Remote Control

Adapt to More Scenes

Stable Performance

Sustainable Power Supply

Application Scenarios

Electricity protection and sustainable power consumption

Electrified railway station power supply, transportation powerdistribution system, and highway electromechanical system

Intelligent mining, factory power consumption, base stations, and data centers

Hospitals and ships

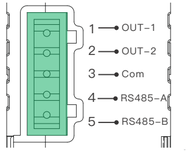
Device Adaptation

Circuit Breaker	MCB		RCD		RCBO				
Models \ Poles	1P/2P	3P/4P	2P	4P	1P	2P	3P	3P+N	4P
MT51SD■-1	✓		✓		✓	✓			
MT51SD■-2		✓		✓			✓	✓	✓

Note:

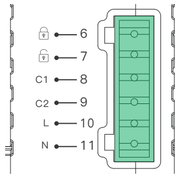
■ represents the matching circuit breaker, respectively W [Jovean & Rogy], K [Nuoke], H [Huakai], N [Schneider], Z [Chint], L [Nader], J [Vekon] ;

Terminal Diagram

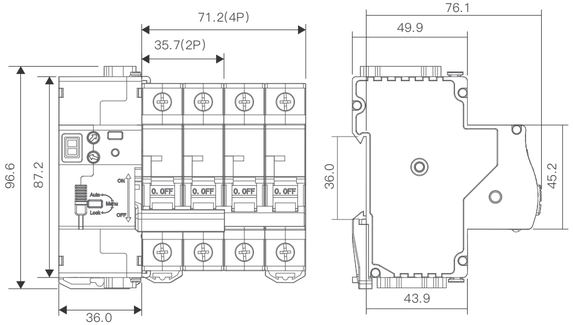


Terminal	Description
OUT-1	OUT-1status output line terminal
OUT-2	OUT-2status output line terminal
Com	Common terminal
RS485-A	RS485-Aterminal
RS485-B	RS485-Bterminal

Terminal	Description
🔓	Lock the recloser terminal
🔒	Unlock the recloser terminal
C1	C1control input terminal
C2	C2control input terminal
L	Live line L
N	Neutral line N



Dimensional Drawing



Technical Parameter

General Technical Characteristics		
Rated Voltage (Ue)	AC 230V	
Frequency	50/60Hz	
Applicable Circuit Breaker	MATIS RCCB/MCB	
Closing Time	≤0.5s(excluding reset time)	
Opening Time	≤0.5s(excluding reset time)	
Dielectric Property	•Impulse withstand voltage: Uimp=4kV •Power-frequency withstand voltage: 2KV	
Rated Insulation Voltage	Ui=500V	
Mechanical Life	10000以上	
Protection Grade	•IP20 （independent installation） •IP40（cabinet-mounted）	
Pollution Degree	2	
Operating Temperature	-25℃~+70℃	
RH(Relative Air Humidity)	≤95%（average temperature +25℃）	
Working & Operating Voltage	80%~115%Uc	
Standby Power Consumption	<1.5VA	
Maximum Power Consumption	During the reset period<20VA（<80VA peak value）	
Auto / Manu / Lock Button Description	Auto Mode	Auto-reclosing, Remote Control, Insulation Monitoring
	Manu Mode	Insulation monitoring program
	Lock Mode	Mechanical and electrical control disabled
Auto—eclosing Mode	MR0	Auto-reclosing disabled
	ER1—ER9	RCCB/RCBO Mode
	RESET	Unlock lock program (>3s)
		Auto-reclosing failure (>5s)
Control Mode	C1	Local C1/C2 control priority; RS485 auxiliary
	C2	RS485 control priority; Local control as forced override
Insulation Detection	Detection performed only before auto-reclosing	
	Resistance ≤ 8kΩ	Auto-reclosing prohibited
	Resistance ≥ 16kΩ	Auto-reclosing allowed
	Insulation fault status cleared within 15 minutes	
	Insulation fault status persists ≥15 minutes	
	Detection performed every 5 seconds	
Control Circuit		
Input C1, C2 Control Voltage Uc	230Vac	
Duration of the Input C2 Command Pulse	200ms	
Maximum Response Time	500ms	
Control Line Length for Input C1 and C2 at 230Vac	Cable: 100m Wire in cable sheath：500m	
Status Feedback		
OUT Port Contact Capacity	1A 24VAC 300mA 230VAC	

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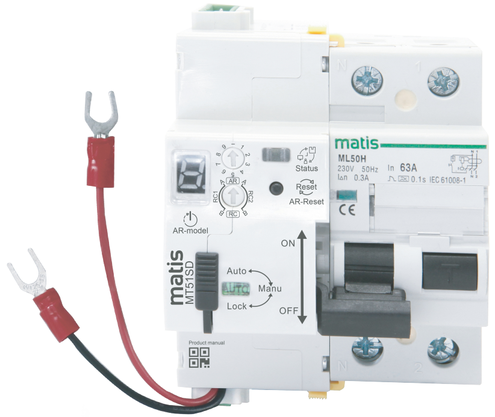

MT51SD Auto-Reclosing with Insulation Detection

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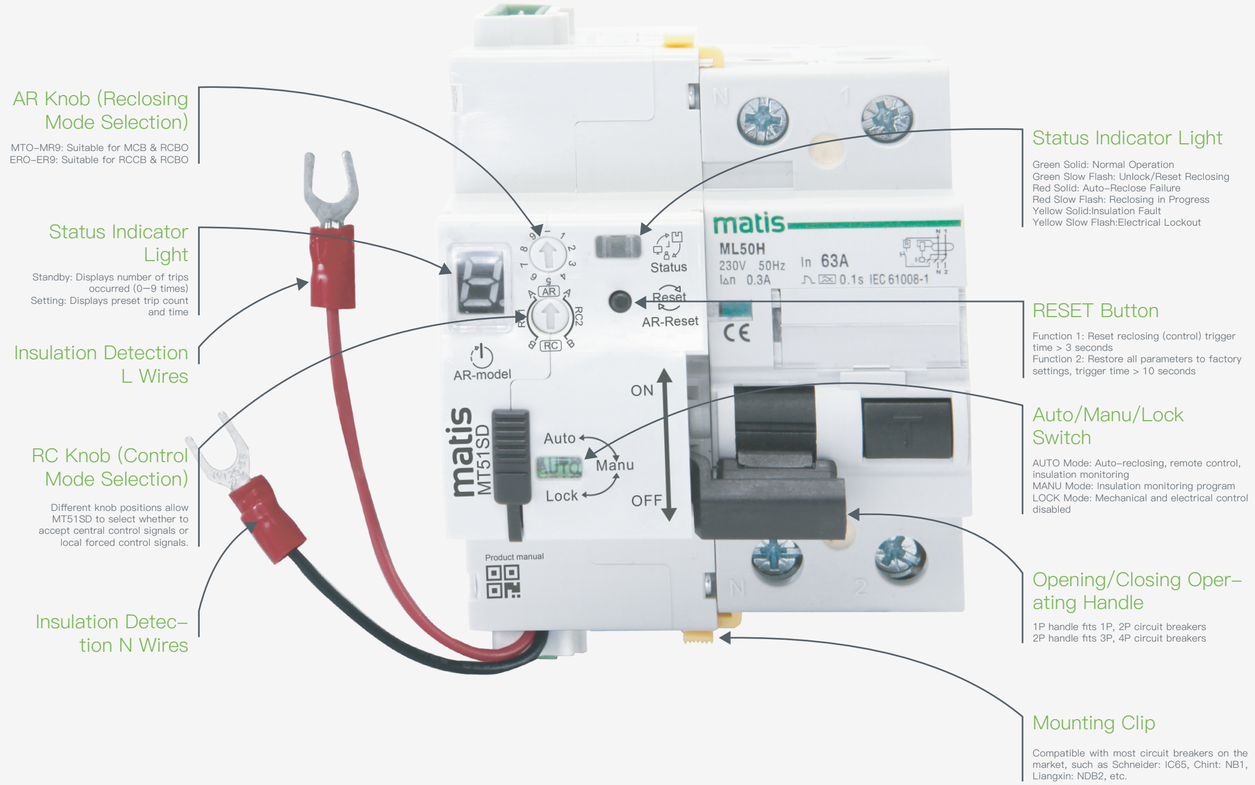
AI Electric Solution to Energy and Carbon

Remote Control Device with Insulation Detection — MT51SD

MT51SD is an intelligent auto-reclosing accessory for end-of-line distribution circuits, integrating the following funtions:

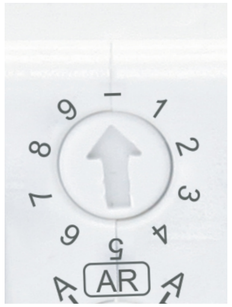
1. Auto-Reclosing
2. Insulation detection before closing
3. Local C1/C2 control input
4. RS485 (Modbus RTU) remote control
5. Electrical interlock and mechanical lockout
6. Switching status and fault output



Suitable for applications requiring stable power and smart management, including telecom, transport, and data rooms. Compatible with the following protective devices: MCB (Miniature Circuit Breaker), RCCB (Residual Current Circuit Breaker), and RCBO (Residual Current Breaker with Overcurrent Protection).

MT51SD Auto-Reclosing with Insulation Monitoring Ensures Continuous Power Supply

Auto—eclosing Mode



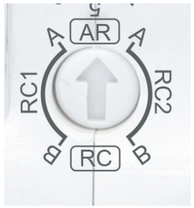
Knob 1 is used to select the auto-reclosing operating mode. There are two types, matching [MCB/PCBO] & [FCCB/RCBO] respectively. After the auto-reclosing program is locked, one reclosing operation can be performed remotely via control terminals or RS485. If the reclosing attempt fails, remote or manual reset is required to restore the auto-reclosing settings.

MR0: Disable Auto-reclosing
-MR1 — MR9: MCB/RCBO Mode
ER1 — ER9: FCCB/RCBO Mode
-MR9/ER9: User-defined Mode

Control Mode

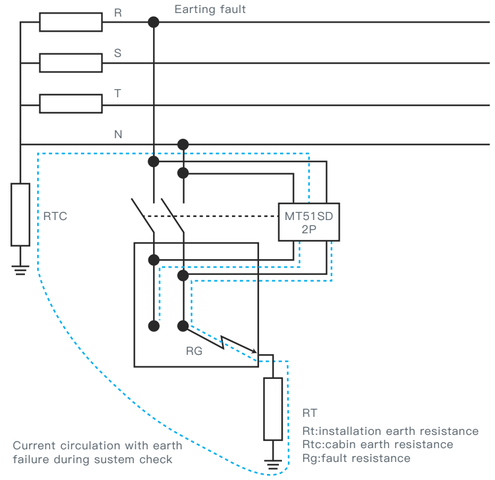
Knob 2 selects whether the MT51SD accepts signals from a central control source or local override control signals, depending on its position.

-RC1: Local C1/C2 control has priority; RS485 is auxiliary
-RC2: RS485 control has priority; local control acts as a forced override



		Terminal C1	Terminal C2
RC1	A	Local continuous signal control	Local continuous signal control
	B	Remote control is prohibited after tripping	
RC2	A	Local force start	Local force stop
	B	Remote control is prohibited after tripping	

Insulation Monitoring



Detection is only performed before automatic reclosing

When resistance (Rg≤8kΩ), automatic reclosing is forbidden
· The device's indicator light is solid yellow, and the system outputs an IM Fault alarm;

When resistance (Rg≥16kΩ), automatic reclosing is allowed
· The device's indicator light slow-flashes red, and it enters automatic reclosing;

Insulation fault state is cleared within 15 minutes
· utomatically exits the fault state, restores the reclosing logic, and continues to execute the remaining closing process

Insulation fault state persists for ≥15 minutes
· Enters "Permanent Fault Protection State", prohibiting all remote and local control operations

Press RESET for 3 seconds after clearing the fault