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2020

**Susol** Super Solution

# Residual Current Devices

for MCCB Low voltage circuit breakers



**LS** ELECTRIC

# Accessories for TD/TS series up to 800A

Susol

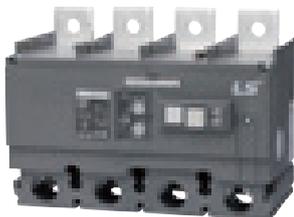
## Residual Current Devices (RCD)



3P

The Susol circuit breaker can offer protection against earth leakage currents by using an add-on residual current device (RCD). In particular, the TS100, TS160 and TS250 circuit breakers can be combined with the RTU23/24 of residual current device, the TS400 and TS600 circuit breakers can be combined with the RTU33/34 of residual current device and the TS800 circuit breaker can be combined with the RTU43 of residual current device. In all cases the RCD unit interfaces directly below the circuit breaker trip unit area without the use of any secondary wiring or connections.

The Susol circuit breaker and an RCD unit combination can be connected like any stand-alone breaker and are available as fixed or plug-in devices. The main connection interface of the RCD is an exact replacement of the breaker connection area, thus allowing the use of all standard breaker terminals.



4P

### Overview

Apart from the protection against overloads typical of automatic circuit breakers, the residual current circuit breaker derived from them also guarantee protection of people against earth leakage currents, thereby ensuring protection against direct contacts, indirect contacts and fire hazards.-(ELCB)

The RCD unit has numerous current and time settings and an override blocking the time settings when set to 30mA. The earth leakage test button tests the electrical and mechanical operation of the device. In order to allow for a dielectric test of the breaker and RCD combination without damaging the electronics, the dielectric plug is placed within the setting area. The RCD unit may be equipped with an alarm switch (FAL) to remotely indicate tripping due to an earth leakage current.

### Compliance with standards :

- IEC 60947-2 (industrial), Appendix B
- IEC 61009 (residential)
- IEC 60755, class A, immunity to DC components up to 6mA
- VDE664, operation down to -25°C

### Remote indications :

RCD unit may be equipped with an alarm contact (FAL-fault alarm switch) to remotely indicate tripping due to an earth leakage current.

### Power supply :

RCD unit are self-supplied internally by the distribution-system voltage and therefore do not require any external source. They continue to function even when supplied by only two phases.

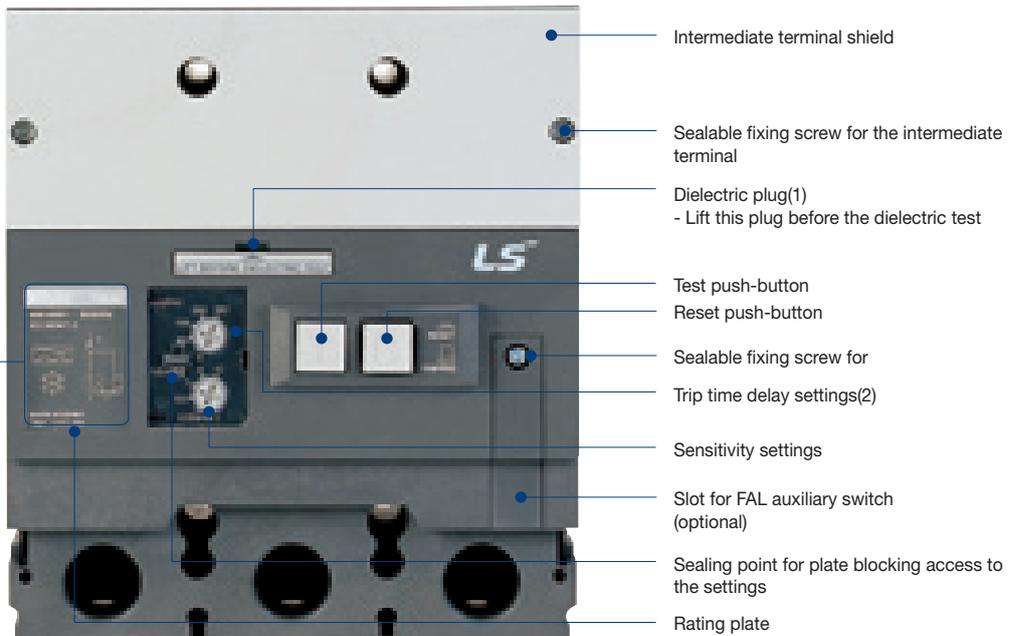


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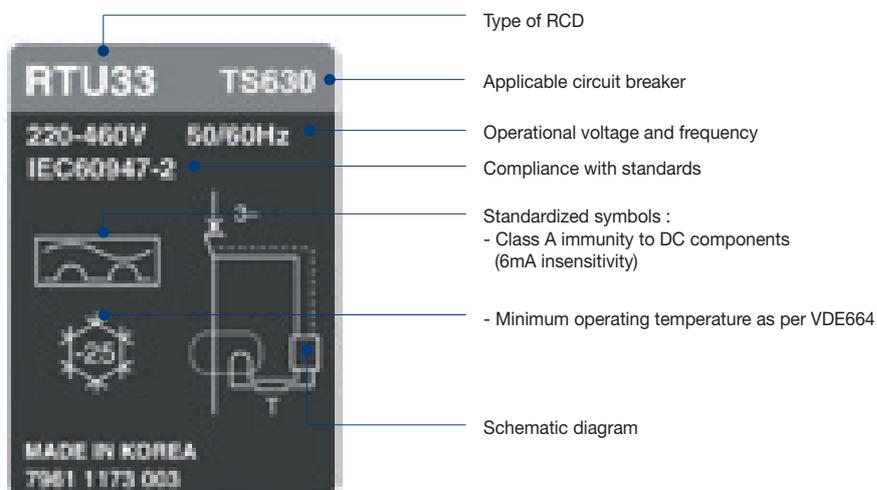
## Residual Current Devices (RCD)

### Configuration



- If the sensitivity is set to 30 mA, there is no time delay. Whatever the time-delay setting.

### Detail of Rating plate

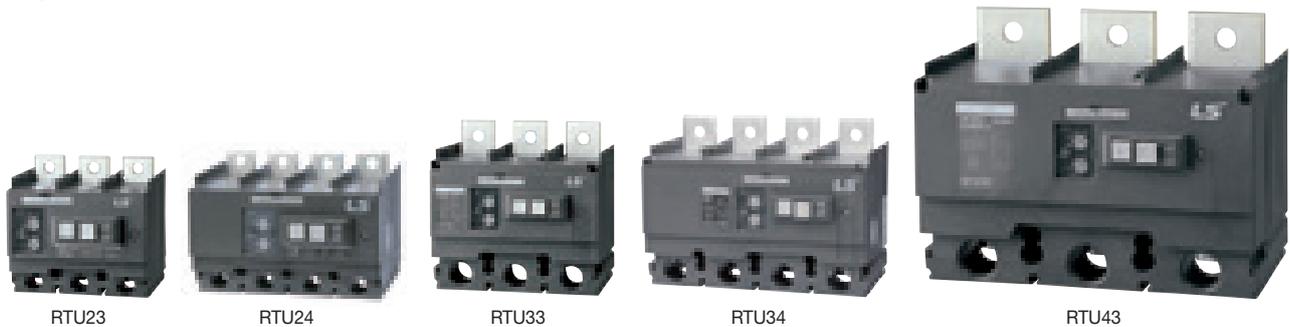


# Accessories for TD/TS series up to 800A

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## Residual Current Devices (RCD)

### Ratings and Selection



		RTU23	RTU24	RTU33	RTU34	RTU43
Number of poles		3*	4	3*	4	3*
Applicable circuit breaker	TS100	■	■			
	TS160	■	■			
	TS250	■	■			
	TS400			■	■	
	TS630			■	■	
	TS800					■
Protection characteristics						
Sensitivity	$I_{\Delta n}$ (A)	(adjustable) 0.03-0.3-1-3-10				
Time delay **	Intentional time delay (ms)	(adjustable) 0-60-150-300-600				
	Max. breaking time (ms)	(adjustable) 40-150-300-600-990				
Rated voltage	AC 50/60 Hz	220-460V / 460-690V				

Note 1) RTU can not be applied to 63A or less MTU type MCCB.

2) RTU can not be applied to MCCB (Electronic trip unit) + D/E-Handle

3) RTU24, RTU34: Only combination of N-R-S-T type MCCB is possible

4) RTU24 can be only combined with thermal-magnetic unit, which is produced after July.18, and electronic unit, which is produced after March. 2019.

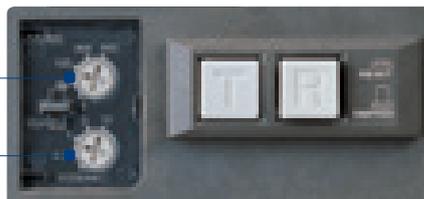
5) RTU34 can be only combined with thermal-magnetic unit and electronic unit, which are produced after September. 2019.

\* 3P modules may also be used on 2P circuit breakers.

\*\* If the sensitivity is set to 30mA, the time delay setting is reduced to zero.

Trip time delay settings  
0-60-150-300-600ms

Sensitivity settings,  $I_{\Delta n}$   
0.03-0.3-1-3-10A



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## Residual Current Devices (RCD)

### Combination

The addition of the RCD unit does not affect circuit breaker characteristics.

- Conformity with standards
- Protection degrees, class II insulation front face
- Suitability for isolation as defined by IEC 60947-2
- Electrical characteristics
- Trip unit characteristics
- Installation and connection methods
- Indication, measurement and control accessories
- Installation and connection accessories

		RTU23	RTU24	RTU33	RTU34	RTU43
MCCB	L×H×D(mm)	105×160×86	140×160×86	140×260×110	186.5×260×110	210×320×135
MCCB+RCD		105×240×86	140×240×86	140×370×110	186.5×370×110	210×450×135
RCD		105×80×86	140×80×86	140×110×110	186.5×110×110	210×130×135
MCCB+RCD	Weight (kg)	2.7	1.1	8.1	3.9	16.3
RCD		1.0	3.7	2.6	11.1	4.6
Type	Bottom					
Accessory	FAL (fault alarm switch)					

