	500A(In⩽50A), 10In(In>50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	10kA
Energy limiting class	3
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B: (3-5) x In, C: (5-10) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar/Fork-type busbar
Max. terminal size for cable	10mm² flexible/16mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	From bottom, Bi-directional (Customized)

*Standard_* IEC61009-1

Residual Current Circuit Breaker with Overcurrent Protection

Dimension (mm)



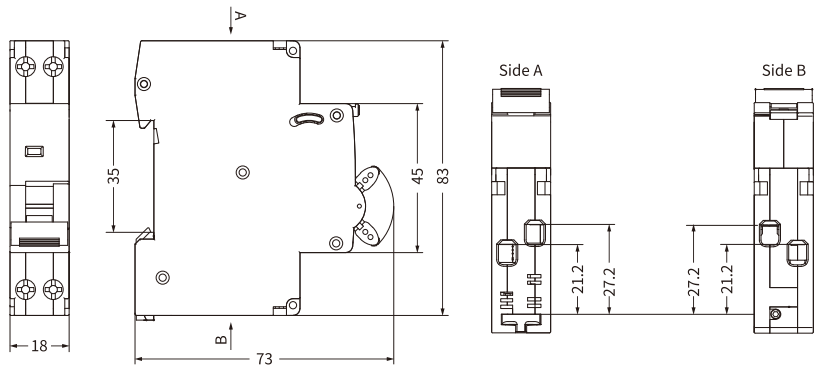
Technical Data

Standard	IEC/EN 61009-1
Protection	Ground fault, Overcurrent and short circuit
Type of trip	Ground fault : Electronic
	Overload and short circuit :Thermo-magnetic
Residual current type	AC,A
No. of poles	1P+N 2module (with switched neutral)
Rated voltage (Ue)	230/240V~
Rated currents (In)	6,10,16,20,25,32,40A,63A,80A
Rated sensitivity currents (IΔn)	30,100,300mA
Residual current off-time under (IΔn)	⩽ 0.1s
Rated residual making and breaking capacity (IΔm)	500A(In⩽50A), 10In(In>50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	EKL8-80: 6kA, EKL8-80H: 10kA
Energy limiting class	3
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Ground fault indicator	White: Normal, Red: Leakage fault
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar/Fork-type busbar
Max. terminal size for cable	16mm² flexible/25mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-directional

*Standard_* IEC61009-1

Residual Current Circuit Breaker with Overcurrent Protection

Dimension (mm)



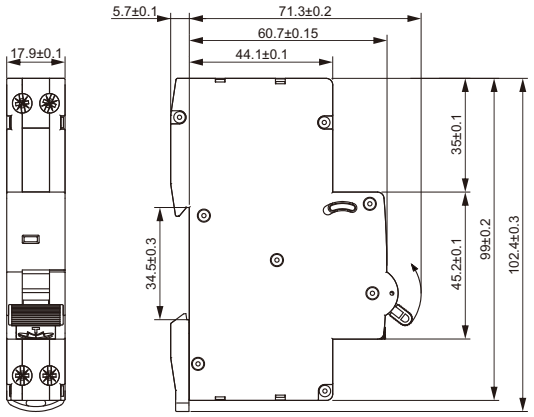
Technical Data

Standard	IEC/EN 61009-1
Protection	Ground fault, Overcurrent and short circuit
Type of trip	Ground fault : Electronic
	Overload and short circuit :Thermo-magnetic
Residual current type	AC,A
No. of poles	1P+N 1module (with switched neutral)
Rated voltage (Ue)	230/240V~
Rated currents (In)	6,10,16,20,25,32,40A
Rated sensitivity currents (I∆n)	10,30,100,300mA
Residual current off-time under (I∆n)	⩽ 0.1s
Rated residual making and breaking capacity (I∆m)	500A(In⩽50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	6kA
Energy limiting class	3
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	10mm² flexible/16mm² rigid
Max. tightening torque	2.0N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

*Standard_* IEC61009-1 IEC62423

Residual Current Circuit Breaker with Overcurrent Protection

Dimension (mm)

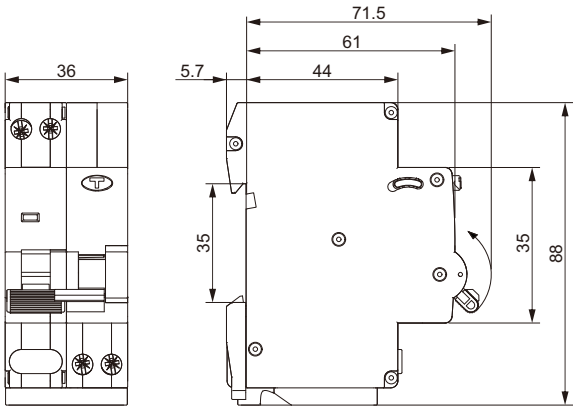


Technical Data

Standard	IEC/EN 61009-1, IEC/EN 62423
Protection	Ground fault, Overcurrent and short circuit
Type of trip	Ground fault : Electronic Overload and short circuit :Thermo-magnetic
Residual current type	B: residual AC, pulsating and smooth DC current, high frequency (⩽1 kHz)
No. of poles	1P+N (18mm, with switched neutral)
Insulation voltage (Ui)	500V
Rated voltage (Ue)	230/240V~
Rated currents (In)	16,20,25,32,40A
Rated sensitivity currents (IΔn)	30mA
Residual current off-time under (IΔn)	⩽ 0.1s
Rated residual making and breaking capacity (IΔm)	500A(In⩽50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	6kA
Energy limiting class	3
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Fire resistance (glow-wire test)	960±15°C (Enclosure); 650±10°C (Handle)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +55°C
Storage temperature	-30°C to +70°C
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	$10mm^2$ flexible/$16mm^2$ rigid
Max. tightening torque	2.0N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

*Standard_* IEC61009-1 IEC60898-1 **Residual Current Circuit Breaker with Overcurrent Protection**

Dimension (mm)



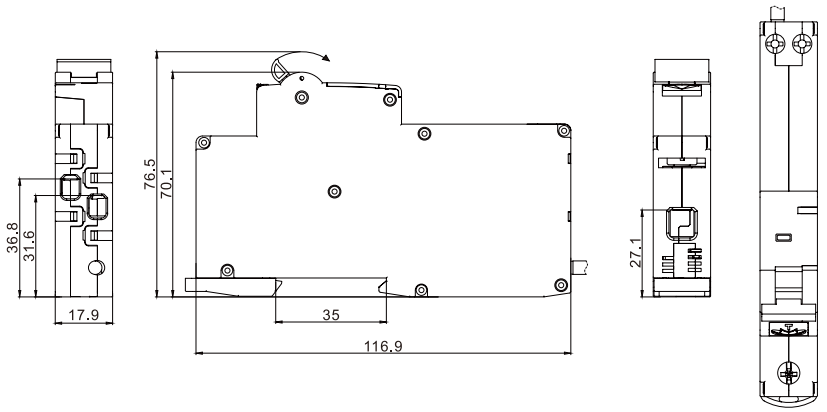
Technical Data

Ref No.		EKL29-40	EKL29-40M
Standard		IEC/EN 61009-1, IEC/EN 60898-1	
Protection		Ground fault, Overcurrent and short circuit	
Type of trip	Ground fault	Electronic	Electro-magnetic
	Overload and short circuit	Thermo-magnetic	
Residual current type		AC,A	
No. of poles		1P+N 2module (with switched neutral)	
Rated voltage (Ue)		230/240V~	
Rated currents (In)		6,10,16,20,25,32,40A	
Rated sensitivity currents (I∆n)		10,30,100,300mA	30,100,300mA
Residual current off-time under (I∆n)		⩽ 0.1s	
Rated residual making and breaking capacity (I∆m)		500A(In⩽50A)	
Rated frequency		50/60Hz	
Rated short-circuit capacity (Icn)		6kA	
Energy limiting class		3	
Rated impulse withstand voltage(1.2/50) Uimp		4kV	
Dielectric test voltage		2kV (50/60Hz,1 min.)	
Thermal tripping characteristics		1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour	
Instantaneous tripping characteristics		B:(3-5) x In, C:(5-10) x In	
Electrical life		4,000 Cycles	
Mechanical life		10,000 Cycles	
Contact position indicator		green OFF / red ON	
Protection degree		IP20	
Ambient temperature		-25°C to +40°C, Max.95% humidity	
Terminal connection type		Cable/Pin-type busbar	
Max. terminal size for cable		$10mm^2$ flexible/$16mm^2$ rigid	
Max. tightening torque		2.5N.m	
Installation		Mounting on 35mm DIN rail	
Incoming method		From top	Bi-Directional

*Standard_* IEC61009-1 IEC62606

RCBO with Arc Fault Protective

Dimension (mm)



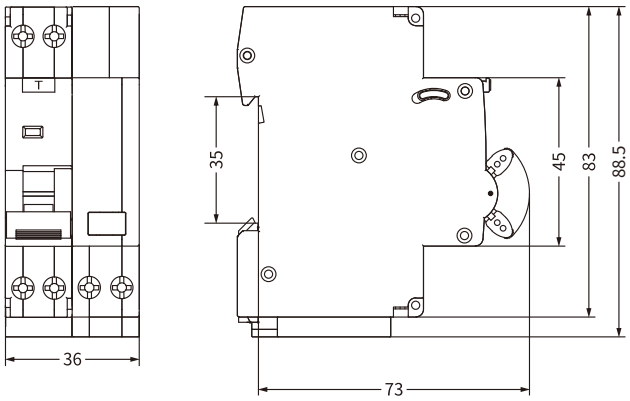
Technical Data

Standard	IEC/EN 61009-1, IEC 62026
Protection	Arc Fault Protection, Overload Protection, Short-Circuit Protection, Earth-Leakage Protection
Type of trip	Ground fault: Electronic Overload and short circuit: Thermo-magnetic
Residual current type	AC,A
No. of poles	1P+N (with switched neutral)
Rated voltage (Ue)	230/240V~
Rated currents (In)	6,10,16,20,25,32,40A
Rated sensitivity currents (I∆n)	10,30,100,300mA
Residual current off-time under (I∆n)	⩽ 0.1s
Rated residual making and breaking capacity (I∆m)	500A(In⩽50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	EKL17-40AFD: 6kA, EKL17H-40AFD: 10kA
Energy limiting class	3
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz,1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	L(in): 16mm² flexible/25mm² rigid, N/L(out): 10mm² flexible/16mm² rigid
Max. tightening torque	L(in): 2.5N.m, N/L(out): 2N.m
Installation	Mounting on 35mm DIN rail
Incoming method	From bottom

*Standard_* IEC61009-1 IEC62606

RCBO With Arc Fault Protective

Dimension (mm)



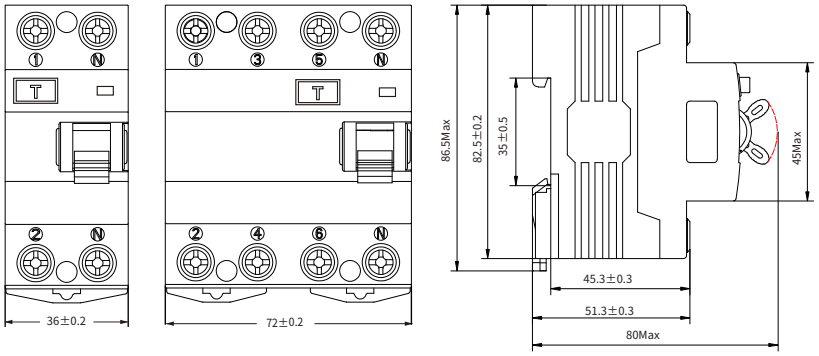
Technical Data

Standard	IEC/EN 61009-1, IEC 62026
Protection	Arc Fault Protection, Overload Protection, Short-Circuit Protection, Earth-Leakage Protection
Type of trip	Ground fault: Electronic Overload and short circuit: Thermo-magnetic
Residual current type	AC, A
No. of poles	1P+N (with switched neutral)
Rated voltage (Ue)	230/240V
Rated currents (In)	6,10,16,20,25,32,40A
Rated insulation voltage (Ui)	500V
Rated sensitivity currents (I∆n)	10,30,100,300mA
Residual current off-time under (I∆n)	⩽ 0.1s
Rated residual making and breaking capacity (I∆m)	500A(In⩽50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	6kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz,1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	$10mm^2$ flexible/$16mm^2$ rigid
Max. tightening torque	2.0N.m
Installation	Mounting on 35mm DIN rail
Incoming method	From top

*Standard_* IEC61008-1

Residual Current Circuit Breaker

Dimension (mm)



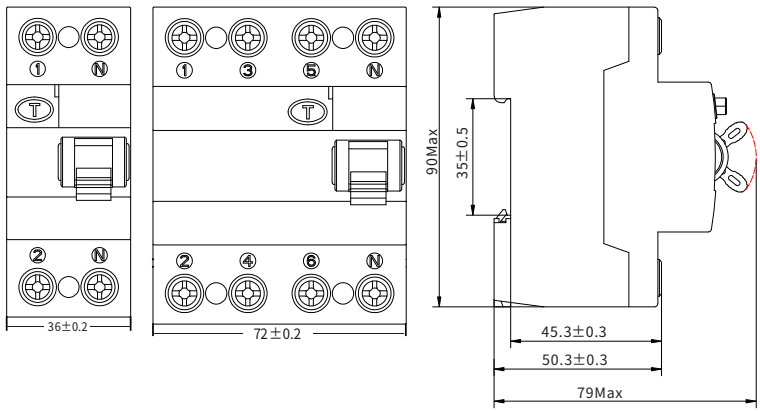
Technical Data

Standard	IEC/EN 61008-1
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	AC,A,G,S
No. of poles	2P(1P+N), 4P(3P+N)
Rated voltage (Ue)	1P+N: 230/240V~, 3P+N:400/415V~
Rated currents (In)	25,40,63,80A
Rated sensitivity currents (I∆n)	10,30,100,300mA
Residual current off-time under (I∆n)	⩽ 0.1s
Rated residual making and breaking capacity (I∆m)	500A(In⩽50A), 10In(In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc)	EKL1-80: 6kA, EKL1-80H: 10kA
SCPD fuse	6000 10000
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2.5kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar/Fork-type busbar
Max. terminal size for cable	16mm² flexible/25mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

*Standard_* IEC61008-1

Residual Current Circuit Breaker

Dimension (mm)



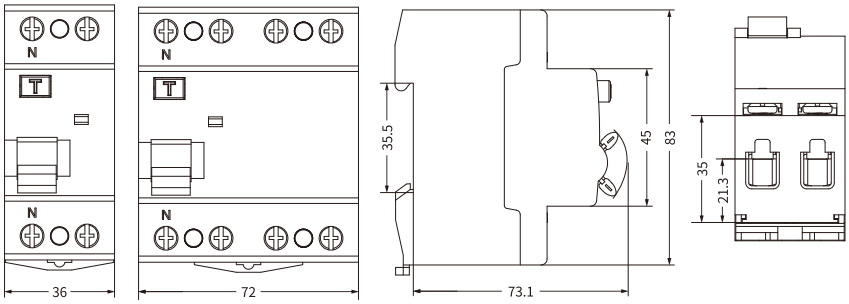
Technical Data

Standard	IEC/EN 61008-1
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	AC,A,G,S
No. of poles	2P(1P+N), 4P(3P+N) , N Pole on right
Rated voltage (Ue)	1P+N: 230/240V~, 3P+N: 400/415V~
Rated currents (In)	80,100,125A
Rated sensitivity currents (I∆n)	30,100,300mA
Residual current off-time under (I∆n)	⩽ 0.1s
Rated residual making and breaking capacity (I∆m)	10In (In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc)	EKL1-125: 6kA, EKL1-125H: 10kA
SCPD fuse	6000 10000
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar/Fork-type busbar
Max. terminal size for cable	35mm² flexible/50mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

*Standard_* IEC61008-1

Residual Current Circuit Breaker

Dimension (mm)



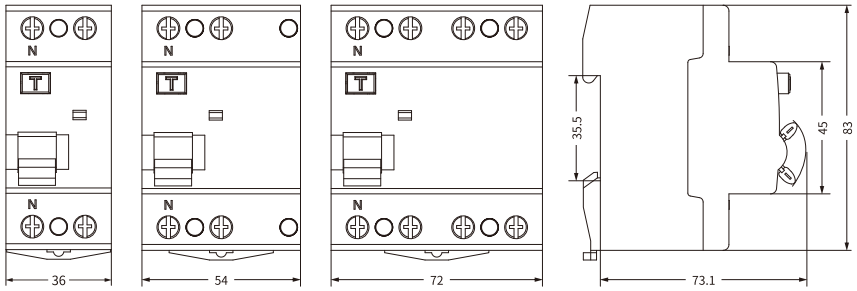
Technical Data

Standard	IEC/EN 61008-1
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	AC, A, A-G / A-SI, A-S
No. of poles	2P(1P+N), 4P(3P+N) , N Pole on left
Rated voltage (Ue)	1P+N: 230/240V~, 3P+N: 400/415V~
Rated currents (In)	16,25,32,40,63,80,100A
Rated sensitivity currents (I∆n)	10,30,100,300mA (10mA only for In=16-25A)
Residual current off-time under (I∆n)	A/AC⩽300ms; A-G / A-SI: 10-300ms; A-S:130-500ms
Rated residual making and breaking capacity (I∆m)	500A(In⩽50A), 10In(In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc)	EKL6-100: 6kA, EKL6-100H: 10kA
SCPD fuse	6000 10000
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	green OFF / red ON
Ground fault indicator	White: Normal, Red: Leakage fault
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar/Fork-type busbar
Max. terminal size for cable	25mm² flexible/30mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

*Standard_* IEC61008-1 IEC62423

Residual Current Circuit Breaker

Dimension (mm)



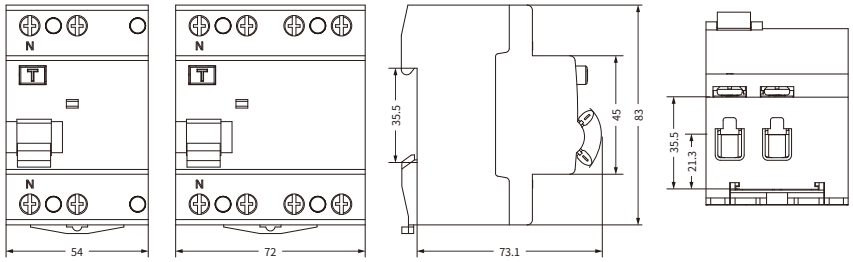
Technical Data

Standard	IEC 61008-1, IEC 62423
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	B: residual AC, pulsating and smooth DC current, high frequency (⩽1 kHz)
No. of poles	2P(1P+N), 4P(3P+N), N Pole on left
Insulation voltage (Ui)	500V
Rated voltage (Ue)	2P(1P+N):110/230/240V~, 4P(3P+N):240/400/415V~
Rated currents (In)	2P: 16,25,32,40,63A (80,100A(3 modules)); 4P: 16,25,32,40,63,80,100A
Rated sensitivity currents (I∆n)	30,100,300mA
Residual current off-time under (I∆n)	⩽ 0.1s
Rated residual making and breaking capacity (I∆m)	500A(In⩽50A), 10In(In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc)	10kA
SCPD fuse	10000
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2.5kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	green OFF / red ON
Ground fault indicator	White: Normal, Red: Leakage fault
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar/Fork-type busbar
Max. terminal size for cable	35mm^2
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

*Standard_* IEC61008-1 IEC62955

Type A RCCB with 6mA RDC-DD

Dimension (mm)



Technical Data

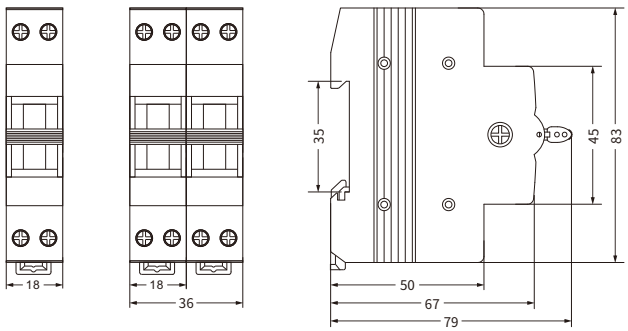
Standard	IEC 61008-1, IEC 62955
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	A
Classification of RDC-DD	RDC-PD
No. of poles	2P(1P+N), 4P(3P+N) , N Pole on left
Insulation voltage (Ui)	500V
Rated voltage (Ue)	2P: 240V~, 4P: 415V~
Rated currents (In)	16,25,32,40,63A
Rated sensitivity currents (I∆n)	30mA
Rated residual operating current (I∆dc)	6mA
Residual current off-time under (I∆n)	⩽ 0.1s
Rated residual making and breaking capacity (I∆m)	500A(In⩽50A), 10In(In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc)	10kA
SCPD fuse	10000
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2.5kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	green OFF / red ON
Ground fault indicator	White: Normal, Red: Leakage fault
Protection degree	IP20
Ambient temperature	-25°C to +55°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar/Fork-type busbar
Max. terminal size for cable	$35mm^2$
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

*Standard_* IEC60947-3 Isolator switch

Technical Data

Standard	IEC/EN 60947-3
No. of poles	2P,4P
Rated voltage (Ue)	240/415V~
Rated currents (In)	16,20,25,32,40A
Rated frequency	50/60Hz
Utilization category	AC-22A
Short-time withstand current (Icw)	480A
Rated short-circuit making capacity (Icm)	480A
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Rated insulation voltage (Ui)	500V
Electrical life	⩾1,500 Cycles
Mechanical life	⩾8,500 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-5°C to +40°C
Terminal connection type	Cable/Pin-type busbar
Terminal protection	Finger and hand touch safe
Terminal capacity	1~10mm^2
Busbar specification	0.8~2.5mm
Max. tightening torque	1.2N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Dimension (mm)



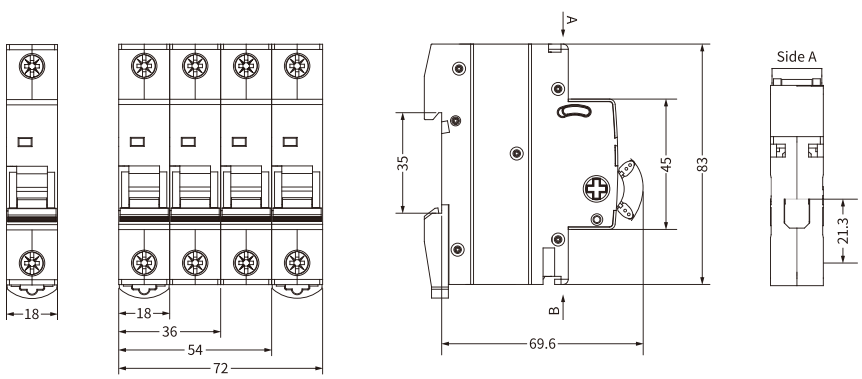
*Standard_* IEC60947-3

Isolator switch

Technical Data

Standard	IEC/EN 60947-3
No. of poles	1P,2P,3P,4P
Rated voltage (Ue)	230/240V~(1P), 400/415V~(2,3,4P)
Rated currents (In)	25,32,40,50,63,80,100,125A
Rated frequency	50/60Hz
Utilization category	AC-22A
Short-time withstand current (Icw)	2000A/1s
Rated short-circuit making capacity (Icm)	3000A
Rated making & breaking capacity	3Ie, 1.05Ue, CosΦ=0.65
Rated impulse withstand voltage (Uimp) (1.2/50μs)	6,000V
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Rated insulation voltage (Ui)	500V
Electrical life	2,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-5°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	35mm² flexible/50mm² rigid
Max. tightening torque	3.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Dimension (mm)



SD
alarm contact

OF
auxiliary contact

MX+OF
shunt release + aux

MN + MV
Over&under-voltage
release

Circuit breaker

Abbreviation	Accessory	Description	Typical Applications
OF	Auxiliary Contact	Provides status feedback of the circuit breaker (ON/OFF) to monitoring or control systems.	Automation and monitoring systems requiring real-time feedback on circuit breaker status.
SD	Alarm Contact	Sends an alarm signal when the circuit breaker trips due to overload, short circuit, or manual operation.	Remote fault indication or alarm panels in control systems.
FB	Auxiliary Contact + Alarm Contact	Combines the functionality of auxiliary contact (OF) and alarm contact (SD) in a single unit	Used in systems that require both real-time status feedback and fault alarming.
MX	Shunt Release	Allows remote circuit breaker tripping via an external electrical signal (e.g., emergency stop).	Emergency stop systems, electrical fire safety systems, and remote disconnection.
MX+OF	Shunt Release + Auxiliary Contact	Combines shunt trip functionality with status feedback for remote control and status indication.	Complex automation systems requiring control and feedback mechanisms.
MN	Under-voltage Release	Automatically trips the circuit breaker when the supply voltage drops below a preset threshold (undervoltage condition).	Protects equipment and circuits from operating under insufficient voltage conditions.
MV	Over-voltage Release	Automatically trips the circuit breaker when the voltage exceeds a preset upper limit (overvoltage threshold).	Protection of equipment and circuits from damage caused by excessive voltage levels.
MN+MV	Under-voltage + Over-voltage Release	Protects the circuit by tripping the breaker when the voltage either exceeds a set upper limit (overvoltage) or falls below a preset lower limit (undervoltage).	Ensures the safety of voltage-sensitive equipment in unstable power supply conditions.
MNs	Voltage Loss Release	Automatically trips the circuit breaker when the supply voltage drops below a certain threshold or is lost entirely.	Protection of voltage-sensitive equipment, prevention of low-voltage operation, and avoiding unintended startups.

EKM2H-OF Auxiliary Contact

Ref No.	Rated voltage	Rated current	Contact number	Adapted models
EKM2H-OF-110	110VAC	1A	1NO+1NC	EKM2-63 EKM12-63H EKM12-125
EKM2H-OF-230	230VAC	6A		
EKM2H-OF-400	415VAC	3A		
EKM2H-OF-24	24VDC	6A		
EKM2H-OF-48	48VDC	2A		
EKM2H-2OF-110	110VAC	1A	2NO+2NC	
EKM2H-2OF-230	230VAC	6A		
EKM2H-2OF-400	415VAC	3A		
EKM2H-2OF-24	24VDC	6A		
EKM2H-2OF-48	48VDC	2A		

EKM2H-SD Alarm Contact

Ref No.	Rated voltage	Rated current	Contact number	Adapted models
EKM2H-SD-110	110VAC	1A	1NO+1NC	EKM2-63 EKM12-63H EKM12-125
EKM2H-SD-230	230VAC	6A		
EKM2H-SD-400	415VAC	3A		
EKM2H-SD-24	24VDC	6A		
EKM2H-SD-48	48VDC	2A		

EKM2H-FB Auxiliary and Alarm Contact Combination

Ref No.	Rated voltage	Rated current	Contact number	Adapted models
EKM2H-FB-110	110VAC	1A	2NO+2NC	EKM2-63 EKM12-63H EKM12-125
EKM2H-FB-230	230VAC	6A		
EKM2H-FB-400	415VAC	3A		
EKM2H-FB-24	24VDC	6A		
EKM2H-FB-48	48VDC	2A		

EKM2H-MX Shunt Release

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Operate voltage range	Adapted models
EKM2H-MX-110	110VAC	500V	(70%~110%) Us	EKM2-63 EKM12-63H EKM12-125
EKM2H-MX-230	230VAC			
EKM2H-MX-400	415VAC			
EKM2H-MX-24	24VDC			
EKM2H-MX-48	48VDC			

EKM2H-MX+OF Shunt Release and Auxiliary Contact Combination

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Operate voltage range	Adapted models	Remark
EKM2H-MXV+OF-110	110VAC	500V	(70%~110%) Us	EKM2-63 EKM12-63H EKM12-125	Passive type
EKM2H-MXV+OF-230	230VAC				
EKM2H-MXV+OF-400	415VAC				
EKM2H-MXV+OF-24	24VDC				
EKM2H-MXV+OF-48	48VDC				
EKM2H-MX+OF-110	110VAC				Active type
EKM2H-MX+OF-230	230VAC				
EKM2H-MX+OF-400	415VAC				
EKM2H-MX+OF-24	24VDC				
EKM2H-MX+OF-48	48VDC				

EKM2H-MN Under-voltage Release

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Under-voltage tripping range	Adapted models
EKM2H-MN-230	230VAC	500V	170V±5%	EKM2-63 EKM12-63H EKM12-125
EKM2H-MN-380	380VAC		300V±5%	

EKM2H-MV Over-voltage Release

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Under-voltage tripping range	Adapted models
EKM2H-MV-230	230VAC	500V	270V±5%	EKM2-63 EKM12-63H EKM12-125
EKM2H-MV-380	380VAC		460V±5%	

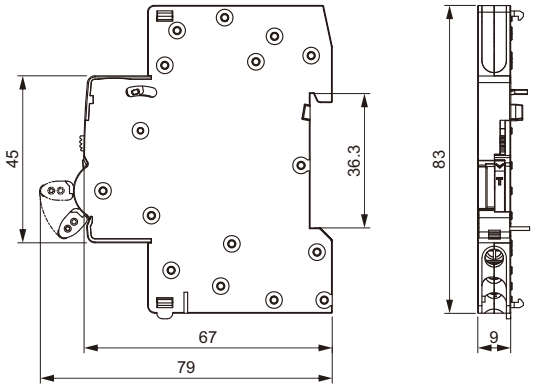
EKM2H-MN+MV Under-voltage and Over-voltage Release Combination

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Under-voltage tripping range	Over-voltage tripping range	Adapted models
EKM2H-MN+MV-230	230VAC	500V	170V±5%	270V±5%	EKM2-63 EKM12-63H EKM12-125
EKM2H-MN+MV-380	380VAC		300V±5%	460V±5%	

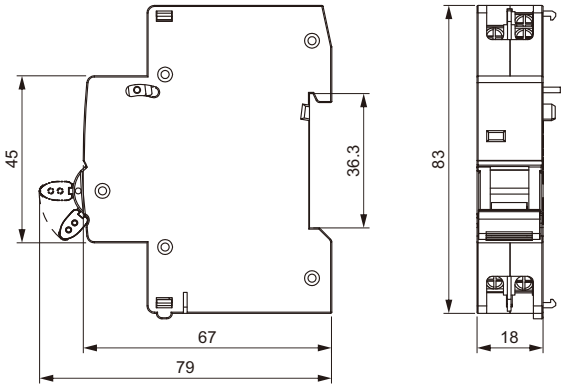
EKM2H-MNs Voltage Loss Release

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Under-voltage tripping range	Over-voltage tripping range	Adapted models	Remark
EKM2H-MNs1-230	230VAC	500V	170V±5%	270V±5%	EKM2-63 EKM12-63H EKM12-125	Electronic
EKM2H-MNs2-230						Mechanical

Dimension (mm)



EKM2H-OF
EKM2H-2OF
EKM2H-SD
EKM2H-FB



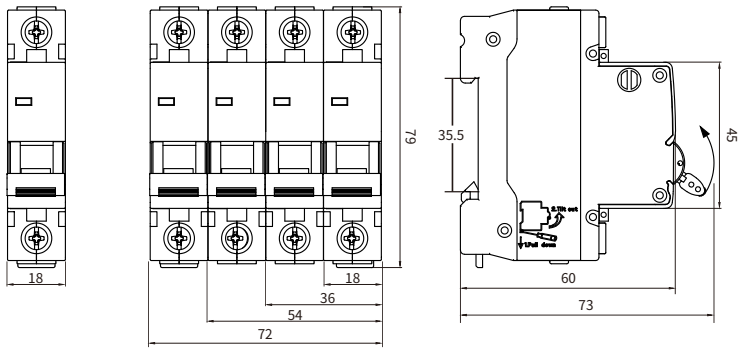
EKM2H-MX
EKM2H-MX+OF
EKM2H-MN
EKM2H-MV
EKM2H-MN+MV
EKM2H-MNs

*Standard_* IEC60898-1 Mini Circuit Breaker

TechnicalData

Standard	IEC/EN 60898-1
Protection	Overcurrent and short circuit
Type of trip	Thermo-magnetic
No. of poles	1P,2P,3P,4P,1P+N,3P+N
Rated voltage (Ue)	240/415V~
Rated currents (In)	1,2,3,4,5,6,8,10,13,16,20,25,32,40,50,63A
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	3/4.5kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In, D:(10-20) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-5°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	16mm² flexible/25mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Dimension(mm)

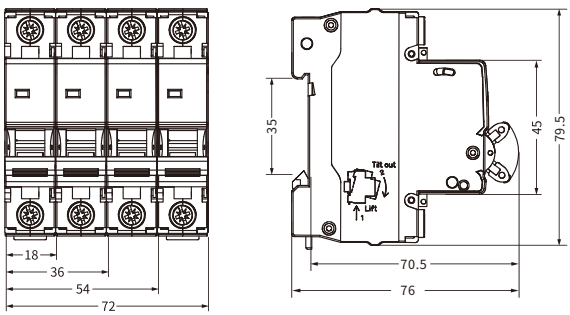


*Standard_* IEC60898-1 Mini Circuit Breaker

Technical Data

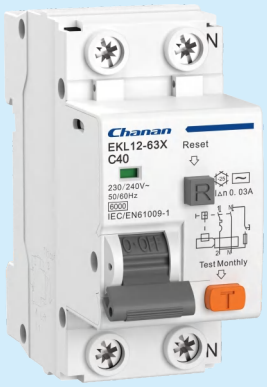
Standard	IEC/EN 60898-1
Protection	Overcurrent and short circuit
Type of trip	Thermo-magnetic
No. of poles	1P,2P,3P,4P
Rated voltage (Ue)	240/415V~
Rated currents (In)	1,2,3,4,5,6,8,10,13,16,20,25,32,40,50,63A
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	4.5/6kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In, D:(10-20) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +55°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	16mm² flexible/25mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Dimension (mm)

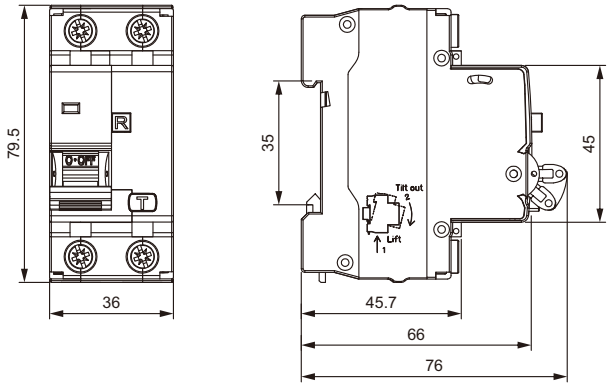


*Standard_* IEC61009-1

Residual Current Circuit Breaker with Overcurrent Protection



Dimension (mm)

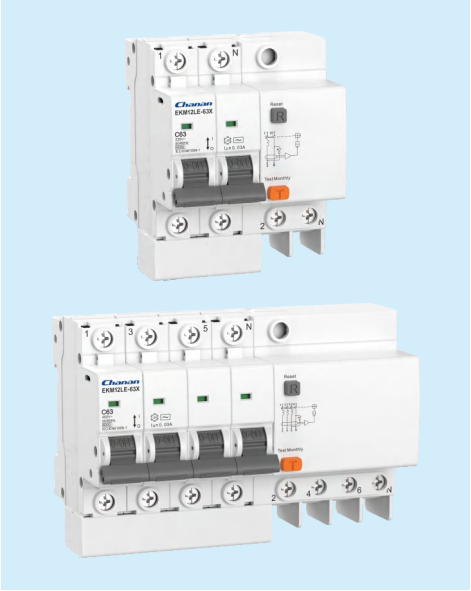


Technical Data

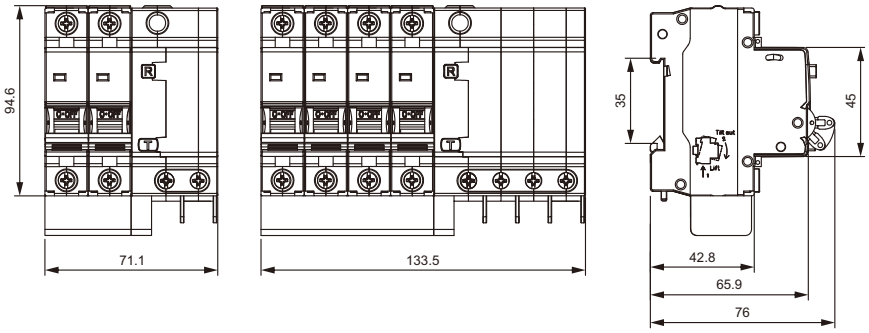
Standard	IEC/EN 61009-1
Protection	Ground fault, Overcurrent and short circuit
Type of trip	Ground fault: Etectronic
	Overload and short circuit: Thermo-magnetic
Residual current type	AC,A
No. of poles	1P+N (with switched neutral)
Rated voltage (Ue)	230/240V~
Rated currents (In)	6,10,16,20,25,32,40,50,63A
Rated sensitivity currents (IΔn)	10,30,100,300mA
Residual current off-time under (IΔn)	⩽ 0.1s
Rated residual making and breaking capacity (IΔm)	500A(In⩽50A), 10In(In>50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	6kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	16mm² flexible/25mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	From top

*Standard_* IEC61009-1

Residual Current Circuit Breaker with Overcurrent Protection



Dimension (mm)



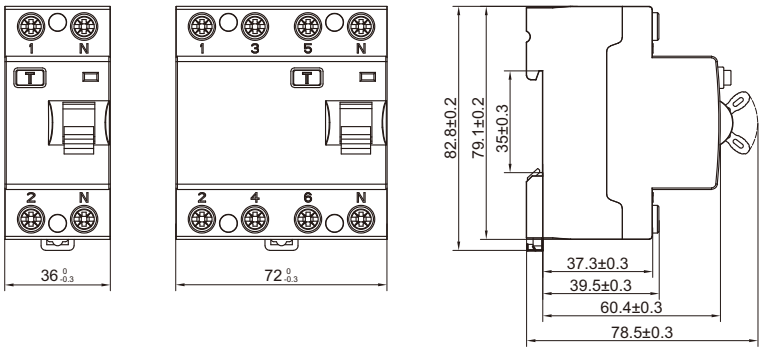
Technical Data

Standard	IEC/EN 61009-1
Protection	Ground fault, Overcurrent and short circuit
Type of trip	Ground fault: Etectronic
	Overload and short circuit: Thermo-magnetic
Residual current type	AC,A
No. of poles	1P+N, 3P+N (with switched neutral)
Rated voltage (Ue)	1P+N:230/240V~; 3P+N:400/415V~
Rated currents (In)	6,10,16,20,25,32,40,50,63A
Rated sensitivity currents (I∆n)	30,100,300mA
Residual current off-time under (I∆n)	⩽ 0.1s
Rated residual making and breaking capacity (I∆m)	500A(In⩽50A), 10In(In>50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	6kA
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	1.13 x In No tripping within an hour; 1.45 x In Tripping within an hour
Instantaneous tripping characteristics	B:(3-5) x In, C:(5-10) x In
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	16mm² flexible/25mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	From top

*Standard_* IEC61008-1

Residual Current Circuit Breaker

Dimension (mm)



Technical Data

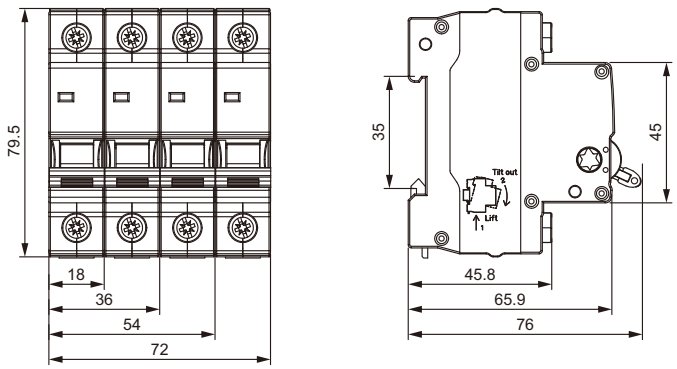
Standard	IEC/EN 61008-1
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	AC,A,G,S
No. of poles	2P(1P+N), 4P(3P+N) , N Pole on right
Rated voltage (Ue)	1P+N: 230/240V~, 3P+N: 400/415V~
Rated currents (In)	16,25,32,40,63A
Rated sensitivity currents (I∆n)	10,30,100,300mA
Residual current off-time under (I∆n)	⩽ 0.1s
Rated residual making and breaking capacity (I∆m)	10In (In>50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc)	EKL1-125: 6kA, EKL1-125H: 10kA
SCPD fuse	6000 10000
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4.5/6kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-25°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar/Fork-type busbar
Max. terminal size for cable	35mm² flexible/50mm² rigid
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

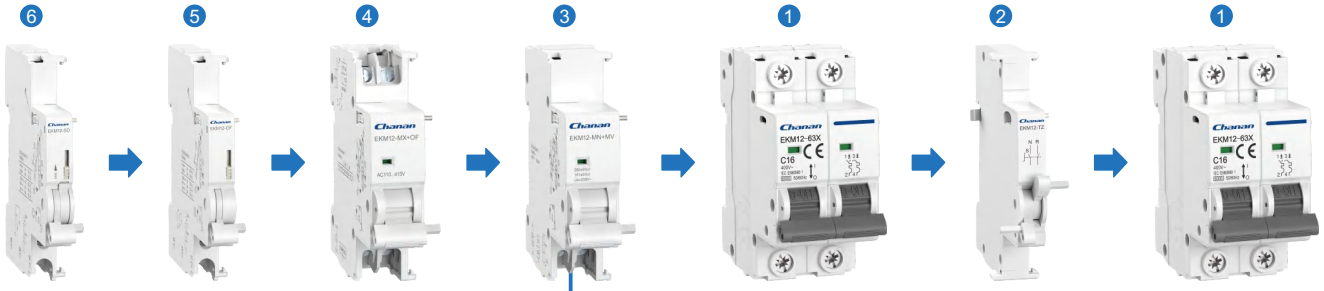
*Standard_* IEC60947-3 Economy Isolator switch

Technical Data

Standard	IEC/EN 60947-3
No. of poles	1P,2P,3P,4P
Rated voltage (Ue)	240/415V~
Rated currents (In)	25,32,40,50,63,80,100,125A
Rated frequency	50/60Hz
Utilization category	AC-22A
Short-time withstand current (Icw)	2000A/1s
Rated short-circuit making capacity (Icm)	3000A
Rated making & breaking capacity	3Ie, 1.05Ue, CosΦ=0.65
Rated impulse withstand voltage (Uimp) (1.2/50μs)	6,000V
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Rated insulation voltage (Ui)	500V
Electrical life	2,000 Cycles
Mechanical life	10,000 Cycles
Contact position indicator	green OFF / red ON
Protection degree	IP20
Ambient temperature	-5°C to +40°C, Max.95% humidity
Terminal connection type	Cable/Pin-type busbar
Max. terminal size for cable	35mm² flexible/50mm² rigid
Max. tightening torque	3.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Dimension (mm)





1. Circuit breaker body
2. Mechanical Interlock
3. MN+MV under-voltage and over-voltage release,
   MN under-voltage release
   MV over-voltage release
   MNs voltage loss release
4. MX+OF shunt release and auxiliary contact,
   MX shunt release
5. OF auxiliary contact
6. SD alarm contact

Abbreviation	Accessory	Description	Typical Applications
OF	Auxiliary Contact	Provides status feedback of the circuit breaker (ON/OFF) to monitoring or control systems.	Automation and monitoring systems requiring real-time feedback on circuit breaker status.
SD	Alarm Contact	Sends an alarm signal when the circuit breaker trips due to overload, short circuit, or manual operation.	Remote fault indication or alarm panels in control systems.
FB	Auxiliary Contact + Alarm Contact	Combines the functionality of auxiliary contact (OF) and alarm contact (SD) in a single unit	Used in systems that require both real-time status feedback and fault alarming.
MX	Shunt Release	Allows remote circuit breaker tripping via an external electrical signal (e.g., emergency stop).	Emergency stop systems, electrical fire safety systems, and remote disconnection.
MX+OF	Shunt Release + Auxiliary Contact	Combines shunt trip functionality with status feedback for remote control and status indication.	Complex automation systems requiring control and feedback mechanisms.
MN	Under-voltage Release	Automatically trips the circuit breaker when the supply voltage drops below a preset threshold (undervoltage condition).	Protects equipment and circuits from operating under insufficient voltage conditions.
MV	Over-voltage Release	Automatically trips the circuit breaker when the voltage exceeds a preset upper limit (overvoltage threshold).	Protection of equipment and circuits from damage caused by excessive voltage levels.
MN+MV	Under-voltage + Over-voltage Release	Protects the circuit by tripping the breaker when the voltage either exceeds a set upper limit (overvoltage) or falls below a preset lower limit (undervoltage).	Ensures the safety of voltage-sensitive equipment in unstable power supply conditions.
Mns	Voltage Loss Release	Automatically trips the circuit breaker when the supply voltage drops below a certain threshold or is lost entirely.	Protection of voltage-sensitive equipment, prevention of low-voltage operation, and avoiding unintended startups.
TZ	Mechanical Interlock	Composed of two-stage (multi - stage) circuit breaker and interlock conversion accessories.	It is mainly used two main circuits cannot work at the same time.

EKM12-OF Auxiliary Contact

Ref No.	Rated voltage	Rated current	Contact number	Adapted models
EKM12-OF-110	110VAC	1A	1NO+1NC	EKM12-63X
EKM12-OF-230	230VAC	6A		
EKM12-OF-400	415VAC	3A		
EKM12-OF-24	24VDC	6A		
EKM12-OF-48	48VDC	2A		
EKM12-2OF-110	110VAC	1A	2NO+2NC	
EKM12-2OF-230	230VAC	6A		
EKM12-2OF-400	415VAC	3A		
EKM12-2OF-24	24VDC	6A		
EKM12-2OF-48	48VDC	2A		

EKM12-SD Alarm Contact

Ref No.	Rated voltage	Rated current	Contact number	Adapted models
EKM12-SD-110	110VAC	1A	1NO+1NC	EKM12-63X
EKM12-SD-230	230VAC	6A		
EKM12-SD-400	415VAC	3A		
EKM12-SD-24	24VDC	6A		
EKM12-SD-48	48VDC	2A		

EKM12-FB Auxiliary and Alarm Contact Combination

Ref No.	Rated voltage	Rated current	Contact number	Adapted models
EKM12-FB-110	110VAC	1A	2NO+2NC	EKM12-63X
EKM12-FB-230	230VAC	6A		
EKM12-FB-400	415VAC	3A		
EKM12-FB-24	24VDC	6A		
EKM12-FB-48	48VDC	2A		

EKM12-MX Shunt Release

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Operate voltage range	Adapted models
EKM12-MX-110	110VAC	500V	(70%~110%) Us	EKM12-63X
EKM12-MX-230	230VAC			
EKM12-MX-400	415VAC			
EKM12-MX-24	24VDC			
EKM12-MX-48	48VDC			

EKM12-MX+OF Shunt Release and Auxiliary Contact Combination

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Operate voltage range	Adapted models	Remark
EKM12-MXV+OF-110	110VAC	500V	(70%~110%) Us	EKM12-63X	Passive type
EKM12-MXV+OF-230	230VAC				
EKM12-MXV+OF-400	415VAC				
EKM12-MXV+OF-24	24VDC				
EKM12-MXV+OF-48	48VDC				
EKM12-MX+OF-110	110VAC				Active type
EKM12-MX+OF-230	230VAC				
EKM12-MX+OF-400	415VAC				
EKM12-MX+OF-24	24VDC				
EKM12-MX+OF-48	48VDC				

EKM12-MN Under-voltage Release

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Under-voltage tripping range	Adapted models
EKM12-MN-230	230VAC	500V	170V±5%	EKM12-63X
EKM12-MN-380	380VAC		300V±5%	

EKM12-MV Over-voltage Release

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Under-voltage tripping range	Adapted models
EKM12-MV-230	230VAC	500V	270V±5%	EKM12-63X
EKM12-MV-380	380VAC		460V±5%	

EKM12-MN+MV Under-voltage and Over-voltage Release Combination

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Under-voltage tripping range	Over-voltage tripping range	Adapted models
EKM12-MN+MV-230	230VAC	500V	170V±5%	270V±5%	EKM12-63X
EKM12-MN+MV-380	380VAC		300V±5%	460V±5%	

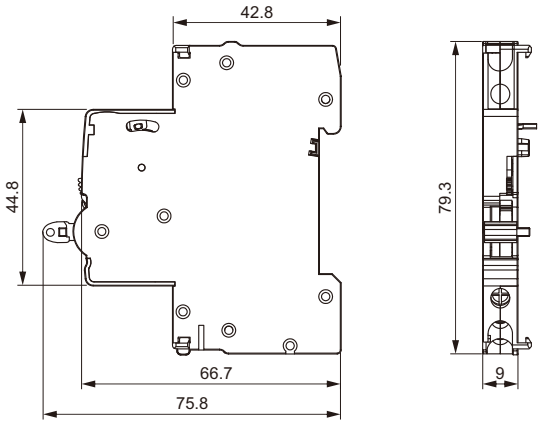
EKM12-MNs Voltage Loss Release

Ref No.	Rated voltage	Rated insulation voltage(Ui)	Under-voltage tripping range	Over-voltage tripping range	Adapted models	Remark
EKM12-MNs1-230	230VAC	500V	170V±5%	270V±5%	EKM12-63X	Electronic
EKM12-MNs2-230						Mechanical

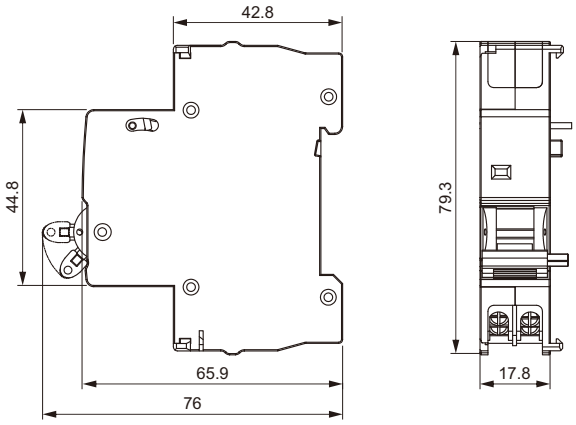
EKM12-TZ Mechanical Interlock

Ref No.	Adapted models	Remark
EKM12-TZ	EKM12-63X (Between two or more stage circuit breakers)	Manual switching of dual power supply

Dimension (mm)



EKM12-OF
EKM12-2OF
EKM12-SD
EKM12-OF+SD
EKM12-FB

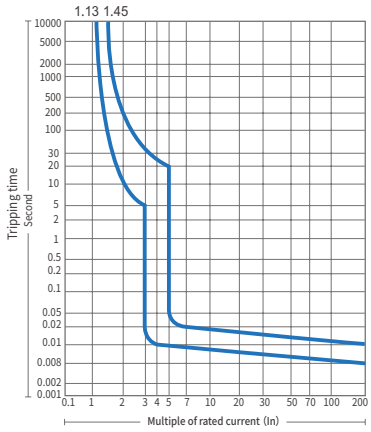


EKM12-MX
EKM12-MX+OF
EKM12-MN
EKM12-MV
EKM12-MN+MV
EKM12-MNs

Tripping Characteristic

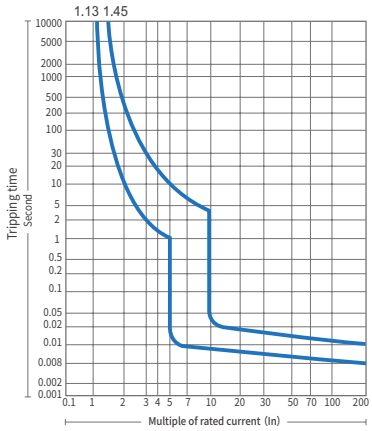
Data acc. to IEC/EN 60898-1										
Curve	Rated current	Thermal release					Magnetic release			
		Non-trip	Trip	Non-trip time	Trip time	Ambient temperature	Hold current	Trip current	Trip time	Ambient temperature
B	1-125A	1.13In		⩽1h		30°C+5°C	3In		⩾0.1	Normal temperature
			1.45In		<1h			5In	<0.1	
C	1-125A	1.13In		⩽1h			5In		⩾0.1	
			1.45In		<1h			10In	<0.1	
D	1-125A	1.13In		⩽1h			10In		⩾0.1	
			1.45In		<1h			20In	<0.1	

B curve



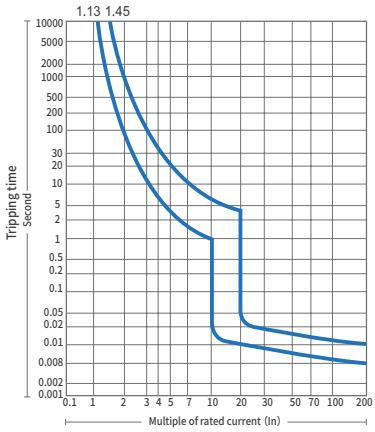
Universal use
- socket outlet, lighting device

C curve



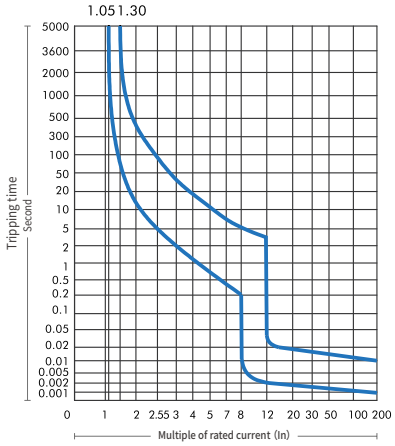
Resistive & inductive loads with low inruch current
- lamp, high starting current motor

D curve



Loads with high inrush current
- transformer, solenoid valve, 2 pole motor

Data acc. to IEC/EN 60947-2						
Rated current (In)	Tripping Characteristic	Initial state	Test current (A)	Trip time (t)	Result to be obtained	Ambient temperature
⩽63A	Thermal release	Cold state	1.05In	⩾1h	No trip	40°C
		Hot state (Follow the above test)	1.30In	<1h	Trip	
	Magnetic release	Cold state	8In	⩽0.2s	No trip	Normal temperature
			12In	<0.2s	Trip	

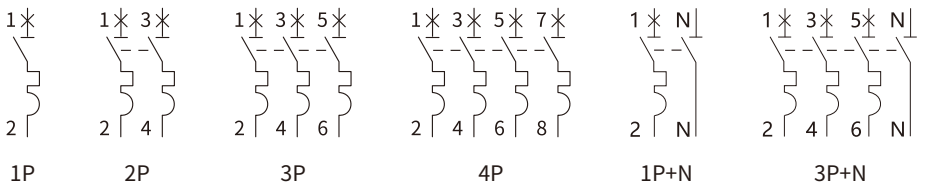


Temperature Derating Table

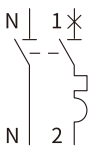
Rated current (A)	Correction factor for ambient temperature											
	-40°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
1	1.33	1.29	1.25	1.2	1.15	1.11	1.05	1	0.94	0.88	0.82	0.75
2	2.67	2.58	2.49	2.4	2.31	2.21	2.11	2	1.89	1.76	1.63	1.49
3	4	3.9	3.7	3.6	3.5	3.3	3.2	3	2.8	2.6	2.4	2.2
4	5.3	5.2	5	4.8	4.6	4.4	4.2	4	3.8	3.5	3.3	3
5	6.7	6.5	6.31	6.1	5.8	5.5	5.25	5	4.7	4.3	4	3.7
6	8	7.7	7.5	7.2	6.9	6.6	6.3	6	5.7	5.3	4.9	4.5
10	13.3	12.9	12.5	12	11.5	11.1	10.5	10	9.4	8.8	8.2	7.5
16	21.3	20.7	20	19.2	18.5	17.7	16.9	16	15.1	14.1	13.1	11.9
20	26.7	25.8	24.9	24	23.1	22.1	21.1	20	18.9	17.6	16.3	14.9
25	33.3	32.3	31.2	30	28.9	27.6	26.4	25	23.6	22	20.4	18.6
32	42.7	41.3	39.9	38.5	37	35.4	33.7	32	30.2	28.2	26.1	23.9
40	53.3	51.6	49.9	48.1	46.2	44.2	42.2	40	37.7	35.3	32.7	29.8
50	66.7	64.5	62.4	60.1	57.7	55.3	52.7	50	47.1	44.1	40.8	37.3
63	84	81.3	78.6	75.7	72.7	69.6	66.4	63	59.4	55.6	51.4	47
80	106.4	103.2	100	96	92	88.8	84	80	75.2	70.4	65.6	60
100	133	129	125	120	115	111	105	100	94	88	82	75
125	166.3	161.3	156.3	150	143.8	138.8	131.3	125	117.5	110	102.5	93.8

Circuit Diagram

- EKM2-63X
- EKM2-63
- EKM12-63H
- EKM12-63X
- EKM1-125S
- EKM12-125
- EKM2-125H
- EKM2-63M



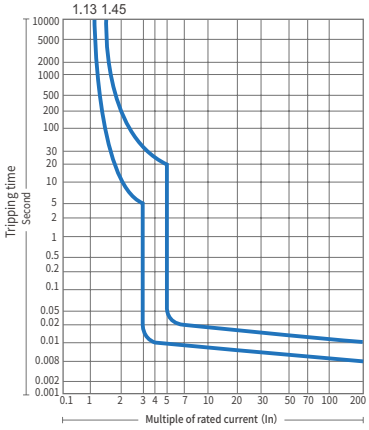
- EKM2-40N



Tripping Characteristic

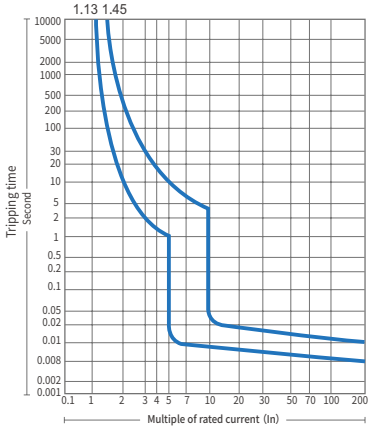
Data acc. to IEC/EN 60898-1										
Curve	Rated current	Thermal release					Magnetic release			
		Non-trip	Trip	Non-trip time	Trip time	Ambient temperature	Hold current	Trip current	Trip time	Ambient temperature
B	6-80A	1.13In		⩽1h		30°C+5°C	3In		⩾0.1	Normal temperature
			1.45In		＜1h			5In	＜0.1	
C	6-80A	1.13In		⩽1h			5In		⩾0.1	
			1.45In		＜1h			10In	＜0.1	
D	6-80A	1.13In		⩽1h			10In		⩾0.1	
			1.45In		＜1h			20In	＜0.1	

B curve



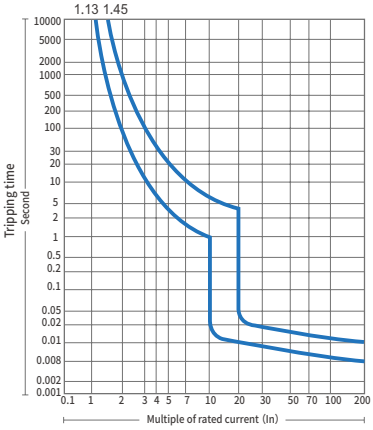
Universal use
- socket outlet, lighting device

C curve



Resistive & inductive loads with low inruch current
- lamp, high starting current motor

D curve



Loads with high inrush current
- transformer, solenoid valve, 2 pole motor

Temperature Derating Table

Rated current (A)	Correction factor for ambient temperature											
	-40°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
6	8	7.7	7.5	7.2	6.9	6.6	6.3	6	5.7	5.3	4.9	4.5
10	13.3	12.9	12.5	12	11.5	11.1	10.5	10	9.4	8.8	8.2	7.5
16	21.3	20.7	20	19.2	18.5	17.7	16.9	16	15.1	14.1	13.1	11.9
20	26.7	25.8	24.9	24	23.1	22.1	21.1	20	18.9	17.6	16.3	14.9
25	33.3	32.3	31.2	30	28.9	27.6	26.4	25	23.6	22	20.4	18.6
32	42.7	41.3	39.9	38.5	37	35.4	33.7	32	30.2	28.2	26.1	23.9
40	53.3	51.6	49.9	48.1	46.2	44.2	42.2	40	37.7	35.3	32.7	29.8
50	66.7	64.5	62.4	60.1	57.7	55.3	52.7	50	47.1	44.1	40.8	37.3
63	84	81.3	78.6	75.7	72.7	69.6	66.4	63	59.4	55.6	51.4	47
80	106.4	103.2	100	90	92	88.8	84	80	75.2	70.4	65.6	60

Tripping Sensitivity

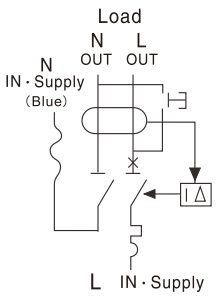
- 10mA: Provides a higher level of protection for the human body and is used in certain situations with very high requirements for electric shock protection, such as children's facilities, swimming pools, bathrooms and other humid environments.
- 30mA: This is the most commonly used protection level in homes and commercial buildings, and is suitable for socket protection in general residential environments, offices and commercial places.
- 100mA: Usually used in situations where personal protection requirements are not as strict as 30mA, or for equipment protection, such as air conditioning systems, industrial equipment, etc.
- 300mA: Mainly used for fire protection, such as distribution boards and general protection of large electrical equipment.

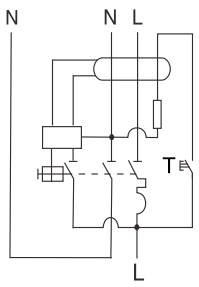
RCD Type

AC	Only sinusoidal alternating current (AC) leakage current can be detected. Suitable for environments where DC leakage does not occur, such as homes and general offices.
A	Able to detect alternating current (AC) leakage current and pulsed DC leakage current. It is suitable for environments where DC leakage may occur, including places where modern electrical equipment such as inverters, UPS (uninterruptible power supply systems), and LED lighting are used.
S	Type S RCDs can be type AC or type A, but they have a time delay function that allows a brief leakage current to pass without tripping immediately. It is mainly used for higher-level protection in power distribution systems to avoid power outages in the entire system due to downstream RCD actions. They allow downstream RCDs to respond first to leakage faults.
B	Able to detect alternating current (AC), pulsed DC leakage current, and smooth DC leakage current. Type B RCDs provide the most comprehensive protection and can detect all types of leakage currents. Suitable for special applications, such as electric vehicle charging stations, photovoltaic systems, medical equipment, etc., where a large amount of DC component leakage current may be generated.

Circuit Diagram

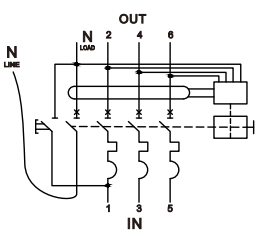
- EKL17(H)-40

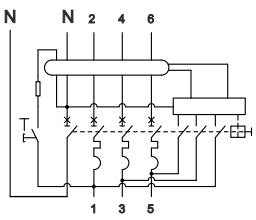




Bi-Directional

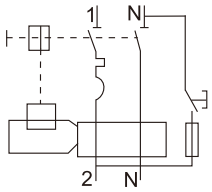
- EKL37(H)-40



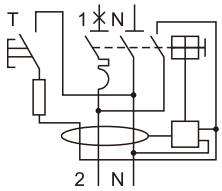


Bi-Directional

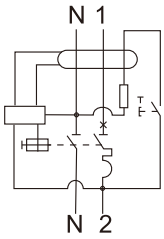
• EKL12-63X



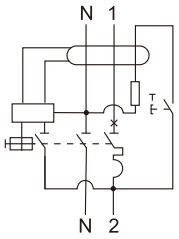
• EKL8-80(H)



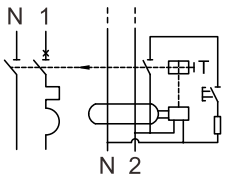
• EKL19-40



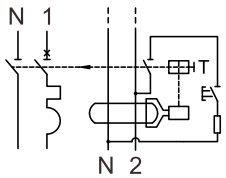
• EKL19-40B



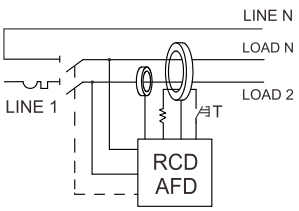
• EKL29-40



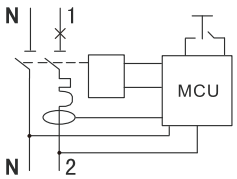
• EKL29-40M



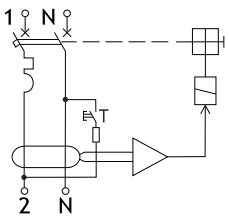
• EKL17(H)-40AFD



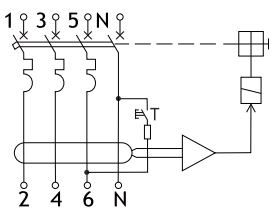
• EKL19-40AFD



• EKM12LE-63



1P+N



3P+N

Tripping Sensitivity

- 10mA: Provides a higher level of protection for the human body and is used in certain situations with very high requirements for electric shock protection, such as children's facilities, swimming pools, bathrooms and other humid environments.
- 30mA: This is the most commonly used protection level in homes and commercial buildings, and is suitable for socket protection in general residential environments, offices and commercial places.
- 100mA: Usually used in situations where personal protection requirements are not as strict as 30mA, or for equipment protection, such as air conditioning systems, industrial equipment, etc.
- 300mA: Mainly used for fire protection, such as distribution boards and general protection of large electrical equipment.
- 6mA DC: Designed to detect DC leakage currents of 6 mA or greater. When such a leakage current is detected, the protection device will interrupt the circuit to prevent potential hazards such as electric shock or fire.

RCD Type

AC 	Only sinusoidal alternating current (AC) leakage current can be detected. Suitable for environments where DC leakage does not occur, such as homes and general offices.
A 	Able to detect alternating current (AC) leakage current and pulsed DC leakage current. It is suitable for environments where DC leakage may occur, including places where modern electrical equipment such as inverters, UPS (uninterruptible power supply systems), and LED lighting are used.
S, G/SI S G	Not only can it ensure the tripping response to sinusoidal AC residual currents, but it can also effectively detect and trip pulsed DC residual currents, regardless of whether these leakage currents increase suddenly or slowly. S, G/SI types have filters to avoid false tripping caused by harmonics and transient surges (such as the impact of 8/20μs surge 3000A), thus improving the stability and reliability of the system.
B 	Able to detect alternating current (AC), pulsed DC leakage current, and smooth DC leakage current. Type B RCDs provide the most comprehensive protection and can detect all types of leakage currents. Suitable for special applications, such as electric vehicle charging stations, photovoltaic systems, medical equipment, etc., where a large amount of DC component leakage current may be generated.

Tripping Time

Instantaneous	Two types of leakage protectors, AC and A, are usually designed to quickly disconnect circuits (⩽300ms) to protect people from electric shock.
Short time delay G/SI	Designed for use in situations where rapid power outage is required to protect equipment. They have shorter trip times (10-300ms) than Type AC and Type A RCDs to minimize damage to the equipment.
Selective S	Designed to allow downstream RCDs to trip before upstream RCDs, thereby achieving precise isolation of faulty sections. The S-type RCD is designed with a longer tripping time (130-500ms) to coordinate with other RCDs in the power distribution system to avoid unnecessary power outages.

Breaking Time of Residual Current

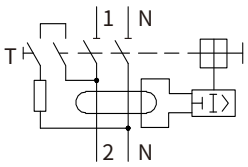
In(A)	IΔn(A)	Max. breaking time			
		IΔn	2IΔn	5IΔn	5,10,20,50,100,200,500A
16,20,25,32,40,50,63,80,100,125	0.03, 0.1, 0.3	0.1s	0.08s	0.04s	0.04s

Wiring The suitable conductors should be used for connection,see table below for relative parameters.

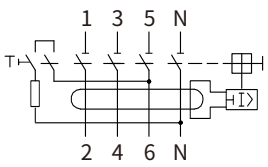
Rated current In (A)	Cross section area s (mm^2)	Tightening torque (N.m)
16	2.5	2.5
20	2.5	2.5
25	4	2.5
32	6	2.5
40	10	2.5
50	10	2.5
63	16	2.5
80	25	2.5
100	35	2.5
125	50	2.5

Circuit Diagram

- EKL1-80(H)
- EKL1-125(H)
- EKL21-63M

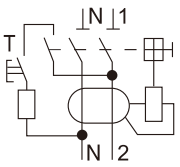


1P+N

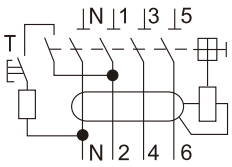


3P+N

- EKL6-100(H)

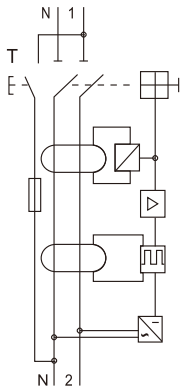


1P+N

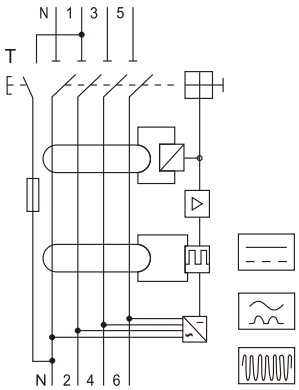


3P+N

- EKL6-100B

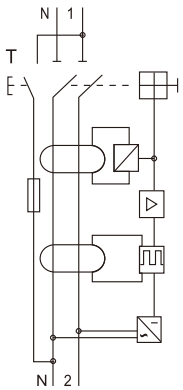


1P+N

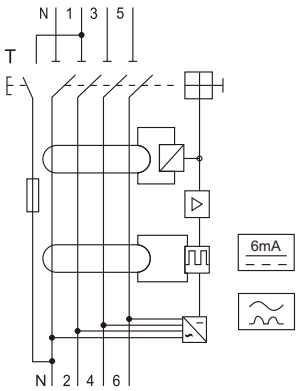


3P+N

- EKL6-63EV



1P+N



3P+N

Definition

Isolators are switch disconnectors with independent manual operation, capable of making, carrying and breaking currents under normal circuit conditions, which may includes operating under overload condition and also carry currents under specified abnormal circuit conditions such as those of short circuit for a specified time.

Utilization Categories for Low Voltage Switchgear According to IEC60947-3

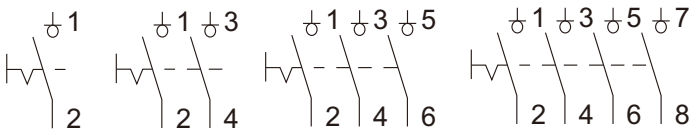
Current	Category	Typical application
AC	AC-20	Connecting and disconnecting under no-load conditions
	AC-21	Switching of resistive loads including moderate overloads
	AC-22	Switching of mixed resistive and inductive loads, including moderate overloads
	AC-23	Switching of motor loads or other highly inductive loads
DC	AC-20	Connecting and disconnecting under no-load conditions
	AC-21	Switching of resistive loads including moderate overloads
	AC-22	Switching of mixed resistive and inductive loads, including moderate overloads
	AC-23	Switching of motor loads or other highly inductive loads

Wiring Capacity

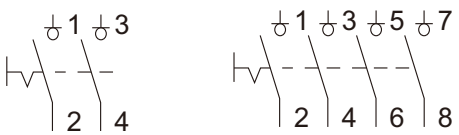
Rated current In (A)	Cross section area s (mm^2)	Tightening torque (N.m)
16	2.5	3.5
20	2.5	3.5
25	4	3.5
32	6	3.5
40	10	3.5
50	10	3.5
63	16	3.5
80	35	3.5
100	35	3.5
125	50	3.5

Circuit Diagram

- EKD2-125
- EKD12-125



- EKD2-40M



*Standard_* IEC/EN61643-11 Surge Protective Device

Product Selection Guide

CA	U5	-	T1+T2	-	7	-	1P	-	275	S

CA	Chanan
U5	SPD series No.5
T1+T2	Class I + II / Type 1+2
7	Iimp: 7kA
1P	No. of Poles: 1:1P; 2:2P; 3:3P; 4:4P; 1PN:1P+NPE; 3PN:3P+NPE
275	Uc: 150:150V; 275:275V; 320:320V; 385:385V; 440:440V
S	With Remote Signaling

SPD Type Reference List

No. of Poles	Max. Continuous Operating AC Voltage				
	150V	275V	320V	385V	440V
1P	CAU5-T1+T2-7-1P150	CAU5-T1+T2-7-1P275	CAU5-T1+T2-7-1P320	CAU5-T1+T2-7-1P385	CAU5-T1+T2-7-1P440
2P	CAU5-T1+T2-7-2P150	CAU5-T1+T2-7-2P275	CAU5-T1+T2-7-2P320	CAU5-T1+T2-7-2P385	CAU5-T1+T2-7-2P440
3P	CAU5-T1+T2-7-3P150	CAU5-T1+T2-7-3P275	CAU5-T1+T2-7-3P320	CAU5-T1+T2-7-3P385	CAU5-T1+T2-7-3P440
4P	CAU5-T1+T2-7-4P150	CAU5-T1+T2-7-4P275	CAU5-T1+T2-7-4P320	CAU5-T1+T2-7-4P385	CAU5-T1+T2-7-4P440
1P+NPE	CAU5-T1+T2-7-1PN150	CAU5-T1+T2-7-1PN275	CAU5-T1+T2-7-1PN320	CAU5-T1+T2-7-1PN385	CAU5-T1+T2-7-1PN440
3P+NPE	CAU5-T1+T2-7-3PN150	CAU5-T1+T2-7-3PN275	CAU5-T1+T2-7-3PN320	CAU5-T1+T2-7-3PN385	CAU5-T1+T2-7-3PN440
With Remote Signaling					
1P	CAU5-T1+T2-7-1P150S	CAU5-T1+T2-7-1P275S	CAU5-T1+T2-7-1P320S	CAU5-T1+T2-7-1P385S	CAU5-T1+T2-7-1P440S
2P	CAU5-T1+T2-7-2P150S	CAU5-T1+T2-7-2P275S	CAU5-T1+T2-7-2P320S	CAU5-T1+T2-7-2P385S	CAU5-T1+T2-7-2P440S
3P	CAU5-T1+T2-7-3P150S	CAU5-T1+T2-7-3P275S	CAU5-T1+T2-7-3P320S	CAU5-T1+T2-7-3P385S	CAU5-T1+T2-7-3P440S
4P	CAU5-T1+T2-7-4P150S	CAU5-T1+T2-7-4P275S	CAU5-T1+T2-7-4P320S	CAU5-T1+T2-7-4P385S	CAU5-T1+T2-7-4P440S
1P+NPE	CAU5-T1+T2-7-1PN150S	CAU5-T1+T2-7-1PN275S	CAU5-T1+T2-7-1PN320S	CAU5-T1+T2-7-1PN385S	CAU5-T1+T2-7-1PN440S
3P+NPE	CAU5-T1+T2-7-3PN150S	CAU5-T1+T2-7-3PN275S	CAU5-T1+T2-7-3PN320S	CAU5-T1+T2-7-3PN385S	CAU5-T1+T2-7-3PN440S

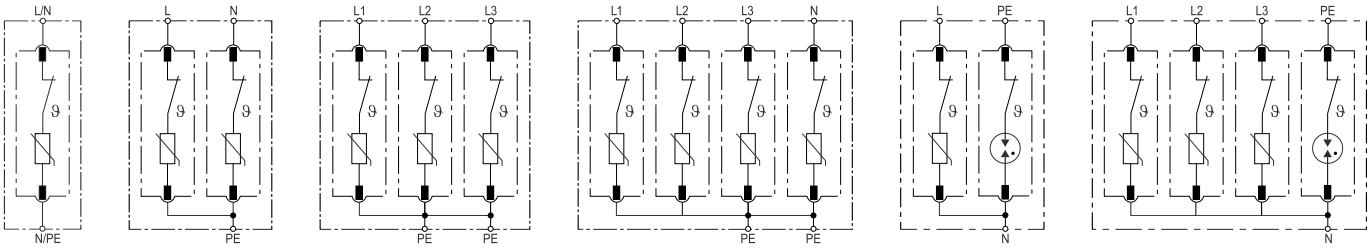
*Standard_* IEC/EN61643-11 Surge Protective Device

Technical Data

No.of poles	1P	2P	3P	4P	1P+NPE	3P+NPE
Network systems	TN-S, TN-C, TT(only L-N)	TN-S	TN-C	TN-S	TT, TN-S	
Mode of protection	L-PE, N-PE(onlyTN-S), L-PEN, L-N	L-PE, N-PE	L-PEN	L-PE, N-PE	L-N, N-PE	
Protective elements	High Energy MOV				High Energy MOV and GDT	

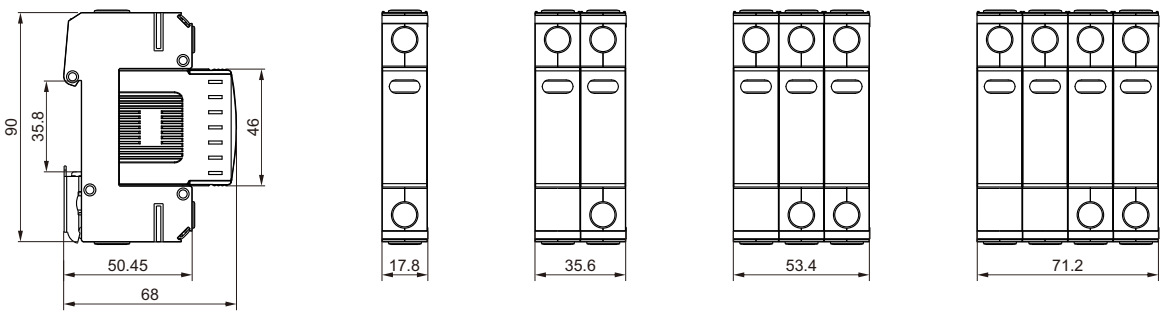
Maximum continuous operating voltage (L-N)	Uc	150V	275V	320V	385V	440V
Maximum continuous operating voltage (N-PE)	Uc	255V				
Impulse discharge current (10/350μs)	Iimp	7kA				
Norminal discharge current (8/20μs)	In	25kA				
Maximum discharge current (8/20μs)	Imax	50kA				
Voltage protection level (L-N)/(N-PE)	Up	1.2kV/1.5kV	1.4kV/1.5kV	1.6kV/1.5kV	1.8kV/1.5kV	2.0kV/1.5kV
Voltage protection level 5kA	Up	1.0kV	1.2kV	1.4kV	1.5kV	1.6kV
Response time (L-N)/(N-PE)	tA	⩽25ns/⩽100ns				
Operating temperature range	Tu	-40°C to +80°C				
Max. Back-up fuse		160 A gL/gG				
Operating state/fault indication		Green/Red(L-N),Yellow(N-PE)				
Cross-section area (Min.)/(Max.)		4mm²/35mm²				
Mounting		35 mm DIN Rail, EN 60715				
Enclosure material		Thermal Plastic UL94-V0				
Degree of protection		IP20 (built-in)				

Basic Circuit Diagram

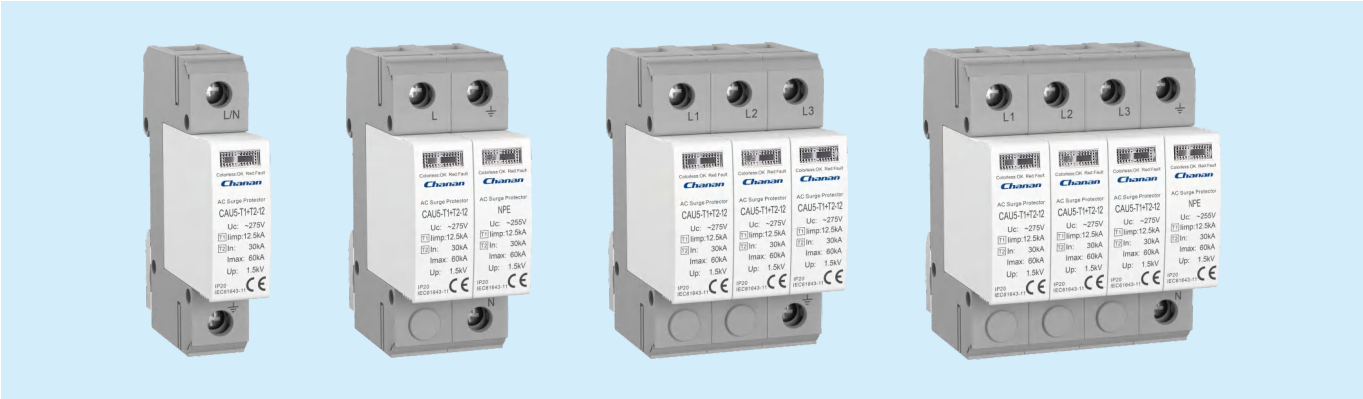


1P 2P 3P 4P 1P+NPE 3P+NPE

Dimension(mm)



*Standard_* IEC/EN61643-11 Surge Protective Device



Product Selection Guide

CA	U5	-	T1+T2	-	12	-	1P	-	275	S

CA	Chanan
U5	SPD series No.5
T1+T2	Class I + II / Type 1+2
12	Iimp: 12.5kA
1P	No. of Poles: 1:1P; 2:2P; 3:3P; 4:4P; 1PN:1P+NPE; 3PN:3P+NPE
275	Uc: 150:150V; 275:275V; 320:320V; 385:385V
S	With Remote Signaling

SPD Type Reference List

No. of Poles	Max. Continuous Operating AC Voltage			
	150V	275V	320V	385V
1P	CAU5-T1+T2-12-1P150	CAU5-T1+T2-12-1P275	CAU5-T1+T2-12-1P320	CAU5-T1+T2-12-1P385
2P	CAU5-T1+T2-12-2P150	CAU5-T1+T2-12-2P275	CAU5-T1+T2-12-2P320	CAU5-T1+T2-12-2P385
3P	CAU5-T1+T2-12-3P150	CAU5-T1+T2-12-3P275	CAU5-T1+T2-12-3P320	CAU5-T1+T2-12-3P385
4P	CAU5-T1+T2-12-4P150	CAU5-T1+T2-12-4P275	CAU5-T1+T2-12-4P320	CAU5-T1+T2-12-4P385
1P+NPE	CAU5-T1+T2-12-1PN150	CAU5-T1+T2-12-1PN275	CAU5-T1+T2-12-1PN320	CAU5-T1+T2-12-1PN385
3P+NPE	CAU5-T1+T2-12-3PN150	CAU5-T1+T2-12-3PN275	CAU5-T1+T2-12-3PN320	CAU5-T1+T2-12-3PN385
With Remote Signaling				
1P	CAU5-T1+T2-12-1P150S	CAU5-T1+T2-12-1P275S	CAU5-T1+T2-12-1P320S	CAU5-T1+T2-12-1P385S
2P	CAU5-T1+T2-12-2P150S	CAU5-T1+T2-12-2P275S	CAU5-T1+T2-12-2P320S	CAU5-T1+T2-12-2P385S
3P	CAU5-T1+T2-12-3P150S	CAU5-T1+T2-12-3P275S	CAU5-T1+T2-12-3P320S	CAU5-T1+T2-12-3P385S
4P	CAU5-T1+T2-12-4P150S	CAU5-T1+T2-12-4P275S	CAU5-T1+T2-12-4P320S	CAU5-T1+T2-12-4P385S
1P+NPE	CAU5-T1+T2-12-1PN150S	CAU5-T1+T2-12-1PN275S	CAU5-T1+T2-12-1PN320S	CAU5-T1+T2-12-1PN385S
3P+NPE	CAU5-T1+T2-12-3PN150S	CAU5-T1+T2-12-3PN275S	CAU5-T1+T2-12-3PN320S	CAU5-T1+T2-12-3PN385S

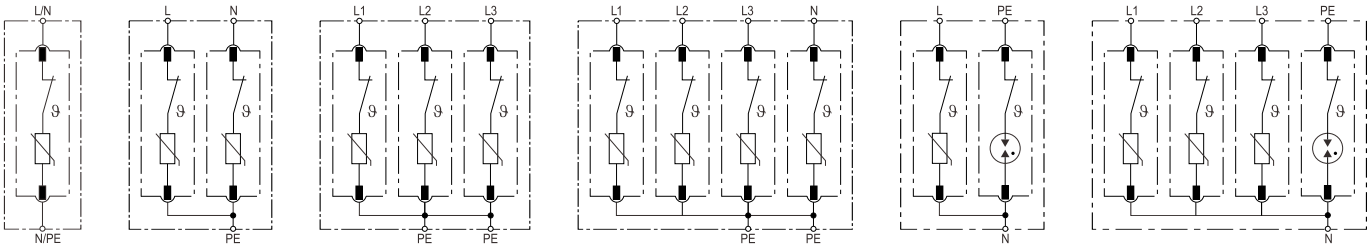
*Standard_* IEC/EN61643-11 Surge Protective Device

Technical Data

No.of poles	1P	2P	3P	4P	1P+NPE	3P+NPE
Network systems	TN-S, TN-C, TT(only L-N)	TN-S	TN-C	TN-S	TT, TN-S	
Mode of protection	L-PE, N-PE(onlyTN-S), L-PEN, L-N	L-PE, N-PE	L-PEN	L-PE, N-PE	L-N, N-PE	
Protective elements	High Energy MOV				High Energy MOV and GDT	

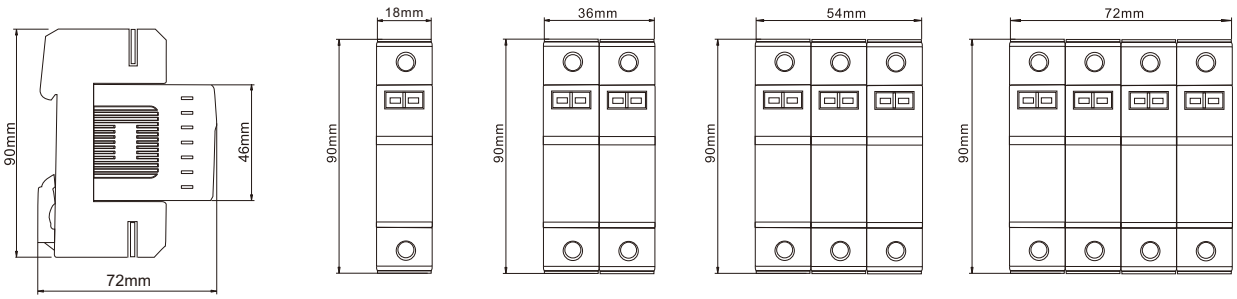
Maximum continuous operating voltage (L-N)	Uc	150V	275V	320V	385V
Maximum continuous operating voltage (N-PE)	Uc	255V			
Impulse discharge current (10/350μs)	Iimp	12.5kA			
Norminal discharge current (8/20μs)	In	30kA			
Maximum discharge current (8/20μs)	Imax	60kA			
Voltage protection level (L-N)/(N-PE)	Up	1.2kV/1.5kV	1.5kV/1.5kV	1.6kV/1.5kV	1.8kV/1.5kV
Voltage protection level 5kA	Up	0.6kV	1.0kV	1.2kV	1.3kV
Response time (L-N)/(N-PE)	tA	⩽25ns/⩽100ns			
Operating temperature range	Tu	-40°C to +80°C			
Max. Back-up fuse		160 A gL/gG			
Operating state/fault indication		Green/Red(L-N),Yellow(N-PE)			
Cross-section area (Min.)/(Max.)		$4mm^2/35mm^2$			
Mounting		35 mm DIN Rail, EN 60715			
Enclosure material		Thermal Plastic UL94-V0			
Degree of protection		IP20 (built-in)			

Basic Circuit Diagram



1P 2P 3P 4P 1P+NPE 3P+NPE

Dimension(mm)



Product Selection Guide

CA	U5	-	T2	-	20	-	1P	-	275	S

CA	Chanan
U5	SPD series No.5
T2	Class II / Type 2
20	I.max: 20kA
1P	No. of Poles: 1:1P; 2:2P; 3:3P; 4:4P; 1PN:1P+NPE; 3PN:3P+NPE
275	Uc: 150:150V; 275:275V; 320:320V; 385:385V; 440:440V
S	With Remote Signaling

SPD Type Reference List

No. of Poles	Max. Continuous Operating AC Voltage				
	150V	275V	320V	385V	440V
1P	CAU5-T2-20-1P150	CAU5-T2-20-1P275	CAU5-T2-20-1P320	CAU5-T2-20-1P385	CAU5-T2-20-1P440
2P	CAU5-T2-20-2P150	CAU5-T2-20-2P275	CAU5-T2-20-2P320	CAU5-T2-20-2P385	CAU5-T2-20-2P440
3P	CAU5-T2-20-3P150	CAU5-T2-20-3P275	CAU5-T2-20-3P320	CAU5-T2-20-3P385	CAU5-T2-20-3P440
4P	CAU5-T2-20-4P150	CAU5-T2-20-4P275	CAU5-T2-20-4P320	CAU5-T2-20-4P385	CAU5-T2-20-4P440
1P+NPE	CAU5-T2-20-1PN150	CAU5-T2-20-1PN275	CAU5-T2-20-1PN320	CAU5-T2-20-1PN385	CAU5-T2-20-1PN440
3P+NPE	CAU5-T2-20-3PN150	CAU5-T2-20-3PN275	CAU5-T2-20-3PN320	CAU5-T2-20-3PN385	CAU5-T2-20-3PN440
With Remote Signaling					
1P	CAU5-T2-20-1P150S	CAU5-T2-20-1P275S	CAU5-T2-20-1P320S	CAU5-T2-20-1P385S	CAU5-T2-20-1P440S
2P	CAU5-T2-20-2P150S	CAU5-T2-20-2P275S	CAU5-T2-20-2P320S	CAU5-T2-20-2P385S	CAU5-T2-20-2P440S
3P	CAU5-T2-20-3P150S	CAU5-T2-20-3P275S	CAU5-T2-20-3P320S	CAU5-T2-20-3P385S	CAU5-T2-20-3P440S
4P	CAU5-T2-20-4P150S	CAU5-T2-20-4P275S	CAU5-T2-20-4P320S	CAU5-T2-20-4P385S	CAU5-T2-20-4P440S
1P+NPE	CAU5-T2-20-1PN150S	CAU5-T2-20-1PN275S	CAU5-T2-20-1PN320S	CAU5-T2-20-1PN385S	CAU5-T2-20-1PN440S
3P+NPE	CAU5-T2-20-3PN150S	CAU5-T2-20-3PN275S	CAU5-T2-20-3PN320S	CAU5-T2-20-3PN385S	CAU5-T2-20-3PN440S

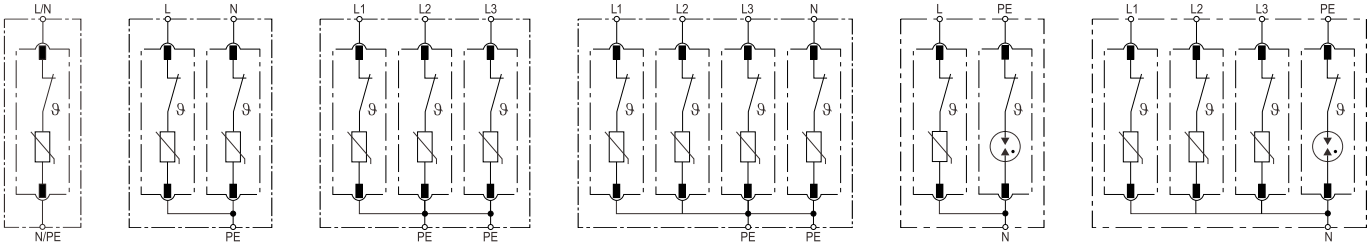
*Standard_* IEC/EN61643-11 Surge Protective Device

Technical Data

No.of poles	1P	2P	3P	4P	1P+NPE	3P+NPE
Network systems	TN-S, TN-C, TT(only L-N)	TN-S	TN-C	TN-S	TT, TN-S	
Mode of protection	L-PE, N-PE(onlyTN-S), L-PEN, L-N	L-PE, N-PE	L-PEN	L-PE, N-PE	L-N, N-PE	
Protective elements	High Energy MOV				High Energy MOV and GDT	

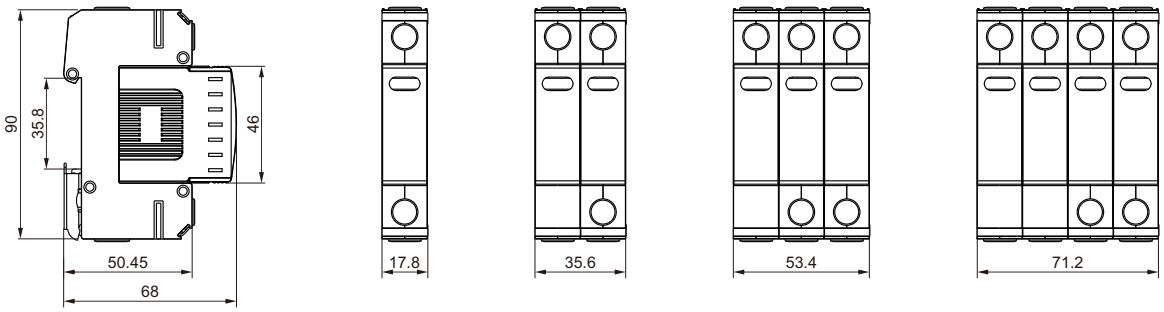
Maximum continuous operating voltage (L-N)	Uc	150V	275V	320V	385V	440V
Maximum continuous operating voltage (N-PE)	Uc	255V				
Norminal discharge current (8/20μs) (L-N)/(N-PE)	In	10kA				
Maximum discharge current (8/20μs) (L-N)/(N-PE)	Imax	20kA				
Voltage protection level (L-N)/(N-PE)	Up	0.8kV/1.5kV	1.0kV/1.5kV	1.2kV/1.5kV	1.45kV/1.5kV	1.6kV/1.5kV
Voltage protection level 5kA	Up	0.5kV	0.8kV	1.0kV	1.2kV	1.4kV
Response time (L-N)/(N-PE)	tA	⩽25ns/⩽100ns				
Operating temperature range	Tu	-40°C to +80°C				
Max. Back-up fuse		125 A gL/gG				
Operating state/fault indication		Green/Red(L-N),Yellow(N-PE)				
Cross-section area (Min.)/(Max.)		4mm²/35mm²				
Mounting		35 mm DIN Rail, EN 60715				
Enclosure material		Thermal Plastic UL94-V0				
Degree of protection		IP20 (built-in)				

Basic Circuit Diagram



1P 2P 3P 4P 1P+NPE 3P+NPE

Dimension(mm)



*Standard_* IEC/EN61643-11 Surge Protective Device

Product Selection Guide

CA	U5	-	T2	-	40	-	1P	-	275	S

CA	Chanan
U5	SPD series No.5
T2	Class II / Type 2
40	I.max: 40kA
1P	No. of Poles: 1:1P; 2:2P; 3:3P; 4:4P; 1PN:1P+NPE; 3PN:3P+NPE
275	Uc: 150:150V; 275:275V; 320:320V; 385:385V; 440:440V
S	With Remote Signaling

SPD Type Reference List

No. of Poles	Max. Continuous Operating AC Voltage				
	150V	275V	320V	385V	440V
1P	CAU5-T2-40-1P150	CAU5-T2-40-1P275	CAU5-T2-40-1P320	CAU5-T2-40-1P385	CAU5-T2-40-1P440
2P	CAU5-T2-40-2P150	CAU5-T2-40-2P275	CAU5-T2-40-2P320	CAU5-T2-40-2P385	CAU5-T2-40-2P440
3P	CAU5-T2-40-3P150	CAU5-T2-40-3P275	CAU5-T2-40-3P320	CAU5-T2-40-3P385	CAU5-T2-40-3P440
4P	CAU5-T2-40-4P150	CAU5-T2-40-4P275	CAU5-T2-40-4P320	CAU5-T2-40-4P385	CAU5-T2-40-4P440
1P+NPE	CAU5-T2-40-1PN150	CAU5-T2-40-1PN275	CAU5-T2-40-1PN320	CAU5-T2-40-1PN385	CAU5-T2-40-1PN440
3P+NPE	CAU5-T2-40-3PN150	CAU5-T2-40-3PN275	CAU5-T2-40-3PN320	CAU5-T2-40-3PN385	CAU5-T2-40-3PN440
With Remote Signaling					
1P	CAU5-T2-40-1P150S	CAU5-T2-40-1P275S	CAU5-T2-40-1P320S	CAU5-T2-40-1P385S	CAU5-T2-40-1P440S
2P	CAU5-T2-40-2P150S	CAU5-T2-40-2P275S	CAU5-T2-40-2P320S	CAU5-T2-40-2P385S	CAU5-T2-40-2P440S
3P	CAU5-T2-40-3P150S	CAU5-T2-40-3P275S	CAU5-T2-40-3P320S	CAU5-T2-40-3P385S	CAU5-T2-40-3P440S
4P	CAU5-T2-40-4P150S	CAU5-T2-40-4P275S	CAU5-T2-40-4P320S	CAU5-T2-40-4P385S	CAU5-T2-40-4P440S
1P+NPE	CAU5-T2-40-1PN150S	CAU5-T2-40-1PN275S	CAU5-T2-40-1PN320S	CAU5-T2-40-1PN385S	CAU5-T2-40-1PN440S
3P+NPE	CAU5-T2-40-3PN150S	CAU5-T2-40-3PN275S	CAU5-T2-40-3PN320S	CAU5-T2-40-3PN385S	CAU5-T2-40-3PN440S

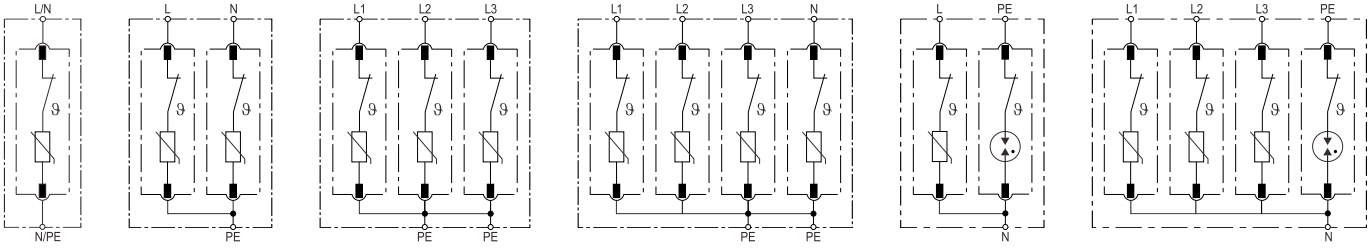
*Standard_* IEC/EN61643-11 Surge Protective Device

Technical Data

No.of poles	1P	2P	3P	4P	1P+NPE	3P+NPE
Network systems	TN-S, TN-C, TT(only L-N)	TN-S	TN-C	TN-S	TT, TN-S	
Mode of protection	L-PE, N-PE(onlyTN-S), L-PEN, L-N	L-PE, N-PE	L-PEN	L-PE, N-PE	L-N, N-PE	
Protective elements	High Energy MOV				High Energy MOV and GDT	

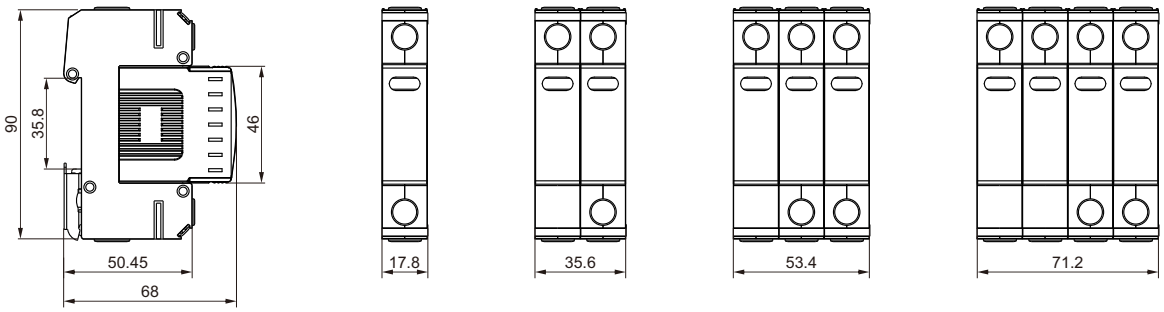
Maximum continuous operating voltage (L-N)	Uc	150V	275V	320V	385V	440V
Maximum continuous operating voltage (N-PE)	Uc	255V				
Norminal discharge current (8/20μs) (L-N)/(N-PE)	In	20kA				
Maximum discharge current (8/20μs) (L-N)/(N-PE)	Imax	40kA				
Voltage protection level (L-N)/(N-PE)	Up	0.8kV/1.5kV	1.3kV/1.5kV	1.5kV/1.5kV	1.8kV/1.5kV	2.0kV/1.5kV
Voltage protection level 5kA	Up	0.6kV	1.0kV	1.2kV	1.4kV	1.6kV
Response time (L-N)/(N-PE)	tA	⩽25ns/⩽100ns				
Operating temperature range	Tu	-40°C to +80°C				
Max. Back-up fuse		125 A gL/gG				
Operating state/fault indication		Green/Red(L-N),Yellow(N-PE)				
Cross-section area (Min.)/(Max.)		$4mm^2/35mm^2$				
Mounting		35 mm DIN Rail, EN 60715				
Enclosure material		Thermal Plastic UL94-V0				
Degree of protection		IP20 (built-in)				

Basic Circuit Diagram



1P 2P 3P 4P 1P+NPE 3P+NPE

Dimension(mm)



*Standard_* IEC/EN61643-11 Surge Protective Device

Product Selection Guide

CA	U5	-	T2	-	20	PV	-	2M	-	600	S

CA	Chanan
U5	SPD series No.5
T2	Class II / Type 2
40	I.max: 20kA
PV	Solar PV System
2M	No. of Module: 2:2Module; 3:3Module
600	Uc: 600: DC600V; 1000: DC1000V; 1500: DC1500V
S	With Remote Signaling

SPD Type Reference List

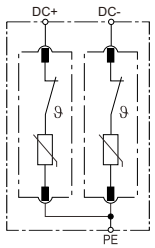
No. of Module	Max. Continuous Operating DC Voltage		
	600VDC	1000VDC	1500VDC
2Module	CAU5-T2-20PV-2M600	CAU5-T2-20PV-2M1000	-
3Module	-	CAU5-T2-20PV-3M1000	CAU5-T2-20PV-3M1500
With Remote Signaling			
2Module	CAU5-T2-20PV-2M600S	CAU5-T2-20PV-2M1000S	-
3Module	-	CAU5-T2-20PV-3M1000S	CAU5-T2-20PV-3M1500S

*Standard_* IEC/EN61643-11 Surge Protective Device

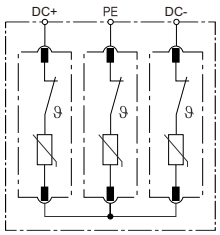
Technical Data

No.of poles		2P(2Mods),3P(3Mods)		
Location of Use		String box, Inverter		
Mode of protection		(DC+)-PE,(DC-)-PE,(DC+)-(DC-)		
Protective elements		High Energy MOV		
Maximum continuous operating DC voltage	Ucpv	600V	1000V	1500V
Norminal discharge current (8/20μs)	In	10kA		
Total discharge current (8/20μs)	ITotal	20kA		
Maximum discharge current (8/20μs)	Imax	20kA		
Voltage protection level (2P)	Up	2.6kV	4.0kV	-
Voltage protection level (3P)	Up	-	4.0kV	5.2kV
Response time	tA	⩽25ns		
Operating temperature range	Tu	-40°C to +80°C		
Operating state/fault indication		Green/Red		
Cross-section area (Min.)/(Max.)		4mm²/35mm²		
Mounting		35 mm DIN Rail, EN 60715		
Enclosure material		Thermal Plastic UL94-V0		
Degree of protection		IP20 (built-in)		

Basic Circuit Diagram

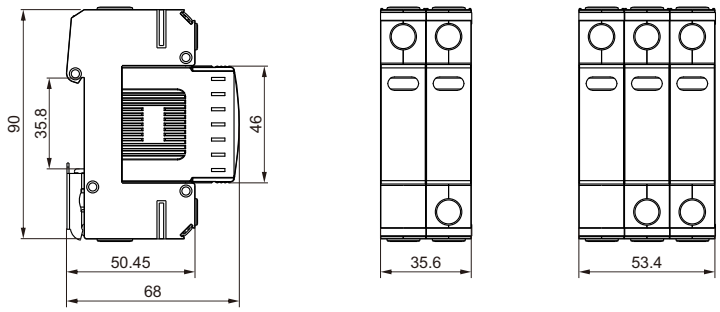


2P



3P

Dimension(mm)



*Standard_* IEC/EN61643-11 Surge Protective Device

Product Selection Guide

CA	U5	-	T2	-	40	PV	-	2M	-	600	S

CA	Chanan
U5	SPD series No.5
T2	Class II / Type 2
40	I.max: 40kA
PV	Solar PV System
2M	No. of Module: 2:2Module; 3:3Module
600	Uc: 600: DC600V; 1000: DC1000V; 1500: DC1500V
S	With Remote Signaling

SPD Type Reference List

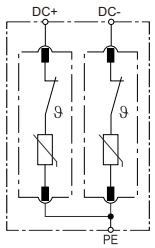
No. of Module	Max. Continuous Operating DC Voltage		
	600VDC	1000VDC	1500VDC
2Module	CAU5-T2-40PV-2M600	CAU5-T2-40PV-2M1000	-
3Module	-	CAU5-T2-40PV-3M1000	CAU5-T2-40PV-3M1500
With Remote Signaling			
2Module	CAU5-T2-40PV-2M600S	CAU5-T2-40PV-2M1000S	-
3Module	-	CAU5-T2-40PV-3M1000S	CAU5-T2-40PV-3M1500S

*Standard_* IEC/EN61643-11 Surge Protective Device

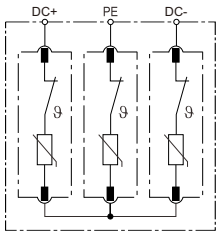
Technical Data

No.of poles		2P(2Mods),3P(3Mods)		
Location of Use		String box, Inverter		
Mode of protection		(DC+)-PE,(DC-)-PE,(DC+)-(DC-)		
Protective elements		High Energy MOV		
Maximum continuous operating DC voltage	Ucpv	600V	1000V	1500V
Norminal discharge current (8/20μs)	In	20kA		
Total discharge current (8/20μs)	ITotal	40kA		
Maximum discharge current (8/20μs)	Imax	40kA		
Voltage protection level (2P)	Up	2.6kV	4.0kV	-
Voltage protection level (3P)	Up	-	4.0kV	5.2kV
Response time	tA	⩽25ns		
Operating temperature range	Tu	-40°C to +80°C		
Operating state/fault indication		Green/Red		
Cross-section area (Min.)/(Max.)		4mm²/35mm²		
Mounting		35 mm DIN Rail, EN 60715		
Enclosure material		Thermal Plastic UL94-V0		
Degree of protection		IP20 (built-in)		

Basic Circuit Diagram

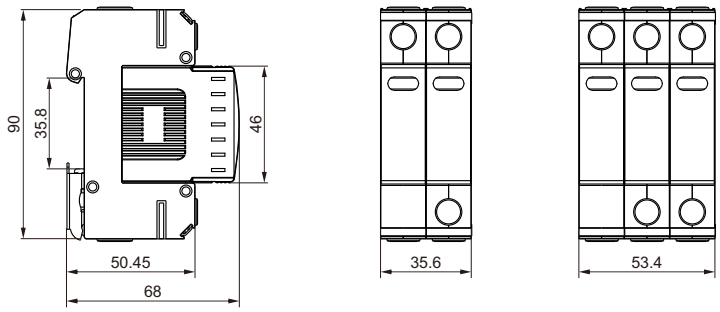


2P



3P

Dimension(mm)



*Standard_* IEC/EN61643-11 Surge Protective Device

Product Selection Guide

CA	U5	-	T1+T2	-	40	PV	-	3M	-	1500	S

CA	Chanan
U5	SPD series No.5
T1+T2	Class I + II / Type 1+2
40	I.max: 40kA
PV	Solar PV System
3M	No. of Module: 3:3Module
1500	Uc: 500: DC500V; 1000: DC1000V; 1500: DC1500V
S	With Remote Signaling

SPD Type Reference List

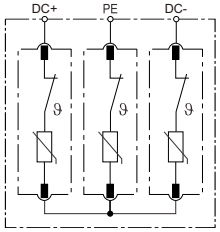
No. of Module	Max. Continuous Operating DC Voltage		
	500VDC	1000VDC	1500VDC
3Module	CAU5-T1+T2-40PV-3M500	CAU5-T1+T2-40PV-3M1000	CAU5-T1+T2-40PV-3M1500
With Remote Signaling			
3Module	CAU5-T1+T2-40PV-3M500S	CAU5-T1+T2-40PV-3M1000S	CAU5-T1+T2-40PV-3M1500S

*Standard_* IEC/EN61643-11 Surge Protective Device

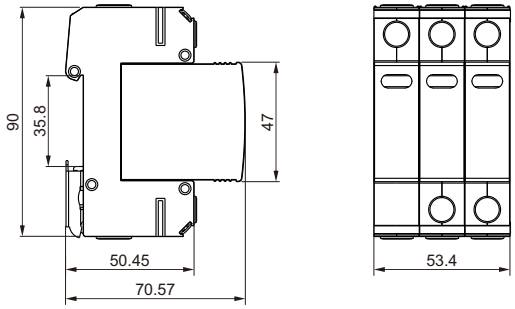
Technical Data

No.of poles		3P		
Location of Use		String box, Inverter		
Mode of protection		(DC+)-PE,(DC-)-PE,(DC+)-(DC-)		
Protective elements		High Energy MOV		
Maximum continuous operating DC voltage	Ucpv	500V	1000V	1500V
Norminal discharge current (8/20μs)	In	20kA		
Impulse discharge current (10/350μs)	Iimp	6.25kA		
Total discharge current (10/350μs)	ITotal	12.5kA		
Total discharge current (8/20μs)	ITotal	40kA		
Maximum discharge current (8/20μs)	Imax	40kA		
Voltage protection level (DC+)-PE,(DC-)-PE	Up	2kV	4.0kV	5.2kV
Voltage protection level (DC+)-(DC-)	Up	-	4.0kV	5.2kV
Response time	tA	⩽25ns		
Operating temperature range	Tu	-40°C to +80°C		
Operating state/fault indication		Green/Red		
Cross-section area (Min.)/(Max.)		4mm²/35mm²		
Mounting		35 mm DIN Rail, EN 60715		
Enclosure material		Thermal Plastic UL94-V0		
Degree of protection		IP20 (built-in)		

Basic Circuit Diagram



Dimension(mm)



*Standard_* IEC/EN61643-11 Surge Protective Device

Features

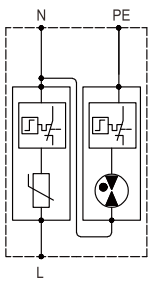
- Standard: IEC/EN 61643-11
- Poles: Single width module
- IEC/EN Category: Type 2
- Network systems: TT, TN-S
- Mode of protection: L-N, N-PE
- Max. Discharge: L-N 40kA,N-PE 40kA
- Max. continuous operating voltage: L-N 275V, N-PE 255V
- Voltage protection level: 1.5KV
- Degree of Protection: IP20

Technical Data

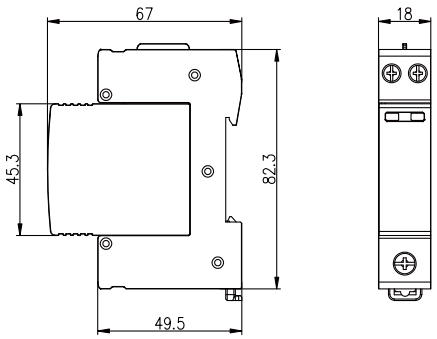
No. of poles	1P+NPE
Network systems	TT, TN-S
Mode of protection	L-N, N-PE
Protective elements	High Energy MOV and GDT

Maximum continuous operating voltage (U_c) (L-N)	275V
Maximum continuous operating voltage (U_c) (N-PE)	255V
Norminal discharge current (I_n) (8/20μs) (L-N)/(N-PE)	20kA
Maximum discharge current (I_{max}) (8/20μs) (L-N)/(N-PE)	40kA
Voltage protection level (U_p) (L-N)/(N-PE)	1.5kV/1.5kV
Voltage protection level 5kA (U_p)	1.0kV
Response time (t_A) (L-N)/(N-PE)	⩽ 25ns / ⩽ 100ns
Operating temperature range (T_u)	-40°C to +80°C
Max. Back-up fuse	125 A gL/gG
Operating state/fault indication	Green/Red
Cross-section area (Min.)/(Max.)	4mm²/10mm²(L/N),16mm²(PE)
Mounting	35 mm DIN Rail, EN 60715
Enclosure material	Thermal Plastic UL94-V0
Degree of protection	IP20 (built-in)

Circuit Diagram



Dimension (mm)



Definition

Surge Protection Device (SPD) is a device that provides overvoltage protection for various electronic equipment, instruments, and communication lines. When there is a sudden power spike in an electrical circuit or communication line due to external interference, the current or voltage is high, the Surge Protective Device (SPD) can conduct and discharge in a brief time to prevent the power surge damaging other parts of the circuit.
Surge protective devices (SPD) are widely used in power systems and networks to play a key role for over-voltage protection.

Types of Surge Protection Device

There are different types of SPD according to IEC/EN 61643-11, classified as follows:

Type 1 / Class I / Class B T1

Type 1 SPD provides primary protection against high-level surges caused by direct lightning strikes. It is often put on the main distribution board to safeguard a building' s whole electrical system.
Type 1 SPD is characterized by a 10/350 μs current wave.

Type 2 / Class II / Class C T2

Type 2 SPD provides secondary-level protection, the majority of common surges generated by electrical switching or nearby lightning strikes could be effectively protected, which are installed at the sub-distribution panel or electrical panel.
Type 2 SPD is characterized by an 8/20 μs current wave.

Type 3 / Class III / Class D T3

Type 3 SPD is designed specifically aimed at protecting specific terminal equipment, they should be installed close to sensitive loads as a supplement to Type 2 SPDs.
Type 3 SPD is characterized by a combination of voltage waves (1.2/50 μs) and current waves (8/20 μs).

Surge Protection Devices Terminology

Item	Definition	Description
Class I tests	-	Tests carried out with the impulse discharge current Iimp, with an 8/20 current impulse with a crest value equal to the crest value of Iimp, and with a 1.2/50 voltage impulse
Class II tests	-	Tests carried out with the nominal discharge current In, and the 1.2/50 voltage impulse
Class III tests	-	Tests carried out with the 1.2/50 voltage -8/20 current combination wave generator
I_n	Nominal discharge current	Crest value of the current through the SPD having a current waveshape of 8/20 μs
I_{imp}	Impulse discharge current for class i test	Crest value of a discharge current through the SPD with specified charge transfer Q and specified energy W/R in the specified time
I_{max}	Maximum discharge current	Crest value of a current through the SPD having an 8/20 μs waveshape and magnitude according to the manufacturers specification. Imax is equal to or greater than In
I_{toal}	Total discharge current	current which flows through the PE or PEN conductor of a multipole SPD during the total discharge current test
U_C	Maximum continuous operating voltage	Maximum r.m.s. voltage, which may be continuously applied to the SPD's mode of protection
U_p	Votage protection level	Maximum voltage to be expected at the SPD terminals due to an impulse stress with defined voltage steepness and an impulse stress with a discharge current with given amplitude and wave shape
8/20 μs	8/20 Current impulse	Current impulse with a nominal virtual front time of 8 μs and a nominal time to half-value of 20 μs
1.2/50 μs	1.2/50 Voltage impulse	Voltage impulse with a nominal virtlual front time of 1.2 μs and a nominal time to half-value of 50 μs
Modes of Protection	Modes of protection	An intended current path, between terminals that contains protective components, e.g. line-to-line, line-to-earth, line-to-neutral, neutral-to-earth.
IP	Degrees of protection of enclosure	Classification preceded by the symbol IP indicating the extent of protection provided by an enclosure against access to hazardous parts, against ingress of solid foreign objects and possibly harmful ingress of water.

EKDB16S

Overview

ETEK EKDB16S(L) Consumer unit is designed to comply to the BS EN 61439-3. Constructed with non-combustible and durable metal casings, it provides a reliable, safe, and flexible solution for electrical installations. Its range of Metal Consumer is available from the 4 Ways up to 36 Ways.

Features

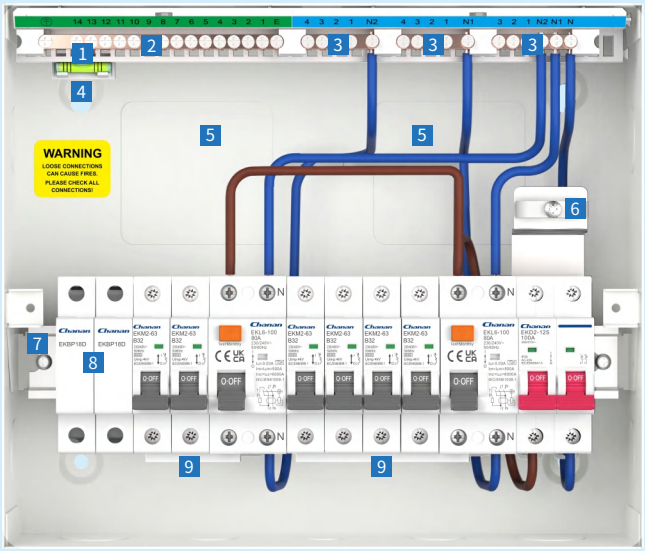
- Offers two types of enclosure: EKDB16S is the basic model; EKDB16SL integrated door lock.
- Backed out and captive combi-head screws, allows simple and speedy installation.
- Easily removable Din Rail.
- Color coded earth and neutral terminal locked at top of unit for ease of wiring.
- Fixing holes Tripod fixing to cope with uneven surfaces.
- Supporting Din Rail 'T' Bar Additional support to prevent bowing.

Consumer Unit Selectio

- Determine the type of consumer unit configuration required. e.g Split Load, Split Load, RCD Incomer, Dual RCD, High Integrity or Duplex. For each Switch Disconnector or RCD to be used allow 2 modular ways.
- Determine the number of outgoing circuits required. e.g Cooker, Lighting, Ring Main etc. For each circuit to be protected by an MCB or RCBO allow 1 modular way.
- Determine the number of 'spare' modular ways required for future upgrades.
- Now add together the total number of modular ways required.
- Select from our range of Metal consumer units choose the type and size most appropriate for your requirements.

EKDB16SL

Note All our consumer units are supplied with complete complement of earth and neutral terminals along with marking labels, Keyway DIN rail.
At the same time, we also provide Mains Tail Clamp, Snap-able busbar, Busbar Caps, DIN rail blank, Retrofit Locking Device, Grommet Strip, Link Cables, and other related accessories. If you have any need, you can confirm before placing an order.



1 Integrated spirit level (optional)
2 Earth terminals
3 Neutral terminals
4 Key holes for easy mounting
5 Large space for wiring
6 Mains tail clamp
7 Keyway DIN rail
8 Multi-function DIN rail blank
9 Snap-able busbar

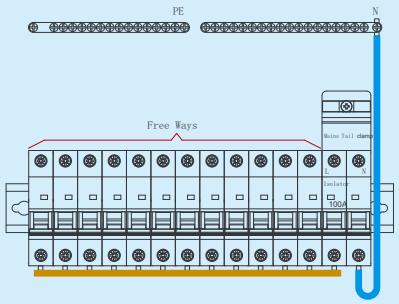
Instruction of Type code

EK	DB16S	14	L	-	I2RS
①	②	③	④		⑤

Code name	Meaning
①	ETEK Company
②	DB box design code
③	Enclosure Size: 4,6,10,14,18,24,28,36

Code name	Meaning
④	Blank: No lock L: Integrated door lock
⑤	I: Isolator 2: Quantity of RCD (1 or 2) R: RCD S: With SPD

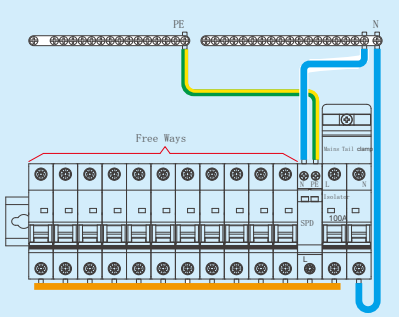
Main Switch Consumer Unit



Ref No.	Ref No. (with lock)	Box size	Main switch	Busbar pins	Free ways
EKDB16S4-I	EKDB16S4L-I	4	DP 100A	3	2
EKDB16S6-I	EKDB16S6L-I	6	DP 100A	5	4
EKDB16S10-I	EKDB16S10L-I	10	DP 100A	9	8
EKDB16S14-I	EKDB16S14L-I	14	DP 100A	13	12
EKDB16S18-I	EKDB16S18L-I	18	DP 100A	17	16
EKDB16S24-I	EKDB16S24L-I	24	DP 100A	23	22

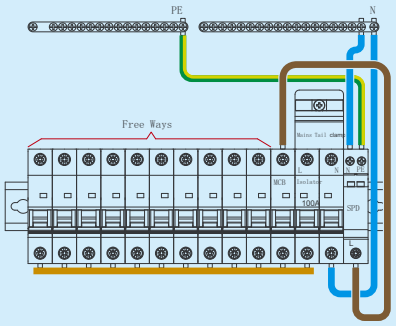
Allows for the use of MCBs, throughout.

Main Switch Consumer Unit with SPD T2 40kA



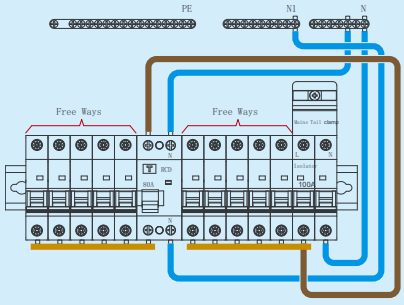
Ref No.	Ref No. (with lock)	Box size	Main switch	SPD	Busbar pins	Free ways
EKDB16S10-IS	EKDB16S10L-IS	10	DP 100A	T2 40kA	9	7
EKDB16S14-IS	EKDB16S14L-IS	14	DP 100A	T2 40kA	13	11
EKDB16S18-IS	EKDB16S18L-IS	18	DP 100A	T2 40kA	17	15
EKDB16S24-IS	EKDB16S24L-IS	24	DP 100A	T2 40kA	23	21

Main Switch Consumer Unit with SPD T2 40kA+MCB B32A



Ref No.	Ref No. (with lock)	Box size	Main switch	SPD	MCB	Busbar pins	Free ways
EKDB16S10-ISM	EKDB16S10L-ISM	10	DP 100A	T2 40kA	SP B32	8	6
EKDB16S14-ISM	EKDB16S14L-ISM	14	DP 100A	T2 40kA	SP B32	12	10
EKDB16S18-ISM	EKDB16S18L-ISM	18	DP 100A	T2 40kA	SP B32	16	14
EKDB16S24-ISM	EKDB16S24L-ISM	24	DP 100A	T2 40kA	SP B32	22	20

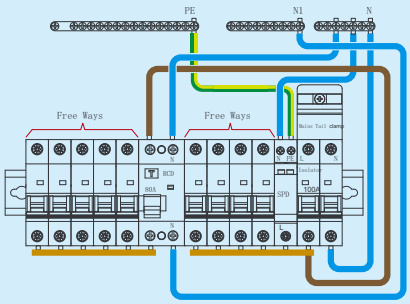
Split Load Consumer Unit with Main Switch and RCD



Ref No.	Ref No. (with lock)	Box size	Main switch	RCD	Busbar pins	Free ways
EKDB16S10-IR	EKDB16S10L-IR	10	DP 100A	DP 80A	2×4	6
EKDB16S14-IR	EKDB16S14L-IR	14	DP 100A	DP 80A	2×6	10
EKDB16S18-IR	EKDB16S18L-IR	18	DP 100A	DP 80A	2×8	14
EKDB16S24-IR	EKDB16S24L-IR	24	DP 100A	DP 80A	2×11	20

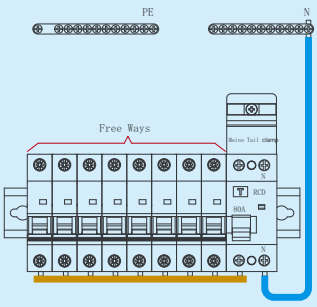
An arrangement which allows the use of MCBs, RCBOs & AFDDs immediately following the Main Switch and MCBs following the Split Load RCD.

Split Load Consumer Unit with Main Switch and RCD+SPD T2 40kA



Ref No.	Ref No. (with lock)	Box size	Main switch	RCD	SPD	Busbar pins	Free ways
EKDB16S14-IRS	EKDB16S14L-IRS	14	DP 100A	DP 80A	T2 40kA	2×6	9
EKDB16S18-IRS	EKDB16S18L-IRS	18	DP 100A	DP 80A	T2 40kA	2×8	13
EKDB16S24-IRS	EKDB16S24L-IRS	24	DP 100A	DP 80A	T2 40kA	2×11	19

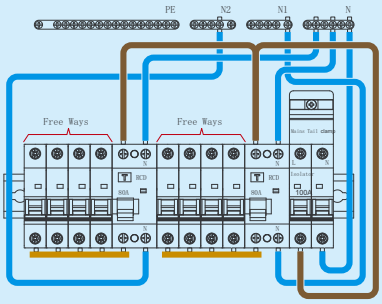
RCD Incomer Consumer Unit



Ref No.	Ref No. (with lock)	Box size	RCD	Busbar pins	Free ways
EKDB16S4-R	EKDB16S4L-R	4	DP 80A	3	2
EKDB16S6-R	EKDB16S6L-R	6	DP 80A	5	4
EKDB16S10-R	EKDB16S10L-R	10	DP 80A	9	8

Less common than the other types, an RCD incomer does not use a main switch. They are usually used as a sub-board to a main distribution panel.

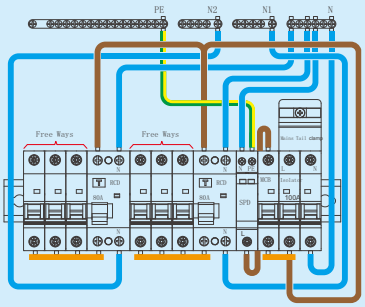
Dual RCDs Consumer Unit with Main Switch and RCDs



Ref No.	Ref No. (with lock)	Box size	Main switch	RCD	Busbar pins	Free ways
EKDB16S14-I2R	EKDB16S14L-I2R	14	DP 100A	2×DP 80A	2×5	8
EKDB16S18-I2R	EKDB16S18L-I2R	18	DP 100A	2×DP 80A	2×7	12
EKDB16S24-I2R	EKDB16S24L-I2R	24	DP 100A	2×DP 80A	2×10	18

This unit utilizes MCBs throughout divided between two RCCBs. Circuit independence or separate electrical protection cannot be achieved here.

Dual RCDs Consumer Unit with Main Switch and RCDs+SPD T2 40kA+MCB B32A



Ref No.	Ref No. (with lock)	Box size	Main switch	RCD	SPD	MCB	Busbar pins	Free ways
EKDB16S14-I2RS	EKDB16S14L-I2RS	14	DP 100A	2×DP 80A	T2 40kA	SP B32	2×4	6
EKDB16S18-I2RS	EKDB16S18L-I2RS	18	DP 100A	2×DP 80A	T2 40kA	SP B32	2×6	10
EKDB16S24-I2RS	EKDB16S24L-I2RS	24	DP 100A	2×DP 80A	T2 40kA	SP B32	2×9	16

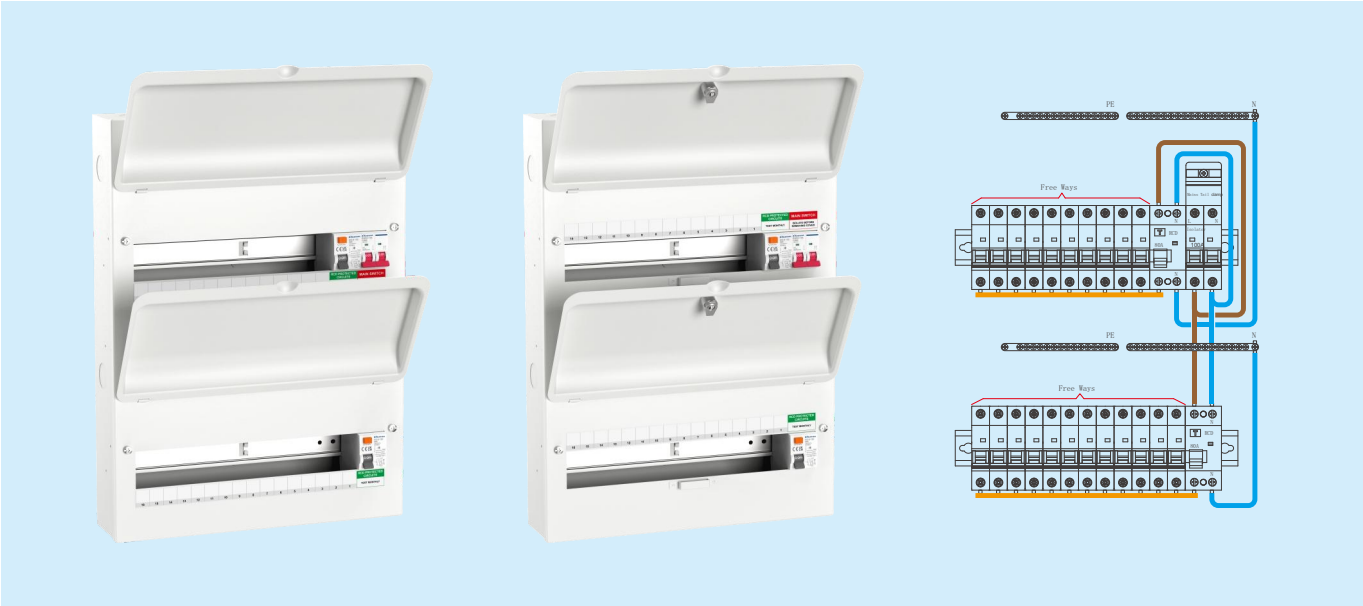
Double Rows Main Switch Consumer Unit

Ref No.	Ref No. (with lock)	Box size	Main Switch	Busbar pins	Free ways
EKDB16S28-I	EKDB16S28L-I	28	DP 100A	13+14	12+13
EKDB16S36-I	EKDB16S36L-I	36	DP 100A	17+18	16+17

Double Rows Main Switch Consumer Unit

Ref No.	Ref No. (with lock)	Box size	Main Switch	RCD	Busbar pins	Free ways
EKDB16S28-IR	EKDB16S28L-IR	28	DP 100A	DP 80A	2×13	12+12
EKDB16S36-IR	EKDB16S36L-IR	36	DP 100A	DP 80A	2×17	16+16

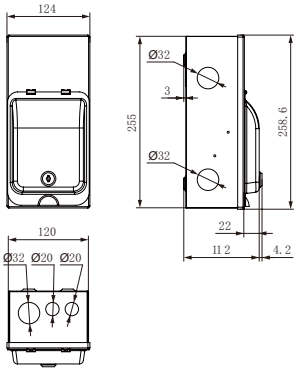
Double Rows Main Switch with RCD Consumer Unit



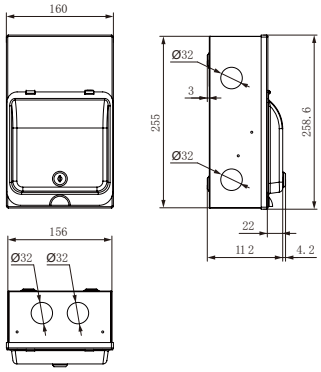
Ref No.	Ref No. (with lock)	Box size	Main Switch	RCD	Busbar pins	Free ways
EKDB16S28-I2R	EKDB16S28L-I2R	28	DP 100A	2×DP 80A	11+13	10+12
EKDB16S36-I2R	EKDB16S36L-I2R	36	DP 100A	2×DP 80A	15+17	14+16

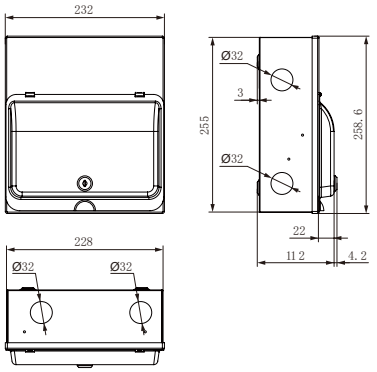
Dimension (mm)

4 ways

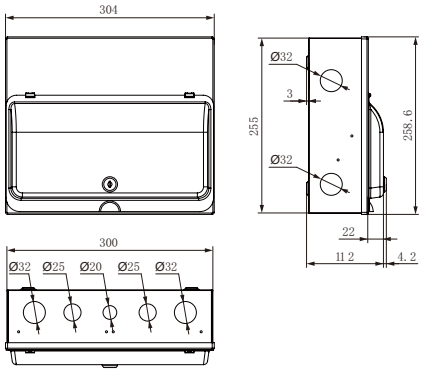


6 ways

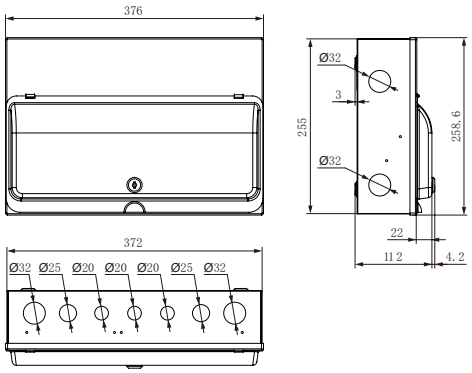




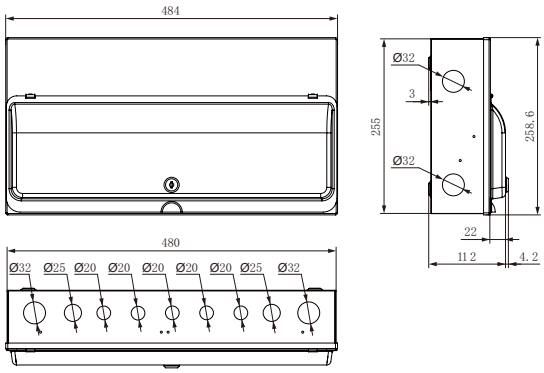
10 ways



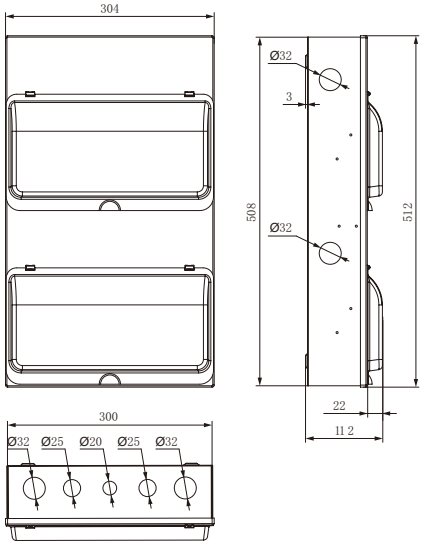
14 ways



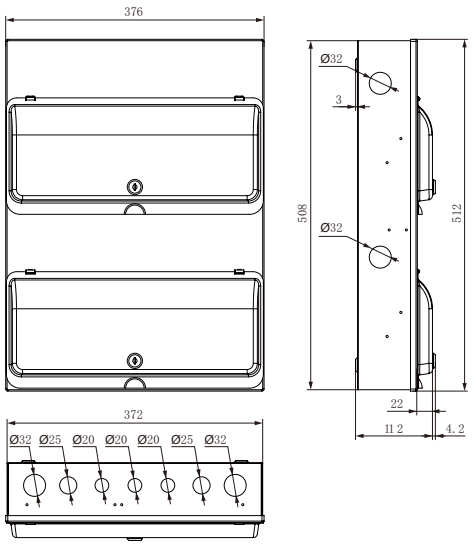
18 ways



24 ways



28 ways



36 ways

*Standard_* IEC60947-4-1 Contactor 9~95A

Type Designation

C	C	1	-	25	11	-	24V
①	②	③		④	⑤		⑥

Code	Meaning
①	Company code
②	Contactor
③	Design sequence NO.
④	Rated operating voltage (380V/400V, AC3): 9A,12A,18A,25A,32A,40A,50A,65A,80A,95A

Code	Meaning
⑤	Number of contacts 10: 3NO main contacts+1NO auxiliary contact (9~32A) 01: 3NO main contacts+1NC auxiliary contact (9~32A) 11: 3NO main contacts+1NO and 1NC auxiliary contact (40~95A) 04: 4NO main contacts (9A~95A) 08: 2NO and 2NC main contacts (9A~95A, 18A and 32A except)
⑥	Coil voltage: 24V,48V,110V,240V,415V

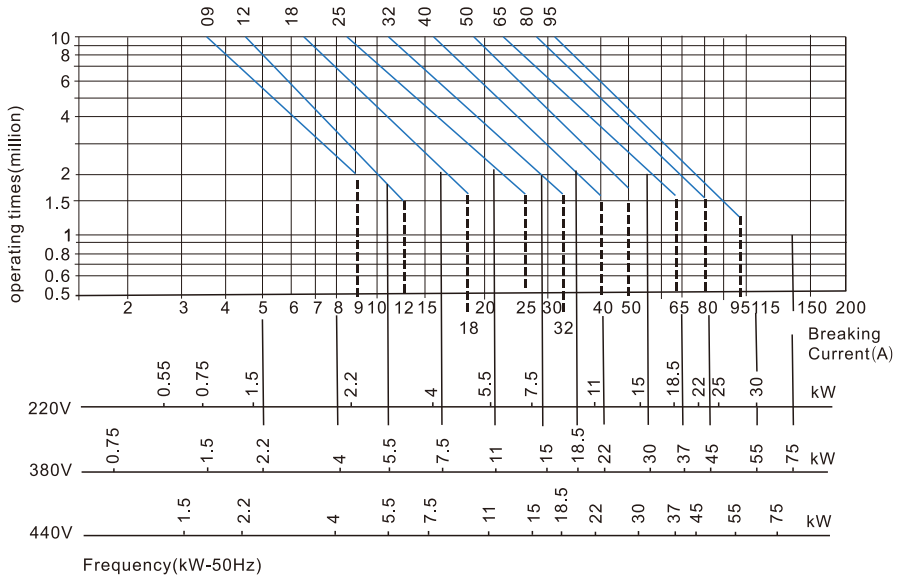
Operating and Installation Conditions

Application	Remote making & breaking circuits
	Protect circuit from over-load when assembling with thermal over-load relay
	Frequent start-up and control of AC contactor
Electric value	AC50/60Hz, 690V, up to 95A
Utilization category	AC-3, AC-4
Altitude	≤2000m
Ambient temperature	-5°C~+40°C
Mounting category	III
Mounting conditions	Inclination between the mounting plane and the vertical plane should not exceed ±5°
Standard	IEC/EN 60947-4-1, IEC/EN 60947-5-1

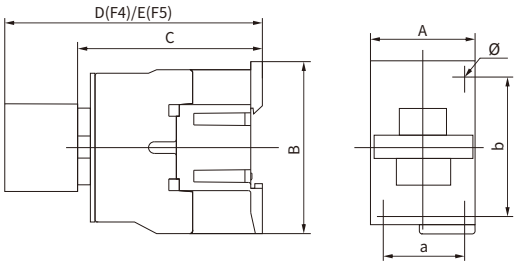
Technical Data

Type		CC1-09	CC1-12	CC1-18	CC1-25	CC1-32	CC1-40	CC1-50	CC1-65	CC1-80	CC1-95
Main circuit characteristic											
Poles		3P, 4P									
Main contact		3NO, 4NO, 2NO+2NC									
Auxiliary contacts		1NO, 1NC, 1NO+1NC									
Rated insulation voltage(Ui)(V)		690V									
Rated operating voltage(Ue)(V)		380/400V; 660/690V									
Rated thermal current(Ith), AC-1		20	20	32	40	50	60	80	80	100	125
Rated operation current(Ie)(A)	AC-3, 400V	9	12	18	25	32	40	50	65	80	95
	AC-3, 690V	6.6	8.9	12	18	21	34	39	42	49	49
	AC-4, 400V	3.5	5	7.7	8.5	12	18.5	24	28	37	44
	AC-4, 690V	1.5	2	3.8	4.4	7.5	9	12	14	17.3	21.3
Power controlled 3ph cage motor (kW)	AC-3, 220/240V	2.2	3	4	5.5	7.5	11	15	15	22	25
	AC-3, 380/415V	4	5.5	7.5	11	15	18.5	22	30	37	45
	AC-3, 660/690V	5.5	7.5	10	15	18.5	30	33	37	45	45
Mechanical life($\times 10^4$ times)		1000	1000	1000	1000	800	800	800	800	600	600
Electrical life ($\times 10^4$ times)	AC-3	100	100	100	100	80	80	60	60	60	60
	AC-4	20	20	20	20	20	15	15	15	10	10
Matched Fuse		RT16-20	RT16-20	RT16-32	RT16-40	RT16-50	RT16-63	RT16-80	RT16-80	RT16-100	RT16-125
Control circuit characteristics											
Rated control voltage(Us)		24V,48V,110V,240V,415 VAC									
Allowed control circuit voltage	Operation	(85%~110%)Us									
	Release	(20%~75%)Us									
Power consumption of coil	Actuation(VA)	70	70	70	110	110	300	300	300	300	300
	Keep(VA)	9	9	9.5	14	14	45	45	45	57	57
	Consumption(W)	1.8~2.7	1.8~2.7	3~4	3~4	3~4	6-10	6-10	6-10	6~10	6~10
Connecting capability of main circuit terminal											
Flexible wire No terminal	1 wire(mm^2)	4		6	10		16	25		50	
	2 wire(mm^2)	4		6	6		10	16		35	
Flexible wire With terminals	1 wire(mm^2)	2.5		4	4		10	16		50	
	2 wire(mm^2)	2.5		4	4		10	16		25	
Hard wire No terminal	1 wire(mm^2)	4		6	6		10	25		50	
	2 wire(mm^2)	4		6	6		10	-		-	

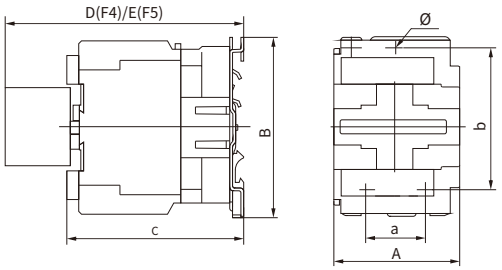
ElectricLifeCurves



Dimension(mm)



CC1-09~32



CC1-40~95

Note:
1.L:inmaincircuit, thedistancebetween terminalsandplate;
2.P:inmaincircuit, thedistancebetween twophases;
3.S:inmaincircuit, thewidthofcontacting plate.

Model	A Max	B Max	C Max	D Max	E Max	a	b	Ø	L	P	S
CC1-09~12	47	76	82	125.5	140.5	34/35	50/60	4.5	60	10.5	8.6
CC1-18	47	76	87	120.5	145.5	34/35	50/60	4.5	61	11.3	10.4
CC1-25	57	86	95	133.5	153.5	40	48	4.5	70	13.2	11.7
CC1-32	57	86	100	138.5	158.5	40	48	4.5	71.6	14.5	13
CC1-4011~6511	77	129	116	154.5	174.5	40	100/110	6.5	78	20	8.6
CC1-4004/4008~6504/6508	84	129	116	154.5	174.5	40	100/110	6.5	78	20	8.6
CC1-8011~9511	87	129	127	165.5	185.5	40	100/110	6.5	83	23.5	12
CC1-8004/8008~9504/9508	96	129	127	160.5	180.5	40	100/110	6.5	83	23.5	12

*Standard_* IEC60947-4-1 Contactor 9~95A

Product Overview

CAC2 series AC Contactor with novel appearance and compact structure is suitable for using starting & controlling the AC motor frequently, switching on and off the circuit at a long distance. It is used in combination with thermal relay to compose a magnetic motor starter.

Standard: IEC 60947-4-1.

Type Designation

CA	C	2	-	25	11	-	24V
①	②	③		④	⑤		⑥

Code	Meaning
①	Company code
②	Contactor
③	Design sequence NO.

Code	Meaning
④	Rated operating voltage (380V/400V, AC3): 9A,12A,18A,25A,32A,40A,50A,65A,80A,95A
⑤	Number of contacts 11: 3NO main contacts+1NO and 1NC auxiliary contact
⑥	Coil voltage: 24V,48V,110V,240V,415V

Operating and Installation Conditions

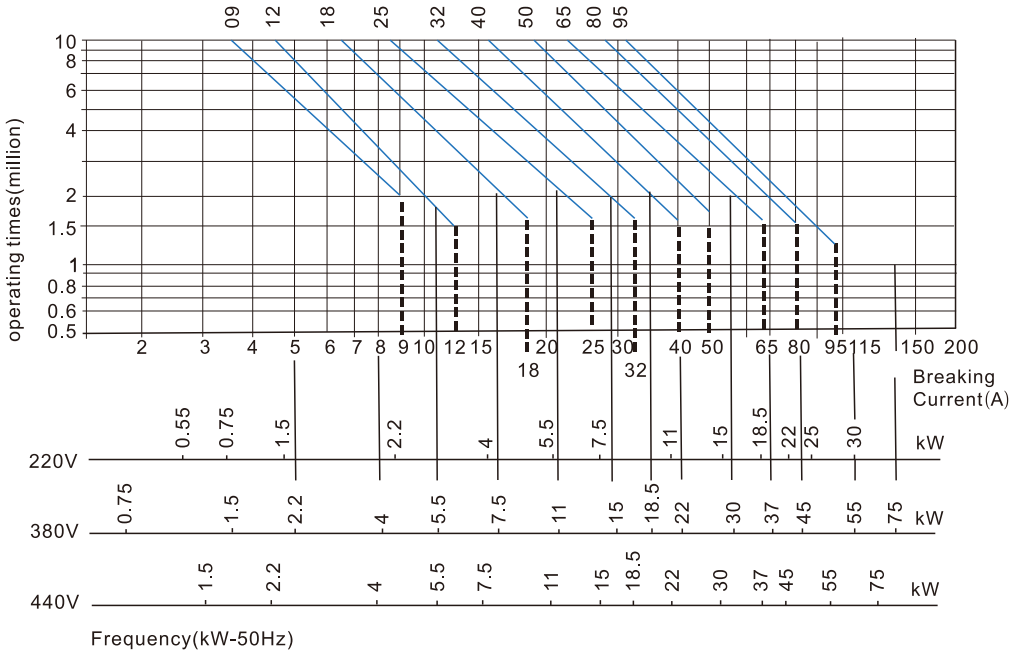
Type	Operating and Installation Conditions
Installation category	III
Pollution level	3
Certification	CE, CB, TUV
Protection degree	CAC2-09~38: IP20
Ambient temperature	limit of temperature: -35°C~+70°C, normal temperature: -5°C~+40°C, The average no more than +35°C within 24 hours. If not in normal operating temperature range, please refer to "Instructions for abnormal environment"
Altitude	⩽2000m
Ambient humidity	The maximum temperature of 70 degrees, the air relative humidity not exceed 50%, under lower temperature can allow for higher relative humidity. If the temperature is 20°C, the air relative humidity could up to 90%, Special measures should be taken for occasional condensation due to humidity changes.
Installation position	Inclination between installation surface and vertical surface should not exceed ±5°
Shock vibration	Products should be installed and used without significant shake, shock and vibration place.

Technical Data

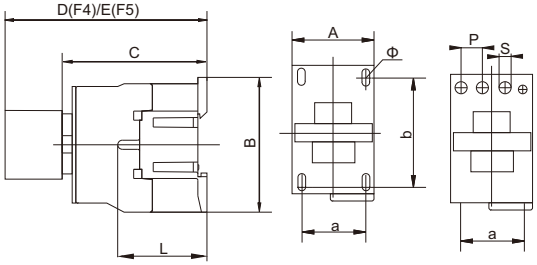
Type		CAC2-09	CAC2-12	CAC2-18	CAC2-25	CAC2-32	CAC2-40	CAC2-50	CAC2-65	CAC2-80	CAC2-95
Main circuit characteristic											
Poles		3P									
Main contact		3NO									
Rated insulation voltage(Ui)(V)		690V									
Rated operating voltage(Ue)(V)		380/400V; 660/690V									
Rated thermal current(Ith), AC-1		20	20	32	40	50	60	80	80	125	125
Rated operation current(Ie)(A)	AC-3, 380/400V	9	12	18	25	32	40	50	65	80	95
	AC-3, 660/690V	6.6	8.9	12	18	22	34	39	42	49	49
	AC-4, 380/400V	3.5	5	7.7	8.5	12	18.5	24	28	37	44
	AC-4, 660/690V	1.5	2	3.8	4.4	7.5	9	12	14	17.3	21.3
Rated operational power(Pe)(A)	AC-3, 380/400V	4	5.5	7.5	11	15	18.5	22	30	37	45
	AC-3, 660/690V	5.5	7.5	10	15	18.5	30	33	37	45	45
	AC-4, 380/400V	1.5	2.2	3.3	4	5.4	7.5	11	15	18.5	22
	AC-4, 660/690V	1.1	1.5	3	3.7	5.5	7.5	10	11	15	18.5
Mechanical life($\times 10^4$ times)		1200			1000		900			650	
Electrical life ($\times 10^4$ times)	AC-3	110				90				65	
	AC-4	22				22	17			11	
Frequency of operation (time/h)	AC-3	1200				600					
	AC-4	300				300					
Control circuit characteristics											
Rated control voltage(Us)	50Hz	24V,48V,110V,240V,415V									
	50/60Hz	24V,48V,110V,240V,415V									
Allowed control circuit voltage	Operation	(85%~110%)Us									
	Release	(20%~75%)Us									
Power consumption of coil	Actuation(VA)	60			70		200			200	
	Keep(VA)	6-9.5			6-9.5		15-20			15-20	
	Consumption(W)	1-3			1-3		6-10			6-10	
Connecting capability of main circuit terminal											
Flexible wire No terminal	1 wire(mm^2)	1~4			1.5~6		2.5~25			4~50	
	2 wire(mm^2)	1~4			1.5~6		2.5~16			4~25	
Flexible wire With terminals	1 wire(mm^2)	1~4			1~6		2.5~25			4~50	
	2 wire(mm^2)	1~2.5			1~4		2.5~10			4~16	
Hard wire No terminal	1 wire(mm^2)	1~4			1.5~6	1.5~10	2.5~25			4~50	
	2 wire(mm^2)	1~4			1.5~6		2.5~10			4~25	
Fastening torque (N.m)		1.2			1.8		5			9	
Auxiliary contacts											
Bulit-in auxiliary contact		1NO+1NC									
Rated thermal current (Ith)		10A									
Rated operating voltage (Ue)	AC	380V									
	DC	220V									
Rated control capacity	AC-15	360VA									
	DC-13	33W									

*Standard_* IEC60947-4-1 **Contactor 9~95A**

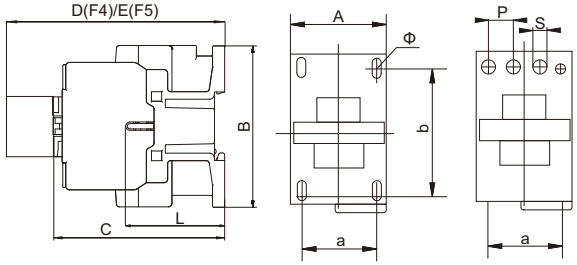
Electric Life Curves



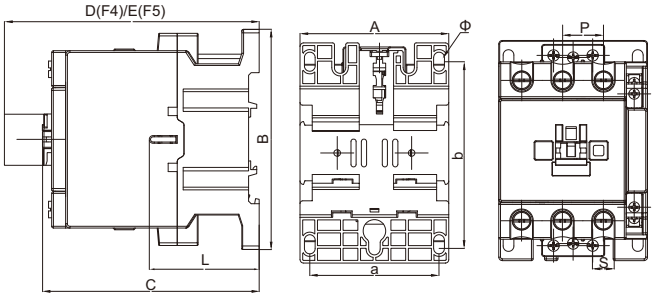
Dimension(mm)



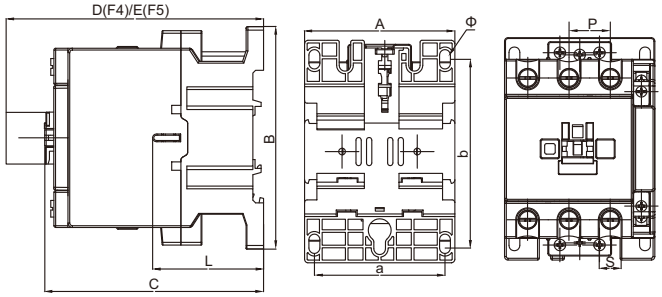
CAC2-09~18



CAC2-25~32



CAC2-40~65



CAC2-80~95

Model	A Max	B Max	C Max	D Max	E Max	a	b	Ø	L	P	S
CAC2-09~18	45	74.5	87	120	124	34.5	50/60	4.5	51	11	10.5
CAC2-25~32	56	87	98.6	132	136	40	61.5	4.5	59.3	14.2	13
CAC2-40~65	75	127	118	151.1	155	63.5	105	6	63.2	20	14
CAC2-80~95	86	126.5	126.5	158.5	162.5	74.5	105	6	63.2	23.5	17.5

*Standard_* IEC60947-4-1 Thermal Overload Relay

Feature

- 3-phase bimetal
- Continuously readjustable current settings
- Temperature compensation
- Tripping indicator
- Test button
- Stop button
- Manual and automatic reset button
- Electrically separated 1NO plus 1NC contact

Type Designation

C	R	2	-	25	11
①	②	③		④	⑤

Code	Meaning
①	Company code
②	Thermal overload relay
③	Design sequence Number

Code	Meaning
④	Frame Size
⑤	Code of current rating Basic specification, expressed with the rated operational current (380V/400V, AC3)

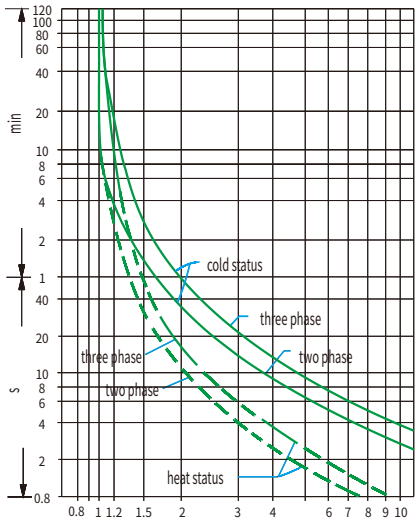
Description

Electric value	AC50/60Hz, 690V, 0.1~93A
Tripping class	10A
Mounting version	Plug-in: Available for CR2-13, 23, 33

Protection property

Item	Series No.	I/In		Operating time Tp	Test condition
Overload protection	1	1.05		>2 h	Start from cold status
	2	1.2		⩽2h	Start from heat status, right after item No.1
	3	1.5		⩽2min	Start from heat status, right after item No.1
	4	7.2		2s<Tp⩽10s	Start from cold status
Phase failure protection	5	Any two phases	Another phases	>2 h	Start from cold status
		1.0	0.9		
	6	1.15	0	⩽2 h	Start from heat status, right after item No.5

Curves



Multiple of rectified current

Technical Data

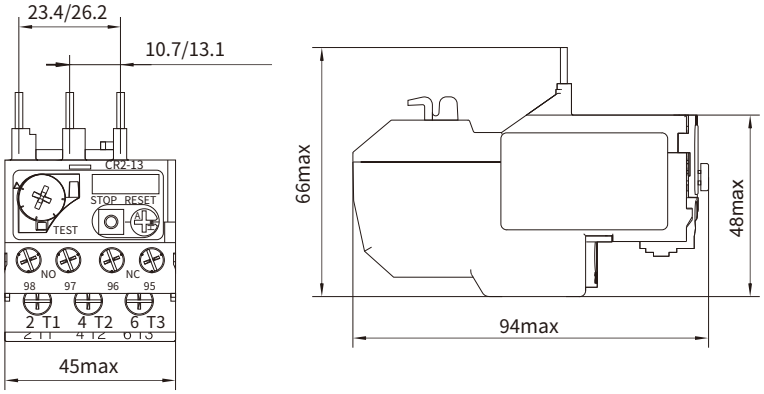
Phase failure protection function		Yes
Automatic & manual reset		Yes
Temperature compensation		Yes
Tripping indicator		Yes
Test & stop pushbutton		Yes
Mounting mode	Plug-in	Yes
	Independent	Yes
	No. of contacts	1NO+1NC
Auxiliary contacts	Rated current (A) (AC-15 220V)	2.73
	Rated current (A) (AC-15 380V)	1.58
	Rated current (A) (DC-13 220V)	0.2

Assembly with contactor

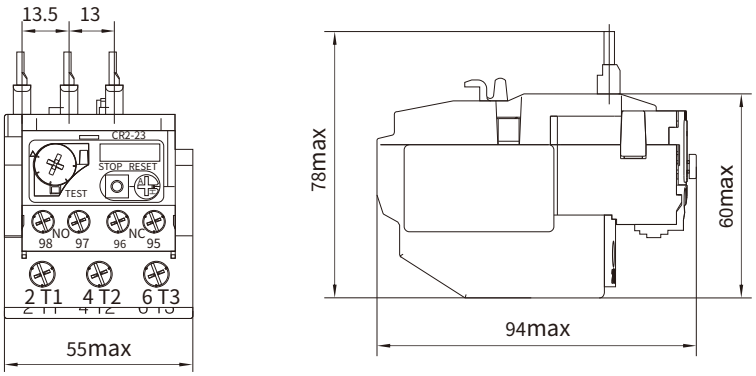
Model of overload relay	Code	Rated current (A)	Recommended fuse type(Recommended RT16)		Contactor Matched
			aM	gG	
CR2-13	1301	0.1~0.16	0.25	2	CC1/CAC2-09 CC1/CAC2-12 CC1/CAC2-18 CC1/CAC2-25 CC1/CAC2-32
	1302	0.16~0.25	0.5	2	
	1303	0.25~0.4	1	2	
	1304	0.4~0.63	1	2	
	1305	0.63~1	2	4	
	1306	1~1.6	2	4	
	1307	1.6~2.5	4	6	
	1308	2.5~4	6	10	
	1310	4~6	8	16	
	1312	5.5~8	12	20	
	1314	7~10	12	20	
	1316	9~13	16	25	
	1321	12~18	20	35	
	1322	17~25	25	50	
CR2-23	2353	23~32	40	63	CC1/CAC2-32
	2355	30~40	40	80	
CR2-33	3353	23~32	40	63	CC1/CAC2-40 CC1/CAC2-50 CC1/CAC2-65 CC1/CAC2-80 CC1/CAC2-95
	3355	30~40	40	100	
	3357	37~50	63	100	
	3359	48~65	63	100	
	3361	55~70	80	125	
	3363	63~80	80	125	
	3365	80~93	100	160	

Dimension(mm)

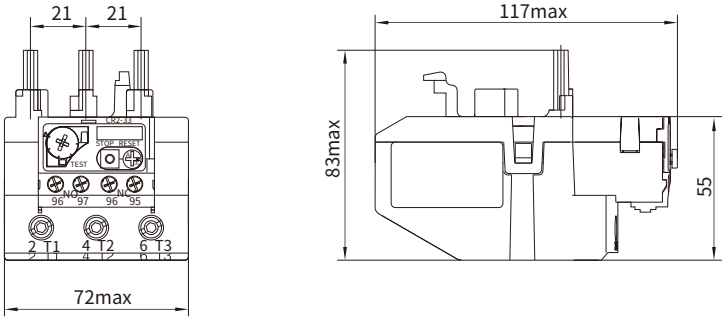
CR2-13



CR2-23



CR2-33



Items			CR2-13	CR2-23	CR2-33
Cross section area of conductor mm^2	Main circuit	Single core or stranded wire	1~4	4~10	4~35
		Wiring screw	M4	M4	M10
	Auxiliary circuit	Single core or stranded wire	0.5~2.5	0.5~2.5	0.5~2.5
		Wiring screw	M3.5	M3.5	M3.5

Scope of Application

CAM6 Series Moulded Case Circuit Breaker (hereinafter as circuit breaker) is one of the latest circuit breakers developed by our company. The product has the characteristics of small size, high breaking, short arcing and high protection accuracy. It is an ideal product for power distribution and an updated product of the plastic external circuit breaker. It is suitable for infrequent conversion and infrequent motor starting in circuits with AC50Hz, rated operating voltage of 400V and below, and rated operating current to 630A use. The circuit breaker has overload, short circuit and under-voltage protection functions, which can protect the circuit and power equipment from damage.

This series of circuit breakers comply with IEC60947-2 standards.

Type Designation

CA	M	6	-	250	S					
↓	↓	↓		↓	↓	↓	↓	↓	↓	↓
①	②	③		④	⑤	⑥	⑦	⑧	⑨	⑩

Code	Meaning
①	Company code
②	Moulded case circuit breaker
③	Design sequence NO.
④	Frame rated current: 125, 250, 400, 630
⑤	Rated breaking capacity level: S, H
⑥	Mode of operation No code: Handle directly operation p: Motor operation Z: Rotation of the handle operation

Code	Meaning
⑦	Number of poles: 2, 3, 4 (No code for three-pole products)
⑧	Tripping way and accessory code (see table below)
⑨	Four-pole code A: 3P + N, N pole is always on B: 4P, N pole can be opened and closed
⑩	Use code No code: Power distribution protection 2: Circuit breaker for motor protection

Normal Working Condition

- Altitude: The altitude of the installation site is 2000m and below.
- Ambient air temperature: the ambient air temperature is not higher than +40°C (+45°C for marine products) and not lower than -5°C, and the average temperature within 24 hours does not exceed + 35°C.
- Atmospheric conditions: when the maximum temperature is +40°C, the relative humidity of the air does not exceed 50%, and the effective high humidity can be allowed at lower temperatures; for example, RH could be 90% at 20P. Special measures should be taken for condensation that occasionally occurs on the product due to temperature changes.
- It can work withstand the influence of humid air, the influence of salt mist and oil mist, the carving of toxin bacteria and the influence of nuclear radiation.
- It can work reliably under normal vibration of the ship.
- It can work reliably under the condition of a slight earthquake (level 4).
- It can work in the medium without explosion hazard, and the medium does not have enough gas and conductive dust to corrode the metal and destroy the insulation.
- It can work in a place free from rain and snow.
- It can work in the maximum inclination is ±22.5°.
- Pollution degree is 3
- Installation category: The installation category of the main circuit breaker is II, and the installation category of auxiliary circuits and control circuits not connected to the main circuit is II.

Classification

- According to product pole number: classify into 2 poles, 3 poles and 4 poles. The forms of neutral poles (N poles) in 4-pole products are as follows:
  - N pole is not installed with overcurrent trip element, and the N pole is always connected, and it will not open and close with other three poles.
  - N pole is not installed with overcurrent trip element, and N pole is open and close with other three poles (N pole is open first and then close.)
  - N-pole installed over-current tripping components are open and close with other three poles.
  - N-pole installed overcurrent release components will not open and close together with other three poles.
- Classify according to the rated short-circuit breaking capacity of the circuit breaker:
  L: Standard type; M. Higher breaking type; H: High breaking type; R: Ultra high breaking type
- Classify according to operation mode: handle direct operation, rotary handle operation, electric operation;
- Classify according to the wiring method: front wiring, rear wiring, plug-in wiring;
- Classify according to the installation method: fixed (vertical installation or horizontal installation)
- Classify by use: power distribution and motor protection;
- Classify according to the form of overcurrent release: electromagnetic type, thermal electromagnetic type;
- Classify according to whether there are accessories: with accessories, without accessories; The accessories are divided into internal accessories and external accessories; internal accessories have four types: shunt release under-voltage release, auxiliary contacts and alarm contacts; external accessories have rotating handle operating mechanism, electric operating mechanism, interlock mechanism and wiring terminal block, etc. The codes of internal accessories are shown in the table below.

*Standard_* IEC60947-2 Moulded Case Circuit Breaker

Accessory name	Instantaneous release	Complex trip
None	200	300
Alarm contact	208	308
Shunt release	218	310
Energy meter prepayment function	310S	310S
Auxiliary contact	220	320
Under-voltage release	230	330
Auxiliary contact and shunt release	240	340
Under-voltage release Shunt release	250	350
Two sets of auxiliary contacts	260	360
Auxiliary contact and under-voltage release	270	370
Alarm contact and shunt release	218	318
Auxiliary contact and alarm contact	228	328
Alarm contact and under-voltage release	238	338
Alarm contact Auxiliary contact and shunt release	248	348
Two sets of auxiliary contact and alarm contacts	268	368
Alarm contact Auxiliary contact and under-voltage release	278	378

Main Performance Indexes

Model		CAM6-125		CAM6-250		CAM6-400	CAM6-630
Frame current		125		250		400	630
Rated current		23,32,40,50,63,80,100,125		100,125,160,180, 200,225,250		225,250,315, 350,400	400,500,630
Rated insulation voltage		1000		1000		1000	1000
Rated working voltage		230	400	230	400	400	400
Rated impulse withstand voltage Uimp (KV)		8		8		8	8
Breaking capacity code		L	H	L	H	L	L
Ultimate short-circuit breaking capacity Icu(KA)	AC 400V	35	65	35	65	45	45
Operating short-circuit breaking capacity Ics(KA)	AC 400V	25	50	25	50	22.5	22.5
Arc distance (mm)		⩽50				⩽100	
Operating performance (times)	Times/hour	120				60	
	Power on	3000		1500		1000	
	No electricity	7000		6500		4000	

Circuit Breaker Overcurrent Protection Characteristics

Characteristics of overcurrent inverse time protection for distribution protection

Name of test current	I/h	Conventional time			Initial state	Ambient temperature
		In≤63	63<In≤250	In≥250		
Conventional non - trip current	1.05	≥1h	≥2h	≥2h	Cold state	+30°C
Conventional trip current	1.30	<1h	<2h	<2h	Thermal state	
Returnable time	3.0	5s	8s	12s	Cold state	

Characteristics of overcurrent inverse time protection for motor protection

Name of test current	I/Ih	Conventional time		Initial state	Ambient temperature
		25<In≤250	250≤In≤630		
Conventional non - trip current	1.0	≥2h		Cold state	+40°C
Conventional trip current	1.2	<2h		Thermal state	
	1.5	≤4min	≤8min	Cold state	
Returnable time	7.2	4s≤T≤10s	6s≤T≤20s	Thermal state	

Short-circuit setting value of instantaneous release

Inm A	For power distribution	For motor protection
125、250、400	10In	12In
630	5In and 10In	

Parameters of Internal Accessories of Circuit Breaker

- The rated working voltage of the undervoltage release is: AC50Hz, 230V, 400V; DC110V, 220V and so on.
  Undervoltage release should act when voltage drops to within 70% and 35% of the rated voltage.
  The undervoltage release should not be able to close to prevernt the circuit breaker from closing when voltage is lower than 35% of the rated voltage.
  The undervoltage relase should ensure to be closed and ensure reliable closing of the circuit breaker when voltage is equal to or greater than 85% of the rated voltage.
- Shunt release
  The rated control voltage of the shunt release is: AC50HZ 230V, 400V; DC100V, 220V, etc.
  Shunt release can work reliably when the rated voltage value is at 70% and 110%.
- The rated current of auxiliary contact and alarm contact

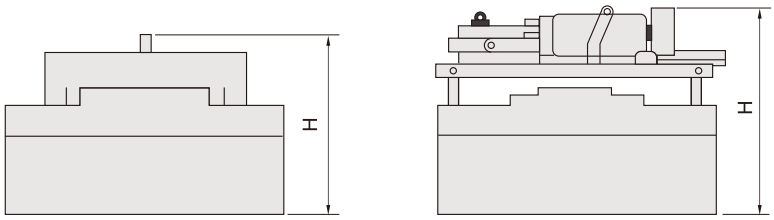
Classification	Frame rated current Inm(A)	Conventional thermal current Inm(A)	Rated working current at AC400V Ie(A)	Rated working current at DC220V Ie(A)
Auxiliary contact	≤250	3	0.3	0.15
	≥400	6	1	0.2
Alarm contact	10≤Inm≤630	AC220V/1A, DC220V/0.15A		

Electric Operating Mechanism

The rated working voltage of the electric operating mechanism are: AC50Hz 110V,230V; DC110V,220V, etc.
Motor power consumption of the electric operating mechanism is shown in the table below.

Power distribution circuit breaker	Starting current	Power consumption	Power distribution circuit breaker	Starting current	Power consumption
CAM6-125	⩽7	1540	CAM6-630	⩽5.7	1200
CAM6-250	⩽8.5	1870			

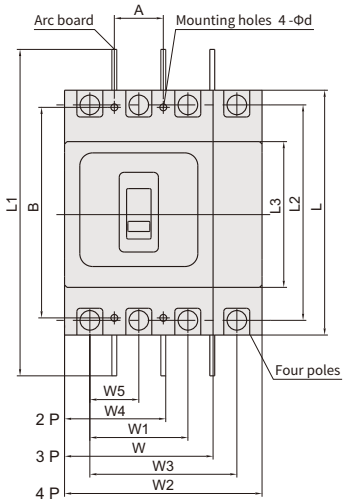
Installation height of electric operating mechanism

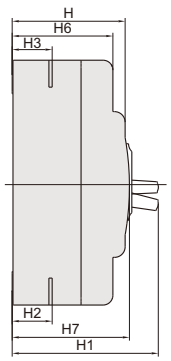


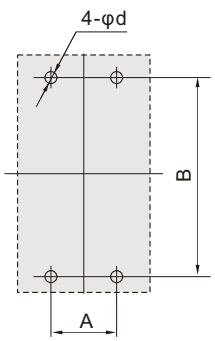
Inm	125S	250S	400S	630S
H(mm)	140	161	235	239

Outline and Installation Dimensions

Front Wiring

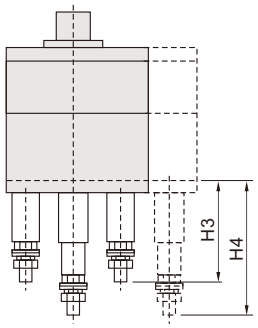




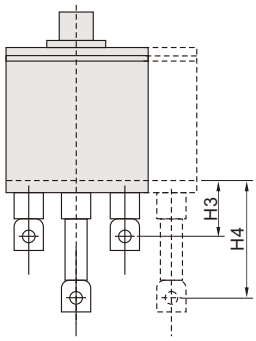


Hole size of mounting plate

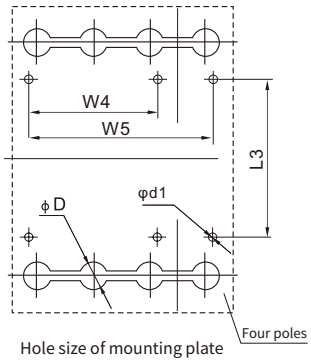
Back-board Wiring



CAM6-125

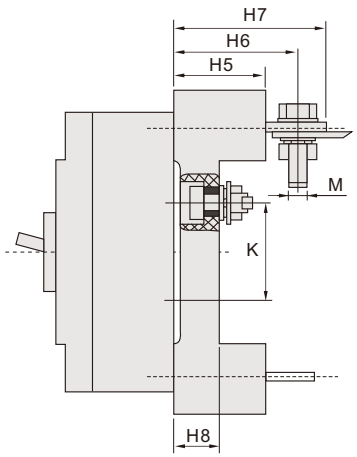


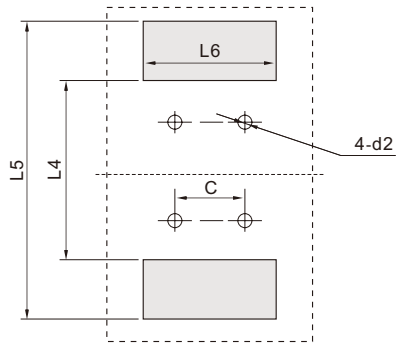
CAM6-250,400,630



Hole size of mounting plate

Plug-in Type Wiring





Hole size of mounting plate

Model			CAM6-125		CAM6-250		CAM6-400	CAM6-630
			S	H	S	H	S	S
Dimensions (mm)	Front-board Wiring	W	91.5		106.5		149.5	182
		W2	121		142		197.5	240
		W4	64.5		74.5		/	/
		L	150		165		257	270
		H	69	87	86	103.5	104.5	110
		H6	62	79.5	80.5	98.5	96.5	102
		H7	72	90	88.5	106.5	109	114.5
		W1	60		70		96	116
		W3	90		105		144	174
		W5	30		35		/	/
		L1	220		295		476	476
		H1	86	104	110	127	155	160
		H2	24.5	23.5	23	24	37	41.5
		H3	24.5	23.5	23	24	39	44.5
		L2	132		144		224	234
		L3	89		102		173.5	184
	Back-board Wiring	H4	68		66		60	65
		H5	108		110		120	125
Installation Dimensions		A	30		35		44	58
		B	129		126		194	200
		ϕd	4.5		5		7	7

Installation, Use And Maintenance

1. Close and open the circuit breaker several times to check whether the operating mechanism of the circuit breaker is stuck and whether the mechanism is reliable.

2. The "N", "1", "3" and "5" of the breaker are the input ends, and the "N", "2", "4" and "6" are the output ends, no flipping is allowed.

3. The cross-section area of the connecting wire selected when the circuit breaker is wired should be matched with the rated current。Refer to the table below for the cross-section of the main circuit wire when using copper wires and copper bars.

Rated current (A)	25	32	40,50	63	80	100	125,140	160	180,200 225	250	315,350	400
Conductor cross-section area (mm^2)	4	6	10	16	25	35	50	70	95	120	185	240

Rated current value (A)	Cable		Copper bar	
	Cross-section area (mm^2)	Quantity	Size (mm×mm)	Quantity
500	150	2	30×5	2
630	185	2	40×5	2
800	240	3	50×5	2

4. Confirm that all terminal connections and fixing screws should be tightened without looseness before use.

5. Install the circuit breaker separately and fix it vertically in a dry and ventilated place. It should be easy to maintain and operate, generally 1⩾1.5 meters from the ground.

6. Confirm that there are no short-circuits or short-circuits to ground between the terminals or exposed live parts.

7. After the circuit breaker is overloaded, it is necessary to find out the reason and eliminate the fault. After the bimetal in the circuit breaker is reset, the circuit can be energized.

*Standard_* IEC60947-2

Intelligent Universal Circuit Breaker

Scope of Application

CAW6 series intelligent universal circuit breaker (hereinafter referred to as circuit breaker) is suitable for AC 50Hz, rated voltage 400V, 690V, rated current 630 ~ 6300A.It is mainly used in distribution networks to distribute electrical energy and protect circuits and power equipment from overload, under-voltage, short circuit, single-phase ground faults. The circuit breaker has a variety of intelligent protection functions, which can achieve selective protection and precise action. Its technology can reach the advanced level of similar international products, and it is equipped with a communication interface, which can carry out “four remote” to meet the control center and requirements for automated systems. Avoid unnecessary power outages and improve power supply reliability.

This series of products complies with IEC60947-2 standards.

Type Designation

CA	W	6	-	2000		/	
↓	↓	↓		↓	↓		↓
①	②	③		④	⑤		⑥

Code	Meaning
①	Company code
②	Universal circuit breaker
③	Design sequence NO.

Code	Meaning
④	Frame rated current:
⑤	Short-circuit breaking capacity level G: high breaking capacity No code: ordinary type
⑥	Pole numbers: 3, 4 (Three pole is not written)

Normal Working Condition

- The ambient air temperature is -5°C~+40°C, and the average temperature of 24 hours does not exceed +35°C.
- The altitude of the installation site does not exceed 2000m
- When the maximum temperature of the installation site is +40°C, the relative humidity of the air shall not exceed 50%, and higher relative humidity can be allowed under lower temperature; the average maximum relative humidity of the wettest month is 90%, and the average minimum temperature of the month is +25°C, taking into account the condensation on the product surface due to temperature change
- The pollution degree is level 3
- The installation category of the main circuit of the circuit breaker, the under-voltage controller coil and the primary coil of the power transformer is IV, and the installation category of the other auxiliary circuits and control circuits is III
- The vertical inclination of the circuit breaker installation does not exceed 5
- The circuit breaker is installed in the cabinet, protection level is IP40; if add door frame, the protection level can reach IP54

Classification

- The circuit breaker is divided into three poles and four poles according to the number of poles.
- The rated current of the circuit breaker is divided into 1600A, 2000A, 3200A, 4000A, 5000A (capacity increased to 6300A).
- Circuit breakers are divided according to purposes: power distribution, motor protection, generator protection.
- According to operation mode:
  - Motor operation;
  - Manual operation (for overhaul and maintenance).
- According to installation mode:
  - Fix type: horizontal connection, if add vertical bus, the cost of vertical bus will be calculated separately;
  - draw-out type: horizontal connection, if add vertical bus, the cost of vertical bus will be calculated separately.
- According to the type of tripping release:
  Intelligent over current tripping release, Under-voltage instantaneous (or delay) release and Shunt release
- According to the type of intelligent controller:
  - M type (general intelligent type);
  - H type (communication intelligent type).

Main Technical Parameters

1. The rated voltage and rated current of circuit breaker

Rated current of frame level Inm(A)	Poles numbers	Rated frequency (Hz)	Rated insulated voltage Ui(V)	Rated working voltage Ue(V)	Rated current In(A)	N pole rated current
1600	3 4	50	1000	400、690	200, 400, 630, 800, 1000, 1250, 1600	50%In 100%In
2000					400, 630, 800, 1000, 1250, 1600, 2000	
3200					2000, 2500, 2900, 3200	
4000					3200, 3600, 4000	
5000					400, 5000 ,6300 (Capacity increase)	

2. The rated short-circuit breaking capacity of the circuit breaker and the withstand currentduring short circuit (the arcing distance of the circuit breaker is “zero”)

Rated current of frame level In(A)		1600/1600G	2000/2000G	3200	4000	5000
Rated ultimated short circuit breaking capacity Icu(kA)	400V	55/65	65/80	100	100	120
	690V	35/50	50	65	85	75
Rated short circuit breaking capacity Ics(kA)	400V	55/65	40/50	65	100	100
	690V	35/50	40	50	85	75
Rated short circuit making capacity Icm(kA)(Peak)/cosϕ	400V	110/143	176/0.2	220/0.2	264	264/0.2
	690V	73.5/105	105/0.25	143/0.2	165	187/0.2
Rated short time withstand current Icw(1s)	400V	42/50	40/50	65	100	85/100(MCR)
	690V	35/42	40	50	85	65/75(MCR)

3. Operation performance of circuit breaker

Rated current of frame level Inm(A)		1600(G)	2000(G)	3200	4000	5000	Operating cycles per hour
Electrical life	AC690V	1000	500	500	500	500	20
	AC400V	1000	500	500	500	500	20
Mechanical life	Maintenance free	2500	2500	2500	2000	2000	20
	With maintenance	5000	10000	10000	8000	8000	20

Note:
① During each power-on operation cycle, the maximum time for circuit breaker to keep on is 2s
② Each operation cycle includes: closing operation followed by opening operation(mechanical life), or connecting operation followed by breaking operation (electrical life)

4. Operating voltage and required power of circuit breaker shunt release, under-voltage release, operating mechanism, intelligent controller for energy release electromagnet

Project		AC(50Hz)		DC	
		220V	380V	110V	220V
Shunt release		40VA	40VA	40W	40W
Under-voltage release		24VA	36VA	-	-
Energy release electromagnet		24VA	36VA	24W	110W
Operating mechanism motor	Inm=3200A	85VA	85VA	-	150W
	Inm=3200A, 4000A	110VA	110VA	-	24W
	Inm=6300A	150VA	150VA	-	
Intelligent controller power supply voltage	AC220V, AV380V, DC220V, DC110V				

Note:
The reliable operating voltage range of shunt release is 70%~110%, and the release electromagne and operating mechanism are 85%~110%.

5. Performance of circuit breaker under-voltage release

Category		Under-voltage delay release	Under-voltage instantaneous release
Tripping time		Delay 1、3、5、10、20s	Instantaneous
Tripping voltage value	(37~70)%Ue	Can make the circuit breaker open	
	⩽35%Ue	Circuit breaker cannot be closed	
	80%Ue~110%Ue	Circuit breaker can be closed reliably	
The return time is⩾95%		Circuit breaker does not open	

Note:
The accuracy of the delay time of the under-voltage delay release is ±10%. When the voltage recovers to 85% Ue or above within 1/2 delay time, the circuit breaker will not be disconnected

6. Auxiliary contacts

• Auxiliary contact form: four sets of change-over switches (default)
• The rated working voltage of auxiliary contact of the circuit breaker, The rated control power is shown in Table 6.

Use category	Power supply type	Conventional heating current Ith(A)	Rated insulated voltage Ui(V)	Rated working voltage Ue(V)	Rated control power Pe
AC-15	AC	10	400	400, 230	300VA
AC-13	DC			200, 110	60W

7. Circuit breaker power consumption (ambient temperature +40°C)

Current	1600(G)		2000(G)		3200		4000		5000
Pole	3	4	3	4	3	4	3	3	3
Power consumption	300VA	400VA	360VA	420VA	900VA	1200VA	1225VA	1240VA	1225VA

8. Protection performance of intelligent controller

The intelligent controller has overcurrent protection features such as overload long delay inverse time limit, short circuit short delay inverse time limit, short circuit short delay time limit, short circuit instantaneous protection, etc. It also has single-phase grounding and leakage protection, load monitoring and other characteristics.

The protection current and time parameters of overcurrent protection feature are generally set by manufacturer according to user's order requirements. The neutral line overcurrent protection of four-pole circuit breaker, the time parameter automatically tracks the phase line setting value in proportion. The proportional number is selected by user, that is, the N-pole rated current IN is 50%In or 100%In. If the user doesn' t have special requirements when ordering, then configure and adjust according to Table 8.

If user doesn' t have special requirements when ordering, the factory setting value of the intelligent trip controller is configured according to the following table:

Overload long delay	Current setting value Ir1	In			
	Delay time setting value t1	15S			
Short circuit short delay	Current setting value Ir2	6Ir1			
	Delay time setting value t2	0.2S			
Short-circuit instantaneous current setting value Ir3		12In(In:2000A), 10In(In:2000A)			
Grounding fault	Current setting value Ir4	CAW6-1600(G)	CAW6-2000(G)	CAW6-3200(4000)	CAW6-5000
		0.8In or 1200A (Choose the small one)	0.8In or 1200A (Choose the small one)	0.6In or 1600A (Choose the small one)	2000A
	Delay time setting value t4	OFF			
Load monitoring	Monitor current Ic1	In			
	Monitor current Ic2	In			

Functional Characteristics of Different Types Of Intelligent Controllers

M type

In addition to the four section protection features of overload long time delay, short circuit short time delay, instantaneous and earth leakage, it also has fault status indication, fault record, test function, ammeter display, voltmeter display, various alarm signal output, etc It has a wide range of protection characteristic area values and complete auxiliary functions. It is a multi-functional type and can be applied to most industrial applications with high requirements.

H type

It can have all the functions of M type. At the same time, this kind of controller can realize the “four remote” functions of telemetry, remote adjustment, remote control and remote signaling through the network card or interface converter. It is suitable for the network system and can be centrally monitored and controlled by the upper computer.

Ammeter function

The current of the main circuit can be displayed on the display screen. When the selection key is pressed, the current of the phase in which the indicator lamp is located or the maximum phase current will be displayed. If the selection key is pressed again, the current of the other phase will be displayed.

Self-diagnosis function

The trip unit has the function of local fault diagnosis. When the computer breaks down, it can send out an error “E” display or alarm, and restart the computer at the same time, the user also can disconnect the circuit breaker when needed

When the local ambient temperature reaches to 80°C or the temperature in the cabinet exceeds 80°C due to the heat of the contact, an alarm can be issued and the circuit breaker can be opened at a small current (when required by the user)

Setting function

Press the long delay, short delay, instantaneous, grounding setting function keys and +, - key to set the required current and delay time arbitrarily according to user requirements, and press the storage key after the required current or delay time is reached. For details, see the chapter on installation, use and maintenance. The setting of the trip unit can immediately stop executing this function when an overcurrent fault occurs.

Testing function

Press the setting key to make the set value current to long delay, short delay, instantaneous state, indicator shell and +,- key, select the required current value, and then press the testing key to carry out the test of release. There are two types of testing keys; one is non-tripping testing key, and the other one is tripping testing key. For details, see the tripping device test in the chapter of Installation, Use and Maintenance. The former testing function can be performed when the circuit breaker is connected to the power grid.When an overcurrent occurs in the network, the testing function can be interrupted and the overcurrent protection can be performed.

Load monitoring function

Set two setting values, Ic1 setting range (0.2~1) In, Ic2 setting range (0.2~1) In, Ic1 delay characteristic is inverse time limit characteristic, its delay setting value is 1/2 of long delay setting value. There are two kinds of delay characteristics of Ic2: the first kind is the inverse time limit characteristic, the time setting value is 1/4 of the long delay setting value; the second kind is the time limit characteristic, the delay time is 60s. The former is used to cut off the least important load of the lower stage when the current is close to the overload setting value, the latter is used to cut off the unimportant load of the lower stage when the current exceeds the value of Ic1, then current drops to make the main circuits and important load circuits remain powered. When the current drops to Ic2, a command is issued after a delay, and the circuit that has been cut off by the lower stage is turned on again to restore the power supply of the entire system, and the load monitoring feature.

Display function of the tripping unit

The tripping unit can display its operating current (ie ammeter function) during operation, display the section specified by its protection characteristics when a fault occurs, and lock the fault display and fault current after breaking the circuit, and display the current, time and section category of the setting section at the setting time. If it is a delayed action, the indicator light flashes during the action, and the indicator light changes from flashing to constant light after the circuit breaker is disconnected.

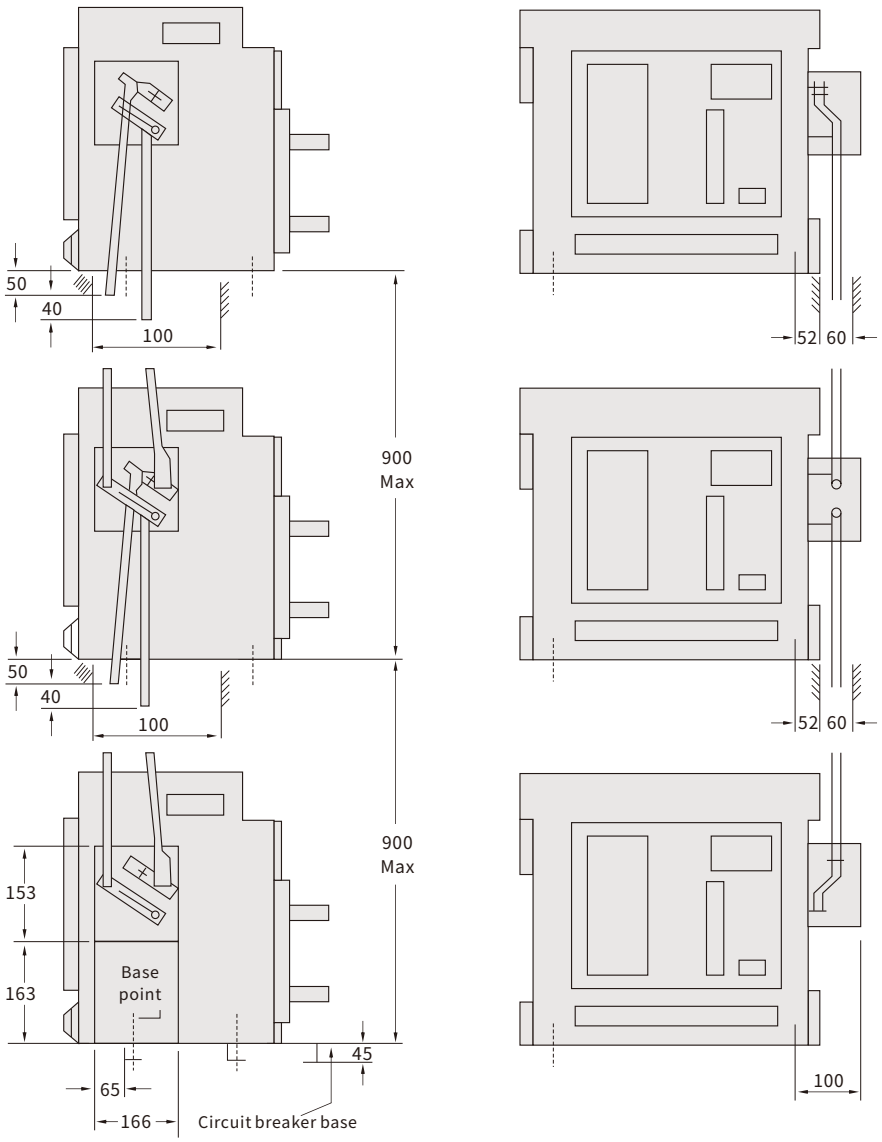
MCR on-off and analog tripping protection

The controller can be equipped with MCR on-off and analog tripping protection according to the user' s needs. The two modes both are instantaneous actions. The fault current signal sends action instructions directly through the hardware comparison circuit. The setting current values of the two actions are different. The setting value of the analog tripping is high, which is generally the maximum value of the instantaneous protection domain value of the controller (50ka75ka/100kA), The controller works all the time and is generally used as a backup. However, the setting value of MCR is low, generally 10kA. This function only works when the controller power on, it does not work during normal closed operation. The user can require special setting value with accuracy of ±20%.

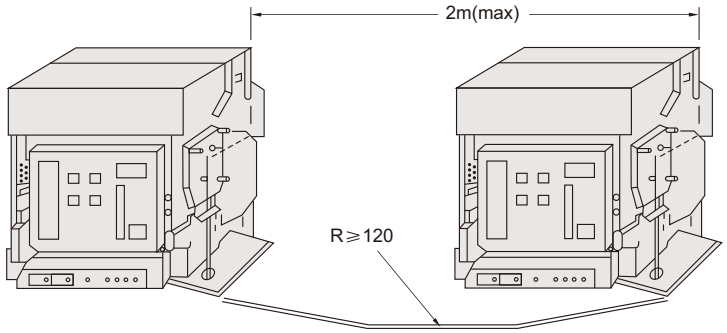
The Mechanical Interlocking

The interlocking mechanism can interlock two or three circuit breakers for multi-channel power supply system. The mechanical interlocking device is installed on the right board of the circuit breaker. When it is installed vertically, the circuit breaker is interlocked with connecting rod; when it is installed horizontally or vertically, the circuit breaker is interlocked with steel cable, and the interlocking device is installed by the user. See Fig. 1 and Fig. 2 for the interlocking schematic diagram.

Connecting rod interlocking three vertically installed circuit breakers

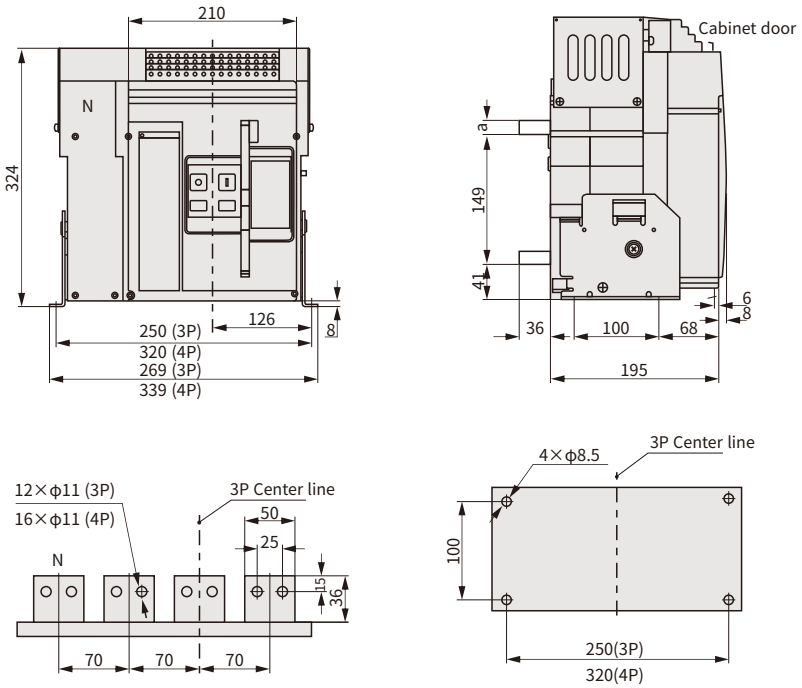


Steel cable interlock two circuit breakers installed horizontally



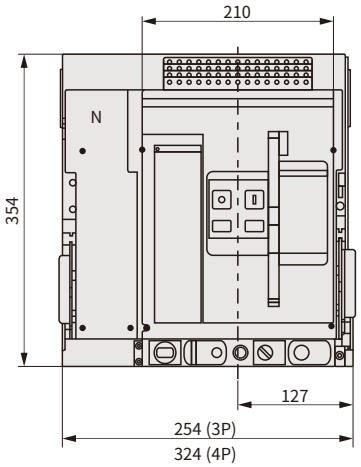
Shape and Installation Dimensions

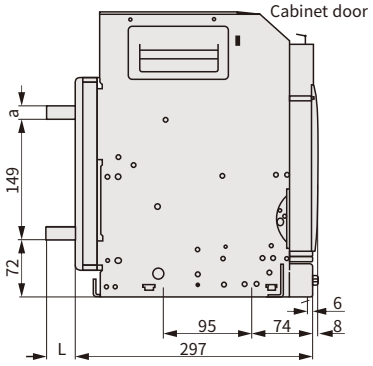
CAW6-1600(200-1600A Fixed type)



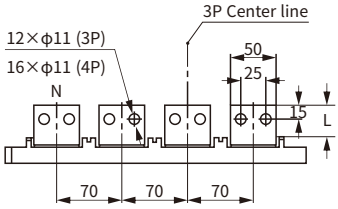
In(A)	a(mm)
200~630	5
800~1250	10
1600	16

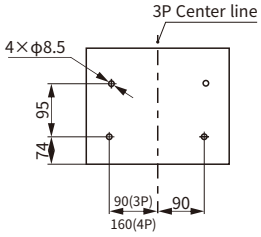
CAW6-1600(200~1600A Drawer type)



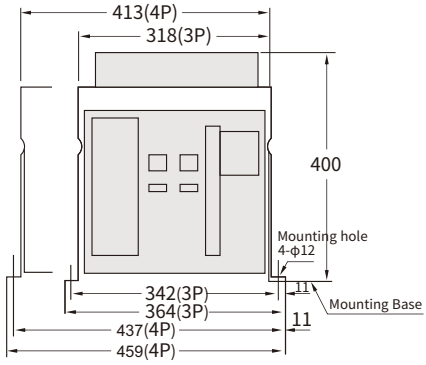


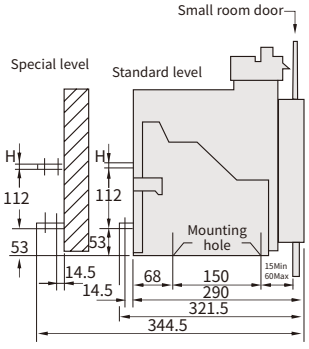
In(A)	a(mm)	L(mm)
630、800	10	Standard type: 35(default) Long type: 50
1000~1600	15	
2000	20	





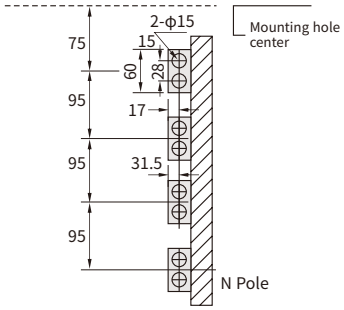
CAW6-2000(630~2000A Fixed type)



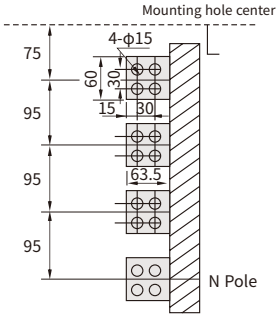


In(A)	H(mm)
630、800	10
1000~1600	15
2000	20

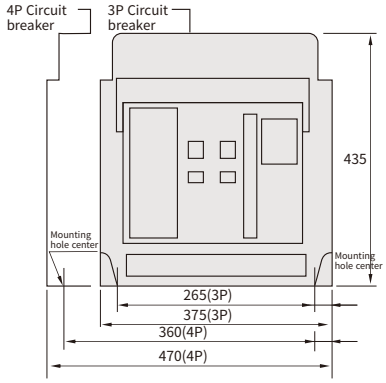
Standard terminal

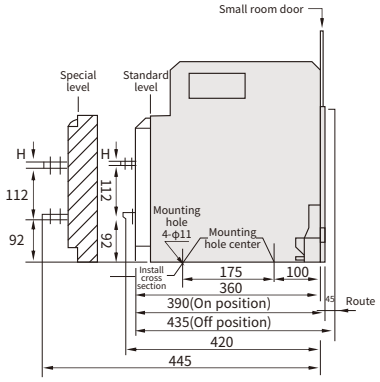


Special terminal



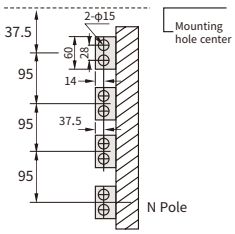
CAW6-2000(630~2000A Drawer type)



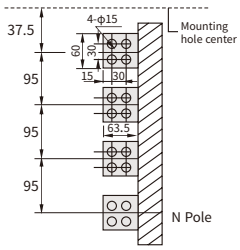


In(A)	H(mm)
630、800	10
1000~1600	15
2000	20

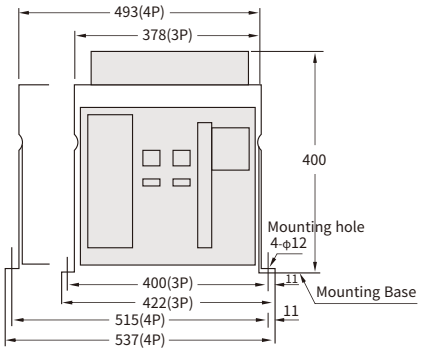
Special terminal

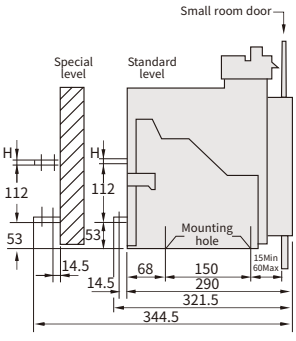


Standard terminal



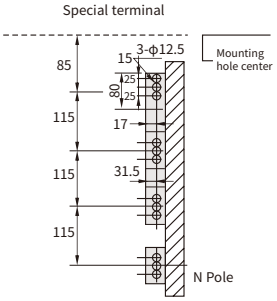
CAW6-3200(2000~2500A Fixed type)



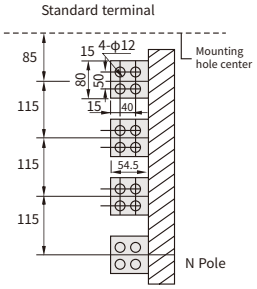


In(A)	H(mm)
2000~2500	20
3200	30

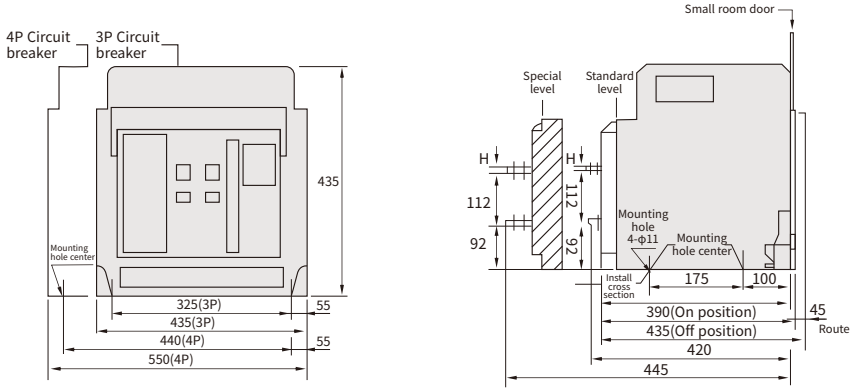
Special terminal



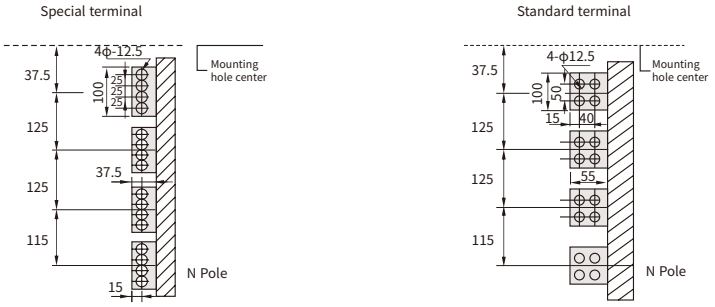
Standard terminal



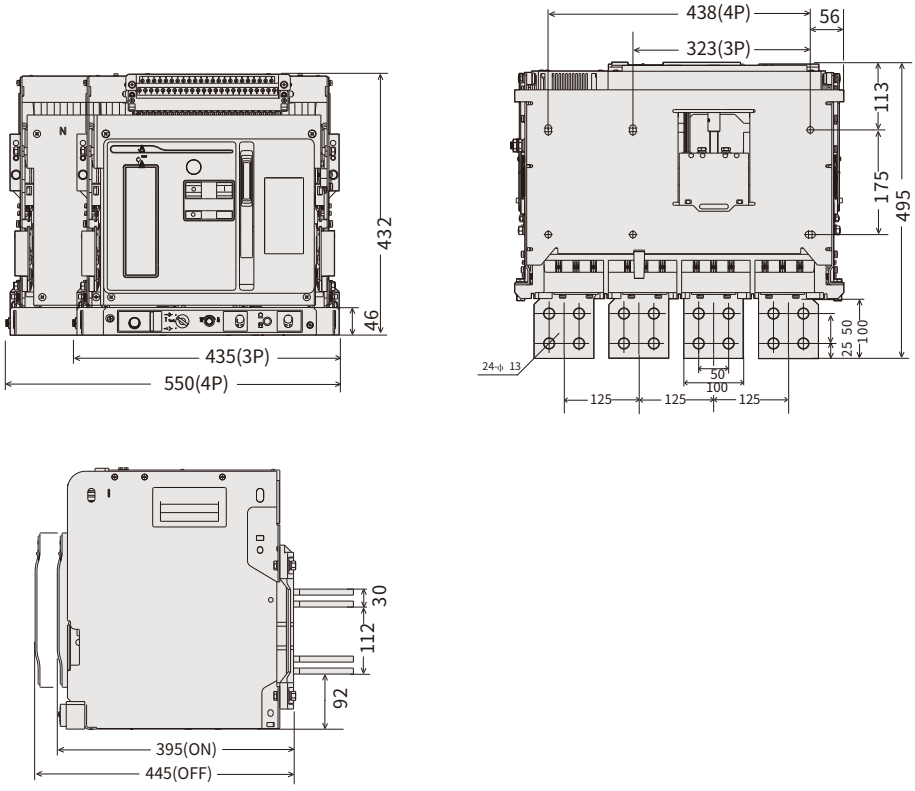
CAW6-3200(2000~3200A Drawer typ)



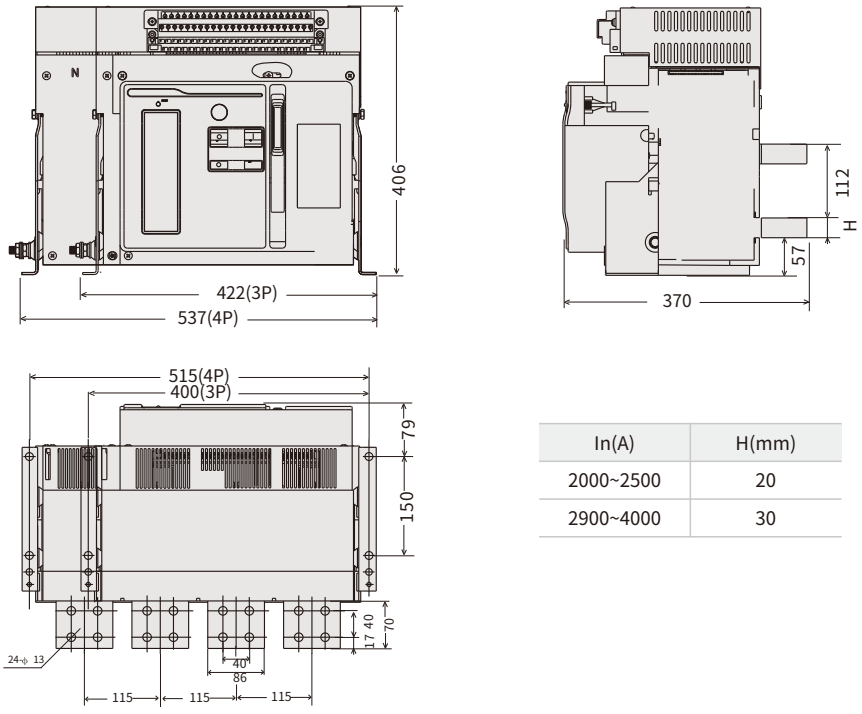
In(A)	H(mm)
2000~2500	20
3200	30



CAW6-4000 Drawer type and fixed type

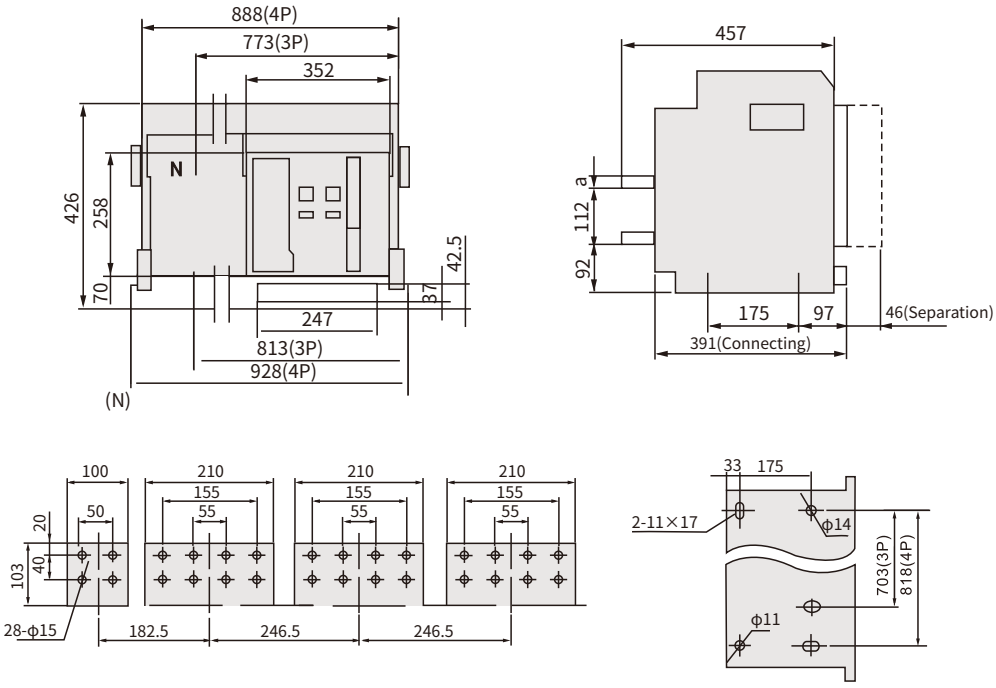


CAW6-4000 Fixed type



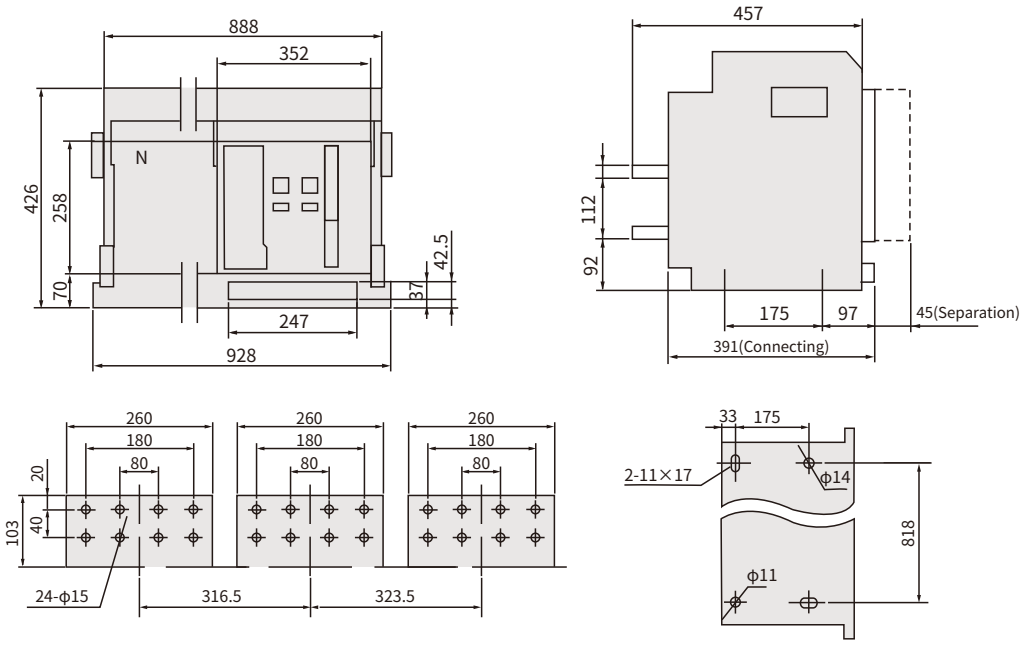
In(A)	H(mm)
2000~2500	20
2900~4000	30

CAW6-5000(4000~5000A) Drawer type



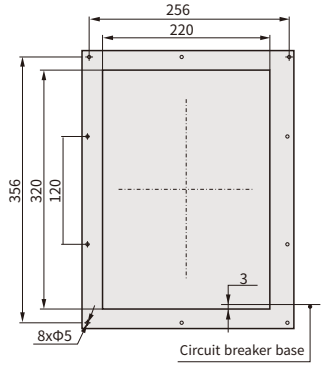
In(A)	a(mm)
4000	20
5000	30

CAW6-5000(6300A Drawer type)

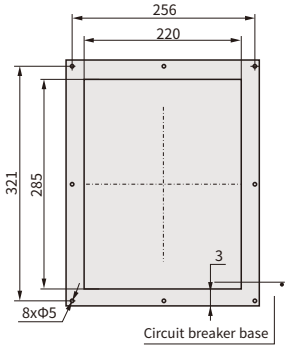


CAW6-1600
cabinet door frame opening size

Drawer type

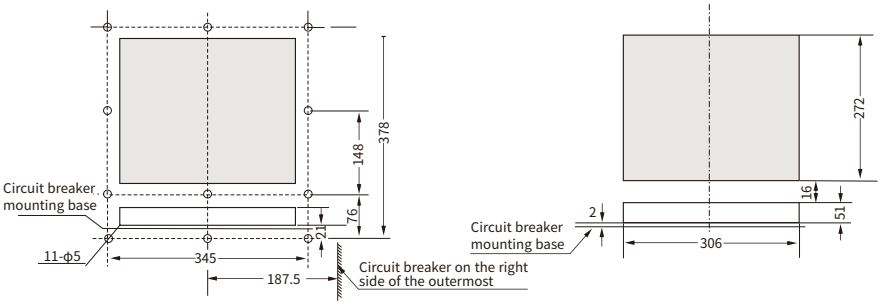


Fixed type

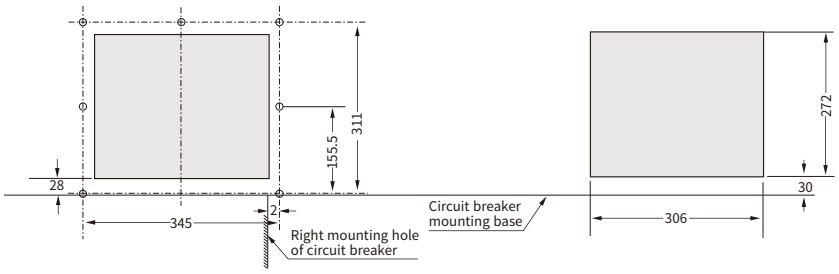


CAW6-2000
cabinet small room door frame opening size

Drawer type

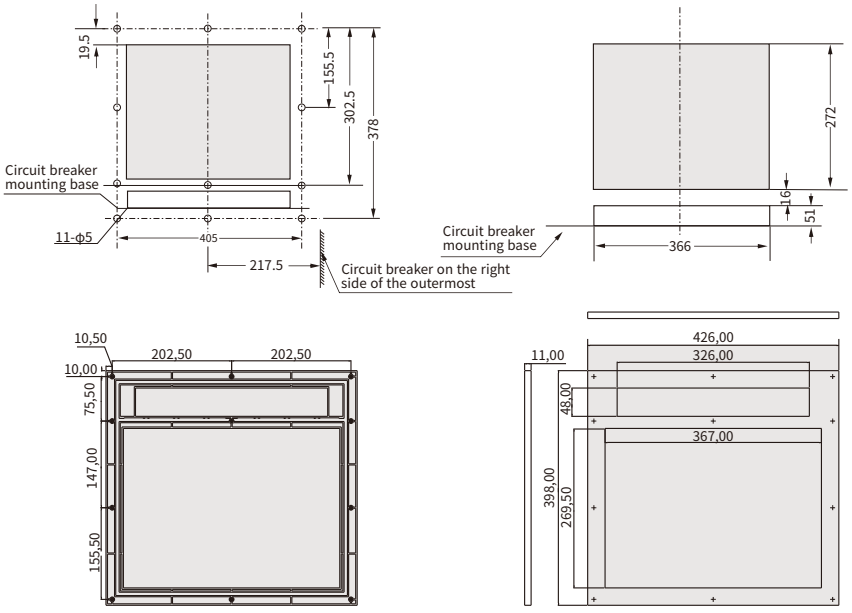


Fixed type

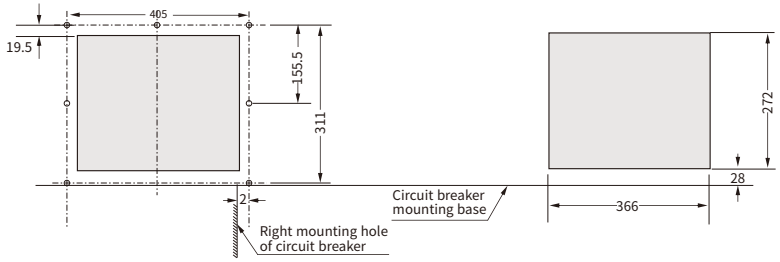


CAW6-3200-5000 cabinet door frame opening size

Drawer type



Fixed type



Notes

Notes

Notes

⚠ The product data referred to in the company shall be subject to material object. Subject to change without notice.
The company has the final right to interpret.

Green paper printing.

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