



EKDB11TS



EKDB11TF

Product Overview

EKDB11T is a Three-phase Plug-in Distribution Board (Load Center) for low-voltage applications. It is available in surface-mounted and flush-mounted versions. Branch circuits accept plug-in MCB and plug-in RCBO. Main switch options include a 125A Isolator Switch, a 125A MCCB, or a 250A MCCB.

Application

Suitable for commercial buildings and light-industrial facilities requiring three-phase distribution (e.g., small workshops, equipment rooms).

Product Features

Standards

Compliance: IEC 61439-3

Electrical and Incomer Options

- System: Three-phase.
- Main switch: 125A isolator switch, 125A MCCB, 250A MCCB.
- Branch devices: plug-in MCB; plug-in RCBO.

Structure

- Plug-in branch interface for device installation and replacement.
- Flush-mounted exclusive: pan assembly height adjustment via four inner-door screw holes (clockwise raises, counterclockwise lowers).

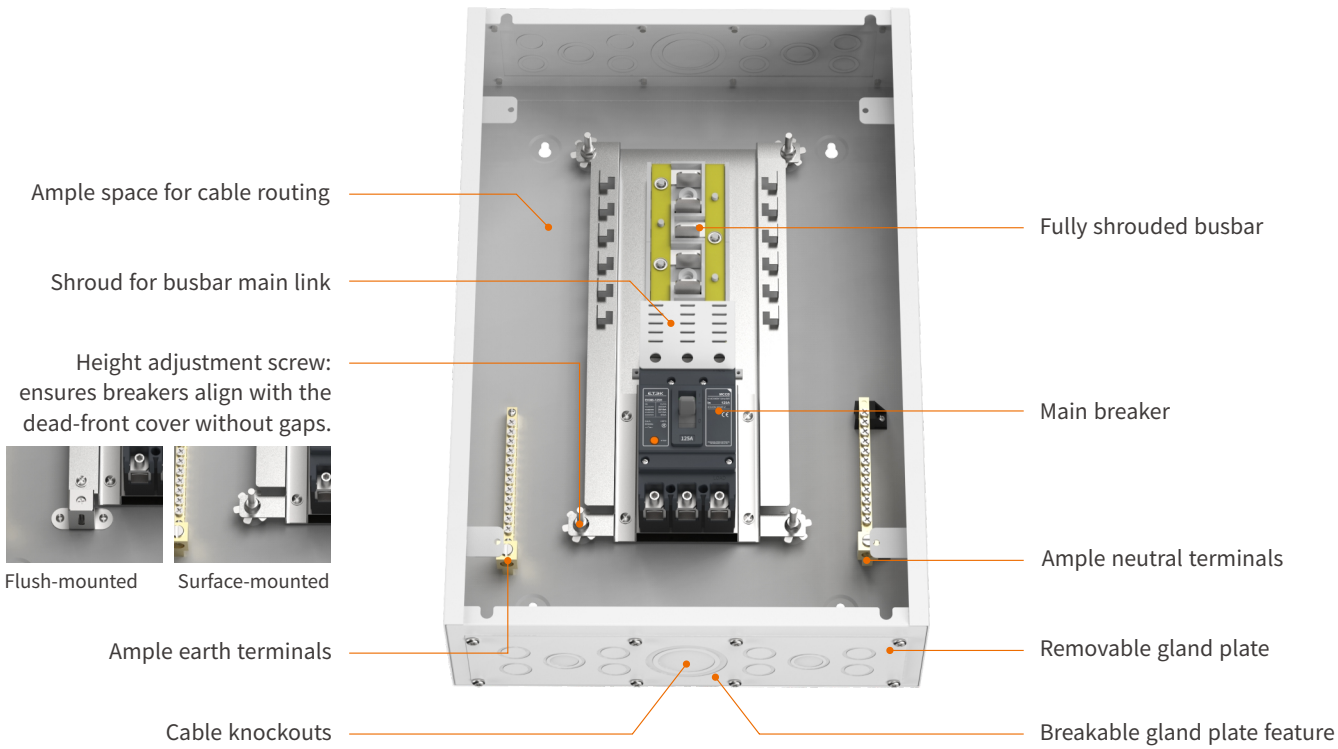
Installation

- Mounting options: surface-mounted; flush-mounted.
- Internal layout consistent across mounting variants.

Maintenance and Expansion

Plug-in interfaces support breaker replacement and circuit additions with limited wiring rework.

Internal Structure



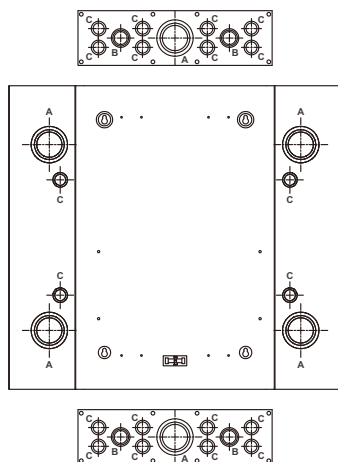
Type Designation

EK	DB11	T	F	-	12	I
↓	↓	↓	↓		↓	↓
①	②	③	④		⑤	⑥
Code name	Meaning		Code name	Meaning		
①	ETEK company		④	F: Flush-mounted S: Surface-mounted		
②	DB box design code		⑤	Outgoing ways: 12,18,24,30,36,42,48		
③	Three-phase circuit design		⑥	Main switch type: I: Isolator switch M1: 125AF MCCB M2: 250AF MCCB		

Technical Data

Model		EKDB11TF	EKDB11TS
Standard		IEC 61439-3	
No. of phase		Three phase	
Mounting type		Flush-mounted	Surface-mounted
Busbar rating		125A, 250A	
Voltage rating		415 VAC, 50/60Hz	
Rated insulation voltage (Ui)		690V	
No. of ways		12, 18, 24, 30, 36, 42, 48	
Ingress protection		IP40	
Steel sheet thickness		1.2mm	
Surface finishing		Powder coated with electrostatic epoxy polyester (RAL7035)	
Operational temperature range		-25°C to 55°C (Derating required; refer to breaker derating curves)	
Main incoming switch		Isolator switch; MCCB	
Branch breaker	Plug in type MCB	1, 2, 3P: 6, 10, 16, 20, 25, 32, 40, 50, 63A	
	Plug in type RCBO	1P+N: 6, 10, 16, 20, 25, 32, 40, 50, 63A (I _{Δn} : 30, 100, 300mA)	
Main breaker terminal capacity	Isolator switch	50mm ²	
	125AF MCCB	50mm ²	
	250AF MCCB	120mm ²	
Branch breaker terminal capacity	Plug in type MCB	25mm ²	
	Plug in type RCBO	25mm ²	
Neutral terminal capacity	Incoming cable lug	50mm ²	
	Outgoing terminals	16mm ²	
Earth terminal capacity	Incoming cable lug	50mm ²	
	Outgoing terminals	16mm ²	
No. of outgoing terminals		≥ No. of ways	

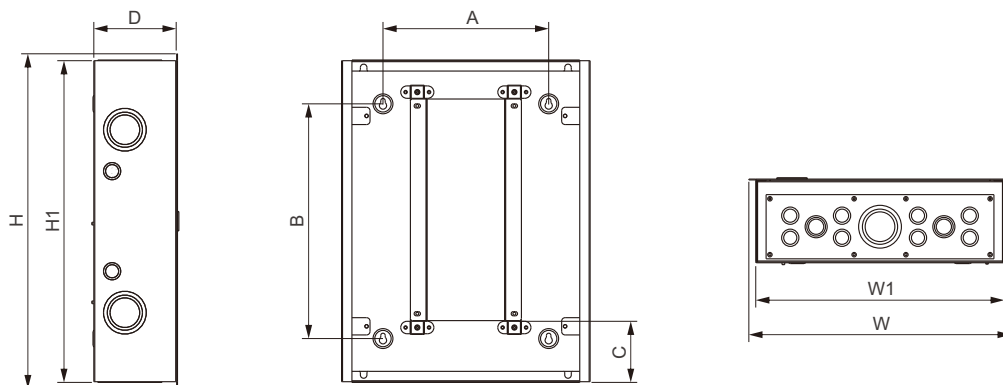
Knockout Details



EKDB11T Distribution Board is designed with multiple easy-to-remove knockouts on its body to facilitate cable installation and reduce clutter. The illustration shows the knockout design on the housing.

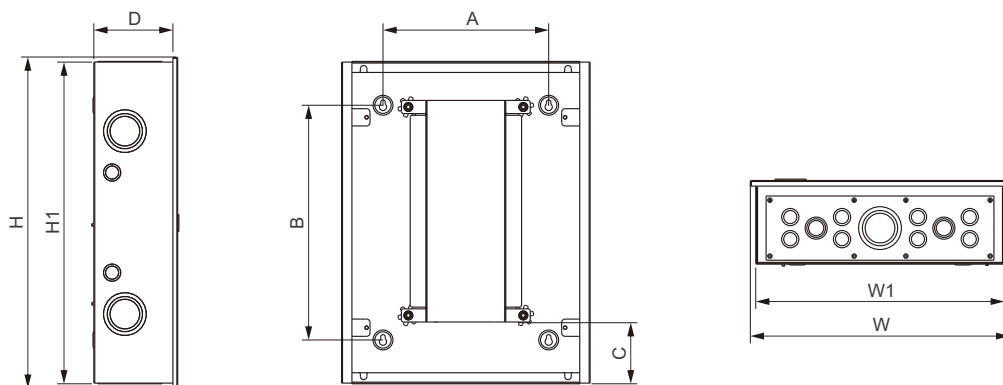
Knockout	Diameter (mm) (From inside to outside)
A	Ø43/ Ø51/ Ø62
B	Ø22/ Ø27/ Ø32
C	Ø19/ Ø25

Dimension (mm)



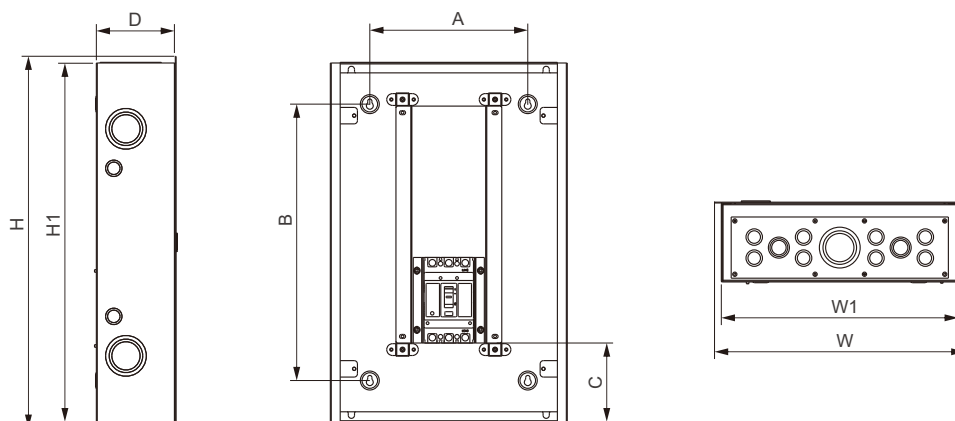
Flush-mounted - Isolator Switch

Ref No.	Outgoing ways	W	W1	H	H1	D	A	B	C
EKDB11TF-12I	12	380	360	485	465	120	240	340	88
EKDB11TF-18I	48	380	360	561	541	120	240	416	88
EKDB11TF-24I	24	380	360	637	617	120	240	492	88
EKDB11TF-30I	30	380	360	713	693	120	240	568	88
EKDB11TF-36I	36	380	360	789	769	120	240	644	88
EKDB11TF-42I	42	380	360	865	845	120	240	720	88



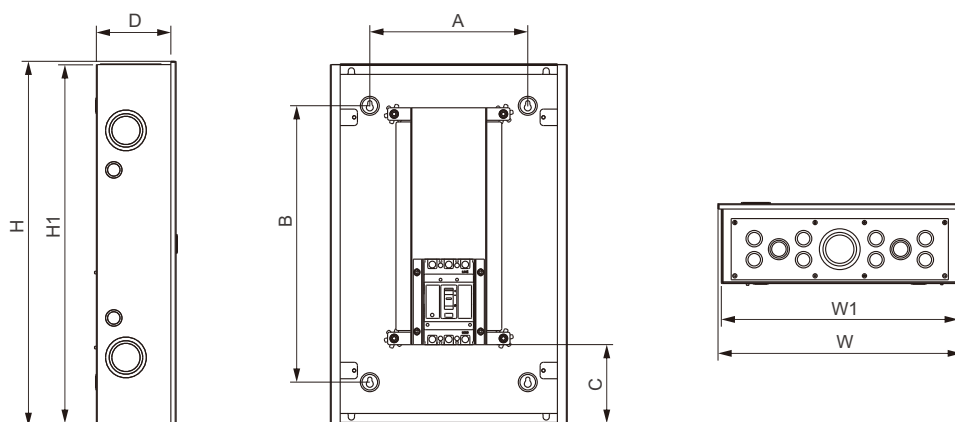
Surface-mounted - Isolator Switch

Ref No.	Outgoing ways	W	W1	H	H1	D	A	B	C
EKDB11TS-12I	12	370	360	475	465	120	240	340	88
EKDB11TS-18I	48	370	360	551	541	120	240	416	88
EKDB11TS-24I	24	370	360	627	617	120	240	492	88
EKDB11TS-30I	30	370	360	703	693	120	240	568	88
EKDB11TS-36I	36	370	360	779	769	120	240	644	88
EKDB11TS-42I	42	370	360	855	845	120	240	720	88



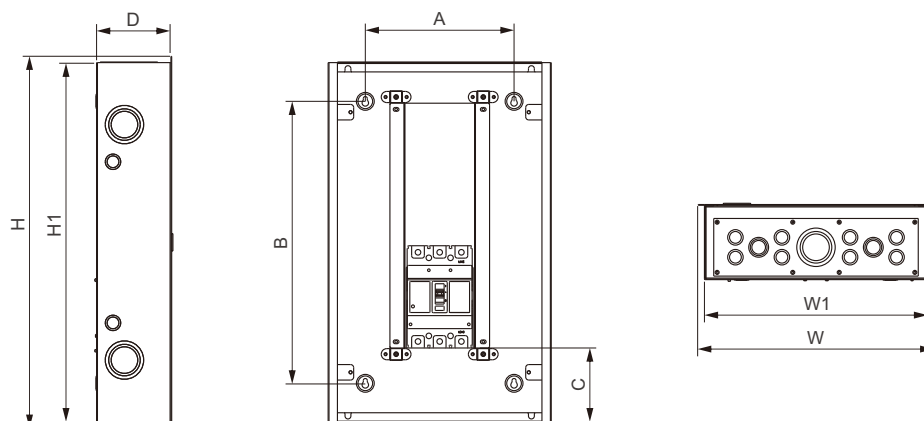
Flush-mounted 125AF MCCB

Ref No.	Outgoing ways	W	W1	H	H1	D	A	B	C
EKDB11TF-12M1	12	380	360	565	545	120	240	420	120
EKDB11TF-18M1	48	380	360	641	621	120	240	496	120
EKDB11TF-24M1	24	380	360	717	697	120	240	572	120
EKDB11TF-30M1	30	380	360	793	773	120	240	648	120
EKDB11TF-36M1	36	380	360	869	849	120	240	725	120
EKDB11TF-42M1	42	380	360	945	925	120	240	800	120
EKDB11TF-48M1	48	380	360	1021	1001	120	240	876	120



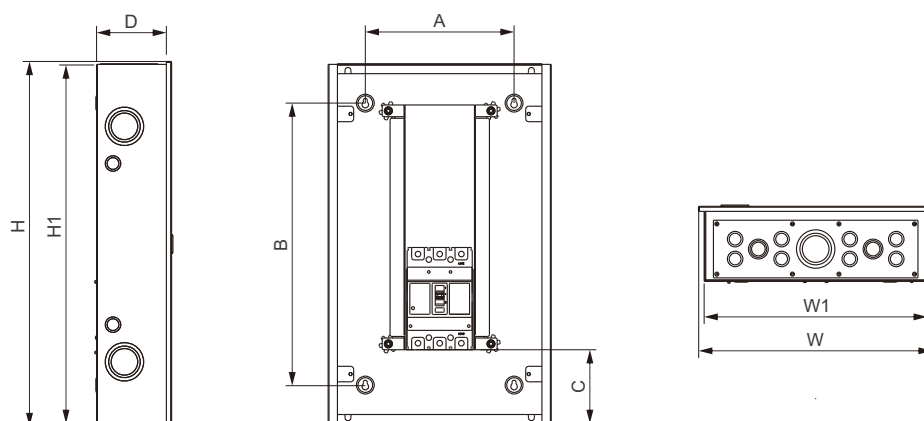
Surface-mounted 125AF MCCB

Ref No.	Outgoing ways	W	W1	H	H1	D	A	B	C
EKDB11TS-12M1	12	370	360	555	545	120	240	420	120
EKDB11TS-18M1	48	370	360	631	621	120	240	496	120
EKDB11TS-24M1	24	370	360	707	697	120	240	572	120
EKDB11TS-30M1	30	370	360	783	773	120	240	648	120
EKDB11TS-36M1	36	370	360	859	849	120	240	725	120
EKDB11TS-42M1	42	370	360	935	925	120	240	800	120
EKDB11TS-48M1	48	370	360	1011	1001	120	240	876	120



Flush-mounted 250AF MCCB

Ref No.	Outgoing ways	W	W1	H	H1	D	A	B	C
EKDB11TF-12M2	12	380	360	600	580	120	240	455	120
EKDB11TF-18M2	48	380	360	676	656	120	240	531	120
EKDB11TF-24M2	24	380	360	752	632	120	240	607	120
EKDB11TF-30M2	30	380	360	828	808	120	240	683	120
EKDB11TF-36M2	36	380	360	904	884	120	240	759	120
EKDB11TF-42M2	42	380	360	980	960	120	240	835	120
EKDB11TF-48M2	48	380	360	1056	1036	120	240	911	120



Surface-mounted 250AF MCCB

Ref No.	Outgoing ways	W	W1	H	H1	D	A	B	C
EKDB11TS-12M2	12	370	360	590	580	120	240	455	120
EKDB11TS-18M2	48	370	360	666	656	120	240	531	120
EKDB11TS-24M2	24	370	360	742	632	120	240	607	120
EKDB11TS-30M2	30	370	360	818	808	120	240	683	120
EKDB11TS-36M2	36	370	360	894	884	120	240	759	120
EKDB11TS-42M2	42	370	360	970	960	120	240	835	120
EKDB11TS-48M2	48	370	360	1046	1036	120	240	911	120

Branch Breaker EKM1-63(H)P Plug-in MCB

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Plug-in Miniature Circuit Breaker

Standard_ IEC60898-1



Available in white

Technical Data

Standard	IEC/EN 60898-1
Tripping characteristics	B,C
Rated current range	6,8,10,13,16,20,25,32,40,50,63A
No. of poles	1P, 2P, 3P
Rated voltage (Ue)	AC230/400V, AC240/415V (1P); AC400/415V(2P,3P)
Rated insulation voltage (Ui)	500V
Rated impulse withstand voltage (Uimp) (1.2/50μs)	4kV
Rated ultimate short-circuit breaking capacity (Icn) at 415V AC	EKM1-63P: 6kA; EKM1-63HP: 10kA
Rated service short-circuit breaking capacity (Ics) at 415V AC	EKM1-63P: 6kA; EKM1-63HP: 7.5kA
Rated frequency	50/60Hz
Suitability for isolation	Yes
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 endurance (Number of operation cycles)	≥ 10000
Energy limiting class	3
Reference ambient air temperature	50°C
Operating temperature range	-25°C to +55°C
Protection degree	For housing: IP40; For terminals: IP20
Terminal capacity	25mm ²
Tightening torque	2.5N.m
Mounting type	Plug-in
Type of terminal incoming	Busbar Plug-in
Type of terminal outgoing	Cables / Busbar

Branch Breaker EKM1-63(H)P Plug-in MCB

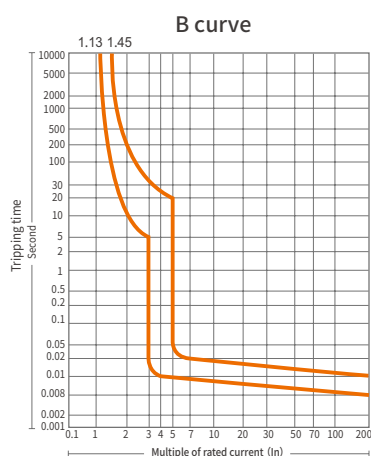
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Plug-in Miniature Circuit Breaker

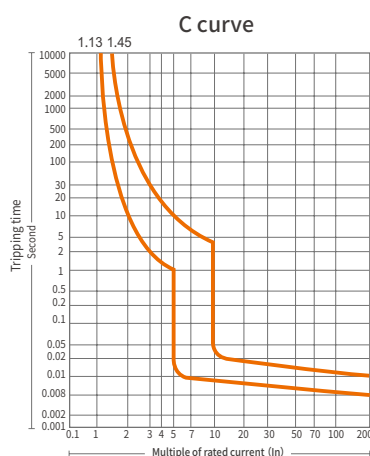
Standard_ IEC60898-1

Tripping Characteristic

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	6-63A	1.13In		≤1h		30°C+5°C	3In		≥0.1	Normal temperature
			1.45In		<1h			5In	<0.1	
C	6-63A	1.13In		≤1h			5In		≥0.1	
			1.45In		<1h			10In	<0.1	



Universal use
- socket outlet, lighting device



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

Temperature Derating Table

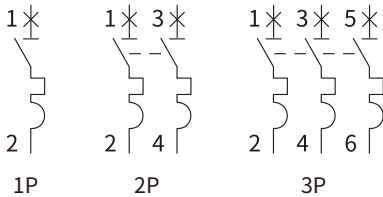
Rated current (A)	Correction factor for ambient temperature											
	-40°C	-30°C	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
6	8	7.7	7.5	7.2	6.9	6.6	6.3	6	5.7	5.3	4.9	4.5
10	13.3	12.9	12.5	12	11.5	11.1	10.5	10	9.4	8.8	8.2	7.5
16	21.3	20.7	20	19.2	18.5	17.7	16.9	16	15.1	14.1	13.1	11.9
20	26.7	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

Branch Breaker EKM1-63(H)P Plug-in MCB

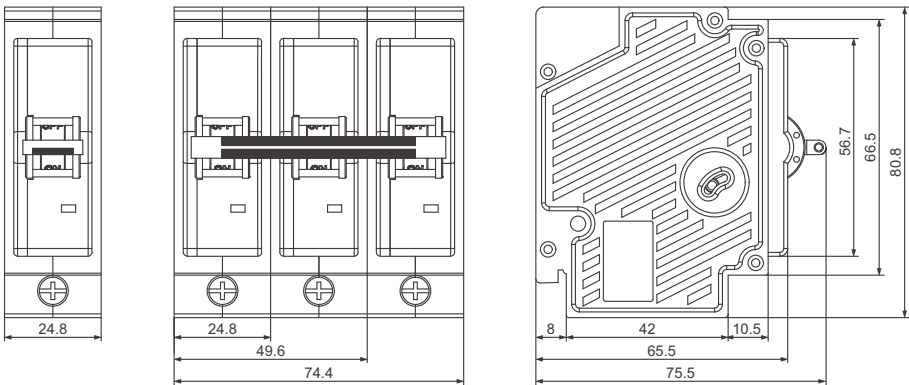
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Plug-in Miniature Circuit Breaker ----- Standard_ IEC60898-1

Circuit Diagram



Dimension (mm)



Branch Breaker EKM1L-63(H)P Plug-in RCBO

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Plug-in RCCB with Overcurrent Protection

Standard_ IEC61009-1



Technical Data

Standard	IEC/EN 61009-1
Protection	Ground fault, Overcurrent and short circuit
Rated current range	Ground fault : Electronic
	Overload and short circuit : Thermo-magnetic
Residual current type	AC,A
No. of poles	1P+N (with or without PE wire)
Rated voltage (Ue)	230/240V~
Rated currents (In)	6,10,16,20,25,32,40,50,63A
Rated sensitivity currents (I Δ n)	30,100,300mA
Residual current off-time under (I Δ n)	$\leq 0.1s$
Rated residual making and breaking capacity (I Δ m)	500A(I n $\leq$ 50A), 10In(I n >50A)
Rated frequency	50/60Hz
Rated short-circuit capacity (Icn)	EKM1L-63P: 6kA, EKM1L-63HP: 10kA
Energy limiting class	3
Rated impulse withstand voltage (Uimp) (1.2/50 μ s)	4kV
Dielectric test voltage	2kV (50/60Hz, 1 min.)
Thermal tripping characteristics	(1.13-1.45) $\times$ In
Instantaneous tripping characteristics	B:(3-5) $\times$ In, C: (5-10) $\times$ 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
Type of terminal	Input: Plug-in, Output: Cable 25mm ²
Max. tightening torque	2.5N.m
Incoming method	From top

Branch Breaker EKM1L-63(H)P Plug-in RCBO

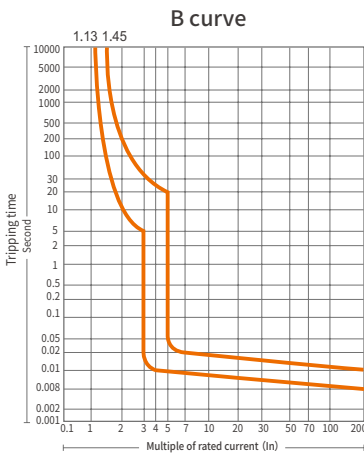
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Plug-in RCCB with Overcurrent Protection

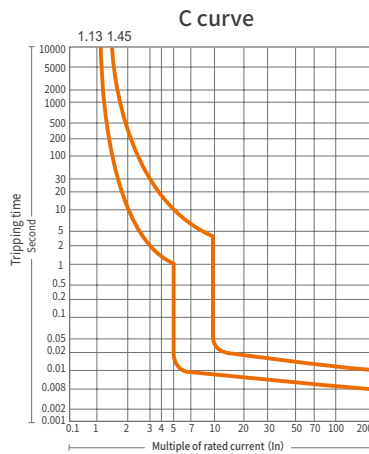
Standard_ IEC61009-1

Tripping Characteristic

Curve	Rated current	Thermal release				Magnetic release		
		Non-trip	Trip	Non-trip time	Trip time	Hold current	Trip current	Trip time
B	6-63A	1.13In		≤1h		3In		≥0.1
			1.45In		<1h		5In	<0.1
C	6-63A	1.13In		≤1h		5In		≥0.1
			1.45In		<1h		10In	<0.1



Universal use
- socket outlet, lighting device



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

Tripping Sensitivity

- 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.

Branch Breaker EKM1L-63(H)P Plug-in RCBO

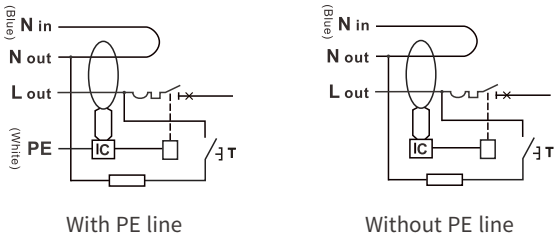


Plug-in RCCB with Overcurrent Protection ----- Standard_ IEC61009-1

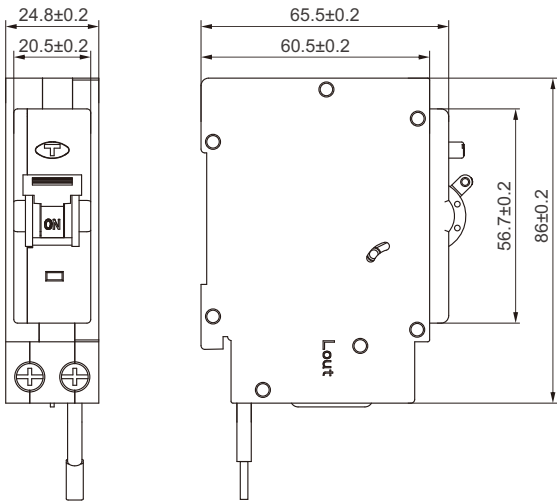
Temperature Derating Table

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

Circuit Diagram



Dimension (mm)



Main Switch RCCB EKL6-100(H)

ETEK®

Residual Current Circuit Breaker

Standard_IEC61008-1



Technical Data

Standard	IEC 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
Insulation voltage (Ui)	500V
Rated voltage (Ue)	1P+N: 230/240V~, 3P+N: 400/415V~
Rated currents (In)	63, 80, 100A
Rated sensitivity currents (IΔn)	30, 100, 300mA
Residual current off-time under (IΔn)	A/AC ≤ 300ms; A-G / A-SI: 10-300ms; A-S: 130-500ms
Rated residual making and breaking capacity (IΔm)	500A (In ≤ 50A), 10In (In > 50A)
Rated frequency	50/60Hz
Rated conditional short-circuit current (Inc=Isc)	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	35mm ²
Max. tightening torque	2.5N.m
Installation	Mounting on 35mm DIN rail
Incoming method	Bi-Directional

Main Switch RCCB EKL6-100(H)

ETEK®

Residual Current Circuit Breaker ----- Standard IEC61008-1

Tripping Sensitivity

- 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, 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 Time

Instantaneous	Two types of leakage protectors, AC and A, are usually designed to quickly disconnect circuits ($\leq 300\text{ms}$) to protect people from electric shock.
Short time delay 	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 	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

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

Wiring Capacity

Rated current I_n (A)	Cross section area s (mm ²)	Tightening torque (N.m)
63	16	2.5
80	25	2.5
100	35	2.5

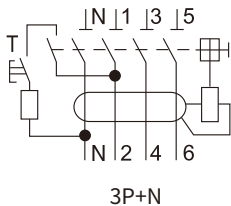
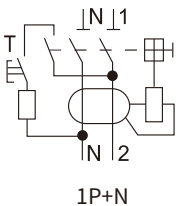
Main Switch RCCB EKL6-100(H)

ETЭK®

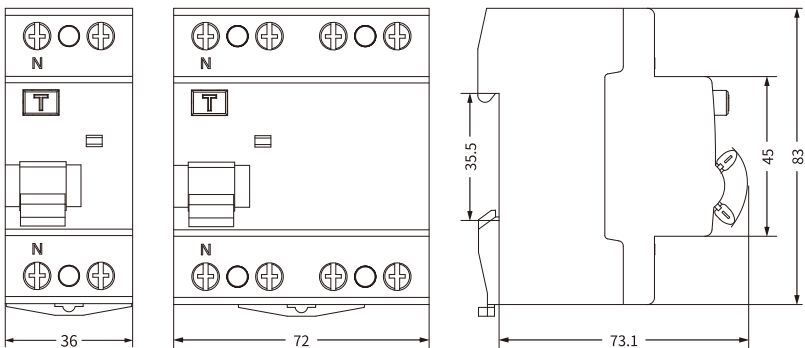
Residual Current Circuit Breaker

Standard_IEC61008-1

Circuit Diagram



Dimension (mm)



Main Switch EKD1-125

ETЭК®

Isolator switch

Standard_ IEC/EN60947-3



Technical Data

Standard	IEC/EN 60947-3
No. of poles	2P, 3P
Rated voltage (Ue)	240/415V~
Rated currents (In)	63,80,100,125A
Rated frequency	50/60Hz
Utilization category	AC-22A
Short-time withstand current (Icw)	12Ie, t=1s
Rated short-circuit making capacity (Icm)	20Ie, t=0.1s
Rated making & breaking capacity	3Ie, 1.05Ue, CosΦ=0.65
Rated impulse withstand voltage (Uimp)	4kV
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/ Fork-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

Main Switch EKD1-125

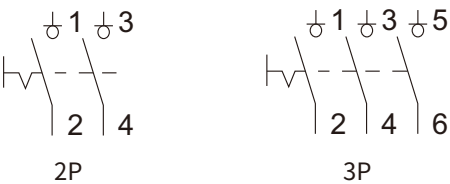


Isolator switch ----- Standard_IEC/EN60947-3

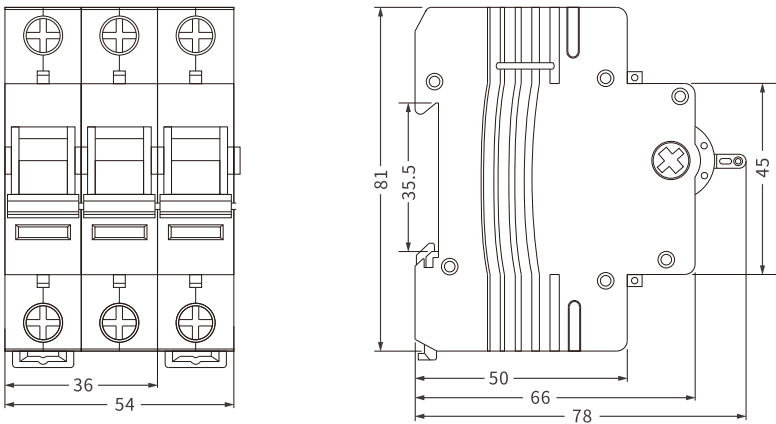
Wiring Capacity

Rated current In (A)	Cross section area s (mm²)	Tightening torque (N.m)
63	16	3.5
80	35	3.5
100	35	3.5
125	50	3.5

Circuit Diagram



Dimension (mm)



Main Switch EKM8 MCCB

ETEK®

Thermal Magnetic Fixed MCCB

Standard_ IEC60947-2



EKM8-125S



EKM8-250S

Technical Data

Model	EKM8-125S	EKM8-250S
Standards	IEC 60947-2	
Rated frame current I_{nm} (A)	125	250
Rated operational current I_n (A)	10,16,20,25,32,40,50,63,75,80,100,120,125A	100,120,125,140,150,160,180,200,225,250A
Rated insulation voltage U_i (V)	1000V	
Rated impulse withstand voltage U_{imp} (kV)	8kV	
Rated operational voltage U_e (V), AC 50/60Hz	400/415V	
Breaking capacity code	S	
Number of poles	3P	
Rated service short circuit breaking capacity I_{cs} (kA)	15	18
Rated ultimate short circuit breaking capacity I_{cu} (kA)	18	25
Utilization category	Cat. A	
Isolation function	yes	
Trip unit type	Thermo magnetic	
Mechanical life (times)	8500	7000
Electrical life (times)	1500	1000
Power terminal connection types	Screw Terminal; Cage Clamp Terminal	

Derating of Temperature

Model	Ambient temperature (40°C product)														
	-10°C	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
EKM8-125S	1.18	1.15	1.15	1.1	1.08	1.06	1.04	1.03	1.02	1.01	1	0.977	0.957	0.936	0.915
EKM8-250S	1.2	1.18	1.15	1.13	1.11	1.09	1.08	1.07	1.05	1.02	1	0.985	0.968	0.952	0.935

Note: When the ambient temperature is below 40°C, the product can be used normally, with no derating capacity.

Main Switch EKM8 MCCB



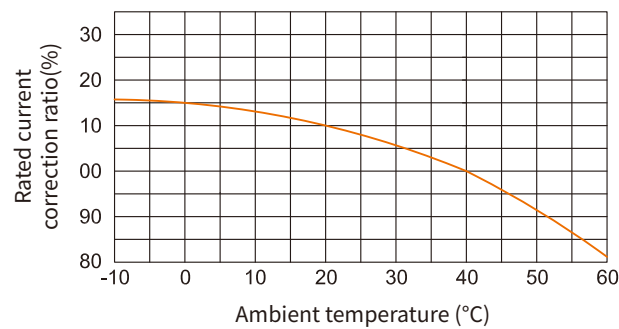
Thermal Magnetic Fixed MCCB

Standard_ IEC60947-2

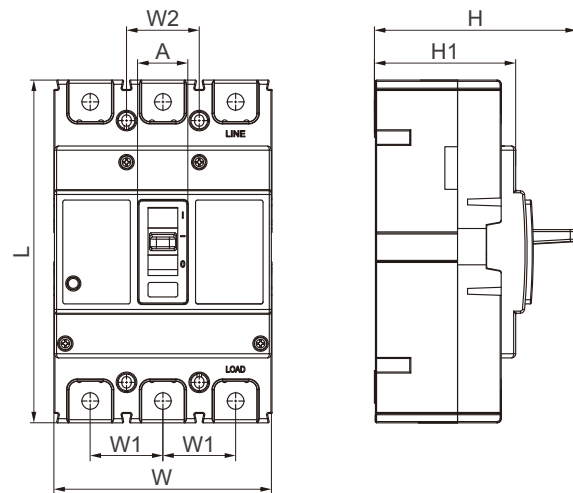
Derating of Altitude

Altitude (m)	2000	2500	3000	4000	4500	5000
Power frequency withstand voltage (V)	2500	2500	2250	1950	1775	1625
Insulation voltage (V)	1000	1000	900	780	710	650
Maximum operationnal voltage (V)	400	400	350	312	284	260
Correction coefficient of operating current (In)	1	1	0.98	0.95	0.92	0.9

Current-Temperature Characteristics



Overall Dimension (mm)



Model	W	L	H	H1	W1	W2	A
EKM8-125S	75	130	94.5	68	25	25	24
EKM8-250S	105	165	96	68	35	35	24.4

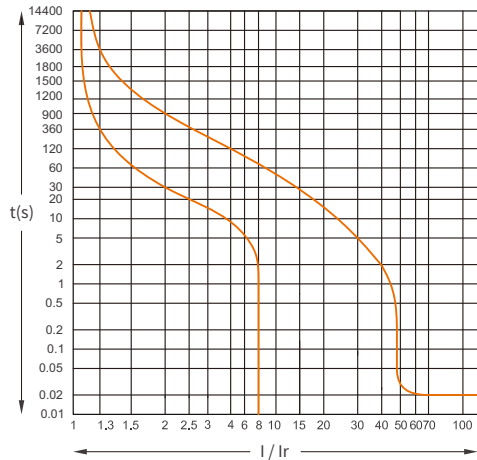
Main Switch EKM8 MCCB

Thermal Magnetic Fixed MCCB

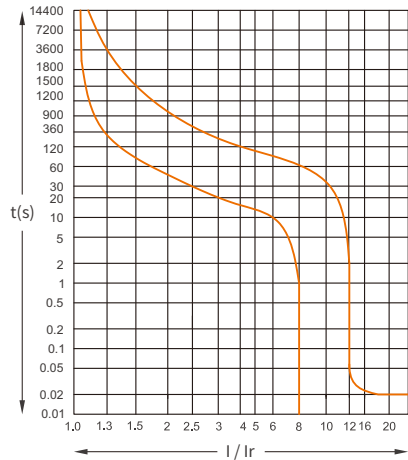
Standard_ IEC60947-2

Tripping Characteristic Curve

EKM8-125S (10-50A)



EKM8-125S (63-125A)



EKM8-250S

