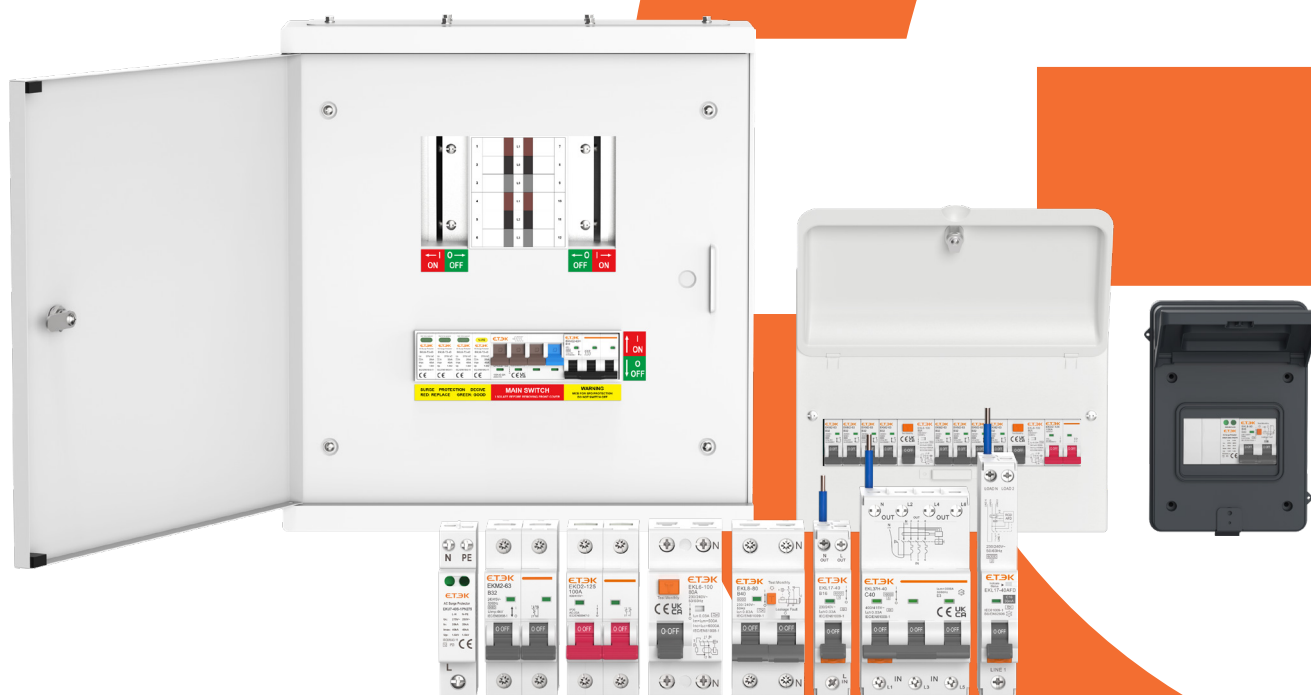


METAL CONSUMER UNITS

» *Always for your safety*



Always for your safety



COMPANY INTRODUCTION

Zhejiang ETEK Electrical Technology Co., Ltd. is a professional manufacturing company specializing in the research, development, production, and sales of low-voltage electrical appliances. Established in 2011 and headquartered in Wenzhou, Zhejiang Province, ETEK Electric operates two modern manufacturing bases in Wenzhou and Wuhu, covering an area of 40,000 square meters. The company employs over 500 staff, including more than 50 R&D and technical professionals.

ETEK Electric has multiple production workshops for mold design, parts manufacturing, welding, and assembly. Additionally, it operates multiple automated production lines for MCB and RCCB. Its product portfolio includes MCB, RCCB, RCBO, AFDD, MCCB, ACB, EV Chargers, and Photovoltaic DC products, which are widely used in residential, commercial, and industrial sectors.

ETEK Electric has established its own low-voltage electrical testing center, where testing projects meet international IEC standards. The company has obtained ISO9001, ISO14001, and ISO45001 certifications, and its products are certified by international standards such as CB, TUV, VDE, CE, RoHS, among others.

With over 100 national patents, ETEK Electric continues to master core technologies in circuit breakers and remains committed to building its independent brand. The "ETEK" trademark is registered in over 80 countries, with products exported to more than 100 regions, including Europe, South America, the Middle East, Africa, and Southeast Asia.

Additionally, ETEK Electric supports OEM, ODM, OBM, SKD, CKD, and other business cooperation models, offering a complete suite of services including market cultivation, technical training, and assistance with factory construction.

Looking to the future, ETEK Electric is committed to becoming a globally renowned manufacturer in the power distribution and electrical industry, safeguarding the power safety of its customers around the world and contributing to the development of green and digital energy.



Corporate Culture



Values

- Integrity
- Innovation
- Focus
- Win-win



Vision

Dedicated to becoming a globally renowned manufacturer in the power distribution equipment industry.



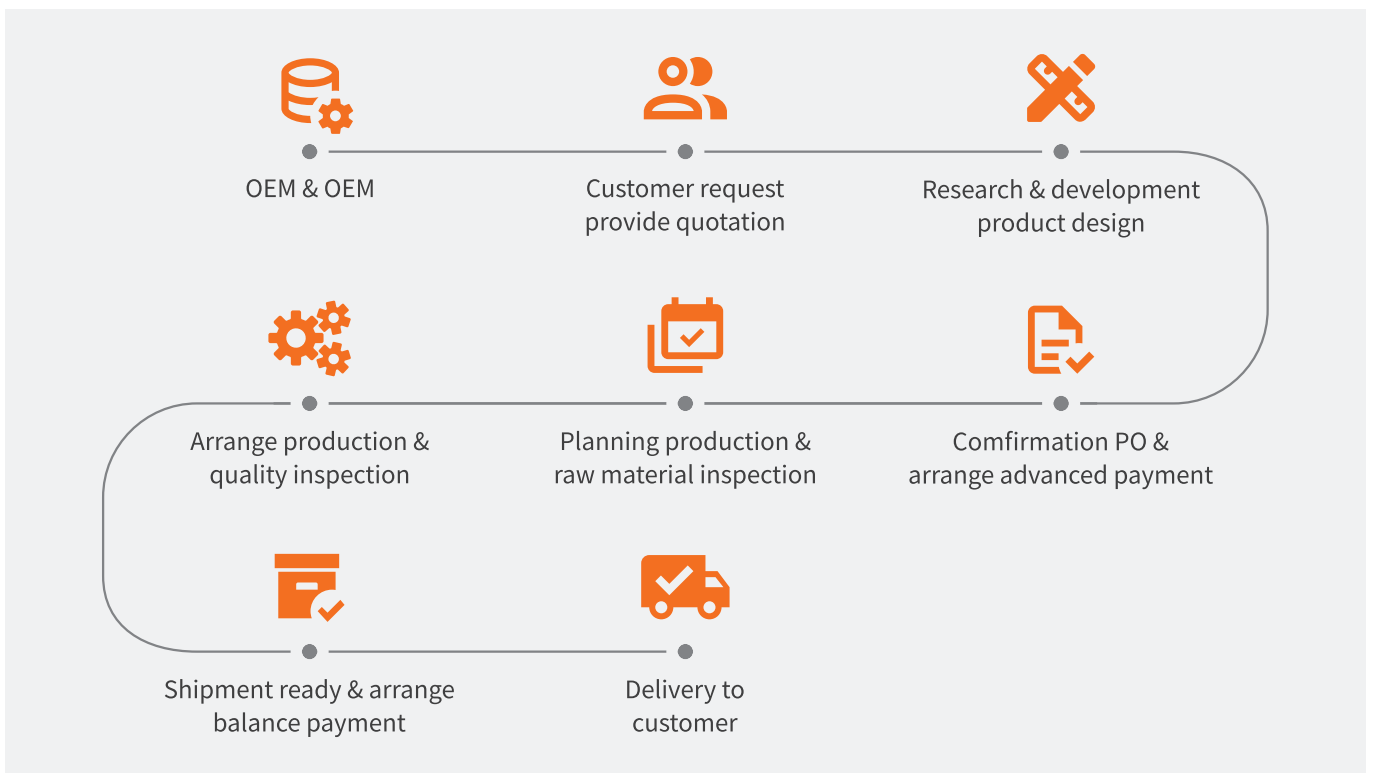
Mission

Manufacturing safer and smarter distribution electrical products to support the development of green and digital energy

WORKSHOPS



OEM & ODM BUSINESS



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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.

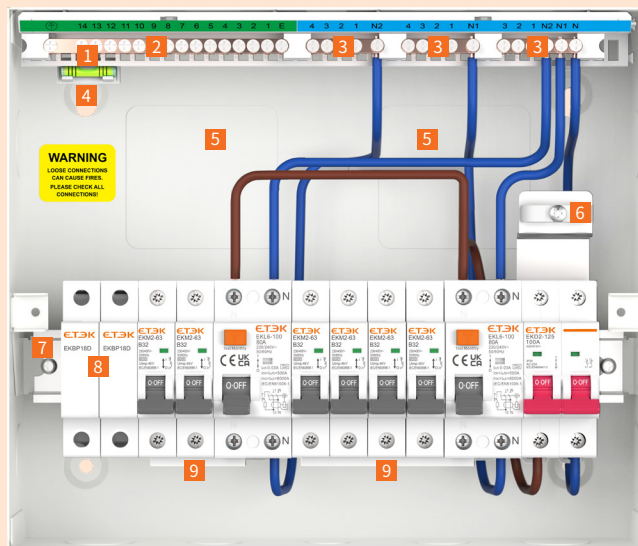
Consumer Unit Selection Guide

- 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 Disconnect 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

↓
①

DB16S

↓
②

14

↓
③

L

↓
④

-

I2RS

↓
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



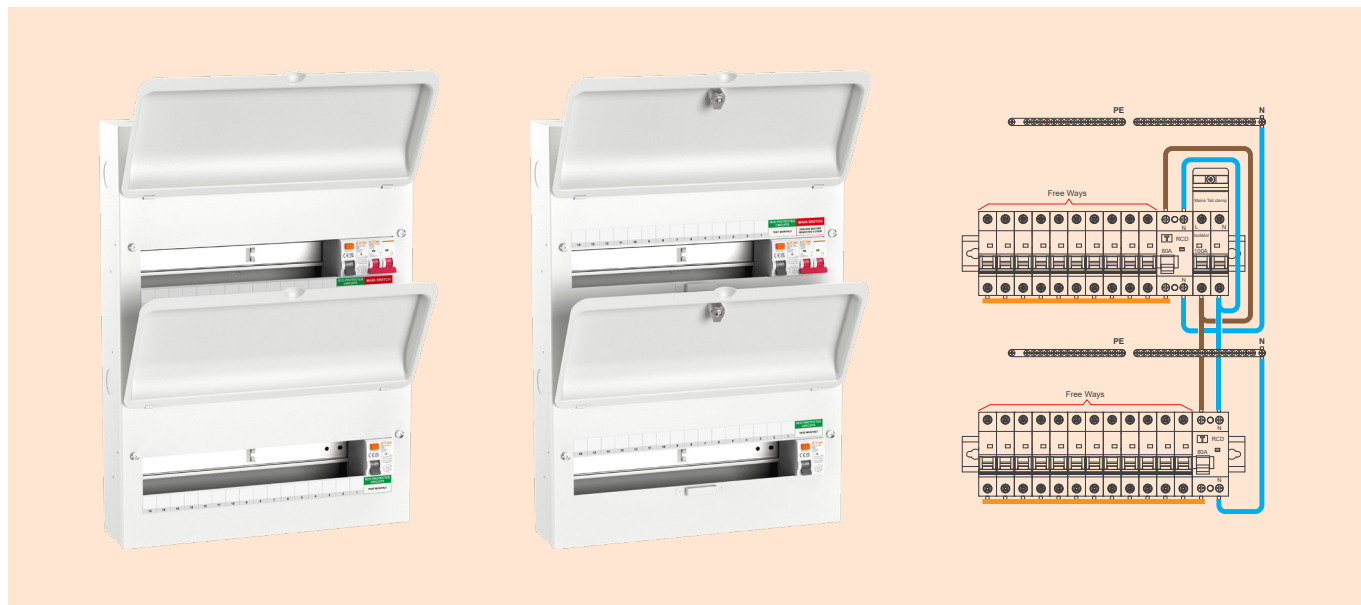
Ref No.	Ref No. (with lock)	Box size	Main Switch	Busbar pins	Free ways
EKDB16S28-I	EKDB16S28L-I	28	DP 100A	13+14	12+13
EKDB16S36-I	EKDB16S36L-I	36	DP 100A	17+18	16+17

Double Rows Main Switch Consumer Unit



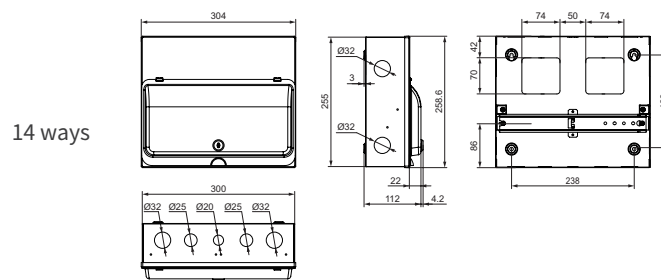
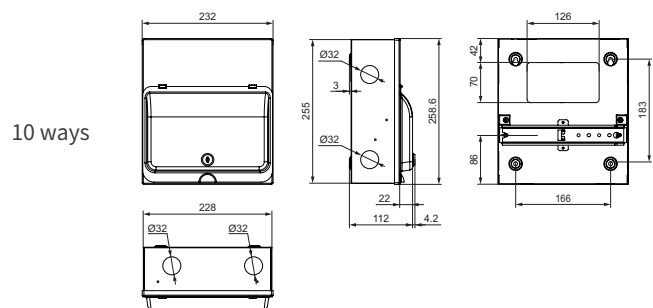
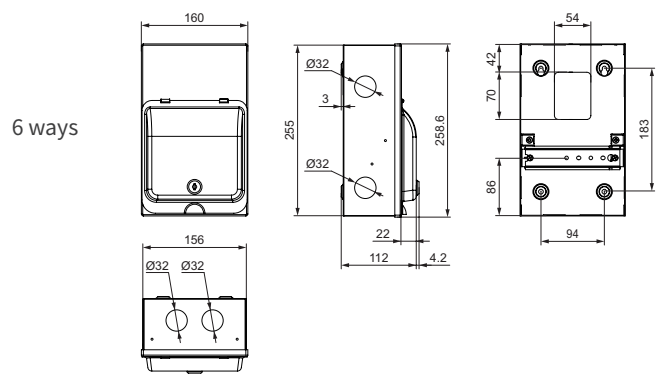
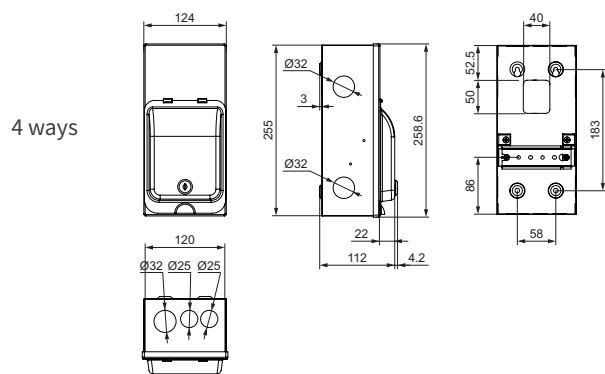
Ref No.	Ref No. (with lock)	Box size	Main Switch	RCD	Busbar pins	Free ways
EKDB16S28-IR	EKDB16S28L-IR	28	DP 100A	DP 80A	2×13	12+12
EKDB16S36-IR	EKDB16S36L-IR	36	DP 100A	DP 80A	2×17	16+16

Double Rows Main Switch with RCD Consumer Unit

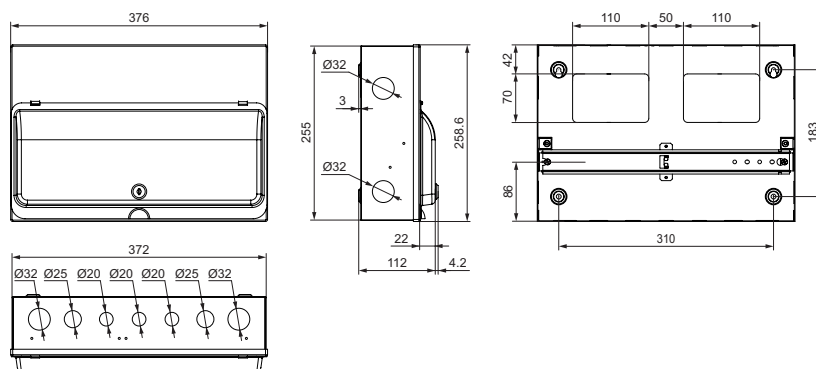


Ref No.	Ref No. (with lock)	Box size	Main Switch	RCD	Busbar pins	Free ways
EKDB16S28-I2R	EKDB16S28L-I2R	28	DP 100A	2 × DP 80A	11+13	10+12
EKDB16S36-I2R	EKDB16S36L-I2R	36	DP 100A	2 × DP 80A	15+17	14+16

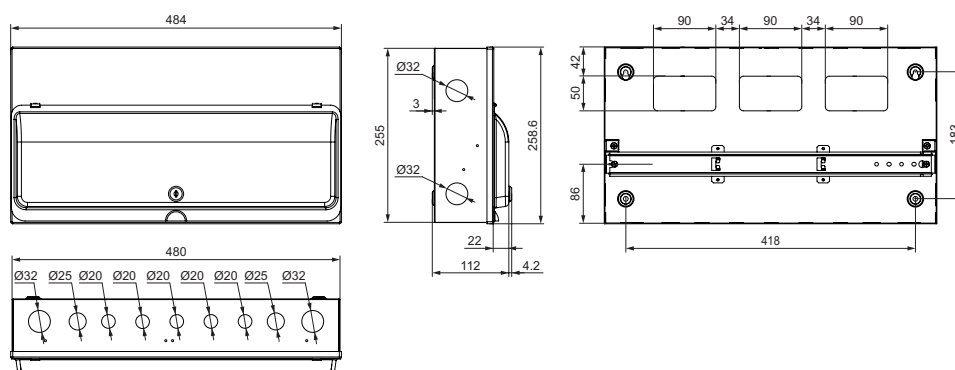
Dimension (mm)



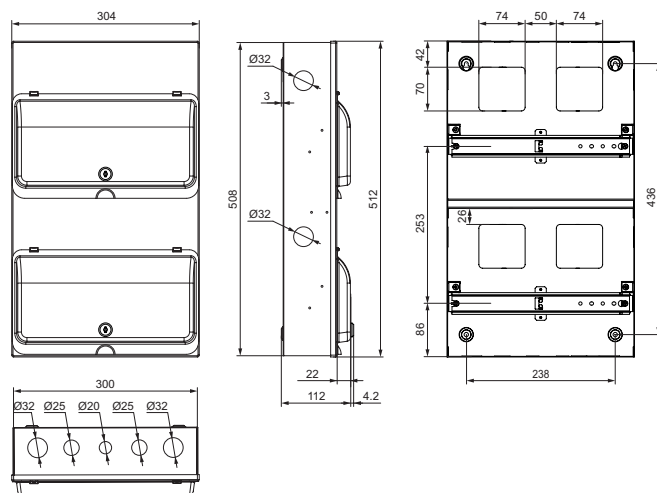
18 ways



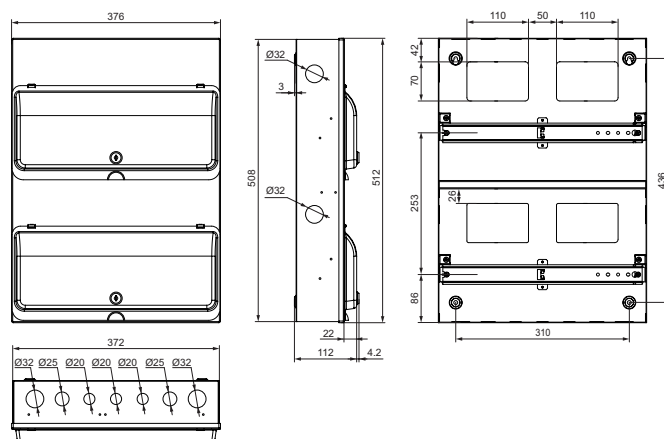
24 ways

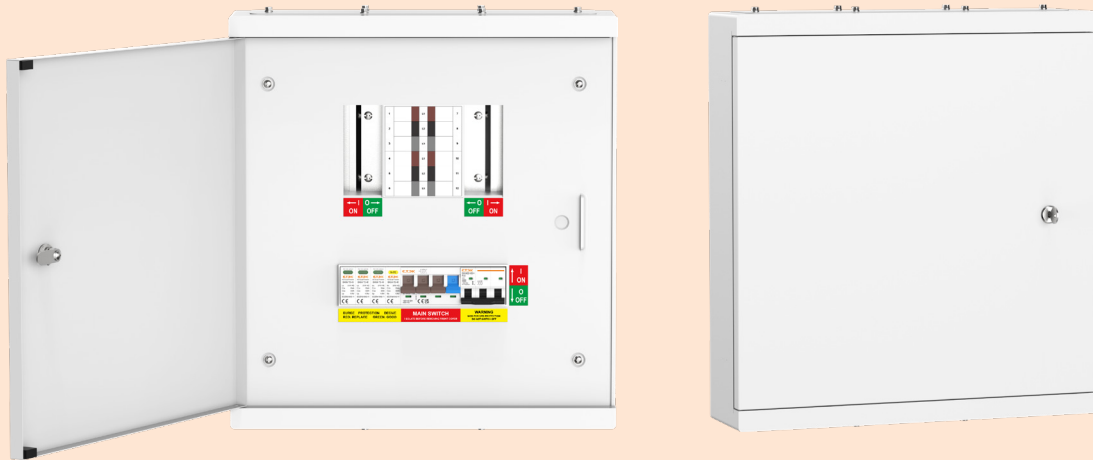


28 ways



36 ways



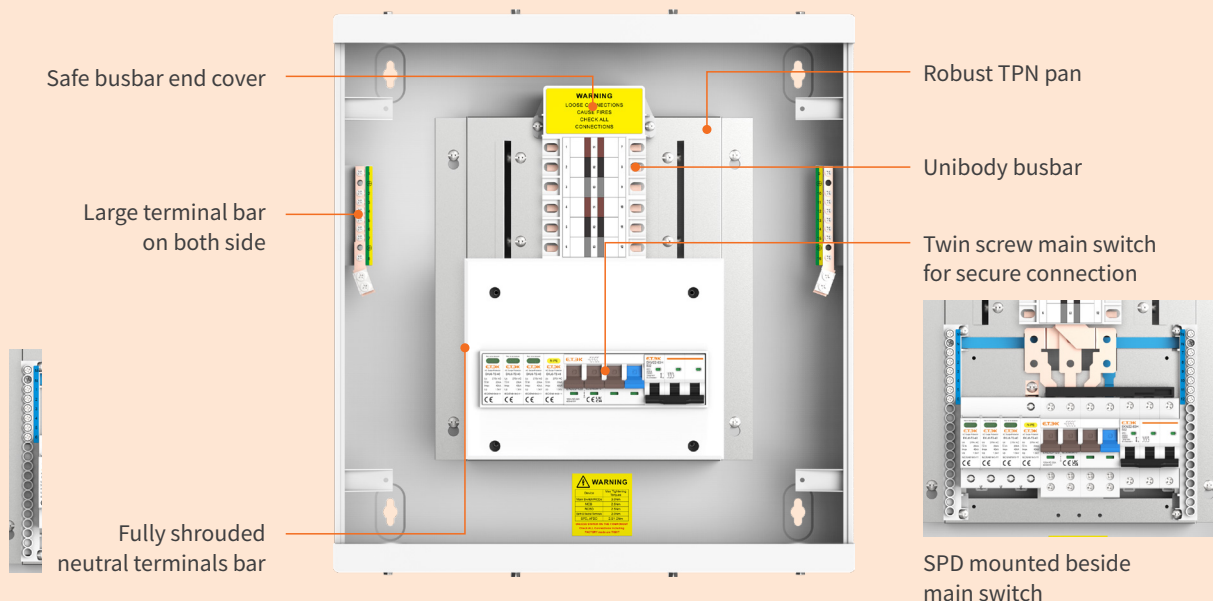


Overview

TP&N (Triple Pole and Neutral) Distribution Boards play a crucial role in electrical distribution systems, particularly in commercial and industrial environments. These boards are specifically designed to efficiently distribute electrical power across multiple circuits while ensuring protection and effective management. TP&N distribution boards can be equipped with protective devices such as MCB, RCBO, AFDD to ensure the electrical system operates efficiently and complies with safety standards. This not only protects equipment but also reduces the risk of electrical fires or shocks.

Features

- Compliant with IEC/EN 61439-3.
- Available in 4, 6, 8, 12, 16 & 24 three phase outgoing circuits.
- Supplied with lock and key for enhanced security.
- Complete shrouding of main incomer and busbar links.
- Double screw terminals at main switch incoming side .
- Neutral and earth terminals fitted on both sides.
- Removable top and bottom gland plates for cable entry.
- Keyhole mounting for simplified wall installation.
- Main incoming switch configurable as isolator switch.



Instruction of Type code

EK	TPN	08	-	ISM	125
↓	↓	↓		↓	↓
①	②	③		④	⑤

Code name	Meaning
①	ETEK company
②	Three-phase circuit design
③	Enclosure size: 4, 6, 8, 12, 16, 24

Code name	Meaning
④	Main switch: ISM: Isolator+SPD+MCB
⑤	125A Frame Enclosure

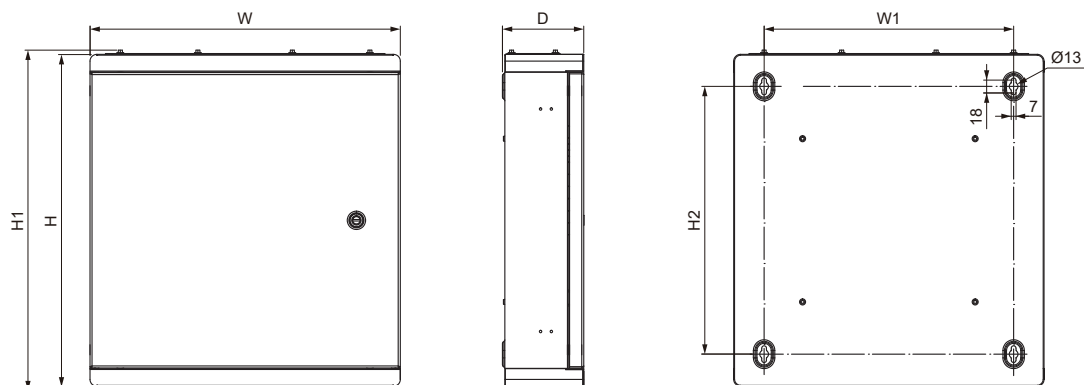
Technical Data

Standard	IEC 61439-3
No. of phase	Three phase
Voltage rating	AC380V/415V, 50/60Hz
Current capacity	125A (Isolator switch)
Installation	Surface-mounted
Configuration	4, 6, 8, 12, 16, 24
Manufacturing material	Steel
Ingress protection	IP2XC
Surface finishing	Powder coated with electrostatic epoxy polyester (RAL7035)
Operational temperature range	-5°C to 40°C

125Amps TP&N Surge Protection Distribution Board

EKTPN04-ISM125	4 Ways with 4 Pole 125A Main Switch & Type 2 3P+NPE 40kA Surge Protection Device & 3P B32 MCB
EKTPN06-ISM125	6 Ways with 4 Pole 125A Main Switch & Type 2 3P+NPE 40kA Surge Protection Device & 3P B32 MCB
EKTPN08-ISM125	8 Ways with 4 Pole 125A Main Switch & Type 2 3P+NPE 40kA Surge Protection Device & 3P B32 MCB
EKTPN12-ISM125	12 Ways with 4 Pole 125A Main Switch & Type 2 3P+NPE 40kA Surge Protection Device & 3P B32 MCB
EKTPN16-ISM125	16 Ways with 4 Pole 125A Main Switch & Type 2 3P+NPE 40kA Surge Protection Device & 3P B32 MCB
EKTPN24-ISM125	24 Ways with 4 Pole 125A Main Switch & Type 2 3P+NPE 40kA Surge Protection Device & 3P B32 MCB

125A EKTPN Distribution Board Dimension (mm)



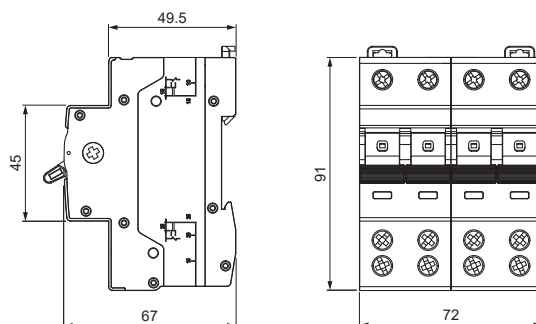
Ref No.	W	H	D	H1	W1	H2
EKTPN04	460	492	120	505	370	397
EKTPN06	460	546	120	559	370	451
EKTPN08	460	600	120	613	370	505
EKTPN12	460	708	120	721	370	613
EKTPN16	460	806	120	829	370	721
EKTPN24	460	1032	120	1045	370	937

EKD22-125 Isolator Switch



- Standards: IEC/EN 60947-3
- Poles: 4P
- Insulation voltage: 500V
- Rated operating voltage: 400/415V~
- Rated current: 125A
- Utilization category: AC-22A
- Terminal connection type:
Line side: Cable/ Pin-type; Load side: Pin-type/ Fork-type busbar
(Dual Screw incoming terminals)
- Terminal capacity: 50mm²

Ref No.	Poles	Poles
EKD22-4-125	4P	125A

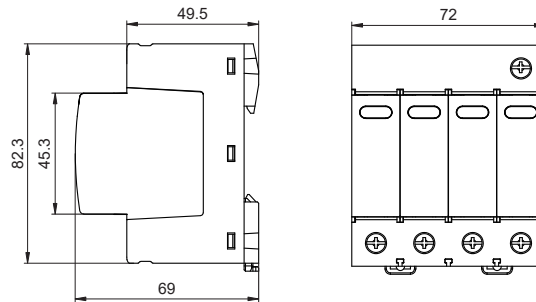


EKU6-T2-40 Surge Protective Device



- Standard: IEC/EN 61643-11
- IEC/EN category: Type 2
- Poles: 3P+NPE
- Network systems: TN-S, TT
- Mode of protection: L-N, N-PE
- Max discharge current: 40kA 8/20uS
- Operating voltage: L-N:275V,385V; N-PE:255V
- Voltage protection level: L-N:1.8kV; N-PE:1.5kV
- Degree of protection: IP20

Ref No.	Poles	Operating voltage (Uc)
EKU6-T2-40-3PN275	3P+NPE	L-N=275V
EKU6-T2-40-3PN385	3P+NPE	L-N=385V

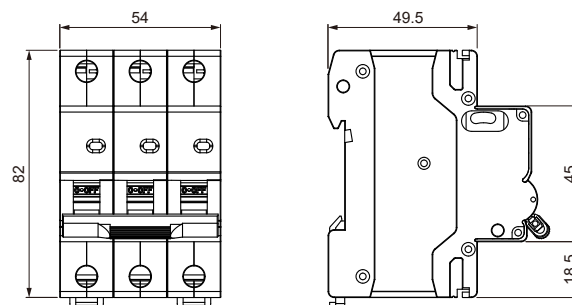


EKM22-63H Miniature Circuit Breaker



- Rated current In (A): 32, 40
- Poles: 3P
- Rated voltage Ue: 400/415V
- Rated frequency: 50/60Hz
- Insulation voltage Ui: 500V
- Rated breaking capacity: 10kA
- Contact position degree: IP20
- Rated impulse withstand voltage (Uimp) (1.2/50μs): 4kV
- Dielectric test voltage: 2kV (50/60Hz, 1 min.)
- Instantaneous tripping characteristics: B
- Terminal connection type: Pin-type/ Fork-type busbar
- Terminal capacity: 25mm²

Ref No.	Poles	Tripping Characteristics	Rated Current
EKM22-63H-3B32	3P	B	32A
EKM22-63H-3B40	3P	B	40A



Overview

EV Consumer Unit, also known as an Electric Vehicle Consumer Unit, is a specialized electrical distribution board specifically designed for electric vehicle (EV) charging installations. Its primary purpose is to provide a dedicated and safe electrical circuit for an EV charging point, ensuring that the high-power demands of charging do not interfere with the main electrical system of a building.

ETEK Electric offers three enclosure types of EV Consumer Units: IP65 metal or polycarbonate waterproof units for outdoor use and IP20 units for indoor use. These units come with various component options to meet most protection needs, with customization available as well.

Features

- Compliant with IEC/EN 60439-3
- Protection rated IP65 or IP20
- EKDB26 & EKDB16S4L feature all-metal construction
- EKB13 feature UV-resistant polycarbonate construction
- EKDB16S4L integrated door lock
- Easy and quick installation
- Includes complete kit

IP65 Metal EV Consumer Unit (Type A)



Ref No.	Box size	Main Switch	RCD or RCBO	SPD	MCB	Meter	Free ways
EKDB26-AOSB40M	5	-	DP 30mA B40 RCBO Type A	T2 40kA	-	45A MID	1
EKDB26-IAOB40	5	DP 100A	DP 30mA B40 RCBO Type A	-	-	-	1
EKDB26-IAOSB40	5	DP 100A	DP 30mA B40 RCBO Type A	T2 40kA	-	-	0
EKDB26-AOSB40	5	-	DP 30mA B40 RCBO Type A	T2 40kA	-	-	2
EKDB26-ADSB40	5	-	DP 30mA 63A RCD Type A	T2 40kA	B40	-	1

Above table shows only our standard models.

We also offer customization for Type B RCDs and other configurations.

IP65 Polycarbonate EV Consumer Unit (Type A)



Ref No.	Box size	Main Switch	RCD or RCBO	SPD	MCB	Meter	Free ways
EKDB13-5-AOSB40M	5	-	DP 30mA B40 RCBO Type A	T2 40kA	-	45A MID	1
EKDB13-5-IAOB40	5	DP 100A	DP 30mA B40 RCBO Type A	-	-	-	1
EKDB13-5-AOSB40	5	-	DP 30mA B40 RCBO Type A	T2 40kA	-	-	2

Above table shows only our standard models.

We also offer customization for Type B RCDs and other configurations.

IP20 Metal EV Consumer Unit with Lock (Type A)



Ref No.	Box size	Main Switch	RCD or RCBO	SPD	MCB	Meter	Free ways
EKDB16S4L-AOSB40M	4	-	DP 30mA B40 RCBO Type A	T2 40kA	-	45A MID	0
EKDB16S4L-IAOB40	4	DP 100A	DP 30mA B40 RCBO Type A	-	-	-	0
EKDB16S4L-AOSB40	4	-	DP 30mA B40 RCBO Type A	T2 40kA	-	-	1

Above table shows only our standard models.

We also offer customization for Type B RCDs and other configurations.

Garage Consumer Unit



EKDB26



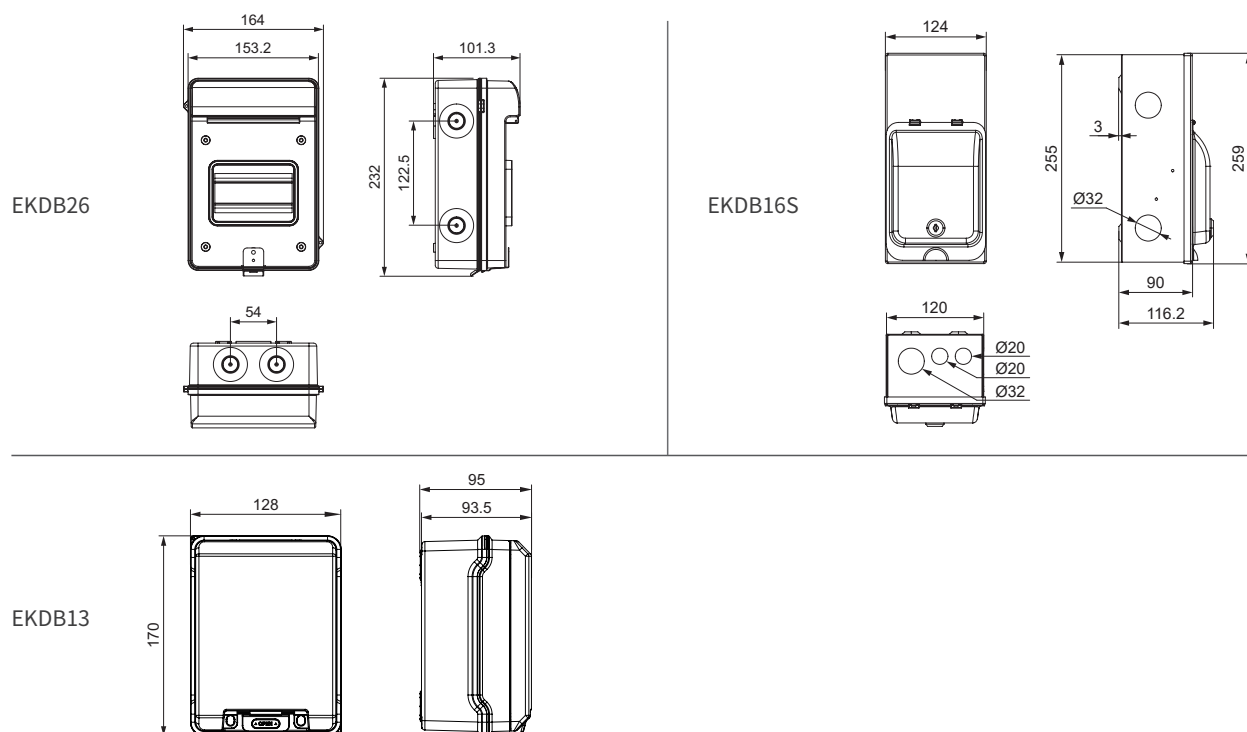
EKDB16S4

Garage Consumer Unit is a dedicated electrical distribution unit designed specifically for use in garages. It serves as a smaller, more focused version of a home consumer unit, but it specifically manages the electrical circuits within a garage or workshop setting, providing protection against electrical faults and allowing efficient control of power distribution.

Ref No.	Protection degree	Box size	Main Switch	RCD or RCBO	MCB	Free ways
EKDB26-IB616	IP65	5	DP 100A	-	B6 & B16	1
EKDB26-ADB616	IP65	5	-	DP 30mA 63A RCD Type A	B6 & B16	1
EKDB16S4-IB616	IP20	4	DP 100A	-	B6 & B16	0
EKDB16S4-ADB616	IP20	4	-	DP 30mA 63A RCD Type A	B6 & B16	0

Above table shows only our standard models.

Dimension (mm)





EKMIS-2

EKMIS-4

Overview

EKMIS Meter Isolator Switches integrate a 2P or 4P isolator housed within a sealed, sealable enclosure to provide safe isolation at the meter position in residential or commercial installations. It simplifies the installation process by allowing the supply tails to be securely terminated and retained within the sealed unit, eliminating the need to leave them loose for later meter connection.

Enclosure Data

Model	EKMISE-2M	EKMISE-4M
Modules	2 modules	4 modules
Mounting type	Surface-mounted	
Protection degree	IP20	
Material	Polycarbonate, UL94 V0, IK08	
Colour	Grey, RAL 7035	
Device fixing type	35 mm DIN rail (EN 60715)	
Cable entry	2×Ø25mm on Top, 2×Ø25mm on Bottom	4×Ø25mm on Top, 4×Ø25mm on Bottom
Front cover	Twopart cover (Top and Bottom)	
Anti-tamper design	with Wire Seal	

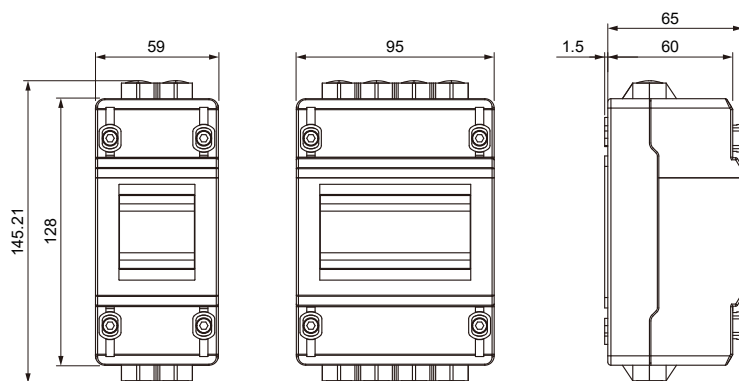
Main Switch Data



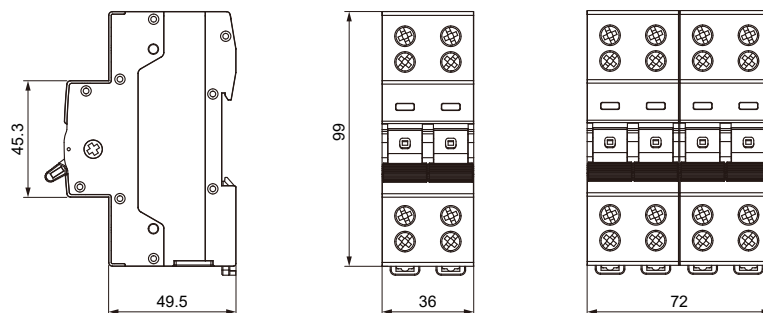
Model	EKD22L-125
Standard	IEC/EN 60947-3
Poles	2P, 4P
Rated voltage (Ue)	240/415V
Rated current (In)	100A, 125A
Insulation Voltage (Ui)	500V
Rated impulse withstand voltage (Uimp)	6kV
Utilization category	AC-22A
Rated short-time withstand current Icw (kA)	2000A/1s
Electrical life	1500 Cycles
Mechanical life	8500 Cycles
Contact position indicator	Green OFF/ Red ON
Protection degree	IP20
Terminal connection type	Cable/ Pin-type (Dual screw terminals for both line and load sides)
Terminal capacity	50mm ²

Dimension (mm)

EKMISE



EKD22L-125





EKFMS-100



EKFMSL-100RAS

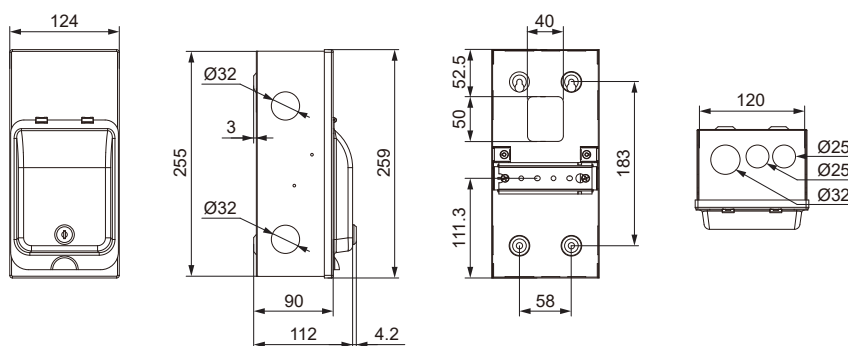
Overview

EKFMS Metal Fused Switch integrates a switch and a fuse into one metal unit, offering both control and protection for electrical circuits. It is used in motor circuits, lighting systems, and electrical distribution panels for control and safety. It is available in two versions: standard (EKFMS) and lockable (EKFMSL).

Technical Data

Ref No.	EKFMS-100	EKFMSL-100	EKFMS-100RAS	EKFMSL-100RAS
Main device	DP 100A Isolator + 22x58mm Fuse Holder		DP 100A 100mA Time Delayed RCD Type A + 22x58mm Fuse Holder	
Rated voltage	230V			
Frequency	50/60Hz			
Fuse link current	63A,80A,100A (Confirmation required)			
Degree of protection	IP20			
Total number of ways	4			
Total Number of free ways	0			
Ambient temperature	-25°C to +55°C			
Storage temperature	-35°C to +70°C			

Dimension (mm)





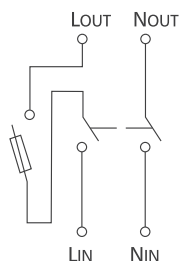
Overview

EKFMSP-80 Plastics Fused Main Switch is a durable electrical safety device that offers reliable circuit protection and control for lighting systems, and electrical distribution panels use. Combining main switching and supplied with 80A fuse protection, offering comprehensive electrical safety in a compact plastic enclosure.

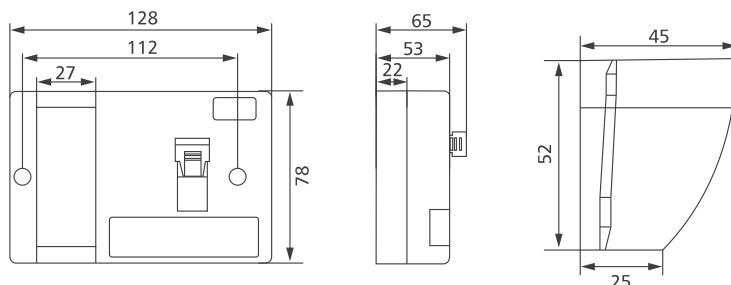
Technical Data

Ref No.	EKFMSP-80
Number of poles	2P
Operational voltage	230V
Rated Current (Ie)	80A
Frequency	50Hz
Rated insulation voltage (Ui)	500V
Utilization category	AC21 switching of resistive loads
Fuse specifications (Not included)	HRC, 80A, 22x58mm, cylindrical
Installation type	Surface mount
Ingress protection rating	IP20
Operating temperature	-10°C to +40°C
Enclosure material	Thermoset plastic
Maximum cable capacity	35mm ²
Tightening torque	2.5Nm

Wiring Diagram



Dimension (mm)





Features

- Standards: IEC/EN 60898-1
- Poles: 1P, 2P, 3P
- Insulation voltage: 415V
- Rated operated voltage: 240/415V~
- Rated current: 6~63A
- Rated breaking capacity: 6kA
- Tripping curves: B, C
- Incoming method: Bi-Directional



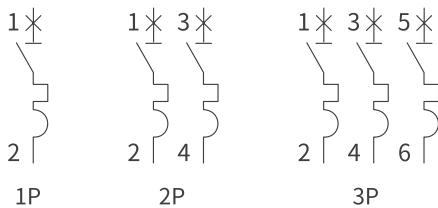
Technical Data

Standard	IEC/EN60898-1
Protection	Overcurrent and short circuit
Type of trip	Thermo-magnetic
No. of poles	1P, 2P, 3P
Rated currents (I_n)	6, 10, 16, 20, 25, 32, 40, 50, 63A
Insulation voltage (U_i)	415V
Rated voltage (U_e)	240/415V~
Rated frequency	50/60Hz
Rated short-circuit capacity (I_{cn})	6kA
Energy limiting class	3
Rated impulse withstand voltage (U_{imp}) (1.2/50 μ s)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	$(1.13-1.45) \times I_n$
Instantaneous tripping characteristics	B: $(3-5) \times I_n$, C: $(5-10) \times I_n$
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indication	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	25mm ²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

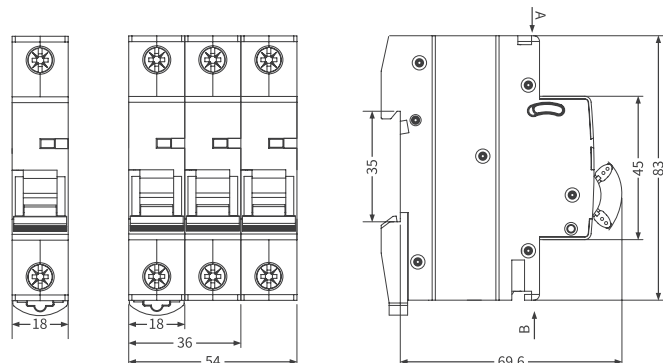
Product Selection Form

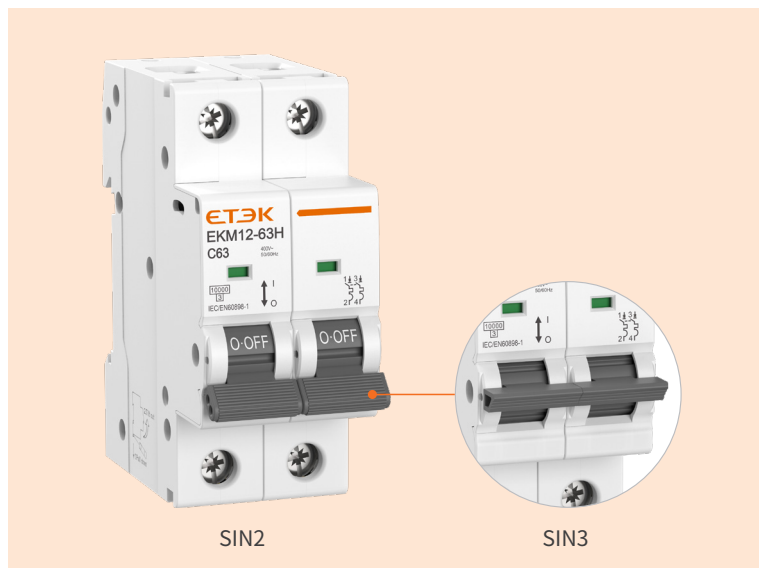
Poles	Rated Current (A)	Ref No.	
		B curve	C curve
 1P	6A	EKM2-63-1B06	EKM2-63-1C06
	10A	EKM2-63-1B10	EKM2-63-1C10
	16A	EKM2-63-1B16	EKM2-63-1C16
	20A	EKM2-63-1B20	EKM2-63-1C20
	25A	EKM2-63-1B25	EKM2-63-1C25
	32A	EKM2-63-1B32	EKM2-63-1C32
	40A	EKM2-63-1B40	EKM2-63-1C40
	50A	EKM2-63-1B50	EKM2-63-1C50
	63A	EKM2-63-1B63	EKM2-63-1C63
 2P	6A	EKM2-63-2B06	EKM2-63-2C08
	10A	EKM2-63-2B10	EKM2-63-2C13
	16A	EKM2-63-2B16	EKM2-63-2C20
	20A	EKM2-63-2B20	EKM2-63-2C25
	25A	EKM2-63-2B25	EKM2-63-2C32
	32A	EKM2-63-2B32	EKM2-63-2C40
	40A	EKM2-63-2B40	EKM2-63-2C50
	50A	EKM2-63-2B50	EKM2-63-2C63
	63A	EKM2-63-2B63	EKM2-63-2C63
 3P	6A	EKM2-63-3B06	EKM2-63-3C06
	10A	EKM2-63-3B10	EKM2-63-3C10
	16A	EKM2-63-3B16	EKM2-63-3C16
	20A	EKM2-63-3B20	EKM2-63-3C20
	25A	EKM2-63-3B25	EKM2-63-3C25
	32A	EKM2-63-3B32	EKM2-63-3C32
	40A	EKM2-63-3B40	EKM2-63-3C40
	50A	EKM2-63-3B50	EKM2-63-3C50
	63A	EKM2-63-3B63	EKM2-63-3C63

Circuit Diagram



Dimension (mm)





Features

- Standards: IEC/EN 60898-1
- Poles: 1P, 2P, 3P
- Insulation voltage: 415V
- Rated operated voltage: 240/415V~
- Rated current: 6~63A
- Rated breaking capacity: 10kA
- Tripping curves: B, C
- Incoming method: Bi-Directional
- Available handle styles: SIN2 and SIN3



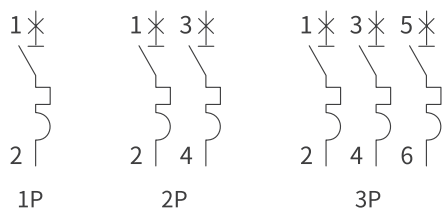
Technical Data

Standard	IEC/EN60898-1
Protection	Overcurrent and short circuit
Type of trip	Thermo-magnetic
No. of poles	1P, 2P, 3P
Rated currents (I_n)	6, 10, 16, 20, 25, 32, 40, 50, 63A
Insulation voltage (U_i)	415V
Rated voltage (U_e)	240/415V~
Rated frequency	50/60Hz
Rated short-circuit capacity (I_{cn})	EKM12-63: 6kA; EKM12-63H: 10kA
Energy limiting class	3
Rated impulse withstand voltage (U_{imp}) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	$(1.13-1.45) \times I_n$
Instantaneous tripping characteristics	B: $(3-5) \times I_n$, C: $(5-10) \times I_n$
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indication	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	25mm ²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

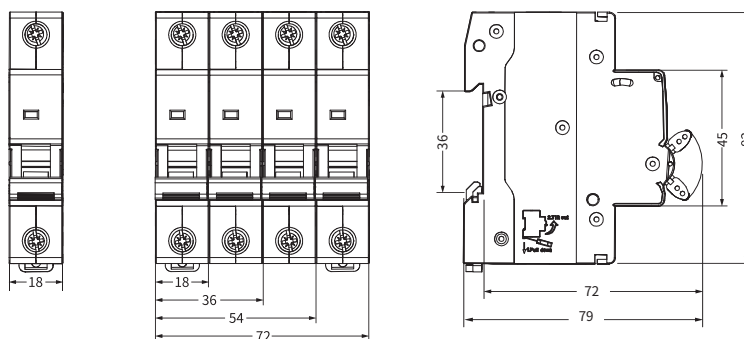
Product Selection Form

Poles	Rated Current (A)	$I_{cn}=6kA$		$I_{cn}=10kA$	
		B curve	C curve	B curve	C curve
 1P	6A	EKM12-63-1B06	EKM12-63-1C06	EKM12-63H-1B06	EKM12-63H-1C06
	10A	EKM12-63-1B10	EKM12-63-1C10	EKM12-63H-1B10	EKM12-63H-1C10
	16A	EKM12-63-1B16	EKM12-63-1C16	EKM12-63H-1B16	EKM12-63H-1C16
	20A	EKM12-63-1B20	EKM12-63-1C20	EKM12-63H-1B20	EKM12-63H-1C20
	25A	EKM12-63-1B25	EKM12-63-1C25	EKM12-63H-1B25	EKM12-63H-1C25
	32A	EKM12-63-1B32	EKM12-63-1C32	EKM12-63H-1B32	EKM12-63H-1C32
	40A	EKM12-63-1B40	EKM12-63-1C40	EKM12-63H-1B40	EKM12-63H-1C40
	50A	EKM12-63-1B50	EKM12-63-1C50	EKM12-63H-1B50	EKM12-63H-1C50
	63A	EKM12-63-1B63	EKM12-63-1C63	EKM12-63H-1B63	EKM12-63H-1C63
 2P	6A	EKM12-63-2B06	EKM12-63-2C08	EKM12-63H-2B06	EKM12-63H-2C08
	10A	EKM12-63-2B10	EKM12-63-2C13	EKM12-63H-2B10	EKM12-63H-2C13
	16A	EKM12-63-2B16	EKM12-63-2C20	EKM12-63H-2B16	EKM12-63H-2C20
	20A	EKM12-63-2B20	EKM12-63-2C25	EKM12-63H-2B20	EKM12-63H-2C25
	25A	EKM12-63-2B25	EKM12-63-2C32	EKM12-63H-2B25	EKM12-63H-2C32
	32A	EKM12-63-2B32	EKM12-63-2C40	EKM12-63H-2B32	EKM12-63H-2C40
	40A	EKM12-63-2B40	EKM12-63-2C50	EKM12-63H-2B40	EKM12-63H-2C50
	50A	EKM12-63-2B50	EKM12-63-2C63	EKM12-63H-2B50	EKM12-63H-2C63
	63A	EKM12-63-2B63	EKM12-63-2C63	EKM12-63H-2B63	EKM12-63H-2C63
 3P	6A	EKM12-63-3B06	EKM12-63-3C06	EKM12-63H-3B06	EKM12-63H-3C06
	10A	EKM12-63-3B10	EKM12-63-3C10	EKM12-63H-3B10	EKM12-63H-3C10
	16A	EKM12-63-3B16	EKM12-63-3C16	EKM12-63H-3B16	EKM12-63H-3C16
	20A	EKM12-63-3B20	EKM12-63-3C20	EKM12-63H-3B20	EKM12-63H-3C20
	25A	EKM12-63-3B25	EKM12-63-3C25	EKM12-63H-3B25	EKM12-63H-3C25
	32A	EKM12-63-3B32	EKM12-63-3C32	EKM12-63H-3B32	EKM12-63H-3C32
	40A	EKM12-63-3B40	EKM12-63-3C40	EKM12-63H-3B40	EKM12-63H-3C40
	50A	EKM12-63-3B50	EKM12-63-3C50	EKM12-63H-3B50	EKM12-63H-3C50
	63A	EKM12-63-3B63	EKM12-63-3C63	EKM12-63H-3B63	EKM12-63H-3C63

Circuit Diagram



Dimension (mm)





Features

- Standards: IEC/EN 61008-1
- Poles: 2P, 4P
- Insulation voltage: 500V
- Rated operated voltage: 240/415V~
- Rated current: 25,40,63,80,100A
- Rated breaking capacity: 6kA, 10kA
- Residual current type: A, A-S
- Rated sensitivity current: 30mA, 100mA, 300mA
- Incoming method: Bi-Directional
- Available handle styles: SIN2 and SIN3



Technical Data

Standard	IEC/EN61008-1
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	A, A-S
No. of poles	2P(1P+N), 4P(3P+N), N Pole on right
Rated currents (I_n)	16, 25, 32, 40, 63, 80, 100A
Rated sensitivity currents ($I_{\Delta n}$)	30mA, 100mA, 300mA
Residual current off-time under ($I_{\Delta n}$)	A $\leq$ 300ms; A-S: 130-500ms
Rated residual making and breaking capacity ($I_{\Delta m}$)	500A ($I_n \leq$ 50A), 10I _n ($I_n >$ 50A)
Insulation voltage (U_i)	500V
Rated voltage (U_e)	1P+N: 230/240V~, 3P+N: 400/415V~
Rated frequency	50/60Hz
Rated conditional short-circuit current ($I_{nc}=I_{\Delta c}$)	EKL6-100: 6kA, EKL6-100H: 10kA
SCPD fuse	6000 10000
Rated impulse withstand voltage (U_{imp}) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indication	green OFF / red ON
Ground fault indication	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

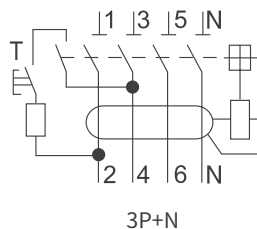
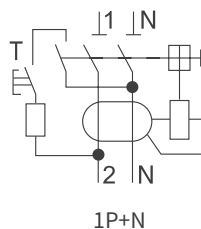
Product Selection Form

RCCB EKL6-100 6kA					
Poles	Type	Rated Current (A)	Ref No.		
			$I_{\Delta n}=30\text{mA}$	$I_{\Delta n}=100\text{mA}$	$I_{\Delta n}=300\text{mA}$
 1P+N	A	16A	EKL6-100-1N1630A	EKL6-100-1N16100A	EKL6-100-1N16300A
		25A	EKL6-100-1N2530A	EKL6-100-1N25100A	EKL6-100-1N25300A
		32A	EKL6-100-1N3230A	EKL6-100-1N32100A	EKL6-100-1N32300A
		40A	EKL6-100-1N4030A	EKL6-100-1N40100A	EKL6-100-1N40300A
		63A	EKL6-100-1N6330A	EKL6-100-1N63100A	EKL6-100-1N63300A
		80A	EKL6-100-1N8030A	EKL6-100-1N80100A	EKL6-100-1N80300A
		100A	EKL6-100-1N10030A	EKL6-100-1N100100A	EKL6-100-1N100300A
	A-S	80A	EKL6-100-1N8030AS	EKL6-100-1N80100AS	EKL6-100-1N80300AS
		100A	EKL6-100-1N10030AS	EKL6-100-1N100100AS	EKL6-100-1N100300AS
 3P+N	A	16A	EKL6-100-3N1630A	EKL6-100-3N16100A	EKL6-100-3N16300A
		25A	EKL6-100-3N2530A	EKL6-100-3N25100A	EKL6-100-3N25300A
		32A	EKL6-100-3N3230A	EKL6-100-3N32100A	EKL6-100-3N32300A
		40A	EKL6-100-3N4030A	EKL6-100-3N40100A	EKL6-100-3N40300A
		63A	EKL6-100-3N6330A	EKL6-100-3N63100A	EKL6-100-3N63300A
		80A	EKL6-100-3N8030A	EKL6-100-3N80100A	EKL6-100-3N80300A
		100A	EKL6-100-3N10030A	EKL6-100-3N100100A	EKL6-100-3N100300A
	A-S	80A	EKL6-100-3N8030AS	EKL6-100-3N80100AS	EKL6-100-3N80300AS
		100A	EKL6-100-3N10030AS	EKL6-100-3N100100AS	EKL6-100-3N100300AS

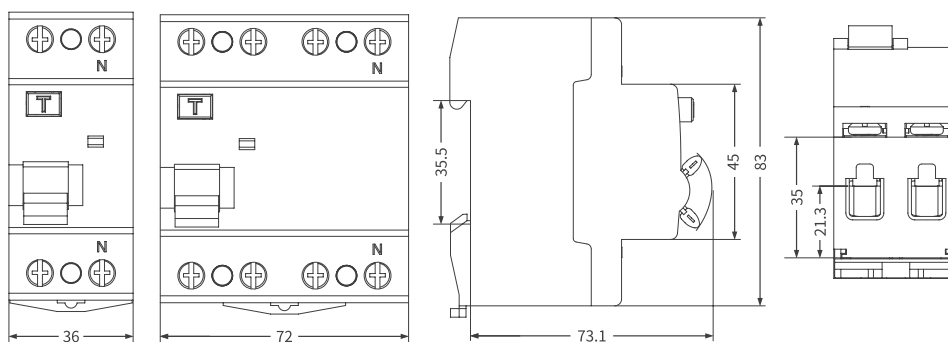
RCCB EKL6-100H 10kA					
Poles	Type	Rated Current (A)	Ref No.		
			$I_{\Delta n}=30\text{mA}$	$I_{\Delta n}=100\text{mA}$	$I_{\Delta n}=300\text{mA}$
 1P+N	A	16A	EKL6-100H-1N1630A	EKL6-100H-1N16100A	EKL6-100H-1N16300A
		25A	EKL6-100H-1N2530A	EKL6-100H-1N25100A	EKL6-100H-1N25300A
		32A	EKL6-100H-1N3230A	EKL6-100H-1N32100A	EKL6-100H-1N32300A
		40A	EKL6-100H-1N4030A	EKL6-100H-1N40100A	EKL6-100H-1N40300A
		63A	EKL6-100H-1N6330A	EKL6-100H-1N63100A	EKL6-100H-1N63300A
		80A	EKL6-100H-1N8030A	EKL6-100H-1N80100A	EKL6-100H-1N80300A
		100A	EKL6-100H-1N10030A	EKL6-100H-1N100100A	EKL6-100H-1N100300A
	A-S	80A	EKL6-100H-1N8030AS	EKL6-100H-1N80100AS	EKL6-100H-1N80300AS
		100A	EKL6-100H-1N10030AS	EKL6-100H-1N100100AS	EKL6-100H-1N100300AS

Poles	Type	Rated Current (A)	Ref No.		
			$I_{\Delta n}=30\text{mA}$	$I_{\Delta n}=100\text{mA}$	$I_{\Delta n}=300\text{mA}$
 3P+N	A	16A	EKL6-100H-3N1630A	EKL6-100H-3N16100A	EKL6-100H-3N16300A
		25A	EKL6-100H-3N2530A	EKL6-100H-3N25100A	EKL6-100H-3N25300A
		32A	EKL6-100H-3N3230A	EKL6-100H-3N32100A	EKL6-100H-3N32300A
		40A	EKL6-100H-3N4030A	EKL6-100H-3N40100A	EKL6-100H-3N40300A
		63A	EKL6-100H-3N6330A	EKL6-100H-3N63100A	EKL6-100H-3N63300A
		80A	EKL6-100H-3N8030A	EKL6-100H-3N80100A	EKL6-100H-3N80300A
		100A	EKL6-100H-3N10030A	EKL6-100H-3N100100A	EKL6-100H-3N100300A
	A-S	80A	EKL6-100H-3N8030AS	EKL6-100H-3N80100AS	EKL6-100H-3N80300AS
		100A	EKL6-100H-3N10030AS	EKL6-100H-3N100100AS	EKL6-100H-3N100300AS

Circuit Diagram



Dimension (mm)





Features

- Standards: IEC/EN 61008-1, IEC62423
- Poles: 2P, 4P
- Insulation voltage: 500V
- Rated operated voltage: 240/415V~
- Rated current: 2P: 25,40,63A,(80,100A(3 modules));
4P: 25,40,63,80,100A
- Rated breaking capacity: 10kA
- Residual current type: B
- Rated sensitivity current: 30,100,300mA
- Incoming method: Bi-Directional
- Available handle styles: SIN2 and SIN3



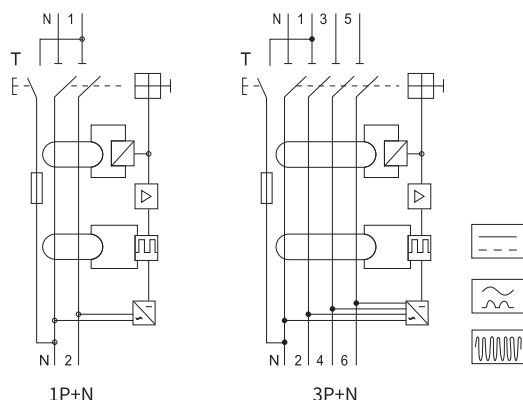
Technical Data

Standard	IEC61008-1, IEC62423
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 (U_i)	500V
Rated voltage (U_e)	2P(1P+N): 230/240V~; 4P(3P+N):400/415V~
Rated currents (I_n)	2P: 25,40,63A,(80,100A(3 modules)); 4P: 25,40,63,80,100A
Rated sensitivity currents ($I_{\Delta n}$)	30,100,300mA
Residual current off-time under ($I_{\Delta n}$)	$\leq 0.1s$
Rated residual making and breaking capacity ($I_{\Delta m}$)	500A($I_n \leq 50A$), 10I _n ($I_n > 50A$)
Rated frequency	50/60Hz
Rated conditional short-circuit current (($I_{nc}=I_{\Delta c}$))	10kA
SCPD fuse	10000
Rated impulse withstand voltage (U_{imp}) (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 indication	green OFF / red ON
Ground fault indication	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

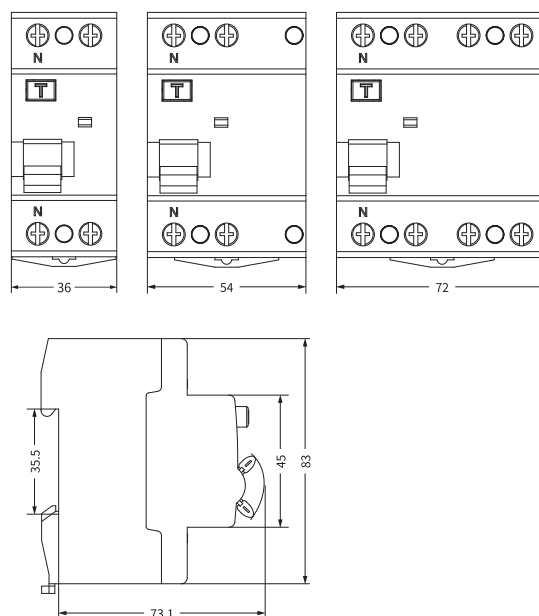
Product Selection Form

Poles	Type	Rated Current (A)	Ref No.		
			$I_{\Delta n}=30\text{mA}$	$I_{\Delta n}=100\text{mA}$	$I_{\Delta n}=300\text{mA}$
 1P+N	B	25A	EKL6-100B-1N2530	EKL6-100B-1N25100	EKL6-100B-1N25300
		40A	EKL6-100B-1N4030	EKL6-100B-1N40100	EKL6-100B-1N40300
		63A	EKL6-100B-1N6330	EKL6-100B-1N63100	EKL6-100B-1N63300
		80A	EKL6-100B-1N8030	EKL6-100B-1N80100	EKL6-100B-1N80300
 1P+N (3 modules)		100A	EKL6-100B-1N10030	EKL6-100B-1N100100	EKL6-100B-1N100300
		25A	EKL6-100B-3N2530	EKL6-100B-3N25100	EKL6-100B-3N25300
		40A	EKL6-100B-3N4030	EKL6-100B-3N40100	EKL6-100B-3N40300
		63A	EKL6-100B-3N6330	EKL6-100B-3N63100	EKL6-100B-3N63300
		80A	EKL6-100B-3N8030	EKL6-100B-3N80100	EKL6-100B-3N80300
 3P+N		100A	EKL6-100B-3N10030	EKL6-100B-3N100100	EKL6-100B-3N100300

Circuit Diagram



Dimension (mm)





Features

- Standards: IEC/EN 62423, IEC/EN 61008-1, BS 7671
- Poles: 2P, 4P
- Insulation voltage: 500V
- Rated operated voltage: 240/415V~
- Rated current: 25,40,63,80,100A
- Rated breaking capacity: 10kA
- Residual current type: B HP
- Rated sensitivity current: 30,100,300mA
- Incoming method: Bi-Directional
- Available handle styles: SIN2 and SIN3



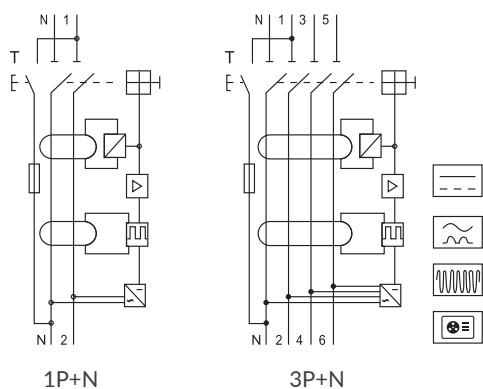
Technical Data

Standard	IEC/EN 62423 (Type B) + IEC/EN 61008-1; Compliant with BS 7671 for heat pump use
Protection	Ground fault (residual current)
Type of trip	Electro-magnetic (RCD)
Residual current type	Type B HP - residual AC, pulsating DC and smooth DC; high-frequency immunity for inverter/heat-pump leakage
HF behavior (Type B HP)	Designed to tolerate switching noise $\geq 20\text{kHz}$; for $f \geq 1\text{kHz}$ uses a raised minimum tripping threshold, typically $\geq 150\text{mA}$ to reduce nuisance tripping
Time characteristic	Instantaneous
No. of poles	2P(1P+N), 4P(3P+N), N Pole on left
Insulation voltage (U_i)	500V
Rated voltage (U_e)	2P(1P+N): 230/240V~; 4P(3P+N):400/415V~
Rated currents (I_n)	25,40,63,80, 100A
Rated sensitivity currents ($I_{\Delta n}$)	30,100,300mA
Residual current off-time under ($I_{\Delta n}$)	$\leq 0.1\text{s}$
Rated residual making and breaking capacity ($I_{\Delta m}$)	500A($I_n \leq 50\text{A}$), 10I _n ($I_n > 50\text{A}$)
Rated frequency	50/60Hz
Rated conditional short-circuit current ($I_{nc}=I_{\Delta c}$)	10kA
SCPD fuse	 10000
Rated impulse withstand voltage (U_{imp}) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indication	green OFF / red ON
Ground fault indication	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

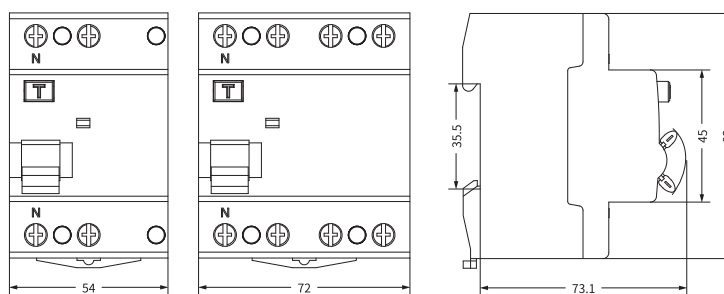
Product Selection Form

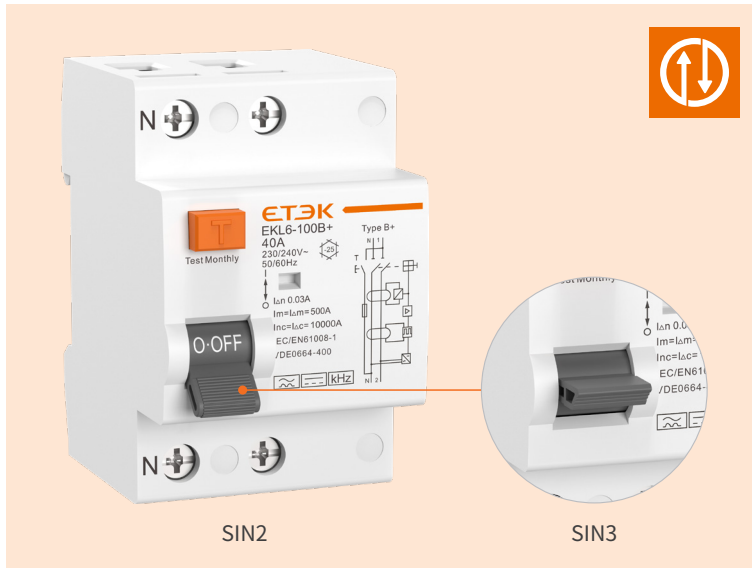
Poles	Type	Rated Current (A)	Ref No.		
			$I_{\Delta n}=30\text{mA}$	$I_{\Delta n}=100\text{mA}$	$I_{\Delta n}=300\text{mA}$
 1P+N	B HP	25A	EKL6-100BHP-1N2530	EKL6-100BHP-1N25100	EKL6-100BHP-1N25300
		40A	EKL6-100BHP-1N4030	EKL6-100BHP-1N40100	EKL6-100BHP-1N40300
		63A	EKL6-100BHP-1N6330	EKL6-100BHP-1N63100	EKL6-100BHP-1N63300
		80A	EKL6-100BHP-1N8030	EKL6-100BHP-1N80100	EKL6-100BHP-1N80300
		100A	EKL6-100BHP-1N10030	EKL6-100BHP-1N100100	EKL6-100BHP-1N100300
 3P+N		25A	EKL6-100BHP-3N2530	EKL6-100BHP-3N25100	EKL6-100BHP-3N25300
		40A	EKL6-100BHP-3N4030	EKL6-100BHP-3N40100	EKL6-100BHP-3N40300
		63A	EKL6-100BHP-3N6330	EKL6-100BHP-3N63100	EKL6-100BHP-3N63300
		80A	EKL6-100BHP-3N8030	EKL6-100BHP-3N80100	EKL6-100BHP-3N80300
		100A	EKL6-100BHP-3N10030	EKL6-100BHP-3N100100	EKL6-100BHP-3N100300

Circuit Diagram



Dimension (mm)





Features

- Standards: IEC/EN 61008-1, VDE0664-400
- Poles: 2P, 4P
- Insulation voltage: 500V
- Rated operated voltage: 240/415V~
- Rated current: 25,40,63,80,100A
- Rated breaking capacity: 10kA
- Residual current type: B+
- Rated sensitivity current: 30,100,300mA
- Incoming method: Bi-Directional
- Available handle styles: SIN2 and SIN3



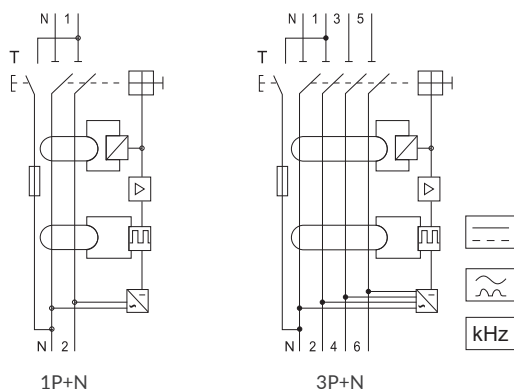
Technical Data

Standard	IEC61008-1, VDE0664-400
Protection	Ground fault
Type of trip	Electro-magnetic
Residual current type	B+ Type - residual AC, pulsating and smooth DC current, high frequency (≤ 20kHz)
No. of poles	2P(1P+N), 4P(3P+N), N Pole on left
Insulation voltage (U _i)	500V
Rated voltage (U _e)	2P(1P+N): 230/240V~; 4P(3P+N):400/415V~
Rated currents (I _n)	25,40,63,80,100A
Rated sensitivity currents (I _{Δn})	30,100,300mA
Residual current off-time under (I _{Δn})	≤ 0.1s
Rated residual making and breaking capacity (I _{Δm})	500A(I _n ≤ 50A), 10I _n (I _n > 50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current ((I _{nc} =I _{Δc})	10kA
SCPD fuse	 10000
Rated impulse withstand voltage (U _{imp}) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indication	green OFF / red ON
Ground fault indication	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

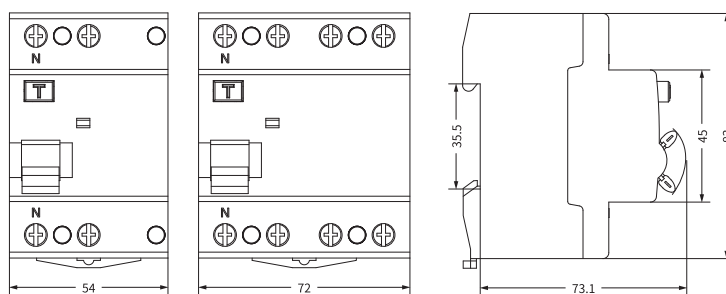
Product Selection Form

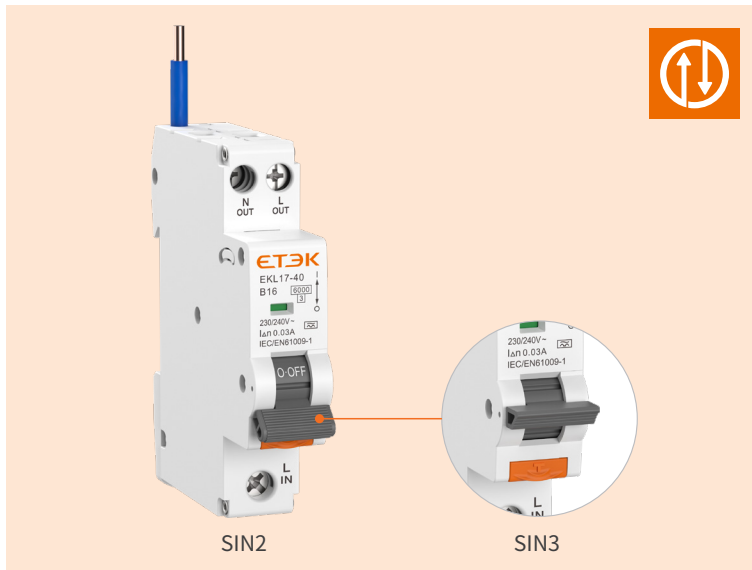
Poles	Type	Rated Current (A)	Ref No.		
			$I_{\Delta n}=30\text{mA}$	$I_{\Delta n}=100\text{mA}$	$I_{\Delta n}=300\text{mA}$
 1P+N	B+	25A	EKL6-100B+-1N2530	EKL6-100B+-1N25100	EKL6-100B+-1N25300
		40A	EKL6-100B+-1N4030	EKL6-100B+-1N40100	EKL6-100B+-1N40300
		63A	EKL6-100B+-1N6330	EKL6-100B+-1N63100	EKL6-100B+-1N63300
		80A	EKL6-100B+-1N8030	EKL6-100B+-1N80100	EKL6-100B+-1N80300
		100A	EKL6-100B+-1N10030	EKL6-100B+-1N100100	EKL6-100B+-1N100300
 3P+N		25A	EKL6-100B+-3N2530	EKL6-100B+-3N25100	EKL6-100B+-3N25300
		40A	EKL6-100B+-3N4030	EKL6-100B+-3N40100	EKL6-100B+-3N40300
		63A	EKL6-100B+-3N6330	EKL6-100B+-3N63100	EKL6-100B+-3N63300
		80A	EKL6-100B+-3N8030	EKL6-100B+-3N80100	EKL6-100B+-3N80300
		100A	EKL6-100B+-3N10030	EKL6-100B+-3N100100	EKL6-100B+-3N100300

Circuit Diagram



Dimension (mm)





Features

- Standards: IEC/EN 61009-1
- Poles: 1P+N, Single module (with switched neutral)
- Rated operated voltage: 230/240V~
- Rated current: 6~40A
- Rated breaking capacity: 6kA, 10kA
- Residual current Type: A
- Tripping curves: B, C
- Rated sensitivity current: 30mA
- Incoming method:
Form bottom or Bi-Directional (Customized)
- Available handle styles: SIN2 and SIN3



Technical Data

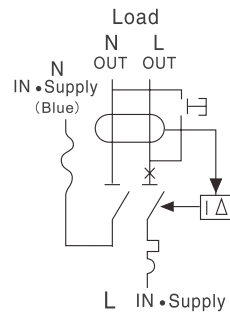
Standard	IEC/EN61009-1
Protection	Ground fault, Overcurrent and short circuit, Over-voltage(selectable)
Type of trip	Ground fault: Electronic Overload and short circuit: Thermo-magnetic
Residual current type	A
No. of poles	1P+N 1module (with switched neutral)
Rated currents (I_n)	6, 10, 16, 20, 25, 32, 40A
Rated sensitivity currents ($I_{\Delta n}$)	30mA
Residual current off-time under ($I_{\Delta n}$)	$\leq 0.1s$
Reted residual making and breaking capacity ($I_{\Delta m}$)	500A($I_n \leq 50A$)
Insulation voltage (U_i)	500V
Rated voltage (U_e)	230/240V~
Rated frequency	50/60Hz
Rated short-circuit capacity (I_{cn})	EKL17-40: 6kA; EKL17H-40: 10kA
Energy Limiting Class	3
Rated impulse withstand voltage (U_{imp}) (1.2/50 μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	$(1.13-1.45) \times I_n$
Instantaneous tripping characteristics	B: $(3-5) \times I_n$, C: $(5-10) \times I_n$
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indication	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	16mm ²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	From bottom, Bi-directional (Customized)

Product Selection Form

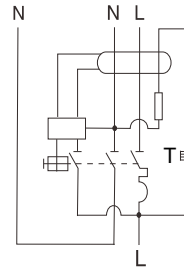
RCBO EKL17-40 6kA						
Poles	Curve	Type	Sensitivity	Rated Current (A)	Ref No.	
					Form bottom incoming line	Bi-Directional incoming line
	B	A	30mA	6A	EKL17-40-1NB0630A	EKL17-40BD-1NB0630A
				10A	EKL17-40-1NB1030A	EKL17-40BD-1NB1030A
				16A	EKL17-40-1NB1630A	EKL17-40BD-1NB1630A
				20A	EKL17-40-1NB2030A	EKL17-40BD-1NB2030A
				25A	EKL17-40-1NB2530A	EKL17-40BD-1NB2530A
				32A	EKL17-40-1NB3230A	EKL17-40BD-1NB3230A
	C			40A	EKL17-40-1NB4030A	EKL17-40BD-1NB4030A
				6A	EKL17-40-1NC0630A	EKL17-40BD-1NC0630A
				10A	EKL17-40-1NC1030A	EKL17-40BD-1NC1030A
				16A	EKL17-40-1NC1630A	EKL17-40BD-1NC1630A
				20A	EKL17-40-1NC2030A	EKL17-40BD-1NC2030A
				25A	EKL17-40-1NC2530A	EKL17-40BD-1NC2530A
				32A	EKL17-40-1NC3230A	EKL17-40BD-1NC3230A
				40A	EKL17-40-1NC4030A	EKL17-40BD-1NC4030A

RCBO EKL17H-40 10kA						
Poles	Curve	Type	Sensitivity	Rated Current (A)	Ref No.	
					Form bottom incoming line	Bi-Directional incoming line
	B	A	30mA	6A	EKL17H-40-1NB0630A	EKL17H-40BD-1NB0630A
				10A	EKL17H-40-1NB1030A	EKL17H-40BD-1NB1030A
				16A	EKL17H-40-1NB1630A	EKL17H-40BD-1NB1630A
				20A	EKL17H-40-1NB2030A	EKL17H-40BD-1NB2030A
				25A	EKL17H-40-1NB2530A	EKL17H-40BD-1NB2530A
				32A	EKL17H-40-1NB3230A	EKL17H-40BD-1NB3230A
	C			40A	EKL17H-40-1NB4030A	EKL17H-40BD-1NB4030A
				6A	EKL17H-40-1NC0630A	EKL17H-40BD-1NC0630A
				10A	EKL17H-40-1NC1030A	EKL17H-40BD-1NC1030A
				16A	EKL17H-40-1NC1630A	EKL17H-40BD-1NC1630A
				20A	EKL17H-40-1NC2030A	EKL17H-40BD-1NC2030A
				25A	EKL17H-40-1NC2530A	EKL17H-40BD-1NC2530A
				32A	EKL17H-40-1NC3230A	EKL17H-40BD-1NC3230A
				40A	EKL17H-40-1NC4030A	EKL17H-40BD-1NC4030A

Circuit Diagram

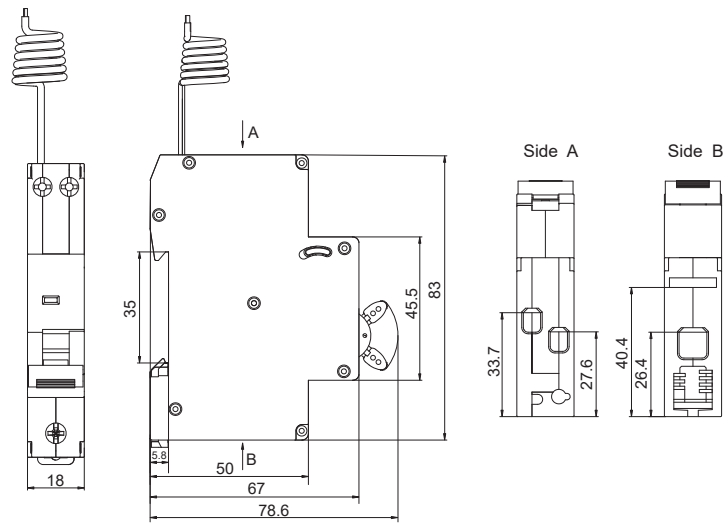


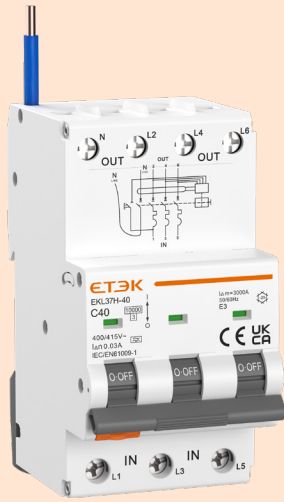
Form bottom



Bi-Directional

Dimension (mm)





Features

- Standards: IEC/EN 61009-1
- Poles: 3P+N, three modules (with switched neutral)
- Rated operated voltage: 400/415V~
- Rated current: 6~40A
- Rated breaking capacity: 10kA
- Residual current Type: A
- Tripping curves: B, C
- Rated sensitivity current: 30,100,300mA
- Incoming method:
Form bottom or Bi-Directional (Customized)



Technical Data

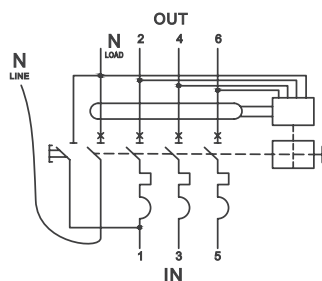
Standard	IEC/EN61009-1
Protection	Ground fault, Overcurrent and short circuit, Over-voltage(selectable)
Type of trip	Ground fault: Electronic Overload and short circuit: Thermo-magnetic
Residual current type	A
No. of poles	3P+N, compact 3 modules 54mm width (with switched neutral)
Rated currents (I_n)	6, 10, 16, 20, 25, 32, 40A
Rated sensitivity currents ($I_{\Delta n}$)	30, 100, 300mA
Residual current off-time under ($I_{\Delta n}$)	$\leq 0.1s$
Reted residual making and breaking capacity ($I_{\Delta m}$)	500A($I_n \leq 50A$), 10I _n ($I_n > 50A$)
Insulation voltage (U_i)	500V
Rated voltage (U_e)	400/415V~
Rated frequency	50/60Hz
Rated short-circuit capacity (I_{cn})	10kA
Energy Limiting Class	3
Rated impulse withstand voltage (U_{imp}) (1.2/50 μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	$(1.13-1.45) \times I_n$
Instantaneous tripping characteristics	B: $(3-5) \times I_n$, C: $(5-10) \times I_n$
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indication	green OFF / red ON
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	16mm ²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	From bottom, Bi-directional (Customized)

Product Selection Form

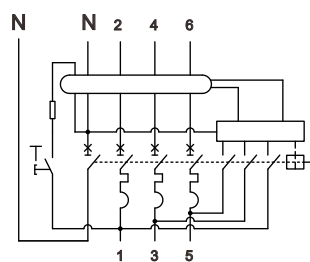
Poles	Curve	Type	Sensitivity	Rated current (A)	Ref No.	
					Form bottom incoming line	Bi-Directional incoming line
	B	A	30mA	6A	EKL37H-40-3NB0630A	EKL37H-40BD-3NB0630A
				10A	EKL37H-40-3NB1030A	EKL37H-40BD-3NB1030A
				16A	EKL37H-40-3NB1630A	EKL37H-40BD-3NB1630A
				20A	EKL37H-40-3NB2030A	EKL37H-40BD-3NB2030A
				25A	EKL37H-40-3NB2530A	EKL37H-40BD-3NB2530A
				32A	EKL37H-40-3NB3230A	EKL37H-40BD-3NB3230A
				40A	EKL37H-40-3NB4030A	EKL37H-40BD-3NB4030A
			100mA	6A	EKL37H-40-3NB06100A	EKL37H-40BD-3NB06100A
				10A	EKL37H-40-3NB10100A	EKL37H-40BD-3NB10100A
				16A	EKL37H-40-3NB16100A	EKL37H-40BD-3NB16100A
				20A	EKL37H-40-3NB20100A	EKL37H-40BD-3NB20100A
				25A	EKL37H-40-3NB25100A	EKL37H-40BD-3NB25100A
				32A	EKL37H-40-3NB32100A	EKL37H-40BD-3NB32100A
				40A	EKL37H-40-3NB40100A	EKL37H-40BD-3NB40100A
			300mA	6A	EKL37H-40-3NB06300A	EKL37H-40BD-3NB06300A
				10A	EKL37H-40-3NB10300A	EKL37H-40BD-3NB10300A
				16A	EKL37H-40-3NB16300A	EKL37H-40BD-3NB16300A
				20A	EKL37H-40-3NB20300A	EKL37H-40BD-3NB20300A
				25A	EKL37H-40-3NB25300A	EKL37H-40BD-3NB25300A
				32A	EKL37H-40-3NB32300A	EKL37H-40BD-3NB32300A
				40A	EKL37H-40-3NB40300A	EKL37H-40BD-3NB40300A
	C	A	30mA	6A	EKL37H-40-3NC0630A	EKL37H-40BD-3NC0630A
				10A	EKL37H-40-3NC1030A	EKL37H-40BD-3NC1030A
				16A	EKL37H-40-3NC1630A	EKL37H-40BD-3NC1630A
				20A	EKL37H-40-3NC2030A	EKL37H-40BD-3NC2030A
				25A	EKL37H-40-3NC2530A	EKL37H-40BD-3NC2530A
				32A	EKL37H-40-3NC3230A	EKL37H-40BD-3NC3230A
				40A	EKL37H-40-3NC4030A	EKL37H-40BD-3NC4030A

Poles	Curve	Type	Sensitivity	Rated current (A)	Ref No.	
					Form bottom incoming line	Bi-Directional incoming line
	C	A	100mA	6A	EKL37H-40-3NC06100A	EKL37H-40BD-3NC06100A
				10A	EKL37H-40-3NC10100A	EKL37H-40BD-3NC10100A
				16A	EKL37H-40-3NC16100A	EKL37H-40BD-3NC16100A
				20A	EKL37H-40-3NC20100A	EKL37H-40BD-3NC20100A
				25A	EKL37H-40-3NC25100A	EKL37H-40BD-3NC25100A
				32A	EKL37H-40-3NC32100A	EKL37H-40BD-3NC32100A
				40A	EKL37H-40-3NC40100A	EKL37H-40BD-3NC40100A
			300mA	6A	EKL37H-40-3NC06300A	EKL37H-40BD-3NC06300A
				10A	EKL37H-40-3NC10300A	EKL37H-40BD-3NC10300A
				16A	EKL37H-40-3NC16300A	EKL37H-40BD-3NC16300A
				20A	EKL37H-40-3NC20300A	EKL37H-40BD-3NC20300A
				25A	EKL37H-40-3NC25300A	EKL37H-40BD-3NC25300A
				32A	EKL37H-40-3NC32300A	EKL37H-40BD-3NC32300A
				40A	EKL37H-40-3NC40300A	EKL37H-40BD-3NC40300A

Circuit Diagram

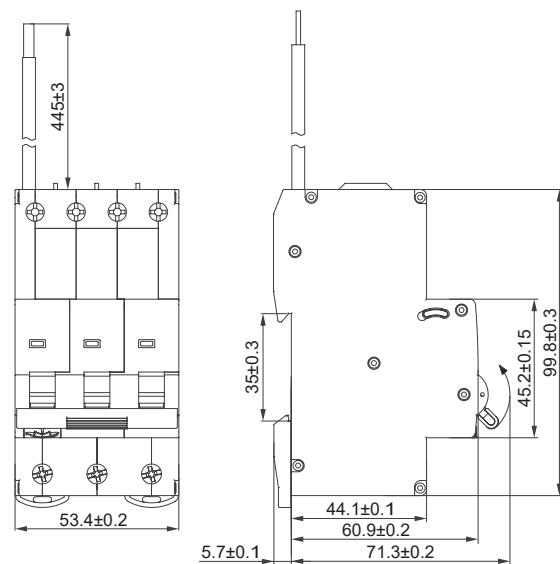


Form bottom



Bi-Directional

Dimension (mm)





Features

- Standards: IEC/EN 61009-1
- Poles: 1P+N, two modules (with switched neutral)
- Rated operated voltage: 230/240V~
- Rated current: 6~63A
- Rated breaking capacity: 6kA, 10kA
- Residual current Type: A
- Tripping curves: B, C
- Rated sensitivity current: 30mA
- Incoming method: Bi-Directional



Technical Data

Standard	IEC/EN61009-1
Protection	Ground fault, Overcurrent and short circuit, Over-voltage (selectable)
Type of trip	Ground fault: Electronic Overload and short circuit: Thermo-magnetic
Residual current type	A
No. of poles	1P+N 2module (with switched neutral)
Rated currents (I_n)	6, 10, 16, 20, 25, 32, 40A, 63A
Rated sensitivity currents ($I_{\Delta n}$)	30mA
Residual current off-time under ($I_{\Delta n}$)	$\leq 0.1s$
Rated residual making and breaking capacity ($I_{\Delta m}$)	500A($I_n \leq 50A$), 10In($I_n > 50A$)
Insulation voltage (U_i)	500V
Rated voltage (U_e)	230/240V~
Rated frequency	50/60Hz
Rated short-circuit capacity (I_{cn})	EKL3-63: 6kA; EKL3-63H: 10kA
Energy Limiting Class	3
Rated impulse withstand voltage (U_{imp}) (1.2/50 μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	$(1.13-1.45) \times I_n$
Instantaneous tripping characteristics	B: $(3-5) \times I_n$, C: $(5-10) \times I_n$
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indication	green OFF / red ON
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	25mm ²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Product Selection Form

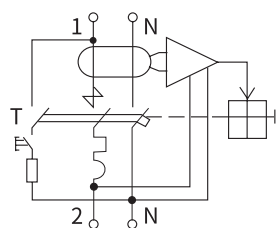
RCBO EKL3-63 6kA

Poles	Type	Sensitivity	Rated Current (A)	Ref No.	
				B curve	C curve
	A	30mA	6A	EKL3-63-1NB0630A	EKL3-63-1NC0630A
			10A	EKL3-63-1NB1030A	EKL3-63-1NC1030A
			16A	EKL3-63-1NB1630A	EKL3-63-1NC1630A
			20A	EKL3-63-1NB2030A	EKL3-63-1NC2030A
			25A	EKL3-63-1NB2530A	EKL3-63-1NC2530A
			32A	EKL3-63-1NB3230A	EKL3-63-1NC3230A
			40A	EKL3-63-1NB4030A	EKL3-63-1NC4030A
			50A	EKL3-63-1NB5030A	EKL3-63-1NC5030A
			63A	EKL3-63-1NB6330A	EKL3-63-1NC6330A

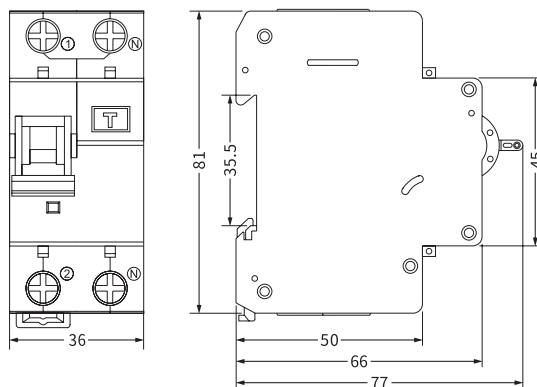
RCBO EKL3-63H 10kA

Poles	Type	Sensitivity	Rated Current (A)	Ref No.	
				B curve	C curve
	A	30mA	6A	EKL3-63H-1NB0630A	EKL3-63H-1NC0630A
			10A	EKL3-63H-1NB1030A	EKL3-63H-1NC1030A
			16A	EKL3-63H-1NB1630A	EKL3-63H-1NC1630A
			20A	EKL3-63H-1NB2030A	EKL3-63H-1NC2030A
			25A	EKL3-63H-1NB2530A	EKL3-63H-1NC2530A
			32A	EKL3-63H-1NB3230A	EKL3-63H-1NC3230A
			40A	EKL3-63H-1NB4030A	EKL3-63H-1NC4030A
			50A	EKL3-63H-1NB5030A	EKL3-63H-1NC5030A
			63A	EKL3-63H-1NB6330A	EKL3-63H-1NC6330A

Circuit Diagram



Dimension (mm)





Features

- Standards: IEC/EN 61009-1
- Poles: 1P+N, two modules (with switched neutral)
- Rated operated voltage: 230/240V~
- Rated current: 6~63A
- Rated breaking capacity: 6kA, 10kA
- Residual current Type: A
- Tripping curves: B, C
- Rated sensitivity current: 30mA
- Incoming method: Bi-Directional



Technical Data

Standard	IEC/EN61009-1
Protection	Ground fault, Overcurrent and short circuit, Over-voltage (selectable)
Type of trip	Ground fault: Electronic Overload and short circuit: Thermo-magnetic
Residual current type	A
No. of poles	1P+N 2module (with switched neutral)
Rated currents (I_n)	6, 10, 16, 20, 25, 32, 40A, 63A
Rated sensitivity currents ($I_{\Delta n}$)	30mA
Residual current off-time under ($I_{\Delta n}$)	$\leq 0.1s$
Rated residual making and breaking capacity ($I_{\Delta m}$)	500A($I_n \leq 50A$), 10I _n ($I_n > 50A$)
Insulation voltage (U_i)	500V
Rated voltage (U_e)	230/240V~
Rated frequency	50/60Hz
Rated short-circuit capacity (I_{cn})	EKL8-80: 6kA; EKL8-80H: 10kA
Energy Limiting Class	3
Rated impulse withstand voltage (U_{imp}) (1.2/50μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	$(1.13-1.45) \times I_n$
Instantaneous tripping characteristics	B: $(3-5) \times I_n$, C: $(5-10) \times I_n$
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indication	green OFF / red ON
Ground fault indication	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	25mm ²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-directional

Product Selection Form

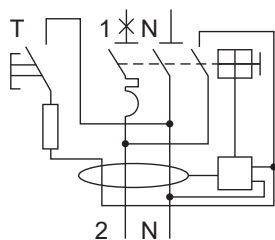
RCBO EKL8-80 6kA

Poles	Type	Sensitivity	Rated Current (A)	Ref No.	
				B curve	C curve
	A	30mA	6A	EKL8-80-1NB0630A	EKL8-80-1NC0630A
			10A	EKL8-80-1NB1030A	EKL8-80-1NC1030A
			16A	EKL8-80-1NB1630A	EKL8-80-1NC1630A
			20A	EKL8-80-1NB2030A	EKL8-80-1NC2030A
			25A	EKL8-80-1NB2530A	EKL8-80-1NC2530A
			32A	EKL8-80-1NB3230A	EKL8-80-1NC3230A
			40A	EKL8-80-1NB4030A	EKL8-80-1NC4030A
			50A	EKL8-80-1NB5030A	EKL8-80-1NC5030A
			63A	EKL8-80-1NB6330A	EKL8-80-1NC6330A

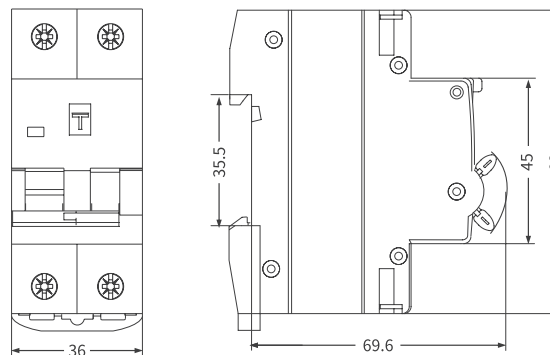
RCBO EKL8-80H 10kA

Poles	Type	Sensitivity	Rated Current (A)	Ref No.	
				B curve	C curve
	A	30mA	6A	EKL8-80H-1NB0630A	EKL8-80H-1NC0630A
			10A	EKL8-80H-1NB1030A	EKL8-80H-1NC1030A
			16A	EKL8-80H-1NB1630A	EKL8-80H-1NC1630A
			20A	EKL8-80H-1NB2030A	EKL8-80H-1NC2030A
			25A	EKL8-80H-1NB2530A	EKL8-80H-1NC2530A
			32A	EKL8-80H-1NB3230A	EKL8-80H-1NC3230A
			40A	EKL8-80H-1NB4030A	EKL8-80H-1NC4030A
			50A	EKL8-80H-1NB5030A	EKL8-80H-1NC5030A
			63A	EKL8-80H-1NB6330A	EKL8-80H-1NC6330A

Circuit Diagram



Dimension (mm)





**KEEP YOU AWAY FROM
ELECTRICAL FIRE**



Overview

Following the publication of Amendment 2 of the 18th Edition Wiring Regulation on 28th March 2022, the use of Arc Fault Detection Devices (AFDD) has been made mandatory in certain types of installations.

Regulation 421.1.7 now states AFDD conforming to BS EN 62606 shall be provided for single-phase AC final circuits supplying socket-outlets with a rated current not exceeding 32 A in:

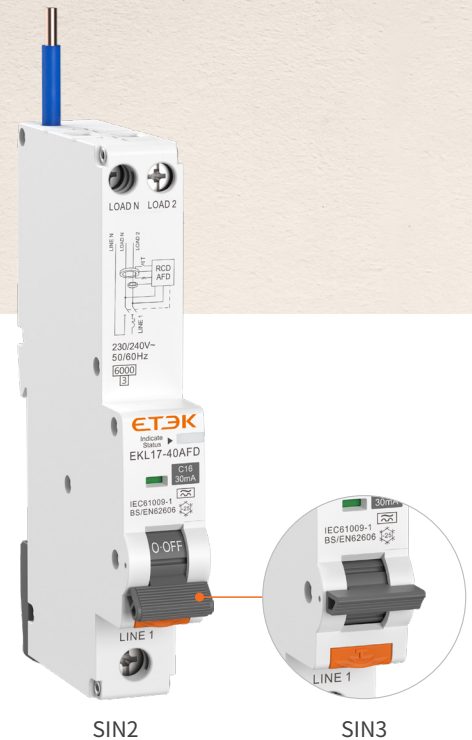
- Higher Risk Residential Buildings(HRRB)
- Houses in Multiple Occupation (HMO)
- Purpose-Built Student Accommodation(PBSA)
- Care homes

For all other premises with socket-outlets up to 32A, the use of AFDDs is alsorecommended.

What types of circuits can AFDD be used on?

The regulations state AC single-phase circuits not exceeding 230V, that includes ring circuits, radials etc. Where used, AFDD shall be placed at the origin of the circuit to be protected.

EKL17(H)-40AFD devices are a single module device which fits the existing busbar system of the existing arrangement. The device offers protection against overcurrent, short circuit, earth leakage and arc fault all in one device and are available in B&C Curve variants. It can direct replacement RCBO in existing consumer units.



Features

- Rated current: 6-40A
- Series and parallel arc fault detection
- Combined arc fault detection, short circuit, overload and earth leakage detection
- 30mA earth leakage detection Type A
- B and C curve tripping characteristics
- Switched Live Neutral
- Fits existing busbar system
- Self testing (AFDD function only)
- Available handle styles: SIN2 and SIN3

Complete Circuit Protection

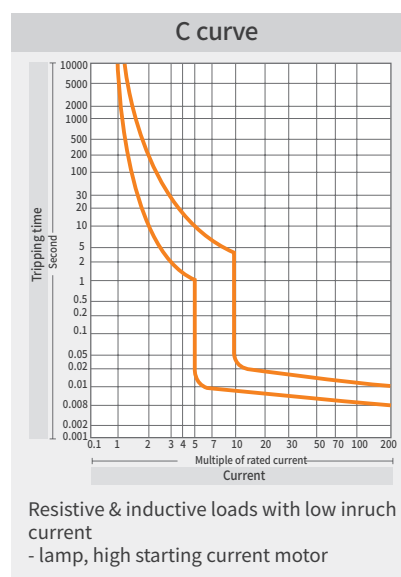
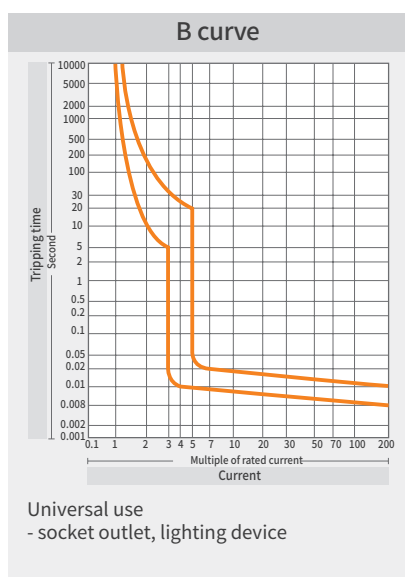
	Over current	Short circuit	Earth leakage	Series arc fault	Parallel arc fault
MCB	✓	✓	✗	✗	✗
RCCB	✗	✗	✓	✗	✗
RCBO	✓	✓	✓	✗	✗
AFDD	✗	✗	✗	✓	✓
AFDD integrated with RCBO	✓	✓	✓	✓	✓

Technical Data

Standard	IEC/EN61009-1, IEC62026
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	A
No. of poles	1P+N (with switched neutral)
Rated currents (I_n)	6, 10, 16, 20, 25, 32, 40A
Rated sensitivity currents ($I_{\Delta n}$)	30mA
Residual current off-time under ($I_{\Delta n}$)	$\leq 0.1s$
Rated residual making and breaking capacity ($I_{\Delta m}$)	$500A(I_n \leq 50A)$
Insulation voltage (U_i)	500V
Rated voltage (U_e)	230/240V-
Rated frequency	50/60Hz
Rated short-circuit capacity (I_{cn})	EKL17-40AFD: 6kA; EKL17H-40AFD: 10kA
Energy Limiting Class	3
Rated impulse withstand voltage (U_{imp}) (1.2/50 μs)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	$(1.13-1.45) \times I_n$
Instantaneous tripping characteristics	B: $(3-5) \times I_n$, C: $(5-10) \times I_n$
Electrical life	4,000 Cycles
Mechanical life	10,000 Cycles
Contact position indication	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	L(in): 25mm ² , N/L(out): 16mm ²
Max. tightening torque	L(in): 2.5N.m, N/L(out): 2N.m
Installation	Mounting on 35mm DIN rail
Incoming method	From bottom

Tripping Characteristic (IEC61009-1)

Curve	Rated current	Condition						
		Thermal release				Magnetic release		
		Non-tripping	Tripping	Non-tripping	Tripping time	Holding current	Tripping current	Tripping time
B	6-40A	$1.13 \times I_n$		$\leq 1h$		$3 \times I_n$		≥ 0.1
			$1.45 \times I_n$		$< 1h$		$5 \times I_n$	< 0.1
C	6-40A	$1.13 \times I_n$		$\leq 1h$		$5 \times I_n$		≥ 0.1
			$1.45 \times I_n$		$< 1h$		$10 \times I_n$	< 0.1


Limit values of operating criteria for AFDD at low arc currents up to 63 A (IEC62026)

Limit values of break time for Ue 230V AFDD	
Test arc current (r.m.s.values)	Max breaking time
2.5A	1S
5A	0.5S
10A	0.25S
16A	0.15S
32A	0.12S
63A	0.12S

Note:

1. The test arc current is the expected current before ignition occurs in the test circuit.
2. Low arc currents can occur due to insulation faults phase to earth or series arcing.

Led Indicator Instruction

What to do if AFDD/RCBO trips?

1. Disconnect all electrical appliances connected to the circuit.
2. Reset and trigger AFDD/RCBO to 'ON' position.
3. For the description of LED indicators due to devices faulty-please refer to the Table 1 below.
- 3.1 If the fault indicator is normal, the tripping fault is a short-circuit or an overload.
4. Switch AFDD/RCBO to 'ON' position and then connect 1 appliance one at a time on the circuit to see which device is causing the tripping of the AFDD.
5. Once faulty appliance has been identified, Do not use it, until it has been repaired or disconnected from the circuit.
6. After the faulty appliance has been repaired or disconnected, switch AFDD/RCBO to 'ON' position.
7. If the fault is still not confirmed, please contact a qualified electrician for inspection.

SN	LED Indicator Instruction		
1	LED-green light goes on.	Device normal operation	
2	LED-red light goes on 1 time and goes out 1 time, 5 cycles.	Arc fault	
3	LED-yellow light is on for 2 seconds around and off for 1 second around, 3 cycles.	Residual current fault	
4	LED-red light goes on.	Arc self-check failure	

The LED light flashing program in Table is described in detail:

1. When the product is in normal operation, the light on the AFDD will remain green.
2. Should the AFDD trip off and to check for an arc fault trip, put the AFDD into the 'ON' position and the red light will flash continuously for 5 cycles. Then the arc module will detect itself and turn green when no fault is detected. If there is a fault, the red light will be lit.
3. Should the AFDD trip and to check for a Residual current fault, put the AFDD into the 'ON' position and the yellow light will keep on for about 2 seconds, and then remain off for about 1 second, for a total of 3 cycles. Then the arc module detects itself and lights green when no fault is detected. If there is a fault, the red light will be on.
4. Arc self-test failure, red light on. (Please contact a qualified electrician as the device may need to be changed.)

Selection

RCD type

Type A-Tripping is ensured for sinusoidal, alternating residual currents as well as for pulsed DC residual currents, whether they be quickly applied or slowly increase.

Tripping curve

B curve (3-5 I_n) protection and control of the circuits against overloads and short-circuits; protection for people and big length cables in TN and IT systems.

C curve (5-10 I_n) protection and control of the circuits against overloads and short-circuits; protection for resistive and inductive loads with low inrush current.

Product Selection Form

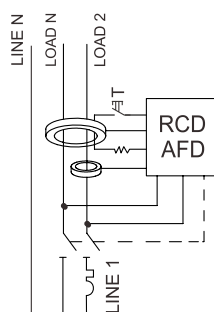
EKL17-40AFD 6kA

Poles	Type	Sensitivity	Rated current (A)	Ref No.	
				B curve	C curve
	A	30mA	6A	EKL17-40AFD-1NB0630A	EKL17-40AFD-1NC0630A
			10A	EKL17-40AFD-1NB1030A	EKL17-40AFD-1NC1030A
			16A	EKL17-40AFD-1NB1630A	EKL17-40AFD-1NC1630A
			20A	EKL17-40AFD-1NB2030A	EKL17-40AFD-1NC2030A
			25A	EKL17-40AFD-1NB2530A	EKL17-40AFD-1NC2530A
			32A	EKL17-40AFD-1NB3230A	EKL17-40AFD-1NC3230A
			40A	EKL17-40AFD-1NB4030A	EKL17-40AFD-1NC4030A

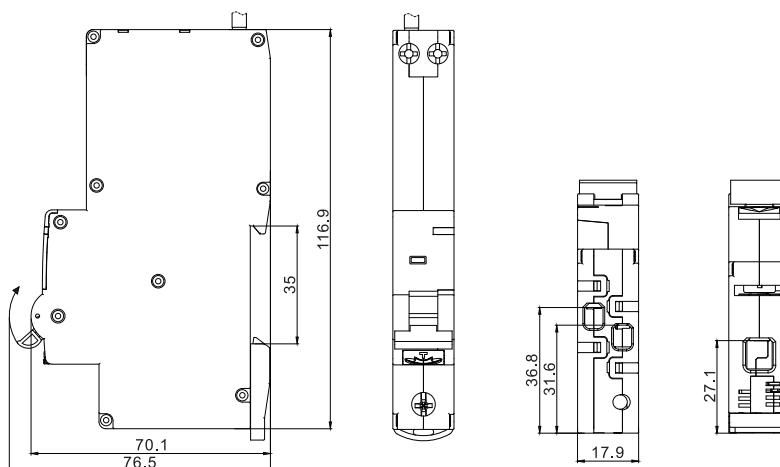
EKL17H-40AFD 10kA

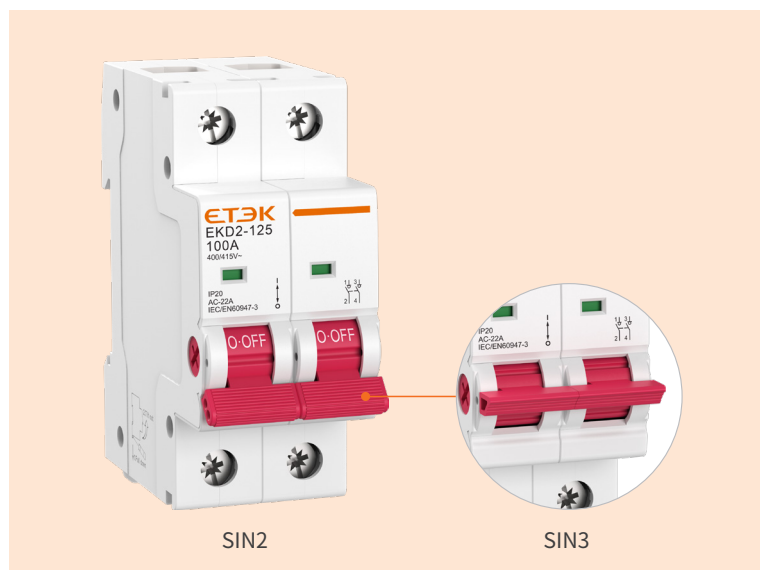
Poles	Type	Sensitivity	Rated current (A)	Ref No.	
				B curve	C curve
	A	30mA	6A	EKL17H-40AFD-1NB0630A	EKL17H-40AFD-1NC0630A
			10A	EKL17H-40AFD-1NB1030A	EKL17H-40AFD-1NC1030A
			16A	EKL17H-40AFD-1NB1630A	EKL17H-40AFD-1NC1630A
			20A	EKL17H-40AFD-1NB2030A	EKL17H-40AFD-1NC2030A
			25A	EKL17H-40AFD-1NB2530A	EKL17H-40AFD-1NC2530A
			32A	EKL17H-40AFD-1NB3230A	EKL17H-40AFD-1NC3230A
			40A	EKL17H-40AFD-1NB4030A	EKL17H-40AFD-1NC4030A

Circuit Diagram



Dimension (mm)





Features

- Standards: IEC/EN 60947-3
- Poles: 2P, 3P, 4P
- Insulation voltage: 500V
- Rated operated voltage: 240/415V~
- Rated current: 63,100,125A
- Utilization category: AC-22A
- Incoming method: Bi-Directional
- Available handle styles: SIN2 and SIN3



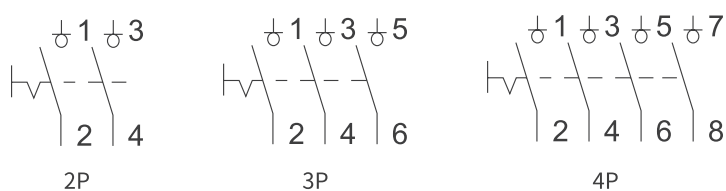
Technical Data

Standard	IEC/EN60947-3
No. of poles	2P, 3P, 4P
Insulation voltage (U _i)	500V
Rated voltage (U _e)	240/415V~
Rated currents (I _n)	63, 100, 125A
Rated frequency	50/60Hz
Utilization category	AC-22A
Short-time withstand current (I _{cw})	2000A/1s
Rated short-circuit making capacity (I _{cm})	3000A
Rated making & breaking capacity	3I _e , 1.05U _e , CosΦ=0.65
Rated impulse withstand voltage (U _{imp}) (1.2/50μs)	6kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Rated insulation voltage (U _i)	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	50mm ²
Max.tightening torque	3.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

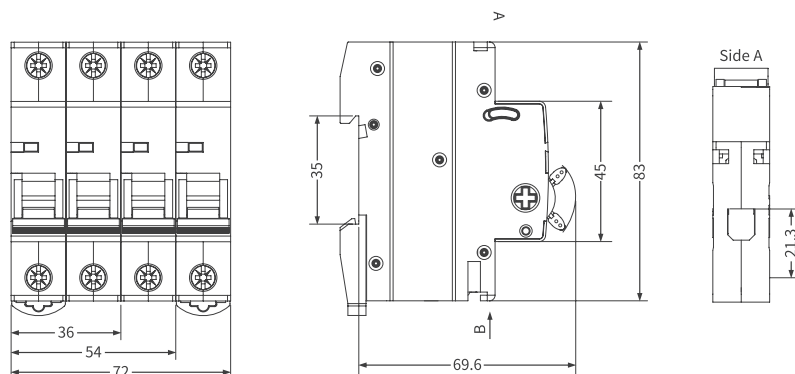
Product Selection Form

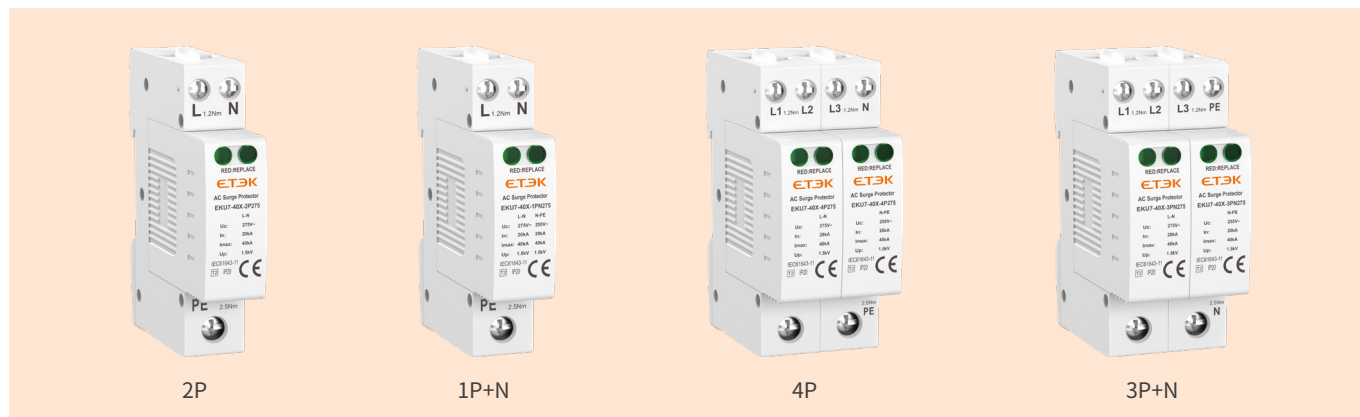
Poles	Rated Current(A)	Ref No.
 2P	63A	EKD2-125-2-063
	100A	EKD2-125-2-100
	125A	EKD2-125-2-125
 3P	63A	EKD2-125-3-063
	100A	EKD2-125-3-100
	125A	EKD2-125-3-125
 4P	63A	EKD2-125-4-063
	100A	EKD2-125-4-100
	125A	EKD2-125-4-125

Circuit Diagram



Dimension (mm)





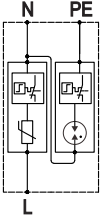
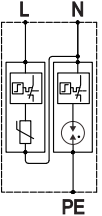
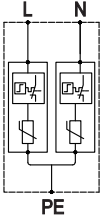
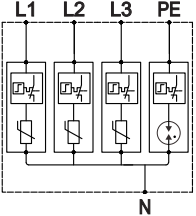
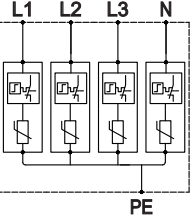
Features

- Standard: IEC/EN 61643-11
- Poles: 1P+NPE, 2P
- IEC/EN category: Type 2
- Network systems: TT, TN-S
- Mode of protection: L-PE/N-PE, 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

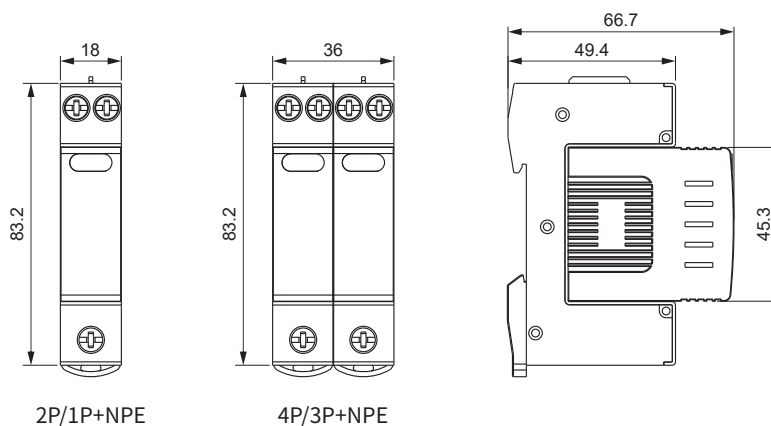
Technical Data

No. of poles	2P, 4P	1P+NPE, 3P+NPE
Network systems	TN-S	TT, TN-S
Mode of protection	L-PE, N-PE	L-N, N-PE
Protective elements	High Energy MOV	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) (8/20 μ s) (L-N)/(N-PE)	20kA	
Maximum discharge current (I_{max}) (8/20 μ s) (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)	$\leq 25ns / \leq 100ns$	
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.)	4mm ² /10mm ² (L/N),16mm ² (PE)	
Mounting	35 mm DIN Rail, EN 60715	
Enclosure material	Thermal Plastic UL94-V0	
Degree of protection	IP20 (built-in)	

SPD Type Reference List

					
No. of poles	1P+NPE	1P+NPE	2P	3P+NPE	4P
Without remote signaling	EKU7-40S-1PN275	EKU7-40X-1PN275	EKU7-40X-2P275	EKU7-40X-3PN275	EKU7-40X-4P275
With remote signaling	EKU7-40S-1PN275S	EKU7-40X-1PN275S	EKU7-40X-2P275S	EKU7-40X-3PN275S	EKU7-40X-4P275S
Schematic diagram					

Dimension (mm)





1 Modules



2 Modules



3 Modules

Applicable Scope

EKMC Series Modular Contactors are versatile for modern electrical systems, integrating easily into building automation, HVAC, lighting control, and industrial automation. They come in compact 1, 2, and 3 module widths with a DIN rail mount design and current ratings from 20A to 63A, suitable for 250V and 400V systems.

Features

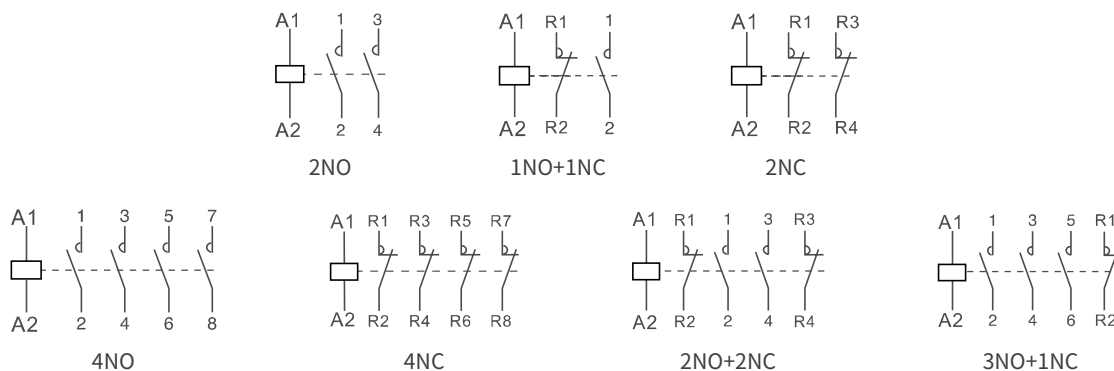
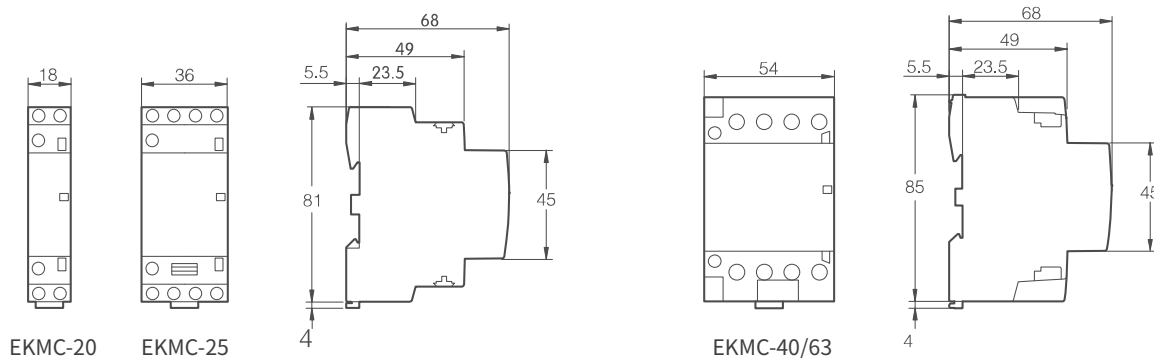
- Standard: IEC61095, IEC60947-4-1
- Rated current: 20A~63A
- Rated operational voltage: 250V, 400V
- Rated control power voltage: 230V
- Rated Insulation voltage (U_i): 500V
- Utilization Category: AC-7a ,AC-1
- Mounting: 35mm Din rail
- Method of Control: Automatic

Technical Data

Rated working current I_e (A) (AC-7a)		20A	25A	40A	63A
Rated operational voltage (U_e)		250V(2P), 400V(4P)			
Rated control power voltage (U_s)		230V			
Rated frequency		50/60Hz			
Rated insulation voltage (U_i)		500V			
Rated impulse withstand voltage (U_{imp})		2.5kV			
Number of main contacts	2P	2NO,2NC,1NO+1NC			
	4P	4NO,4NC,2NO+2NC,3NO+1NC			
Endurance mechanical operations		1,000,000 cycles			
Endurance electrical operations		100,000 cycles			
Device terminals		Screwed Lug & Pin			
Ingress protection		IP20			
Operational temperature		-5°C to +60°C			
Storage temperature		-40°C to +70°C			

Product Selection Form

Width	Operational voltage	Coil voltage	Poles	Rated current AC-1/AC-7A	Contacts (NO or NC)	Ref No.
1 Modules	250V	230V	2P	20A	2NO	EKMC-2020-230
					1NO+1NC	EKMC-2011-230
					2NC	EKMC-2002-230
2 Modules	400V	230V	4P	25A	4NO	EKMC-2540-230
					4NC	EKMC-2504-230
					2NO+2NC	EKMC-2522-230
					3NO+1NC	EKMC-2531-230
3 Modules	400V	230V	4P	40A	4NO	EKMC-4040-230
					4NC	EKMC-4004-230
					2NO+2NC	EKMC-4022-230
					3NO+1NC	EKMC-4031-230
	400V	230V	4P	63A	4NO	EKMC-6340-230
					4NC	EKMC-6304-230
					2NO+2NC	EKMC-6322-230
					3NO+1NC	EKMC-6331-230

Circuit Diagram

Dimension (mm)




Features

- Measures kWh, kVAh, kW, kVA, PF, Hz, dmd, V, A, etc.
- Bi-directional measures IMP and EXP
- One pulse output, active energy pulse
- RS485, Modbus_RTU
- DIN rail 35mm
- 45A directly connected
- The product shell and base are welded by ultrasonic waves, cannot be disassembled.
- Degree of protection according to IEC 60529: IP20
- MID approved

CE MID

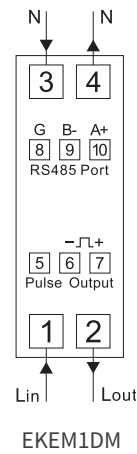
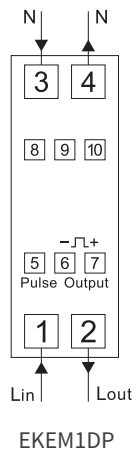
Specification

Ref No.	Current input	Communication Interface
EKEM1DP	45A directly connected	-
EKEM1DM	45A directly connected	RS485 Modbus_RTU

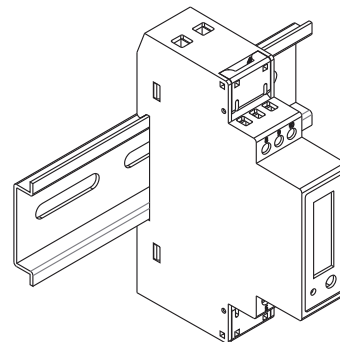
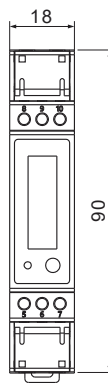
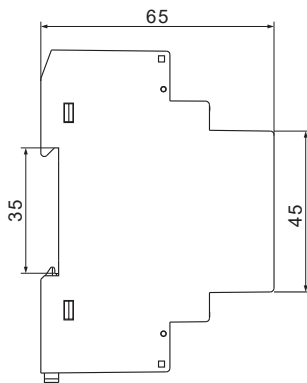
Technical Data

Input	Voltage	Voltage (U _n): 230VAC; Voltage range: 176-276VAC
	Current	Directly connected: 0.25-5(45)A; Overcurrent withstand: 30 I _{max} for 0.01s
	Frequency	50Hz
	Wiring	Connecting capacity: from 0.5 to 10 mm ²
Display	Mode	LCD with white back-light
	Max reading	999999kWh
Accuracy	Active energy	Class 1, Class B
Output	Communication	Interface: RS485; Protocol: Modbus_RTU
	Pulse	Pulse constant: 1000imp/kWh
Power consumption		< 2W/25VA
Withstand	AC voltage	4kV/1min
	DC impulse	6kV-1.2μs waveform
Climate enviroment	Temperature	Operating temperature: -25°C ~+55°C ; Storage temperature: -40°C ~+70°C
	Humidity	≤ 95%, non-condensing, no corrosive gas
	Altitude	≤ 2000m
Mechanical enviroment		M1
Electromagnetic enviroment		E2

Wiring Diagram



Dimension (mm)





Features

- 100A direct connection
- Single module DIN rail mounting
- Touch-sensitive keys, LCD display with 1s refresh rate
- Measures: V, A, kW, kVA, PF, Hz, kWh, kVAh
- Bidirectional energy metering; monthly / daily consumption statistics
- Dual timer: meter operation & load duration
- RS485 communication, Modbus_RTU protocol
- Pulse output for external monitoring
- Password protection for data security
- Designed to IP51 front display, IP30 meter body
- MID certified

CE MID

Specification

Ref No.	Current input	Communication Interface
EKEM3DP	100A directly connected	-
EKEM3DM	100A directly connected	RS485 Modbus_RTU

Technical Data

Electrical Characteristics

Rated voltage (Un)	230VAC
Measured range	176 to 275VAC
Overload capacity of voltage	2×Un for 1s
Rated current (Ib)	5A
Maximum current (Imax)	100A
Operational current	0.1% Ib-Imax
Overload capacity of current	30×Imax for 0.01s
Operational frequency range	45~65Hz
Power consumption	<2W / 10VA
Pulse constant	1000imp/kWh
Display	LCD with backlight
Maximum reading of energy	999999.99 kWh/kVarh
Measure type	Single phase two wire
Rated impulse withstand voltage (Uimp)	6kV (1.2/50μs)
Dielectric test voltage	4kV (50/60Hz, 1 min.)

Measurement Accuracy

Voltage, Current	Class 0.5
Active power	Class 0.5
Reactive power	Class 2
Apparent power	Class 1
Active energy	Class 0.5
Reactive energy	Class 2
Power factor	Class 1
Frequency	Class 0.2

Communications

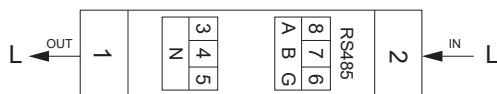
Interfaces standard and protocols	2-wire RS485, Modbus RTU
Baud rate	1200 to 19200 bps, default is 9600 bps
Stop bit	1 or 2, default is 1
Response time	<100ms
Transmission mode	half-duplex
Transmission distance	Up to 1000m

Environmental Characteristics

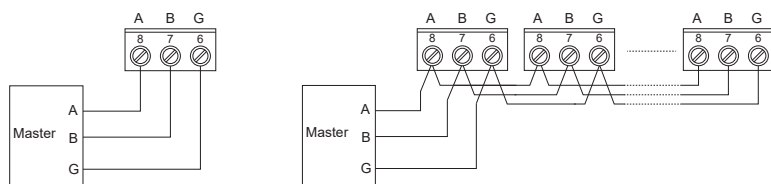
Operating Temperature	-25 to +70°C
Storage Temperature	-40 to +80°C
Humidity	< 90%, non-condensing
Pollution Degree	2
Altitude	Up to 2000m
Vibration	10 Hz to 150Hz, IEC 60068-2-6
IP degree of protection	Designed to IP51 front display, IP30 meter body
Mounting type	Mounting on 35mm DIN rail
Material of meter case	UL 94 V-0

Wiring Diagram

Measurement input wiring



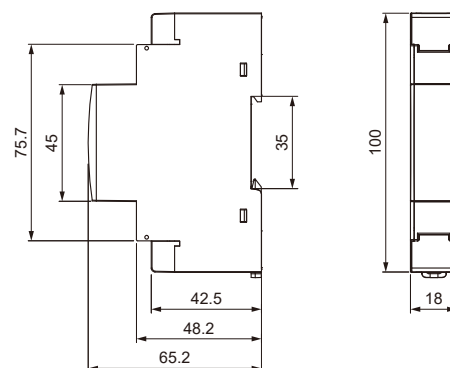
Communication terminal wiring



Single meter wiring

Multiple meters wiring

Dimension (mm)

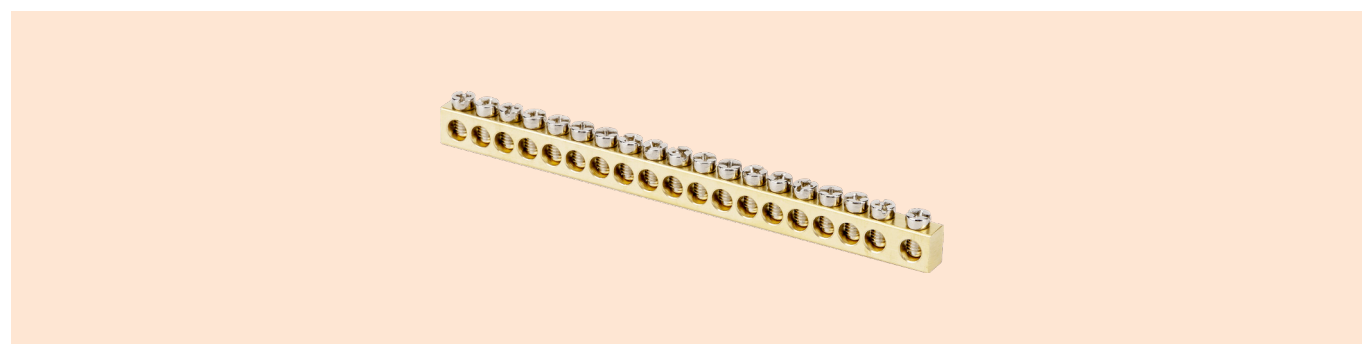


Surge Protection Device Kit



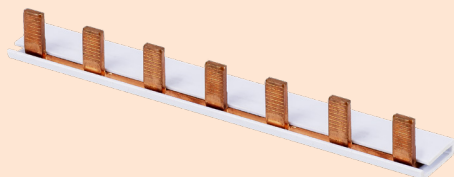
Ref No.	Description
EKSP32T2K	The kit includes Live, Neutral, and Earth 6mm ² cables, a 2-pin busbar, a T2 SPD, and a 32A B Curve MCB.
EKTPN32T2K	Three live wires (brown, gray, black), one blue neutral wire, a 6-pin busbar, T2 I _{max} 40kA SPD, and 32A B-curve MCB.

Terminal Bars



Ref No.	Description	Ref No.	Description
EKTB-5	5 Hole Terminal Bar	EKTB-12	12 Hole Terminal Bar
EKTB-6	6 Hole Terminal Bar	EKTB-16	16 Hole Terminal Bar
EKTB-7	7 Hole Terminal Bar	EKTB-19	19 Hole Terminal Bar
EKTB-8	8 Hole Terminal Bar	EKTB-24	24 Hole Terminal Bar
EKTB-9	9 Hole Terminal Bar	EKTB-26	26 Hole Terminal Bar
EKTB-11	11 Hole Terminal Bar	EKTB-27	27 Hole Terminal Bar

Busbar



Busbar



Busbar caps

Ref No.	Description
EKBB-1P100A2	1P Pin tye 2 Ways
EKBB-1P100A3	1P Pin tye 3 Ways
EKBB-1P100A5	1P Pin tye 5 Ways
EKBB-1P100A7	1P Pin tye 7 Ways
EKBB-1P100A8	1P Pin tye 8 Ways
EKBB-1P100A9	1P Pin tye 9 Ways
EKBB-1P100A10	1P Pin tye 10 Ways

Ref No.	Description
EKBB-1P100A12	1P Pin tye 12 Ways
EKBB-1P100A13	1P Pin tye 13 Ways
EKBB-1P100A16	1P Pin tye 16 Ways
EKBB-1P100A17	1P Pin tye 17 Ways
EKBB-1P100A23	1P Pin tye 23 Ways
EKCAP	Busbar Caps (Red)

DIN Rails



Ref No.	Description
EKDR-6	6 Ways DIN Rail
EKDR-10	10 Ways DIN Rail
EKDR-14	14 Ways DIN Rail
EKDR-18	18 Ways DIN Rail
EKDR-24	24 Ways DIN Rail

Blanking Strip



Ref No.	Description
EKPBS	Plastic blanking strip (6 modules, 2×18mm+8×9mm)



Ref No.	Description
EKMBS	Metal blanking strip (18mm width 1P)



Ref No.	Description
EKPBP18D	Din Rail Blank Module (18mm width 1P)



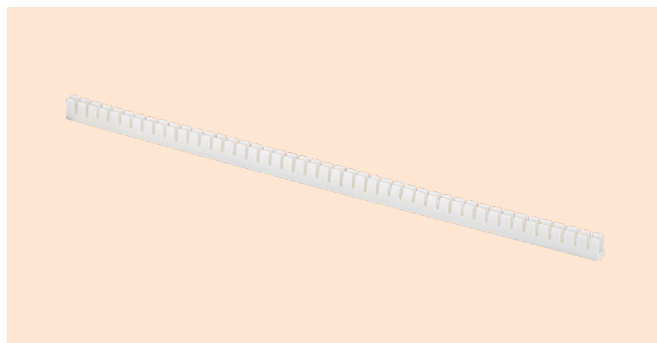
Ref No.	Description
EKPBP18B	125A Connector Din Rail Mounted (18mm width 1P)

Mains Tails Clamp



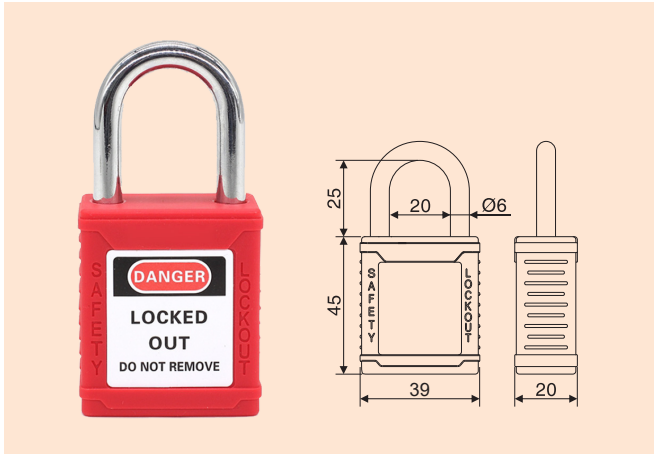
Ref No.	Description
EKMTC	Cable Clamp for supply cables (25mm ²)

Grommet Strip



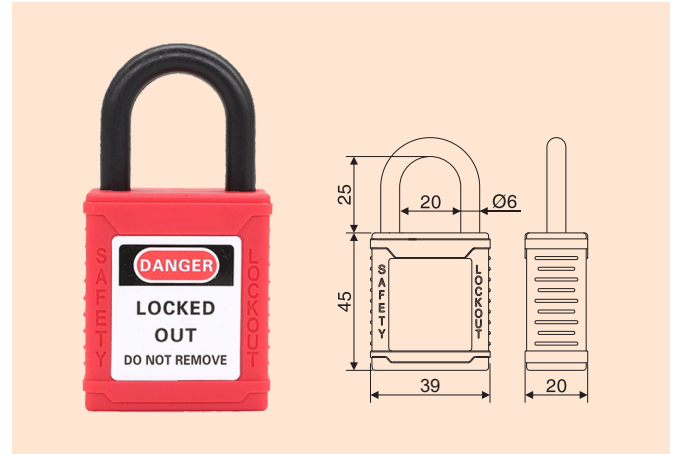
Ref No.	Description
EKGS	Grommet Strip for protection distribution box cover, panel, and knockout hole.

Steel Shackle Safety Padlock (25mm length)



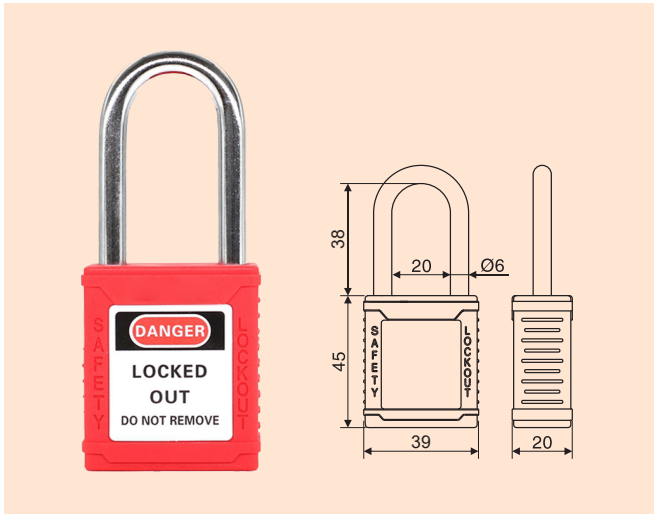
Ref No.	ITEM	Description
EK-KDS2501	Keyed differ	Steel shackle, 6mm dia, 25mm length
EK-KAS2501	Keyed alike	
EK-KDMK2501	Master keyed	

Nylon Shackle Safety Padlock (25mm length)



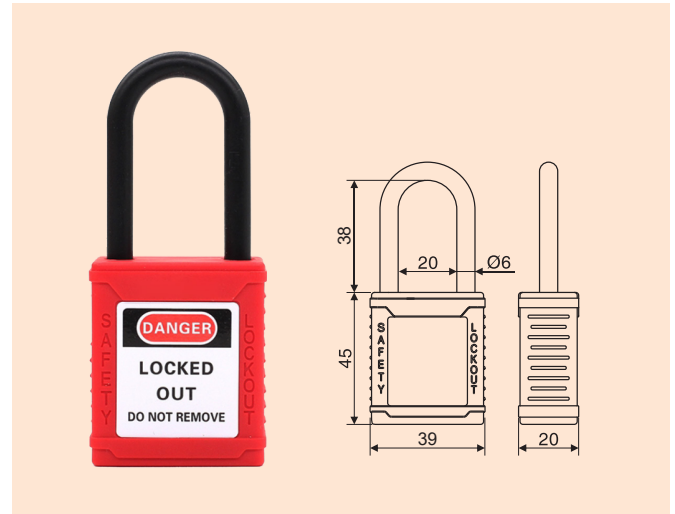
Part No.	ITEM	Description
EK-KDP2501	Keyed differ	Nylon shackle, 6mm dia, 25mm length
EK-KAP2501	Keyed alike	
EK-KDMK2501	Master keyed	

Steel Shackle Safety Padlock (38mm length)



Ref No.	ITEM	Description
EK-KDS3801	Keyed differ	Steel shackle, 6mm dia, 38mm length
EK-KAS3801	Keyed alike	
EK-KDMK3801	Master keyed	

Nylon Shackle Safety Padlock (38mm length)

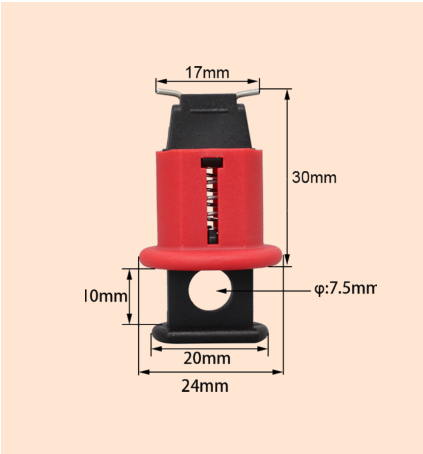


Ref No.	ITEM	Description
EK-KDP3801	Keyed differ	Nylon shackle, 6mm dia, 38mm length
EK-KAP3801	Keyed alike	
EK-KDMK3801	Master keyed	

Miniature Circuit Breaker Lockout



Ref No.	Description
EK-MCBL01	Max clamping 7mm



Ref No.	Description
EK-MCBL21	Pin Out Standard, 2holes required



Ref No.	Description
EK-MCBL41	Pin Out Standard, 2holes required

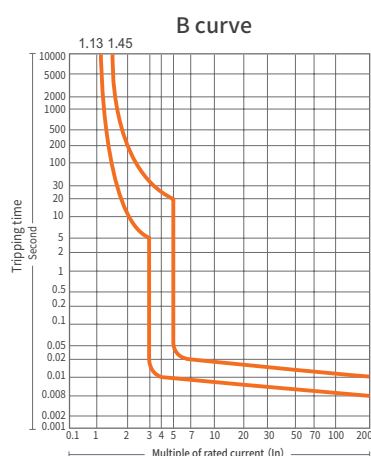
Safety Warning Tag



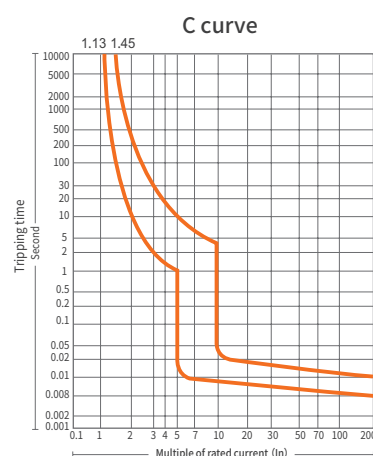
Ref No.	Description
EK-GP02	75mm(W) × 146mm(H) × 0.5mm(T)

Tripping Characteristic (IEC60898-1)

Curve	Rated current	Thermal release				Magnetic release		
		Non-trip	Trip	Non-trip	Trip time	Hold current	Trip current	Trip time
B	1-63A	$1.13 \times I_n$		$\leq 1h$		$3 \times I_n$		≥ 0.1
			$1.45 \times I_n$		$< 1h$		$5 \times I_n$	< 0.1
C	1-63A	$1.13 \times I_n$		$\leq 1h$		$5 \times I_n$		≥ 0.1
			$1.45 \times I_n$		$< 1h$		$10 \times I_n$	< 0.1



Universal use
- socket outlet, lighting device



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

Breaking Time of Residual Current

Max. breaking time					
I_n (A)	$I_{\Delta n}$ (A)	$I_{\Delta n}$	$2I_{\Delta n}$	$5I_{\Delta n}$	5,10,20,50,100,200,500A
16, 25, 32, 40, 50, 63, 80, 100	0.03, 0.1, 0.3	0.1s	0.08s	0.04s	0.04s

Wiring Capacity

Rated current I_n (A)	Nominal cross section area s (mm ²)	Tightening torque (N.m)
16	2.5	2.5
25	4	2.5
32	6	2.5
40	10	2.5
63	16	2.5
80	25	2.5
100	35	2.5

Detectable Wave Form

Class	Description
A	RCDs detect AC leakage currents and pulsed DC leakage currents below 6mA.
B	RCDs detect sinusoidal AC, pulsating DC, multi-frequency composite, and smooth DC residual currents. They are designed to trip at frequencies ranging from 50Hz to 1kHz.
B HP	RCDs capable of detecting and tripping under smooth DC faults at any level. Tested to handle frequencies greater than 20kHz, ensuring a minimum tripping threshold of 150mA for frequencies above 1kHz.
B+	RCDs detect all types of residual current - AC, DC, mixed, and smooth - at frequencies up to 20kHz and trip at a maximum of 420mA, offering superior fire protection.
S, G/SI	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.

Tripping Sensitivity

30mA: Additional protection against direct contact.

100mA: Co-ordinated with the earth system according to the formula $I_{\Delta n} < 50/R$, to provide protection against indirect contacts.

300mA: Protection against indirect contacts, as well as fire hazard.

Tripping time

Instantaneous	It ensures instantaneous tripping (without time-delay).
Short time delay	It ensures any tripping at least 10ms.
Selective	It ensures total discrimination with a nonselective RCD placed downstream.

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

Wiring Capacity

Rated current I_n (A)	Nominal 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

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 μ s 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 μ s 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 μ s) and current waves (8/20 μ s).

Surge Protection Devices Terminology

Item	Definition	Description
Class I tests	-	Tests carried out with the impulse discharge current I_{imp} , with an 8/20 current impulse with a crest value equal to the crest value of I_{imp} , and with a 1.2/50 voltage impulse
Class II tests	-	Tests carried out with the nominal discharge current I_n , 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 μ s
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 μ s waveshape and magnitude according to the manufacturers specification. I_{max} is equal to or greater than I_n
I_{total}	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	Voltage 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 μ s	8/20 Current impulse	Current impulse with a nominal virtual front time of 8 μ s and a nominal time to half-value of 20 μ s
1.2/50 μ s	1.2/50 Voltage impulse	Voltage impulse with a nominal virtual front time of 1.2 μ s and a nominal time to half-value of 50 μ s
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.

 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.

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