

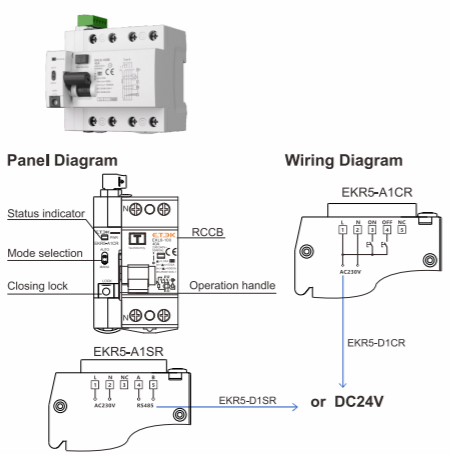
Usage Manual



RCCB with Auto Reclosing

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STANDARD AND QUALITY CERTIFICATES



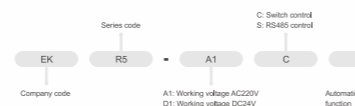
General

Applications

Can be widely used in power grid terminal line, such as meter box, newenergy circuit management, PV solar control box, smart elec-tricity, smart home, new energy vehicle charging pile, and so on.

Function Features

- It can be matched with circuit breaker/leakage protection switch and automatically reclose when RCCB trips unexpectedly, No need for manual closing, reduce the cost of manual maintenance, and eliminate fault/in time to improve efficiency.
- built in 3 reclosing times, continuous closing failure with in 15 minutes can send alarm through auxiliary contact.
- With manual/ automatic selector switch.
- With mechanical/ electronic double locking function.
- The shafttransmission mode is more stable and reliable.
- Can match other accessories.
- Work status is indicated by LED.
- 1-MODULE.



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Technical parameters

Technical parameters	EKR5-A1CR	EKR5-A1SR
Control mode	Switch input	Rs485
Supply terminals	A1-A2	
Voltage range	AC 230V(50-60Hz)	
Power input	AC max.1VA(standby) max.20VA(action)	
Supply voltage tolerance	-10%~+10%	
Supply indication	red LED	
Action time	≤1s	
Temperature coefficient	0.05%/°C,at=20°C(0.05%,at=68)	
Mechanical life	6000	
Electrical life(AC1)	4000	
Operating temperature	-20°C to +55°C (-4°F to 131°F)	
Storage temperature	-35°C to +75°C (-22°F to 158°F)	
Mounting/DIN rail	Din rail EN/IEC 60715	
Protection degree	Ip20	
Operating position	any	
Overvoltage category	III.	
Pollution degree	2	
Max. cable size(mm ²)	solid wire max.1×2.5or 2×1.5(with sleeve max.1×2.5(AWG 12))	
Dimensions	82×18×78mm	
Weight	80g	

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Technical parameters	EKR5-D1CR	EKR5-D1SR
Control mode	Switch input	Rs485
Supply terminals	A1-A2	
Voltage range	DC 24V	
Power input	DC max.1W(standby) max.20W(action)	
Supply voltage tolerance	-10%~+10%	
Supply indication	red LED	
Action time	≤1s	
Temperature coefficient	0.05%/°C,at=20°C(0.05%,at=68)	
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Combination with accessories

Accessories	Yes/No
Pollution Auxiliary contact degree	Yes
Alarm contact	Yes
Shunt release	Yes
Under voltage release	Yes

RCCB Technical parameters

Protection	Ground fault
Type of trip	Electro-magnetic
Type of protection (electric leakage)	AC_A,B
No. of poles	2P(1P+N), 4P(3P+N), N Pole on left
Rated currents (In)	16, 25, 32, 40, 63, 80, 100A
Rated sensitivity currents I _n	10, 30, 100, 300mA (10mA only for 1P+N) (max. 6-25A)
Residual current off-time under I _n	≤ 0.1s
Rated residual making and breaking capacity(I _n m)	500A(In=16-40A), 10In (In=63-100A)
Rated voltage (U _n)	1P+N: 230/240V~, 3P+N: 400/415V~
Rated frequency	50/60Hz
Rated breaking capacity	6,000A, 10,000A
SCP0 fuse	6000A, 10000A
Rated impulse withstand voltage(U _{imp})	4,000V
Dielectric test voltage at ind. Freq. for 1 min	2kV
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles
Contact position indicator	Yes
Ground fault indicator	Yes
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	35mm ²
Max. tightening torque	2.5Nm
Installation	Mounting on 35mm DIN rail
Connection	From top and bottom

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Tripping Current Range

Lagging Angle	I _{Δn} > 0.01A	I _{Δn} ≤ 0.01A
0°	0.39I _n ≤ I _{Δn} ≤ 1.40I _n	0.35I _n ≤ I _{Δn} ≤ 2.10I _n
90°	0.29I _n ≤ I _{Δn} ≤ 1.40I _n	0.25I _n ≤ I _{Δn} ≤ 2.10I _n
135°	0.11I _n ≤ I _{Δn} ≤ 1.40I _n	0.11I _n ≤ I _{Δn} ≤ 2.10I _n

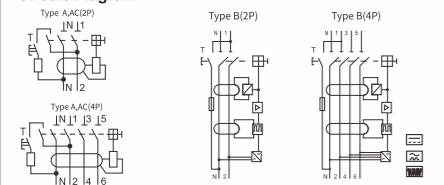
Alternative Current Sensitive	Pulsating direct current sensitive	Surge current proof
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B class
Tripping is ensured for sinusoidal AC residual currents pulsed DC residual currents, alternating residual sinusoidal currents up to 1000Hz, pulsating direct residual currents and for smooth direct residual currents, whether applied suddenly or increasing slowly.

They react to AC and pulsating DC fault current which reach I_{Δn} or almost 0 within one time period of the mains frequency.

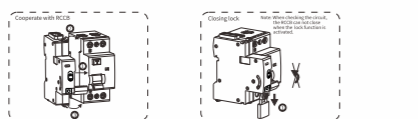
RCCB's surge capacity:
Not tripping at standardized 8/20 us surge-current waves acc.to VDE 642 Part 2 with surge current values of up to 25DA.

Circuit Diagram



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Installation and use

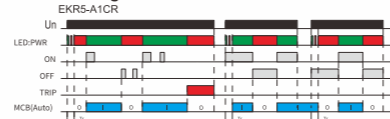


AUTO mode, the auto reclosing function is enable.

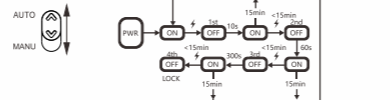
MAUN mode, the auto reclosing function is disable. RCCB can only be opened and closed manually.

Condition	Indicator light status	Description
(Power on)	(Red-green light flashes for 2s)	(Warning for power installation)
(Normal operation)	(Green light stays on)	RCCB is closed normally
(Tripping)	(Red light stays on)	RCCB has tripped due to fault
(Automatic reclosing)	(Green light stays on)	(Automatic reclosing after delay)
(Trip Status)	(Red light stays on)	Signal Contact Trip

Functions diagram



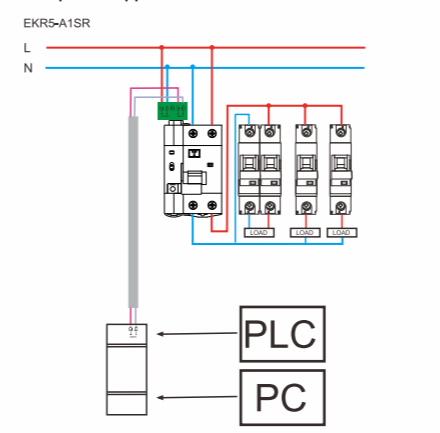
Note: If you need a communication protocol, please contact us.
EKR5-A1CR/A1SR has automatic closing function. The closing logic is shown in the figure below:



Note: If the closing times and delay time need to be customized, please contact our company.

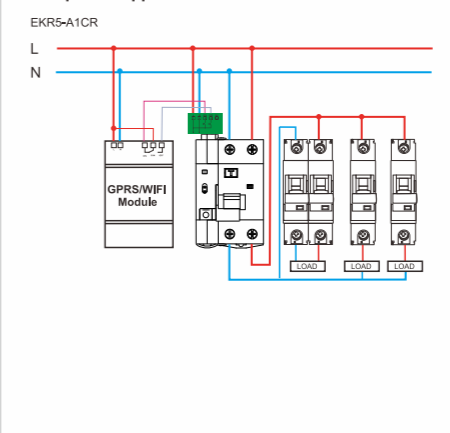
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Examples of application



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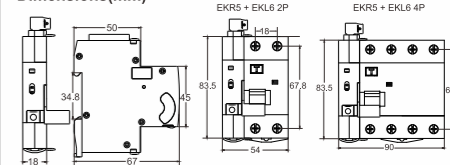


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Common faults

Fault description	Resolvent
1. Unable to close or open.	1. Please confirm whether the power supply voltage is normal. 2. Please confirm whether the working mode is set in AUTO mode. 3. Please confirm the buckle of the electric operation mechanism and RCCB.
2. Trip immediately after closing.	1. Please check the circuit to confirm whether there is overload / short circuit / leakage fault at the lower end of RCCB. 2. Whether the circuit breaker is damaged or not, and whether it is slipped.

Dimensions(mm)



Disposal of Electrical Waste
All electrical waste should be disposed of in compliance with current WEEE regulations.

Caution
The products must be installed by qualified electricians. All and any electrical connections of the time relay shall comply with the appropriate safety standards.

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