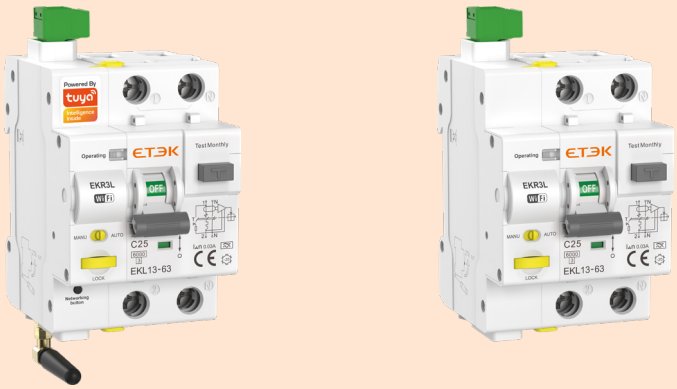
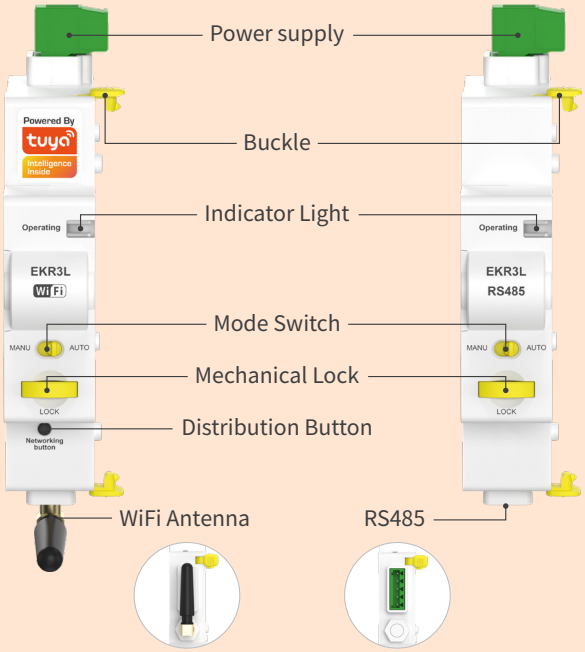
EKR3L Series

Smart RCBO

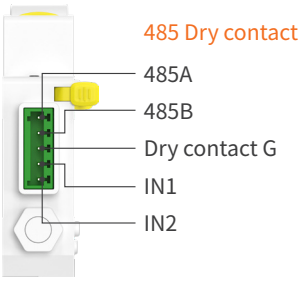


Overview



EKR3L smart RCBO offers not only overload, short-circuit, and leakage protection like traditional circuit breakers, but also the ability to be remotely controlled and monitored through the Tuya APP or RS485 platform. It also provides an automatic reclosing function to improve the reliability of the circuit power supply.

EKR3L Smart RCBO combines traditional RCBO protection features with modern smart home technology, providing users with enhanced safety, convenience, and control over their electrical systems. It is particularly useful for remote management of electrical circuits and can be integrated into broader smart homes or building automation systems.



Application

Smart home systems, which can be integrated into the overall home automation solution.

Commercial buildings, which can achieve centralized energy management.

Industrial facilities, which can remotely monitor and control individual circuits.

Locations where electricity consumption requires regular control, such as billboard lighting and public area lighting.

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Features

Traditional Protection
- Overload protection
- Short-circuit protection
- Leakage protection (residual current)

Smart Capabilities
- Remote control through Tuya APP or RS485 platform
- Wi-Fi, ZigBee, RS485, or Dry contact communication options
- Supported Apps: Tuya, Smart Life

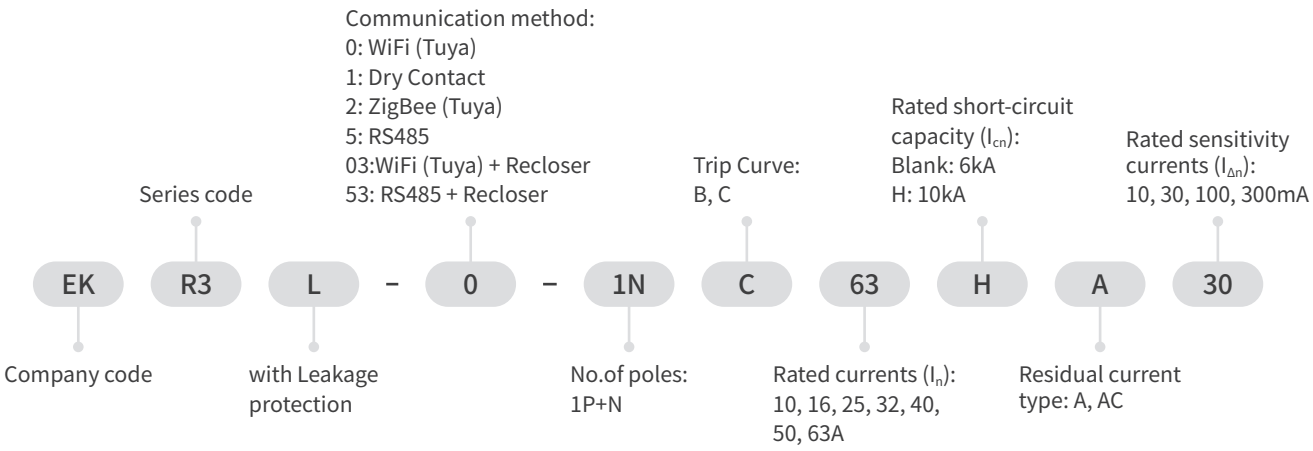
Advanced Functions
- Remote opening and closing control
- Timing tasks (power on/off scheduling)
- Real-time switch status monitoring
- Optional built-in automatic reclosing function

Automatic, Manual Mode
- Automatic mode allow remote control (Tuya APP, RS485).
- Manual Mode, only supports local manual operation

Mechanical Padlock
When the mechanical lock is pulled out, the switch enters a locked state, preventing the switch from being turned on. To restore the device, press down the mechanical lock.

Benefits
- Reduces manual maintenance costs
- Improves efficiency through remote control and monitoring
- Enhances circuit power supply reliability with automatic reclosing
- Integrates with smart home systems for improved automation

Instruction of Type Code



Technical Parameter

Residual current type	A, AC
No.of poles	1P+N (with switched neutral)
Supply terminal	L-N (It is advisable to draw power from the incoming line)
Power supply voltage	220/230V
Standby power consumption	< 3W
Status indicator	LED
Rated voltage (U_e)	230/ 240V
Rated frequency	50/60Hz
Rated currents (I_n)	10, 16, 25, 32, 40, 50, 63A
Rated sensitivity currents ($I_{\Delta n}$)	10,30,100,300mA
Rated current off-time under ($I_{\Delta n}$)	⩽ 0.1S

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Reted residual making and breaking capacity ($I_{\Delta m}$)		500A ($I_n \leqslant$ 50A), 10I_n (I_n>50A)	
Rated short-circuit capacity (I_{cn})		6kA, 10kA	
Energy limiting class		3	
Rated impulse withstand voltage (U_{imp}) (1.2/50μs)		4kV	
Dielectric test voltage		2kV (50/60Hz, 1 min.)	
Trip curve		B: (3-5) x I_n, C: (5-10) x I_n	
Trip time		< 0.2s	
Electrical life		4000 Cycles	
Mechanical life		10000 Cycles	
Communication method		WiFi (Tuya), 2.4GHz; ZigBee (Tuya); Dry contact; RS485, Baud rate: 2400/ 4800/ 9600 (default)	
Operational safety		Mechanical padlock, Ensure safety during onsite maintenance	
Monitoring physical data		Switch state, Device operating status	
Function description		Overload protection, Short circuit protection, Leakage protection, Multiple timing, Remote control, Auto reclose	
Auto Reclose	Reclosing times	3 times (WiFi-Tuya)	5 times (RS485)
	Reclosing time	First time: 10 seconds; Second time: 60 seconds; Third time: 300 seconds;	First time: 60 seconds; Second time: 90 seconds; The third time: 1800 seconds; Fourth time: 2700 seconds; Fifth time: 3600 seconds;
	Reset reclosing time	No more tripping or manual reset within 15 minutes after successful closing.	No tripping or manual reset within 60 seconds after successful closing, Adjustable time setting range: 5-600 seconds.
Protection degree		IP20	
Ambient temperature		-20°C to +55°C (Current capacity is significantly reduced at 70°C)	
Storage temperature		-25°C to +70°C	
Max. supply terminal size for cable		2.5mm^2	
Terminal connection type		Cable/Pin-type busbar/Fork-type busbar	
Max. conductor cross-sections for cable		25mm^2	
Altitude		$\leqslant$ 2000m	
Installation		Mounting on 35mm DIN rail	
Incoming method		From top	

Dimensions and Wiring Diagram